The ITAT sharp shooter

FALL 2008

The newsletter of the Immunization Technical Assistance Team (ITAT), a partnership of leaders from various organizations who are dedicated to improving and maintaining maximum immunization rates utilizing practice-based interventions.

Influenza Update

by Margaret Huffman, ND, RN, CDPHE Immunization Program

Prevention is the key to reducing influenza. Influenza vaccine is recommended in 70-90 percent of the population younger than 65 years of age. Surprisingly, the vaccine is only 30-40 percent effective among frail, elderly people. Therefore, as a community we need to protect each other from getting and spreading influenza by covering our mouths and noses with a tissue, coughing and sneezing into a sleeve rather than our hands, washing our hands often, and, most importantly, receiving an **annual influenza vaccination.**

The Advisory Committee on Immunization Practices (ACIP) consists of 15 experts in fields associated with immunization who have been selected by the Secretary of the U. S. Department of Health and Human Services to provide advice and guidance to the Secretary, the Assistant Secretary for Health, and the Centers for Disease Control and Prevention (CDC) on the control of vaccine-preventable diseases. In 2008, ACIP dramatically expanded its recommendation for influenza vaccinations. The following are the principal changes made to the ACIP recommendations:

> Beginning with the 2008-09 influenza season, annual vaccination of all children aged 5-18 years is recommended. Annual vaccination of all children aged 5-18 years should begin in September or as soon as vaccine is available for the 2008-09 influenza season, if feasible, but annual vaccination of all children aged 5-18 years should begin no later than during the 2009-10 influenza season.

Annual vaccination of all children aged 6 months-4 years (59 months) and older children with conditions that place them at increased risk for complications from influenza should continue. Children and adolescents at high risk for influenza complications should continue to be a focus of vaccination efforts as providers and programs transition to routinely vaccinating all children.

Either TIV or LAIV can be used when vaccinating healthy people aged 2-49 years. Children aged 6 months-8 years should receive two doses of vaccine if they have not been vaccinated previously at any time with either LAIV or TIV (doses separated by ≥4 weeks); two doses are required for protection in these children. Children aged 6 months-8 years who received only one dose in their first year of vaccination should receive two doses the following year. LAIV should not be administered to children aged <5 years with possible reactive airways disease, such as those who have had recurrent wheezing or a recent

See **INFLUENZA** *on page 2*

INFLUENZA *from page 1*

wheezing episode. Children with possible reactive airways disease, people at higher risk for influenza complications because of underlying medical conditions, children aged 6-23 months, and people aged >49 years should receive TIV. The 2008-09 trivalent vaccine virus strains are A/Brisbane/59/2007 (H1N1)-like, A/Brisbane/10/2007 (H3N2)-like, and B/Florida/4/2006-like antigens.

Oseltamivir-resistant influenza A (H1N1) strains have been identified in the United States and some other countries. However, oseltamivir or zanamivir continue to be the recommended antivirals for treatment of influenza because other influenza virus strains remain sensitive to oseltamivir, and resistance levels to other antiviral medications remain high.

New recommendations target kids because they are instrumental in spreading the flu. A Harvard study over four winters matched Boston-area emergency room visits of adults who were ill with influenza symptoms with Census data for 55 zip codes. Flu-like symptoms were most predominant in the zip codes that were home to the most kids. Each 1 percent increase in the number of children brought a 4 percent increase in adult ER visits, according to a report in Annals of Emergency Medicine.

"The impact of kids and the flu is clear," said study co-author John Brownstein, an epidemiologist at Children's Hospital Boston. "It doesn't mean the areas without kids are protected from flu. It just means they experience flu later and at lower rates."

Annual Influenza Vaccination Key Points:

Influenza immunization is available in Colorado. You can locate a flu shot clinic at www.immunizecolorado.com or call 1-877-462-2911 Monday through Friday from 10 am to 2 pm.

Remember that you cannot get influenza from the flu shot!

