



Archived Document

Archive Disclaimer: The following Health Care Agency document is for historical purposes only. The information provided was accurate at the time it was originally presented. The Health Care Agency does not review past postings to determine whether they remain accurate, and information contained in such postings may have been superseded. We accept no responsibility and specifically disclaim any liability for readers' use of information contained in any archived document. By viewing these archived materials, you acknowledge that you understand this cautionary statement.



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

Influenza season is coming. Providers are encouraged to begin vaccinating patients as soon as vaccine is available. Annual vaccination is recommended for all persons 6 months of age or older!

- **Influenza Vaccine Supply:** Vaccine companies project production of a record number of doses this season, between 166-173 million. As of 9/9/2011, ~85.9 million doses had already been distributed.
- **2011 Recommendations of the Advisory Committee on Immunization Practices (ACIP) *Highlights:***
 - **For details, see 8/26/11 *MMWR* available at www.cdc.gov/mmwr.**
 - **Vaccine Strains for 2011-12 U.S. vaccine** are identical to those in the 2010-11 vaccine: A/California/7/2009 (H1N1)-like, A/Perth/16/2009 (H3N2)-like, and B/Brisbane/60/2008-like.
 - **Recommendations for Influenza Vaccination**
 - Routine annual vaccination is recommended for all persons aged ≥ 6 months.
 - Even though vaccine strains are the same as last season, **annual vaccination is recommended even for those who received the vaccine in the 2010-11 season as efficacy may decrease over time.**
 - **Vaccination of children 6 months through 8 years of age:**
 - Two doses (administered a minimum of 4 weeks apart) are recommended for children 6 months through 8 years of age who didn't receive the vaccine last year or for whom vaccination status is unknown.
 - **Because vaccine strains have not changed this year, children aged 6 months through 8 years who received one dose in the 2010-11 season need only one more dose this season** (instead of the two doses recommended in the second season for children who only received one dose their first year of vaccination).
 - An algorithm for dosing of children 6 months-8 years of age is available on p.1129 (Fig. 1).
 - **Vaccination of Persons Reporting Allergy to Eggs:**
 - Several recent studies have documented safe receipt of TIV in persons with egg allergy, and recent revisions of some TIV package inserts note that only a severe allergic reaction (e.g., anaphylaxis) to egg protein is a contraindication.
 - **Vaccine can be administered to certain persons reporting a history of egg allergy;** see the *MMWR* for detailed recommendations and an algorithm (Fig. 2).
 - **Available Vaccine Products and Indications:** See <http://www.cdc.gov/flu/pdf/dosagechart.pdf>
- **Influenza Vaccination Coverage in Healthcare Personnel and Pregnant Women:** The complete articles can be found in the 8/19/11 issue of *MMWR* at www.cdc.gov/mmwr.
 - **Healthcare Personnel (HCP):** In online surveys of 1,931 HCW, flu vaccine uptake during 2010-11 was 63.5%, similar to 61.9% in 2009-10. In HCP working at facilities that required vaccination, coverage was over 98%, compared with 58% without a requirement. Among HCP without an employer requirement but with on-site vaccination, coverage was higher if it was available at no charge or for more than one day. *Healthy People 2020* target: 90% for HCP.
 - **Pregnant Women:** Among 1,457 respondents who were pregnant between October '10 and January '11, vaccine uptake was 49%, similar to during the 2009 pandemic. Among women who were offered vaccination by a HCP, 71% were vaccinated, compared with 14% of those not offered vaccination by a HCP. *Healthy People 2020* target: 80% for pregnant women.
- **Four Cases of Novel Swine-Origin Influenza A (H3N2) reported** in children from Pennsylvania (3) and Indiana (1). The IN child had a caretaker with history of recent swine exposure. The three PA children had been in the swine area at an agricultural fair. To date, there has not been any spread in these communities. This novel virus is different from the swine-origin A (H3N2) previously seen in the US in that it contains a gene from the human 2009 H1N1 virus. See www.cdc.gov/flu.
- **115 Influenza-Associated Pediatric Deaths reported in U.S. 9/10-8/11.** Of these, 46% were <5 years of age and 49% had no high-risk medical conditions. Only 23% of those ≥ 6 months of age were fully vaccinated. See the 9/16/11 issue of *MMWR* at www.cdc.gov/mmwr.



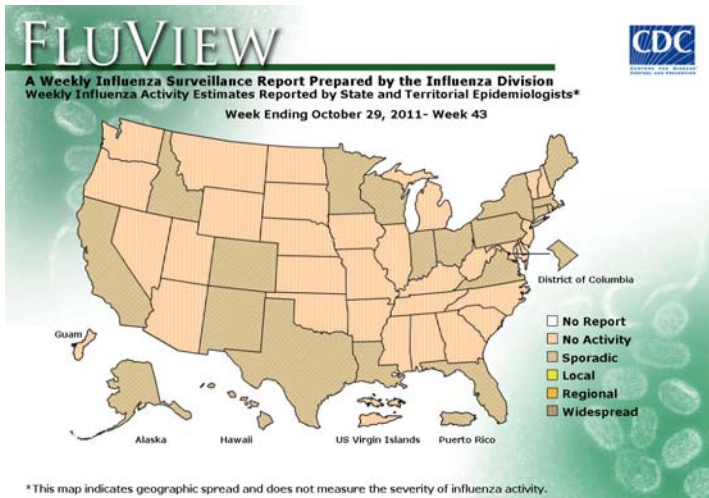
If you have any comments about this flyer, contact Sandra Okubo or Michele Cheung, MD at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.



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

Influenza has been detected in Orange County! Now is the time to vaccinate. Influenza vaccine is available throughout the County. For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.

- **Influenza - Orange County:** The first confirmed case of influenza this season was reported recently. Thus far this season, influenza B, parainfluenza, and adenovirus have been identified.
 - Visits to sentinel physicians for influenza-like illnesses (ILI) remain low. However, reports of respiratory illness among school children have been noted. Please report all outbreaks to 714-834-8180 and forward specimens on students that are part of respiratory outbreaks to the Orange County Public Health Laboratory.
 - Influenza-associated deaths in persons < 65 years of age reportable. In addition, we request reporting of severe cases (ICU admissions) of influenza in persons < 65 years of age to OC Epidemiology (fax 714-834-8196) so we can monitor the severity of the influenza season and identify risk factors for illness. Visit our provider page for more information on influenza and other reportable diseases www.ochealthinfo.com/epi/provider.
 - Free flu materials can be found at www.cdc.gov/flu/freeresources/.



- **Influenza – California and United States:** Based on low levels of ILI and laboratory detections, overall influenza activity during Week 43 (ending Oct 29) was “sporadic” in California. Influenza A 2009 H1N1, A H3N2, and B have all been identified this season. No states have reported local, regional or widespread influenza activity.

- **CDC has confirmed additional cases of human infection with a swine-origin H3N2 reassortant in Maine and Indiana.** The three latest cases all reported to exposure to pigs. No ongoing human-to human transmission has been identified. Swine influenza A (H3N2) normally infects pigs, but rarely can also

infect humans, especially when people are in close proximity to infected pigs. This novel virus is different than the swine H3N2 strains usually circulating in the U.S. in that it contains the M gene from the human 2009 H1N1 virus. See www.cdc.gov/media/haveyouheard/stories/H3N2_virus2.html.

