



IMMUNIZATIONS

Vaccinate at Every Life Stage — Plant the Seeds of Protection Through Immunization

Summer 2013

Assessment of 248,988 Arizona Children Reveals Highs and Lows of Immunization Coverage

By Jennifer Ralston-King, AIPO Immunization Assessment Coordinator

The Assessment Unit of the Arizona Department of Health Services (ADHS) Immunization Program Office has completed the 2012–2013 school year assessment of school immunization coverage levels. Each year by November 15th, schools are required to submit Immunization Data Reports to ADHS. The reports detail the number of students enrolled, the number of students who have received the required doses of each vaccine, and the number of students whose parents have claimed an exemption to immunization requirements. Self-reported data from schools is validated through site visits and immunization record reviews conducted at a statistically valid sample of Arizona schools each year. A summary of kindergarten and sixth grade data is submitted to the Centers for Disease Control and Prevention (CDC) on an annual basis.

CDC recommends and funds the assessment of kindergarten and sixth grade immunization coverage levels by all Immunization Programs throughout the United States and its territories. To review the school immunization coverage levels of students in any or all other states, visit www.cdc.gov/vaccines/stats-surv/schoolsurv/assessment-reports.htm. Beginning with the 2013–2014 school year, ADHS will no longer require schools to submit Immunization Data Reports on 10th graders. Since Arizona law now requires a Tdap booster for students 11 years and older beginning in 6th grade, there is no longer a

need to check the Td/Tdap booster status of 10th graders.

Immunization data collected from schools is used to help identify pockets of low immunization coverage that may be at higher risk for outbreaks of vaccine-preventable diseases. County health departments have access to school-specific immunization information within their jurisdictions to enable them to calculate the risk of disease spread during an outbreak. Charts displaying immunization coverage levels of students in kindergarten, sixth and tenth grades broken down by county are posted on the Immunization Program website at www.azdhs.gov/phs/immunization/statistics-reports.htm.

The number of parents requesting their children be exempted from immunization requirements due to “Personal Beliefs” at kindergarten entry continues to increase. The graph below illustrates a 0.7% increase over the past two years. The current personal beliefs exemption rate of 3.9% is also more than twice the personal beliefs exemption rate of 1.6% claimed by parents of kindergartners ten years ago in 2003. Kindergarten coverage levels for DTaP, Polio and MMR have all fallen below the 95% target, and coverage levels of all required vaccines have decreased 0.5% to 1% over the past two years.

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Kindergarten Immunization Coverage Levels

	Number of Students	DTaP 4+	Polio 3+	MMR 2+	Hep B 3+	VAR 1	Personal Exemptions
2010–2011	83,348	95.6%	95.6%	95.3%	96.6%	97.3%	3.2%
2011–2012	85,316	94.9%	95.0%	94.7%	96.3%	96.9%	3.4%
2012–2013	87,909	94.6%	94.7%	94.5%	95.9%	96.8%	3.9%

In response to the increase in personal beliefs exemptions, ADHS has been working with partners in the community to create new school and child care immunization materials, including exemption forms. A new medical exemption form will be posted at www.azdhs.gov/phs/immunization/school-childcare/requirements.htm and included in packets delivered to VFC providers, schools and childcare centers.

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Assessment of 248,988 Arizona Children Reveals Highs and Lows of Immunization Coverage **continued...**

The medical exemption form is the only exemption form that must be signed and completed by a child's physician to document medical reasons why the child cannot be vaccinated. Separate "Personal Beliefs" exemption forms for schools and "Religious Beliefs" forms for childcare settings are also being developed and will be posted on the website www.azdhs.gov/phs/immunization/school-childcare/requirements.htm and mailed to schools and childcare programs.

Sixth and tenth grade immunization coverage levels demonstrate the excellent work providers have done protecting adolescent patients against pertussis and meningococcal diseases. Although exemption rates of middle school (sixth/seventh grade) students increased from 2.2% in 2003 to 3.9% in 2013, they appear to have stabilized over the past two years. Sixth grade immunization coverage levels for all required vaccines have increased or are just slightly lower than in the past two school years shown in the chart below.

Sixth Grade Immunization Coverage Levels							
	Number of Students	Tdap 1	MV/MCV 1	MMR 2+	Hep B 3+	VAR 1	Personal Exemptions
2010–2011	82,047	87.8%	88.2%	97.7%	97.8%	98.0%	3.7%
2011–2012	82,581	88.7%	89.2%	97.3%	97.6%	97.6%	4.0%
2012–2013	82,765	90.1%	90.2%	97.5%	97.6%	97.6%	3.9%

Dramatic increases in tenth grade coverage levels for Tdap and MCV are shown in the chart below. Coverage levels for both vaccines reached the targeted 95% the first year they were required for all tenth grade students. Coverage levels for other vaccines are relatively stable at tenth grade. A small increase of 0.3% in personal beliefs exemptions, likely in response to the Tdap and MV/MCV requirements, occurred in the 2012–2013 school year.

Tenth Grade Immunization Coverage Levels							
	Number of Students	Tdap 1	MV/MCV 1	MMR 2+	Hep B 3+	VAR 1	Personal Exemptions
2010–2011	72,187	86.3%	65.9%	97.5%	97.2%	97.3%	2.8%
2011–2012	79,416	87.0%	75.9%	97.3%	97.2%	96.4%	2.8%
2012–2013	78,314	95.0%	95.1%	97.4%	97.1%	96.4%	3.1%

Vaccines Protect against Cancer

By Karen Lewis, MD, AIPO Medical Director

Cancer is a frightening illness that we all want to avoid. Fortunately, there are vaccines that can prevent several kinds of cancer caused by two infectious diseases: hepatitis B virus (HBV) and human papilloma virus (HPV).

