

Experience CDC



The State of CDC

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06

Everyone

Everyday

Everywhere



A publication of

**The Centers for Disease Control and Prevention/
Agency for Toxic Substances and Disease Registry**

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Access links to printable versions of The State of CDC reports for FY 2003, FY 2004, FY 2005, and FY 2006

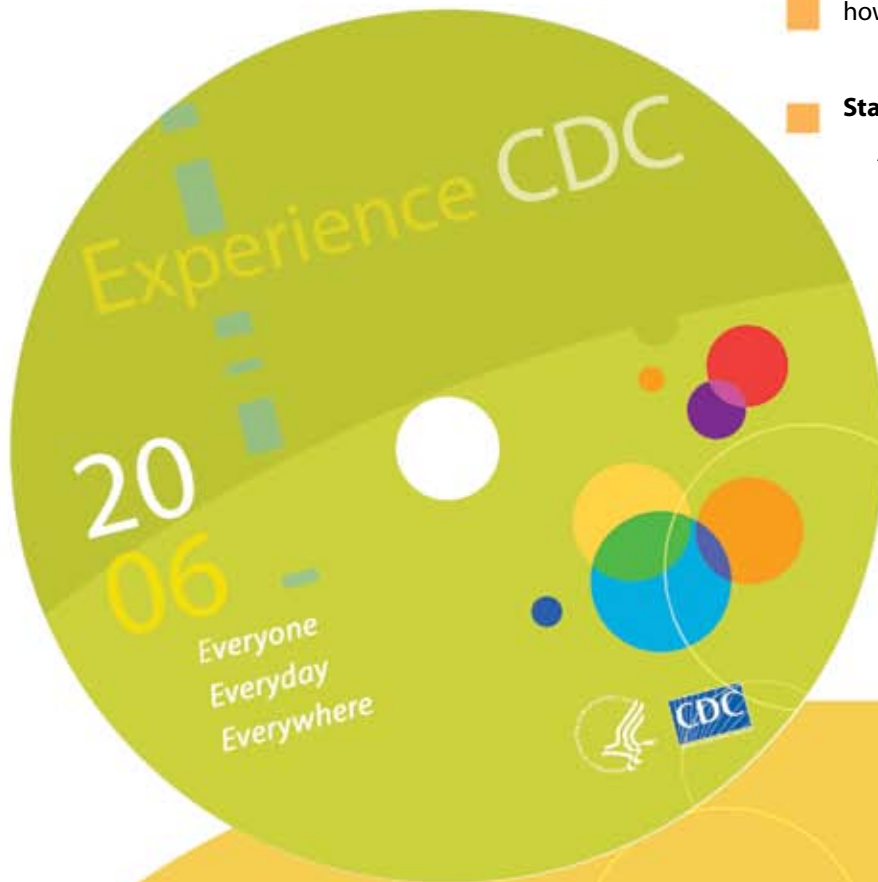


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CDC's Mission

*To promote health and quality of life by preventing and controlling disease,
injury, and disability*

CDC's Vision for the 21st Century

Healthy People in a Healthy World—Through Prevention



Secretary's Message

As we look back on fiscal year 2006, the Centers for Disease Control and Prevention (CDC) has contributed significantly to the key accomplishments of the Department of Health & Human Services (HHS).

I focus HHS' leadership on the 500-Day Plan, which is an outline of my personal vision about the goals and priorities of our Department to create a healthier America and a safer world. CDC is part of that vision to transform our healthcare system, advance medical research, secure our nation, and protect our health for the next 500 days, the next 5,000 days, and beyond.

Among the year's accomplishments include CDC's performance in helping the nation become better prepared for an influenza pandemic, focus on reducing diseases through preventative action, and preparing our nation to respond to emergencies.

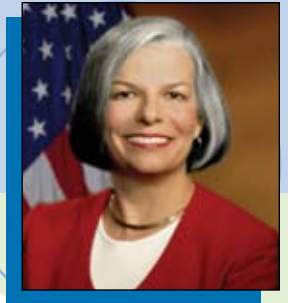
In addition, CDC has distinguished itself repeatedly: working quickly with its many partners to control a deadly outbreak of *E. coli* and the dangerous spread of contact lens-related fungal eye infections; issuing bold new recommendations for HIV screening that could significantly impact the future of the disease in this country; and acting to see that the coding sequence for the 1918 pandemic influenza virus was added to the Select Agents and Toxins list. These accomplishments, while impressive, represent only a portion of CDC's work on behalf of public health in 2006.

The shared mission of each and every component of the Department of Health & Human Services is to improve, protect, and increase the quality of human life. As you read through this *State of CDC* report, I know you will recognize CDC as an outstanding example of this mission in action.

Michael O. Leavitt
Secretary of Health and Human Services



Director's Message



Welcome to the 2006 *State of CDC*.

This year's theme is "Experience CDC: Everyone, Everyday, Everywhere."

In 2006, CDC celebrated its 60th anniversary—60 years since we were created by the U.S. Army to control malaria in the southern states after WWII. In the past six decades, we have achieved extraordinary public health milestones that have protected families and their communities from urgent threats like pandemic influenza, smallpox, toxic exposures, and other health emergencies, as well as from urgent realities like tobacco, HIV, TB, diabetes, cancer, and disabling injuries. This 2006 fiscal year review of CDC will help explain our health protection goals and how we create and deploy the best science to achieve them. You will learn how we link to our frontline partners within the network of public health experts in communities, tribes, states, territories, and nations around the world. This network is truly working to protect the health of everyone...everyday...everywhere!

From our small and focused beginning in Savannah, Georgia, CDC has truly globalized its mission. Our nearly 15,000 federal and contract employees celebrated our 60th birthday on campuses in 9 locations in Atlanta, in almost every state and territory, and in 46 countries.

At our headquarters on the Edward R. Roybal campus in Atlanta, 3,000 employees, alumni, retirees, and visitors gathered on July 13 to enjoy the 60th anniversary celebration with lots of laughter and even more retrospection. A wonderful history of the agency and our landmark accomplishments was presented. Many of the CDC smallpox warriors who contributed to the eradication program joined us as they gathered to share bits of their oral history of that great triumph. Spirited competitors vied for prizes in our athletic events and game shows, and we discovered that some of our employees are truly gifted with hidden musical, dance, comedic, and other talents that they revealed during our talent show.

I took a moment to step away and watch the celebrations, and I couldn't help but reflect on how wonderful it was to see so many people celebrating their successes amidst the beauty of our CDC campus' first ever green space—a space that envelops the extraordinary new buildings we are enjoying, as our long overdue facilities "rescue and reinvention" begins to come to fruition. The CDC workforce is a global treasure, and people have waited way too long for modern and safe research and support buildings. I was also sobered by the fact that the celebration was unfolding between 2 towering biocontainment labs—citadels of science where every day many of these same employees tackle some of the hardest and most frightening health challenges we will ever face. This feeling was made more poignant when we took a few moments to dedicate a special memorial to those CDC employees who lost their lives in service to the agency.

Pausing to remember and celebrate the past, as CDC did this year, is vital to an organization's success, as we face the uncertain future. In this era of globalization, we are likely to face bigger and bigger problems - extreme climate, extreme poverty, extremism - and the threats these conditions promote. Emerging infectious diseases with pandemic potential, terrorism, and catastrophic natural disasters are already realities for CDC. Our challenges are not limited to public health threats. New communications capabilities have fostered unprecedented expectations of all organizations, including CDC, for flawless on-demand performance with complete transparency and accountability. For CDC, intense discretionary resource competition and budget reductions have meant we have to innovate, learn how to do more with less, or in the worst case scenario, erode our capabilities.

Though we cannot predict what challenges the next 60 or even 10 years will present, I am optimistic that CDC will continue to successfully address them. I know CDC is a "can do" agency. It has a 60 year tradition of adapting and excelling, and as I think you will see in this report, there is ample evidence of recent success.

Julie Louise Gerberding, MD, MPH
Director, Centers for Disease Control and Prevention

2006: A Year of Honors

In any given year, while many dozens of staff members are honored through internal CDC/HHS awards and recognition, many more are honored nationally and internationally by professional and scientific associations, colleges and universities, partner organizations, and other government entities. 2006 was no exception. From Mothers Against Drunk Driving to TIME Magazine and HRH Prince Michael of Kent, the world recognized and applauded the tremendous work of agency staff in the betterment of people's health. Here are a few of the highlights.

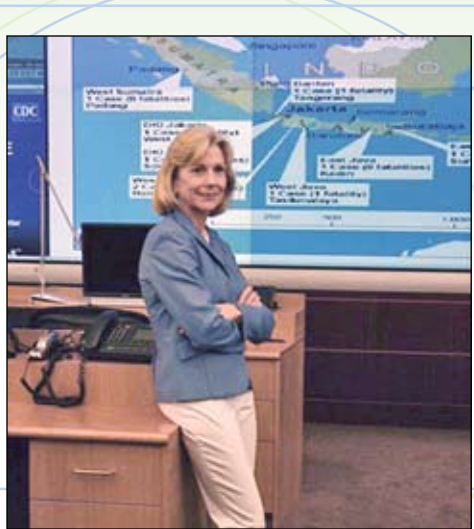


Nancy Cox, PhD, chief, Influenza Division, was chosen by the Partnership for Public Service as 2006's "Federal Employee of the Year." Dr. Cox was recognized for her work to help the United States and the world prepare for a potential influenza pandemic. Dr. Cox was also recognized in 2006 by both TIME and Newsweek magazines. TIME named her one of the year's "100 Most Influential People" and Newsweek honored her as one of the "15 People who Make America Great."

In recognition for her work in Louisiana following Hurricane Katrina, **Stephanie R. Ostrowski, DVM, MPVM**, diplomate, American College of Veterinary Preventive Medicine, (CAPT, USPHS) received the U.S. Coast Guard's Meritorious Service Medal, which certifies that "the President of the United States has awarded the Meritorious Service Medal to Captain Stephanie Ostrowski for exceptionally meritorious achievement and superior performance of duties from 15 October to 15 November 2005."

Washington (Seattle) was dedicated in his honor. The building will be the new home of the university's departments of genome sciences and bioengineering and is named after Foege, who graduated from the university's School of Medicine in 1961.

Roger H Bernier, PhD, senior advisor, Health Science, National Immunization Program, was named one of 55 "Purpose Prize Fellows" by Civic Ventures, a think tank that seeks to reframe the debate about aging in America and redefine the second half of life as a source of social and individual renewal. These fellowships are awarded annually to distinguished Americans over 60. Bernier was recognized for his work to improve CDC's relationship with those segments of the public that may be hesitant to have their children vaccinated.



A team from National Center for Injury Prevention and Control (NCIPC) was awarded the Ralph W. Hingson Research in Practice National President's Award by Mothers Against Drunk Driving (MADD). **Ruth Shults** and **David Sleet** of NCIPC's Division of Unintentional Injury Prevention (DUIP) and **Randy Elder**, formerly with DUIP (now with the National Center for Health Marketing), received the honor for their research on alcohol-impaired driving as part of systematic reviews for the Guide to Community Preventive Services.

Former CDC Director **Bill Foege, MD, MPH**, was honored at a ceremony attended by former President Jimmy Carter and Microsoft Chairman Bill Gates during which a new building at the University of

Terry Pechacek, PhD, associate director for science, Office on Smoking and Health (OSH), received the Surgeon General's Medallion, the highest honor bestowed by the Surgeon General. Dr. Carmona presented the medallion to Dr. Pechacek for his extraordinary scientific contribution to the groundbreaking 2006 report, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*, to numerous other Surgeon General's reports on tobacco and health, and to the overall improvement of the public's health. The honor was also a tribute to the work of the entire OSH team that labored on the report.



CDC's Coordinating Center for Health Promotion held the first-ever National Health Promotion Conference in September 2006, in Atlanta

A team from the Division of Injury Response, NCIPC, received a “Silver Award” from the International Academy of Communications Arts and Sciences in recognition of outstanding achievement in public relations and corporate communications related to development of the “Heads Up: Concussion in High School Sports” tool kit. **Jane Mitchko, Michele Huitric, and Kelly Sarmiento** led the development of the tool kit.

Jean Langlois, ScD, MPH, senior epidemiologist, Division of Injury Response, NCIPC, received an award for Public Policy from the North American Brain Injury Society for outstanding contribution in increasing knowledge about the importance of traumatic brain injury as a public health problem in the United States. She also received the “Awareness Award” from the Brain Injury Association of Ohio for her contributions to increased awareness, understanding, and promotion of cross-system consensus leading to critical changes in public policy.