- **FDA reminds health care professionals that jet injectors should not be used to administer inactivated influenza vaccines (TIV).** TIV labeled for IM injection should be administered with a sterile needle and syringe. However, based on limited information from recent publications, FDA and CDC believe that it is NOT necessary to revaccinate people who inadvertently were vaccinated with a jet injector. See www.fda.gov/BiologicsBloodVaccines/Vaccines/QuestionsaboutVaccines/ucm276773.htm.
- **Antiviral use in patients hospitalized with influenza increased during the 2009 H1N1 pandemic:** New guidelines issued during the 2009 H1N1 pandemic encouraging antiviral treatment for all hospitalized patients with influenza increased antiviral use in hospitalized patients from 54% during the four prepandemic seasons to 82% during the pandemic. Antiviral use in hospitalized pregnant women increased from 22% in prepandemic seasons to 86%. See *J Infect Dis* <http://jid.oxfordjournals.org/content/early/2011/10/17/infdis.jir648.short?rss=1>.
- **Influenza vaccine effectiveness:** A recent meta-analysis emphasizes the need for new, more effective and cross-protective influenza vaccines. However, in the meantime, the present vaccines are the best intervention available to protect against seasonal influenza. *Lancet Infect Dis* [Online First](http://www.lancet.com) 10/26/11.
- **CDC develops Q&A for health professionals about vaccine effectiveness** and how it differs from vaccine efficacy: www.cdc.gov/flu/professionals/vaccination/effectivenessqa.htm.

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



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

Influenza activity remains low in Orange County. It's not too late to vaccinate! Influenza vaccine is available throughout the County. For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov. With the holiday parties and gatherings in full swing, remember to cover your cough, wash your hands, and stay home when you are ill!

- **Seasonal Influenza - Orange County:**
 - Thus far Orange County has received a few reports of both influenza A and B. Parainfluenza and adenovirus have also been identified from patients with influenza-like illness (ILI).
 - Visits to sentinel providers for ILI remain low.
 - No severe influenza (ICU admissions or deaths) in persons < 65 years of age have been confirmed.
 - **Seasonal Influenza – California and United States:** Influenza activity remains “sporadic” in California and low overall in the U.S. ILI visits are at or below baseline. It is too early in the season to tell how well the vaccine strains will match circulating strains. Thus far this season, all isolates tested have been susceptible to oseltamivir (Tamiflu®) and zanamivir (Relenza®). See www.cdc.gov/flu for updates.
 - **Additional human cases of novel swine-origin influenza reported.** Circulation of a novel swine-origin triple reassortant H3N2 influenza (S-OtrH3N2) virus infecting humans has now been reported in five states, including Pennsylvania, Indiana, Maine, Iowa and most recently West Virginia. Since July 2011, a total of 11 cases have been identified. This novel virus is different than the swine H3N2 strains usually circulating in the U.S. in that it contains the M gene from the human 2009 H1N1 virus. Almost all cases have occurred in children, with a median age of three years (range 11 months-58 years). Three had underlying chronic medical illnesses and were hospitalized; all have recovered. Of the 11 cases, six had either direct or indirect exposure to swine, while investigation of another five cases has suggested transmission by person-to-person contact. To date, these viruses appear to be resistant to amantadine and rimantadine and susceptible to the neuraminidase inhibitor drugs oseltamivir and zanamivir. Other novel swine-origin influenza strains have also been detected recently in humans. See www.cdc.gov/flu/swineflu/ for the latest updates.
 - **Enhanced surveillance for S-OtrH3N2 in humans.** Orange County Public Health distributed information to providers outlining the following enhanced surveillance activities starting last week:
 - Sentinel providers:
 - Increase submission of specimens on patients, especially children, meeting the ILI definition (fever of 100°F or higher accompanied by a cough, sore throat, or both) for testing for influenza;
 - Continue to report ILI weekly;
 - Report to Public Health (714-834-8180) immediately with any outbreaks or clusters of ILI or any deaths in patients with ILI.
 - Emergency Departments, Intensive Care Units, Urgent Cares, Outpatient Clinics, Infection Prevention Departments:
 - Test patients, especially children (≤18 years of age), meeting the ILI definition for influenza;
 - Report to Public Health immediately with any outbreaks or clusters of ILI, any deaths in patients with ILI, and any critically ill patients (admitted to intensive care) < 65 years of age with suspect influenza.
 - Laboratories: Save influenza-positive specimens for further characterization at the Orange County Public Health Laboratory.
- For more information, see www.ochealthinfo.com/epi/flu/surv.**
- **National Vaccine Advisory Committee (NVAC) seeks public comments on health care personnel (HCP) influenza vaccination strategies.** The Healthy People 2020 goal for HCP influenza vaccination is 90%, but according to the latest CDC estimates, the current rate is 63%. To review the guidance and submit comments, go to www.federalregister.gov/ and search for “Influenza Vaccination”.
 - **CDPH updates “[Recommendations for the Prevention and Control of Influenza in California Long-Term Care Facilities](http://www.cdph.ca.gov/hai)”, available at www.cdph.ca.gov/hai.**



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



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

Influenza activity is increasing in Orange County. It's not too late to vaccinate! Influenza vaccine is available throughout the County. For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.



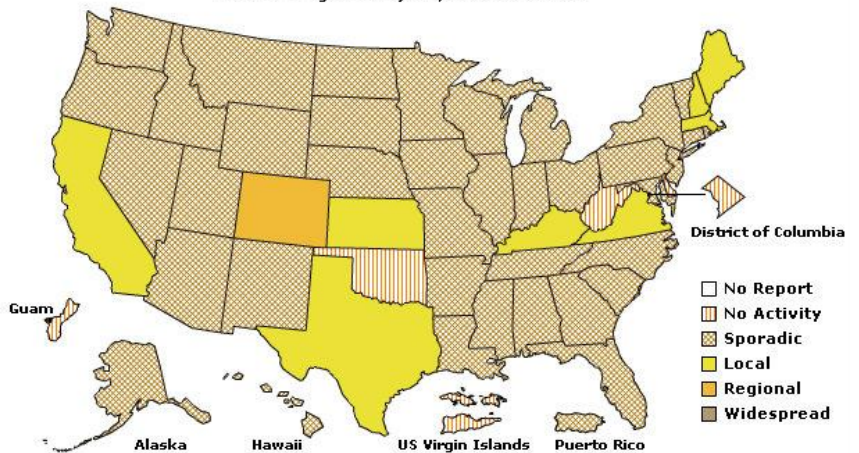
● **Seasonal Influenza - Orange County:**

- Orange County has received its first reported case of severe influenza (ICU admissions or deaths) in persons < 65 years of age. The patient is less than 18 years of age and has underlying medical conditions putting him/her at increased risk for influenza-related complications, but has since recovered and was discharged home.
- Orange County has received 20 reports of influenza thus far this season (15 A, four B, and one A/B unspecified); over half of these reports have been received in the previous two weeks. Of the subtypes identified, seven were seasonal influenza A/H3 and four were 2009 A/H1.
- Visits to sentinel providers for influenza-like illness (ILI) remain low at 2.1%.

● **Seasonal Influenza – California and United States:**

- Influenza activity is “local” in California and low overall in the U.S. In Week 2, CDPH received the first report of a pediatric influenza-associated fatality this season. A total of three deaths have been reported in persons 0-64 years of age.
- Fourteen specimens from California residents have been strain-typed this season; all but one matched with components of the 2011-12 influenza vaccine for the Northern Hemisphere.
- So far this season, all isolates tested by the CDC have been susceptible to oseltamivir (Tamiflu®) and zanamivir (Relenza®). See www.cdc.gov/flu for updates.

A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*
Week Ending January 14, 2012- Week 2



*This map indicates geographic spread and does not measure the severity of influenza activity.

- **Statin use may be associated with reduced mortality in patients hospitalized with influenza.** Data from the CDC Emerging Infections Program was used to analyze 30-day mortality in 3,043 patients hospitalized with laboratory-confirmed influenza in 10 states during the 2007-08 influenza season. Statin use prior to or during hospitalization was associated with a 41% reduction in mortality [odds ratio, 0.59 (95% confidence interval, 0.38–0.92)], after adjusting for other variables such as age, underlying medical conditions, antiviral use and influenza vaccination. The authors concluded that statins may have anti-inflammatory and immunomodulatory effects that could reduce the risk of mortality from influenza. Although the study has several limitations, the findings add to data from previously reported studies on statins suggesting further research in this area may be promising. See *J Infect Dis* 2012; 205(1):13-19 available at <http://jid.oxfordjournals.org>.
- **Investigators describe lessons learned from an influenza outbreak in a residential facility for children and young adults with neurologic and neurodevelopmental conditions.** Among the 130 residents, 76 had acute onset of respiratory illness, with 13 severely ill of whom 10 were hospitalized and 7 died. Clinicians should be aware that patients with severe neurologic or neurodevelopmental conditions might have only subtle deviations from their baseline medical status and may be unable to communicate their symptoms. Recommendations include prompt testing, early and aggressive antiviral treatment, and chemoprophylaxis of all residents of long-term care facilities regardless of vaccination status. See 1/6/2012 issue of MMWR, available at www.cdc.gov/mmwr.

