Communicable Disease & Immunization Update

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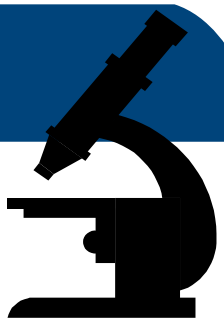
Tacoma-Pierce County Health Department
Healthy People in Healthy Communities

Flu Vaccine Recommendations 2014–2015



Manufacturers are expected to supply over 150 million doses of influenza vaccine this season, and the first shipments of vaccine arrived in August. Vaccine composition is unchanged from the 2013–2014 flu season. All of the 2014–2015 influenza vaccine is made to protect against the following three viruses:

- A/California/7/2009 (H1N1) pdm09-like virus
- A/Texas/50/2012 (H3N2)-like virus
- B/Massachusetts/2/2012-like virus.

More quadrivalent vaccine is available this season. The quadrivalent vaccine protects against an additional B virus (B/Brisbane/60/2008-like virus). All of the nasal spray vaccine is quadrivalent, and all of the vaccine provided to Pierce County by the federal Vaccines for Children Program will be quadrivalent.

Recommendations

Basically everyone over six months who has not had a severe reaction to influenza vaccine should get a flu vaccine.

Children under age nine should receive two flu vaccinations the first year they begin receiving flu vaccine. If a child under age 9 has received at least 1 dose of flu vaccine during the 2013–2014 season, or at least two vaccine doses total since July of 2010, only one dose is needed this season.

Egg allergy is no longer an absolute contraindication. Persons with egg allergy should receive the vaccine using the following guideline:

- People age 18–49 years who experience only hives after exposure to egg can receive the recombinant influenza vaccine (RIV3) without concern for egg allergy. If RIV3 is not available or the person is outside of the age range, they can receive injectable flu vaccine (not LAIV) and the person should be observed for allergic reaction for 30 minutes.
- Persons who report more severe reaction to egg, including angioedema, respiratory distress, lightheadedness, or recurrent emesis; or who required epinephrine or another emergency medical intervention, may receive RIV3 if they are aged 18-49 years and there are no other contraindications. If RIV3 is not available or the recipient is not within the indicated age range, injectable flu vaccine (not LAIV) should be administered by a physician with experience in the recognition and management of severe allergic conditions. The person should be observed for reaction for 30 minutes.

LAIV Preferred for Children 2–8 Yrs

New this season, the Advisory Committee on Immunization Practices (ACIP) has expressed a preference for nasal spray live-attenuated influenza vaccine (LAIV, FluMist) in children age 2–8 years. Several studies have shown that compared with injectable flu vaccine, LAIV is more effective in young children. In addition, all of the LAIV is quadrivalent, which provides protection against both influenza B strains that may circulate. However, both LAIV and injectable flu vaccine are safe and effective and ACIP recommends that flu immunization should not be delayed if LAIV is not immediately available.

Some parents are fearful about LAIV because it is a live virus. You can help correct misinformation and alleviate parent concerns. The vaccine is made from weakened influenza viruses that replicate in the epithelium of the nasopharynx and stimulate antibodies against influenza. Replication does not take place in the warmer temperatures of the lower respiratory tract, and the vaccine cannot give the recipient influenza, nor can it transmit influenza. There has only been one transmission documented which was part of a randomized controlled trial in day care attendees where a child in the unvaccinated group tested positive for a vaccine strain which did not cause illness. However, because of the theoretical risk of live-virus transmission, LAIV should not be given to household contacts or caregivers of persons who are immune compromised to the extent that they need a protected environment, such as a hospitalized person in reverse isolation. LAIV can be given to children who have vulnerable household contacts, such as newborn siblings, a pregnant or breastfeeding mother, or immune compromised household contacts that are living in the community. Because LAIV offers better protection against influenza for young children, it is actually beneficial for the protection of vulnerable family members.

LAIV has been used for over a decade and has been shown to be very safe. It should be given to healthy, Immune competent, non-pregnant people between the ages of 2–49 years only. It is egg based and its use has not been studied with egg-allergic people, therefore it should not be given to persons with egg allergy. People should be screened for any chronic health conditions, including asthma and diabetes, and if any exist, they should receive injectable flu vaccine instead. Young children with a history of wheezing should receive a flu shot instead of LAIV, as they may have yet undiagnosed asthma.