Hepatitis B vaccine was the first anti-cancer vaccine. HBV often leads to a chronic infection that can cause liver damage and liver cancer. HBV is the cause of up to 80% of hepatocellular carcinomas. In the US, it is estimated that 700,000–1.4 million people are chronically infected with HBV, and an additional 5,000–8,000 become chronically infected every year. An estimated 1,000–1,500 people die each year in the US from HBV-related liver cancer.

Risk factors (www.cdc.gov/vaccines/pubs/pinkbook/downloads/hepb.pdf) for HBV infection are having heterosexual activity with multiple partners (39%), men who have sex with men (24%), IV drug use (16%), other known exposures (5%), and unknown sources of infections (16%).

At first, the hepatitis B vaccine was targeted at people who had high risk of acquiring HBV, but this approach was not fully successful due to many barriers. In 1991, the Centers for Disease Control and Prevention (CDC) proposed a comprehensive HBV vaccine strategy that included screening pregnant women for HBV infection and routine hepatitis B vaccination of all infants, in addition to continuing to give vaccine to high risk individuals. With this strategy, cases of acute HBV infections and deaths from HBV (www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/G/cases&deaths.pdf) in the US have decreased much more rapidly.

Human papillomavirus (HPV) vaccine was the second anti-cancer vaccine to be developed. There are more than 100 different HPV types, many of which can lead to cancer.

HPV is the most common sexually transmitted infection in the US. An estimated 79 million females and males in the US are currently infected with HPV, and an estimated 14 million new HPV infections occur annually. Up to 75% of new HPV infections occur among persons 15–24 years old. Modeling estimates suggest that more than 80% of sexually active women will have been infected with HPV by age 50.

According to the Centers for Disease Control and Prevention (CDC), each year in the US, about 19,000 cancers caused by HPV occur in women, and cervical cancer is the most common.

Continued on next page...

Vaccines Protect against Cancer continued...



About 8,000 cancers caused by HPV occur each year in men in the US, and oropharyngeal (throat) cancers are the most common. HPV types 16 and 18 together account for about 70% of cervical cancers. HPV types 6 and 11 are responsible for 90% of genital warts. HPV is believed to be responsible for 90% of anal cancers, 40% of vulvar, vaginal, or penile cancers, and 12% of oropharyngeal cancers (www.cdc.gov/media/releases/2013/p0619-hpv-vaccinations.html).

In 2006, quadrivalent HPV vaccine was recommended for routine use in young females starting at 11–12 years of age. A bivalent HPV vaccine containing HPV types 16 and 18 was approved for use in young females in 2009. In 2011, routine use of quadrivalent HPV vaccine was recommended for young males starting at 11–12 years of age.

Although nationally only 34% of young women ages 14–19 years old report having received at least one dose of HPV vaccine, a recent study showed that there has been a 56% drop of HPV infection in young women of this age group in the time period 2007–2010 when compared to the time period of 2003–2006 before HPV vaccination (jid.oxfordjournals.org/content/early/2013/06/18/infdis.jit192.abstract). This suggests that HPV vaccine is providing both personal protection and some herd immunity.

As health care providers give advice to parents about the importance of vaccines, they should remind parents it is wonderful that vaccines protect their children from certain cancers as well as many infectious diseases.

References

CDC. [Epidemiology and Prevention of Vaccine-Preventable Diseases](#). 12th edition, second printing.

Markowitz LE, Hariri S, Lin C, et al. Reduction in Human Papillomavirus (HPV) Prevalence Among Young Women Following HPV Vaccine Introduction in the United States, National Health and Nutrition Examination Surveys, 2003–2010. *Journal of Infectious Diseases* [Advanced Access](#), published online June 19, 2013.

CDC. [Press Release](#), June 19, 2013. New study shows HPV vaccine helping lower HPV infection rates in teen girls.

UNDERinsured Children

By Kelsey Pistotnik, CDC Public Health Advisor

As of July 1, 2013, most Vaccines for Children providers may no longer vaccinate UNDERinsured children with Arizona VFC Program vaccine.

Due to a Centers for Disease Control and Prevention (CDC) policy change, only the following VFC providers can continue vaccinating underinsured children with Arizona VFC program-supplied vaccine on July 1, 2013 and beyond:

- County health departments
- Federally Qualified Health Centers (FQHC) and Rural Health Centers (RHC)
- A limited number of recently deputized VFC providers
- Hospitals (only for the Hep B birth dose and HBIG)

All other VFC providers may continue vaccinating underinsured children with PRIVATE vaccine stock and charging them out-of-pocket or these children may be referred to the following places, which will continue to provide VFC vaccine to underinsured children:

- County health departments.
- A limited number of public and private VFC providers are deputized in 2013 to assist the county health departments in immunizing underinsured children. These providers accept non-established patients.
- Federally Qualified Health Centers (FQHC) or Rural Health Centers (RHC).



Before you refer your underinsured patient to another provider, please use private vaccine stock to administer the recommended vaccines that are covered by insurance. Please don't miss an opportunity to vaccinate.

We have developed an Underinsured Referral Locations document that contains one document for each county with all of the different types of providers (FQHCs, RHCs, county health departments, deputized private providers) with authority to immunize underinsured children with VFC vaccine. We hope these county-specific documents will be helpful to you and your patients, as each contains the facility name, location and contact information. You can find this document on the Arizona Department of Health Services website (www.azdhs.gov/phs/immunization/vaccine-policy-changes.htm).