W. Rodney Hammond, PhD, director, Division of Violence Prevention, NCIPC, was recognized as a “Distinguished Practitioner” by the National Academies of Practice in Psychology for his significant and enduring contributions to health care practice in the field of psychology.

David Freedman, PhD, distinguished consultant, National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), received the “Out-

standing Research Award” from the National Association for the Study of Obesity for an article entitled “Racial Differences in the Tracking of Childhood BMI to Adulthood,” which appeared in *Obesity Research*.

William Potts-Datema, MS, branch chief, NCCDPHP, was honored by both the Coalition of National Health Education Organizations (CNHEO) and the Massachusetts Association for Health, Physical Education, Recreation, and Dance (MAHPERD). He received the “Health Education Advocate Award” from CNHEO and a “Presidential Citation” from MAHPERD.

David Sleet, PhD, associate director for science, Division of Unintentional Injury Prevention, NCIPC, received the “Premier International Road Safety Award” from HRH Prince Michael of Kent and the FIA Foundation for the Automobile and Society for his work on the World Report on Road Traffic Injury Prevention.

Patrick Chong, MPH, deputy director, Global AIDS Program, Vietnam, National Center for HIV, Hepatitis, STD, and TB Prevention (NCHHSTP), was made an honorary citizen of Ho Chi Minh City by that city’s People’s Committee in recognition of his wholehearted contributions and dedication to the campaign against HIV/AIDS.

Sevgi Aral, PhD, associate director for Science, Division of STD Prevention,

NCHHSTP, received the “Thomas Parran Award” from the American STD Association for her long and distinguished contributions to the field of STD research and prevention.

Dora Warren, PhD, Global AIDS Program, NCHHSTP, was given a “Lifetime Achievement Award” by the Government of India’s Tamil Nadu State.

U.S. Patents Awarded for Innovation

“Method and Apparatus for Load Rate Monitoring” (Patent No. 6,957,166), **Wayne Howie and John Owens**, 10/18/05

“Flushed Seal Respirator” (Patent No. 6,957,653), **Donald Campbell, Christopher Coffey, William Hoffman, and Judith Hudnall**, 10/25/05

“Mosaic Protein and Restriction Endonuclease Assisted Ligation Method for Making the Same” (Patent No. 6,960,659), **Yuri Khudyakov and Howard Fields**, 11/01/05

“Apparatus and Methods for Analyzing Particles Using Light-Scattering Sensors and Ionization Sensors” (Patent No. 6,965,240), **Charles Litton, Jon Volkwein, and William Schiffbauer**, 11/15/05

“Compositions and Methods for Detecting *Treponema pallidum*” (Patent No. 7,005,270), **Hsi Liu, Bret Steiner, and Berta Rodes**, 02/28/06

Two CDC teams—one based in **National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NCEH/ATSDR)** and one based in the **National Center for Infectious Disease (NCID)**—were recipients of prestigious World Bank Development Marketplace awards for their international work in water and sanitation. (Both of the winning teams have partners from the Emory University Center for Global Safe Water.)

The NCEH/ATSDR team was honored for its proposal, “Pro-Poor Sanitation Demand Creation in Bolivia.” The project team, which includes partners from the Global Center for Safe Water at Emory University and Bolivia’s Sumaj Huasi organization, plans to use innovative social marketing and microbusiness techniques to make affordable ecological solar latrines attractive to Bolivian families.

The team from NCID won for its “Entrepreneurial Approach to Safe Water in Kenya” proposal, an expansion of a Safe Water Project operating through a partnership of the CDC Foundation, Safe Water and AIDS Project in Kenya, Atlanta Rotary Club, Center for Global Safe Water at Emory University, and Population Services International (PSI).



Leading Causes of Death in the United States

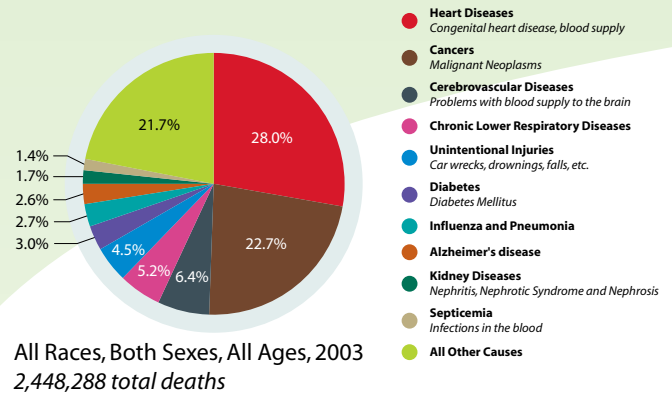
The headlines don't often report that, among developed nations, the United States ranks 28th in infant (children <1 year of age) mortality – but it does – or that unintentional injuries are the leading cause of death for U.S. residents from 1 year to 44 years of age – but they are. For infant mortality, unintentional injuries are the fifth leading cause of death following congenital anomalies, preterm birth, sudden infant death syndrome (SIDS), and maternal complications of pregnancy. CDC is working every day to reduce the occurrence and impact of these causes, and during 2006, progress was made.

Sounding the Alarm on Fire Safety

Fires (and related burns) are the fifth most common cause of unintentional injury deaths in the United States and the third leading cause of fatal home injury. On average in 2005, someone died in a fire about every two hours, and someone was injured every 29 minutes—placing the United States sixth among the 25 developed countries for which statistics are available in terms of mortality rate from fires.

Although fatalities and injuries caused by residential fires have declined gradually over the past several decades, many residential fire-related deaths remain preventable—the fact is that smoke alarms decrease the chances of dying in a house fire by ~50%. Yet one-fourth of U.S. households lack working smoke alarms. To stem the tide of these preventable deaths, CDC has—since 1998—funded smoke alarm installation and fire-safety education programs in high-risk communities. (High-risk communities are defined as those with fire death rates higher than state and national averages, and median household incomes below poverty level.)

Staff of CDC - funded programs have canvassed more than 426,000 homes and installed nearly 313,000 smoke alarms, focusing on households with children ages five years and younger and adults ages 65 years and older (the age-groups most at risk). Through reports from grant recipients, CDC estimates that at least 1,218 lives have been saved in these homes thus far.



Violence Is a Public-Health Issue

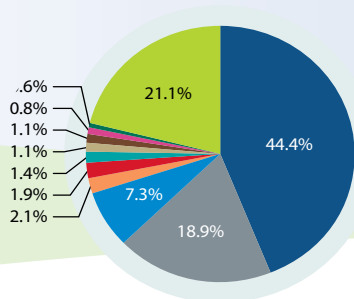
To most people, youth violence and homicide are issues for the criminal justice system, but the facts are that homicide is the second leading cause of death among young people between the ages of 10 and 24 years and one-third of high school students say they have been in a physical fight in the past year—about 6% of them report having missed days of school because they felt unsafe. It is clear that homicide and violence constitute serious and costly public health issues. (Direct and indirect costs exceed \$158 billion every year.)

CDC addresses these problems in part by funding, through a five-year cooperative agreement, 10 National Academic Centers of Excellence (ACEs) on Youth Violence Prevention at colleges and universities across the country. ACEs bring together academic and community resources to study the roots of the problem and to create lasting methods for addressing youth violence in high-risk communities. CDC's scientists and public health advisors work closely with the ACEs to strengthen the design and impact of their activities as well as to support dissemination of their findings and products locally and nationally.

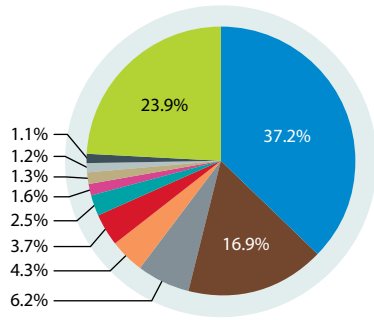
ACEs have been established at Children's Hospital of Philadelphia, Meharry Medical College, University of California at Berkeley, University of California at Riverside, University of Illinois, and Virginia Commonwealth University. Other universities and specific activities include

- Columbia University—Has developed a video entitled, *Voices Against Violence: Helping Students, Parents, and School Staff Speak Up*, which promotes constructive “bystander” reactions to youth violence.
- Harvard University—Trains health care personnel to assess and prevent youth violence through everything from print resources for physicians and families to “interactive” electronic resources. This program's training module has even been adopted by international medical training programs.
- Johns Hopkins University—In collaboration with a local television affiliate and other partners, has developed *Teen Perspective*, a program that provides youth and adults the opportunity to discuss topics like the impact of violence and possible solutions to such challenges.
- University of Hawai'i, Manoa—Is assisting in the development of an ethnic studies curriculum for high schools that will work to decrease youth violence by promoting cultural tolerance. The course has already been recognized by both the World Indigenous Conference and the local school system, which approved an expansion of the course.

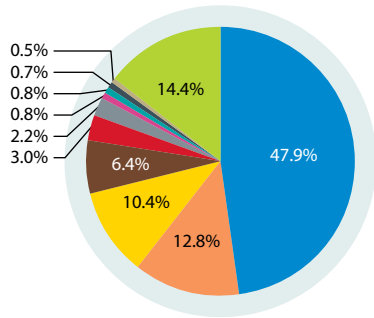
Infants and Toddlers
32,230 total deaths



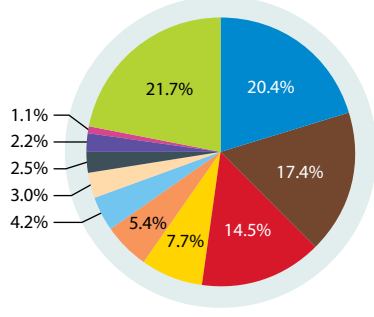
Children
4,964 total deaths



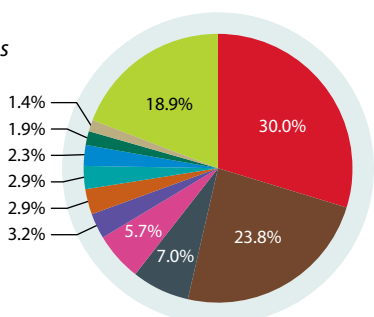
Adolescents
16,345 total deaths



Adults
228,907 total deaths



Older Adults
2,165,500 total deaths



CDC Recommends Preconception Care

As mentioned, among developed nations, the United States ranks 28th in infant mortality. Through an across-agency examination, preterm birth was found to account for 34% of all infant deaths in the United States; identifying it as the leading reason for infant death. About two-thirds of infants who died due to prematurity were born at or before 24 weeks of gestation. The study, published in the journal *Pediatrics* concluded that the nation's infant mortality rate must focus not just on treatment, but on effective prevention of preterm birth.

In April 2006, CDC, in collaboration with more than 35 other federal and private partners, released national recommendations designed to encourage women to take steps toward good health before becoming pregnant. The recommendations for preconception care were published in the *Morbidity and Mortality Weekly Report (MMWR) Recommendations and Reports*.

Implementation of these recommendations will help improve the health of babies and mothers and will give physicians and other health care professionals the knowledge, messages, and tools needed to intervene appropriately in preconception care.

- **Perinatal Problems**
Early delivery, low birth weight, etc.
- **Congenital Abnormalities**
Malformations, deformations and genetic problems
- **Unintentional Injuries**
Car wrecks, drownings, falls, etc.
- **Homicide**
Deliberate assaults and killings
- **Heart Diseases**
Congenital heart disease, blood supply
- **Influenza and Pneumonia**
- **Septicemia**
Infections in the blood
- **Cancers**
Malignant Neoplasms
- **Chronic Lower Respiratory Diseases**
- **Kidney Diseases**
Nephritis, nephrotic syndrome and nephrosis
- **Non-Malignant Tumors**
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior
- **Cerebrovascular Diseases**
Problems with blood supply to the brain
- **Suicide**
- **HIV/AIDS**
- **Chronic Liver Disease and Cirrhosis**
- **Diabetes**
Diabetes mellitus
- **Alzheimer's disease**
- **All Other Causes**

Health Protection Goals: Progress and Impact

CDC is committed to achieving true improvements in people's health. To do so, the agency defined and formally announced specific Health Protection Goals in August 2005. These goals are the structure that helps CDC prioritize and focus its work and investments and measure progress. Since 2005, CDC staff have focused on implementing the Health Protection Goals process. Town hall meetings, leadership retreats, and engagements with CDC's partners and the public have been held over the last year providing forums for learning about and discussing the goals. The integration and implementation of the Health Protection Goals accelerated dramatically during FY 2006. CDC moved from developing and refining these overarching goals to creating tangible and applicable goals plans. In 2006, CDC

- Established goals teams
- Developed objectives and criteria to support achieving the goals
- Held numerous engagement meetings for CDC's staff, its partners, and the public at large
- Established the Partners Task Force on Objectives
- Aligned 98% of the agency's budget to support the goals
- Developed goal action plans to provide strategic and innovative direction for planning and managing activities in the coming years.



