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Eye on Influenza

November 9, 2012
Volume 9, Issue 1

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

Now is the time to vaccinate! Flu activity is expected to increase in the coming weeks to months.



Influenza Update: Orange County expects its first laboratory-confirmed, locally-acquired case of influenza at any time. Low levels of influenza are currently circulating in California. During Week 44 (ending Nov 3) influenza activity was sporadic in the District of Columbia and 33 states, including California, local in eight states, and regional in one state.

Influenza Vaccination Highlights: 2012-13 Season

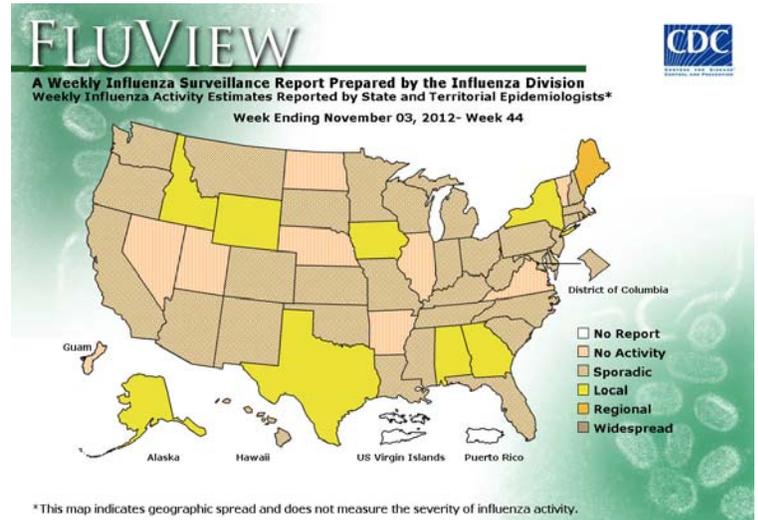
- Annual flu vaccination of all persons aged ≥ 6 months continues to be recommended.
- Children aged 6 months through 8 years require 2 doses of influenza vaccine (administered a minimum of 4 weeks apart) during their first season of vaccination to optimize immune response. See the 8/17/2012 *MMWR* below for more detailed recommendations and an updated dosing algorithm.
- Persons with a history of egg allergy who have experienced only hives after exposure to egg should receive influenza vaccine, provided additional safety measures are followed (see *MMWR* below).

For more guidance on the use of influenza vaccines, including vaccine products and dosing, see “Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP) – United States, 2012-13 Influenza Season” available in the 8/17/12 *MMWR* at www.cdc.gov/mmwr. For updated vaccine safety information, visit www.cdc.gov/flu/professionals/vaccination/vaccine_safety.htm.

Other Influenza News:

- **Influenza Rapid Test Malfunction:** CDC is aware of five laboratories in three different states that have experienced false influenza B positive results with the Quidel Sofia Influenza A&B test. Quidel is aware of the problem and is working to resolve the issue. If you identify and confirm false positive results with this test or with any other test, please contact the company with the lot number(s) and expiration dates of the product.
- **A recent evaluation of 11 commercially available rapid influenza diagnostic tests (RIDTs)** found a narrow range of virus concentrations that can be detected by the majority of RIDTs. Clinicians should follow best practices for specimen collection and timing to improve test utility and use caution when interpreting results; see 11/2/2012 *MMWR* issue at www.cdc.gov/mmwr.
- **Influenza Vaccination Coverage among Healthcare Personnel (HCP):** Survey findings highlight the need for widespread implementation of comprehensive healthcare personnel (HCP) influenza vaccination strategies, particularly among those who are not physicians or nurses and who work in long-term care facilities (LTCFs). Overall, 66.9% of HCP reported having had an influenza vaccination for the 2011-2012 season. Coverage was 85.6% among physicians, 77.9% among nurses, and 62.8% among all other HCP. Vaccination rates were highest among HCP working in hospitals (76.9%) and lowest among those working in LTCFs (52.4%). For more information, see 9/28/12 *MMWR* issue at www.cdc.gov/mmwr.
- **Influenza Vaccination Coverage among Pregnant Women:** Pregnant women who were offered flu vaccination in addition to a healthcare provider recommendation reported higher vaccination coverage (73.6%) than women who received only a recommendation (47.9%). Overall, 47.0% reported that they had received influenza vaccination during the 2011-2012 season. Influenza vaccination is recommended for all women who are or will be pregnant during the influenza season, regardless of trimester. See 9/28/12 *MMWR* issue at www.cdc.gov/mmwr.

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Eye on Influenza

November 19, 2012
Volume 9, Issue 2

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 <http://flushot.healthmap.org/>

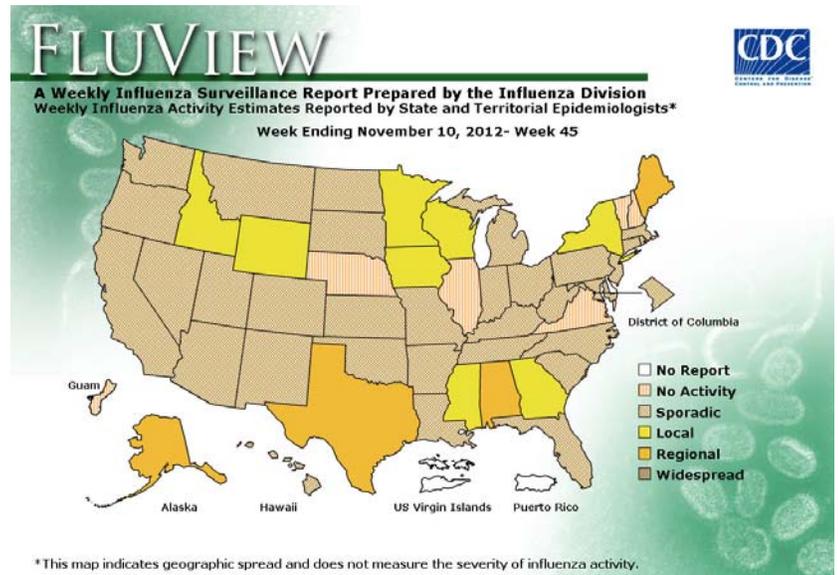
• **Influenza - Orange County:**

- **The first confirmed cases of locally-acquired influenza this season were recently reported.** Thus far, influenza A/H3 and influenza B have been identified in the County, in addition to other respiratory viruses causing influenza-like illness (ILI) such as adenovirus, parainfluenza, and respiratory syncytial virus. Visits to sentinel physicians for ILI remain low.
- **Reminder:** Influenza-associated deaths in persons 0 to 64 years of age are reportable to Public Health by law by health care providers (Title 17, California Code of Regulations, Section 2500). In addition, we request reporting of influenza in persons 0 to 64 year requiring intensive care. Your reports help to monitor the severity of the influenza season and identify risk factors for severe illness. Fax reports to OC Epidemiology at 714-834-8196.

• **Influenza – California and United States**

- In California, influenza activity remained sporadic during week 45 (ending Nov 10). To date, 39 specimens (1.2%) submitted to Respiratory Laboratory Network have been positive for influenza: 12 (30.8%) influenza B and 27 (69.2%) influenza A. Four specimens have been subtyped; all were A/H3.

- In the United States, 7.5% of specimens were positive for influenza during week 45. The geographic spread of influenza in 4 states was reported as regional; 8 states reported local activity; the District of Columbia and 32 states reported sporadic activity (see map). Most of the isolates that have been characterized this season have been well matched to this year's vaccine. However, Victoria lineage influenza B viruses have been identified, which are not a component of the 2012-13 influenza vaccine.



