



INFLUENZA REPORT, 2014-15

County of Santa Cruz -- Public Health Division

www.santacruzhealth.org/flu

Issued: January 20, 2015



Public Health
Prevent. Promote. Protect.

CURRENT ACTIVITY

During Week 1 (Jan. 4-10, 2015), unless otherwise noted

SANTA CRUZ COUNTY ¹

- As of today, Santa Cruz County has not received any case reports of lab-confirmed influenza-associated deaths among persons age 0-64
- As of Week 2 (Jan. 11-18), 4 lab-confirmed Intensive-Care Unit hospitalizations among persons age 0 to 64 have been reported
- Also as of Week 2, there has been 1 report of an influenza-associated outbreak in a congregate setting
- Local sentinel providers reported **6.8%** of outpatient visits had influenza-like illness (ILI)* in Week 1 (Figure 1)

CALIFORNIA ²

- Overall, statewide influenza activity was “widespread” during Week 1 (Jan. 4-10)
- Of 4,737 specimens tested in Week 1, **24.5%** were positive for influenza; 95.4% were influenza A. Of the 227 subtyped, 100% were H3 (antigenic type not provided)
- California Department of Public Health received 1 report of a lab-confirmed, influenza-associated death among a person age 0-64, for a total of 2 deaths this season
- Sentinel providers reported **4.1%** of visits had ILI, which is above their epidemic threshold (3.7%) for this time of year (Figure 2)
- **11** lab-confirmed influenza outbreaks were reported during Week 1

UNITED STATES ³

- Influenza activity remained **elevated** in the U.S.
- Of 26,204 specimens tested for influenza by collaborating laboratories during Week 1, **20.2%** were positive for influenza
- The proportion of deaths attributed to pneumonia and influenza (P&I) was **above** the epidemic threshold
- **19** influenza-associated pediatric deaths were reported to CDC during Week 1
- Sentinel providers reported **4.4%** of visits had ILI -- above the national baseline of 2.2% (Figure 3)

* **ILI** = Influenza-like illness defined as a fever ($\geq 100^{\circ}\text{F}$) AND cough and/or sore throat (in the absence of a known cause other than influenza)

Figure 1: 3-Week Rolling Average of Percent of Visits that had ILI, Santa Cruz County Sentinel Providers, 2012-2015

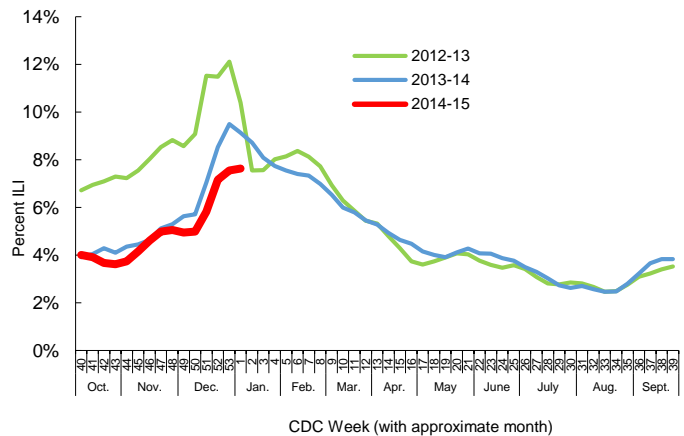


Figure 2: Percent of Visits that had ILI, California Sentinel Providers, 2010-2015

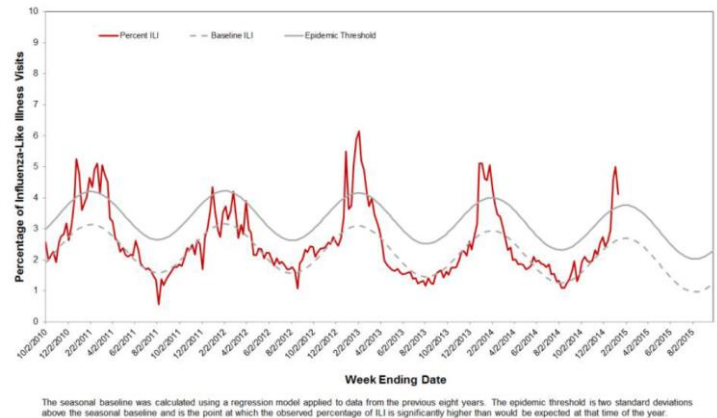
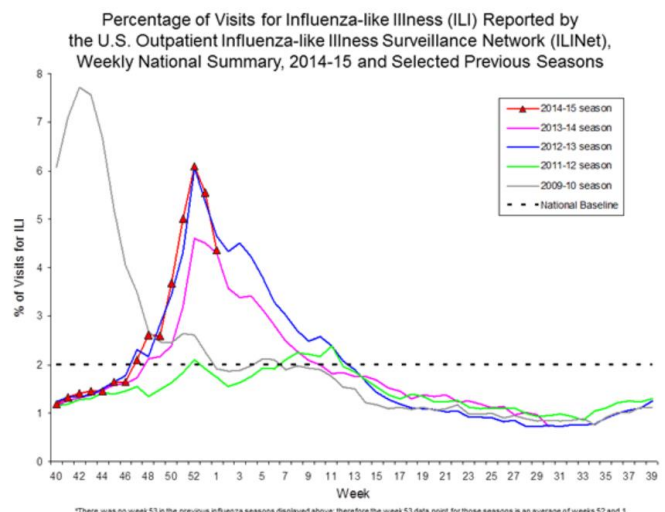


Figure 3: Percent of Visits that had ILI, U.S. Sentinel Providers, 2009-2015



*There was no week 53 in the previous influenza seasons displayed above; therefore the week 53 data point for those seasons is an average of weeks 52 and 1.

