

Director's Letter

The National Center for Immunization and Respiratory Diseases is completing its second year with a renewed commitment to make a difference. Thanks to the hard work of CDC staff and partners, our collective efforts are paying off.

Immunization Action

To deliver on the promise of the recently recommended vaccines for 11 and 12 year olds – Tdap, meningococcal conjugate, and HPV vaccine (for girls) -- we launched a preteen immunization campaign, funded adolescent coordinators for state programs, and spotlighted new communication materials (www.cdc.gov/vaccines). We reported substantial drops in both pneumonia hospitalizations and direct medical care costs due to pneumococcal conjugate vaccine use. A record number of influenza vaccine doses were distributed for the 2007/8 season. We addressed our share of challenges, too, including selected vaccine shortages and transitioning more areas to centralized vaccine distribution.

Respiratory Disease Response

Together with state, local, and international public health counterparts, we responded to a new strain of Adenovirus type 14, swine influenza human cases associated with agricultural events, and outbreaks of Legionnaires disease, *Mycoplasma pneumoniae*, pertussis, and pneumococcus. H5N1 avian influenza sustained its high virulence in human cases. In partnership with the Council on State and Territorial Epidemiologists, we strengthened domestic influenza surveillance with strategies that will improve both seasonal and pandemic influenza efforts.

Looking Back

We tallied the remarkable impact on illness and death that vaccines have had, compared with historical data – more than 99% reductions are evident for several of the vaccine-preventable diseases assessed (Roush JAMA 2007). Continued exploration of the reconstructed 1918 pandemic influenza virus revealed more clues to the molecular basis of its transmissibility and virulence.

Looking Forward

Strengthening preparedness was front and center. NCIRD provided pandemic and avian influenza training to international staff, rapid response teams, laboratory personnel, Epidemic Intelligence Service officers, and others. CDC-wide exercises and tabletops on pandemic influenza expanded the numbers of CDC staff that are familiar with response plans. Strategic planning around CDC's health protection goals and the agency's immunization and respiratory disease efforts accelerated.

Looking Inward

Rana Hajjeh MD joined us as Director of the Division of Bacterial Diseases. NCIRD Associate Directors are also in place: Communication (Kris Sheedy PhD), Epidemiologic Science (Beth Bell MD MPH), Laboratory Science (Alison Mawle PhD), and Policy (Kristin Pope).

Looking Beyond the Horizon

While vaccine-preventable diseases and respiratory infections know no borders, global cooperation led to new milestones. Measles deaths in Africa fell by 90% compared with the 2000 baseline, and continued progress is being made in polio eradication. CDC's global efforts addressed integrating surveillance and strengthening immunization systems. We also integrated immunization with other health service interventions, including insecticide-treated nets for malaria control.

It is truly an exciting era in immunization and respiratory infectious disease prevention and control. Within the CDC family and across our public health partnerships, your commitment to our science and service missions remains inspirational. I am so grateful for the opportunity to work among you, and look forward to writing our next chapter together. Thank you!



Anne Schuchat, MD
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Director, National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

Informational Materials to Download

CDC home page

www.cdc.gov

Immunization website

www.cdc.gov/vaccines

Vaccine Information Statements

www.cdc.gov/vaccines/pubs/default.htm

Seasonal flu materials

www.cdc.gov/flu/professionals/flugallery/index.htm

Preteen materials

www.cdc.gov/vaccines/spec-grps/preteens-adol/07gallery/default.htm

Infant immunization materials

www.cdc.gov/vaccines/spec-grps/infants/default.htm

Immunization Program Operations Manual (IPOM)

www.cdc.gov/vaccines/vac-gen/policies/ipom/default.htm

VFC Operations Guide

www.cdc.gov/vaccines/programs/vfc/operations-guide.htm

State Immunization Laws for Healthcare Workers and Patients:

www.cdc.gov/vaccines/vac-gen/laws/state-reqs.htm

Hepatitis B Vaccination for Adults' Resource Center

www.cdc.gov/ncidod/diseases/hepatitis/recs/index.htm

Updated Guidelines for Vaccinating Pregnant Women

www.cdc.gov/vaccines/pubs/preg-guide.htm

Group B strep materials

www.cdc.gov/groupbstrep

Contact Information

CDC Contact Center (CDC-INFO)