Meetings held during FY 2006 helped set the stage for this progress.

On February 14–15, 2006, around 40 external experts and about 20 scientists and managers from across CDC addressed the question, “What Are the Attributes of a Healthy Home?” during a Healthy Homes Goal Workshop. This workshop and later ones on Healthy People, Chemical/Radiological Exposures, and Healthy Communities provided early opportunities to gather external input on CDC's four overarching Health Protection Goals and the 24 strategic goals.

The CDC Leaders to Leaders Conference: Engaging the Power of Partnerships, held on March 28–29, 2006, brought together executive leadership from many of CDC's partners. This event strengthened collaboration and kept the goals process moving forward with strategies that will make significant impacts on the health and safety of all Americans. This conference provided an opportunity to present detailed information on the goals to CDC partners and a forum for dialogue around the best way to work together to achieve success.

A series of eight meetings held late summer and fall 2006 helped CDC collect input on the goals process through engagements with partner organizations and the public. Participants in these meetings discussed and ranked draft health objectives and also evaluated the criteria used in determining how to prioritize these objectives. The Partners Task Force on Objectives, an outside group of experts from partner organizations, helped oversee the process of obtaining this input and then summarized and interpreted the information collected. The taskforce produced the *Report of the Partners' Task Force on Objectives* in December 2006, analyzing information from the engagement process.

The information collected and analyzed in that report will further advise the goal action plans which include objectives, background, strategies, actions, measures, budget guidance, and potential investment recommendations. CDC Goal Teams in conjunction with center leadership will continue to develop, refine, and update the goal action plans throughout the year, and center and division leadership will use these plans for the health impact planning process that links CDC's programs with budgeting and with performance measurement.

“Nothing motivates us more than making a difference and achieving an impact on health. By focusing on these four sets of goals, we will be more effective as an agency and will be better able to protect people's health through health promotion; prevention of injury, disability, and disease; and preparedness—and be able to show that we have done this through measurable improvements in health and reductions in health disparities. . .”

—Julie Louise Gerberding, MD, MPH

Goal 1: Healthy People in Every Stage of Life

All people, and especially those at greater risk of health disparities, will achieve their optimal lifespan with the best possible quality of health in every stage of life.

Goal 2: Healthy People in Healthy Places

The places where people live, work, learn, and play will protect and promote their health and safety, especially those at greater risk of health disparities.

Goal 3: People Prepared for Emerging Health Threats

People in all communities will be protected from infectious, occupational, environmental, and terrorist threats.

Goal 4: Healthy People in a Healthy World

People around the world will live safer, healthier and longer lives through health promotion, health protection, and health diplomacy.



Trailblazer Teams on Obesity Continue to Make Waves

At the 24th International System Dynamics Conference, Nijmegen, Netherlands, July 2006, a paper entitled “Obesity Population Dynamics: Exploring Historical Growth and Plausible Futures in the U.S.” showed that the work begun by the Trailblazer Team on Overweight and Obesity Prevention in February 2005 continues to make waves. This research looked at the historical trends for obesity and sought to learn how strong new interventions would have to be (by age, sex, and Body Mass Index category) to make a visible difference in the trajectory of obesity prevalence and how long would it take to see those effects.

This goals team worked to intensify efforts to articulate and pursue a national strategy for assuring the conditions in which all people can maintain a healthy weight at every stage of life. This team’s work on modeling obesity dynamics was one key part of its groundbreaking work. In addition to its influence within CDC, this work continues drawing interest from various quarters, including senior leaders at NIH, various philanthropies (Robert Wood Johnson Foundation, Kellogg), and state-based practitioners.

Reducing the prevalence of obesity requires cross-cutting interventions that touch on many areas of the Health Protection Goals that must be applied to people across all their life stages.

Strategic Imperatives for the 21st Century

CDC has defined six key strategies to guide its decisions and priorities to help ensure health protection goals are reached:

Health Impact Focus: Align CDC’s staff, strategies, goals, investments, and performance to maximize impact on the population’s health and safety.

Customer-centricity: Market what people want and need to choose health.

Public Health Research: Create and disseminate the knowledge and innovations people need to protect their health now and in the future.

Leadership: Leverage CDC’s unique expertise, partnerships, and networks to improve the health system.

Global Health Impact: Extend CDC’s knowledge and tools to promote health protection around the world.

Accountability: Sustain people’s trust and confidence by making the most efficient and effective use of their investment in CDC.



The Choose Respect program, which teaches violence prevention, captured an unprecedented 29 million media hits, including the CBS Early Show, USA Today, MSNBC, Yahoo!® Health, The Washington Post, and Lifetime Cable Network.

CDC Publications Share Cutting Edge Research, Science, and Recommendations

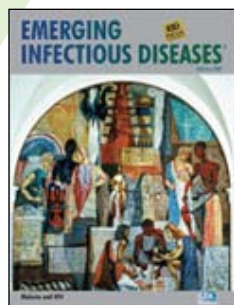


Morbidity and Mortality Weekly Report

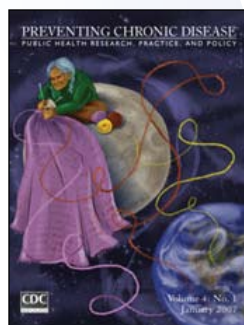
The *Morbidity and Mortality Weekly Report (MMWR)* is CDC's oldest and most well-known publication for sharing credible, accurate, timely, and useful scientific information. The *MMWR* reaches over 60,000 subscribers electronically, 20,000 through print, and hundreds of thousands through web site references. The weekly report is published every Thursday and can be found at www.cdc.gov/mmwr.

During the last fiscal year, CDC published 23 new *Recommendations and Reports* in the *MMWR*. Many of the reports were landmark publications, including recommendations for HIV testing, sexually transmitted disease treatment guidelines, tuberculosis, and mold prevention strategies to assist those affected by hurricanes and floods. Please see below for a sampling of this year's *Recommendations and Reports*.

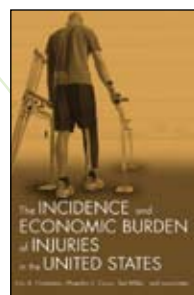
- Prevention of Rotavirus Gastroenteritis Among Infants and Children: Recommendations of the Advisory Committee on Immunization Practices
- Sexually Transmitted Diseases Treatment Guidelines, 2006
- Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices
- Mold Prevention Strategies and Possible Health Effects in the Aftermath of Hurricanes and Major Floods
- Compendium of Animal Rabies Prevention and Control, 2006: National Association of State Public Health Veterinarians, Inc.
- A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States. Recommendations of the Advisory Committee on Immunization Practices Part 1: Immunization of Infants, Children, and Adolescents
- Good Laboratory Practices for Waived Testing Sites: Survey Findings from Testing Sites Holding a Certificate of Waiver Under the Clinical Laboratory Improvement Amendments of 1988 and Recommendations for Promoting Quality Testing
- Controlling Tuberculosis in the United States: Recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America
- Public Health Strategies for Preventing and Controlling Overweight and Obesity in School and Worksite Settings: A Report on Recommendations of the Task Force on Community Preventive Services



Emerging Infectious Diseases Journal is a leader in communicating the threat of emerging infections worldwide and is committed fulfilling its mission to stay ahead of the rising curve of infectious diseases. The journal boasts 23,000 print subscribers (6,000 outside the United States) and 24,000 subscribers to electronic version. The journal Internet site also receives hundreds of thousands of hits per month. Please visit the journal at www.cdc.gov/ncidod/EID/index.htm



Preventing Chronic Disease is a peer-reviewed electronic journal that provides a forum for public health researchers and practitioners to share study results and practical experience. The journal addresses the interface between applied prevention research and public health practice in chronic disease prevention. The journal focuses on preventing diseases such as cancer, heart disease, diabetes, and stroke, which are among the leading causes of death and disability in the United States. It has more than 13,000 subscribers and receives 65,000 Internet hits per month. Please visit the journal at www.cdc.gov/pcd.



The Incidence and Economic Burden of Injuries in the United States

Published in April 2006, *The Incidence and Economic Burden of Injuries in the United States*, provides the most comprehensive analysis of the economic costs of injuries to date. The lifetime cost of injuries occurring in a single year in the United States totals an estimated \$406 billion in medical expenses and productivity losses.

This publication provides new data and findings from research conducted by CDC scientists, as well as scientific research contractors at RTI International and the Pacific Institute for Research and Evaluation. This publication provides a foundation for expanding the science-based injury prevention programs at CDC and opens new avenues to substantially reduce the costs of injuries and even more importantly help people live longer and healthier lives.

Everyone

Achieving optimal health and quality of life for everyone in the United States, especially vulnerable populations, requires preventing and eliminating health disparities; disparities related to gender, ethnicity, socioeconomic status, and other distinguishing factors. This is one of the most urgent public health challenges for CDC and the United States as a whole.



Working to Bridge the Gap

Health disparities are found in all areas of the American health landscape, whether it is cancer control and prevention, diabetes education, smoking-cessation programs, violence reduction efforts, or HIV prevention. These disparities disproportionately impact ethnic minorities—and impact these populations across all life stages. CDC's response as an agency must be and is becoming integrated into activities across all levels of the agency. Reducing health disparities permeates all areas of CDC's public health activities from cancer control and prevention to influenza pandemic preparedness.

CDC's overarching disease prevention goals address the nation's leading causes of injury and death—regardless of whether you're talking about infants or children, teenagers or adults or senior citizens; economic status; or race/ethnicity. Today's leading indicators are alarming examples of enormous health disparity—with ethnic and minority health issues among the major categories of disparity.

CDC is addressing these serious challenges to health in the United States in a variety of ways, using unique and innovative approaches to reach targeted communities, form useful and innovative partnerships, and create real, measurable change that will lead to greater health equity.

REACHing Out, Making a Difference

As part of CDC's Healthy People 2010 initiative, REACH 2010 (Racial and Ethnic Approaches to Community Health) targets five racial and ethnic populations; African Americans, American Indians, Asian Americans, Hispanic Americans, and Pacific Islanders. It is designed to identify and test community-driven strategies in six priority areas: cardiovascular disease; immunization; breast and cervical cancer screenings and management; diabetes; HIV/AIDS; and infant mortality.

Across the program, data from the REACH Risk Factor Survey show that

- REACH communities are reporting measurable outcomes and demonstrating that reducing racial and ethnic health disparities is achievable.
- From 2001 to 2004, African Americans transitioned from being less likely to more likely than whites to have their cholesterol checked. In addition, while the proportion of African Americans in REACH communities who were screened for cholesterol was below the national average in 2001, the cholesterol screening exceeded the national level by 2004.
- The gap in cholesterol screening between Hispanics from REACH communities and the national average, which was previously sizable, is closing in REACH communities.
- The proportion of American Indians from REACH communities who began to take medication to reduce their high blood pressure increased from 67% in 2001 to 74% in 2004.
- Cigarette smoking among Asian men from REACH communities decreased from 35% in 2001 to 24% in 2004.

CDC is also confronting disparities in other areas of health protection, too.

Bronx Health REACH

One component of this national initiative, Bronx Health REACH, Bronx, New York, has achieved several significant goals in its local efforts to improve community health. Administered by the Institute for Urban Family Health, the group is a coalition of more than 40 community- and faith-based organizations that develops and implements community-based health promotion programs focused on preventing diabetes and related conditions in the African American and Latino communities in the New York City's Bronx borough. The coalition has a Nutrition

and Fitness Initiative that is changing the community's food environment by offering healthier items in schools, grocery stores, and restaurants. As a direct result of these efforts, the New York City school district in 2006 switched from serving whole milk to low fat milk in its cafeterias and vending machines; neighborhood grocers are carrying low-fat milk and healthier snacks; and local restaurants are highlighting their healthier menu options.



CDC issued new recommendations to vaccinate all infants against hepatitis A following a first quarter report in 2006 that acute clinical cases of hepatitis A and racial/ethnic disparities among children were virtually eliminated.

Charting Disabilities in America: The First Step to Change

CDC's *Disability and Health State Chartbook, 2006—Profiles of Health for Adults with Disabilities* is the first-ever report of state-level data on the number of people with disabilities and the wide range of health differences that exist between people with disabilities and those without. The report, unveiled in September 2006, contains more than 100 pages of maps and charts and a resource section with phone numbers for state health offices and national organizations that promote healthy lives for people with disabilities. The brief narrative is presented in large print text with high color contrast, so it is accessible for people with vision loss. People who use a screen reader can download accessible versions from the CDC Website.