GET MY DRIFT? ^{4,5}

Influenza viruses change constantly, and this year is no exception. The predominant strain of influenza this season is A (H3N2) -- and it is an *antigenic drift* from the strain that has circulated in previous years. An antigenic drift is a minor genetic change in genes of the influenza virus, but enough of a change to challenge immunity. The other type of change is called an *antigenic shift* which is an abrupt, major genetic change in the influenza virus emerging from animal populations as a result, many people do not have immunity to the new (i.e., novel) virus. Such a shift occurred in 2009, when a new combination of A (H1N1) virus emerged. The benefit of this being a drift versus a shift, is that an immune system primed for previous strains of influenza A is likely able to offer some protection against antigenically drifted versions.

Between September 28, 2014 and January 10, 2015, CDC has typed/subtyped 27,011 influenza specimens with the following distribution:

TYPE/SUBTYPE	PREVALENCE
A (H1)	0.4%
A (H3)	87.9%
B	11.7%

Of the A (H3) subtypes circulating, 65% were antigenically drifted. Therefore, 57% of influenza cases in the U.S. are due to drifted A (H3N2), and 43% are a good match to the 2014-15 vaccine.³ Of note, the drifted A (H3N2) viruses did not appear until after the vaccine composition for the Northern Hemisphere had been chosen.

VACCINE EFFECTIVENESS ⁶⁻⁸

Overall, seasonal influenza vaccine effectiveness (VE) varies annually (ranging from 10% to 60% since 2004). VE depends in part on the match between vaccine viruses and circulating influenza strains. CDC published early 2014-15 VE estimates on January 16, estimating that this year's vaccine reduced a person's risk of having to go to the doctor because of flu by 23% among people of all ages.

However, even with low effectiveness, vaccination still prevents thousands of hospitalizations. Modeling conducted by CDC suggested that a VE of only 10% in older adults could prevent approximately 13,000 influenza-associated hospitalizations in adults aged ≥65 years in the United States during a "moderately severe" influenza. Flu activity so far this season appears to follow a moderately severe season.

Vaccination is particularly important for persons at high risk for serious influenza-related complications and their close contacts. Also, vaccine might protect against other influenza viruses that can circulate later. As of early November, 2014, fewer than half of U.S. residents had reported receiving influenza vaccine this season.

PREVENTION

Although influenza vaccines are the best tool for prevention of influenza currently available. Other practices that can help decrease the spread of influenza include:

- Respiratory hygiene (e.g., cough etiquette)
- Social distancing (e.g., staying home from work and school when ill or staying away from persons who are ill)
- Hand washing

ANTIVIRAL TREATMENT

Antiviral medications are an important adjunct in the treatment and control of influenza for the 2014–15 season and should be used as recommended, regardless of patient vaccination status. Although vaccination should continue as long as influenza viruses are circulating, treatment with influenza antiviral medications is more important than usual.

All hospitalized patients and all outpatients at high risk for serious complications should be treated as soon as possible with one of three available influenza antiviral medications if influenza is suspected. Ideally, antiviral treatment should be administered within 48 hours of the onset of symptoms -- when treatment is most effective.

There is no national shortage of antiviral medications. There is sufficient product available to meet high demand. CDC's advice for patients and doctors is that it may be necessary to contact more than one pharmacy to fill a prescription for an antiviral medication.

REPORTING TO PUBLIC HEALTH:

Report the following situations to the Santa Cruz County Communicable Disease Unit using a Confidential Morbidity Report (CMR) form available at:

www.santacruzhealth.org/phealth/cd/3reportingguidelines.htm

- Cases of lab-confirmed influenza that were fatal or hospitalized in the Intensive-Care Unit among persons age 0-64 years
- Acute respiratory outbreaks
- Suspected cases of novel or variant influenza

Sources:

1. Local data, not published (current as of date of issue)
2. <http://www.cdph.ca.gov/HealthInfo/discond/Documents/Week%2020151%20-%20FINAL%20Report.pdf>
3. <http://www.cdc.gov/flu/weekly/>
4. <http://www.cdc.gov/flu/about/viruses/change.htm>
5. <http://www.niaid.nih.gov/topics/flu/research/basic/pages/antigenicdriftillustration.aspx>
6. <http://www.cdc.gov/media/releases/2015/p0115-flu-vaccination.html>
7. <http://www.cdc.gov/flu/about/qa/vaccineeffect.htm>
8. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6401a4.htm?s_cid=mm6401a4_e