Influenza is a serious respiratory disease caused by a virus. It is not the same as the common cold or an intestinal illness.

An average of 36,000 deaths and more than 200,000 hospitalizations related to influenza occur in the United States each year, and 5-20 percent of the U.S. population gets infected.

Unvaccinated healthy people who get influenza can spread it to others who are vulnerable. By protecting yourself, you are protecting others in your family, your friends and co-workers, and the community in which you live. ★

Resources for Best Immunization Practices

Find links here to some of the most promising best immunization practices that may include assessment of vaccine status, effective communication about vaccine benefits and risks, proper storage/administration of vaccine, updated guidelines, proper documentation, and promising strategies to improve vaccine coverage.

New and Revised Website Materials from the Immunization Action Coalition
http://www.immunize.org/new/

Child Screening Questions
http://www.immunize.org/catg.d/p4060.pdf

Standing Orders
http://www.immunize.org/standingorders/

New Releases: Licensures, Recommendations, and Resources
http://www.immunize.org/newreleases/ ★

Health-Care Personnel and Influenza Vaccination

by Margaret Huffman, ND, RN
Colorado Department of Public Health and Environment Immunization Program

With the onset of "influenza season" in Colorado, the focus for vaccination efforts often is on health-care personnel. While the recommendation is strong for health-care personnel to receive their influenza vaccinations, the percentage of uptake in this sub-group of workers has been traditionally low.

At the 42nd Annual National Immunization Conference, I attended a break-out session related to common themes and reasons for refusing influenza vaccination among health-care workers. These included the following as reasons for accepting influenza vaccination: 1.) protection of self, 2.) protection of patients, 3.) convenience of the vaccination, 4.) peer influence, 5.) prior experience.

Reasons for rejecting the influenza vaccination include: 1.) concerns about vaccine safety or efficacy, 2.) not at risk, as health-care workers are more likely to self-identify as healthy, with no immune system concerns, 3.) lack of understanding of transmission of influenza virus, 4.) fear of needles, 5.) not convenient.

Researchers have found that the category of health-care worker is part of the equation, as well as the type of institution, the age of the workers, their level of knowledge about influenza and vaccine(s), and their overall level of trust.

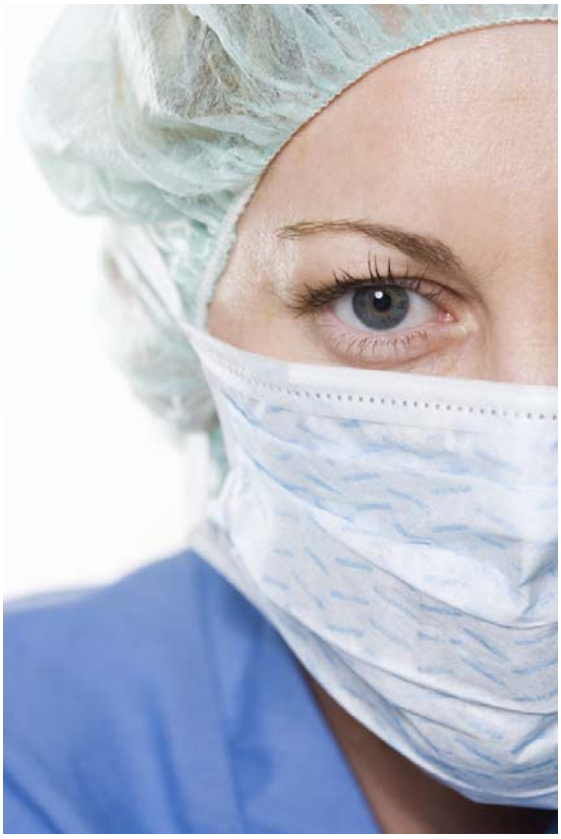
It is also important to note that among this influential population, there are misconceptions related to influenza vaccinations. Many health-care workers perceive that the vaccination can cause influenza. In reality, the trivalent injected vaccine is a *killed* virus and incapable of causing illness. The intranasal vaccine is a virus that is so *weakened*, it is unlikely to cause anything more than a very minor sore throat or low fever, following vaccination.