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



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

Flu activity is increasing in Orange County and is widespread in California. It's not too late to vaccinate! **Flu season often continues through May.** For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.



- **Influenza Update - Orange County:**

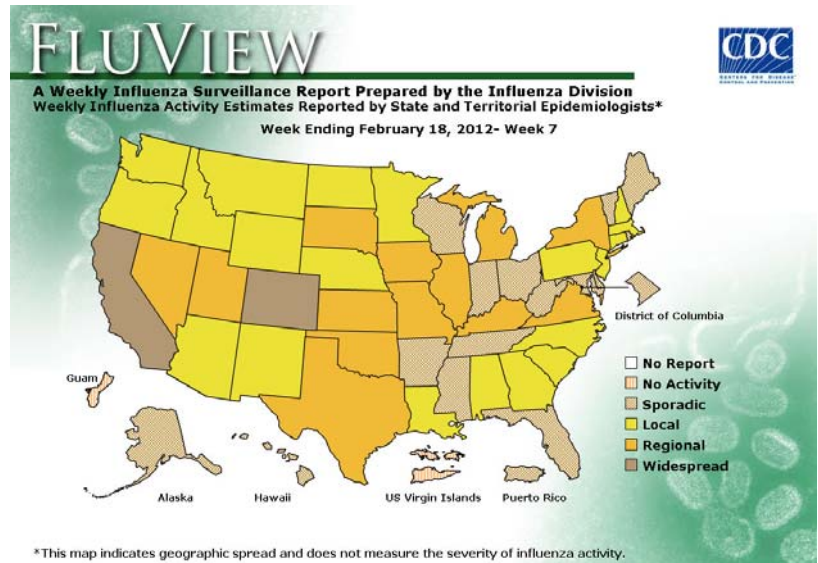
- Orange County has received a total of 110 influenza reports (101 influenza A, 7 influenza B, and 2 A/B- unspecified). Of the 63 subtyped viruses, 38 (60%) were seasonal influenza A/H3 and 25 (40%) were 2009 A/H1. There have been 3 severe pediatric (ICU) cases reported so far this season.

- Visits to sentinel providers for ILI remain low at 1.9%.

- **Influenza Update – California and U.S.:**

- During Week 7, two states reported widespread flu activity, including CA.

- Twenty-seven specimens from California residents have been strain-typed this season; all but four influenza B strains matched components of the 2011-12 influenza vaccine for the Northern Hemisphere. Six influenza-associated deaths in persons less than 65 years of age have been reported.
- So far this season, all isolates tested have been susceptible to oseltamivir (Tamiflu®) and zanamivir (Relenza®); however, rare sporadic cases of oseltamivir resistant 2009 H1N1 and H3N2 viruses have been detected worldwide. Antiviral treatment is recommended as early as possible for patients with confirmed or suspected influenza who are at increased risk for influenza-related complications or who have severe, complicated, or progressive illness and/or require hospitalization. Additional information on treatment and chemoprophylaxis is available at (<http://www.cdc.gov/flu/antivirals/index.htm>).



*This map indicates geographic spread and does not measure the severity of influenza activity.

- **The National Vaccine Advisory Committee (NVAC) to the US Department of Health and Human Services approves recommendations designed to increase flu vaccination among healthcare workers.** The five-part recommendation is presented in a tiered approach and urges healthcare employers to strongly consider mandatory flu vaccination policies if they fall short of the Healthy People 2020 goal of 90% immunization coverage for healthcare workers. To view the report, visit: http://www.hhs.gov/nvpo/nvac/subgroups/healthcare_personnel_influenza_vacc_subgroup.html

- **Autopsy study shows influenza B infections may be more severe than originally thought.** The CDC evaluated autopsy tissue samples from 45 fatal cases of influenza B infection. Seventeen (38%) had evidence of bacterial pneumonia, 13 with *Staphylococcus aureus*, of which seven were methicillin resistant. Myocardial injury was seen in 20 (69%) of 29 cases with available cardiac tissue samples. Of the 35 patients with available information, most (69%) died within 4 days of illness onset, more rapidly than often seen with several other flu viruses, including 2009 H1N1 and seasonal H3N2. See 1/30/12 edition of the *Journal of Infectious Diseases* available at <http://jid.oxfordjournals.org/>.

- **The World Health Organization recommends changing two strains for the 2012-13 season influenza vaccine in the Northern Hemisphere.** Based on circulating strains and their spread, WHO has recommended that the A/H3N2 and B components of the vaccine be changed to A/Victoria/361/2011 and B/Wisconsin/1/2010 (B/Yamagata lineage), respectively, but the H1N1 component (A/California/7/2009 (H1N1) pdm09) remain the same. This recommendation will need FDA approval before the final decision on composition of the U.S. vaccine. See <http://www.cdc.gov/flu/about/qa/vaccine-selection.htm>.

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



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

Flu activity remains widespread in California. It's not too late to vaccinate! For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.

• **Influenza Update - Orange County:**

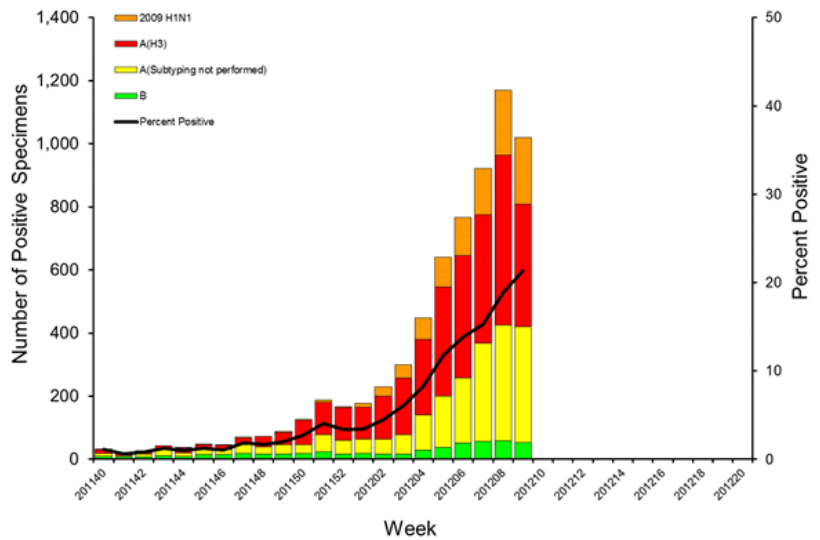
- Orange County has received a total of 254 influenza reports (237 influenza A, 14 influenza B, and 3 A/B-unspecified); of the viruses subtyped, 84 (60%) were seasonal influenza A/H3 and 57 (40%) were 2009 A/H1. There have been 8 influenza-associated ICU admissions reported so far this season, 7 among children less than 18 years.
- Visits to sentinel providers for influenza-like illness remain low at 1.9%.



• **Influenza Update – California and U.S.:**

- The percent of specimens testing positive for influenza continues to increase nationally (see graph at right). During Week 9, nine states reported widespread flu activity, including California.

