The ITAT sharp shooter

Spring 2010

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.

Vaccination of Health Care Workers: First, Do No Harm to Your Patients

By Rosemary Spence, RN MA; Adult/Adolescent Immunization

Staff, patients, and visitors can transmit vaccine-preventable diseases throughout health care settings. Health care workers (e.g., physicians, nurses, medical assistants, emergency medical personnel, dental professionals and students, medical and nursing students, laboratory technicians, etc.) can contract vaccine-preventable diseases through contact with infected materials from patients. Health care workers have direct patient contact and can transmit vaccine-preventable diseases from patient to patient. For these reasons, it is important that health care workers receive recommended vaccinations and be immune to vaccine-preventable diseases. Vaccination of health care workers is an essential component of infection prevention and control programs in health care settings. Employee absenteeism decreases when health care workers are vaccinated. In some instances, a health care organization's accreditation may depend on vaccinating its employees against certain vaccine-preventable diseases.

Unvaccinated Health Care Workers and Transmission of Vaccine-Preventable Diseases in Health Care Settings

Vaccination rates among health care workers remain appallingly low. For example, only 49 percent of health care workers were vaccinated against influenza in the 2007-2008 season, even though the Advisory Committee on Immunization Practices (ACIP) has urged annual influenza vaccination for health care workers since 1981. Influenza transmission has been documented among patients in a variety of clinical settings, and infections have been linked to unvaccinated health care workers.[1]

Vaccine-preventable diseases, in addition to influenza, have been transmitted in health care settings. From September 2003 through April 2005, a Philadelphia children's hospital identified seven patients who exposed 355 unprotected health care workers to pertussis. The exposed health care workers included 163 nurses, 106 physicians, 42 radiology technicians, 29 respiratory therapists, and 15 others. Recent estimates suggest that up to nine health care workers are exposed on average for each case of pertussis with delayed diagnosis.[2]

*See **VACCINATING HEALTH CARE WORKERS** on page 2*

VACCINATING HEALTH CARE WORKERS *from page 1*

Measles transmission has been documented in the offices of private physicians, in emergency rooms and in hospital wards. During 1990-1991, 4.8 percent of measles cases were reported to have been acquired in medical settings. Of these, 37.4 percent occurred among health care workers, 84 percent of whom were unvaccinated. The risk for measles infection in medical personnel is estimated to be thirteen-fold that for the general population.[3]

Vaccination Recommendations for Health Care Workers

Health care workers should be immune to influenza, hepatitis B, measles, mumps, rubella, tetanus, diphtheria, pertussis, and varicella. Vaccination recommendations may vary depending on each health care worker's age, vaccination history, and occupation. The Centers for Disease Control and Prevention (CDC) has an excellent website about health care worker vaccinations at **http://www.cdc.gov/vaccines/spec-grps/hcw.htm** The website includes information about health care personnel vaccination recommendations; ACIP immunization recommendations by specific disease, hepatitis B and health care workers, influenza and health care workers, infection control in health care settings, flyers and posters promoting vaccination, and state immunization laws for health care workers and patients. The Immunization Action Coalition's website (**http://www.immunize.org/**) has standing orders and screening questionnaires for various vaccines, Vaccine Information Statements, vaccine administration documentation requirements, and a declination of influenza vaccination form.

Strategies to Increase Health Care Worker Vaccination Coverage

It can be challenging to increase vaccination coverage among health care workers. The following are strategies to increase health care worker vaccination coverage:[4]

- Educate health care workers about vaccine-preventable diseases and the benefits of vaccination. Discuss the potential impact of vaccine-preventable diseases on employees, their families, and patients. In addition, discuss the epidemiology, treatment, and non-vaccine infection control strategies associated with vaccine-preventable diseases.
- Make vaccination convenient. Provide vaccinations at the worksite and at no cost. Use strategies that have been demonstrated to increase vaccination acceptance, including vaccination clinics, mobile carts, vaccination access during all work shifts, and modeling and support by institutional leaders.

*See **VACCINATING HEALTH CARE WORKERS** on page 3*

Colorado VFC
VACCINES FOR CHILDREN

The VFC program is a federally funded and state-operated vaccine supply program that provides vaccines for eligible children without cost to the provider.

For more information, please call Nicole Ortiz (303) 692-2334 at the Colorado Department of Public Health and Environment.