The notion that health-care personnel are not at risk is a fallacy. Health-care workers may come in contact with the sickest members of the population. Since influenza is contagious immediately prior to the onset of symptoms, the risk of being infected is great without proper vaccination as part of their overall prevention routine.

Overall, the perception continues that influenza is not a serious disease. The numbers of hospitalized victims of influenza and its complications are staggering. The death rate for this vaccine-preventable disease is high (more than 36,000 annually). The cost of lost work due to illness of self or a family member is a figure that should not be ignored in today's economic climate.

Finally, health-care workers have the standard of "First, do no harm." If they have not received adequate influenza vaccination, they are in a position of possibly doing harm to their patients, their peers, and their families.

Influenza vaccine is safe, it is effective, and it is available in a variety of locations. It is not too late to receive a vaccination! Please remember that it is vital to receive your annual influenza vaccination! You will protect yourself, your family, your patients, and ultimately, your community. ★



Old Diseases/New Challenges: Varicella

by Karen Willeke, Nurse Consultant
Colorado Department of Public Health and Environment Immunization Program

Until varicella vaccine became available in 1995, varicella was a nearly universal childhood disease in the United States. Since varicella was not a nationally reportable disease prior to the vaccine's introduction in 1995, surveillance data during the prevaccine period is limited. However, there were an estimated 10,632 hospitalizations per year attributable to varicella during the 1988-1995 period. During the years 1970 through 1994, the average annual number of deaths attributed to varicella was 105. Studies show the number of varicella-related hospitalizations declined after the introduction of varicella vaccine. One study showed a decline of 88 percent during 1994-2002. The number of deaths also was affected by the vaccine. During 1995-2001, the number of deaths for which varicella was listed as the underlying cause decreased from 115 to 26, and in 2003 reported deaths were down to 16.

According to MMWR 6/22/07 56(RR04), "Despite high one-dose vaccination coverage and the success of the vaccination program in reducing varicella morbidity and mortality, reports to the Centers for Disease Control from active surveillance sites and from states with well-implemented vaccination programs and surveillance indicate that in certain states and in one active surveillance site, the number of reported varicella cases has remained constant or declined minimally, and outbreaks have continued to occur. During 2001-2005, outbreaks were reported in schools with high varicella vaccination coverage (range 96-100 percent). The outbreaks were similar in certain respects: 1) all occurred in elementary schools, 2) vaccine effectiveness was similar (range: 72-85 percent), 3) the highest attack rates occurred among the younger students, 4) each outbreak lasted approximately two months, and 5) index cases occurred among vaccinated students (although their disease was mild). Overall attack rates among vaccinated children varied (range: 11-17 percent), with attack rates in certain classrooms as high as 40 percent. These data indicate that even in settings in which vaccination coverage was nearly universal and vaccine performed as expected, the one-dose vaccination program could not prevent varicella outbreaks completely."

Breakthrough disease is defined as a case of infection with wild-type VZV occurring more than 42 days after vaccination. Clinical trials show varicella disease to be substantially less severe in the vaccinated population versus the unvaccinated population. Unvaccinated people who contract varicella typically have fever and several hundred vesicular lesions, while the median number of skin lesions in the case of breakthrough disease is typically fewer than 50. In addition, vaccinated people who show symptoms of breakthrough disease typically have lesions that are atypical, with papules that do not progress to vesicles, a shorter duration of illness, and a lower incidence of fever. However, 25-30 percent of cases of breakthrough disease are not mild and show symptoms more similar to disease in unvaccinated children. In a randomized clinical trial that compared the efficacy of one dose of vaccine with that of two doses, the cumulative rate of breakthrough varicella during a 10-year observation period was 3.3-fold lower among children who received two doses than that among children who received one dose (2.2 percent and 7.3 percent respectively).