High Dose Vaccine for Seniors

Fluzone High Dose has been available for people age 65 yrs and older for the the past several seasons. On Aug. 15, 2014 the first efficacy study comparing levels of influenza disease among populations receiving high dose influenza vaccine and regular trivalent

preparation was published.[2] The high dose vaccine was found to 24.2% more effective than the standard preparation (95% CI, 9.7 to 36.5). The Centers for Disease Control and Prevention (CDC) has not expressed a preference for this vaccine over any other influenza preparation for seniors.

How are we doing?

The recommendation for everyone over age six months to receive flu vaccination was issued in 2010. As of November 2013, here's how we are doing as a nation.[3]

Population Group	% Vaccinated
Children 6 mo–4 yrs	50.6%
Children 5 yr–12 yrs	43.0%
Children 13 yr–17 yrs	30.2%
Adults 18–49 yrs	31.4%
Adults 50–64 yrs	39.1%
Adults 18-64, Medically high risk	44.2%
Adults 18-64, NOT medically high risk	30.0%
Pregnant women	40.7%
Health Care Workers	62.9%
Adults 65 yrs plus	61.8%

Sources:

1. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP)—United States, 2014–15 Influenza Season. August 15, 2014/63(32);691-697.
2. DiazGranados, C.A., et al Efficacy of high-dose versus standard-dose influenza vaccine in older adults. New England Journal of Medicine. August 14, 2014; 371:635-645.
3. Fluvaxview Influenza Vaccination Coverage, 2013-2014 Season. www.cdc.gov/flu/fluvaxview/1314season.htm

Chikungunya Virus

Chikungunya (pronounced chik-en-GUN-ya) is a mosquito-borne virus now epidemic in the Caribbean. The disease was discovered in West Africa in the 1950s and spread throughout Asia and the Pacific Islands in the past 10–20 years, causing huge epidemics. Prior to 2013, disease transmission had not occurred in the Western Hemisphere.

The Caribbean epidemic is believed to have been started by an infected traveler to the region, and so far in 2014, over 500,000 cases have been reported there. As of Aug. 26, 2014, 690 cases have been reported in the United States in returning travelers, and six cases have been reported in persons who live in Florida but have not traveled.

The virus is transmitted by *Aedes aegypti* and *Aedes albopictus,* mosquitoes found in parts of the United States (not in Washington State). These mosquitoes also transmit the virus that causes dengue fever. The cycle of transmission is established when an infected mosquito bites and infects a human; other mosquitoes bite the infected human and then bite other humans. Female mosquitoes live three to four weeks and tend to feed every three to four days.

Chikungunya is characterized by several days of fever and malaise followed by 7–10 days of severe, often immobilizing symmetric polyarthralgia, with a distal-greater-than-proximal distribution. Many cases also have a diffuse, patchy maculopapular rash. Acute complications can involve the cardiopulmonary, renal, hepatic or neurologic systems. Treatment is supportive. A substantial proportion of cases develop chronic arthralgias. Chikungunya has a very low death rate and is most serious for elderly and newborns whose mothers were infected in the perinatal period.

Clinicians evaluating patients for possible chikungunya should also consider dengue fever, as the symptoms and travel risk factors can be the same. Dengue can be a much more serious infection, and outcomes are improved with appropriate clinical management. Patients being evaluated for possible arboviral disease should not receive aspirin or NSAIDS that could exacerbate hemorrhagic manifestations of dengue. Instead, they should have acetaminophen for fever control.

The incubation period is 3–7 days from the infecting mosquito bite (range 1–12 days). Chikungunya testing is available commercially from Focus Diagnostics in California. The Washington Public Health Laboratories do not offer testing, but can forward specimens to Centers for Disease Control and Prevention (CDC). The turn-around time at CDC is longer than commercial labs, so may not be as useful to clinicians in terms of managing their patients.

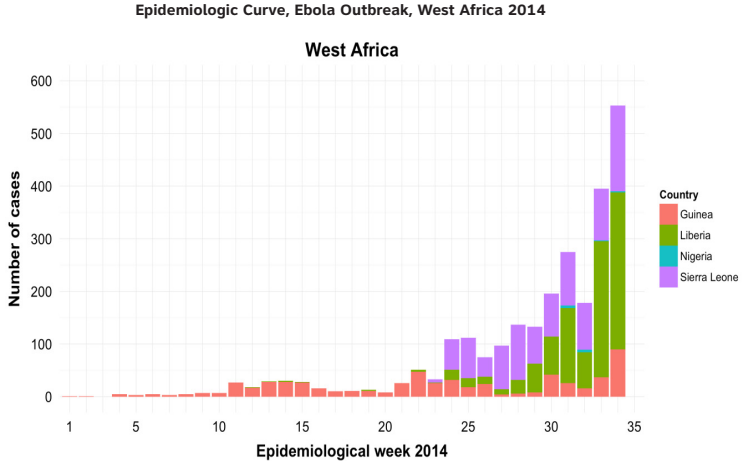
Please report suspected cases to Tacoma-Pierce County Health Department Communicable Disease reporting line (253) 798-6534.