800-CDC-INFO (232-4636)

TTY—888-232-6348

In English, En Español; 24/7

Email: NIPINFO@cdc.gov

For CDC Inquiries: www.cdc.gov/netinfo.htm



Table of Contents

Mission

Priorities 2008-2010

Healthy People in Every Stage of Life

CMV: Increasing awareness, working toward prevention	5
Childhood immunization rates remain strong	5
National Infant Immunization Week	6
Protecting preteens	7
Partnering to fight hepatitis B among adults	8
Getting the word out on influenza vaccination	8
Building awareness	8
Educating and empowering public health partners	9
Tracking the impact of pneumococcal conjugate vaccine	10
Continuing to monitor vaccine safety	10
Neuropsychological function and thimerosal	10
Close monitoring to ensure varicella vaccine is safe and effective	11
Reassuring the public that a new rotavirus vaccine is safe	11

Healthy People in Healthy Places

Solving a pneumonia mystery	12
Learning from an outbreak of human adenoviruses	13
Examining norovirus outbreaks	14
Keeping the United States free of measles and rubella	14
Immunization education and training: Meeting the needs of tomorrow	15
Education and training for healthcare professionals	15
Epidemiology training takes new course	15
Making vaccines more accessible	16

Healthy People in a Healthy World

Polio	18
Changes in how outbreaks are tested and understood	18
Progress in eradication	18
Measles and rubella	20
Measles deaths continue to decrease globally	20
Rubella cases plummet in the Americas	20
Contributing to global surveillance	20
Linking routine immunization and malaria prevention in Malawi	21
Evaluating influenza burden among the poor	22
Getting new vaccines to children in developing countries	22
Better data management means better disease surveillance and service delivery	24
Improving detection of respiratory pathogens	24
Monitoring new vaccines to prevent rotavirus gastroenteritis	25
EPI Olympics	26
Exploring a new role for CDC in international Bordetella Pertussis efforts	27

People Prepared for Emerging Health Threats

Avian Influenza	28
New research on prevention and treatment	28
Investigating flu outbreaks in poultry	28
Communities in Vietnam join the effort	29
Preparing CDC and the world for pandemic influenza	30
Training CDC staff	30
Creating domestic rapid response teams	30
Improving laboratory surge capacity	30
Training the global health community	31
Developing early-warning networks	31
Vaccine research and development	32
Global disease detection innovative project	33
Studying anthrax vaccine	34
Studying past pandemics gives hope for identifying new ones	34
Detecting and investigating swine influenza	35

Appendix

2008 Calendar of events	38
Who's Who in NCIRD Leadership	40
NCIRD organization chart	42
International assignees field map	43
Immunization schedules with footnotes	44
2007 Publications	55

Mission

Prevention of disease, disability, and death through immunization and by control of respiratory and related diseases

Priorities 2008-2010:

1. Implement new vaccines and new recommendations through: support of communication and outreach; strengthened monitoring of vaccine impact, and immunization coverage; and programmatic support to assure financing, distribution, storage, and handling.

See [Protecting Preteens, Partnering to Fight Hepatitis B Among Adults...](#)

2. Reduce worldwide deaths from pneumonia, other severe respiratory and vaccine-preventable diseases by facilitating use of known interventions, devising sound approaches to monitor impact, and accelerating research to address key gaps.

See [Measles Deaths Continue to Decrease Globally, Getting New Vaccines to Children in Developing Countries...](#)

3. Improve preparedness for global threats through strengthening epidemiologic, laboratory, and public health preparedness and response capacity against respiratory microbial threats.

