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Arizona Vaccine News
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VACCINE NEWS

Arizona Campaign to Increase Pertussis Immunizations in Health-Care Personnel

- Only 20% of HCP in the U.S. have received the adult booster for pertussis (Tdap), putting both patients and health-care personnel (HCP) at risk.
- Arizona Partners Against Pertussis (APAP) has launched a statewide campaign to encourage all HCP and staff to get pertussis vaccine (Tdap).
- APAP's campaign will give health-care employers resources and materials to help them achieve the goal of 100% staff Tdap immunization. Employers who achieve a 100% Tdap immunization rate among their staff will be entered into a random drawing to receive an iPad or one of five \$100 gift cards.
- APAP is composed of a coalition of organizations who support pertussis vaccination. These organizations include March of Dimes, Arizona Department of Health Services, The Arizona Partnership for Immunizations (TAPI), Arizona Academy of Family Physicians, Arizona Chapter of the American Academy of Pediatrics, Arizona Osteopathic Medical Association, Arizona Society of the American College of Osteopathic Family Physicians, Arizona Medical Association, Arizona Pharmacy Association, Arizona Community Health Centers, Arizona Hospital Association, Arizona Perinatal Trust, Arizona Geriatric Society, Arizona Nurses Association, Sanofi Pasteur, and GlaxoSmithKline.

To sign up to participate in the APAP campaign or for more information, go to the Arizona Partnership for Immunization [website](#).

Some High Risk Adults Now Recommended to Get Both Types of Pneumococcal Vaccines

- There are two types of pneumococcal vaccines:
 - PPSV23: A 23-valent polysaccharide vaccine (Pneumovax[®])
 - PCV13: A 13-valent conjugate vaccine (Prevnar[®] 13)
- The Centers for Disease Control and Prevention (CDC) now recommends that high risk adults aged ≥ 19 years with immunocompromising conditions, functional or anatomic asplenia, CSF leaks, or cochlear implants should receive **both** PPSV23 and PCV13.
- The scheduling of vaccination depends on past pneumococcal vaccine history.
 - High risk adults who have not previously received either PCV13 or PPSV23: First give a dose of PCV13, followed by a dose of PPSV23 at least **8 weeks** later.
 - High risk adults who have received at least 1 previous dose of PPSV23 but have not previously received PCV13: Wait at least **one year** from the previous dose of PPSV23 before giving a single dose of PCV13.
 - High risk adults who have received at least 1 previous dose of PCV13 but have not yet received PPSV23: Wait at least **8 weeks** from the last dose of PCV13 before giving PPSV23.
- Subsequently, adults 19-64 years with functional or anatomic asplenia or persons with immunocompromising conditions should receive a second dose PPSV23 five years after the first PPSV23 dose.
- Those who received PPSV23 before age 65 years for any indication should receive another dose of PPSV23 at age 65 years old or later, so that at least 5 years have elapsed since their previous PPSV23 dose.

For more information, see *Morbidity and Mortality Weekly Report* ([MMWR](#)), October 12, 2012.

Use of Live Attenuated Influenza Vaccine in Healthcare Personnel

The Society for Healthcare Epidemiology of America (SHEA) has published guidance for the use of live-attenuated influenza vaccine (LAIV) in healthcare personnel (HCP).

- LAIV is an acceptable alternative to the inactivated influenza vaccine for HCP.
- LAIV should not be given to HCP if in the following week they will have frequent contact with patients who reside in a protective environment (defined as a “specialized patient-care area with a positive airflow relative to the corridor, high-efficiency particulate air filtration, and frequent air changes,” as found in myelosuppression or stem cell transplantation units).
- HCP who have frequent contact with patients in protective environments, but will not care for these patients in the week following influenza vaccination may receive LAIV.
- HCP who have the potential of infrequent contact with patients in protective environments should not be excluded from vaccination with LAIV.
- HCP who care for immunosuppressed people who do not require a protective environment may still receive LAIV.

For more details, see [Infection Control and Hospital Epidemiology](#), October 2012.

New Interim VFC Vaccine Storage and Handling Guidance

In the new CDC Interim Vaccine Storage and Handling Guidance for the Vaccines for Children (VFC) Program, VFC Provider must:

- Discontinue use of dorm-style or bar-style refrigerator/freezers for ANY vaccine storage, even temporary storage, and;
- Review weekly vaccine expiration dates and rotation of vaccine stock.