- **CDC 2012-2013 Guidance for Use of Antivirals:** Antiviral treatment with oseltamivir (Tamiflu ®) or zanamivir (Relenza ®) is recommended as early as possible, for any patient with confirmed or suspected influenza who
 - is hospitalized;
 - has severe, complicated, or progressive illness; or
 - is at higher risk for influenza complications (see full report below).

Treatment should not be delayed pending diagnostic testing, and clinical decisions should not rely on rapid test results. While flu vaccination is the best way to prevent influenza, a history of vaccination does not rule out the possibility of infection in patients with compatible signs and symptoms. For complete recommendations, see <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

- **Find CDC's latest recommendations and influenza activity updates on your iPad.** A new CDC influenza application is available for clinicians and other healthcare professionals. Highlight, take notes, and bookmark content as well as share information with others through social media. Visit <http://www.cdc.gov/flu/apps/cdc-influenza-hep.html>.

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Influenza is on the rise! 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 <http://flushot.healthmap.org/>

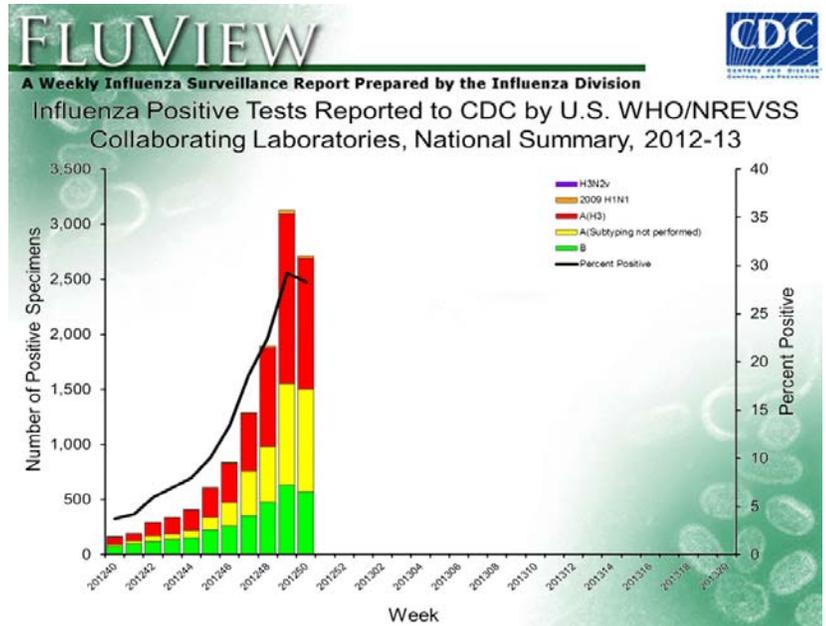


Influenza - Orange County:

- **Flu Activity:** The first confirmed case of severe influenza this season was reported last week. This case is a child with influenza B who had an underlying condition that may have increased the risk for complications from influenza. The patient has recovered and was discharged home. Influenza detections in Orange County remain low but have been increasing in recent weeks, with flu A/H3 and B being the predominant types so far this season. Visits to sentinel physicians for influenza-like illness (ILI) remain low.
- **Disease Reporting:** Please report the following to OC Epidemiology by phone or fax:
 - All Health Care Providers:
 - Severe influenza: deaths in persons 0 to 64 years of age (mandatory reporting) and influenza in persons 0 to 64 year requiring intensive care (voluntary reporting).
 - Respiratory outbreaks with or without know etiology (mandatory reporting)\Suspect cases of novel influenza (mandatory reporting).
 - Sentinel Providers: Report weekly on number of patients seen with ILI and submit specimens.
 - Influenza Surveillance Project Hospital Laboratories: Submit reports and specimens on influenza-positive patients.

Influenza – California and United States:

- In California, influenza activity remained sporadic during Week 50 (ending Dec 15). The number of influenza detections remained low, with 3.3% of submitted specimens testing positive for flu during Week 50. The proportion of respiratory syncytial virus (RSV) detections increased in Week 50 to 22.1% (from 16.4% in Week 49). Visits to sentinel providers for ILI remain below baseline levels.
- Flu activity continues to increase across the United States, with high levels of activity concentrated in the south central and southeastern regions. During Week 50, 28.3% of specimens were positive for influenza and the percent of ILI visits was above the national baseline.



- **FDA expands oseltamivir’s (Tamiflu®) use to treat children younger than 1 year:** Oseltamivir is now approved to treat children as young as 2 weeks old who have shown symptoms of flu for no longer than two days. Dosing for children younger than 1 year must be calculated based on exact weight and requires a different dispenser than what is currently co-packaged with the medication. Oseltamivir is not approved for use for prophylaxis in this age group. For more information, see: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm333205.htm>

- **FDA approves egg-free flu vaccine:** The new vaccine, Flucelvax, is the first in U.S. to be produced using cultured mammalian cells instead of fertilized chicken eggs and is approved for adults 18 years and older. Cell culture is another alternative to the egg-based influenza vaccine technology and has the potential benefit of faster start-up time for vaccine production during a pandemic. See: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm328982.htm>.

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Flu activity is rapidly increasing in Orange County. It's not too late to vaccinate. Consider influenza in your patients with fever and/or respiratory symptoms. All patients with respiratory infections should be handled using Respiratory Hygiene/Cough Etiquette

(<http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>)

- **Prevention of Influenza in Healthcare Facilities:** As flu activity increases across the United States, some healthcare facilities are starting to see a sharp increase in the number of patients with influenza-like symptoms. Guidance for reducing influenza transmission in your facility is available on the CDC's website at <http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>. Key recommendations include:
 - **Administration of influenza vaccine:** Annual vaccination is the most important measure to prevent seasonal influenza. Implementing proven approaches can greatly increase vaccination rates of Healthcare Personnel (HCP) and is a critical step in preventing healthcare transmission of influenza.
 - **Implementation of steps to minimize potential exposures and enforce respiratory and hygiene and cough etiquette.** Examples include: (1) Screening and triage of symptomatic patients; (2) posting visual alerts at entrances to instruct patients and visitors to inform healthcare personnel of respiratory symptoms; (3) separating persons with respiratory symptoms and offering masks to persons who are coughing; and (4) ensuring availability of materials for adhering to respiratory hygiene/cough etiquette.
 - **Appropriate management of ill HCP:** Staff should self-assess for symptoms of febrile respiratory illness. HCPs who develop a fever and respiratory symptoms should be excluded from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines. Longer exclusion times are recommended for those that work with high-risk patients. Returning staff should be reminded to adhere to respiratory hygiene and cough etiquette and those with ongoing respiratory symptoms should be considered for evaluation by occupation health to determine appropriateness of contact with patients.
 - **Adherence to infection control precautions for all patient-care activities and aerosol-generating procedures:** All HCPs should adhere to standard precautions during the care of any patient and use droplet precautions for patients with suspected or confirmed influenza.



Influenza Update- California & U.S.

- Influenza activity in California was upgraded to regional in Week 52.
- Influenza activity continues to increase in the United States and most of the country is now experiencing widespread activity and high levels of influenza-like illness.
- Nationally, the majority of flu viruses are influenza A (79%) with influenza A/H3 being predominate subtype.
- This year's flu vaccine is a good match to currently circulating strains, with most of influenza viruses characterized thus far included as components of the 2012-13 influenza vaccine.

