

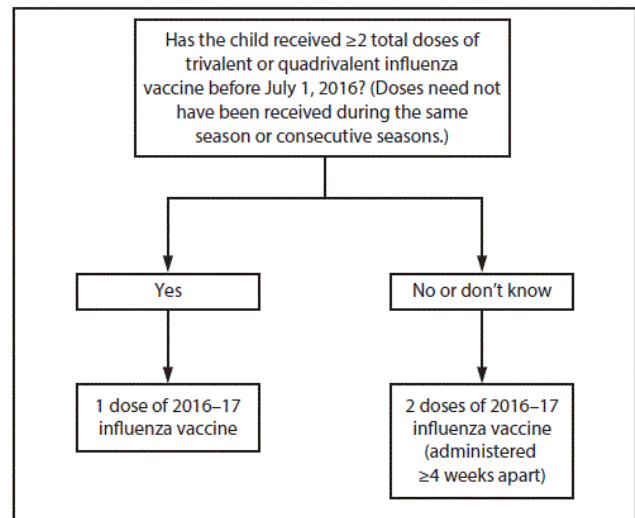


Orange County Health Care Agency, Epidemiology & Assessment, 1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Influenza season is almost here! Providers are encouraged to begin vaccination efforts as soon as vaccine is available.



- **Do not hesitate – now is the time to get vaccinated!** Although influenza may circulate during the summer months at low levels, influenza season officially begins in week 40 (Oct. 2nd to Oct 8th).
- **Changes and updates to influenza vaccine recommendations.** For details, see the 8/26/16 *MMWR Recommendations and Reports*, available at www.cdc.gov/mmwr.
 - **Nasal spray influenza vaccine NOT recommended for use this season.** The Centers for Disease Control and Prevention (CDC), along with Advisory Committee on Immunization Practices (ACIP), recommend that the nasal spray flu vaccine (live attenuated influenza vaccine or LAIV) should NOT be used during 2016-2017, due to concerns over low effectiveness in the past two seasons.
 - **People with egg allergies can get influenza vaccine.** People with egg allergies resulting in only hives can receive any licensed, recommended age-appropriate influenza vaccine and no longer have to be monitored for 30 minutes after receiving the vaccine. Persons with a history of severe allergic reaction to eggs involving symptoms other than hives (i.e., anaphylaxis, respiratory distress, or reaction requiring epinephrine) should be vaccinated in a medical setting under the supervision of a health care provider who is able to recognize and manage severe allergic conditions. History of a severe allergic reaction to influenza vaccine is a contraindication to vaccination.
 - **Updated recommendations for children 6 months through 8 years of age.** ACIP recommends that children aged 6 months through 8 years who have previously received ≥ 2 total doses of trivalent or quadrivalent influenza vaccine before July 1, 2016 require only 1 dose for 2016–17 (see algorithm).
 - **New vaccine products available this season**
 - Fluvad, an MF59-adjuvanted trivalent inactivated influenza vaccine (aIIV3), was licensed by Food & Drug Administration in November 2015 for persons aged ≥ 65 years. Adjuvants are substances added to vaccines to stimulate the body's immune response to the vaccine.
 - A quadrivalent formulation of Flucelvax (cell culture-based inactivated influenza vaccine) was licensed by Food & Drug Administration in May 2016, for persons aged ≥ 4 years.
 - CDC and ACIP have no preferential recommendation for one influenza vaccine product over another for persons for whom more than one licensed, recommended product is appropriate.
 - **Components of the 2016-17 Northern Hemisphere influenza vaccine:** Every year circulating strains from the previous year and in the Southern Hemisphere are reviewed to select which strains to include in the upcoming season's vaccine.
 - A/California/7/2009 (H1N1)-like virus – *unchanged*
 - A/Hong Kong/4801/2014 (H3N2)-like virus – *new*
 - B/Brisbane/60/2008-like virus (*Victoria lineage; in quadrivalent last year but not trivalent*)
 - Quadrivalent only: B/Phuket/3073/2013-like virus - (*Yamagata lineage – in both trivalent and quadrivalent last year*)





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Orange County has received its first severe case report of the 2016-17 influenza season. Now is the time to get vaccinated!