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2011-12



- Of the 612 specimens strain-typed this season by the CDC, 480 (98% H1N1, 78% H3N2, and 46% B) matched with components of the 2011-12 influenza vaccine for the Northern Hemisphere.
- So far this season, only one (out of 683 specimens tested) has been resistant to oseltamivir (Tamiflu ®) and all are susceptible to zanamivir (Relenza ®).
- Influenza-associated hospitalizations reported to the Influenza Surveillance Network (FluSurv-NET) have increased 36% in the last week. A total of 593 laboratory-confirmed influenza-associated hospitalizations from over 80 counties participating in the program have been reported this season. Among hospitalized cases, 88% were influenza A (75% of which were H3N2), 10% were B and 2% were unknown type. The most commonly reported underlying medical conditions among adults were chronic lung diseases, obesity and metabolic disorders. The most commonly reported underlying medical conditions in children were chronic lung diseases, asthma and neurologic disorders. Half of hospitalized children had no identified underlying medical conditions. FluSurv-NET is not nationally representative and most likely underestimates the actual number of influenza-associated hospitalizations. For updates, see <http://www.cdc.gov/flu/weekly/>

- **The US Food and Drug Administration (FDA) approves first quadrivalent influenza vaccine.** The vaccine developed by MedImmune is an inhaled live attenuated influenza vaccine (FluMist Quadrivalent) approved for use in healthy persons 2 through 49 years of age. MedImmune plans to have the vaccine available for the 2013-14 flu season, see <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm294057.htm>.
- **FDA follows WHO recommendations for 2012-13 Northern Hemisphere seasonal influenza vaccine.** The A/H3N2 and B components of the vaccine will be changed to A/Victoria/361/2011 and B/Wisconsin/1/2010 (B/Yamagata lineage), respectively. The H1N1 component of the vaccine will remain the same, A/California/7/2009 (H1N1) pdm09.
- **Meta-analysis of rapid influenza diagnostic tests (RIDTs) finds limitations.** The review included 159 studies evaluating 26 RIDTs. The pooled sensitivity and specificity were 62% and 98%. Tests were more accurate in children than adults and were better at detecting influenza A than influenza B. The study was published Feb 27 in the *Annals of Internal Medicine*: www.annals.org.

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



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

Flu activity continues to increase in Orange County. We expect influenza activity to continue for at least the next several weeks. It's still not too late to vaccinate! For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.

Influenza Update - Orange County:

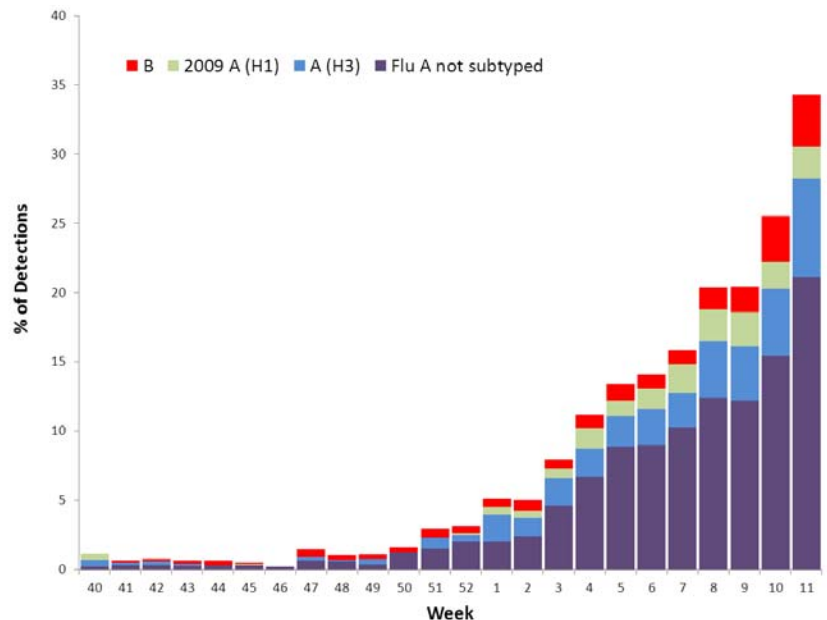
- Influenza reports continue to increase in Orange County. Types/subtypes identified include influenza A (95%) [2009 A/H1 (37%) / H3 (63%)] and influenza B (5%). There have been 9 influenza-associated ICU admissions reported so far this season, 8 among children less than 18 years of age.
- Visits to sentinel providers for influenza-like illness remain low at 1.1%. However, several reports of increased febrile respiratory illness among school children and residential care facilities have been received. Please report outbreaks to 714-834-8180 and forward specimens to OCPHL.



Influenza Update – California and U.S.:

- The percentage of specimens reported by participating laboratories as positive for influenza in California continued on an upward trend (see graph at right). During Week 11, 20 states reported widespread flu activity, including California.

Percentage of Influenza Types and Subtypes in Respiratory Laboratory Network and Sentinel Laboratories, CA 2011–2012



Influenza – Testing & Treatment:

- **Testing:** A negative rapid influenza diagnostic test (RIDT) does not rule out influenza infection. Do not rely on negative RIDT results for clinical or infection control decisions. Antiviral treatment should be considered based on clinical signs, symptoms, and history.
- Polymerase chain reaction (PCR) or viral culture is recommended to confirm RIDT or indirect/direct fluorescent antibody results, distinguish between A or B, and provide subtype and strain information. This is especially important in severe cases, in patients who were vaccinated this influenza season, in those who had recent close exposure to pigs, poultry, or other animals, and in those patients with history of recent travel.
- **Treatment:** Antiviral treatment with oseltamivir (Tamiflu®) or zanamivir (Relenza®) is recommended as early as possible for patients with confirmed or suspected influenza who have severe, complicated, or progressive illness; who require hospitalization; or who are at greater risk for influenza-related complications. Recommendations for treatment and chemoprophylaxis for patients with confirmed or suspected influenza virus infection with antiviral agents are available at (<http://www.cdc.gov/flu/antivirals/index.htm>).
- **Annual vaccination** is recommended for everyone 6 months of age and older. See ACIP recommendations at <http://www.cdc.gov/flu/professionals/acip/index.htm>.

Hospitals/laboratories

- Please continue to submit positive influenza specimens to OCPHL.
- Please report severe cases of influenza (deaths/ICU admissions) in persons less than 65 years of age to OC Epidemiology (fax 714-834-8196).

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



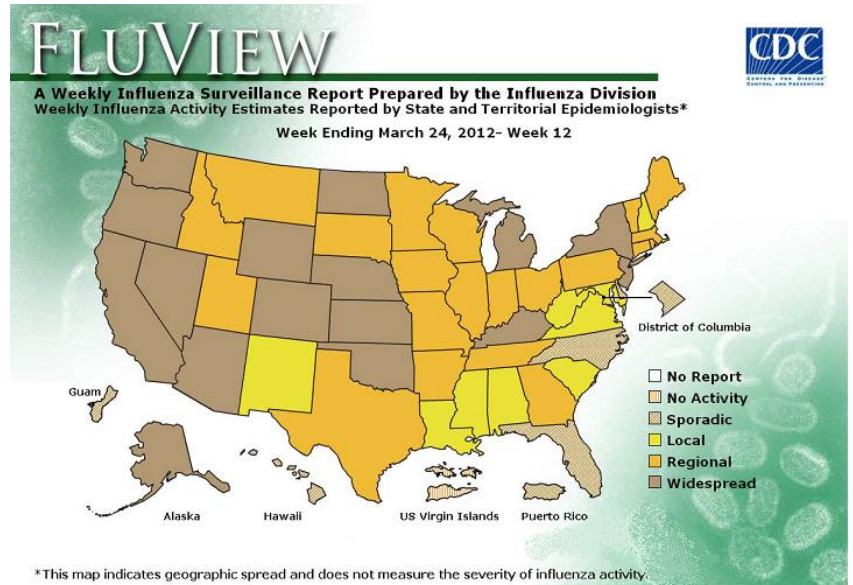
Orange County Health Care Agency, Epidemiology & Assessment, 1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Influenza activity is still elevated in Orange County and is expected to continue for at least the next several weeks. Consider influenza in your patients with fever and/or respiratory symptoms. All patients with respiratory infections should be handled using Respiratory Hygiene/Cough Etiquette (www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm).



• Influenza Update - Orange County:

- It's still not too late to vaccinate! For publicly funded vaccine clinics, see www.ohealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.
- This week Orange County has received two new reports of severe influenza (resulting in admission to intensive care) in persons less than 65 years of age; eleven reports have been received so far this season (with nine among children less than 18 years).
- Influenza continues to circulate at elevated levels; however, the number of influenza reports received decreased in Week 12. Types/subtypes identified include influenza A (95%) [2009 A/H1 (36%) / H3 (65%)] and influenza B (5%).