The Advisory Committee on Immunization Practices (ACIP) recommends two 0.5-mL doses of varicella vaccine administered subcutaneously for children aged $\geq$12 months, adolescents, and adults without evidence of immunity. For children aged 12 months to 12 years, the recommended minimum interval between the two doses is three months. However, if the second dose was administered $\geq$28 days after the first dose, the second dose is considered valid and need not be repeated. For people aged $\geq$13 years, the recommended minimum interval is four weeks.

The Colorado Board of Health voted last year to implement a two-dose series for varicella as a school requirement starting with kindergarten students in the 2007-2008 school year. This will phase in gradually to a larger population with requirements for two doses in 2008-2009 for kindergarteners and first-graders, two doses for kindergarteners, first-graders and second-graders in 2009-2010, and so on.

*See **VARICELLA** on page 5*

VARICELLA *from page 4*

Vaccines licensed in the United States for prevention of varicella are single antigen varicella vaccine (VARIVAX,® Merck and Co., Inc.) and combination MMRV vaccine (ProQuad,® Merck and Co., Inc.). Single-antigen varicella vaccine is approved for use among healthy people aged ≥12 months. Combination MMRV vaccine is approved for use among healthy children aged 12 months to 12 years. In February 2008, ACIP voted to remove its preference for MMRV over the single-antigen vaccine due to some evidence of increased incidence of febrile seizures following the combination vaccine. Ongoing studies continue to investigate concerns surrounding this. ★

References:

MMWR: 6/22/07 /56(RRO4); 1-40 http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5604a1.htm

MMWR: 3/14/08 /57(10); 258-260 http://www.cdc.gov/mmwr/preview/mmwrhtml/

Changes in Immunization Recommendations

by Lynn Trefren, RN, MSN
Tri-County Health Department

Pneumococcal Vaccines:

Rates of pneumococcal disease have been affected by the use of Pneumococcal Conjugate vaccine (PCV7) (Prevnar®, Wyeth Vaccines). The Advisory Committee on Immunization Practices (ACIP) has strengthened recommendations to help ensure that all children are completely vaccinated with PCV7[1]. The routine schedule for PCV7 remains the same: a dose at 2 months, 4 months, 6 months, and then at 12-15 months. The recommendations that have changed are for those children who have not received a complete series at the routine ages. The following guidelines can be used to complete the PCV7 series for children who have fallen behind:

For all healthy children aged 24-59 months who do not have a complete series, give one dose of PCV7.

For all healthy children aged 24-59 months who have received no PCV7, give two doses at least eight weeks apart.

For all children with underlying medical conditions aged 24-59 months who have received three doses, give one additional dose of PCV7.

For all children with underlying medical conditions aged 24-59 months who have received fewer than three doses, give two additional doses of PCV7 at least eight weeks apart.

In addition to these changes, the ACIP clarified recommendations for the pneumococcal polysaccharide vaccine (PPV23). Some high risk children should receive both PCV7 and PPV23, but they should be given eight weeks apart. The following summarizes those changes.

Asthma was added to the list of chronic pulmonary diseases that indicate a need for PPV23 in 18 to 64-year-olds.

Changes were made to the PPV23 revaccination time intervals. For high risk children who are aged 2-4 years at their first dose of PPV23, revaccinate once after three years. If the child was age 5 years or older at the first dose of PPV23, revaccinate once after five years.

New recommendations were made for HIV-infected children ages 5-17 on HAART therapy that include both PCV7 and PPV23.

For future consideration, the new pneumococcal conjugate vaccine, PCV13, may be licensed during 2009. Expect additional guidelines at that time.

Meningococcal Vaccine:

The Advisory Committee on Immunization Practices (ACIP) has recently changed the recommendations for meningococcal conjugate vaccine (MCV4)

*See **RECOMMENDATIONS** on page 6*

VARICELLA *from page 4*

(Menactra®, Sanofi Pasteur).[2] MCV4 is routinely recommended for adolescents at age 11-12 years, with catch-up vaccination for those 13-18 who were not previously vaccinated. Many colleges and universities recommend or require this vaccine.