The Arizona Partnership for Immunization (TAPI) has developed resources for providers to use in navigating the recent VFC vaccine policy changes at www.whyimmunize.org/vaccine-financing.

If you have any questions, please contact the Arizona VFC Program at 602-364-3642.



The Centers for Disease Control and Prevention (CDC) Childhood Immunization Champion Award was started in 2012 to recognize individuals who make a significant contribution toward improving public health through their work in childhood immunization. Each year, CDC honors one Immunization Champion from each of the 50 states and the District of Columbia.

Nominees for the Immunization Champion Award provide community leadership on immunization issues and collaborate with others to build support for and increase immunization rates. They are visible childhood immunization champions in their communities and medical systems and may act as a spokesperson or educator, advocating for childhood immunization policy advancements. The Champion Award honors those who are doing an exemplary job, going above and beyond to promote childhood immunizations in their communities.

This year, the Arizona selection committee recognized three outstanding nominees:

- Gail Petersen Hock, Clinical Assistant Professor at ASU College of Nursing and Health Innovation and Executive Committee Chair of MCCHIP (the Maricopa County Childhood Immunization Partnership)
- Dr. Daniel Aspery, Medical Director for Blue Cross Blue Shield of Arizona
- Dr. Andrea Houfek, Medical Director of Pediatrics and Urgent Care for Cigna Medical Group of Arizona

After careful consideration, the selection committee awarded Dr. Andrea Houfek as this year's Arizona Immunization Champion. In her role as medical director, Dr. Houfek has worked to ensure that Cigna clinics maintain at least 90% immunization coverage rates for babies and teens. Dr. Houfek has also served as the chair for the TAPI Provider Awareness Committee for over ten years where she helped guide and build an effective provider education program aimed at both physicians and support staff.

Dr. Houfek experienced treating children with vaccine-preventable diseases during her pediatric residency at Maricopa County Medical Center. The Hib (Haemophilus influenzae type B) vaccine was introduced during her residency and she saw the positive impact of the vaccine when the frequency of meningitis and other serious health effects—all of which were common—dropped to nearly zero in a few short years. Vaccinating children is now part of her DNA, and she won't stop until every child in Arizona is protected!

Be sure to visit the CDC website (www.cdc.gov/vaccines/default.htm) where Dr. Houfek and other Immunization Champions nationwide are recognized.

Summary of Reportable Vaccine-Preventable Diseases January–April, 2013^{1,2}

By Clarisse Tsang, MPH, Acting Epidemiology Program Manager

Case counts refer to probable and confirmed cases

	Jan–Apr, 2013	Jan–Apr, 2012	Jan–Apr 5-Year Median
Measles	1	0	1
Mumps	0	3	3
Rubella (Congenital Rubella Syndrome)	0 (0)	0 (0)	0 (0)
Pertussis (confirmed)	430(308)	411(159)	145(22)
Haemophilus influenzae, serotype b invasive disease (<5 years of age)	2(2)	1(0)	1(0)
Meningococcal infection, invasive	9	1	6
Streptococcus pneumoniae, invasive	455	348	443
Hepatitis A	13	29	23
Hepatitis B, acute	56	67	49
Hepatitis B, chronic	374	291	333

¹ Data are provisional and reflect case reports during this period

² These counts reflect the year reported or tested and not the date infected.



Pertussis

Arizona continues to experience a sustained increase in pertussis cases. From January through April 2013, 430 confirmed and probable cases of pertussis were reported compared to 411 during the same time frame last year. As of May 23, 2013, 465 confirmed and probable cases have been reported year-to-date in Arizona for 2013. In 2012, a total of 1130 confirmed and probable pertussis cases were reported, which is more than double the number of cases reported in 2010 (546 confirmed and probable cases).

Cases of pertussis have been reported from all age groups with the highest number of cases reported in infants less than one year of age. In 2012, the majority of cases were reported from Maricopa and Mohave Counties.

According to the Centers for Disease Control and Prevention (CDC), the number of reported pertussis cases in the US in 2012 exceeded 41,000 cases (provisional), the highest number of reported pertussis cases in the US since 1955. CDC also reports that there appears to be waning vaccine immunity in adolescent age groups due to the change from whole cell pertussis vaccine to acellular pertussis vaccine that occurred during the mid-1990s.

In light of the continued sustained high levels of pertussis throughout the state, Arizona providers are encouraged to maintain a high level of clinical suspicion for pertussis and to contact their local health department if pertussis is suspected. Both culture and PCR are recommended for pertussis testing, and testing is available free of charge at the Arizona State Public Health Laboratory through local health departments.

Measles

A confirmed case of measles was reported in an unvaccinated Pima County resident with international travel history to a measles endemic location in April 2013. The case tested IgM positive at the Arizona State Public Health Laboratory. Symptoms included all of the “Three C’s” (cough, coryza, conjunctivitis) and fever up to 103° F. No further cases were identified. This is the first reported measles case in Arizona since July 2012, when two measles cases were reported in Coconino County in unvaccinated siblings.

Invasive Meningococcal Disease

As of May 23, 2013, 10 cases of invasive meningococcal disease have been reported year-to-date for 2013. A total of 6 cases were reported for all of 2012. The serogroup distribution for the 2013 cases include: Serogroup B – 3 cases, Serogroup C – 2 cases, Serogroup Y – 3 cases, and Serogroup W135 – 2 cases. (All Serogroups other than Serogroup B are included in the current meningococcal vaccine). Cases were reported from the following counties: Maricopa (4 cases), Navajo (2 cases), Pinal (1 case), Pima (2 cases) and Yavapai (1 case).