• Influenza Update – California and U.S.:

- During Week 12, sixteen states reported widespread geographic activity (down from 20 in Week 11), including California; 21 states reported regional influenza activity (see map above). Influenza activity remains relatively low nationally. For CDC updates: www.cdc.gov/flu/.
- For more information about influenza diagnostics, antivirals and infection control in health care facilities, see www.cdc.gov/flu/professionals.
- For international influenza activity, visit: <http://www.cdc.gov/flu/international/>.
- For CA flu activity, [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx)

• **Infants who are premature or with underlying medical conditions appear to be at increased risk for developing severe influenza 2009 H1N1 infection:** The California Department of Public Health reviewed medical records for 77 infants hospitalized in the ICU with laboratory-confirmed 2009 H1N1 between 4/23/09 and 5/1/10. The median age was 109 days (range 1-361) and 73% were less than 6 months of age. Sixty percent of the infants had at least one reported underlying medical condition and 35% had a gestational age of 36 weeks or less. Seven (9%) infants died and 35 (45%) required mechanical ventilation. Five infants acquired infection during their birth hospitalization. The report emphasizes the need for (1) vaccination of contacts of infants less than 6 months of age who are too young to be immunized and for whom antivirals are not FDA-approved; (2) maintaining a high suspicion for influenza infection in infants when influenza is circulating; and (3) implementation of infection control measures in hospital settings to reduce nosocomial transmission. See *Pediatr Infect Dis* 2012;31(3):e52-e55, available at <http://journals.lww.com/pidj>.

• **Two studies confirm link between narcolepsy in Finnish children and the adjuvanted 2009 H1N1 pandemic vaccine Pandemrix.** This vaccine was not used in the U.S.; no adjuvanted vaccines are licensed in the U.S. For details on the studies, see *PLoS One* 3/28/2012 issue at www.plosone.org.



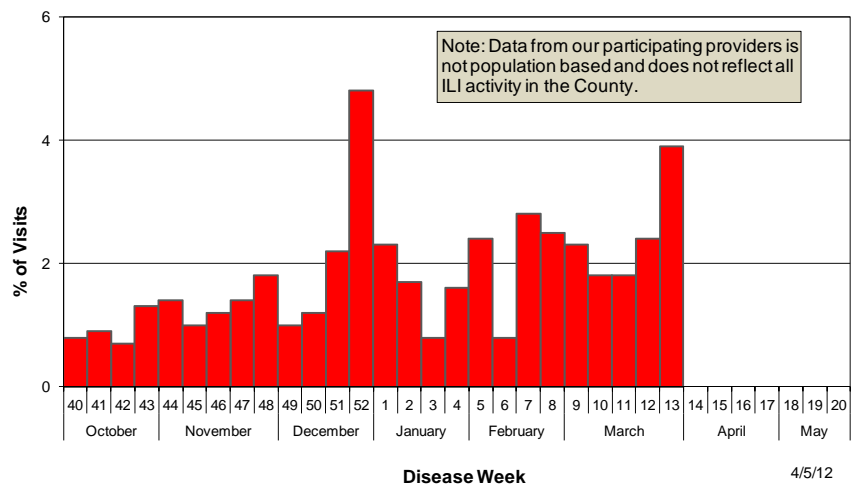
Orange County Health Care Agency, Epidemiology & Assessment, 1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Influenza activity is still elevated in Orange County. Consider influenza in your patients with fever and/or respiratory symptoms. All patients with respiratory infections should be handled using Respiratory Hygiene/Cough Etiquette (www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm).

• **Influenza Update - Orange County:**

- It's still not too late to vaccinate! For publicly funded vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.
- Orange County received two new reports of severe influenza (resulting in admission to intensive care) in persons less than 65 years of age; 13 reports have been received so far this season (nine among children less than 18 years).
- Influenza continues to circulate at elevated levels in Orange County. The majority of reports are influenza A, predominantly H3, but influenza A H1 and B have also been reported. The percent of visits to sentinel providers for influenza-like illnesses (ILI) has increased for the second week and is currently at 3.9% (see graph).

Percentage of Visits to Orange County Sentinel Providers for Influenza-like Illness (ILI), 2011-2012 Influenza Season



• **Influenza Update - California & U.S.:**

- During week 13 (March 25-31), influenza activity was elevated in some areas of the United States, but declined overall nationally and in most regions. California continues to report widespread influenza activity. For CDC updates: www.cdc.gov/flu/. For CA updates: [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

- **Studies continue to evaluate role of airborne particles in transmission of influenza.** A recent study led by the National Institute of Occupational Safety and Health used mechanized mannequins to simulate coughing and breathing humans in a patient examination room to look at transmission of influenza viruses. Tightly sealed N95 respirators provided the best protection, blocking 99.8% of the viruses, while poorly fitted respirators and loose-fitting masks afforded much less protection, blocking 69.9% and 68.9% of viruses, respectively. According to the authors, unsealed masks had fit factors similar to those of masks in real-world use. Additional research from large controlled studies is needed to determine the best protection against influenza in healthcare settings. See *Clinical Infectious Diseases*: <http://cid.oxfordjournals.org/content/early/2012/03/24/cid.cis237.abstract>.

- **Current CDC guidance on the use of masks** to prevent seasonal flu transmission recommends healthcare personnel wear a surgical or procedure mask when in close contact (within 3 feet) of a patient who has symptoms of a respiratory infection: For more information, see <http://www.cdc.gov/flu/professionals/infectioncontrol/maskguidance.htm>

- **Evaluation of accuracy of Indirect Fluorescent Antibody (IFA) Assays and Rapid Influenza Diagnostic Tests (RIDT) compared to polymerase chain reaction (PCR) testing for 2009 H1N1 influenza in specimens submitted to the OCPHL:** Overall, approximately 30% of IFA tests and RIDTs submitted for PCR testing were falsely negative. Sensitivity of RIDTs varied greatly (45-84%) depending on age of patients and severity. A special thanks to sentinel providers, infection preventionists and hospital laboratory staff for their contributions to influenza surveillance in Orange County. To view the article, see: <http://dx.plos.org/10.1371/journal.pone.0033097>.



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



Eye on Influenza

April 13, 2012
Volume 8, Issue 10

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

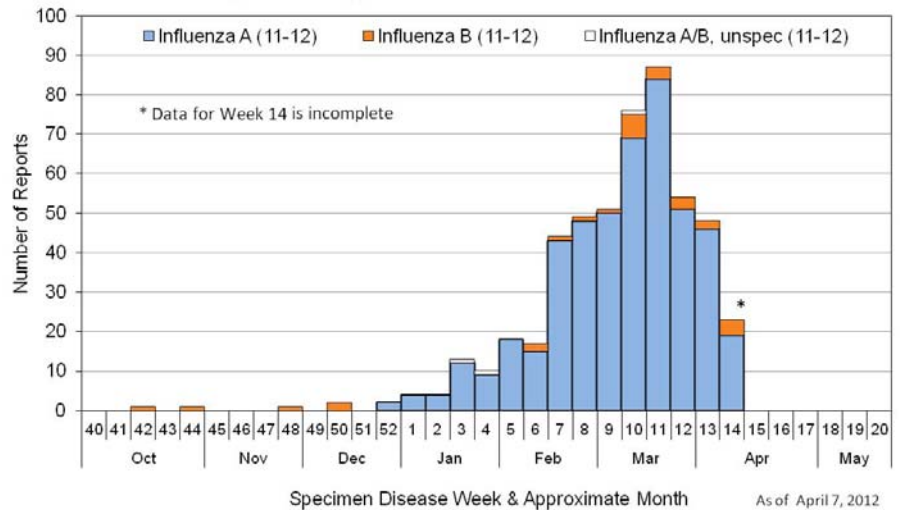
Influenza activity is still elevated in Orange County. Consider influenza in your patients with fever and/or respiratory symptoms. All patients with respiratory infections should be cared for using Respiratory Hygiene/Cough Etiquette (www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm).