- **Orange County has received its first severe influenza case report of the 2016-17 season.**
 - During week 44 (week ending 11/5/2016), Orange County received its first report of a severe influenza case in a person under 65 years of age. The case was hospitalized and admitted to a local intensive care unit.
 - Severe cases of influenza in persons under 65 years of age are reportable and defined as those who test positive for influenza and either need care in an intensive care unit or died.
 - The percentage of outpatient visits for influenza-like illness was 0.89% for week 43.
 - Although influenza rates are currently low in Orange County, now is the time to get vaccinated. According to the Centers for Disease Control and Prevention (CDC), it takes about two weeks after vaccination for immune protection to develop.
 - Looking for influenza vaccine in Orange County? Please visit <http://www.ochealthinfo.com/flu> and click “List of Clinics” or “HealthMap Vaccine Finder” (for retail pharmacies).
 - 2016-17 Updates for Health Care Providers from CDC: <http://www.cdc.gov/flu/pdf/professionals/dear-colleague.pdf>.



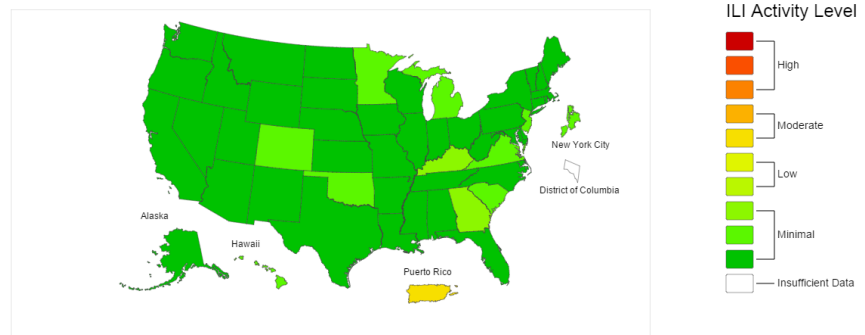
- **Influenza in California.**

- For week 43 (week ending 10/29/2016), influenza activity in California was low and within expected activity levels.
- To date, influenza A/H3 has predominated compared to other subtypes of influenza.
- The percentage of visits for influenza-like illness during week 43 was 1.0% and was within expected baseline levels for this time of year.
- No laboratory-confirmed deaths aged 0-64 years have been reported thus far in the season.

- **Influenza in United States.**

- Although influenza A/H3 predominated during week 43, the percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.
- The proportion of outpatient visits for influenza-like illness was 1.3% during week 43, which is below the national baseline of 2.2%.

2016-17 Influenza Season Week 43 ending Oct 29, 2016



- **Influenza vaccination reduces risk of hospitalization by more than half among adults over the age of 50 years.**

- A study published in *Clinical Infectious Diseases* (2016; Vol 63 Issue 10) found that during the 2010-11 influenza season, vaccinated adults over the age of 50 years were 57% less likely to be hospitalized from influenza than unvaccinated people.
- These findings support the current CDC recommendations for people at high risk, specifically older adults, who should receive an annual influenza vaccine.



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Influenza activity has significantly increased in the past few weeks. If you have not received your influenza vaccine, now is the time!



- **Influenza activity in Orange County.**
 - Influenza activity in Orange County has significantly increased from week 47 (week ending 11/26/16) through Week 52 (week ending 12/31/16).
 - Influenza A/H3 has been the most frequently identified influenza virus by Orange County Public Health Laboratory thus far in the season. Very few detections of influenza A/(H1N1)pdm2009 and influenza B have been reported.
- **Several severe cases of influenza (persons under the age of 65 years who were hospitalized in the ICU or died) have been reported in Orange County this season.**
 - To date, Orange County has received five reports of severe influenza cases. All adult cases were admitted to the ICU for treatment. No cases have been reported in children.
 - As of Week 52 (week ending 12/31/16), no influenza-associated deaths have been reported.
- **Influenza activity in California.**
 - Overall influenza activity in California during Week 52 was widespread. Based on laboratory data, influenza activity is increasing.
 - The percentage of visits for influenza-like illness (ILI) during Week 52 was 3.3% and exceeded the epidemic threshold level for this time of year.
 - To date in California, all influenza 2009 A/H1 and A/H3 antigenically characterized viruses have matched the influenza 2009 A/H1 and A/H3 components included in the trivalent and quadrivalent influenza vaccines. In addition, all influenza B antigenically characterized viruses in California have matched the influenza B Victoria lineage virus included in the trivalent and quadrivalent influenza vaccines.
- **Updated recommendations for prevention and control of influenza in long-term care facilities (LTCF):** www.cdph.ca.gov/programs/hai/Documents/RecommendationsForThePreventionAndControlOfInfluenzaOct2016.pdf
 - **Vaccination:** All LTCF healthcare personnel (HCP) and residents should be vaccinated annually against influenza, or upon admission between August and April, if not already vaccinated.
 - **Respiratory hygiene and cough etiquette:** Post visual alerts, provide tissues or masks to those symptomatic, ensure hand hygiene supplies are available, and exclude ill visitors and HCP.
 - **Definitions:**
 - A cluster of ILI is two or more cases of ILI occurring within 72 hours.
 - An influenza outbreak is one case of laboratory-confirmed influenza in the setting of a cluster of ILI within a 72 hour period.
 - **Surveillance:** Implement active daily surveillance for ILI throughout influenza season.
 - **Testing:** For cases of acute respiratory illness suggestive of influenza, the following influenza tests are recommended, in order of priority, if readily available: 1) real-time reverse-transcriptase (RT-PCR), 2) immunofluorescence, or 3) rapid influenza antigen tests. Real-time RT-PCR is the best way to confirm the diagnosis of influenza.
 - **Antiviral Treatment:** Antiviral therapy should be started as soon as possible for all LTCF residents with suspected or confirmed influenza, even before results are available.
 - **Antiviral Prophylaxis:** As soon as an influenza outbreak (as defined above) is determined, all non-ill residents should receive antiviral chemoprophylaxis, regardless of influenza vaccination status. Antiviral chemoprophylaxis should continue for a minimum of two weeks and for at least 7-10 days after the last known case is identified, whichever is longer. Priority should be given to residents living in the same unit or floor as an ill resident.
 - **Infection Control Precautions:** Enhanced Standard Precautions (Standard and Droplet Precautions) are recommended for any residents with suspected or confirmed influenza.
 - Additional guidance available at www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm.