For further information about reported vaccine preventable diseases in Arizona, please visit www.azdhs.gov/phs/oids/epi/. In addition to vaccine preventable disease morbidity data, the website also includes information about other reportable diseases as well as the legal requirements of disease reporting. If you suspect a case of vaccine preventable disease in your jurisdiction, please report to your local health department. If you have any other questions, please call the Infectious Disease Epidemiology Section, Arizona Department of Health Services at 602-364-3676.

More Complex Choices for Influenza Vaccines this Season

By Karen Lewis, MD, AIPO Medical Director

Five new influenza vaccines will be available for the 2013–2014 influenza season. This will add complexity to a health care provider’s decisions in purchasing and using influenza vaccines since the different influenza vaccines vary in age recommendations and contraindications. Still, certain basic principles remain: influenza vaccines are recommended for everyone ages 6 months and older, unless there is a contraindication; inactivated influenza vaccines (IIV) are safe for both healthy and immune compromised patients; and live attenuated influenza vaccines (LAIV) should only be used in healthy, nonpregnant patients between the ages of 2–49 years old.

For the first time, there will be three types of quadrivalent influenza vaccines. Quadrivalent influenza vaccines contain two strains of influenza A (an H1N1 and an H3N2) and two strains of influenza B. One is FluMist Quadrivalent® (Medimmune) which is a live attenuated influenza vaccine (LAIV4). It is given intranasally, is licensed for healthy, nonpregnant people ages 2–49 years old, and is contraindicated if there is a history of an egg allergy.

The other two quadrivalent vaccines are inactivated influenza

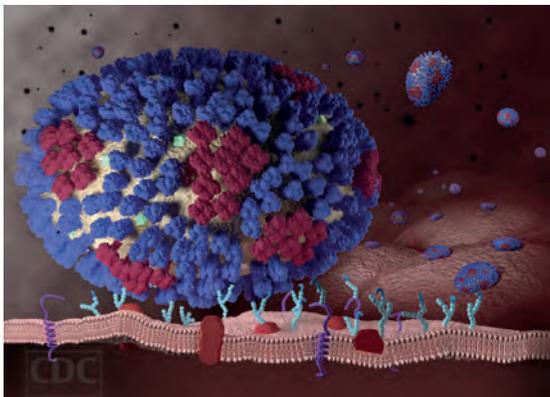
vaccines (IIV4). Fluarix Quadrivalent® (GlaxoSmithKlein) and Fluzone Quadrivalent® (Sanofi Pasteur) are given intramuscularly (IM). Although both are grown in chicken eggs, they are approved for use in egg allergic people when there is a history of only mild to moderate reaction to eggs. Fluarix Quadrivalent® is approved for ages ≥ 3 years old while Fluzone Quadrivalent® is approved for ages ≥ 6 months old.

Two new vaccines (Flucelvax® and FluBlok®) are not grown in chicken eggs. Flucelvax® (Novartis) is a trivalent inactivated influenza cell culture vaccine (ccIIV3) that uses dog kidney cells for growing the virus. However, since influenza seed viruses have all been grown in chicken eggs, Flucelvax® cannot be considered completely free of egg protein.

Flucelvax® is given IM, and is licensed for ≥ 18 years old. FluBlok® (Protein Sciences) is a trivalent inactivated influenza vaccine that is made with recombinant technology (RIIV3).

Continued on next page...

More Complex Choices for Influenza Vaccines this Season **continued...**



FluBlok® is given IM, and is licensed for adults 18-49 years old, including those with egg allergy, regardless of severity.

The previously licensed trivalent inactivated influenza vaccines (IIV3) are given IM, except for Fluzone Intradermal® (Sanofi Pasteur) which is given intradermally. Also, all of the other previously licensed IIV3 are grown in chicken eggs, and may be given to patients with a history of mild to moderate egg allergy but should not be used when there is a history of a severe allergy to eggs.

Previously licensed IIV3 vaccines have differing age

recommendations: Fluarix® (GSK): ≥ 3 years old. FluLaval® (GSK): ≥ 18 years old. Fluvirin® (Novartis): ≥ 4 years old. Agriflu® (Novartis): ≥ 18 years old. Fluzone® (SP): ≥ 6 months old. Fluzone Intradermal® (SP): 18–64 years old. Fluzone High Dose® (SP): ≥ 65 years old. Afluria® (CSL Limited): ≥ 9 years old, unless there is no other age-appropriate, licensed inactivated seasonal influenza vaccine available for a child aged 5-through-8 years who has a medical condition that increases the child's risk for complications from influenza. In that situation, Afluria® may be given to those ≥ 5 years old.

For persons for whom more than one type of influenza vaccine is appropriate and available, CDC does not express a preference for use of any particular product over another.

To see the above information in tabular form, see the insert which accompanies this issue of Immunizations. For more details, see "Prevention and Control of Influenza with Vaccines: Interim Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2013," Morbidity and Mortality Weekly Report (MMWR), May 10, 2013. Additional influenza vaccine guidance from the CDC will be published before the start of the 2013–2014 influenza season. (www.cdc.gov/mmwr/preview/mmwrhtml/mm6218a3.htm?s_cid=mm6218a3_e)

Vaccine Center Update

By Tiffany McRae, Vaccine Center Manager

Limited Supply Vaccines

Pentacel® doses are now available for providers to order in VOMS, however doses are still in limited supply and the Vaccine Center will continue to make reductions to provider orders based on vaccine availability. It is anticipated that **Pentacel®** will be in full supply starting in September 2013. Please remember to order single antigen vaccines to replace doses of **Pentacel®** as needed*.