- Enlist top management to become strong advocates for ensuring health care workers get vaccinated to achieve better infection control, reduced absenteeism, and cost savings or cost effectiveness.
- Offer incentives for vaccination. For example, vaccinated health care workers in a clinic might be eligible to participate in a drawing for a gift certificate.
- Obtain a signed declination from health care workers who decline vaccinations for reasons other than medical contraindications.
- Monitor health care workers vaccination coverage and declination at regular intervals and provide feedback on rates to staff and administration.
- Use the level of health care workers vaccination coverage as one measure of a patient-safety quality program.
- Use available resources. The Association for Professionals in Infection Control and Epidemiology's *"Protect Your Patients. Protect Yourself.*" program features a variety of helpful resource materials to implement or expand health care worker immunization programs. The program's toolkit is available at **http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/toolkit_welcome.htm** Contact local health departments and nursing services to determine if they provide low-cost immunizations to health care workers and other adults.

The Bottom Line

If you're a health care worker, make sure you are up to date on recommended immunizations so you are protected from vaccine-preventable diseases and don't transmit them to others. Always remember: First, do no harm to your patients!

1. Immunization Action Coalition. (2009). *First do no harm. Protect patients by making sure all staff receive yearly influenza vaccine!* Retrieved February 7, 2010, from http://www.immunize.org/catg.d/p2014.pdf
2. Kretsinger, K., Broder, K., Cortese, M., Joyce, M., Ortega-Sanchez, I., Lee, G., Tiwari, T., Cohn, A., Slade, B., Iskander, J., Mijalski, C., Brown, K., Murphy, T. Preventing Tetanus, Diphtheria, and Pertussis Among Adults: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine. *MMWR Recommendations and Reports*, December 15, 2006/55(RR17); 1-33
3. Immunization of Health-Care Workers: Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control and Practices Advisory Committee (HICPAC). *MMWR Recommendations and Reports*, December 26, 1997/46(RR-18); 1-42.
4. The Association for Professionals in Infection Control and Epidemiology (APIC)'s *"Protect Your Patients. Protect Yourself.*" Retrieved February 7, 2010, from http://www.apic.org/Content/NavigationMenu/PracticeGuidance/Topics/Influenza/toolkit_contents.htm

Save the Date!

VPD 2010:
Epidemiology and Prevention of Vaccine-Preventable Diseases Course

Mark your calendars now for July 12 - 14, 2010

This 2½ day course, **presented by CDC Immunization Educators live and in person**, provides a comprehensive review of immunization, vaccine-preventable diseases, and their respective vaccines.
Continuing Education (CE) credits will be provided.

Additional information available soon – keep checking our website: **www.cdphe.state.co.us/dc/immunization**

Hope to see you there!

HIB – Old Diseases, New Challenges

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

Haemophilus influenzae type b (Hib) is a severe bacterial infection that occurs primarily in infants and children under 5 years of age. Transmission occurs primarily through respiratory droplets created by coughing and sneezing. Serious complications of this infection include invasive disease, meningitis, pneumonia, sepsis, cellulitis, and epiglottitis.

Hib vaccine was first licensed in 1985, and has been readily available since 1990. Hib vaccine is highly effective in preventing Hib disease. Two types of Hib vaccine are available, and Hib vaccine is available alone or in combination vaccines. For some products, three doses is a full series. Others require four doses for complete protection. The recommended schedule for this vaccine is 2 months, 4 months, 6 months (4-dose product), and 12-15 months. All children under 5 years of age who have not received a full series of Hib vaccine should be brought up to date. The number of doses it takes to complete the Hib series is dependent on the child's age.

Children at increased risk for Hib disease include children with asplenia, sickle cell disease, immunodeficiency syndromes, and malignant neoplasms. In addition, American Indian/Alaska Native (AI/AN) children are at increased risk for Hib disease.

In December 2007, a voluntary recall of Hib vaccine from one manufacturer occurred. This caused the Centers for Disease Control (CDC), in consultation with the Advisory Committee on Immunization Practices (ACIP) to recommend a temporary deferral of routine Hib vaccine booster doses for healthy children. This recommendation remained in effect until June 2009. The recommendation at that time was to reinstate the booster dose for children 12-15 months but not to begin doing active recall for catch-up vaccination for children who had missed their Hib booster dose. Many young children currently are not fully protected with Hib vaccine, even though catch-up immunization for all children now is recommended. One dose of Hib vaccine given after a child is 15 months of age or older completes the series, regardless of the number of previous doses. Once a child reaches 5 years of age, no further Hib vaccination is recommended.

