January 2009

Immunization Update

immunization works!

The Centers for Disease Control and Prevention's (CDC) Immunization Works Monthly Immunization Update is provided to professional organization partners for broad distribution to their members and constituencies. The information provided is non-proprietary.

Front Page News

Increase in Hib Cases in Minnesota, Parents Urged to Make Sure Infants and Children Under Five Are Vaccinated: Minnesota has seen an increase in Haemophilus influenza type B (Hib) cases in children younger than 3 years of age. In 2008, there were 5 confirmed cases of Hib, including one death. This serious disease has been uncommon since routine use of Hib vaccine began over 15 years ago. Before widespread use of the vaccine, Hib disease struck over 20,000 children per year in the U.S. However, the deferral of the booster dose is jeopardizing the cushion of protection high immunization coverage provides, making babies even more vulnerable. The children affected were either mostly unimmunized or partially immunized.

Because high immunization coverage provides what's commonly called "herd immunity," parents may forget that vaccine-preventable diseases are still circulating. CDC urges parents of children under age 5 to check their children's immunization records, or to call their children's doctor, nurse, or clinic to see if their children are fully protected with Hib vaccine as age appropriate. Hib vaccine is safe and highly effective.

The entire country has been in a Hib vaccine shortage since December, 2007. This shortage is expected to last into mid-2009. There are adequate vaccine supplies to provide protective Hib primary series vaccination for all the children who need them. However, vaccine supply is complicated to manage during a shortage, so not all medical offices or clinics will have vaccine available on any given day.

With the currently available vaccine, babies should receive three doses of available Sanofi Hib vaccine: one each at 2, 4, and 6 months of age. Due to the shortage, the booster dose normally received at age 12-15 months must be deferred, *except* for children at high risk, such as those children with sickle-cell disease, leukemia, HIV and other immune system problems, no spleen, or American Indian/Alaska Native children. Older children who did not receive the Hib vaccine during infancy can be protected with fewer doses. Parents should check with their child's healthcare provider.

CDC has initiated enhanced surveillance to look for Hib disease in children across the country. To date, CDC has not identified any additional clusters of Hib disease outside of Minnesota, but it continues to work with the states to follow up on any suspected cases and urges providers to report cases to their health departments.

A Morbidity and Mortality Weekly Report (MMWR) dispatch will be published soon and can be found at CDC's MMWR Webpage. Parents can look at immunization schedules or find out more information by visiting CDC's Vaccines Webpage or calling 1-800-CDC-INFO.

Other News & Summaries

Updated Immunization Schedules for all Ages: The Advisory Committee on Immunization Practices (ACIP) annually publishes immunization schedules that summarize recommendations for currently licensed vaccines. The 2009 versions of the Recommended Immunization Schedules for Persons 0-18, the catch-up immunization schedule and the Recommended Adult Immunization Schedule have recently been published. Specific changes are listed on the websites above.

PCV7 Vaccine is a Success; Fewer Hospitalizations for All-Cause Pneumonia among Young Children: The updated findings from national hospital discharge data suggest that previously observed reductions in all–cause pneumonia hospitalizations after routine pneumococcal conjugate vaccine (PCV7) use among U.S. children less than 2 years old have been sustained. These results also confirm that pneumococcus is a major cause of childhood pneumonia and indicate the need for continued monitoring of the immunization program's effects on pneumonia hospitalizations in children. Pneumonia accounts for an estimated 8 percent of all childhood hospital admissions. The bacteria, Streptococcus pneumoniae (pneumococcus) is a leading bacterial cause of childhood pneumonias. Routine childhood immunization with the PCV7 began in 2000 and substantial declines in hospital admissions for pneumonia in young children were previously reported through 2004. CDC monitors the effects of PCV7 immunization program on pneumonia hospitalizations using data from the Nationwide Inpatient Sample. This report provides an updated analysis through 2006. In 2006, the rate for all-cause pneumonia hospitalizations among children less than 2 years-old was 8.1 per 1,000 children, 35 percent lower than the rate before PCV7 introduction. This reduction represents an estimated 36,300 fewer annual pneumonia hospitalizations in 2006 compared with before PCV7. For more information, please see the full article in CDC's *Morbidity and Mortality Weekly Report*.