In October of 2007, MCV4 was approved for children ages 2-10 years. This is an expansion of the prior approval for people ages 11-55 years. The ACIP recommendations for this expanded age range are for children ages 2-10 years who are at increased risk for meningococcal disease. This would include:

children who are traveling to countries in which meningococcal disease is endemic
children who have terminal complement component deficiencies
children with anatomic or functional asplenia

Providers may elect to vaccinate children ages 2-10 years who are infected with human immunodeficiency virus (HIV), although the efficacy among these children is unknown. Routine vaccination of children ages 2-10 years is not currently recommended, but will be considered at a future ACIP meeting.

The ACIP revised its recommendation to say that MCV4 is preferable to meningococcal polysaccharide vaccine (MPSV4) for vaccinating these children. It also stated that MCV4 is preferable for use in the control of meningococcal disease outbreaks.

Duration of protective immunity from MCV4 is not yet known, but conjugate vaccines generally have longer duration protection than polysaccharide vaccines. Children who received MPSV4 more than three years ago and remain at risk for meningococcal disease should be revaccinated with MCV4. For children at lifelong increased risk for meningococcal disease, subsequent doses will likely be needed. ACIP will make those recommendations as more data becomes available. ★

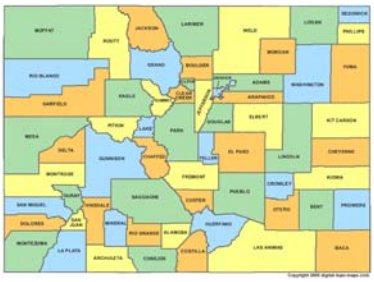
[1]MMWR April 4, 2008 / 57(13);343-344
[2]MMWR December 7, 2007 / 56(48);1265-1266

Coalition Corner

by Erica Bloom
CIPAC Coordinator
Colorado Department of Public Health and Environment

The Colorado Influenza and Pneumococcal Alert Coalition (CIPAC) has been busy alerting healthcare providers and residents to the health dangers associated with influenza and the benefits of flu vaccination. On the provider side of the equation, CIPAC joined with the Colorado Children's Immunization Coalition (CCIC) to sponsor a flu summit called VIP on September 10, 2008. The day-long event held at The Children's Hospital featured panels focusing on new developments on the influenza front, especially with regard to the expanded ACIP recommendation that children from ages 6 months to 18 years get an annual influenza immunization.

Julie Moise, a spokesperson from the national Families Fighting Flu organization, came from Kansas City to address the summit. Moise, who lost her 6-month-old to flu in 2003, makes a very compelling case for annual flu vaccinations. She recently made a return trip to Denver to help CIPAC get the word out to residents about flu vaccinations. Moise and Christine Nyquist, MD, from The Children's Hospital, are



making a public service announcement about flu that is currently airing. Moise and Nyquist did an interview with Kim Christianson from 9NEWS, and Moise also did an interview with Colorado Public Radio.

Finally, CIPAC is busy with its new Latino Influenza Vaccination and Education (LIVE) initiative. The program, funded by a Colorado Health Foundation grant, is focused on improving Latino flu vaccination rates by helping this community understand the benefits of annual influenza vaccination. For this project, CIPAC is working with Spanish and English media partners on the awareness and education piece, and the Tri-County Health Department and two schools in the Aurora Public School system that will offer influenza vaccination clinics for students and families.
If you have questions or would like additional information regarding CIPAC and its activities, please contact Erica Bloom at Erica_bloom@yahoo.com. ★

ASK THE EXPERTS

The column in The ITAT Sharp Shooter *newsletter that allows you to get your questions answered by the professionals. We hope its content will be both informative and helpful.*

Q: ***We are seeing more patients who have a tattoo in the place we would normally give vaccines. Is it necessary to avoid that area?***

A: Both intramuscular and subcutaneous vaccines can be given through a tattoo.