Ebola Hemorrhagic Fever Outbreak

As of Aug. 28, 2014 there have been 3,707 confirmed cases and 1,848 deaths, with over 40% of the total reported cases occurring in the month of August alone (see graphic).

Please consider the diagnosis of Ebola and institute appropriate infection control measures among patients who have a clinically compatible syndrome and who have also returned from affected areas in West Africa in the prior 21 days. Ebola presents with fever, headache, myalgia, abdominal pain, anorexia, nausea or vomiting 2 to 21 days after exposure. Also consider other travel-associated infectious diseases as part of the differential diagnosis (e.g. malaria, dengue fever, chikungunya, yellow fever, typhoid). Report suspected cases immediately to the Health Department (253) 798-6410.

The situation is rapidly changing. For the most current information on the outbreak and infection prevention guidance go to www.cdc.gov/vhf/ebola/outbreaks/guinea/.



Source: http://www.who.int/csr/disease/ebola/evd-sitrep1-20140828.pdf

2014 Measles Update

In June 2014, Pierce County saw its first case of measles since 2006. Since Jan. 1, 2014 Washington State experienced three distinct outbreaks of measles and 2 isolated cases for a total of 31 cases. The latest outbreak, which includes two Pierce County cases, originated with a South King County resident who returned to the United States from the Federated States of Micronesia in late May 2014. Measles spread to several unvaccinated close contacts of this person, and then to a Pierce County baby who spent time with one of the cases in the waiting room of a local emergency department (measles is highly contagious and the virus can be present in the air up to two hours after an infected person has left the area). The rash onset of the first Pierce County case was Jun. 23, 2014 and measles was then diagnosed the following week in a close contact. Both of the Pierce County cases had multiple health care visits during the contagious period, resulting in exposures to other patients and hospital staff. Health Department and hospital infection prevention staff followed up with dozens of potentially exposed patients, verifying immunization records and bringing a few high risk people in for post-exposure prophylaxis with immune globulin or vaccine.

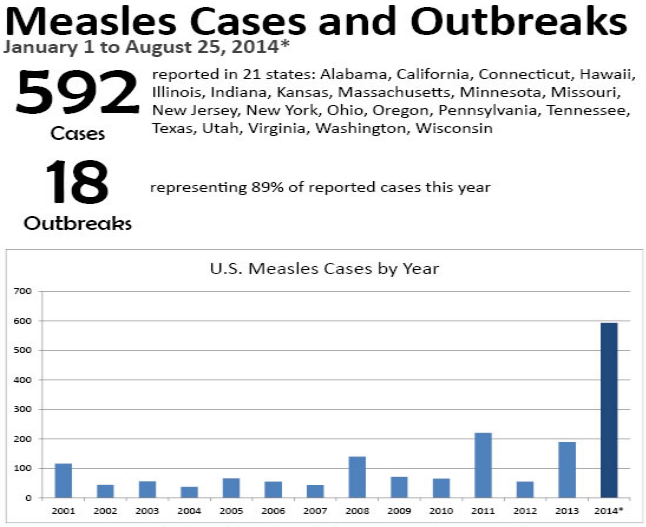
There has been no measles activity in the region for more than 42 days (two measles incubation periods), so the outbreak has been declared over.

United States Situation

As of Aug. 1 2014, the United States has seen 593 cases of measles this year; the most since 1991 (see figure). On average, fewer than 200 cases per year have been reported since 1997. Due to intensive immunization efforts, measles was declared eliminated in the United States in 2000, which means that there is no sustained transmission of wild measles here. All cases originate outside the United States.

Even though measles doesn't live here anymore, it can still visit. The current surge in cases is due to unimmunized persons (more than 90% of them United States citizens) that have traveled outside the United States, bringing home measles and spreading it to unimmunized contacts. Travel to the Philippines has accounted for about half of measles importations. Eleven percent of the United States measles cases in 2014 were hospitalized.

Among cases in United States residents as of Jun. 1, 2014, 81% are unvaccinated, 87% of whom refused vaccination for themselves or their children for religious, philosophical or personal belief reasons.