See [Preparing CDC and the World for Pandemic Influenza, Solving a Pneumonia Mystery...](#)

Every Stage of life



CMV: Increasing Awareness, Working Toward Prevention

Congenital cytomegalovirus (CMV) is the leading cause of congenital infection in the United States. Passed from mother to fetus, this disease is estimated to infect up to 40,000 newborns every year and results in as many as 8,000 permanent disabilities, including hearing loss, vision loss, and mental retardation. Although no CMV vaccine is currently available, NCIRD research is continuing to help lay the groundwork for how to use vaccines effectively in the future. In 2007, for example, NCIRD published:

- The first national estimates of CMV seroprevalence, demonstrating that more than 50% of women of childbearing age are susceptible to CMV infection;
- The first national estimates of CMV incidence, showing that each year, an estimated 27,000 women in the United States experience a primary CMV infection during pregnancy;
- A survey showing that few women have heard of CMV, let alone know how to avoid infection during pregnancy;
- Comprehensive review articles of the prevalence of congenital CMV and the prevalence of neurological and sensory sequelae.

Not only does this research provide a baseline against which a future vaccine may be evaluated, it highlights the frequency and seriousness of the problem of CMV. Through these and other efforts, NCIRD and other centers within CDC are working to increase awareness and prevention of perinatal infections like CMV.

Childhood immunization rates remain strong

In 2006, the nation's childhood immunization rates remained at or near record high levels for routinely recommended vaccines. According to the National Immunization Survey, 77% of U.S. children 19 to 35 months of age had received the complete recommended series of childhood vaccines, a slight increase from the previous year.

National Infant Immunization Week

During the week of April 21, 2007, NCIRD joined with partners in government and healthcare across America to launch the 13th annual National Infant Immunization Week (NIIW), a far-reaching effort to promote immunization against vaccine-preventable diseases for children under 2 years of age. Hundreds of communities in the United States participated in a variety of special NIIW activities designed to educate and inspire parents and healthcare providers. NCIRD supported state and local NIIW activities with web-based planning tools, Spanish- and English-language campaign materials, public relations tools, and technical assistance. Immunization messages were heard from coast to coast on television and radio as well as in newspapers and magazines. And for the fourth consecutive year, NIIW was held in conjunction with the Pan American Health Organization's (PAHO) Vaccination Week in the Americas (VWA), which took place in 45 countries.

NCIRD officials, including Director Anne Schuchat, participated in nearly three dozen press conferences, media interviews, and other NIIW and VWA events. In Las Vegas, for example, Dr. Schuchat joined First Lady of Nevada Dawn Gibbons at La Oportunidad Expo, a community event featuring a free Helping Kids immunization clinic. The Nevada State Health Division Immunization Program and Nevada Immunization Coalitions worked with local officials to launch a number of other activities throughout the state, including free immunization clinics at health centers, fire stations, and community fairs, resulting in immunizations for nearly 5,000 at-risk children.



NCIRD Deputy Director Melinda Wharton was on hand at the Children's Museum of Denver to present Colorado Lieutenant Governor Barbara O'Brien with an award for her state's efforts to increase rates of childhood immunization. The Colorado Department of Health Immunization Program convened a statewide planning committee to organize additional NIIW activities, including immunization clinics, grand rounds, and a statewide provider education webcast.

Dr. Jeanne Santoli, deputy director of NCIRD's Immunization Services Division, attended a kickoff event in Hidalgo County, Texas, to highlight how partnerships and collaborations have helped maintain and strengthen immunization rates throughout the U.S.-Mexico border region. One of the most important of these collaborations has been between CDC, the U.S.-Mexico Border Health Commission, state and local immunization programs, and PAHO.

During NIIW, CDC continued to promote a national Spanish-language public education campaign, *Continuando con la promesa* ("Keeping the Promise"), through television, radio, and print media. The campaign reached 23 of the top 30 Hispanic television markets and nine of the top 10 Hispanic radio markets in the United States. In the last two years, the campaign has garnered more than \$350 million in donated media space, helping result in more than 554 million media impressions.