This Chartbook is the first in a series to present information about the health of people with disabilities by state and territory. Its purpose is to show that a large percentage of adults have a disability, to show that the health of people with disabilities is not as good as that of those without, and to highlight areas in which public health systems can include more people with disabilities in their programs. Improving the health of the roughly 50 million Americans with disabilities is a central concern for public health.



The Human Papillomavirus (HPV) vaccine which can protect against 70% of all cervical cancers was recommended by the Advisory Committee on Immunization Practices.

Preventing Diabetes in Children: Through the Eyes of the Eagle

Rare in American Indian and Alaska Native (AI/AN) communities only 50 years ago, diabetes has today become a part of the fabric of losses for these populations. Type 2 diabetes, long considered a disease of middle age, is now emerging in all U.S. populations while especially sharp increases are being seen among children and youth from AI/AN communities.

Respecting the self-determination of communities, and both Native and western science, the CDC Native Diabetes Wellness Program works with community and national partners to eliminate the gaps in health equity so starkly revealed by diabetes in AI/AN communities.

With the support of the Tribal Leaders Diabetes Committee, administered by the Indian Health Service, the Wellness Program developed “Through the Eyes of the Eagle,” a series of four books that teach children about preventing diabetes. The books are brought to life by wise animal characters—Mr. Eagle and Miss Rabbit—who engage Rain That Dances and his young friends in the joy of physical activity, eating healthy foods, and learning from their elders about health and diabetes prevention.

To date, the program has distributed almost one million “Eagle” books to American Indian and Alaska Native health and school organizations; increased interest from Native and other communities in Native peoples, health wisdom, diabetes, and the tradition of storytelling; garnered international interest in the books from Canada, Venezuela, Mexico, Australia, New Zealand, and Chile; distributed 200,000 books to children in New Mexico; Washington; and Minnesota through First Book, a national nonprofit group whose mission it is to put a new book into the hands of every child; and placed a set of the books in each state library in Nevada through the Nevada Diabetes Prevention and Control Program; and featured book readings in “story hour” in many libraries.



Health Protection Research Crosses Disciplines

CDC is working to accelerate the rate of progress in improving the lives of those at highest risk for poor health by strengthening the science base through coordination and collaboration. The new *Health Protection Research Guide* is the result of the first-ever agency-wide collaboration on health protection research. Input came from throughout CDC and from outside of CDC, as we work to fully engage public participation in the process.

The new Guide includes sections dedicated to social determinants of health, health disparities prevention and elimination, and health disparities and infectious diseases.

This new strategy will improve our understanding of causal factors for health disparities and inform the design of interventions to improve the health of all individuals in all communities. This Guide is an exciting endeavor that will involve all of CDC in setting research priorities and working to achieve these in a way that will ensure the greatest health impact for all. The Guidance will help

- Provide a comprehensive long-range vision of national and global public health needs
- Specify the subset of immediate priorities to be addressed in the short-term
- Establish ongoing new science and research collaborations
- Tap into innovative communications
- Improve business practices

This broader approach will help

- Identify knowledge gaps
- Develop health protection goal action plans
- Identify research most needed to improve public health programs and interventions
- Support innovative, cross-cutting, interdisciplinary, and foundational research
- Provide a platform for promoting discussion, collaboration, opportunities for partnerships, and for promoting and marketing to ensure research has a positive health impact

Public health professionals today must confront complex problems of an increasingly global community and must deal effectively with multicultural perspectives of increasingly diverse populations on a local, national and global level if we are to close reduce disparities in the United States.

HIV Testing Recommended for All 13–64 Years

In a landmark decision, CDC has published new recommendations to help ensure the toll of HIV is lessened for all people in the United States. These recommendations for health care providers that are designed to make voluntary HIV screening a routine part of medical care for patients across three of the life stages: persons aged 13 to 64 years. The recommendations will simplify the HIV testing process in health care settings and increase early HIV diagnosis among the estimated more than 250,000 HIV-positive Americans who do not know they are infected with HIV and link them to treatment and care. Early diagnosis will help reduce the current 40 percent of individuals diagnosed with HIV who are diagnosed within one year of developing AIDS, when it may be too late for them to fully benefit from treatment. Additionally, studies show that most people who learn they are infected take steps to protect their partners, whereas people who are unaware of their infection are estimated to account for between 50 and 70 percent of new sexually transmitted HIV infections. The recommendations also include new measures to improve diagnosis among pregnant women and further reduce mother-to-child HIV transmission. This recommendation is one step CDC is taking to reduce the toll of HIV/AIDS.

CDC's recommendations were developed over a three-year period with extensive input from health care providers, public health experts, community-based organizations, academics, other federal agencies, and advocates nationwide.



CDC Research: Diagnosing Autism Early—Learning the Signs

CDC's campaign, *Learn the Signs. Act Early* is getting important health messages to parents and child care providers to improve knowledge and earlier diagnosis of autism. The campaign is a critical step to help improve developmental outcomes. Parents and health care providers are learning how to recognize the early symptoms of autism. CDC designed the campaign to educate parents and professionals on the early signs of autism and other developmental disorders. Initial evaluation data has found that

- 43% of pediatricians and 28% of parents strongly agreed or agreed that they have heard of CDC's "Learn the Signs. Act Early" campaign.
- More pediatricians report they regularly screen for developmental delays (87% in 2004 vs. 93% in 2005).
- Fewer pediatricians advocate a "wait and see" approach when parents share a concern about their child's development (14% in 2005 vs. 30% in 2004).

The Campaign has made a difference in successfully educating parents on key developmental milestones and encouraging early action on developmental disorders:

- More parents said that the best time to get help is before six months of age (21% in 2004 vs. 29% in 2005) and before two years of age (22% in 2004 vs. 27% in 2005).
- Parents' knowledge of the behavior most likely to suggest a child may have autism increased (37% in 2004 vs. 50% in 2005) and the percentage of parents who answered "don't know" decreased (57% in 2004 to 45% in 2005).
- More parents strongly agreed that they look for the developmental milestones their child should be reaching (51% in 2004 vs. 58% in 2005).

The Campaign through media, outreach, and CDC's 24-hour toll-free hotline has

- Reached an estimated 3.9 million people through national media outlets, including Good Morning America, Newsweek, CNBC, Parents and New York Times.
- Distributed nearly 40,000 resource kits to parents.
- Received more than 20,000 calls to 1-800-CDC-INFO.

Visit www.cdc.gov/actearly to learn more about the campaign.

CDC Publishes New Findings on Autism

In 2006, CDC published two scientific articles on autism. The studies provide more insight into the diagnosis delays and the number of children with autism spectrum disorders (ASDs).

Journal of Developmental and Behavioral Pediatrics

13 month delay between evaluation and autism diagnosis: Children with autism spectrum disorders (ASDs) may experience a 13-month delay before they are diagnosed. The study found

- That children diagnosed in metropolitan Atlanta were initially evaluated at an average of 4 years of age but were not diagnosed with an ASD until an average of 5 years 1 month.
- Variability in both, with an age range of 1 year 4 months to 8 years 6 months old for initial evaluation, and an age range of 1 year 5 months to 8 years 8 months old for actual diagnosis.

Parental Report of Diagnosed Autism in Children 4-17

Key findings include

- Estimates of diagnosed autism were 5.7 per 1,000 school-aged children from the National Health Interview Survey and 5.5 per 1,000 school-aged children from the National Survey of Children's Health.
- Together, these two national surveys of parents indicate that at least 300,000 children aged 4 to 17 years had autism in 2003-2004.
- These results are within the range reported from studies using other methods.



A Healthy Walk through Life

CDC's goal to ensure healthy people in a healthy world does not stop at the age of retirement. CDC works to ensure healthy people at every stage of life.

For millions of older Americans, falls present a serious health threat. They are a leading cause of deaths from injuries and the most common cause of injuries and hospitalizations for this group. In the United States, one of every three persons aged 65 or older falls each year.

To help older adults prevent falls, CDC released new fall prevention educational materials that are appropriate for use by older adults as well as by their friends, family members (including caregivers), and health care providers. CDC partnered with the CDC Foundation and the MetLife Foundation to update and redesign two CDC brochures, "What You Can Do to Prevent Falls" and "Check for Safety: A Home Fall Prevention Checklist for Older Adults." These were also translated into Spanish and Chinese.

"Check for Safety: A Home Fall Prevention Checklist for Older Adults" helps people to identify possible fall hazards and suggests solutions.

"What You Can Do to Prevent Falls" focuses on teaching proven ways to help prevent falls, including exercising regularly, talking to health care providers about side effects of medicines, getting eye exams, and ensuring a safe home environment.

These materials are important resources to protect the health and independence of older adults. As of late summer, CDC had distributed almost 100,000 copies of each brochure. New posters that promote fall prevention were also created and are available in English, Spanish and Chinese. These materials are available from the NCIPC Website: www.cdc.gov/ncipc/duip/fallsmaterial.htm.



In March 2006, the "Screen for Life" public service announcements featuring actress Diane Keaton was ranked number one among more than 480 public service campaigns monitored by A.C. Nielsen Market Research.

Goal 2: Healthy People in Healthy Places

Goal 3: People Prepared for Emerging Health Threats



Everyday

Every day, 24 hours a day, CDC is at work to investigate, identify, define, control, and prevent illness and injury and promote health and preparedness.



CDC Stems *E. Coli* Outbreaks through Rapid Investigation and Detection

In early September 2006, health officials in Wisconsin alerted CDC's OutbreakNet epidemiologists about a cluster of *Escherichia coli* serotype O157:H7 infections. This type of *E. coli* produces a harmful toxin that can cause diarrhea and kidney failure. That same day, public health laboratory workers in Wisconsin posted "DNA fingerprint" patterns of isolates from ill persons to PulseNet, the revolutionary surveillance system that allows public health laboratories to exchange information about foodborne bacteria "DNA fingerprint" patterns. The following week, officials in Oregon identified six more cases with matching isolates. The day after this report, CDC and state health OutbreakNet officials informed FDA that the available evidence in the *E. coli* O157 outbreak strongly pointed to prepackaged fresh spinach as the culprit. FDA quickly advised consumers against eating fresh spinach products until further notice and a California company voluntarily recalled all of its spinach products.

The investigation proceeded very rapidly. It took only seven days from first detection of the outbreak to control of the implicated product—in spite of the fact that the contaminated spinach was grown and distributed by one of the world's largest produce companies. CDC led the multistate investigation and soon found that more than 200 people living in 26 states had become sick from consuming uncooked, fresh spinach. A traceback investigation indicated that the outbreak could be explained by product originating at a single spinach processing plant on a single day. When state public health laboratory scientists tested opened packages of fresh spinach from patients' refrigerators, many contained the outbreak strain of *E. coli* O157:H7. CDC provided information about the outbreak on CDC's Website, through media interviews, by email, and via a dedicated public-inquiry hotline.

Thinking Outside the Box to Impact Public Health

Although they did not receive the sort of media attention generated by the spinach *E. coli* outbreak, several other outbreaks of the very same type of *E. coli* have occurred in the United States since 2004 that were not related to food at all. The culprit in these instances? Petting zoos. Several children involved in these outbreaks became seriously ill—requiring kidney dialyses. In order to make animal exhibits safer, CDC worked with National Association of State Public Health Veterinarians to create the Compendium of Measures to Prevent Diseases Associated with Animals in Public Settings. This document serves as a guideline for how to safely exhibit animals. As an additional measure for keeping their visitors safe, many exhibitors asked for educational materials about hand-washing.

CDC and Georgia 4-H* teamed together in 2005/2006 to pilot test a "Healthy Pets Healthy People" 4-H Poster Contest. The contest was open to any Georgia 4-H club member in grades 5-12. The contest goals: Emphasize the importance of hand-washing after handling animals, teach basics of public health, and motivate 4-H club members to educate others about how to safely enjoy and learn about animals. Here are some of the basics:

- Animals carry organisms that cause illness to people.
- Always wash your hands after leaving an animal area or touching animals.
- Do not eat, drink, or put anything in your mouth while in an animal area.
- Contact with animals or their environment can result in injuries or allergies.
- Children, the elderly, and those with difficulty fighting off infections should take special precautions.

* 4-H is a community of young people across America who are learning leadership, citizenship, and life skills.