Answered by www.immunize.org

Q: ***What vaccines should I consider offering to my office staff?***

A: All staff with patient contact should receive MMR and varicella vaccine if they have not previously received it. (Screen for contraindications.) Any staff person who could come in contact with blood, body fluids, or used needles should receive the three-dose series of Hepatitis B vaccine. Anyone who has not had a tetanus-containing vaccine in the last two years should be offered the new adult tetanus-diphtheria-accelular pertussis vaccine (Tdap). All healthcare workers should receive influenza vaccine annually.

A Morbidity and Mortality Weekly Report (December 26, 1997 / 46(RR-18); 1-42) with the full recommendations is available at http://www.cdc.gov/mmwr/preview/mmwrhtml/00050577.htm

Answered by Lynn Trefren RN, MSN
Tri-County Health Department

Q: *We saw a patient who had three valid doses of Hepatitis B vaccine, but the first and third doses of the vaccine were more than a year apart. He is going to attend a school that is requiring him to repeat the series. Is this a new recommendation?*

A: No. There still is no need and no recommendation to re-start a series of Hepatitis B vaccine as long as the minimum age and minimum interval for each dose was achieved.

Answered by Lynn Trefren, RN, MSN
Tri-County Health Department

Q: ***One of my patients went to the health department and was given a second dose of varicella vaccine. The child is 8 years old. I thought the second dose was recommended only for children entering kindergarten.***

A: The confusion is between what is recommended for children and what is necessary to comply with school regulations. A second dose of varicella vaccine now is part of the school regulations. For the 2007-2008 school year, children in kindergarten needed two doses. Each year, an additional grade is being phased in. The Advisory Committee on Immunization Practices actually voted in June 2007 to recommend two doses of varicella vaccine for all children. The minimum interval for children ages 12 months through 12 years is three months; for people ages 13 years and older, the minimum interval is four weeks.

Answered by Lynn Trefren, RN, MSN,
Tri-County Health Department

Q: *I have seen minimum intervals mentioned in talks about giving immunizations, but I am not sure what that means?*

A: The minimum interval is the shortest time allowed between two doses of the same vaccine, or between two doses of live vaccines (same or different).
If two doses of vaccine are given too close together the patient may not get optimal protection from that vaccine. Many vaccines also have minimum ages when they are effective. A good table is available in the "Pink Book" or on the CDC website at: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf

Answered by Lynn Trefren, RN, MSN, Tri-County Health ★

Feature Articles

- Influenza Update
- Health-Care Personnel and Influenza Vaccination
- Old Diseases/New Challenges: Varicella
- Changes in Immunization Recommendations
- Coalition Corner
- Ask the Experts

This Fall edition of *The ITAT SharpShooter* also includes important websites listed throughout.

For questions or information about this *Sharp Shooter* Newsletter please contact Heather Shull, Colorado Children's Immunization Coalition at 720-777-5340. For questions about the ITAT workgroup please contact Karen Willeke RN, Colorado Department of Public Health and Environment Immunization Program at (877) 811-0012 or Karen.Willeke@state.co.us.

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Special thanks to The ITAT Sharp Shooter editorial board

Donald Cook, MD
Past President
American Academy of Pediatrics
Greeley, CO

Kate Lujan, RN, MPH
Field Epidemiologist
Colorado Department of Public Health and Environment
Western Slope

Kellyn Pearson, MSN, PNP
University of Colorado Health Sciences Center
Aurora, CO

Mark Salley
Colorado Department of Public Health and Environment
Denver, CO

Opal Stalker, RN
Montezuma County Health Department
Cortez, CO

Jan Stapleman
Colorado Department of Public Health and Environment
Denver, CO

Lynn Trefren, MS, RN
Nurse Manager
Tri-County Health Department
Aurora, CO

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