Influenza Update- Orange County

- Reports of confirmed influenza have increased by 178% in the previous two weeks.
- The majority of reports have been influenza A (79%). Subtypes include A/H3 (91%) and A/H1N1 (9%). Other respiratory viruses, including RSV, parainfluenza, and adenovirus are also circulating in Orange County.
- The first influenza-associated deaths in persons under 65 years of age were recently reported; a total of eight severe (ICU admission/death) influenza cases < 65 y.o., including two deaths, have been reported so far this season.
- Visits to sentinel providers for influenza-like illness remain elevated at 4%.

Please note our new website: <http://ochealthinfo.com/phs/about/dcepi>

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In the previous three weeks, three flu-associated deaths have been reported in Orange County residents under 65 years of age. It is still not too late to vaccinate! Consider influenza in your patients with fever and/or respiratory symptoms. CDC recommends antiviral medications for treatment of seasonal influenza, especially in patients with severe disease or at high risk for complications.

- **Summary of CDC Recommendations for Treatment of Influenza:** Evidence from past influenza seasons and the 2009 H1N1 pandemic has shown that treatment with antiviral medications can reduce severe outcomes of influenza and may provide the following benefits: shorter duration of fever and illness symptoms, reduced risk of complications from influenza (e.g., otitis media in young children, pneumonia, respiratory failure) and death, and shorter duration of hospitalization.
 - Antiviral treatment (oseltamivir [Tamiflu] or zanamivir [Relenza]) is recommended as early as possible for any patient with confirmed or suspected influenza who 1) is hospitalized 2) has severe, complicated, or progressive illness or 3) is at higher risk for influenza complications.
 - Antiviral treatment also can be considered for any previously healthy, symptomatic outpatient not at high risk with confirmed or suspected influenza on the basis of clinical judgment, if treatment can be initiated within 48 hours of illness onset.
 - Decisions about starting antiviral treatment should not wait for laboratory confirmation of influenza. Clinical benefit is greatest when antiviral treatment is administered early, ideally within 48 hours of symptom onset. Antiviral treatment might still be beneficial in patients with severe, complicated, or progressive illness and in hospitalized patients when started after 48 hours of illness onset.

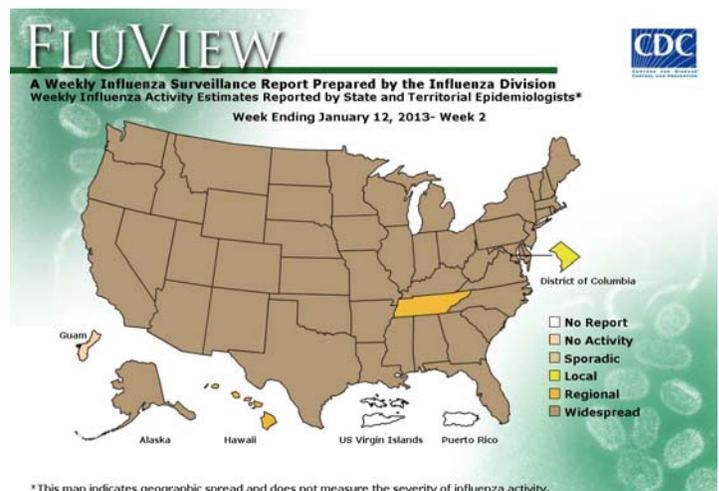


For more information, visit: <http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>.

- **Persons aged ≥6 months who have not yet been vaccinated this season should be vaccinated and vaccination efforts should continue as long as influenza viruses are circulating.** Early estimates of seasonal influenza vaccine effectiveness this season indicate moderate (62%) effectiveness, based on data from 1,155 children and adults during December 3, 2012–January 2, 2013. However, these early estimates underscore that some vaccinated persons will become infected with influenza; therefore, antiviral medications should be used as recommended above for treatment, regardless of vaccination status. See the January, 18, 2013 issue of *MMWR* at www.cdc.gov/mmwr.
- **FDA has reported a shortage of oseltamivir phosphate (Tamiflu) for oral suspension (6mg/mL 60 mL):** FDA-approved instructions for the emergency compounding of an oral suspension from Tamiflu 75 mg capsules are included in the current package insert and are also posted separately on the manufacturer's website. For more information, visit: <http://www.fda.gov/Drugs/DrugSafety/DrugShortages/ucm314742.htm#oseltamivir>.

Influenza Update

- Influenza activity has been upgraded to widespread in California, similar to most areas of the U.S.
- Nationally and in Orange County the majority (~80%) of flu viruses tested are influenza A with influenza A/H3 being the predominate subtype.
- Orange County continues to see increases in the number of influenza detections and severe influenza reports (ICU/deaths less than 65 y.o.). Increases in respiratory outbreaks in schools and long term care facilities have also been noted.



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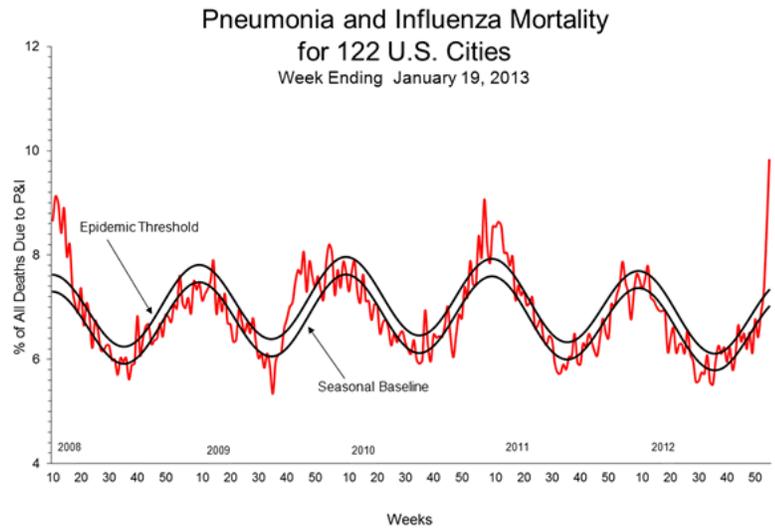


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Influenza continues to be widespread in California. Orange County is seeing an increase in the number of reports of influenza from hospitals and influenza-like illness (ILI) from schools and long-term care facilities. It is still not too late to vaccinate. Persons at increased risk for complications of influenza with fever and respiratory symptoms should seek treatment promptly.

Influenza Update

- Influenza activity remains elevated in most of the U.S. Though activity is decreasing in some areas, ILI continues to increase in the Southwest (including Orange County), Mid-Atlantic, and Northwest parts of the country. The percentage of deaths due to pneumonia and influenza in 122 cities was 9.8% for the week ending January 19, well above the epidemic threshold.
- The majority (80%) of flu viruses continue to be influenza A, with influenza A/H3N2 being the predominate subtype. Nationally, nearly 100% of the flu A viruses that were strain-typed match the A components in the vaccine. For the B viruses (20%), approximately 70% match the vaccine.
- **In Orange County**, 16 severe influenza cases (ICU/deaths in persons less than 65 years of age), including four deaths, have been reported this season as of 1/24/2013. The median age of the 16 severe cases is 47 years (range, 0-60 years). ILI visits to sentinel providers, reports of influenza detections by hospitals, and outbreaks of ILI in schools and long-term care facilities have all increased.
- **CDC urges people 65 and older to seek treatment for influenza symptoms promptly.** CDC reports that similar to other seasons during which A(H3N2) strains predominated, this influenza season is taking the heaviest toll on people 65 years of age and older. During the week ending January 19, 2013, persons 65 years and older were being hospitalized with influenza-related disease at a rate of almost 98 per 100,000 people, the highest recorded since 2007-2008 when it was 73.7. See www.cdc.gov/flu/spotlights/flu-activity-update.htm for more information.
- **Orange County Schools:** Schools should visit the Orange County Public Health Epidemiology webpage "Information for Schools", available at <http://ochealthinfo.com/phs/about/dcepi/epi/schools>. Relevant to influenza, this page contains:
 - Recommendations for schools with suspect or confirmed case(s) of influenza or increases in influenza-like illness
 - Instructions on how to report a cluster, outbreak, or increase in influenza-like illness
 - Template letters for schools to use to notify/educate parents about influenza.
 Additional information for schools and childcare providers is available from CDC at www.cdc.gov/flu/school.
- **Recommendations for Health Care Facilities:** CDC has specific recommendations for prevention of influenza in healthcare settings and for outbreak management, including testing, isolation and infection control, treatment and prophylaxis. For more information, see www.cdc.gov/flu/professionals/infectioncontrol/index.htm.
- **It's not too late to vaccinate.** For retail locations where influenza vaccine is available, see the Flu Vaccine Finder at <http://flushot.healthmap.org/>. For publicly funded vaccine availability, see www.ochealthinfo.com/flu.