Developed an effective way to rapidly detect methamphetamine contamination to be used by law enforcement to detect if police officers seizing illegal meth labs have experienced a toxic exposure.

So What Exactly Are CDC's PulseNet and OutbreakNet?

PulseNet is a surveillance network made up of state and local public health laboratories and federal food regulatory agency laboratories that perform pulsed-field gel electrophoresis (a type of DNA fingerprinting) on bacteria that may be foodborne. By comparing new fingerprints with the DNA fingerprints in an electronic database at CDC, investigators can recognize possible outbreaks even if they are spread over a wide area, can launch investigations into the sources, and thus implement control measures earlier. Though PulseNet began collecting patterns in 1995, the system was officially launched in May 1998. A year later, PulseNet was awarded a \$100,000 "Innovations in American Government" award, which recognizes exceptional program creativity, quality, and accomplishment and is sponsored by the Ford Foundation, Harvard University's John F. Kennedy School of Government, and the Council for Excellence in Government. The award was given to only 10 of more than 1,500 nominees. In 2002, the Innovations in American

Government programs recognized PulseNet as one of 15 most innovative government programs (out of 23,000 applicants) during the previous 15 years.

All 50 state public health departments participate in PulseNet as well as several local public health laboratories and the USDA and FDA. PulseNet Canada and PulseNet USA exchange DNA fingerprints and associated information in real-time to give each other early warning on outbreaks.

The PulseNet database has grown from 196 fingerprints (patterns) in 1995 to over 100,000 today. Patterns in the collection include strains of *E. coli* O157, *Listeria*, *Salmonella*, and other foodborne bacterial pathogens. PulseNet provides the framework to detect patterns of illness within and across states. This allows epidemiologists in states and at CDC to move more quickly and to avoid widespread illness or loss of life.

OutbreakNet is a network of public health epidemiologists at the local, state, and federal levels who investigate foodborne and diarrheal disease outbreaks. OutbreakNet epidemiologists identify outbreaks from routine disease surveillance and from complaints registered by ill people calling the local or state departments of health. Outbreaks are also identified by the evaluation and investigation of clusters of cases identified in PulseNet based on matching DNA fingerprints of bacterial pathogens from ill people. OutbreakNet and PulseNet work collaboratively to improve the number of outbreaks detected, and the speed with which they are detected and investigated, so that control measures can be implemented rapidly.



CDC's epidemiologic findings directed the FDA and the manufacturer of a contact lens solution to remove a contact lens product from the US market that had caused 179 confirmed cases of Fusarium keratitis infections.

Doubt Removed on Risks of Secondhand Smoke

On June 27, the Surgeon General released the 29th Surgeon General's Report devoted to tobacco and health. This ground breaking report *The Health Consequences of Involuntary Exposure to Tobacco Smoke*, documents, beyond any doubt, that secondhand smoke harms people's health, and reaffirms, updates, and expands on the conclusions of the 1986 Report, the first report devoted to secondhand smoke.

This influential report is having immediate and far-reaching effects on the nation's public health. Its definitive and powerful conclusions, such as there is no safe level of exposure and that breathing even a little secondhand smoke can be dangerous, will provide the leverage for increased action across the country to reduce involuntary exposure to tobacco smoke. The information in this report will save lives and reduce the tobacco related burden on the public's health.

In only the first months following the report

- Marriott Corporation went smoke-free
- Lockheed Martin Corporation announced a tobacco-free campus policy
- *Nation's Restaurant News* suggested that restaurants reconsider smoking policies
- Pennsylvania Restaurant Association declared support for state smoke-free legislation
- Anchorage and Kansas City Chambers of Commerce announced support for local smoke-free laws
- Hawaii and Louisiana governors signed state smoke-free laws

CDC Atlanta is an entirely smoke-free facility.



Protecting Nurses at the Frontlines of Patient Care

Nursing is the occupation with the highest percentage of back injuries and musculoskeletal disorders. To ensure a healthier work environment, CDC experts in occupational safety and health joined with multiple partners to develop new strategies to help nurses working in any setting, hospital, nursing home, home healthcare, or physical and occupational therapy, deliver quality medical care while reducing nurses' risks for painful and potentially incapacitating back injuries from lifting patients.

Research shows that safe patient lifting programs that incorporate mechanical lifting equipment protects workers from injury, reduces workers' compensation costs, and improves the quality of care delivered to patients.



Over the last year, CDC and partners have targeted nursing schools, students, and educators to develop and implement a new training module on safe patient lifting principles. CDC conducted intramural intervention trials to validate safety measures, provided funding for extramural research, provided technical expertise on training material content, and assisted with the conceptualization, design, and analysis of the evaluation.

The training module consists of decision tools, lab activities, and a quiz on new patient handling concepts. The 2-hour interactive patient care training program is used at 26 schools of nursing. Partner nursing schools, who integrated training into their curriculum, use it to provide outreach to other policy shapers in associated hospitals, and clinics.

Some of the major partners included:

BJC Health Care provided access to researchers to nursing homes to conduct intervention trials to evaluate a “best practices” musculoskeletal injury prevention program designed to safely lift physically dependent nursing home residents.

Veterans Health Administration (VHA) partnered to 1) develop, evaluate, and implement the safe patient handling training program; 2) develop the study design and implemented the evaluation in the 26 schools of nursing; and 3) co-author Guide for *Safe Lifting and Movement of Nursing Home Residents*

American Nurses Association (ANA) partnered 1) to develop, evaluate, and implement the safe patient handling training program; 2) serve as the primary contractor to coordinate and organize training program elements; and 3) review Guide for *Safe Lifting and Movement of Nursing Home Residents*

University of Wisconsin-Milwaukee conducted research that supported the Guide for *Safe Lifting and Movement of Nursing Home Residents*

Ready Today for What Could Happen Tomorrow

Pandemic Preparedness

Informed by the lessons of the past century's three influenza pandemics, the agency's preparedness planning is being shaped by its experience in 26 emergency response situations that have developed in just the last seven years—from 9/11 to SARS to Hurricane Katrina. With the connectedness of the world allowing emerging diseases to travel at the speed of passenger jets, CDC prepares today for what could happen tomorrow.

History of H5N1

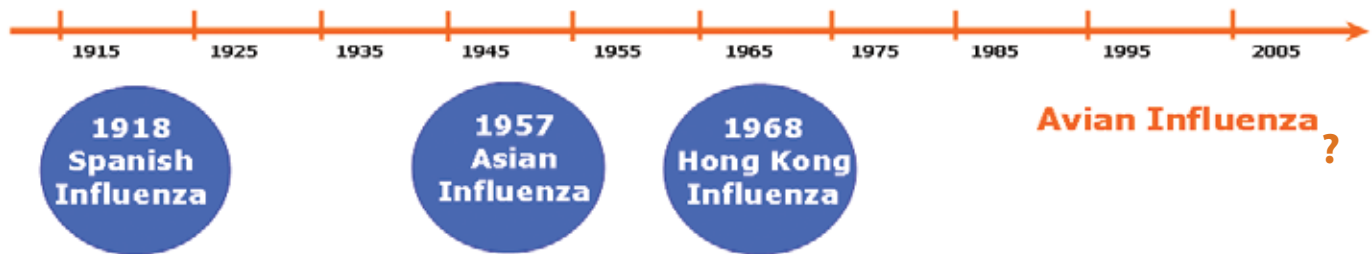
The H5 influenza virus was first detected in Guangdong, China, in 1996, when it caused a moderate number of deaths in geese and attracted little attention. Until 1997, no evidence indicated that H5 influenza viruses could infect humans and cause fatal disease, but, that year, the precursor of the H5N1 influenza virus spread to humans. And in February 2002, the H5N1 virus itself spread to humans in Hong Kong, killing one of two infected people.

CDC, along with other federal partners and the international community, has been monitoring its spread, which occurs mostly through migratory birds. The virus continues to affect domestic poultry and, at times, some mammals such as pigs and cats. But, to date, there is no sustained human-to-human transmission. Only sporadic

cases continue to be identified, primarily in Asia, while a small number of cases have been identified in the Middle East and Africa.

Although, today, there is no H5N1 pandemic, the very real possibility exists. And CDC is preparing.

Pandemics Do Happen!



If a Pandemic Occurred

Though no one can be 100% certain of what the next influenza pandemic will look like, CDC is able to plan based on fairly credible predictions of its impact. Over a 12 - to 18-month period, a pandemic would result in outbreaks that would come and go in waves in a community, with each wave lasting perhaps six to eight weeks. An especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. Everyday life would be disrupted because so many people in so many places could become seriously ill at the same time. Impacts could range from school and business closings to the interruption of basic services such as public transportation and food delivery.

During a pandemic, a substantial percentage of the world's population will require some form of medical care. Healthcare facilities could be over-whelmed, creating a shortage of hospital staff, beds, ventilators, and other supplies. Surge capacity at non-traditional sites such as schools may need to be created to cope with demand. The need for vaccine is likely to outstrip supply, and the supply of antiviral drugs is also likely to be inadequate early on. Difficult decisions regarding who gets antiviral drugs and vaccines may very well be required.

CDC's Prepares for Possible Pandemic

Over the last year, CDC has continued to work closely with its parent agency, the Department of Health and Human Services, to ensure that the United States is as prepared as possible and that avian influenza activity throughout the world is constantly monitored. Highlights of 2006 planning activities include

- Participation in more than 50 State Pandemic Planning Summits to involve public health, emergency response, education, political, economic, and community leadership in the planning process
- Taking the lead in working with the Advisory Committee on Immunization Practices and the National Vaccine Advisory Committee to prioritize recommended target groups for use of antiviral medications and vaccines during a pandemic if supplies are limited
- Working with the National Institutes of Health on vaccine development to combat a potential Avian Influenza Pandemic
- Increasing the stockpile of antibiotics and other supplies to increase CDC's ability to provide medications when needed. As of September 2006, CDC stockpiles include
 - Tamiflu: 10 million regimens with another 11.5 million on order
 - Tamiflu oral suspension: 20,500 regimens with another 88,000 on order
 - Relenza: 84,000 regimens with another 6 million on order
 - N95 Respirators: 41.6 million with another 63.3 million on order
- Plans are in place to procure 81 million antiviral regimens; enough to treat 25% of the U.S. population.



1918 Influenza Virus Declared a Select Agent

On Oct. 20, 2005, CDC published in the *Federal Register* an interim rule declaring the strain of influenza responsible for the 1918 pandemic as a select agent. This action follows recent work done by CDC scientists to reconstruct successfully the 1918 virus in hopes of better understanding it. The virus was reconstructed to aid public health officials in preparing for the possibility of another pandemic of influenza. It will also help scientists as they seek to understand what made the virus so harmful and to develop better antiviral drugs and influenza vaccines.

Under provisions outlined in the interim rule, all entities (e.g., scientists and researchers) that possess, use or transfer the 1918 strain of influenza or the eight key gene regions of the 1918 virus are required to register with the CDC. People, labs, and other facilities that work with select agents are required to ensure that they can safely handle the virus as outlined in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories, 4th edition. In addition, they are required to increase safeguards and security measures for the virus, including controlling access, screening personnel, and maintaining records to be included in a national database with records from others registered. As a select agent, any inappropriate use will result in criminal and civil penalties.



CDC's Surveillance and education work stopped the transmission of measles in a group of Kenyan refugees awaiting resettlement in the United States and among soccer fans returning home from the World Cup following an outbreak in the North Rhine-Westphalia region of Germany.

Developing Tools to Assist in Pandemic Preparedness

- FluWorkLoss, developed by CDC researchers, is a spreadsheet-based program that allows the user to estimate the number of days lost from work due to an influenza pandemic. The ability to estimate number of work days lost can help private companies and government agencies plan for business and operation continuity during the next influenza pandemic. To date, the software has been used by a number of U.S. organizations, by public health agencies in Latin America (PAHO member states), and as part of consultancies for the governments of Malta and Singapore.
- CDC developed a simple, easy-to-use, colorimetric (color changing) test to confirm Tamiflu authenticity. Tamiflu is one of the few antiviral compounds currently active against influenza A and B viruses. The test can help recognize counterfeit Tamiflu, which is being mass produced and sold on the Internet. Safe, reliable influenza viral medications are critical components of treatment and prevention of influenza.
- Pandemic Influenza Planning Checklists (in English and Spanish)
 - State and Local Government
 - Business
 - Individuals and Families
 - Family Emergency Health Information Sheet
 - Schools
 - Child Care and Preschool
 - School District (K-12)
 - Colleges and Universities
 - Health Care
 - Home Health Care Services
 - Medical Offices and Clinics
 - Emergency Medical Service and Medical Transport
 - Hospital Preparedness
 - Long-Term Care and Other Residential Facilities
 - Faith-Based and Community Organizations



CDC has also drafted its own Influenza Pandemic Operation Plan, which includes approximately 950 specific tasks that cross the entire agency and forms part of the National Strategy for Pandemic Influenza, providing a framework for preparedness planning and emergency response. There are three pillars to the national strategy:

- **Preparedness and Communication**—Activities that should be undertaken before a pandemic to ensure preparedness, and the communication of roles and responsibilities to all levels of government, segments of society, and individuals.
- **Surveillance and Detection**—Domestic and international systems that provide continuous “situational awareness,” to ensure the earliest warning possible to protect the population.
- **Response and Containment**—Actions to limit the spread of the outbreak and to mitigate the health, social, and economic impacts of a pandemic.