Status of Merck Hepatitis B Vaccine: Merck is currently experiencing a supply interruption in the U.S. for the *adult formulation* of their hepatitis B

vaccine, Recombivax HB®. However, there is *no* change in the routine recommendation for the Hepatitis B Vaccine. Merck anticipates that supplies of the different images of the adult formulation of Recombivax HB (vials and syringes) as well as the dialysis formulation will be depleted over the first quarter of 2009. Merck will provide updates on supply of the adult formulations as additional information becomes available. At this time Merck does not anticipate the pediatric formulation will be affected, and expects it to be available in adequate supply to meet anticipated demand. Supply of GSK's Adult hepatitis B vaccine (Adult Engerix-B®) and Adult hepatitis A/hepatitis B combination vaccine (Twinrix®) is currently sufficient to meet demand for routine adult usage of this vaccine as well as CDC's ongoing High Risk Adult Hepatitis B Initiative. GSK is gearing up production of these vaccines, to meet ongoing demand. Consult CDC's Vaccine Shortages & Delays web page for information on the supply interruption of Merck Hepatitis B Vaccine.

Status of Monovalent Measles, Mumps, and Rubella Vaccines:
Merck currently is not producing or taking orders for the monovalent vaccines ATTENUVAX® (measles vaccine), MUMPSVAX® (mumps vaccine) and MERUVAX® (rubella vaccine). Merck will continue to meet the public health and medical need for vaccination against measles, mumps, and rubella by providing MMR II in adequate supply to meet demand in the U.S. and to help meet the demand internationally. Consult CDC's Vaccine Shortages and Delays web page for information on the status of MMR II vaccine shortage.

Interim Recommendations for Influenza Antiviral Medications:
Although influenza activity is low in the United States to date, preliminary data from a limited number of states show that the prevalence of influenza A (H1N1) virus strains resistant to the antiviral medication oseltamivir is high. Therefore, CDC is issuing interim recommendations for antiviral treatment and chemoprophylaxis of influenza during the 2008-09 influenza season. When influenza A (H1N1) virus infection or exposure is suspected, zanamivir or a combination of oseltamivir and rimantadine are more appropriate options than oseltamivir alone. Local influenza surveillance data and laboratory testing can help with physician decision-making regarding the choice of antiviral agents for their patients. The 2008-09 influenza vaccine is expected to be effective in preventing or reducing the severity of illness with currently circulating influenza viruses, including oseltamivir-resistant influenza A (H1N1) virus strains. Since influenza activity remains low and is expected to increase in the weeks and months to come, CDC recommends that influenza vaccination efforts continue. For more information, please see the full article in CDC's Morbidity and Mortality Weekly Report and/or view the CDC Netconference (see "Meetings, Conferences & Resources" section below).

Meetings, Conferences & Resources

New! **Antiviral Resistance Netconference:** On January 29, from noon to 1:00 PM ET, CDC will present a live netconference program about antiviral resistance among influenza A (H1N1) viruses and interim guidance for antivirals. Dr. Anthony Fiore will be speaking and Dr. Andrew Kroger moderating. This program will combine a telephone audio conference with simultaneous online visual content. Participants can take part in a question and answer segment by telephone and/or via the Internet. Registration is required. To register for the Antiviral Resistance Netconference, visit the Current Issues in Immunization NetConference Webpage.

New! **Seasonal Flu Podcasts: CDC's Flu Gallery:** CDC's Flu Gallery has been updated to include new seasonal flu podcasts. Please visit the gallery for these and other seasonal flu resources.

New! **Annual Conference on Vaccine Research:** CDC and 11 other national and international agencies and organizations will collaborate with the National Foundation for Infectious Diseases in sponsoring the Twelfth Annual Conference on Vaccine Research, April 27-29, 2009, at the Marriott Waterfront Hotel, Baltimore, Maryland. The conference is the largest scientific forum devoted exclusively to the research and development of all vaccines and related technologies for prevention and treatment of disease through immunization. For more information on the Annual Conference on Vaccine Research, visit the Conference Webpage.