Twelve percent of cases in 2014 have unknown vaccination status; most of those cases are in adults without vaccine records. Seven percent of cases actually have received one or more doses of measles vaccine, and it is not unusual to see cases in vaccinated people during large outbreaks.

Recognizing Measles

Maintaining measles elimination is dependent on high immunization levels in the population and swift public health response to identify cases and control spread. As measles has been extremely rare in the United States, many medical providers have never seen it. Think measles if you see a febrile rash illness in a person who has traveled outside the United States in the previous 3 weeks.

The incubation period is usually 10 days (range 7–21 days) and a person with measles is communicable four days prior and four days after eruption of rash. The illness generally has a predictable clinical picture. Measles starts with a prodrome of high fever, cough, coryza, and conjunctivitis. Koplik spots (small white lesions on a red base on the inside of the cheeks) may be present. Two to four days later, a maculo papular rash erupts, first on the face and spreading downward. Fever and respiratory symptoms remain for several more days (distinguising measles from many viral exanthems that are characterized by a febrile illness that concludes, followed by a bloom of rash). Complications include pneumonia, otitis media and rarely encephalitis.

Travel Immunizations

Measles continues to circulate in almost every country outside the Americas (including Western Europe), so anyone traveling outside the United States should ensure that they are immune to measles. Persons born before Jan. 1, 1957 are assumed to be immune from natural infection. Travelers without evidence of measles immunity and who have no contraindications to MMR (it's a live virus vaccine) should receive immunization before travel according to the following guidelines:

- Infants aged 6–11 months should receive one MMR. Infants vaccinated before age 12 months must be revaccinated on or after the first birthday with two doses of MMR separated by ≥28 days.
- Preschool and school-age children (aged ≥12 months) should be given two MMR doses separated by ≥28 days.
- Adults born in or after 1957 should be given 2 MMR doses separated by ≥28 days.

Diagnosis and Notification

Persons with fever and rash should be isolated immediately. If you have advanced warning that someone with fever and rash will be coming in for evaluation, evaluate the patient outside if possible. Obtain serum and nasopharyngeal swab and urine sample for PCR and culture. Suspect measles cases should be immediately reported to the Health Department (253) 798-6410. We can assist with testing at the Washington State public health lab, which includes PCR testing that can offer a more rapid result than serologies.

Sources:

1. CDC Website; Measles Cases & Outbreaks www.cdc.gov/measles/cases-outbreaks.html
2. CDC Website; Measles Information for Travelers. www.cdc.gov/measles/travelers.html

Reported Cases of Selected Diseases for July 2014

Preliminary case counts

ENTERIC DISEASES	July 2014	Jan.–July 2014	Jan.–July 2013
Campylobacter	26	138	149
Cryptosporidium	2	10	13
Giardia lamblia	4	21	27
Salmonella	6	45	35
Shigella	0	4	1
Enterohemorrhagic *E. coli*	1	4	10
HEPATITIS			
Hepatitis A (Acute)	1	1	1
Hepatitis B (Acute)	0	0	1
Hepatitis C (Acute)	0	11	2
Hepatitis B (Chronic)	7	92	81
Hepatitis C (Chronic)	112	661	458
INVASIVE DISEASES/BACTERIAL			
Haemophilus influenzae	0	0	1
Listeriosis	0	1	1
Meningococcal	1	3	0
SEXUALLY TRANSMITTED DISEASES			
Chlamydia	347	2376	2423
Gonorrhea	96	663	555
Syphilis-Primary, Secondary & Early Latent	3	23	21
Syphilis, Late & Late Latent	2	9	14
Herpes, Initial Infection	31	190	222
TUBERCULOSIS			
Tuberculosis	1	8	14
VACCINE PREVENTABLE DISEASES			
Measles	1	2	0
Mumps	0	1	1
Rubella	0	0	0
Pertussis	22	51	92
OTHER DISEASES			
Botulism (wound)	0	0	1
Carbapenemase-Resistant Enterobacteracea	0	1	2
Legionellosis	0	3	2
Lyme Disease	0	0	0
Malaria	1	3	3
Typhoid Fever	0	1	0
West Nile Virus	0	0	1
Influenza Deaths	0	10	3
Vibroisis	3	3	5

Please remember to report communicable diseases to the Health Department. Accurate reporting helps stop the spread of communicable diseases. Provider and laboratory reporting of specific diseases is required by law.

24-Hour Reporting Line

(253) 798-6534

Confidential Fax Line for Case Reports

(253) 798-7666