To find the tools and additional information, visit www.pandemicflu.gov.



Risk Communication Training

To ensure that CDC’s planning efforts benefit the widest possible segment of the population, the agency is also focused on the critical importance of training those who will communicate pandemic response across the country. So in September, CDC published *HHS/CDC Crisis & Emergency Risk Communication: Pandemic Influenza*. The third in a series, CDC’s latest “train the trainers” guidance focuses on educating communicators on the need for, barriers to, and methods for communicating critical information if and when an influenza pandemic occurs.

A Way to Stay in Touch—When All Else Fails

In time of crisis—such as a devastating natural disaster or a deadly act of terrorism—the need for communication among public health agencies across the nation is vital to mitigating or recovering from such an event. But what happens when traditional modes of communication are inoperable as a result of the crisis? Understanding that staying in touch and relaying life-saving information quickly and reliably may make all the difference in a public health emergency, CDC has developed a remarkable communications system for doing just that.

The National Public Health Radio Network (NPHRN), a collaboration between the Coordinating Office for Terrorism Preparedness (COTPER) and the National Center for Health Marketing (NCHM), has established wireless communication capability among CDC, state/local health departments, and other federal agencies. Utilizing specific frequencies within the high frequency spectrum (HF), NPHRN provides CDC and the 50 states, Puerto Rico, the Virgin Islands, the Pacific Island Jurisdictions (American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Republic of the Marshall Islands,

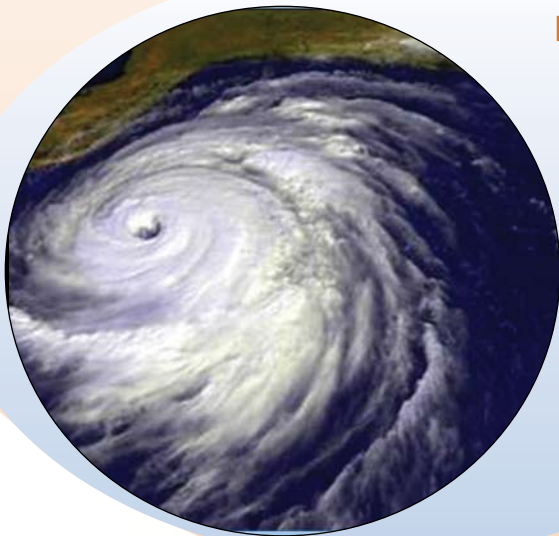
Republic of Palau, and the Federated States of Micronesia), and the localities of Chicago, Los Angeles County, New York City, and Washington, D.C. with a wireless, redundant communications capacity. By participating in NPHRN, CDC and public health partners are able, via radio, to transmit and receive vital information in the event that traditional, infrastructure-dependent modes of communication (such as satellite, telephone, internet, cellular, etc.) are damaged, overloaded, or destroyed. This reliable, low-cost technology is a proven, vital communication asset in times of natural disaster and national emergency that ensures reliable short and long-haul, two-way data/voice communications in times of such crises.

When a grantee/partner opts into NPHRN and installs the necessary standards-compliant radios, CDC issues a “Federal Call Sign” that permits the grantee to operate within NPHRN, the Department of Homeland Security’s Federal Emergency Management Agency’s National Emergency Coordination Network (FEMA/NECN), and, with additional sponsorship, the National Communications System’s SHARES HF Network. The SHARES HF Radio Program brings together the assets of over 1,000 HF radio stations worldwide to voluntarily pass emergency messages when

normal communications are destroyed or unavailable. Participation in SHARES is open to all Federal departments and agencies and their designated affiliates on a voluntary basis. More than 90 Federal, state, and industry organizations currently contribute resources throughout the United States and in 26 countries and U.S. possessions.

In addition to providing technical assistance and consultation to state and local health departments, CDC is responsible for the overall management and coordination of NPHRN. Its partners in this effort include: Health Departments of California, Iowa, Louisiana, Montana, New York, Oklahoma including Tulsa city health department, Pennsylvania, Texas including multiple county health departments, Virginia, Wisconsin, Wyoming; Various State Emergency Operations Centers; DHS/FEMA, FCC, and other federal agencies; Various non-governmental organizations (such as the American Red Cross and Salvation Army)

The implementation of NPHRN has provided CDC with an amazing communications link to and among state, territorial, and local health departments and created a “back-up” method of communication when all else fails.



Hurricane Katrina Recovery a Year Later

CDC continued to support Hurricane Katrina recovery operations throughout 2006 by assisting the states, especially Louisiana, with rebuilding the severely damaged public health infrastructure. CDC continued to receive state requests for assistance, and by mid-2006, some 708 staff had been deployed to provide expertise for the Louisiana recovery effort in shelter surveillance, safety guidance to recovery workers, and technical advice for the ongoing recovery efforts to

- Rebuild safe and healthy communities in Louisiana.
- Help with the redesign of Louisiana’s Health Care system.
- Contribute to the Health and Population Survey to identify the healthcare, education and economic needs of persons living in the hurricane-affected areas of Louisiana.
- In addition to recovery efforts, CDC continues to assist Louisiana preparedness and response planning to enhance local capacity in key areas such as evacuation plans including sheltering of pets.



Everywhere

Over the last six years, CDC has responded to 26 emergency situations both in the United States and in countries throughout the world. CDC has deployed staff, monitored disease spread, and trained public health staff from countries around the world. It is important to acknowledge that as our world continues to get smaller through greater connectivity, it also continues to grow more complex. Today's challenges have an incredible interrelationship not only throughout our communities at home, but throughout the world. To some extent today's interrelationships lay out requirements for a new brand of public health—a much more global and collaborative public health system.

Global Disease Detection Program

CDC is known internationally for its expertise in responding to infectious disease outbreaks around the world and working with local and international partners to identify rapidly the causes and stop the outbreaks. Since 2004, the agency has refined and begun to systematize its approach to such responses through the Global Disease Detection (GDD) program. This program is a network of international centers of excellence in emerging infectious disease outbreak detection, identification, tracking, and response.

In a world concerned about diseases, such as SARS and influenza, that travel quickly across borders, these GDD Centers are blending diverse expertise from across CDC to help detect, confirm, and contain a variety of emerging diseases that pose a potentially substantial threat. Staff assigned to three primary components of the CDC GDD strategy—a broad emerging infections program, a training program for field epidemiology and laboratory scientists, and epidemiologists focused on influenza surveillance and detection—are vigilant for signs of the next major outbreak.

In 2006, GDD staff in Thailand, Kenya, Guatemala, and China collectively investigated more than 60 disease outbreaks, including cases of hemorrhagic fever, meningitis, avian influenza, cholera, botulism, and unexplained sudden death.

- In Thailand, field epidemiology trainees and other GDD staff prevented dozens of cases of paralysis and death when they responded in March and July 2006 to two different outbreaks of neurologic intoxication that they investigated, determined to be botulism, and treated with antioxin.
- In Guatemala, the GDD Center synchronized the way it gathers community health data with the procedures used by GDD centers in Thailand and Kenya. Now the three countries are collecting data in the same way, allowing them to compare information easily and alert each other and CDC Atlanta headquarters of unusual patterns.
- In China, through the Field Epidemiology Training Program (FETP) component, the GDD Center is helping to strengthen in-country and regional public health capacity for outbreak detection and response. Currently, 31 FETP graduates and 24 current officers represent 26 provinces in the country; 20 graduates now hold key positions in emergency response or infectious disease departments of 14 provinces and the China CDC.
- In Kenya, the GDD Center quickly responded to avian influenza when the virus was first detected on the African continent, in Nigeria in February 2006, deploying a five-member team. Supervised by an epidemiologist, two laboratory scientists provided laboratory support for rapid diagnostics—in the laboratory and in the field—and two Kenyan Field Epidemiology and Laboratory Training Program residents helped the Nigerians to implement surveillance and control activities.

Additionally, throughout the rest of the year, GDD-Kenya, with support from CDC's Influenza Division in Atlanta, conducted avian influenza workshops on rapid response strategies and laboratory diagnostics and surveillance. A total of 116 medical epidemiologists, veterinarians, communications specialists, and laboratory scientists from 20 African countries received hands-on diagnostic training and guidance on how to rapidly respond to and perhaps contain a possible pandemic.

Pandemics do happen, and the public health community can't ignore the threat that avian influenza could mutate and be easily transmitted from person-to-person. To ensure we are prepared, staff from all four GDD Centers participated in a July 2006 rapid response training for avian and pandemic influenza that was developed and hosted by the Thailand GDD program. The simulation included more than 100 rapid responders from 14 countries who learned what to do within the first 72 hours of reports of a respiratory outbreak in people that showed signs of becoming a pandemic. Participants then returned to their countries and taught the same material to their colleagues to continue to build international rapid response capacity.



Working to Make Water Safe to Drink

Great progress in ensuring clean water has been made in the developed world. Most of us simply take for granted that when we go to the kitchen for a glass of water before bed, wash vegetables for a family meal, or sleepily shuffle to the bathroom for a morning shower, there will be water. We expect clean, safe, healthy water—and plenty of it. But, for an estimated **1.1 billion people** worldwide, these simple facts of life are distant dreams because they lack access to a sufficient source of clean water.

Hundreds of millions drink contaminated water because of unsafe treatment, distribution, storage and handling practices. Waterborne diseases account for approximately 4 billion episodes of illness and **2.2 million deaths every year**—most of those, in children.

CDC, along with many of its partners, is dedicated to addressing this fundamental challenge to human health on a global scale. In resource-poor nations lacking the infrastructure needed to make rapid use of technology or educate populations, CDC and its partners are implementing two innovative and ingeniously straightforward programs that are showing great promise and international recognition.

Preventing Diarrheal Disease in Developing Countries

CDC, in partnership with PAHO/WHO, developed the Safe Water System (SWS), in response to epidemic cholera in the 1990s in Latin America. The Safe Water System is a simple, low-cost technology designed to prevent waterborne diseases by improving the quality of drinking water at the household level. It incorporates three basic elements:

- Point-of-use water treatment by consumers with a locally manufactured dilute sodium hypochlorite (bleach) solution;
- Safe storage of treated water in containers designed to prevent recontamination;
- Behavior-change communications to improve water and food handling, sanitation, and hygiene practices in the home and in the community.

Safe Water System products—costing a family of five \$0.26 USD each month—are produced and distributed through public and private partnerships and through market-based approaches. Community mobilization is implemented by NGO partners to encourage correct and consistent use and to reach high-risk populations. Safe Water System programs exist in 25 countries in Africa, Asia,

and Latin America and depend upon numerous partner organizations working alongside CDC.

CDC's primary role is to provide technical assistance in implementation and evaluation of a variety of related programs designed to reduce diarrheal disease in project countries. In addition to SWS, there are point-of-use water treatment programs such as those encouraging hand washing and diarrheal disease surveillance and control programs.

Partnerships Get Results

Many partners have contributed to SWS's success. The Inter-American Development Bank, the World Bank, CDC/HHS, USAID, UNICEF, WHO, and PAHO, have provided financial support. Governmental agencies such as the Ministries of Health and Water in project countries and international development agencies in Japan, England, Germany, Holland, and the United States approve, support, and recommend the use of SWS products. The Procter & Gamble Company, the Chlorine Chemistry Council, Arch Chemicals, the Coca-Cola Company, and local bleach and plastic producers in each project country

support programs and also manufacture the household water treatment products. Population Services International (PSI), CARE International, the Bill and Melinda Gates Foundation, Rotary International, Hope Worldwide, CRS, ADRA, Medical Missions of Haiti, International Mission Board, and the Southern Baptist Convention implement and support SWS programs. The Emory University Center for Global Safe Water, the University of North Carolina, Medical University of South Carolina, Massachusetts Institute of Technology, and Johns Hopkins University have assisted in research. Partnerships are ensuring that this very basic need and a foundation for good health are being met successfully throughout the world.