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Eye on Influenza

February 5, 2013
Volume 9, Issue 7

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

Influenza activity continues to increase in Orange County! It's not too late to vaccinate. Influenza is expected to circulate over the next few weeks to months.

- **In Orange County:** Seven new severe flu cases (ICU/deaths) in persons less than 65 years of age were reported in Week 4 (January 20-26), for a total of 23 severe cases so far this season, including 4 deaths. Influenza detections continue to increase and the percent of visits to sentinel providers for influenza-like illness (ILI) is the highest of the season at 8.4%.

- **In California:** Influenza activity remained widespread during Week 4. Increases in influenza-like illness, laboratory detections of influenza, and influenza-associated outbreaks were reported in multiple regions statewide. Current trends in influenza activity are

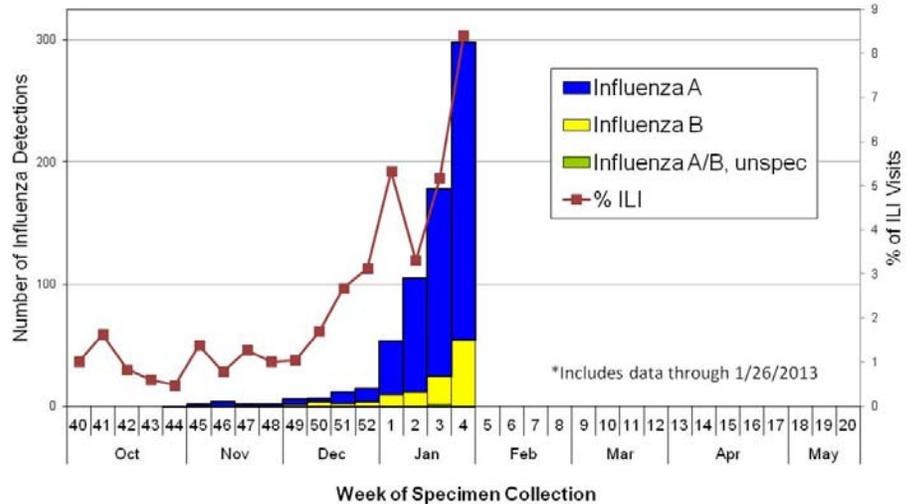
comparable to the range of patterns seen at this time in California during the 2007–2008 influenza season, which was considered moderately severe. Most influenza-positive specimens identified in California during the 2012–2013 influenza season are influenza A; of the influenza A viruses subtyped, most are influenza A (H3) viruses. Of the specimens strain-typed this season nationwide, the majority match the 2012–2013 influenza vaccine.

- **In the United States:** During Week 4, influenza activity remained elevated in the U.S., but decreased in some areas. Outpatient visits for ILI was 4.2%; above the national baseline. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold. From October 1, 2012 to January 26, 2013, the rate of laboratory-confirmed influenza-associated hospitalizations was 25.9 per 100,000 population. Those 65 years and older accounted for more than 50% of the reported cases.

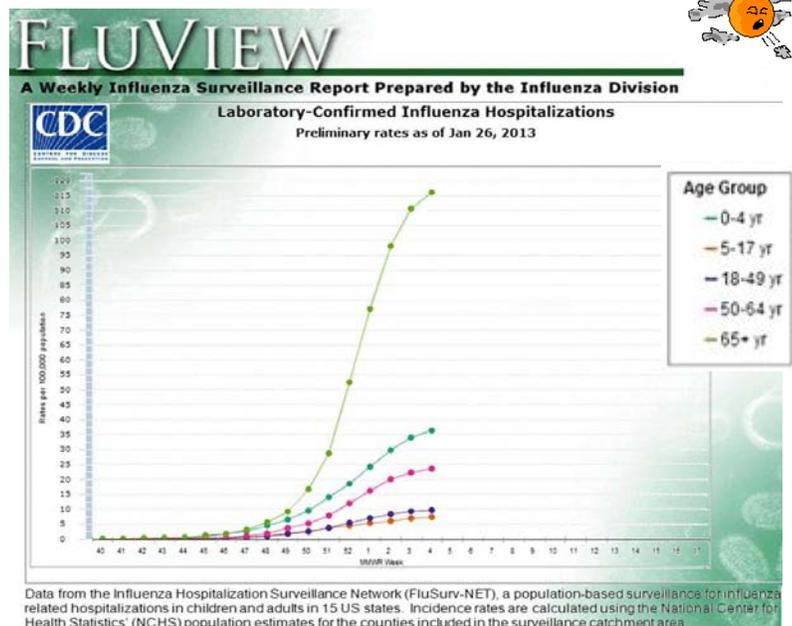
- **Updated information for geriatricians and other clinicians caring for people 65 and older:**

<http://www.cdc.gov/flu/professionals/2012-2013-guidance-geriatricians.htm>.

**Reported Influenza Detections by Type & Percent of Visits to Sentinel Providers for Influenza-like Illness
County of Orange, 2012 - 2013 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.



Data from the influenza Hospitalization Surveillance Network (FluSurv-NET), a population-based surveillance for influenza related hospitalizations in children and adults in 15 US states. Incidence rates are calculated using the National Center for Health Statistics' (NCHS) population estimates for the counties included in the surveillance catchment area.

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Influenza activity continues to remain elevated in Orange County! It's still not too late to vaccinate. High risk persons, including seniors and very young children, should seek care as soon as possible for flu symptoms as antiviral treatment can avert serious flu outcomes.