Using data from the 2008 National Immunization Survey, only about 70 percent of children have received three doses of Hib vaccine by age 13 months, and only 86 percent have three doses by age 24 months. No rate is available for four doses of Hib, but nearly one in five children are documented to have less than the optimal number of doses of Hib vaccine at age 2. Due to the extended duration of the Hib vaccine shortage, the potential exists for increased nasopharyngeal carriage of Hib bacterium. The Hib booster dose is needed to reduce carriage, which will provide direct and indirect protection from invasive Hib disease.

Providers face many challenges as they keep up with ever changing immunization recommendations. Hib disease rates are low, which may contribute to less focus on this important vaccine. Ensuring that all children are fully vaccinated against Hib is critical to ensure we do not see a resurgence of Hib disease. Children under age 5 who have less than a full series of Hib vaccine should be flagged and vaccinated at their next visit.

*See **HIB** on page 5*

***HIB** from page 4*

Hib Vaccine available December 2009

Vaccine	Product Name	Indication	Manufacturer
Hib	ActHIB	Primary series and booster dose	sanofi pasteur
DTaP-IPV/Hib	Pentacel	Primary series and booster dose	sanofi pasteur
Hib	Hiberix	Booster dose only	GSK
Hib	PedvaxHIB*	Primary series and booster dose	Merck*
Hib/Hepatitis B	Comvax*	Primary series and booster dose	Merck*

* Currently this product is not available

Hib Schedule

	Dose 1	Dose 2	Dose 3	Dose 4
	PRIMARY SERIES			BOOSTER
Standard Schedule (Age of Immunization)	2 months old	4 months old	6 months old	After 12 months of age
Recommended Spacing (Time Between Doses)		2 months	2 months	6 months
Minimum Spacing (Time Between Doses)		4 weeks	4 weeks	8 weeks

Hib Catch-up Schedule

Minimum Age for Dose 1	Interval from Dose 1 to Dose 2	Interval from Dose 2 to Dose 3	Interval from Dose 3 to Dose 4
6 weeks	**4 weeks** if first dose given before age 12 months **8 weeks** if first dose given at age 12-14 months **No further dose needed** if dose 1 given at 15 months of age or older	**4 weeks** if child is less than 12 months of age **8 weeks** if child is 12 months or older, and first dose given in first year and second dose given before 15 months **No further dose needed** if previous dose given at 15 months of age or older	**8 weeks** This dose is only necessary only if the child has an incomplete series and did not receive a dose after age 15 months.

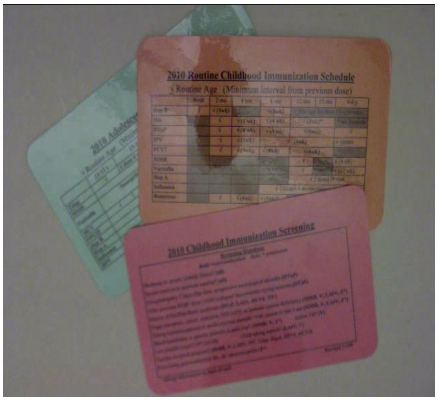
Marksman's Corner:
Betsy Marquardt – NCHD Outreach Project

Northeast Colorado Health Department (NCHD) includes six counties in the very northeastern part of Colorado – Morgan, Logan, Washington, Yuma, Phillips, and Sedgwick. Our border counties share boundaries with Nebraska and Kansas. The main office is in Sterling, with a county office in each of the other counties totaling six offices. As Immunization Coordinator for NCHD, I supervise immunization activities with community health nurses in each county. NCHD's community health nurses are responsible for a variety of programs, which may include Family Planning, Health Care Program for Children with Special Needs, and Nurse Family Partnership, in addition to immunization duties.

My office is located in Julesburg, and I supervise nurses at a distance of 105 miles west in Ft. Morgan, 84 miles southwest in Akron, and 70 miles south in Yuma. The other two offices are a little closer. With the wonderful technology of computers and cell phones, we all have grown accustomed to communication that does not take place face to face. During most years, I may have face-to-face contact with the nurses in Ft. Morgan and Akron a total of 10 to 12 times a year. Although I miss the face-to-face contact, the up side is that the nurses live in the communities they serve. This is a huge advantage when planning community immunization activities. Each nurse works with her community and develops a plan of how best to provide immunization services. Each office has regularly scheduled weekly or monthly clinics.