Cont'd on next page



Since CDC's Kenyan implementation partner, PSI, launched the SWS chlorine product "WaterGuard" in 2003, sales of the product have steadily increased to over 80,000 bottles per month on a national scale. The availability of a distributed, quality-controlled, water treatment product throughout Kenya has allowed CDC to work with local partners in Nyanza Province—where 72% of people must use unsafe water sources daily—to reach low-income and HIV-affected populations. The Coca-Cola Company has provided funding to implement SWS as well as water and sanitation education in 500 schools. The Atlanta Rotary Club has provided funding for a project that helps women in HIV support groups purchase SWS and other health products at wholesale and sell them in their villages for a much needed profit. This network of "small businesswomen" sells 3,000 bottles per month of chlorine solution—providing over 25,000 people with 2 liters of safe drinking water per day. A CDC evaluation of one program that trains nurses to prescribe SWS products to patients presenting with diarrhea found that 68% of those prescribed WaterGuard had purchased it and were using it 2 weeks later—with 71% of still using the product a year later.

In 2006, CDC's team published papers proving the efficacy of SWS to reduce diarrhea in people living with HIV/AIDS in Uganda and showing that handwashing protected children from diarrhea, respiratory diseases, and skin infections in Pakistan, and against cholera in Zambia. In addition, CDC will

soon publish the results of evaluations showing that the cost of the SWS program in Zambia is only \$0.04 USD per recipient per month, that use of SWS and hand washing in schools in rural Western Kenya reduced student absenteeism by 35%, and that diarrhea risk was reduced through the use of the SWS in remote villages in Madagascar. As the efficacy of SWS has become clear, CDC changed its focus from researching this aspect of the system to learning how to get it into the hands of people in developing countries that need it most. SWS programs and tools were an essential part of emergency response and recovery efforts following the tsunami in Asia and other natural disasters and cholera epidemics in Haiti, Kenya, and Madagascar. In Indonesia, where, in collaboration with USAID, Johns Hopkins University, and CARE Indonesia, private sector marketing of the Safe Water System product began in early 2006, over 1,000,000 bottles of the product had been sold within the first 10 months. In Ethiopia, combined sales of the SWS product to individual consumers and to NGOs responding to emergencies exceeded 1,000,000 bottles in the first 9 months of the program.



CDC is continuing to work with partner Medentech Ltd. to prove the efficacy of promising technologies such as the recently approved chlorine tablet product AquaTabs. Working with Procter & Gamble, CDC has been able to publish research on scalable handwashing promotion, study the effects of combined flocculant/disinfectant and handwashing programs in schools in Kenya, and develop protocols to study the cognitive effects of handwashing. The agency is continuing its work with the University of Georgia to develop and publish infant bottle cleaning protocols for developing countries, and working with the Gates Foundation to estimate the population-based burden, microbiologic etiology, and adverse clinical consequences of severe diarrhea among children to guide the development and implementation of vaccines and other interventions.



CDC and WHO - AFRO Integrated Disease Surveillance and Response (IDSR) has been implemented in 43 of the 46 countries in the African region. Currently 21 of the 46 countries publish a bulletin with summaries of reported data using IDSR.

Making a Difference: Supporting Antiretroviral Treatment

Launched in 2003, the President's Emergency Plan for AIDS Relief (PEPFAR) is a five-year, \$15 billion, multifaceted approach to combating HIV/AIDS in more than 120 countries around the world. As of September 30, 2006, CDC had worked alongside other dedicated partners engaged in PEPFAR—both governmental and nongovernmental—to support antiretroviral treatment for 822,000 men, women, and children through bilateral programs in the 15 focus countries (some of the most affected countries in Africa, Asia, and the Caribbean). Sixty-one percent of those being supported are female. U.S. efforts support treatment for more people than any other partner in the world.

But CDC's commitment involves much more than simply providing these important drug treatments. The agency supports PEPFAR in its commitment to the full spectrum of services required to achieve positive health results while building the local, sustainable capacity needed for the long term.

CDC's support includes

- Surveillance
- Laboratory capacity building
- Training
- Monitoring and evaluation
- Care for persons living with HIV/AIDS

In addition, CDC has contributed to the following significant PEPFAR achievements:

As of September 30, 2006,

- Support for prevention of mother-to-child transmission services for women during more than 6 million pregnancies, antiretroviral prophylaxis for women during 533,300 pregnancies, and prevention of an estimated 101,500 infant HIV infections in the 15 focus countries
- Support for 18.7 million counseling and testing sessions for men, women, and children in the 15 focus countries
- Care for nearly 4.5 million people in the 15 focus countries



Primary Care Counselors Ease Burden on Overworked Nurses

Edward Mupunga, a primary care counselor (PCC) at the Opportunistic Infection Clinic at Harare Hospital in Zimbabwe, first came to the facility as a patient. "I was very sick...You could say, I was without hope." But time and antiretroviral treatment turned his despair into a strong desire to help others. "Now, I have a passion for counseling. I help others have hope, because clients see that I am working and living positively with HIV."

The U.S. HIV/AIDS strategy in Zimbabwe includes approaches to strengthen systems and build human capacity. With PEPFAR funding, CDC work in Zimbabwe helped the Zimbabwe Association of Church Hospitals (ZACH) develop a six-month PCC training program which includes classroom education and supervised practical counseling experience.



Before the advent of PCCs, Zimbabwe's severely overburdened nurses provided the majority of counseling in clinical settings in a country where an estimated one in five people lives with HIV. Now, about 300 newly trained PCCs are being integrated into the health system, filling a critical need for comprehensive HIV counseling services that will only increase as antiretroviral therapy is scaled up in Zimbabwe. Recently, the PCC concept has been adopted by that country's Ministry of Health and Child Welfare as part of the national system.

"Helping others keeps me going," says Mupunga. "Every time I counsel someone, I grow from the experience, because I know that I'm helping that person face his fears and live more positively."

Peer Mothers Lighten Workload of Health Care Workers in Southern Africa

Botsabelo is an area of Lesotho, a small nation entirely surrounded by the Republic of South Africa. Among this mining town's 10,000 inhabitants, a shocking 52.2% of pregnant women are HIV positive. With little support for those infected, life for these women can be extremely difficult. But now a small group of women there have boldly volunteered to become "peer mothers," revealing their status to the community and offering support to others like themselves. Although they have only been "at work" for a few months, these women have already made an enormous difference. According to the nurse in charge of the clinic there, they have already seen an increase in the number of pregnant women and their partners coming to be tested for HIV.

Two clinics in Lesotho's neighbor to the north, Botswana, are piloting the peer mothers program, which is modeled on the South African "Mothers' Programmes." With funding from PEPFAR through CDC, Pathfinder International—a nonprofit family planning and reproductive health organization working in developing countries—engaged the Botswana Christian AIDS Intervention Programme (BOCAIP) to establish the program. The "Mothers' Programmes" provided the initial training, materials, and technical advice.

BOCAIP supervises and supports the peer mothers who, in turn, provide emotional support to the other women. In addition to improving services targeting mother-to-child transmission and relieving the workload of busy health care staff, the program has given peer mothers the knowledge, skills, and self-confidence to better their lives while reducing the stigma of HIV—one mother at a time.



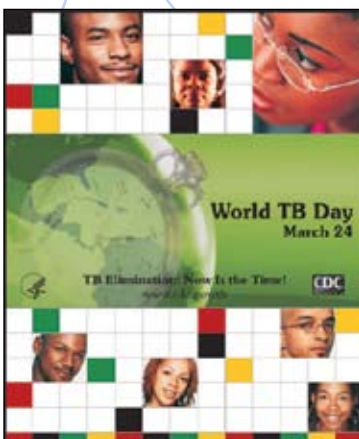
Responding to Extensively Drug-resistant Tuberculosis

As reports of probable extensively drug-resistant tuberculosis (XDR TB) have multiplied, CDC has mobilized in response. XDR TB was first described in 2006's "World TB Day" publication (*Morbidity and Mortality Weekly Report [MMWR]*) based on a joint CDC/World Health Organization (WHO) survey of 24 supranational reference labs. This survey was critical in identifying XDR TB as a global phenomenon. Since this report, the definition of XDR TB has been revised to specify resistance to fluoroquinolones and injectables, against which testing gives the most reliable and reproducible results.

XDR-TB has emerged worldwide as a threat to public health and TB control, especially in populations with high rates of HIV and few healthcare resources. This has raised concerns about the potential for a future epidemic of untreatable TB. At the August 2006 Toronto International AIDS Conference, data were presented from a recently published journal article on a cluster of drug-resistant TB in South Africa; resistance to these drugs is associated with poor treatment outcomes. Of 544 affected patients, 221 (41%) had multidrug-resistant (MDR) TB and, of these, 53 (24%) had XDR-TB. High and rapid mortality rate (98%) was reported in this population—55% of whom had no prior history of TB treatment. Also, 44 of 44 patients tested were HIV-infected, of whom 15 were on HIV antiretroviral therapy. The implications of such a virtually untreatable TB are alarming.

CDC has helped raise awareness of the urgent nature of XDR-TB. In response to this type of TB, CDC is collaborating with national and international partners to provide leadership, technical support, and capacity building, and to ensure proper action is taken to limit the development and spread of XDR TB. In addition, CDC has re-energized its Federal TB Task Force, composed of partnerships with other federal agencies and private organizations to develop a National Action Plan for XDR-TB.

Furthermore, CDC, along with WHO and the South Africa Medical Research Council (MRC), sponsored an Expert Consultation on Drug Resistant TB in the African Region in Johannesburg in September 2006. At the gathering, a seven-point consensus action plan was devised. CDC's work is ongoing as staff continue to work with colleagues from WHO, USAID, MRC, and other international partners to implement this seven-point plan.



Assistance to Developing Countries for Pandemic Preparedness

In three-months, CDC staff trained more than 30 epidemiologists and public health advisors in the basics of pandemic influenza preparedness and then deployed them to 18 eligible, at-risk countries to assist those countries apply for U.S. pandemic influenza preparedness funds made available in FY 2006.

CDC staff provided technical assistance on application preparation and trained country representatives on the

three indicators of success in pandemic preparedness:

- Country preparedness and Communications plan
- Surveillance and detection abilities
- Response and containment capabilities and plans

This effort is helping to leverage global partnerships to increase preparedness and response capabilities around the world.

Establishing this type of network will help stop, slow or otherwise limit the spread of a pandemic.

CDC staff worked with Ministries of Health in Afghanistan, Angola, Argentina, Armenia, Bangladesh, Brazil, Democratic Republic of the Congo, Georgia, Indonesia, Kenya, Mexico, Morocco, Nigeria, Peru, Romania, Turkey, Ukraine, and Vietnam.



Thirteen African Nations Participate in Training: CDC Infrastructure Invaluable

More than 40 laboratory technicians and public health staff from 13 African nations spent two days learning about avian influenza and pandemic influenza preparedness at the Uganda Virus Research Institute in Entebbe, Uganda. The curriculum included

- an overview of the differences between seasonal, avian, and pandemic influenza;
- key components of influenza surveillance;
- developing rapid response capacity for containment; and
- hands-on lab diagnostic training for H5N1 influenza

CDC is working to help ensure that all countries have ready access to the resources needed to detect and contain global outbreak threats. As the global community continues to aggressively prepare for pandemic influenza, CDC is there leading the way, training and teaching.



CDC joined with the World Health Organization to host a meeting in Geneva that resulted in the Pre-hospital Trauma Care Systems Plan, a strategic plan to improve pre-hospital systems in developing countries.

Kenya Field Epidemiology and Laboratory Training Program

This course is one of the most useful we could have. My vision is that the Ministry of Health should eventually take over the program, with graduates going to the provinces, and then into the districts. Provincial Health Director, Rift Valley Province, Kenya

Training in field epidemiology and laboratory management is critical to monitoring the emergence or re-emergence of infectious diseases anywhere in the world. CDC staff work with countries throughout the world to provide training and assistance in setting up these Field Epidemiology and Laboratory Training Programs (FELTPs). CDC works to ensure sound program design and program management by providing:

- Assistance in curriculum design and development
- Instruction, both classroom and individual mentoring
- Technical support in the areas of disease surveillance, outbreak investigation and response, laboratory systems and management, epidemiology, prevention effectiveness, and public health management
- Program administration, planning, and budgeting
- In-country laboratory support

In 2004, the FELTP was established in Nairobi, Kenya, as the central location of a regional east Africa program. In this region, the program trains leaders in applied epidemiology and public health laboratory management, while providing epidemiologic (disease detective) services to national and sub-national health authorities throughout Kenya and beyond. This two-year program emphasizes providing real results to the Ministry of Health even while the residents are pursuing their Master's degrees. The first class graduated in July 2006, and all four epidemiologists and three laboratory epidemiologists have been hired by Kenya's Ministry of Health at either the national or provincial level.