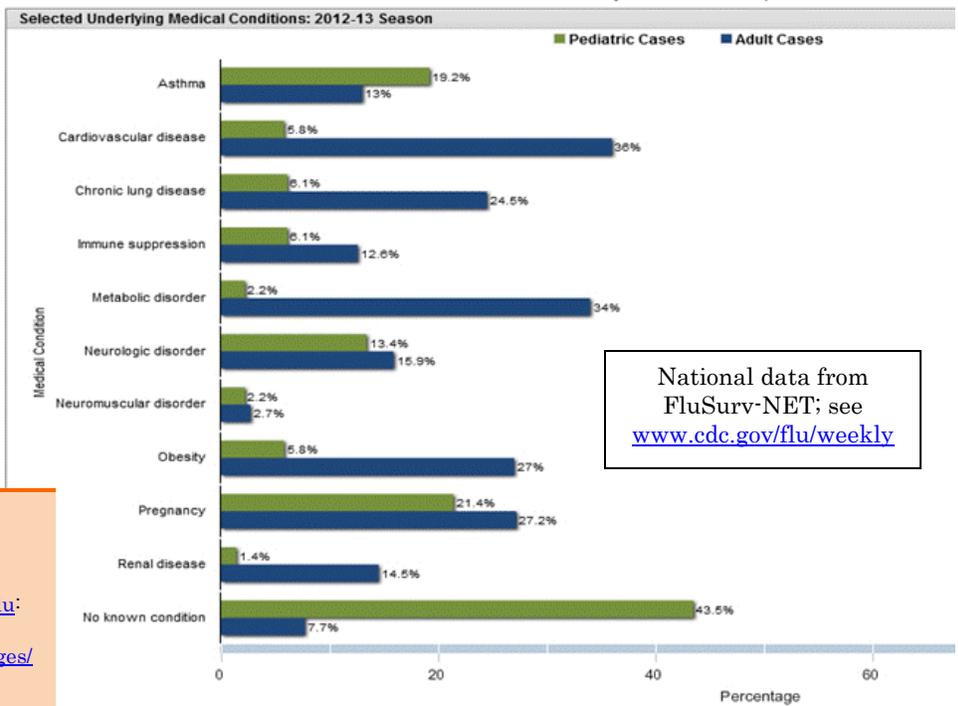
- In Orange County and California:** Four new severe flu cases (ICU/deaths) in persons less than 65 years of age were reported since last week, for a total of 27 severe cases so far this season, including five deaths. Six of the severe cases were in children. The majority (81%) of severe cases tested positive for flu A; of the A's that were subtyped all were A/H3. Reports of influenza-like illnesses (ILI) in schools and from outpatient sentinel providers are no longer escalating. Influenza activity remained widespread in California during Week 5 (ending 2/2/2013).
- In the United States:** Influenza activity overall remained elevated through Week 5 but decreased in most areas. Influenza-associated hospitalizations continued to increase but pneumonia and influenza deaths decreased, while still remaining above the epidemic threshold. The most commonly reported underlying medical conditions were cardiovascular disease, metabolic disorders, obesity, and chronic lung disease (excluding asthma) among adults hospitalized with influenza, and asthma, neurologic disorders, chronic lung disease and immune suppression among children hospitalized with influenza. Forty-four percent of hospitalized children had no identified underlying medical conditions. See graph (right).

Persons at increased risk for serious complications from influenza

- Adults 65 years and older and children younger than 2 years old;
- Pregnant or post-partum women (within two weeks);
- Persons with chronic medical conditions, such as:
 - Chronic lung disease (such as asthma, chronic obstructive pulmonary disease [COPD] or cystic fibrosis)
 - Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
 - Metabolic disorders (such as diabetes mellitus)
 - Neurological and neurodevelopmental conditions
 - Blood disorders (such as sickle cell disease)
 - Kidney disorders
 - Liver disorders;
- Persons with weakened immune systems due to disease or medication (such as people with HIV or AIDS, or cancer, or those on chronic steroids);
- Persons with morbid obesity (body mass index [BMI] ≥ 40)
- American Indians and Alaskan Natives;
- Persons younger than 19 years of age on long-term aspirin therapy.



Laboratory-Confirmed Influenza Hospitalizations
Preliminary data as of Feb 02, 2013



Recommended Resources

General: <http://www.cdc.gov/flu/>
 OC: <http://ochealthinfo.com/phs/about/dcepi/epi/flu/>
 CDC: <http://www.cdc.gov/flu/weekly/>
 CA: [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx);
 FLU.gov: <http://www.flu.gov/#>

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Eye on Influenza

February 15, 2013
Volume 9, Issue 9

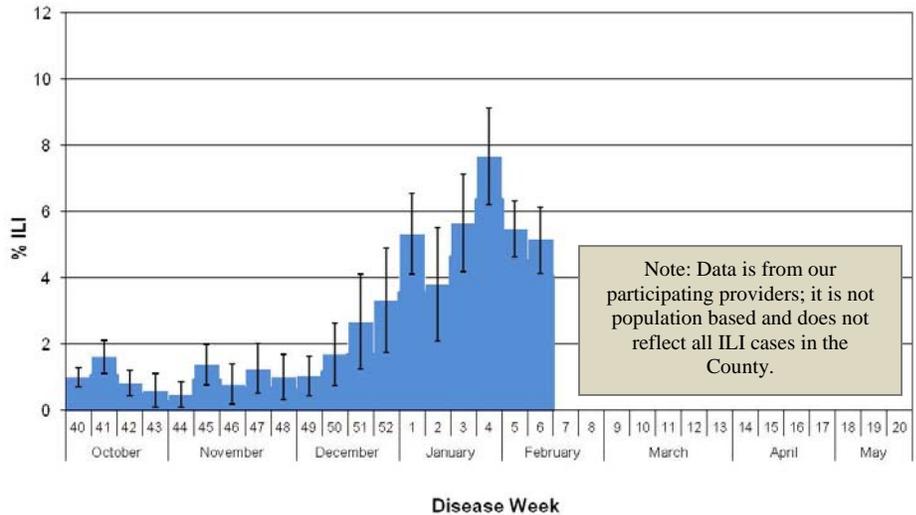
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Influenza activity appears to be decreasing in Orange County but remains high. Consider influenza in your patients with fever and/or respiratory symptoms and submit specimens for testing. It's not too late to vaccinate. Flu activity often continues through May.

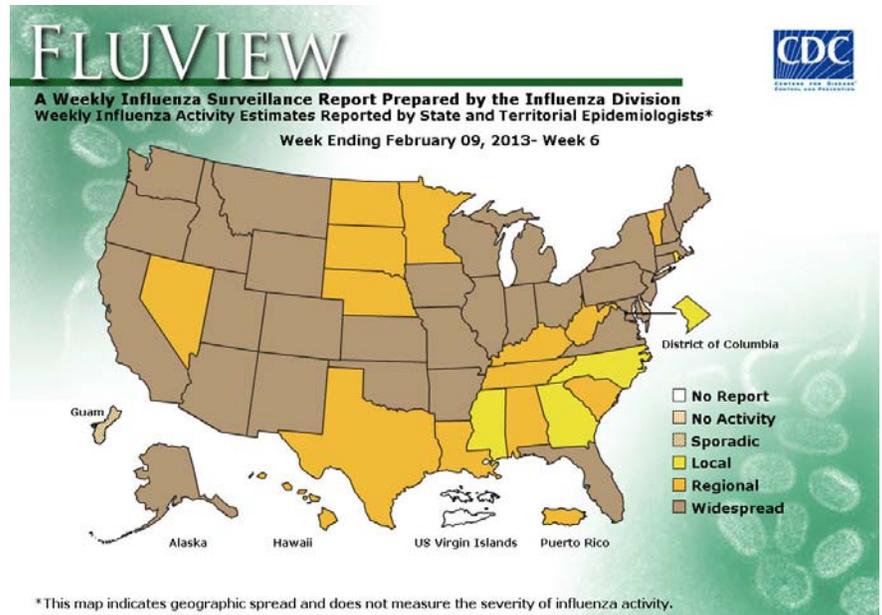
- In Orange County:** Influenza detections have decreased during the previous two weeks. While influenza A (H3) continues to make up the majority of influenza- positive tests, flu B detections have increased in recent weeks. Visits to sentinel providers for influenza-like illness remain elevated and are currently at 5.1%. One new severe influenza case (ICU/death) in persons less than 65 years of age was reported since last week, for a total of 28 severe cases so far this season, including 5 deaths. Seven severe cases have been in children, with four cases under one year of age. The majority of severe cases were at high risk for complications from influenza.