- **Influenza Update - Orange County:**

- It's still not too late to vaccinate! For publicly funded influenza vaccine clinics, see www.ochealthinfo.com/flu. For retail locations, see the Flu Vaccine Finder at www.flu.gov.
- Orange County has received 14 reports of severe influenza (resulting in admission to intensive care) in persons less than 65 years of age so far this season (ten among children less than 18 years).
- Influenza detections have decreased from peak activity in week 11, though the virus continues to circulate at elevated levels in Orange County (see graph). The majority of reports are influenza A, predominantly H3, but influenza A H1 and B have also been reported. The percent of visits to sentinel providers for influenza-like illnesses (ILI) is currently at 3.6%.



**Reported Influenza Detections
Orange County, CA 2011 - 2012 Influenza Season**



****Note:** The number of reported cases does NOT correspond to the total number of cases occurring in OC as not all hospitals/labs participate, the surveillance programs are not population based, and testing may be influenced by many factors such as public interest. However, the trends in influenza activity are likely to be reflected accurately.

- **Influenza Update - California & U.S.:**

- During week 14 (ending April 7), flu activity declined nationwide. However, the percent of specimens testing positive for influenza remains above 20%. California continues to report widespread flu activity. CDC updates: www.cdc.gov/flu/. CA updates: [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

- **New case of novel H3N2 reported in Utah:** This case involved a child infected with swine-origin A H3N2v strain which includes the M (matrix) gene from the 2009 H1N1 virus, and is identical to the strain found in twelve cases from five states last year. The child had exposure to swine and recovered without hospitalization. All but one of the 13 A H3N2v infections have occurred in children and approximately half of the cases had a history of swine exposure. For more information, visit: <http://www.cdc.gov/flu/spotlights/h3n2v-variant-utah.htm>. A few other notes on novel H3N2:
 - The latest case of novel H3N2 was detected during routine surveillance. Characterization of circulating influenza viruses is important to detect novel strains and monitor for changes in epidemiology and virulence of flu viruses. Please continue to submit influenza-positive specimens to the Orange County Public Health Laboratory.
 - **Cross-protection against the H3N2v influenza A strain evaluated:** CDC researchers recently found that approximately one third of persons aged 10–49 years have cross-reactive antibodies that might provide some protection from H3N2v infection (4/13/2012 MMWR, at www.cdc.gov/mmwr). There was little or no cross-reactive antibody to H3N2v found among children under 10 years of age, suggesting that they are at increased risk of infection. Receipt of 2010-2011 seasonal flu vaccine boosted levels of H3N2v antibodies among adults (18–49 years) and older adults (≥65 years), but less than it raised antibody levels to vaccine-strain H3N2. Less than 10% of children 6-35 months of age generated protective antibody levels to H3N2v after flu vaccination.

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



Eye on Influenza

April 20, 2012
Volume 8, Issue 11

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

Influenza activity has decreased but influenza viruses continue to circulate in Orange County.

Orange County Influenza Update:

- Influenza detections continue to decline since peak activity in mid-March. The majority of reports are influenza A, predominantly H3, but influenza A, H1 and B have also been reported.
- Orange County has received one new report of severe influenza (resulting in admission to intensive care), for a total of 15 reports in persons less than 65 years of age (ten among children less than 18 years) this season. No deaths have been reported in persons less than 65 years of age.
- Last week the percent of visits to sentinel providers for influenza-like illness fell just below 1%, and is at or below baseline.

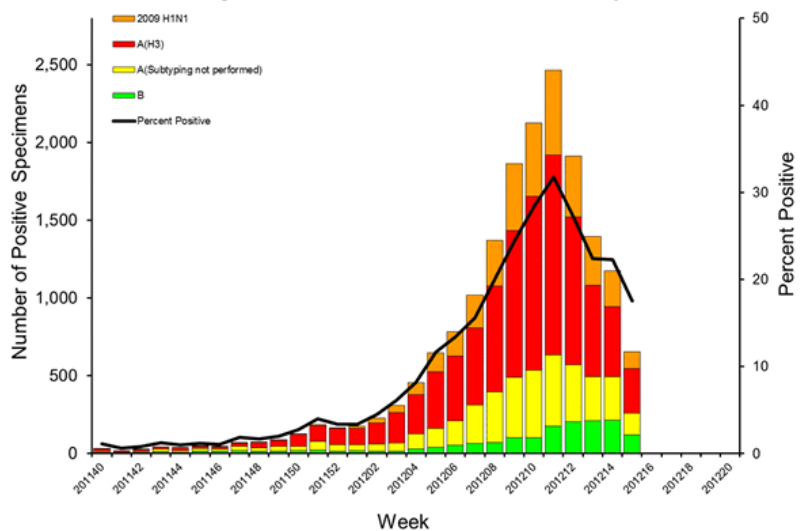
California & U.S. Influenza Update:

Influenza activity in California was downgraded to regional during week 15 (ending April 14). Widespread influenza activity was reported by six states (Alaska, Colorado, Montana, New York, Oregon, and Vermont). Influenza indicators have remained elevated in some areas of the United States, but declined in most areas in the last couple of weeks. Overall in the U.S., 17.5% of specimens tested last week were positive for influenza (graph at right). For CA updates:

[www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

For CDC updates: www.cdc.gov/flu/.

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2011-12

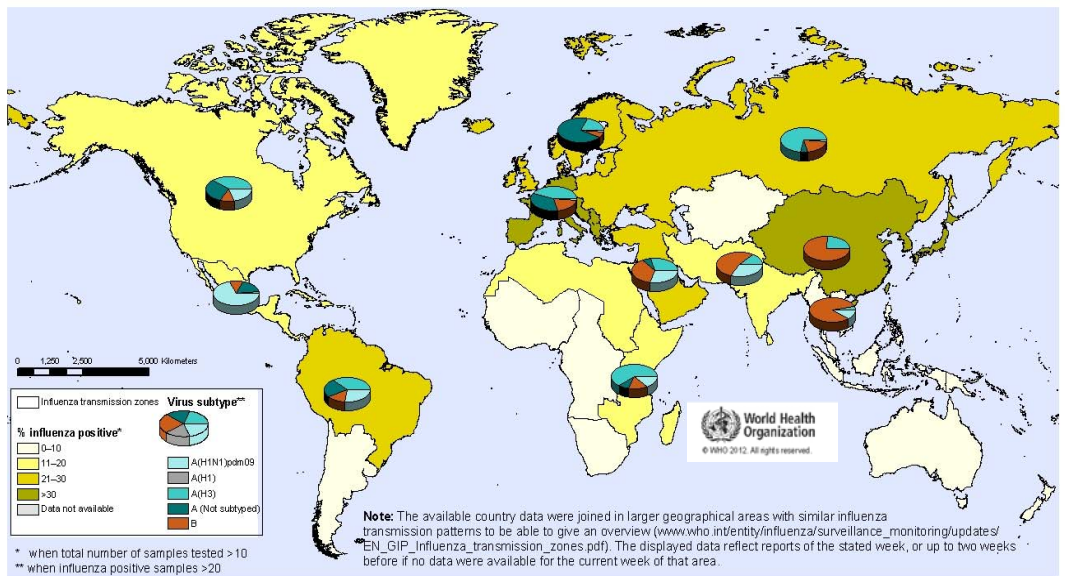


International Influenza Update - through 3/31 (map at right):

In most areas of the northern hemisphere temperate regions, influenza activity appears to have peaked and is declining. Although activity remains elevated across several regions in Canada, declining trends are being observed. Similarly, in Europe and northern Asia, nearly every country has now passed its peak of transmission and activity is declining. See www.who.int/influenza/surveillance_monitoring/updates/en/index.html.

Percentage of respiratory specimens that tested positive for influenza By influenza transmission zone

Status as of week 13
25 - 31 March 2012



Note: The available country data were joined in larger geographical areas with similar influenza transmission patterns to be able to give an overview (www.who.int/entity/influenza/surveillance_monitoring/updates/en_GIP_Influenza_transmission_zones.pdf). The displayed data reflect reports of the stated week, or up to two weeks before if no data were available for the current week of that area.