If you have any comments about this flyer, contact Eric Shearer, MPH or Michele Cheung, MD at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.



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Influenza activity is increasing in Orange County. Persons who have not yet been vaccinated should get vaccinated now!







- **Influenza activity in Orange County.**
 - Influenza activity has been steadily increasing since Week 47 (ending 11/26/2016), and has significantly increased in the past few weeks.
 - Influenza A/H3 continues to be the most frequently identified influenza virus by Orange County Public Health Laboratory thus far in the season. Very few detections of influenza A/(H1N1)pdm2009 and influenza B have been reported.
- **Several severe cases of influenza (persons under the age of 65 years who were hospitalized in the ICU or died) have been reported in Orange County this season.**
 - To date, Orange County has received 13 reports of severe influenza cases.
 - Eleven ICU cases have been reported in adults aged 18 to 64 years.
 - Two ICU cases have been reported in children under the age of 18 years.
 - As of Week 2 (ending 1/14/2017), no influenza-associated deaths in persons under the age of 65 years have been reported in Orange County.
- **Influenza activity in California.**
 - Influenza activity was classified as “widespread” throughout California during Week 2 (ending 1/14/2017).
 - To date, California Department of Public Health (CDPH) has received 14 reports of laboratory-confirmed influenza-associated deaths among patients under age 65 years thus far in the season.
 - The percentage of visits for influenza like-illness during Week 2 (ending 1/14/2017) was 2.8%, which exceeds the epidemic threshold for this time of the year.
- **Influenza virus strain characterization.**
 - According to CDPH, all influenza A/(H1N1)pdm2009 and seasonal A/H3 antigenically characterized viruses have matched the influenza A/(H1N1)pdm2009 and seasonal A/H3 components included in this year’s trivalent and quadrivalent influenza vaccines.
 - In addition, all influenza B antigenically characterized viruses in California have matched the influenza B Yamagata lineage virus included in the quadrivalent influenza vaccine.
- **Clinical guidance for use of antiviral medications when treating for influenza.**

<https://www.cdc.gov/flu/pdf/professionals/antivirals/antiviral-summary-clinician-updated.pdf>

 - Decisions about starting antiviral treatment should NOT wait for laboratory confirmation of influenza, especially in people at increased risk of complications of influenza.
 - Research has shown that early antiviral treatment can shorten the duration of fever and illness symptoms and may reduce the risk of complications of influenza, including death.
 - Antiviral treatment should be started as soon as possible after illness onset, ideally within 48 hours of symptom onset.
 - People at higher risk for complications from influenza include young children, adults over the age of 65 years, pregnant women, and those with underlying medical conditions (e.g. heart disease, cancer, suppressed immune systems).

the **benefits of flu vaccination** 2015-2016

<p>The estimated number of flu illnesses prevented by flu vaccination during the 2015-2016 season:</p> <p style="font-size: 2em; font-weight: bold; text-align: center;">5 million</p> <p style="font-size: 0.8em; text-align: center;">as many people use Denver International Airport in one month</p> 	<p>The estimated number of flu medical visits prevented by vaccination during the 2015-2016 season:</p> <p style="font-size: 2em; font-weight: bold; text-align: center;">2.5 million</p> <p style="font-size: 0.8em; text-align: center;">equal to the population of Portland, Oregon</p> 	<p>The estimated number of flu hospitalizations prevented by vaccination during the 2015-2016 season:</p> <p style="font-size: 2em; font-weight: bold; text-align: center;">71,000</p> <p style="font-size: 0.8em; text-align: center;">enough to fill every registered hospital bed in the state of Texas</p> 
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 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention
 get vaccinated
www.cdc.gov/flu

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Increased travel is expected to and from China with the Lunar New Year. Consider avian influenza A(H7N9) in returning travelers from China with severe respiratory illness.

- **Criteria for testing for influenza A(H7N9)** (see <https://www.cdc.gov/flu/avianflu/h7n9/case-definitions.htm> for details):
Patients with illness compatible with influenza and one of the following:
 - Recent travel (within 10 days of illness onset) to areas where human cases of avian influenza A (H7N9) virus infection have become infected or to areas where avian influenza A (H7N9) viruses are known to be circulating in animals (poultry); **OR**
 - Recent close contact (within 10 days of illness onset) with confirmed or suspected cases of human infection with avian influenza A (H7N9) virus; **OR**
 - Unprotected exposure to live avian influenza A (H7N9) virus in a laboratory.
- **All persons under investigation for A(H7N9), probable and confirmed cases should be reported immediately to Epidemiology at 714-834-8180.** Epidemiology will coordinate testing and case/contact investigation.
 - Management with **Standard Precautions, plus Contact and Airborne Precautions** is recommended.
 - **Prompt initiation of antiviral treatment with a neuraminidase inhibitor (e.g., oseltamivir) is recommended in hospitalized patients, or outpatients with severe, complicated, or progressive illness.** Antiviral treatment should not be delayed while awaiting testing results.

Background Information (see www.cdc.gov/mmwr, 12/16/16 issue)

- **Annual epidemics of human infections with avian influenza A(H7N9) have occurred since 2013.**
 - From September 1, 2016 to January 15, 2017, 225 human H7N9 infections were reported in mainland China, including 51 (23%) deaths, and an additional 6 infections were reported among travelers from mainland China to Hong Kong (4) and Macao (2).
 - The total number of cases since 2013 is 1,035, with 371 (36%) deaths.
- **Clinical features from 775 persons reported in the first four epidemics (2013-2016):**
 - 73% of cases were between 40-79 years of age; 69% were male
 - 53% had at least one underlying medical condition
 - 95% had fever, 81% had cough
 - 91% experienced at least one medical complication, including pneumonia (88%), respiratory failure (70%) or acute respiratory distress syndrome (67%)
 - 68% were admitted to an intensive care unit and 41% died.
- **Most (85%) people infected with H7N9 have had exposure to live poultry.**
 - No major changes in the epidemiological characteristics of the outbreaks have been observed, including the proportion of reported cases occurring in people exposed to poultry, or the number and size of clusters of human cases.
 - However, last year's epidemic (September 2015-August 2016) had some notable characteristics:
 - Infections were reported from previously uninvolved areas of China.
 - More human infections were being reported in rural areas.
 - Infected people were more likely to develop pneumonia and be admitted to the intensive care unit, although mortality was not increased.
- **CDC, using the Influenza Risk Assessment Tool, has found that the influenza A(H7N9) virus has the highest potential pandemic risk of any novel influenza A viruses that have been assessed.**
 - Laboratory analysis of the H7N9 viruses affecting birds and humans has revealed genetic changes that might enhance ability for the H7N9 viruses to be transmitted to humans.
 - **Thus far, there has been NO evidence of increased transmissibility of A(H7N9) viruses from poultry or environmental exposures to humans in China nor sustained human-human transmission.**



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Orange County has reported its first influenza-associated death of the season in a person less than 65 years of age. Flu activity is widespread in California and continues to be elevated in Orange County. We expect influenza to continue to circulate for at least a few more months. It's not too late to vaccinate!

- **Influenza activity in Orange County.**

- As of week 4 (week ending 1/28/2017), influenza activity continues to be elevated in Orange County.
- Influenza A/H3 continues to be the most frequently identified influenza virus by Orange County Public Health Laboratory thus far in the season. Very few detections of influenza A(H1N1)pdm2009 and influenza B have been reported.



- **Cases of severe influenza (persons under the age of 65 admitted to the intensive care unit (ICU) or who died) continue to be reported in Orange County.**

- To date, Orange County has received 18 reports of severe influenza, including one death.
 - Four PICU cases have been reported in children under the age of 18 years.
 - Fourteen ICU cases have been reported in adults aged 18 to 64 years.
 - The one influenza-associated death reported was in a 54 year old male who tested positive for influenza A/H3.

- **Influenza activity in California.**

- Influenza activity continues to be widespread throughout California.
- To date, California Department of Public Health has received 31 reports of laboratory confirmed influenza-associated deaths among patients under age 65 years.
- The percentage of visits for influenza-like illness during week 4 (week ending 1/28/2017) was 3.0%, which exceeds the epidemic threshold for this time of the year.

- **Influenza activity most often peaks in February but can last into May. It is not too late to vaccinate!**

- According to the Centers for Disease Control and Prevention, the winter season is the time for influenza, but the exact timing and duration of influenza seasons vary.
- While seasonal influenza infections can happen as early as October, influenza activity normally peaks between January and February. However, activity can last as late as May and second peaks of activity may be seen in the spring.

- **Avian influenza A/H7N2 detected in cats in New York animal shelters.**

- The Centers for Disease Control and Prevention recently reported an outbreak of avian influenza A/H7N2 amongst cats in a New York City animal shelter, with one reported human infection.
- The human case had prolonged, unprotected exposure to respiratory secretions from sick cats. Illness was reported to be mild. No person-person transmission has been reported.
- Avian influenza infection in cats is rare. For more information on this outbreak, see <https://www.cdc.gov/flu/spotlights/avian-influenza-cats.htm>.



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Severe influenza cases continue to be reported. As long as influenza viruses are circulating, vaccination is encouraged – it is not too late!

- **Influenza activity in Orange County.**
 - Although influenza activity continues to be elevated in Orange County, overall activity has been decreasing since week 1 (week ending 1/7/2017).
 - Influenza A/H3 continues to be the most frequently identified influenza virus by Orange County Public Health Laboratory thus far in the season. Very few detections of influenza A/(H1N1)pdm2009 and influenza B have been reported.
- **Cases of severe influenza (persons under the age of 65 admitted to the intensive care unit (ICU) or who died) continue to be reported in Orange County.**
 - To date, Orange County has received 30 reports of severe influenza, including two deaths.
 - Eight PICU cases have been reported in children under the age of 18 years.
 - Twenty-two ICU cases have been reported in adults aged 18 to 64 years.
 - Both deaths occurred in adult males who tested positive for influenza A/H3.
- **Influenza activity in California.**
 - Influenza activity was classified as “widespread” throughout California during week 9 (week ending 3/4/2017).
 - To date, California Department of Public Health has received 68 reports of laboratory-confirmed flu-associated deaths among patients under age 65 years thus far in the season.
- **Centers for Disease Control and Prevention (CDC) reports this season’s influenza vaccine reduces risk by nearly half.**
 - According to data from CDC, interim estimates show flu vaccine has been 48% effective in preventing medically-attended influenza A and B illness.
 - Interim effectiveness estimate against the predominant influenza A/H3N2 viruses was 43% while the interim effectiveness estimate against influenza B viruses was 73%.
- **Use of neuraminidase inhibitors during pregnancy for treatment of influenza is not associated with increased risks of adverse fetal or neonatal outcomes.** <http://www.bmj.com/content/356/bmj.j629>
 - According to a recent article published in *British Medical Journal*, use of neuraminidase inhibitors (i.e. oseltamivir or zanamivir) during pregnancy to treatment influenza is not associated with increased risks of adverse fetal or neonatal outcomes.
 - Exposure to neuraminidase inhibitors in utero was not associated with increased risk of the following outcomes: poor Apgar score, preterm birth, low birthweight, small for gestational age, stillbirth, and neonatal mortality.
- **Update on influenza A/H7N9 in China – Fifth Wave of This Avian Influenza Epidemic.** <http://www.cdc.gov/mmwr> 3/10/2017 issue
 - China has now reported 460 human infections of influenza A/H7N9 since October 1st, 2016.
 - Most human infections have been associated with poultry exposure and result in severe respiratory illness. Although limited human-to-human transmission continues to be identified, no sustained human-to-human A/H7N9 transmission has been observed.
 - CDC recommends that people with travel to China or other affected areas monitor their health for any signs and symptoms for 10 days after their exposure and to call their health care provider if they develop illness, especially fever, cough, or shortness of breath.
 - Clinician recommendations can be found at <https://www.cdc.gov/flu/avianflu/healthprofessionals.htm>
- **Influenza educational materials – an interactive activity book for children**
 - CDC’s *Ready Wrigley* helps children and their families stay healthy during flu season https://www.cdc.gov/phpr/readywrigley/documents/ready_wrigley_flu.pdf.



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