Protecting Preteens

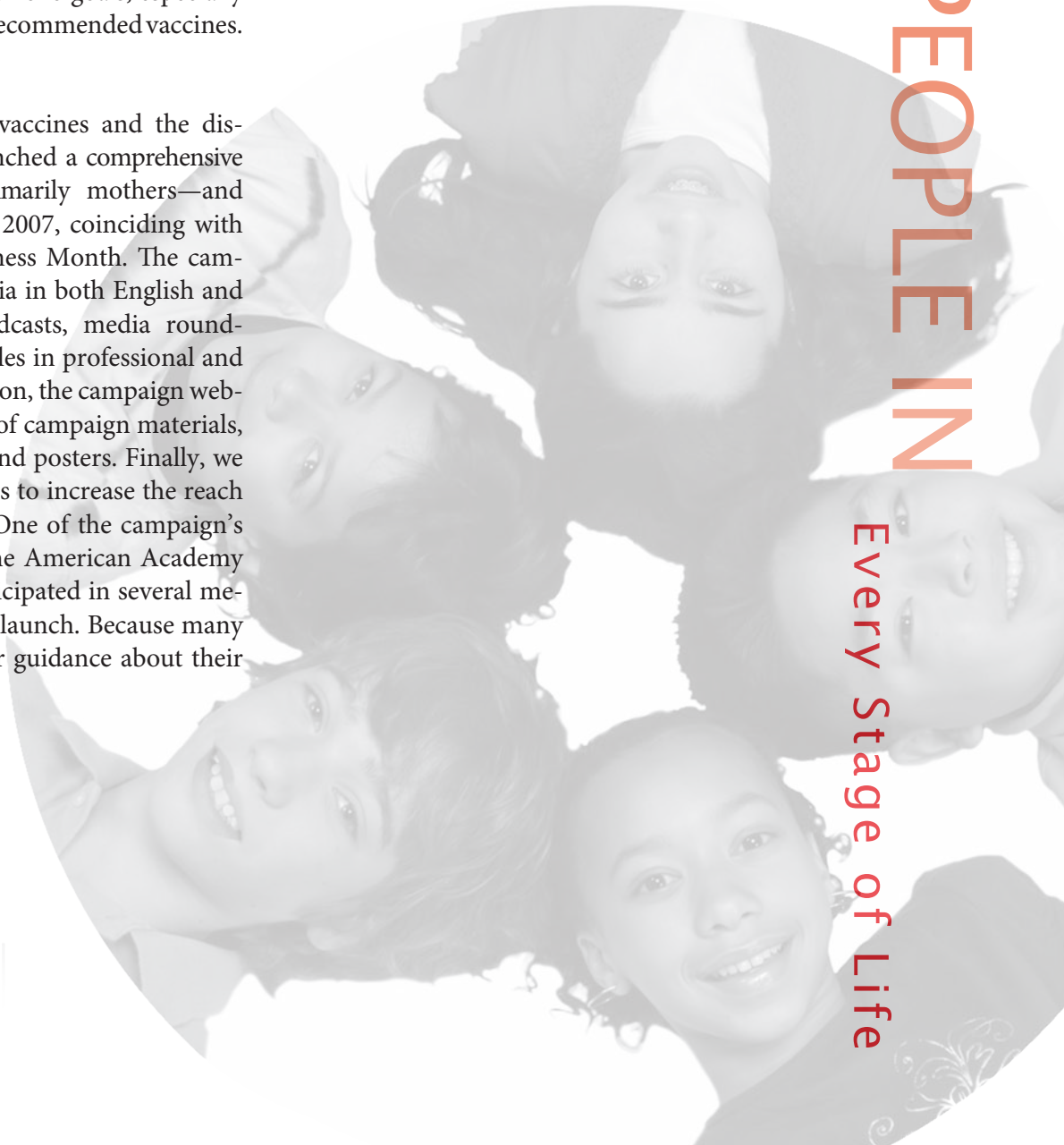
Between 2005 and 2007, CDC recommended three new vaccines for preteens (11-12 years of age) to protect against several serious, sometimes life-threatening diseases: meningococcal vaccine, which protects against meningococcal meningitis and other forms of meningococcal disease; Tdap vaccine, a booster against tetanus and diphtheria that also offers protection against pertussis (whooping cough); and HPV, which protects girls against types of human papillomavirus, which account for 70% of cervical cancer cases.