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



Eye on Influenza

April 30, 2012
Volume 8, Issue 12

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

Orange County has received its first report this season of an influenza-associated death in a person less than 65 years of age. Influenza is still circulating in Orange County. Continue to consider influenza in your patients with fever and/or respiratory symptoms, send appropriate specimens for testing, and start treatment as soon as possible in your patients at risk for complications or with severe disease.

• **Influenza Update:**

- Influenza continues to circulate at low levels in Orange County. The majority of reports are influenza A, predominantly H3. Flu A, H1 and B have also been reported.
- The first influenza-associated death this season in an Orange County resident was recently reported. The patient was an adult with underlying medical conditions that put them at increased risk for complications from influenza. In total 16 reports of severe influenza (resulting in admission to intensive care or death) in persons less than 65 years of age have been received this season. Ten reports have been among children less than 18 years.
- Antiviral treatment with oseltamivir (Tamiflu ®) or zanamivir (Relenza ®) is recommended as early as possible for patients with confirmed or suspected influenza who have severe, complicated, or progressive illness; who require hospitalization; or who are at greater risk for influenza-related complications (see table). Treatment should not be delayed pending diagnostic testing, and clinical decisions should not rely on results of rapid testing. For recommendations for testing, treatment and chemoprophylaxis for influenza, see www.cdc.gov/flu/professionals.
- CDC updates: www.cdc.gov/flu/. CA updates: [www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

Persons at increased risk for serious complications from influenza for whom antiviral treatment is recommended:

- Adults 65 years and older
- Children younger than 2 years old
- Persons with chronic medical conditions, such as:
 - Blood disorders (such as sickle cell disease)
 - Chronic lung disease (such as asthma, chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
 - Endocrine disorders (such as diabetes mellitus)
 - Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
 - Kidney disorders
 - Liver disorders
 - Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
 - Neurological and neurodevelopmental conditions (such as seizure disorder, cerebral palsy, severe developmental delay)
- Women who are pregnant or post-partum (within 2 weeks after delivery)
- Persons with morbid obesity [BMI ≥ 40]
- Persons with weakened immune systems
- American Indians and Alaska Natives
- Residents of nursing homes and other chronic care facilities.



- **Study suggests that antiviral treatment saved many lives in Mexico during the 2009 H1N1 pandemic:** Information on patients who sought treatment for influenza-like illness at a clinic or hospital from April through December 2009 was obtained from Mexico’s social security system, a health system covering 40% of the Mexican population. This included data on 117,818 patients, of which 27,437 were lab-confirmed H1N1 cases. After adjusting for age, gender, geographic region, and pandemic wave, investigators found that antiviral treatment reduced the risk of death for H1N1 patients by 48%. Delayed hospitalization was the strongest predictor of death for those with confirmed H1N1 influenza. See *BMC Infect Dis* 2012 Apr 20: <http://www.biomedcentral.com/content/pdf/1471-2334-12-97.pdf>.
- **Pregnant women recommended as the most important risk group for seasonal influenza vaccination.** According to preliminary recommendations released by the World Health Organization’s Strategic Advisory Group of Experts (SAGE), along with pregnant women, target populations for flu vaccination include in no particular order healthcare workers, children 6 to 59 months, the elderly, and those with high-risk conditions. See http://www.who.int/influenza/vaccines/SAGE_information/en/index.html.

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



Eye on Influenza

May 18, 2012
Volume 8, Issue 13

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

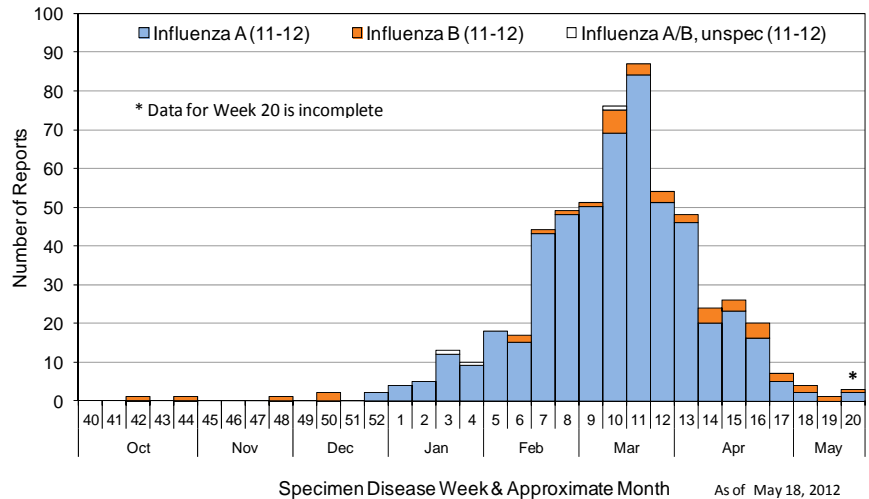
Influenza activity is low at this time and this is the final week of the regular 2011-2012 influenza surveillance season. This will be the last routine Eye on Influenza issue this season. Any updates to the season summary will be posted on our website.

Orange County 2011-2012 Influenza Season Summary: Influenza detections started to increase in January, peaked in mid-March, and tapered off in May (see graph). Peak influenza activity occurred later than in recent flu seasons, which were in February. The majority of reports were influenza A (92%), [H3 (67%), H1 (33%)] and B (8%) was also reported. Adenoviruses, RSV and parainfluenza also circulated during the 2011-2012 season.

- **Severe influenza cases** (resulting in admission to intensive care or death) in persons <65 years of age: There have been 18 severe cases, including one death, reported during the 2011-2012 season. Fifteen (83%) of the severe cases were among males. Eleven cases (61%) were among children. All severe pediatric ICU cases were under 10 years of age, with the majority (70%) of cases occurring in those under 5 years. Influenza A was detected in specimens collected from the majority (89%) of severe cases. Of the 12 flu viruses that were subtyped, 11 were A/H3 and 1 was 2009 H1N1. Two PICU patients tested positive for flu B viruses and one adult patient tested positive for both A and B.



**Reported Influenza Detections
Orange County, CA 2011 - 2012 Influenza Season**



****Note:** The number of reported cases does NOT correspond to the total number of cases occurring in OC as not all hospitals/labs participate, the surveillance programs are not population based, and testing may be influenced by many factors such as public interest. However, the trends in influenza activity are likely to be reflected accurately.

California & U.S. Influenza Update:

- For CDC updates: www.cdc.gov/flu/. During week 19, flu activity was low nationally, however, the percent of specimens testing positive for influenza remained above 10 percent, indicating that flu activity is ongoing. Tested viruses this season remain susceptible to the antiviral drugs oseltamivir and zanamivir with the exception of 16 2009 H1N1 viruses that were oseltamivir-resistant. Eleven of the 16 oseltamivir-resistant viruses detected were from Texas.
- For CA updates: [www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

Other Influenza News:

- **Study finds neurologic complications from 2009 H1N1 infections are more common in children and Asian/Pacific Islanders.** Researchers from the California Department of Public Health and the CDC looked at 2,069 severe or fatal cases of 2009 H1N1 reported in California from April through December 2009. Of these cases, 77 (3.7%) were classified as either having encephalopathy/encephalitis (n=29), seizures (n=44), meningitis (n=3), or other (n=1; Guillain-Barré syndrome). Most cases were in pediatric patients and Asian/Pacific Islanders appear to be over-represented compared with the California population. For details, see May 9 *Clin Infect Dis*: <http://cid.oxfordjournals.org/content/early/2012/05/04/cid.cis454.short?rss=1>.

A special thanks to our influenza surveillance partners for your contributions during the 2011-2012 influenza season. Year-round surveillance is important to detect novel viruses and outbreaks.

- Hospital/laboratories: Please continue to submit positive influenza specimens throughout the summer.
- ILI sentinel providers: Please continue to report weekly on ILI throughout the summer.