INFLUENZA VACCINES

First Trimester Influenza Vaccination in Pregnancy Is Safe

- Neonates whose mother had received influenza vaccine during pregnancy did not have an increase in major malformations regardless of the trimester when the mother was vaccinated.
- Stillbirths, neonatal deaths and premature deliveries were significantly decreased in those born to mothers who had received influenza vaccine in comparison to those born to unimmunized mothers:

For more information, see the abstract in [Obstetrics and Gynecology](#), September 2012.

Effectiveness of Influenza Vaccination during 2010-2011 Season

- Overall vaccine efficacy (VE) was 60%.
- Age-specific VE estimates ranged from 69% in children 6 months-8 years old, to 38% in adults aged ≥ 65 years.
- The US 2010–2011 influenza vaccines were moderately effective in preventing medically attended influenza during a season when all 3 vaccine strains were antigenically similar to circulating viruses.

For more information, see [Clinical Infectious Diseases](#), October 1, 2012.

US Health-Care Personnel Influenza Vaccination Coverage in 2011-2012 Season

- Influenza vaccination varied by occupation:
 - 85.6% of all physicians
 - 77.9% of nurses
 - 62.8% of other health-care personnel
- Vaccination coverage was 76.9% among HCP working in hospitals, 67.7% among those in physician offices, and 52.4% among those in long-term care facilities (LTCFs).
- By occupation and work setting, influenza vaccination was most common among physicians who worked in hospitals (86.7%) and lowest among other HCP who worked in LTCFs (50.2%)
- Among HCP working in hospitals that required influenza vaccination, coverage was 95.2%; in contrast, among HCP in hospitals not requiring vaccination, coverage was only 68.2%.
- Overall, 33.1% of HCP reported not receiving influenza vaccination.
- The most common reason for a HCP to not get vaccinated for influenza were
 - A belief that they did not need it (28.1%).
 - Concern about vaccination effectiveness (26.4%).
 - Concern about side effects (25.1%).

For more information, see [MMWR](#) September 28, 2012

US Pregnant Women Influenza Vaccination Coverage in 2011-2012 Season

- Forty-seven percent of 1,660 women pregnant at any time during October 2011–January 2012 received influenza vaccine,
 - 9.9% were vaccinated before pregnancy
 - 36.5% during pregnancy
 - 0.6% after pregnancy
- Influenza vaccinations were similarly distributed across trimesters: 10.1%, 12.6%, and 11.8% during the 1st, 2nd, and 3rd trimester, respectively.
- Women aged 18–24 years had lower vaccination coverage (42.3%) than women aged 25–49 years (49.4%).
- Non-Hispanic black women had lower vaccination coverage (39.8%) than Hispanic women (48.8%), non-Hispanic white women (47.9%), and other non-Hispanic women (53.7%).
- Women with education beyond a college degree had higher coverage (61.3%) than those with a college degree (49.4%) or less than a college degree (42.8%).
- Women with private or military medical insurance had higher vaccination coverage (50.2%) than those without medical insurance (36.9%).
- Health-care provider recommendation and easy availability of vaccine affected influenza vaccine receipt in the pregnant women
 - 73.6% vaccination when a health-care provider recommendation and provided
 - 47.9% for women who had the vaccine recommended but not given in the provider's office
 - 11.1% for women whose provider neither recommended or offered the vaccine.
- The top three reasons for women to not be vaccinated were 1) concern that the vaccination would cause influenza (25.6%); 2) concern about the safety risk to the baby (13.1%); and 3) not believing the vaccination was effective (12.5%).

For more details, see [MMWR](#) September 28, 2012

Need for New and Improved Influenza Vaccines

- The Center for Infectious Disease Research & Policy (CIDRAP) released a report in October 2012 stressing the need to develop more effective influenza vaccines.
- New technologies are being studied to produce influenza vaccines that do not have to be given yearly, but they will be very expensive to develop and produce.
- For adults, protection against influenza due to vaccination was estimated at 59%, while in young children it was estimated at 83%.
- Influenza vaccine protection is substantially lower when compared to most other vaccines, but vaccination offers much more protection than being unvaccinated.

For the full report, see [CIDRAP's website](#)

LITERATURE ON VACCINES AND VACCINE-PREVENTABLE DISEASES

Risk Factors Associated with Missed Hepatitis B Vaccine Birth Dose, Arizona, 2009

- The Arizona Department of Health Services, Office of Infectious Disease Services, examined risk factors for Arizona infants not receiving a birth dose of hepatitis B vaccine.
- Infants receiving hepatitis B vaccine within 3 days were compared to infants who did not receive their first dose of hepatitis B vaccine until ≥ 14 days of age.
- Statistically significant differences were the health insurance status of the mother, and whether the mother had complications of labor or delivery.
 - Children born to mothers with private insurance were approximately twice as likely to miss the HBV vaccine birth dose than those born to mothers with insurance of another type (e.g., Medicaid).
 - Children born to mothers who experienced complications during labor or delivery were more than twice as likely to miss the HBV vaccine birth dose than those born to mothers who did not experience complications.
- Conclusions:
 - Pregnant women and women of child-bearing age with private insurance need educational messages about the importance the newborn dose of hepatitis B vaccine.
 - Healthcare providers who care for infants whose mothers have complications during labor or delivery need to make sure that the infant gets a timely birth dose of hepatitis B vaccine.

For more information, see the Arizona Department of Health Services' [Power Point](#) presentation.

Acellular Pertussis Vaccine-induced Immunity in Children Wanes over Time

- Beginning in the early 1990s, the US started a transition from whole cell (DTwP) to acellular pertussis vaccines (DTaP) in children. By the late 1990s, all five doses of pertussis vaccine were given as DTaP.
- A case-control study of California children who had received all five doses of DTaP vaccines showed that the odds of acquiring pertussis increased by an average of 42% per year since their fifth dose of DTaP.

See the abstract from the [New England Journal of Medicine](#), September 13, 2012.

Early Childhood Vaccination Not a Risk Factor for Celiac Disease

- A Swedish study evaluated the occurrence of celiac disease (CD) in relation to early childhood vaccination for diphtheria/tetanus (DT), acellular pertussis, inactivated polio (IPV), conjugated *Haemophilus influenzae* type b (Hib), measles/mumps/rubella (MMR), and live attenuated bacillus Calmette-Guérin (BCG).
- Risk assessment for DT and IPV was not possible because coverage for DT and IPV was 99%.
- Vaccination against acellular pertussis, Hib, or MMR was not associated with CD.
- BCG vaccine was associated with a reduced risk for CD.

See the July 2012 issue of [Pediatrics](#).

Update on Vaccine-Derived Poliovirus Infections

- Although live, attenuated oral poliovirus vaccine (OPV) has been an excellent tool to eradicate wild polioviruses (WPVs), rare cases of vaccine-associated paralytic poliomyelitis can occur among both immunologically normal and immunodeficient OPV recipients.
- In immunocompetent people, OPV is shed in the stool for about 4-6 weeks, and can infect nonimmune contacts of OPV recipients, usually causing asymptomatic infection but sometimes causing paralysis. These infected contacts then shed vaccine-derived polioviruses (VDPVs) in their stools. This can allow VDPVs to circulate in a community if the polio vaccination coverage levels are low.
- In immunodeficient people, VDPVs can continue to replicate for years in their intestinal tracts, serving as an ongoing source of VDPV in a community.
- To prevent VDPV spread, all countries should maintain high vaccination coverage against all three poliovirus serotypes.
- OPV is not licensed or available in the US. Worldwide use of OPV will be discontinued once all WPV transmission is interrupted.

For more information, see [MMWR](#) Sept 21, 2012.

RESOURCES

Links to Find Vaccine Contraindications and Precautions

- CDC Pink Book in [Appendix A](#). (A-23 through A-27).
- CDC [website](#) describing who should not get specific vaccines.
- Immunization Action Coalition. [Screening for Contraindications](#).
- CDC. General Recommendations on Immunization. [MMWR](#) Jan. 28, 2011 (pp.10-11 and Table 6)

- Please feel free to distribute ADHS' *Arizona Vaccine News* to any of your partners who may be interested. Past issues of *Arizona Vaccine News* can be found at: <http://www.azdhs.gov/phs/immun/vacNews.htm>