Promoting the new vaccines is a challenge. Research has indicated that some parents of preteens are wary about the safety and necessity of new vaccines—HPV, in particular—for their healthy preteens. Moreover, data from the 2006 National Immunization Survey revealed that immunization rates among 13-15 year-olds are far short of national Healthy People 2010 goals, especially with regard to the most recently recommended vaccines.

To raise awareness about the vaccines and the diseases they prevent, NCIRD launched a comprehensive campaign targeting parents—primarily mothers—and healthcare providers in August 2007, coinciding with National Immunization Awareness Month. The campaign included a variety of media in both English and Spanish, including radio broadcasts, media roundtables, direct mailings, and articles in professional and consumer publications. In addition, the campaign website contained an online gallery of campaign materials, including downloadable flyers and posters. Finally, we partnered with key organizations to increase the reach of the immunization message. One of the campaign's most significant partners was the American Academy of Pediatrics (AAP), which participated in several media events during the campaign launch. Because many parents turn to pediatricians for guidance about their

children's health, AAP was an ideal fit to bring the message of these new recommendations to the public and to increase consumer confidence.

Media outreach for the preteen campaign was a success. By the end of August 2007, the campaign had been covered in more than 140 print and online articles, both in the United States and abroad, and had reached an estimated 26 million people through radio. And in its first month alone, the campaign website received more than 17,000 page views. These encouraging results will help continue to raise awareness about the importance of vaccinations for all age groups.



Partnering to Fight Hepatitis B Among Adults

One of the greatest remaining challenges to eliminating transmission of hepatitis B virus (HBV) in the United States is the need to increase vaccination rates among high-risk adults—primarily, those who inject drugs or engage in risky sexual behavior. In response, the Advisory Committee on Immunization Practices (ACIP) has recommended universal hepatitis B vaccination in settings where these at-risk adults receive services, including STD clinics, HIV testing and treatment centers, drug treatment and prevention facilities, and correctional facilities.

To support the ACIP recommendation, multiple CDC programs collaborated with state and local health programs in 2007 to develop and begin implementing the Adult Hepatitis B Vaccination Initiative. This initiative provided grantees with more than \$20.1 million to purchase hepatitis B vaccine. It will also enable state and local agencies to begin or expand delivery of viral hepatitis prevention services in healthcare settings and through public health programs that serve at-risk adults.

Getting the Word Out on Influenza Vaccination

The 2007 flu season saw record amounts of influenza vaccine distributed as well as new and dynamic efforts to protect more Americans than ever before.

Building awareness

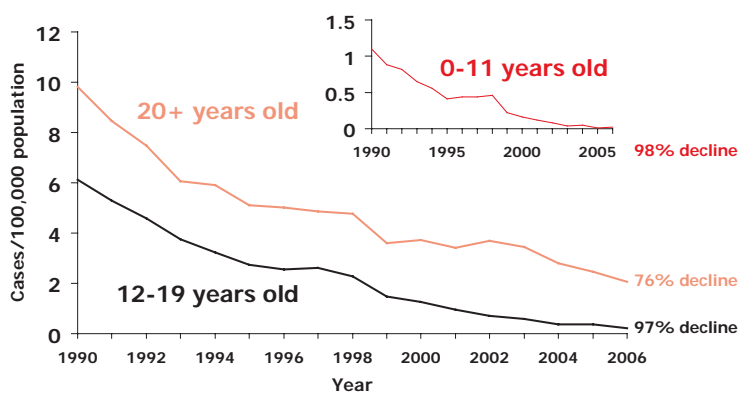
Building awareness of the importance of vaccination—particularly among groups at higher risk for complications from influenza—remained a top priority for CDC. Despite updated guidelines from the Advisory Committee on Immunization Practices (ACIP) that recommend influenza vaccination for nearly 75% of the U.S. population, many people remain unvaccinated.

