

California Influenza and Other Respiratory Disease Surveillance for Week 49 (December 4, 2011–December 10, 2011)

Note: This report includes data from many different sources of influenza surveillance, including syndromic surveillance, laboratory surveillance, and mandatory reporting of influenza deaths for cases ages 0-64 years. The information contained in this report should be viewed as a “snapshot” of influenza activity for each surveillance week, and should not be considered as population-based data or representative of all California public health jurisdictions.

Based on low levels of influenza-like illness and laboratory detections, overall influenza activity in California for Week 49 remained “sporadic*.”

Influenza Report Highlights

- Influenza activity remains low in California.
- Outpatient ILI activity as a percentage of total visits to sentinel providers was low (1.0%).
- Of 940 specimens tested by the RLN and sentinel laboratories during Week 49, 4 (0.4%) were positive for influenza B and 7 (0.7%) were positive for influenza A; 3 (42.9%) influenza A specimens were subtyped as seasonal A (H3) and 4 (57.1%) were not subtyped.
- The CDPH-VRDL has performed antiviral resistance testing on eight influenza specimens during the 2011-2012 influenza season; no resistance to neuraminidase inhibitors has been identified.
- One specimen from a California resident has been strain-typed as A/Perth/16/2009-like, the influenza A (H3N2) component of the 2011-12 influenza vaccine for the Northern Hemisphere.
- CDPH has received no reports of laboratory-confirmed influenza-associated deaths among persons less than 65 years of age.

*Sporadic activity is defined by the CDC as “small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.”

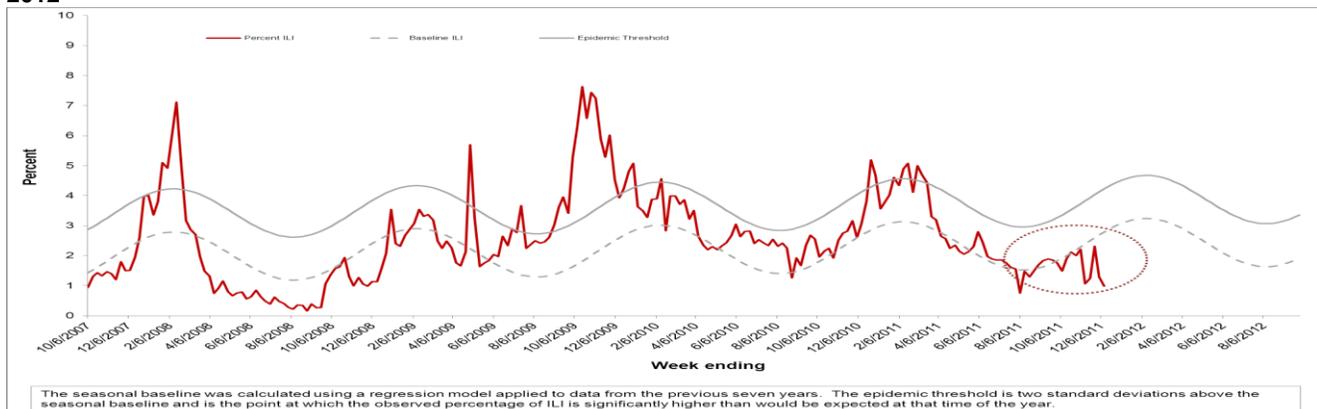
A. Syndromic Surveillance Update

1. CDC Influenza Sentinel Providers

Sentinel providers (physicians, nurse practitioners, and physician assistants) situated throughout California report the number of outpatient visits for ILI and the total number of visits per week. ILI is defined as any illness with fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a known cause other than influenza. Data are reported weekly as a percentage of total visits. At present, over 200 sentinel providers have indicated their willingness to report ILI data and submit specimens to CDPH-VRDL for further testing this season, allowing CDPH to attain the CDC goal of 1 sentinel provider per 250,000 population.

A total of 64 (30.9%) out of 207 enrolled sentinel providers have reported Week 49 data, compared to an average of 105 providers reporting in previous weeks. Based on available data, the percentage of ILI visits (1.0%) remained below baseline (Figure 1).