Pediarix® doses are also available in VOMS, however doses are still in limited supply. **Pediarix®** is also anticipated to return to full supply starting in September 2013. Again, please remember to order single antigen vaccines to replace doses of **Pediarix®** as needed*.

***Note:** The Vaccine Center will not automatically replace doses of **Pentacel®** or **Pediarix®** with single antigen vaccines, please remember this when placing your order for these two vaccines.

Influenza Ordering for 2013–2014 Season

The 2013–2014 influenza ordering process for the Vaccines for Children (VFC) program has changed. The Arizona Immunization Program will no longer be accepting influenza vaccine orders on paper. We have streamlined the influenza ordering process and we are now ready for VFC providers to order influenza vaccines through the Arizona State Immunization Information System (ASIS)/ Vaccine Order Management System (VOMS). The new process for ordering influenza vaccine will work the same way it does for providers placing a regular VFC vaccine order. Providers will be notified when 2013–2014 influenza doses are available to order through VOMS.

The VFC program will offer seven (7) different influenza vaccine types. These include:

Sanofi Pasteur	49281-0113-25	Fluzone .25mL single dose syringe, 10 pack
Sanofi Pasteur	49281-0013-10	Fluzone .5 mL single dose vial, 10 pack
Sanofi Pasteur	49281-0013-50	Fluzone .5mL single dose syringe , 10 pack
Sanofi Pasteur	49281-0392-15	Fluzone 5mL single dose syringe, one 10 pack
GSK	58160-0880-52	Fluarix .5mL single dose syringe , 10 pack
GSK	58160-0900-52	Fluarix .5mL single dose syringe, Quadrivalent, 10 pack
MedImmune	66019-0300-10	FluMist Single dose sprayer, Quadrivalent, 10 pack

For additional information regarding influenza or influenza ordering please contact the Vaccine Center at 602-364-3642.

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Vaccine Center Update continued...

New Rotateq Package Size

Rotateq®, NDC 00006-4047-20 is now available to order in VOMS as a 10 pack or a 25 pack.

IPOL Cap Color Change

Sanofi Pasteur has changed the cap color of IPOL® vials, NDC 49281-0860-10 from green to orange.

Menveo MenA Vial Update

Novartis has updated the design of their Menveo® vaccine vial. The vial is now 3mm taller with a slightly longer and straighter neck which creates a wider channel and less protrusion of the stopper into the vial.

ASIIS Update

By Steven "Rob" Bailey, ASIIS Program Manager

Several staff members have moved on from the ASIIS Program since January:

Kimberly Upshaw—Hotline/User Support

Mark Fickes—ASIIS Testing/User Support

Roger Volp—Data Analyst

Michelle Ruiz—Data Quality/New User Training

Jason Rogers—ASIIS Testing/User Support

The program is starting to fill these vacancies. The following members are part of our team:

Christine Avila—Hotline/User Support

Terry Rinck—Meaningful Use/HL7

Rob Martinez—Hotline/User Support

The program continues to seek qualified staff.

The ASIIS program has completed a re-organization of the process for testing and establishing new electronic reporting interfaces for ASIIS that meet the Meaningful Use Stage 2 core requirement for eligible providers and hospitals. We anticipate as many as 1300 new interfaces will be established over the

coming 18 months. This will place extremely heavy demands upon program resources. We encourage providers who wish to certify for Meaningful Use to contact the ASIIS registry program by email as early as possible at interface-asiis@azdhs.gov. An Initial Interest Form for Meaningful Use Stage 2 interfaces should be completed and submitted to ASIIS before any testing is conducted. The form may be found at app.azdhs.gov/phs/asiis/ehrinteroperability/ASIIEHRInteroperability.aspx.

The program will engage providers in the interface testing process, and provide detailed information about Arizona requirements for successful immunization reporting via HL7. The program also has HL7 messaging tools available that will help providers and their IT support resolve problems as they occur. The program will need to discuss secure transport methods, the versions of HL7 required for meaningful use stage 2, and other considerations such as which records are reported. If your Electronic Health Record system can produce an immunization record in HL7, then we are interested in engaging your practice in the process sooner, rather than later.

New Employees



ASIIS:

Terry Rinck, Epidemiologist Specialist III
& Rob Martinez, Customer Service Hotline Specialist



Vaccines For Children:

Scott Elliott, MSW, VFC Provider Representative

IMMUNICATIONS

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INFLUENZA VACCINES LICENSED IN UNITED STATES							Arizona Department of Health Services
Summary by Karen Lewis, MD 07/08/2013							
Company	Formulation and Number of Strains [§]	Trade name	Ages	How to Give	Grown in chicken eggs	OK to use if egg allergy	
NEWLY LICENSED INFLUENZA VACCINES							
Medimmune	LAIV4	FluMist Quadrivalent [®]	2-49 yo	Intranasal	Yes	No	
GSK	IIV4	Fluarix Quadrivalent [®]	≥ 3 yo	IM	Yes	Yes [¶]	
Sanofi Pasteur	IIV4	Fluzone Quadrivalent [®]	≥ 6 mo	IM	Yes	Yes [¶]	
Novartis	ccIIV3	Flucelvax [®]	≥ 18 yo	IM	No*	Yes [¶]	
Protein Sciences	RIV3	FluBlok [®]	18-49 yo	IM	No [°]	Yes	
PREVIOUSLY LICENSED INFLUENZA VACCINES							
CSL	IIV3	Afluria [®]	≥ 9 yo ^Δ	IM	Yes	Yes [¶]	
GSK	IIV3	Fluarix [®]	≥ 3 yo	IM	Yes	Yes [¶]	
GSK	IIV3	FluLaval [®]	≥ 18 yo	IM	Yes	Yes [¶]	
Medimmune	LAIV3	FluMist [®]	2-49 yo	Intranasal	Yes	No	
Novartis	IIV3	Fluvirin [®]	≥ 4 yo	IM	Yes	Yes [¶]	
Novartis	IIV3	Agriflu [®]	≥ 18 yo	IM	Yes	Yes [¶]	
Sanofi Pasteur	IIV3	Fluzone [®]	≥ 6 mo	IM	Yes	Yes [¶]	
Sanofi Pasteur	IIV3	Fluzone High Dose [®]	≥ 65 yo	IM	Yes	Yes [¶]	
Sanofi Pasteur	IIV3	Fluzone Intradermal [®]	18-64 yo	Intradermal	Yes	Yes [¶]	
<p>[¶] Permitted if mild to moderate egg allergy, but not when there is anaphylactic reaction to eggs.</p> <p>*Influenza virus grown in dog kidney cells (cell culture) but may not be completely free of egg protein.</p> <p>[°]Manufactured with recombinant DNA technology by inserting influenza hemagglutinin genes into baculoviruses.</p> <p>[§]Abbreviations: IIV: Inactivated influenza vaccine. ccIIV: Cell culture inactivated influenza vaccine. RIV: Recombinant influenza vaccine. LAIV: Live attenuated influenza vaccine. The numbers at the end of the abbreviations show how many influenza strains (3=2A,1B; 4=2A,2B). IM: Intramuscular.</p> <p>^ΔMay be given at age ≥ 5 years old If there is no other age-appropriate, licensed inactivated seasonal influenza vaccine available for a child aged 5-through-8 years who has a medical condition that increases the child's risk for complications from influenza.</p>							
<ul style="list-style-type: none"> ➤ For more details, see "Prevention and Control of Influenza with Vaccines: Interim Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2013." MMWR, May 10, 2013. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6218a3.htm?s_cid=mm6218a3_e ➤ An expanded CDC influenza vaccine statement will be published before the start of the 2013-2014 influenza season. 							

VACCINE INFORMATION STATEMENT

HPV Vaccine Gardasil® (Human Papillomavirus)

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de Información Sobre Vacunas están disponibles en Español y en muchos otros idiomas. Visite www.immunize.org/vis

1 What is HPV?

Genital **human papillomavirus (HPV)** is the most common sexually transmitted virus in the United States. More than half of sexually active men and women are infected with HPV at some time in their lives.

About 20 million Americans are currently infected, and about 6 million more get infected each year. HPV is usually spread through sexual contact.

Most HPV infections don't cause any symptoms, and go away on their own. But HPV can cause **cervical cancer** in women. Cervical cancer is the 2nd leading cause of cancer deaths among women around the world. In the United States, about 12,000 women get cervical cancer every year and about 4,000 are expected to die from it.

HPV is also associated with several less common cancers, such as vaginal and vulvar cancers in women, and anal and oropharyngeal (back of the throat, including base of tongue and tonsils) cancers in both men and women. HPV can also cause genital warts and warts in the throat.

There is no cure for HPV infection, but some of the problems it causes can be treated.

2 HPV vaccine: Why get vaccinated?

The HPV vaccine you are getting is one of two vaccines that can be given to prevent HPV. It may be given to both males and females.

This vaccine can prevent most cases of cervical cancer in females, if it is given before exposure to the virus. In addition, it can prevent vaginal and vulvar cancer in females, and genital warts and anal cancer in both males and females.

Protection from HPV vaccine is expected to be long-lasting. But vaccination is not a substitute for cervical cancer screening. Women should still get regular Pap tests.

3 Who should get this HPV vaccine and when?

HPV vaccine is given as a 3-dose series

1st Dose	Now
2nd Dose	1 to 2 months after Dose 1
3rd Dose	6 months after Dose 1

Additional (booster) doses are not recommended.

Routine vaccination

- This HPV vaccine is recommended for girls and boys **11 or 12 years of age**. It *may* be given starting at age 9.

Why is HPV vaccine recommended at 11 or 12 years of age?

HPV infection is easily acquired, even with only one sex partner. That is why it is important to get HPV vaccine before any sexual contact takes place. Also, response to the vaccine is better at this age than at older ages.

Catch-up vaccination

This vaccine is recommended for the following people who have not completed the 3-dose series:

- Females 13 through 26 years of age.
- Males 13 through 21 years of age.

This vaccine *may* be given to men 22 through 26 years of age who have not completed the 3-dose series.

It is *recommended* for men through age 26 who have sex with men or whose immune system is weakened because of HIV infection, other illness, or medications.

HPV vaccine may be given at the same time as other vaccines.



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4**Some people should not get HPV vaccine or should wait.**

- Anyone who has ever had a life-threatening allergic reaction to any component of HPV vaccine, or to a previous dose of HPV vaccine, should not get the vaccine. Tell your doctor if the person getting vaccinated has any severe allergies, including an allergy to yeast.
- HPV vaccine is not recommended for pregnant women. However, receiving HPV vaccine when pregnant is not a reason to consider terminating the pregnancy. Women who are breast feeding may get the vaccine.
- People who are mildly ill when a dose of HPV vaccine is planned can still be vaccinated. People with a moderate or severe illness should wait until they are better.

5**What are the risks from this vaccine?**

This HPV vaccine has been used in the U.S. and around the world for about six years and has been very safe.

However, any medicine could possibly cause a serious problem, such as a severe allergic reaction. The risk of any vaccine causing a serious injury, or death, is extremely small.

Life-threatening allergic reactions from vaccines are very rare. If they do occur, it would be within a few minutes to a few hours after the vaccination.

Several **mild** to **moderate** problems are known to occur with this HPV vaccine. These do not last long and go away on their own.

- Reactions in the arm where the shot was given:
 - Pain (about 8 people in 10)
 - Redness or swelling (about 1 person in 4)
- Fever:
 - Mild (100° F) (about 1 person in 10)
 - Moderate (102° F) (about 1 person in 65)
- Other problems:
 - Headache (about 1 person in 3)
- Fainting: Brief fainting spells and related symptoms (such as jerking movements) can happen after any medical procedure, including vaccination. Sitting or lying down for about 15 minutes after a vaccination can help prevent fainting and injuries caused by falls. Tell your doctor if the patient feels dizzy or light-headed, or has vision changes or ringing in the ears.

Like all vaccines, HPV vaccines will continue to be monitored for unusual or severe problems.

6**What if there is a serious reaction?****What should I look for?**

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor might file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

VAERS is only for reporting reactions. They do not give medical advice.

7**The National Vaccine Injury Compensation Program**

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling **1-800-338-2382** or visiting the VICP website at www.hrsa.gov/vaccinecompensation.

8**How can I learn more?**

- Ask your doctor.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call **1-800-232-4636 (1-800-CDC-INFO)** or
 - Visit CDC's website at www.cdc.gov/vaccines

Vaccine Information Statement (Interim)
HPV Vaccine (Gardasil)

5/17/2013

42 U.S.C. § 300aa-26

Office Use Only



Pneumococcal Conjugate Vaccine

What You Need to Know

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Hojas de Información Sobre Vacunas están disponibles en Español y en muchos otros idiomas. Visite www.immunize.org/vis

Your doctor recommends that you, or your child, get a dose of PCV13 today.

1 Why get vaccinated?

Pneumococcal conjugate vaccine (called PCV13 or Prevnar® 13) is recommended to protect infants and toddlers, and some older children and adults with certain health conditions, from **pneumococcal disease**.

Pneumococcal disease is caused by infection with *Streptococcus pneumoniae* bacteria. These bacteria can spread from person to person through close contact.

Pneumococcal disease can lead to severe health problems, including pneumonia, blood infections, and meningitis.

Meningitis is an infection of the covering of the brain. Pneumococcal meningitis is fairly rare (less than 1 case per 100,000 people each year), but it leads to other health problems, including deafness and brain damage. In children, it is fatal in about 1 case out of 10.

Children younger than two are at higher risk for serious disease than older children.

People with certain medical conditions, people over age 65, and cigarette smokers are also at higher risk.

Before vaccine, pneumococcal infections caused many problems each year in the United States in children younger than 5, including:

- more than 700 cases of meningitis,
- 13,000 blood infections,
- about 5 million ear infections, and
- about 200 deaths.

About 4,000 adults still die each year because of pneumococcal infections.

Pneumococcal infections can be hard to treat because some strains are resistant to antibiotics. This makes **prevention through vaccination** even more important.

2 PCV13 vaccine

There are more than 90 types of pneumococcal bacteria. PCV13 protects against 13 of them. These 13 strains cause most severe infections in children and about half of infections in adults.

PCV13 is routinely given to children at 2, 4, 6, and 12–15 months of age. Children in this age range are at greatest risk for serious diseases caused by pneumococcal infection.

PCV13 vaccine may also be recommended for some older children or adults. Your doctor can give you details.

A second type of pneumococcal vaccine, called PPSV23, may also be given to some children and adults, including anyone over age 65. There is a separate Vaccine Information Statement for this vaccine.

3 Precautions

Anyone who has ever had a life-threatening allergic reaction to a dose of this vaccine, to an earlier pneumococcal vaccine called PCV7 (or Prevnar), or to any vaccine containing diphtheria toxoid (for example, DTaP), should not get PCV13.

Anyone with a severe allergy to any component of PCV13 should not get the vaccine. Tell your doctor if the person being vaccinated has any severe allergies.

If the person scheduled for vaccination is sick, your doctor might decide to reschedule the shot on another day.

Your doctor can give you more information about any of these precautions.



4**What are the risks of PCV13 vaccine?**

With any medicine, including vaccines, there is a chance of side effects. These are usually mild and go away on their own, but serious reactions are also possible.

Reported problems associated with PCV13 vary by dose and age, but generally:

- About half of children became drowsy after the shot, had a temporary loss of appetite, or had redness or tenderness where the shot was given.
- About 1 out of 3 had swelling where the shot was given.
- About 1 out of 3 had a mild fever, and about 1 in 20 had a higher fever (over 102.2°F).
- Up to about 8 out of 10 became fussy or irritable.

Adults receiving the vaccine have reported redness, pain, and swelling where the shot was given. Mild fever, fatigue, headache, chills, or muscle pain have also been reported.

Life-threatening allergic reactions from any vaccine are very rare.

5**What if there is a serious reaction?****What should I look for?**

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor might file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

VAERS is only for reporting reactions. They do not give medical advice.

6**The National Vaccine Injury Compensation Program**

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling **1-800-338-2382** or visiting the VICP website at www.hrsa.gov/vaccinecompensation.

7**How can I learn more?**

- Ask your doctor.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call **1-800-232-4636 (1-800-CDC-INFO)** or
 - Visit CDC's website at www.cdc.gov/vaccines

Vaccine Information Statement (Interim)
PCV13 Vaccine

2/27/2013

42 U.S.C. § 300aa-26

Office Use Only



VACCINE INFORMATION STATEMENT

Tdap Vaccine (Tetanus, Diphtheria, and Pertussis)

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de Información Sobre Vacunas están disponibles en Español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Tetanus, diphtheria and pertussis can be very serious diseases, even for adolescents and adults. Tdap vaccine can protect us from these diseases.

TETANUS (Lockjaw) causes painful muscle tightening and stiffness, usually all over the body.

- It can lead to tightening of muscles in the head and neck so you can't open your mouth, swallow, or sometimes even breathe. Tetanus kills about 1 out of 5 people who are infected.

DIPHtheria can cause a thick coating to form in the back of the throat.

- It can lead to breathing problems, paralysis, heart failure, and death.

PERTUSSIS (Whooping Cough) causes severe coughing spells, which can cause difficulty breathing, vomiting and disturbed sleep.

- It can also lead to weight loss, incontinence, and rib fractures. Up to 2 in 100 adolescents and 5 in 100 adults with pertussis are hospitalized or have complications, which could include pneumonia or death.

These diseases are caused by bacteria. Diphtheria and pertussis are spread from person to person through coughing or sneezing. Tetanus enters the body through cuts, scratches, or wounds.

Before vaccines, the United States saw as many as 200,000 cases a year of diphtheria and pertussis, and hundreds of cases of tetanus. Since vaccination began, tetanus and diphtheria have dropped by about 99% and pertussis by about 80%.

2 Tdap vaccine

Tdap vaccine can protect adolescents and adults from tetanus, diphtheria, and pertussis. One dose of Tdap is routinely given at age 11 or 12. People who did *not* get Tdap at that age should get it as soon as possible.

Tdap is especially important for health care professionals and anyone having close contact with a baby younger than 12 months.

Pregnant women should get a dose of Tdap during *every* pregnancy, to protect the newborn from pertussis. Infants are most at risk for severe, life-threatening complications from pertussis.

A similar vaccine, called Td, protects from tetanus and diphtheria, but not pertussis. A Td booster should be given every 10 years. Tdap may be given as one of these boosters if you have not already gotten a dose. Tdap may also be given after a severe cut or burn to prevent tetanus infection.

Your doctor can give you more information.

Tdap may safely be given at the same time as other vaccines.

3 Some people should not get this vaccine

- If you ever had a life-threatening allergic reaction after a dose of any tetanus, diphtheria, or pertussis containing vaccine, OR if you have a severe allergy to any part of this vaccine, you should not get Tdap. Tell your doctor if you have any severe allergies.
- If you had a coma, or long or multiple seizures within 7 days after a childhood dose of DTP or DTaP, you should not get Tdap, unless a cause other than the vaccine was found. You can still get Td.
- Talk to your doctor if you:
 - have epilepsy or another nervous system problem,
 - had severe pain or swelling after any vaccine containing diphtheria, tetanus or pertussis,
 - ever had Guillain-Barré Syndrome (GBS),
 - aren't feeling well on the day the shot is scheduled.



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4 Risks of a vaccine reaction

With any medicine, including vaccines, there is a chance of side effects. These are usually mild and go away on their own, but serious reactions are also possible.

Brief **fainting spells** can follow a vaccination, leading to injuries from falling. Sitting or lying down for about 15 minutes can help prevent these. Tell your doctor if you feel dizzy or light-headed, or have vision changes or ringing in the ears.

Mild problems following Tdap

(Did not interfere with activities)

- Pain where the shot was given (about 3 in 4 adolescents or 2 in 3 adults)
- Redness or swelling where the shot was given (about 1 person in 5)
- Mild fever of at least 100.4°F (up to about 1 in 25 adolescents or 1 in 100 adults)
- Headache (about 3 or 4 people in 10)
- Tiredness (about 1 person in 3 or 4)
- Nausea, vomiting, diarrhea, stomach ache (up to 1 in 4 adolescents or 1 in 10 adults)
- Chills, body aches, sore joints, rash, swollen glands (uncommon)

Moderate problems following Tdap

(Interfered with activities, but did not require medical attention)

- Pain where the shot was given (about 1 in 5 adolescents or 1 in 100 adults)
- Redness or swelling where the shot was given (up to about 1 in 16 adolescents or 1 in 25 adults)
- Fever over 102°F (about 1 in 100 adolescents or 1 in 250 adults)
- Headache (about 3 in 20 adolescents or 1 in 10 adults)
- Nausea, vomiting, diarrhea, stomach ache (up to 1 or 3 people in 100)
- Swelling of the entire arm where the shot was given (up to about 3 in 100).

Severe problems following Tdap

(Unable to perform usual activities; required medical attention)

- Swelling, severe pain, bleeding and redness in the arm where the shot was given (rare).

A **severe allergic reaction** could occur after any vaccine (estimated less than 1 in a million doses).

5 What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the "Vaccine Adverse Event Reporting System" (VAERS). Your doctor might file this report, or you can do it yourself through the VAERS web site at www.vaers.hhs.gov, or by calling **1-800-822-7967**.

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Vaccine Information Statement (Interim) Tdap Vaccine

05/09/2013

42 U.S.C. § 300aa-26