In response, NCIRD used formative research to develop posters targeting parents of children with asthma and diabetes, adults who live with aging parents, and family members of newborns too young to be protected by vaccination. These materials are available free for download from CDC's newly revised flu website (www.cdc.gov/flu).

Ongoing media updates were also important to influenza communication activities. Throughout the flu season, press conferences and other media events took place across the country, featuring CDC experts and state and local health department staff. Efforts in 2007 included ethnic media roundtables, bilingual (English and Spanish) radio media tours, and bilingual radio and television public service announcements.

To help highlight the benefits of influenza vaccination throughout the entire influenza season, the Department of Health and Human Services, CDC, the National Influenza Vaccine Summit, and other partners held the second annual National Influenza Vaccination Week (NIVW) from November 26 to December 2, 2007. During NIVW, NCIRD emphasized the importance of influenza vaccination for all people at high risk, and those living with or caring for them. NIVW put a special focus on children. CDC, Families

Reported Acute Hepatitis B by Age, United States, 1990-2006



Source: National Notifiable Diseases Surveillance System

Fighting Flu, and other partners set aside November 27, 2007, as National Children's Flu Vaccination Day, emphasizing the importance of vaccinating high-risk children and the people close to them.

Educating and empowering public health partners

CDC's newly revised flu website provided a single online location where national, state, and local partners could share their flu season events, resources, and activities. It also offered them a variety of valuable CDC resources, including:

- A video podcast (or "vodcast") that explains the complexities of vaccine production and distribution;
- New "e-health" marketing tools, such as e-cards, web-based training events, outreach, and education in "virtual worlds"; and
- Web-based tools specifically designed for public health partners.

There were also a variety of NCIRD professional education activities in 2007, including:

- The Immunization Update satellite broadcast/webcast;
- Netconferences and teleconferences to help extend the vaccination season;
- Participation in grand rounds;
- A two-day immunization training program for clinicians; and
- Presentations to providers at a variety of medical and nursing conferences.

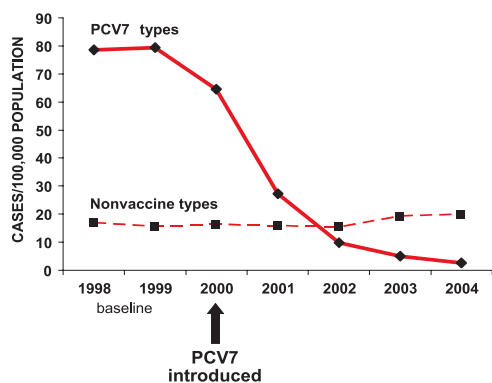


Tracking the Impact of Pneumococcal Conjugate Vaccine

Pneumococcus (*Streptococcus pneumoniae*) is the most common cause of bacterial meningitis, pneumonia, and ear infections in the United States, especially among young children and older adults. Pneumococcal conjugate vaccine protects young children against the seven strains that caused the most cases of pneumococcal disease. Data from the Active Bacterial Core surveillance (ABCs, part of the Emerging Infections Program Network—a system that monitors pneumonia, blood infections, and meningitis in more than 20 million people across the United States—indicate that the vaccine has had a tremendous impact on preventing severe infections caused by one or more of the seven strains.