Rate of ILI per 100 Visits (Percent) and 95% C.I.
Orange County Sentinel Providers, 2012-2013



- In CA & the U.S.:** Influenza activity remained widespread in California and 30 other states during Week 6. Influenza activity is still high in parts of the country, but is declining nationally. Key indicators that track severity, such as hospitalizations and deaths, remain elevated, but seem to be leveling off or declining. Close to 100% of influenza A viruses and 71% of flu B antigenically characterized this season match components of the 2012-2013 influenza vaccine.



- According to a recent study, pregnant women who received H1N1 influenza vaccine during the 2009 H1N1 pandemic were less likely to give birth preterm. Results were published in *Clin Infect Dis.* 2013 Feb 1: <http://cid.oxfordjournals.org> .

Recommended Resources

General: <http://www.cdc.gov/flu/>; OC: <http://ochealthinfo.com/phs/about/decepi/epi/flu/>; CDC: <http://www.cdc.gov/flu/weekly/>;
 CA: [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx);
 FLU.gov: <http://www.flu.gov/#>

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Eye on Influenza

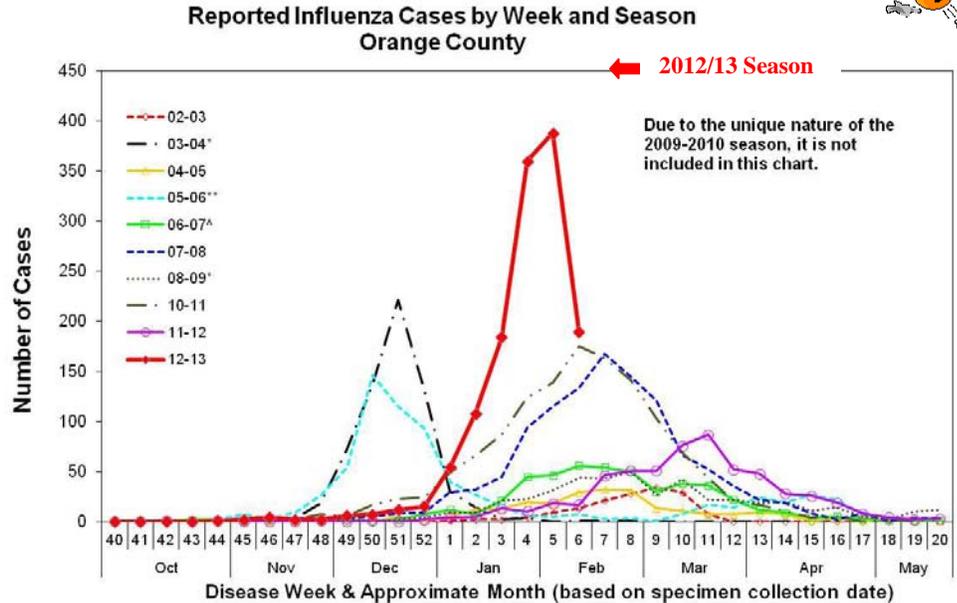
February 22, 2013
Volume 9, Issue 10

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

Influenza activity remains elevated in Orange County but overall is decreasing. Recent reports have shown an increase in the proportion of influenza B. Influenza is expected to circulate for several more weeks to months; it's not still too late to vaccinate. Vaccination efforts should continue as long as influenza is circulating.



- **In Orange County:** Influenza detections have decreased since peak activity in Week 5 (ending Feb 2). Respiratory outbreaks in schools continue to be reported. Most have been among younger children and of the ones with laboratory confirmation, most have been associated with influenza B. Orange County also continues to receive reports of severe influenza cases (ICU/deaths) in persons under 65 years of age. Recent cases have also been young children who have tested positive for influenza B.

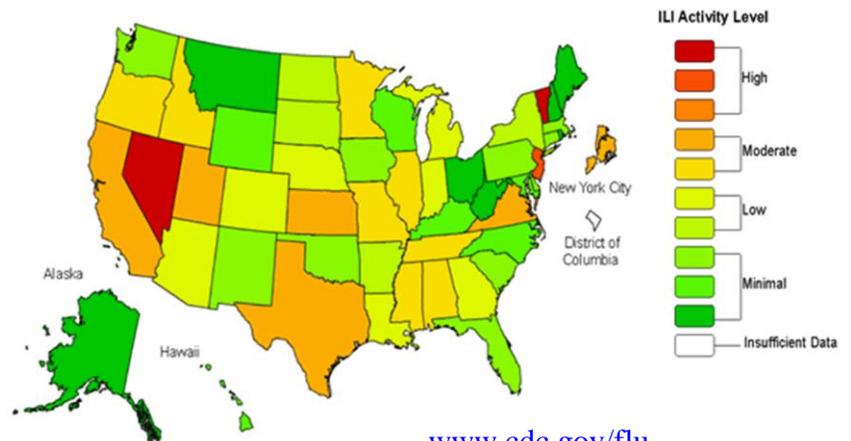


Updated through Week 6, ending Feb 9, 2013

Note: Except for deaths, influenza is voluntarily reported in Orange County and is not population-based. While the trends represented here are likely reflective of the seasonal activity, the numbers do not represent all cases that have occurred.

- **In CA & the U.S.:** Influenza activity remained widespread in California and 22 other states during Week 7. Influenza activity remained elevated across the United States, but decreased in most areas. Influenza-like illness activity was moderate or less in most states (see map to right).

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2012-13 Influenza Season Week 7 ending Feb 16, 2013



www.cdc.gov/flu

- **Interim adjusted estimates of seasonal influenza vaccine effectiveness for the 2012-13 season** indicate that vaccination reduced the risk for outpatient medical visits resulting from influenza by approximately one half to two thirds for most persons, however lower estimates were noted among those adults over 65 years of age. Overall, the vaccine effectiveness was 56% (95% confidence interval: 47-63%), which is similar to what was reported earlier in the season. For details see the 2/22/2013 issue of the MMWR at www.cdc.gov/mmwr.

For more information on vaccine effectiveness and other questions and answers about the 2012-2013 influenza season, see <http://www.cdc.gov/flu/about/season/flu-season-2012-2013.htm>

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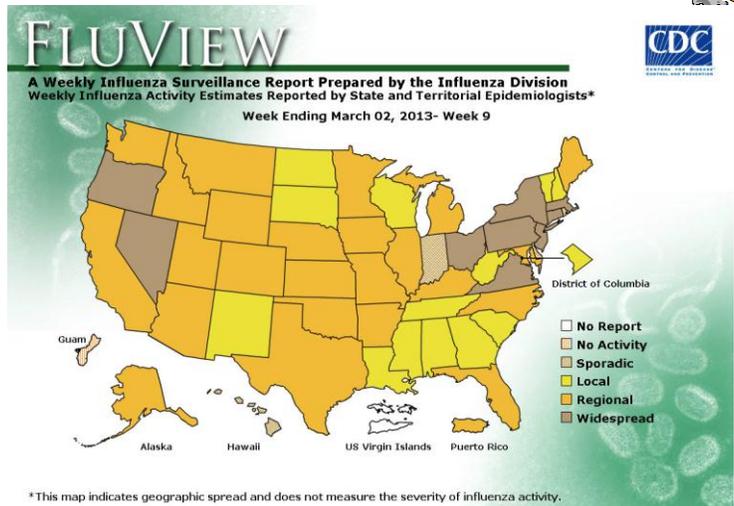
Influenza activity is decreasing in Orange County but remains elevated. Persons with influenza-like illness (ILI) should stay home from work or school for at least 24 hours after fever subsides, in the absence of use of fever reducing medications.