Through our experiences, we have learned some valuable lessons. We have learned that serving all the schools and preschools in our counties with fall back-to-school clinics is unmanageable for our staff. While some schools insist on the traditional fall back-to-school clinics, other schools are realizing the positives of getting the immunizations done before the fall rush. With our assistance, those schools promote clinics at the end of the school year. Other schools send their "required immunizations letter" during the summer, with the dates and times of NCHD's special walk-in clinics during evening hours that are convenient for working parents and teens. For some rural schools, NCHD staff provides several clinic opportunities throughout the school year to initiate students to human papillomavirus (HPV) and hepatitis A series and then return for subsequent doses. Some of the students attending our rural schools live 45 miles or more from a facility that offers immunizations.

*See **MARKSMAN'S CORNER** on page 8*



2010 Immunization Palm Cards Available!

Brought to you by the Colorado Children's Immunization Coalition (CCIC), these FREE 2.5 x 4 inch, laminated cards fit perfectly in your wallet, or with your identification badge.

Available with the 2010 recommendations for children, adolescents and screening

For more information, and to order visit
www.childrensimmunization.org/order-form

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: ***I've just evaluated a 7-year old who does not have a record of receiving Hib vaccine. Would a dose be indicated now?***

A: ACIP does not recommend routine Hib vaccination of healthy children 59 months of age or older, even if they have no prior history of Hib vaccination.

Q: ***If an infant received one dose of Hib at 5 months, and another at 15 months, does he/she need any more doses?***

A: No. If a child receives a dose of Hib vaccine at 15 months of age or older, he or she does not need any further doses regardless of the number of doses received before 15 months of age.

Q: ***How should we record combination vaccines on paper records (e.g., parent-maintained records, non-computerized office systems)?***

A: You should record the generic abbreviation for the type of vaccine given (e.g., DTaP-IPV-HepB) in each of the sections that correspond to the separate antigens listed on the record (e.g., DTP section, polio section, hepatitis B section). Avoid using trade names (who remembers which antigens were in Acel-Imune?).

Q: ***We inadvertently gave a child only the DTaP-IPV component of Pentacel (DTaP-IPV/Hib; sanofi pasteur), not realizing that this component was intended to reconstitute the Hib component.***

A: Use of DTaP-IPV solution as the diluent for the Hib component is specifically written both on the Pentacel box ***and*** on the DTaP-IPV vial label. In answer to your first question, the DTaP-IPV component will count as valid doses of DTaP and IPV vaccines, but take measures to prevent this error in the future. In answer to your second question, ***no***, you cannot mix the Hib component with sterile water. ActHib must ***only*** be reconstituted with either the DTaP-IPV solution supplied with Pentacel, or with a specific ActHib diluent. If you have ActHib but neither diluent, you must contact the manufacturer (sanofi pasteur) and obtain ActHib diluent.

Q: ***Are vaccine diluents interchangeable?***

A: As a general rule vaccine diluents are not interchangeable. One exception is that the diluent for MMR can be used to reconstitute varicella vaccine, and vice versa. The diluent for both vaccines is sterile water for injection, and is produced by the same company. No other diluent can be used for MMR and varicella vaccines, and these diluents must not be used to reconstitute any .

*See **ASK** on page 8*

ASK from page 7

Q: ***Can a person with a runny nose receive nasal-spray influenza vaccine?***

A: Yes

Q: ***Where can I find information about vaccine shortages and delays?***

A: Visit CDC's website at www.cdc.gov/vaccines/vac-gen/shortages/default.htm

Q: ***We sometimes have differences of opinion among our staff in determining the minimum interval or age for administering vaccines. Recommendations are sometimes written in months, weeks, or days. Can you help clarify?***

A: This is a common source of frustration. Customarily, if the dosing interval is 4 months or more, it is common to use calendar months (e.g., 6 months from October 1 is April 1). If the interval is less than 4 months, it is common to convert months into days or weeks (e.g., 1 month = 4 weeks = 28 days).

***MARKSMAN'S CORNER** from page 6*

Every month, there are immunization clinics that require more providers than the one community health nurse working in the county. At those times, other nurses travel to the county and give assistance as needed.

NCHD promotes tetanus, diphtheria, and pertussis (Tdap) vaccinations in the adult population targeting those who have contact with young children. During school clinics, we offer Tdap to school employees. We offer Tdap during education conferences for day care providers. Each county nurse has seven clinics held in conjunction with Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics specifically for the purpose of giving Tdap to adults living in the house with a child receiving WIC assistance. This year, we are initiating Tdap for adults having close contact with Nurse Family Partnership infants and children. NCHD's Nurse Family Partnership nurses will work with their families and will provide the vaccine during home visits or will make arrangements for adults to attend regularly scheduled NCHD immunization clinics.

The primary nursing staff members who provide NCHD's immunization services and the area for which they are responsible are Sharon Holmes and Jeri Walker in Ft. Morgan, Cheryl Kraich in Akron, Kandi Jamison in Yuma, Cherri Peterson in Sterling, and Jessica Hofmeister in Holyoke and Julesburg. Other nurses assist when needed and as their other duties allow. Administrative assistance is provided by Jodi Murray, Pam Lindenthal, and Dolores Navarro, and all of us receive guidance from Trish McClain, Director of Client Health Services.

Join Us for this Special Event!
April 27, 2010
6:00—9:00 pm
The Cable Center at The University of Denver

Tickets are on sale now!
www.childrensimmunization.org/soup

Tasty Soups, Networking & Keeping Colorado's Kids Healthy!

Coalition Corner

Adolescent Immunization Workgroup

By Rosemary Spence, RN, MA
Adult/Adolescent Immunization Coordinator
Colorado Immunization Program

The Colorado Immunization Program convened an adolescent immunization workgroup in July 2009. The workgroup meets monthly and includes members from the Colorado Division of Youth Corrections, Rocky Mountain Planned Parenthood, Rocky Mountain Youth Clinic, the Colorado Clinical Guidelines Collaborative, Denver Health, the Colorado Children's Immunization Coalition, the El Paso County Health Department, the University of Colorado Cancer Center, the Colorado State University Health Network, the San Juan Basin Health Department, the Rocky Mountain Society of Adolescent Medicine, the Montrose School District, Exempla, the Family Tree, and Metro Community Provider Network. The workgroup is charged with developing and implementing a minimum of two to three projects over the next year that raise awareness about the Advisory Committee on Immunization Practices' recommendations for teens. Parents, teens, providers from diverse health care settings (e.g., family planning clinics, school-based health centers, etc.) and others (e.g., community groups, social networking sites, friends, schools, etc.) will be targeted to receive information through the projects.

In addition to representing different organizations, members bring varied skills and areas of expertise. Some have clinical backgrounds, and others are health educators or community workers. The first workgroup meetings were devoted to providing information about teen vaccination coverage levels, vaccine safety, the epidemiology of vaccine-preventable diseases, teen vaccination campaigns in other states, and vaccines for teens. For example, Rebecca Boyte with the California Department of Public Health's Immunization Branch provided an overview of California's annual "Preteen Immunizations: Your Best Shot" campaign. Robert Brayden, MD, professor of pediatrics at the University of Colorado discussed human papillomavirus vaccine safety with the group. The purpose of these presentations and discussions was to ensure everyone had a good overview and understanding of the field of immunizations before identifying projects.

The workgroup has identified barriers to teens receiving immunizations and the resources that may be available to overcome these barriers. Factors that may keep teens from receiving immunizations include a lack of immunization awareness campaigns using social networking, few non-traditional providers (e.g., school-based health centers, etc.), and a lack of buy-in into the importance of vaccines. The group currently is identifying its projects and the resources (e.g., ongoing contact with homeless teens) each member brings to implement these projects. Updates about the group's activities will appear in future **Sharpshooter** issues, so stay tuned! For additional information about the workgroup, please contact Rosemary Spence at 303-692-2798 or rosemary.spence@state.co.us

We are going green!

In an effort to save paper, the *Sharpshooter* Newsletter is now available via email. If you would like to receive your copy of the *Sharpshooter* Newsletter via email, please send a request to ccicoffice@tchden.org .

Thank you!

Feature Articles

- **Vaccinating Health Care Workers: First, do no harm to your patients**
- **Hib - Old Diseases, New Challenges**
- **Marksman's Corner: NCHD Outreach Project**
- **Ask the Experts**
- **Coalition Corner: Adolescent Immunization Work Group**

This Spring edition of *The ITAT Sharp Shooter* also includes important updates and announcements listed throughout.

For questions or information about this *Sharp Shooter* Newsletter and/or the ITAT workgroup, please contact Karen Willeke, Colorado Department of Public Health and Environment Immunization Program at (970) 246-0151 or kwilleke@wildblue.net.

The ITAT sharp shooter

This newsletter should be directed to all staff involved in immunizations including:

___ clerical and billing staff
___RNs
___LPNs
___MAs
___MDs
___PAs
___NPs
___DOs
___Clinical Director or Clinical Manager