According to ABCs, vaccination prevented approximately 30,000 cases of severe pneumonia, blood infections, and meningitis in 2006 alone. CDC epidemiologists also worked with scientists at Vanderbilt University to measure pneumococcal vaccine's impact on pneumonia hospitalizations. They found that the vaccine is estimated to prevent approximately 41,000 pneumonia hospitalizations in the United States each year among children under five years of age. In addition, vaccinating young children is helping to prevent severe infections in older people, because the vaccine prevents the spread of the pneumococcus bacterium.

Rates of invasive pneumococcal disease by serotype and year among children < 5 years old

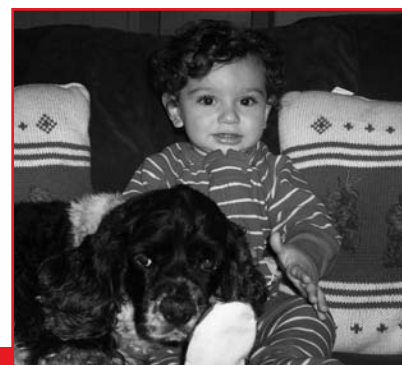


Continuing to Monitor Vaccine Safety

Neuropsychological function and thimerosal

Thimerosal is a mercury-containing preservative that has been used in vaccines since the 1930s. Since 2001, thimerosal has not been used in routinely recommended childhood vaccines, with the exception of some flu vaccines. Despite a lack of convincing scientific evidence that low doses of thimerosal in vaccines cause harm beyond minor reactions like redness and swelling at the injection site, there has been continued public concern about its effects. In response, CDC worked extensively with independent consultants to design a comprehensive study on vaccine safety—specifically to examine whether early exposure to mercury from thimerosal-containing vaccines and immune globulins was associated with neuropsychological function among children 7-10 years of age.

The study results appeared in the *New England Journal of Medicine* (September 27, 2007). The study found no consistent evidence of neurological problems in children exposed to mercury from thimerosal-containing vaccines or immune globulins. One finding related to thimerosal exposure and a possible risk of motor and phonic tics in boys may require further consideration. This study did not assess whether thimerosal exposure from vaccination is associated with autism; CDC is completing a separate study to address this hypothesis.



Close monitoring to ensure varicella vaccine is safe and effective

Since 1995, routine childhood immunization with the varicella vaccine has dramatically reduced sickness and death caused by the varicella zoster virus (VZV)—also known as chickenpox—in the United States. Because the varicella vaccine can occasionally cause a mild, chickenpox-like illness and, more rarely, a severe rash, pneumonia, or meningitis, the safety of the vaccine is being carefully monitored.

To monitor vaccine safety, scientists must be able to differentiate between the weakened virus in the vaccine and the wild-type virus. CDC's National VZV Laboratory receives clinical specimens from around the world that represent cases where varicella vaccine may have caused sickness or death. Using a panel of real-time polymerase chain reaction (PCR) methods, scientists can distinguish the vaccine strain from wild strains more dependably than by any previously reported method.

Reassuring the public that a new rotavirus vaccine is safe

Rotavirus is the leading cause of severe gastroenteritis (diarrhea and vomiting) in infants and young children worldwide. Every year in the United States, rotavirus is responsible for more than 400,000 doctor visits, more than 200,000 emergency room visits, 55,000-70,000 hospitalizations, and 20-60 deaths in children under 5 years of age. To control and prevent this severe childhood illness, a new oral rotavirus vaccine called RotaTeq™ was licensed and recommended in early 2006 for all U.S. infants. Evaluating and communicating the safety of a new vaccine is important—especially so in the case of RotaTeq™. In 1999, a different previously licensed rotavirus vaccine was withdrawn from the U.S. market after it was found to be associated with intussusception, a type of bowel obstruction. As a result, CDC has been working closely with the FDA to monitor the safety of the RotaTeq™ vaccine.

Data from the first year of post-licensure monitoring found no risk of intussusception and more recent data are similarly reassuring. CDC and the FDA will continue to assess the safety of RotaTeq™ as its use increases.