- **In Orange County:** Two new cases of severe influenza (ICU/death) in persons less than 65 years of age have been reported in the past week, including one death. So far this season, 32 severe cases, including six deaths have been reported. Laboratory detections have decreased each week since peak activity in Week 5 (ending Feb 2), with an increased proportion of influenza type B recently. Visits to sentinel providers for ILI are also on a downward trend, with the percent of visits currently at 2.4%. Respiratory outbreaks in schools continue to be reported.

Note: Distribution of this newsletter will no longer be on a weekly basis now that flu activity has peaked in Orange County. Distribution will continue throughout the influenza season but will move to every 2-3 weeks as needed.



- **In CA & the U.S.:** Influenza activity in California continues to be reported as regional* during Week 9 and is widespread in only nine states. In California, 25% of specimens were positive for influenza and influenza-associated outbreaks were reported in several regions, but overall activity decreased statewide.



Approximately 60% of positive influenza specimens were influenza A, with A/H3 being the predominant strain. Thus far this season, no strains tested have been found to have antiviral resistance. Nationally, 99% of type A and 71% of type B viruses characterized thus far have matched the vaccine strains. [** Regional Activity: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.*]

Other viruses: In California, respiratory syncytial virus (RSV) detections decreased in Week 9 to 14.2%, compared to 16.2% in Week 8. Parainfluenza virus, human metapneumovirus, and adenovirus continue to be reported in both northern and southern California, but in decreasing proportions.

- **New study reports influenza vaccination substantially reduced the risk of influenza-associated hospitalizations in adults during the 2011-2012 season.** Researchers at Vanderbilt University, in collaboration with the CDC, found a 71.4% reduction in the risk of flu-associated hospitalization among vaccinated adults of all ages and a 76.8% reduction for vaccinated adults aged 50 years and older. See the 2/28/13 issue of *Clinical Infectious Diseases* at <http://cid.oxfordjournals.org/> or a summary on the CDC website at <http://www.cdc.gov/flu/spotlights/flu-vaccination-older-adults.htm>.
- **Composition of the 2013-2014 Influenza Vaccine For the Northern Hemisphere:** The World Health Organization and Food and Drug Administration's Vaccines and Related Biological Products Advisory Committee has made the following recommendations for the 2013-2014 Northern Hemisphere vaccine strains:

- H1N1: A/California/7/2009-like (2009 H1N1);
- H3N2: A/Victoria/361/2011-like (A/Texas/50/2012); and
- B: B/Massachusetts/2/2012-like (B/Yamagata lineage).

It is recommended that quadrivalent vaccines contain a B/Brisbane/60/2008-like (B/Victoria lineage) virus in addition to the viruses recommended for the trivalent vaccines.



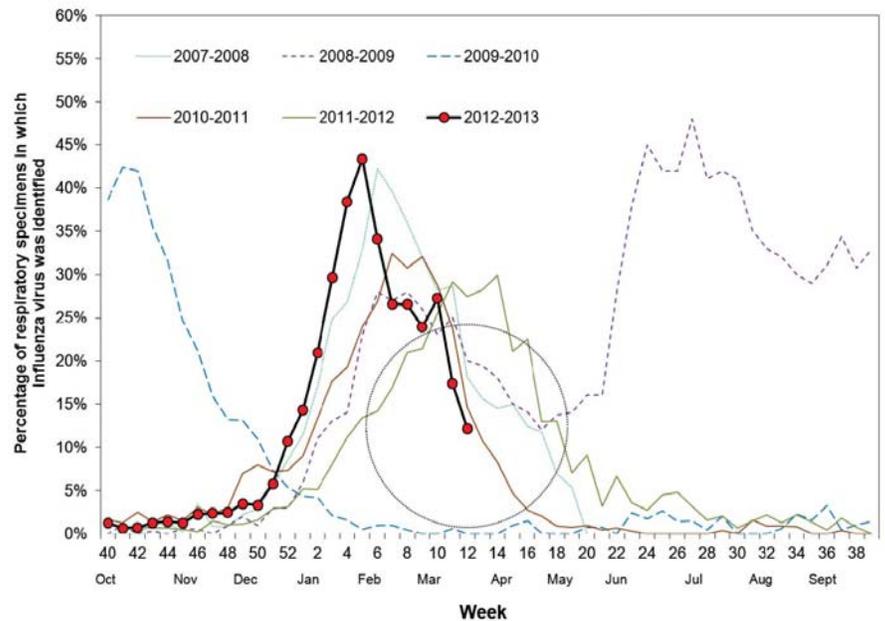
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Influenza activity continues to decrease in Orange County. However, we continue to receive reports of severe influenza and respiratory outbreaks in schools indicating influenza is still circulating. So far this season, a total of 110 influenza-associated pediatric deaths have been reported in the U.S; the majority of these children were not vaccinated against influenza.

- **In Orange County:** Four new cases of severe influenza (ICU/death) in persons less than 65 years of age have been reported since the last update, for a total of 36 severe cases including six deaths this season. Laboratory detections continue to decrease since peak activity in Week 5 (ending Feb 2). Visits to sentinel providers for influenza-like illness were at 3% during Week 11. Flu B is now the predominant strain in Orange County, which is consistent with California and the U.S.

Percentage of Influenza Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2007–2013

http://www.cdph.ca.gov/HealthInfo/discond/Documents/Final_FluReport_Ending_032313.pdf



- **In CA & the U.S.:** In California, influenza activity continues to decrease statewide. During Week 12 (ending March 23) the percent of specimens testing positive for influenza decreased to 12.2% (see chart above). Influenza activity was downgraded to local* in CA and is widespread in only 6 states (CT, MA, NV, NJ, NY, and NC). Influenza-associated deaths continue to be reported in adults less than 65 years of age, with eight reports received during Week 12 in CA. In the U.S. influenza activity continues to decline across key flu indicators, including influenza-like-illness, which dropped below baseline for the first time since early December. Influenza viruses are still circulating, with influenza B viruses now predominating (flu B 73.5%/ flu A 26.5%) in the past weeks. Of the flu B viruses characterized so this season, 70.0% have been B/Wisconsin/1/2010-like, the influenza B component of the 2012-2013 Northern Hemisphere influenza vaccine. [* *Local: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.*]

- **Study findings support surgical facemasks worn by infected persons to limit the spread of influenza.** Exhaled breath data with and without a surgical mask were completed for 37 (21 influenza A, 16 influenza B) volunteers with influenza virus infection confirmed by PCR of nasopharyngeal specimens. Exhaled influenza viral particle copy number was measured by quantitative RT-PCR in two particle size fractions, $\geq 5 \mu\text{m}$ (coarse) and $< 5 \mu\text{m}$ (fine). Viral copy numbers were greater in the fine than in the coarse fraction. These results suggest that the infectious dose via aerosol is about two orders of magnitude lower than via large droplets, and that aerosols may play an important role in seasonal influenza transmission. Surgical masks nearly eliminated viral RNA detection in the coarse aerosol fraction with a 25 fold reduction in the number of viral copies, and a 2.8 fold reduction in copies detected in the fine aerosol fraction. The CDC currently recommends that healthcare settings provide influenza patients with facemasks as a means of reducing transmission to staff and other patients. For the full article see: Mar 5 *PLoS Pathog*
<http://www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1003205>.