Multiple partners are engaged in this effort and are providing valuable support, including

- The Host Organization: Kenya Ministry of Health: office and classroom facilities, administrative support, supervision of residents, and placement of Kenyan graduates.
- The Partner Ministries of Health (Ghana, South Sudan, Tanzania, Uganda): Residents, supervision of residents, placement of graduates.
- Jomo Kenyatta University of Technology and Agriculture: Academic guidelines, awarding of Masters degrees
- Kenya Medical Research Institute: Laboratory facilities, laboratory technical assistance, laboratory classroom space
- CDC Foundation: Financial support
- Ellison Foundation: 4-year support for program launch through the CDC Foundation
- USAID: Surveillance development

“Second Life” Lets CDC Be Everywhere—All at Once

Just as CDC has rebuilt its bricks-and-mortar Atlanta headquarters to meet the needs of the future, the agency has also opened shop in a location a bit harder to find on any map. In August 2006, CDC set up its first test site for sharing public health information in an on-line, “cyber community.” The community is named Second Life and has more than 3.3 million members. CDC’s member of this community is named Hygeia Philo (“lover of health”). And just like CDC staff, Hygeia is the virtual public health worker in this “virtual CDC.”

The site offers health information to residents of Second Life as part of their online experience. CDC’s Second Life world is linked to www.cdc.gov—a “real world” wealth of information itself. And taking part in this virtual world simply requires a personal computer. Then, participants find a virtual world of interest and sign up. From there, they create an avatar (like CDC’s Hygeia) and begin exploring the environment and interacting with other “residents.”



Why Second Life? CDC’s work to advance public health means going where people are. As every virtual person represents a real person, CDC’s presence in Second Life offers yet another opportunity to learn and teach about public health. So, if there are thousands of people spending significant amounts of time online, where better to influence their health-related decision making? CDC messages of all kinds can be placed in this space for people to view passively or with which to become more actively engaged in efforts to improve their own health; and all of this in an environment of their own choosing.

Thanks to online metrics, CDC is also able to determine not only the types of information that people are seeking but how much time they spent reading about it and what information is subsequently sought. Second Life offers CDC the opportunity to develop a more complex portrait of how people seek, find, and use public health information—as opposed to simply a snapshot of some interaction between a member of the public and one particular database, etc. Presence in Second Life will allow CDC to refine what it offers through its websites and in response to public inquiries.



The average resident of Second Life is not the teenage male associated with typical gaming. The median age of a resident is 36; the mean age is 32. And 45% are women. Second Life is a new information channel and brings with it a new target demographic—one that is savvy to multiple communication technologies and highly selective in how it receives information.

As Second Life evolves, CDC’s presence will adapt to meet new and changing audience needs, just as it does in the real world. But one aspect of CDC’s mission will remain constant—healthy people in healthy places, both real and imagined.

At a Glance: Fiscal Year 2006 Budget

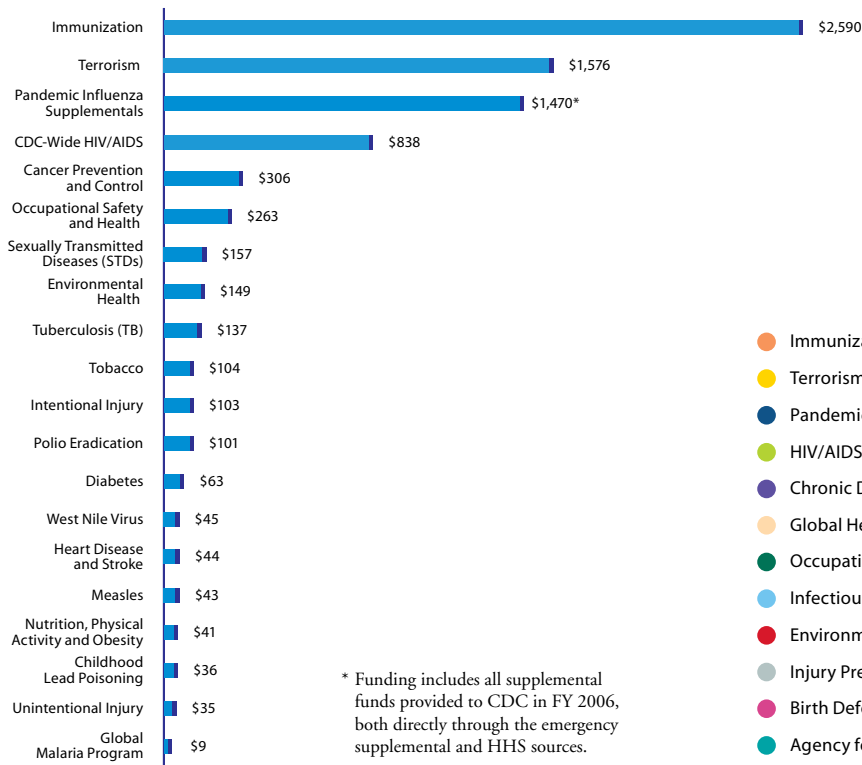
CDC's budget reflects a blend of programs that address urgent threats and urgent realities. These programs are essential in protecting the health and well-being of our nation and, increasingly, the world. Agency management and operational activities support and reflect CDC's health protection goals—goals that are centered on everyone, everyday, everywhere.

As we continue to link agency-wide goals with health priorities and resources, we depend on the expertise of both our own committed staff and our valued partners to develop consistent and meaningful ways to measure achievements. We strive to increase effectiveness in our services – and, in the process, hope to find more efficient ways of doing the business of CDC. By doing so, the intent is to dedicate even more resources to health programs—a way of doing business here that consistently earns CDC one of the highest approval ratings among federal agencies as ranked by the American people. As diligent stewards of public trust and public funds, we can strive for nothing less.

—William H. Gimson, MBA, Chief Operating Officer

Funding by Selected Disease

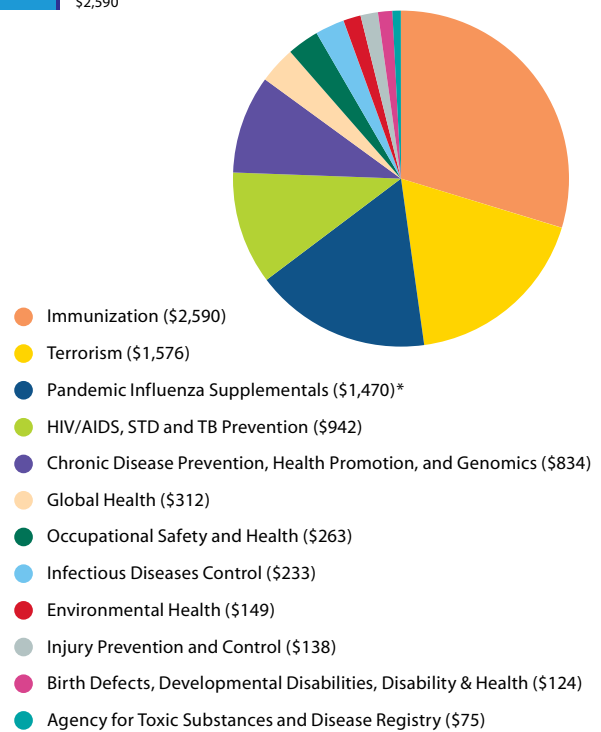
FY 2006 Actual, Dollars in Millions



* Funding includes all supplemental funds provided to CDC in FY 2006, both directly through the emergency supplemental and HHS sources.

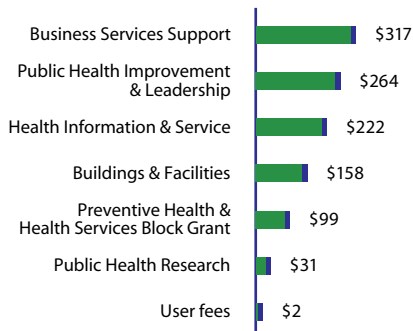
Funding by Major Disease Category

FY 2006 Actual, Dollars in Millions



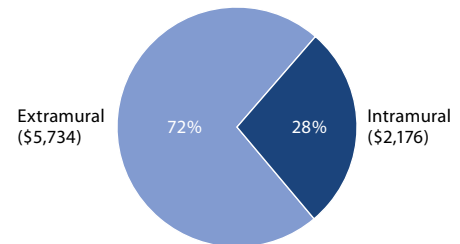
Other Funding

FY 2006 Actual, Dollars in Millions



Total Funding of Intramural and Extramural Activities*

FY 2006 Actual, Dollars in Millions

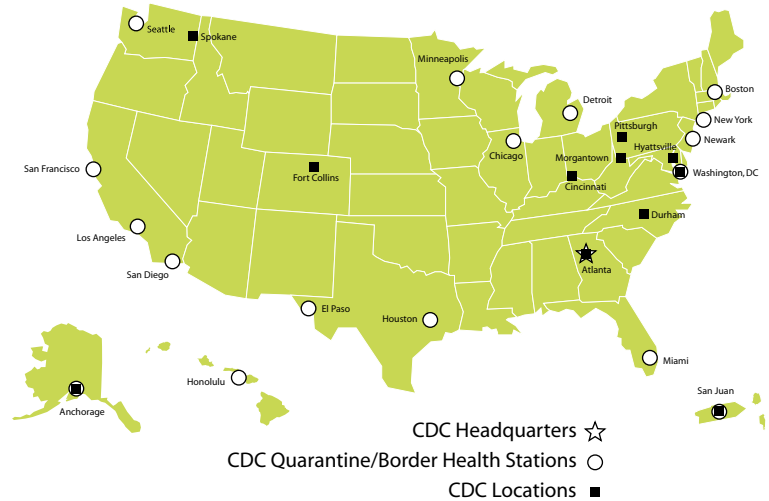


* Overall, 70% of funding goes to grants and vaccine purchase, 16% to contracts, and 14% to other.

At a Glance: CDC/ATSDR Today

CDC/ATSDR Workforce

- CDC/ATSDR ranks 22nd among Georgia's top employers, with almost 8,000 full-time, permanent employees; 117 part-time, permanent employees; and approximately 6,000 contract employees.
- Approximately two-thirds of employees work in Atlanta, but the agency also has a major presence (more than 50 employees) in Cincinnati, OH; Morgantown, WV; Hyattsville, MD; Pittsburgh, PA; Washington, DC; Spokane, WA; Durham, NC; and, Fort Collins, CO. CDC also has ~200 employees working overseas.
- Women make up ~58% of the workforce.
- Slightly more than 34% of all employees are of a minority race/national origin.
- Disabled employees constitute ~6% of the entire workforce.
- Nearly 81% of the workforce holds a bachelor's degree or higher.



CDC/ATSDR Locations

- CDC is headquartered in Atlanta, Georgia, with 10 other locations in the United States and Puerto Rico.
- CDC employees are located in state and local health agencies, in quarantine/border health offices at ports of entry, and in 46 countries around the world.

CDC is part of the U.S. Department of Health & Human Services and includes the following operating components:

CDC Office of the Director, which includes the offices of CDC Washington, Chief Science Officer, Chief of Public Health Practice, Chief Operating Officer, Strategy and Innovation, Workforce and Career Development, Enterprise Communication, Chief of Staff, and Dispute Resolution and Equal Employment Opportunity

Coordinating Office for Global Health

Coordinating Office for Terrorism Preparedness and Emergency Response

Coordinating Center for Environmental Health and Injury Prevention, which includes the National Center for Environmental Health/Agency for Toxic Substances and Disease Registry* and the National Center for Injury Prevention and Control

Coordinating Center for Health Information Service, which includes the National Center for Health Marketing, the National Center for Health Statistics, and the National Center for Public Health Informatics

Coordinating Center for Health Promotion, which includes the National Center on Birth Defects and Developmental Disabilities, the National Center for Chronic Disease Prevention and Health Promotion, and the National Office of Public Health Genomics

Coordinating Center for Infectious Diseases, which includes the National Center for HIV, STD, and TB Prevention, the National Center for Infectious Diseases, and the National Immunization Program

National Institute for Occupational Safety and Health

*ATSDR is an operating division within the Department of Health and Human Services but is managed by a common Office of the Director with National Center for Environmental Health.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention