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



Eye on Influenza

August 9, 2012
Volume 8, Issue 14

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

New cases of swine-origin H3N2v influenza have been reported in the U.S., leading to the interim recommendations for the public and for health care providers from the CDC and CDPH. In addition, seasonal influenza activity is widespread in parts of the Southern Hemisphere.

Variant H3N2 Update:

- New human cases of variant influenza A H3N2 (H3N2v) have been reported in the U.S. Between 7/12 and 8/3/2012, 16 cases from three states (Hawaii, Indiana, and Ohio) were reported. Each of these 16 cases had contact with swine prior to their illness, with the majority of cases attending or exhibiting swine at agriculture fairs. As of 8/8/2012, 113 cases have been reported from Indiana and 30 from Ohio. Signs and symptoms of H3N2v infection are similar to that of seasonal influenza. This virus was first identified in July 2011 and contains the matrix (M) gene from the influenza A (H1N1)pdm09 virus which may confer increased transmissibility to and among humans, compared to other variant influenza strains. Thus far only limited human-to-human transmission has occurred. No H3N2v cases have been identified to date in California. Note: Flu viruses are not spread by eating properly handled or prepared pork or pork products.

Health care providers should:

- Consider influenza in patients with influenza-like illness (ILI) even in the summer months, especially in severely ill or fatal cases.
- Consider influenza A H3N2v in patients with ILI and recent swine exposure or contact with confirmed human cases and report suspect cases to OC Epidemiology at 714-834-8180.
- Report any respiratory outbreaks immediately to OC Epidemiology.
- Submit specimens for polymerase chain reaction (PCR) testing through Orange County Public Health on suspect H3N2v cases; testing is available on a case-by-case basis through OC Epidemiology. Rapid influenza diagnostic tests (RIDTs) may not detect H3N2v virus in respiratory specimens. A negative RIDT does not rule out influenza infection and a positive test for influenza A cannot differentiate between human and variant strains.
- Consider antiviral treatment with oseltamivir (Tamiflu®) or zanamivir (Relenza®) in patients with suspect or confirmed H3N2v infection. Treatment is most effective when started as soon as possible after illness onset.

Year-round surveillance is important to detect novel viruses and outbreaks.

- Hospital/laboratories: Continue to submit positive influenza specimens throughout the summer.
- ILI sentinel providers: Continue to report weekly on ILI throughout the summer and submit specimens.

Members of the public should:

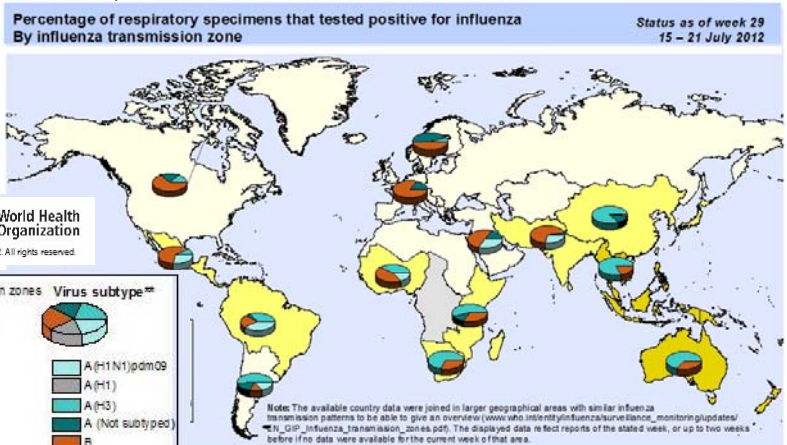
- Take precautions when visiting county fairs, including washing hands before and after exposure to animals and avoiding eating or drinking in animal areas.
- Consider avoiding exposure to pigs and swine barns if you are at high risk for influenza complications (e.g., children younger than 5 years, people 65 years and older, pregnant women, and people with certain chronic medical conditions).

For more information, see ochealthinfo.com/epi.

Seasonal Influenza Global Update:

- Influenza activity is increasing in the southern hemisphere where it is widespread in Australia and above baseline in New Zealand. Activity varies by country; for more information, see

http://www.who.int/influenza/surveillance_monitoring/updates/en/.



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



Eye on Influenza

August 21, 2012
Volume 8, Issue 15

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

Variant H3N2 influenza has spread to more states. Consider H3N2v infection in patients with influenza-like illness (ILI) and recent swine exposure or contact to ill persons with swine exposure.

Variant H3N2 Update

- **Human Case Surveillance:** More states have reported cases of H3N2v. From July 12 through August 16, 2012, a total of 224 cases have been reported in eight states (HI, IL, IN, MI, OH, PA, WV, and WI). So far during the current outbreaks, eight confirmed cases have been hospitalized; no deaths have been reported. All recently confirmed cases have reported direct or indirect exposure to pigs, primarily at agricultural fairs. However, limited human-to-human transmission of H3N2v was noted in 2011 and may reoccur.
- **Updated Interim Recommendations for Health Care Providers:** Clinicians evaluating patients with ILI and an epidemiological link to recent swine exposure should :
 - Obtain respiratory specimens and contact OC Epidemiology to arrange for testing. Clinicians should not rely on rapid influenza diagnostic tests (RIDTs) to rule out H3N2v infection due to their variable sensitivity in recent evaluations (<http://www.cdc.gov/mmwr/pdf/wk/mm61e0810.pdf>).
 - Notify OC Epidemiology immediately of any suspect cases or respiratory outbreaks.
 - Consider antiviral treatment as soon as possible, without waiting for laboratory results, especially in patients who are hospitalized, have severe illness, or are at [increased risk for complications of influenza](#). H3N2v viruses tested to date are susceptible to the antiviral drugs oseltamivir (Tamiflu®) and zanamivir (Relenza®). Antiviral recommendations for H3N2v infection are based upon those for seasonal influenza: <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.
 - See the full report for more information: **Interim Information for Clinicians about Human Infections with H3N2v Virus:** <http://www.cdc.gov/flu/swineflu/h3n2v-clinician.htm>
- **Interim Guidance for Schools:** <http://www.cdc.gov/flu/swineflu/h3n2v-schools.htm>
 - Ask students with ILI about exposure to pigs, or contact with ill persons who had exposure to pigs.
 - Notify OC Epidemiology immediately of any suspect cases or respiratory outbreaks.
 - Refer students with flu-like illness at [high risk for complications from flu](#) to their health care provider, regardless of whether they have recently been near pigs.
 - Encourage sick students and staff to stay home.
- **Recommendations for Organizers of Fairs or Other Public Settings with Animals:** See <http://www.cdc.gov/flu/swineflu/h3n2v-fairs-planning.htm>.
- **Serologic study suggests that children and middle-aged adults are most vulnerable to H3N2v.** Canadian researchers looked for cross-reactive antibodies to H3N2v, using 1,116 serum samples that had been collected in 2010 from people across the age spectrum. Additionally, they tested sera collected before and after receipt of seasonal flu vaccine. Children and middle-aged adults have little or no immunity to H3N2v, while about half of those 14 to 40 years of age have some degree of immunity. Seasonal flu vaccines used during the past two seasons did not improve participants' ability to mount an immune response to H3N2v. The full report can be found in the *Journal of Infectious Diseases*: <http://jid.oxfordjournals.org/content/early/2012/08/07/infdis.jis500.full.pdf>

Please report patients with ILI and recent swine exposure or contact to ill persons with swine exposure to Epidemiology. All reported cases are fully investigated to limit further exposure of humans to any infected animals that are identified and to monitor for sustained human-to-human transmission of the virus.

Seasonal Influenza Update

- **FDA completes approval of flu vaccines for the 2012-13 season.** The strains to be included are A/California/7/2009 (H1N1); A/Victoria/361/2011 (H3N2); and B/Wisconsin/1/2010. Six manufacturers are licensed in the U.S. and 149 million doses are expected.
- **CDC Advisory Committee for Immunization Practices updates recommendations for prevention and control of influenza, 2012-13.** See August 17, 2012 edition of MMWR at www.cdc.gov/mmwr.

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