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Novel Influenza A (H7N9) – Update on Human Infections

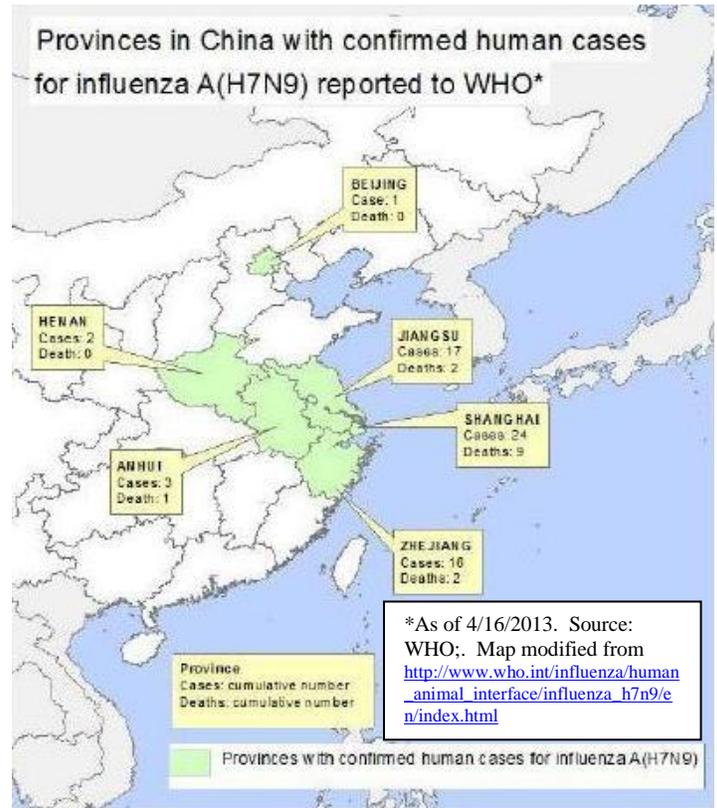
Additional human infections of avian influenza A (H7N9) have been reported in eastern China. No cases (in humans or birds) have been reported in the United States. Orange County continues to monitor the situation closely. For more information, see www.cdc.gov/flu/avianflu/h7n9-virus.htm or www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html.

- **Latest Update:** As of April 19, 2013, 91 human cases of novel influenza A (H7N9), including 17 deaths, have been confirmed in eastern China, all from the provinces of Zhejiang, Jiangsu, Anhui, and Henan, and the municipalities of Shanghai and Beijing (see map on right. Note: map last updated 4/16/2013). More than one thousand close contacts of these cases are being monitored. So far, there is no evidence of ongoing human-human transmission. Investigations into the source of these infections are still ongoing. For the latest case count, see the WHO updates www.who.int/influenza/human_animal_interface/avian_influenza/archive/en/index.html.

- **Background:** On April 1, 2013, WHO reported three human cases of avian influenza H7N9 in China. These were the first known human infections with this avian strain ever reported. Since then, many new cases have been reported and additional cases are expected to occur. Several of the cases have been hospitalized with severe respiratory illness, although mild cases have now also been reported. H7N9 viruses have been detected in poultry in China in the same areas where human cases have been reported and many of the human cases have had poultry contact.

• **Recommendations:**

- Consider the possibility of H7N9 infection in persons with respiratory illness compatible with influenza within 10 days of the following exposures:
 - Recent travel to countries where H7N9 have been reported (currently just China); OR
 - Recent contact with a confirmed human case of influenza A (H7N9).
- Report any suspect cases to Orange County Public Health immediately at 714-834-8180.
- Refer to the 4/5/2013 Advisory for testing and infection control recommendations and to the latest Orange County updates at <http://ochealthinfo.com/phs/about/dcepi/epi/flu/h7n9>.
- Treat **all** suspect, probable and confirmed H7N9 cases with oseltamivir (recommended for hospitalized cases) or zanamivir as early as possible, and even if onset was over 48 hours ago. This includes persons with uncomplicated illness and those who are not at high risk for complications of influenza. Note: this is a change from previous recommendations for H7N9 and for seasonal influenza. See www.cdc.gov/flu/avianflu/h7n9-antiviral-treatment.htm.
- **Additional infection control guidance from CDC:** www.cdc.gov/flu/avianflu/h7n9-infection-control.htm.



Seasonal Influenza Update

- Seasonal influenza activity has decreased dramatically over the past several weeks.
- Activity is currently sporadic in California.
- No new severe influenza cases (hospitalized in intensive care or deaths in persons less than 65 years of age) have been reported in Orange County since the last update 4/3/2013.



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Avian Influenza A (H7N9) – Update on Human Infections / Novel Coronavirus Update

Additional human infections of avian influenza A (H7N9) have been reported in China. No sustained human-to-human transmission has been identified and no cases (in humans or birds) have been reported in the United States. For more information, see www.cdc.gov/flu/avianflu/h7n9-virus.htm (CDC) or www.who.int/csr/don/en/ (WHO).

- **Latest Update:** As of May 9, 2013, 131 cases human cases of novel influenza A (H7N9), including 32 deaths, have been confirmed from eastern China (see map on right), including one case reported from Taiwan who traveled to China during the exposure period. The first ever known human infections of H7N9 avian influenza were reported April 1, 2013. The virus has since been detected in poultry in the same areas where human cases have been reported and many of the human cases have had poultry contact. Investigations into the possible sources of infection and reservoirs of the virus are ongoing. Until the source of infection has been identified and controlled, additional cases are expected to occur.



- **Recommendations:**
 - WHO and CDC have not recommended any travel restrictions to affected areas. See <http://wwwnc.cdc.gov/travel/notices/watch/avian-flu-h7n9.htm> for recommended precautions.
 - **Suspect cases of H7N9 should be reported to Orange County Public Health immediately** at 714-834-8180. This includes persons who develop influenza-like illness (ILI)* within 10 days of: (1) recent travel to areas where H7N9 has been reported (see map above) OR (2) contact with confirmed human cases of influenza A (H7N9). **ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and cough and/or sore throat.*
 - Refer to the 4/23/2013 Advisory for testing, treatment and infection control recommendations and for the latest Orange County updates at <http://ochealthinfo.com/phs/about/dcepi/epi/flu/h7n9>.

Seasonal Influenza Update

- This is the last week of the official influenza season. We would like to thank our influenza surveillance partners for your participation this past season.
- **Year-round surveillance is important to detect respiratory outbreaks and novel viruses.**
 - Hospitals/laboratories please continue to submit positive influenza specimens.
 - ILI sentinel providers please continue to report weekly on ILI.



- **Chinese study finds very few mild H7N9 cases:** Testing of more than 20,000 persons with ILI in China during March and April revealed only six cases of H7N9 infection, suggesting that mild infection is uncommon. The study can be accessed at: http://wwwnc.cdc.gov/eid/article/19/8/13-0662_article.htm.

Novel Coronavirus (nCoV)

- For background information, evaluation and testing recommendations, see the 3/8/2013 Health Advisory posted on our w at <http://ochealthinfo.com/phs/about/dcepi/epi/disease/coronavirus>.
- As of May 12, 2013, nCoV has been reported in 34 persons in Saudi Arabia, Qatar, Jordan, the United Kingdom, the United Arab Emirates, and France, with 18 deaths. The cases in the U.K. and France either traveled to the Arabian Peninsula or had contact with an individual with nCoV. Of concern is that many of the infections have been health-care associated. CDC recommends that suspect patients be managed utilizing the infection control guidance used for SARS (see www.cdc.gov/sars/infection).

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