Mark Your Calendars for NIC: Make plans now to attend The National Immunization Conference (NIC), scheduled March 30–April 2, 2009, at the Sheraton Dallas. Early bird on-line registration is available until January 30th.

CDC Training Opportunities: Through established programs, CDC offers many unique training opportunities in infectious disease, including international opportunities. For a current listing of CDC training opportunities, please visit the CDC Public Health Training Webpage.

CDC Job Openings: CDC is committed to recruiting and hiring qualified candidates for a wide range of immunization positions. Researchers, Medical Officers and Epidemiologists and other specialties are often needed to fill positions within CDC. For a current listing, including international opportunities, please visit the CDC Employment Webpage.

News from the Field

To highlight some of the exciting activities happening in the field, starting with this issue, Immunization Update will periodically include stories like the one below. If you have an idea for a story in your state, please contact the Immunization Update Editor at immunizationworks@cdc.gov.

Twins Battle Pertussis, Become Immunization Champions:

Eleven year-old twins Ileyna and Flori, pictured here, were coughing all through their trip to Disneyland last summer. When they returned home to Phoenix, they found out why. Both girls tested positive for pertussis, or whooping cough. Their mother, Julie Witenstein, notified the summer camp the twins had attended in July, so other children at the camp could be tested for pertussis. Pertussis is highly contagious, and half of the children in their bunk had been coughing alongside them.

Reported pertussis cases are becoming increasingly common among adolescents like Ileyna and Flori. During 2004, a total of 8,897 (34%) of the 25,827 reported U.S. cases of pertussis were among adolescents 11-18 years old. But the numbers tell only part of the story of the impact of pertussis. More compelling is to listen to Ileyna and Flori describe what it feels like to have pertussis. Says Flori, “I coughed so hard it hurt my throat, and sometimes I’d throw up. And I’d ‘whoop’ when I tried to breathe. It was so hard to breathe.” The twins’ parents own a gymnastics studio, and they typically practice several times a week. But when Ileyna and Flori were sick with pertussis, they couldn’t do gymnastics for more than a month.

With nothing but time on their hands, the twins developed a new hobby. A friend had given them a crafts kit, and they used the kit to decorate bottle caps with glitter, beads, and buttons. At first, they made refrigerator magnets. Soon, they began putting pins or tacks on the back of the bottle caps. They turned their creations into necklaces, holiday ornaments, and eventually, tools to educate peers and parents about pertussis and adolescent vaccines.

Pertussis is easily preventable through the Tdap vaccine. The preferred age for routine vaccination with Tdap is 11 or 12 years old. However, in talking to their friends about their illness and the vaccine, Ileyna and Flori found that many of them were “scared to get vaccinated.” After the twins told friends how bad they felt when they were sick with pertussis, their friends would often say “Maybe I should get the shot. I’ll talk to my parents.” After seeing the impact their story had on their friends, Ileyna and Flori decided to combine their new business venture – designing and selling magnets and jewelry from bottle caps – with educating parents and peers about adolescent immunizations. They called their bottle cap creations “whoopies” after the whooping cough that had inspired them to start their new craft, and partnered with The Arizona Partnership for Immunization (TAPI). Whenever

Ileyna and Flori sell the “whoopies” at their parents’ gymnastics studio or a neighborhood art fair, they also distribute flyers about adolescent vaccination and donate a portion of the proceeds to TAPI. Each sale represents an opportunity for the twins to tell their story and to champion immunizations.

So far, Ileyna and Flori have sold more than 300 “whoopies.” More opportunities to sell “whoopies” and to educate parents and peers about adolescent vaccination keep on coming. The twins are excited to display their “whoopies” at upcoming events, such as a free flu vaccination clinic at Phoenix Airport in late January. They hope to continue to make and sell “whoopies” and to champion adolescent vaccines “forever.”

If you would like to purchase “whoopies”, or would like to donate bottle caps for the twins to use in making more “whoopies”, please send an e-mail to whoopies@cox.net.

The Immunization Works Database Manager can be contacted at immunizationworks@cdc.gov.