Figure 1. Percentage of Influenza-like Illness Visits Among Patients Seen by California Sentinel Providers, 2007–2012



2. Kaiser Permanente Hospitalization Data (“Flu Admissions”)

“Flu Admissions” are defined as a diagnosis of “flu,” “pneumonia,” or “influenza” recorded in text fields at time of admission to the hospital. Influenza activity is tracked by dividing the number of “Flu Admissions” by the total number of hospital admissions for the same day to obtain a percentage of pneumonia and influenza (P&I) admissions.

During Week 49, the percentage of Kaiser hospitalizations for P&I increased in northern California (6.0%, compared to 5.6% in Week 48), and decreased in southern California (3.9%, compared to 4.8% in Week 48).

B. Laboratory Update

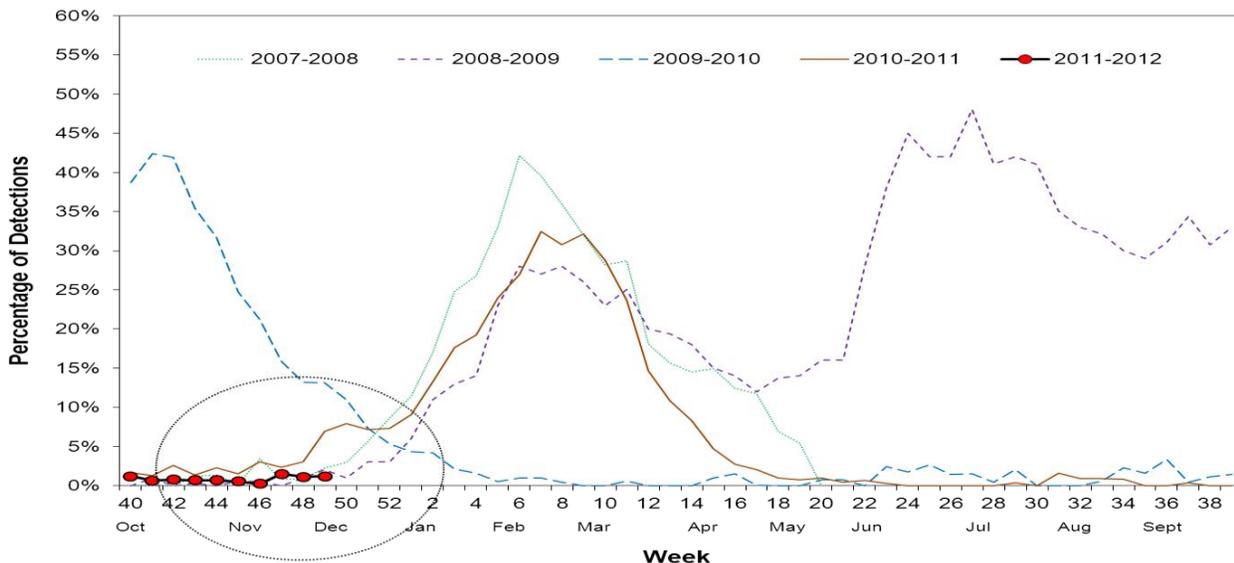
1. Respiratory Laboratory Network (RLN) and Sentinel Laboratory Surveillance Results

The RLN is composed of 29 local public health laboratories that offer PCR testing for influenza A and B. Sentinel laboratories are a network of clinical, commercial, academic, and hospital laboratories located throughout California that provide weekly data on the number of laboratory-confirmed influenza and other respiratory virus detections and isolations. These laboratories use various testing methods, including rapid test, direct fluorescent assay, viral culture, and PCR.

The percentage of influenza detections in the RLN and sentinel laboratories remained low (1.2%) during Week 49 (Figure 2). Of 940 specimens tested by the RLN and sentinel laboratories, 4 (0.4%) were positive for influenza B and 7 (0.7%) were positive for influenza A; 3 (42.9%) influenza A specimens were subtyped as seasonal A (H3) and 4 (57.1%) were not subtyped. The influenza-positive specimens were reported in Alameda, Los Angeles, Sacramento, San Diego, and San Mateo counties.

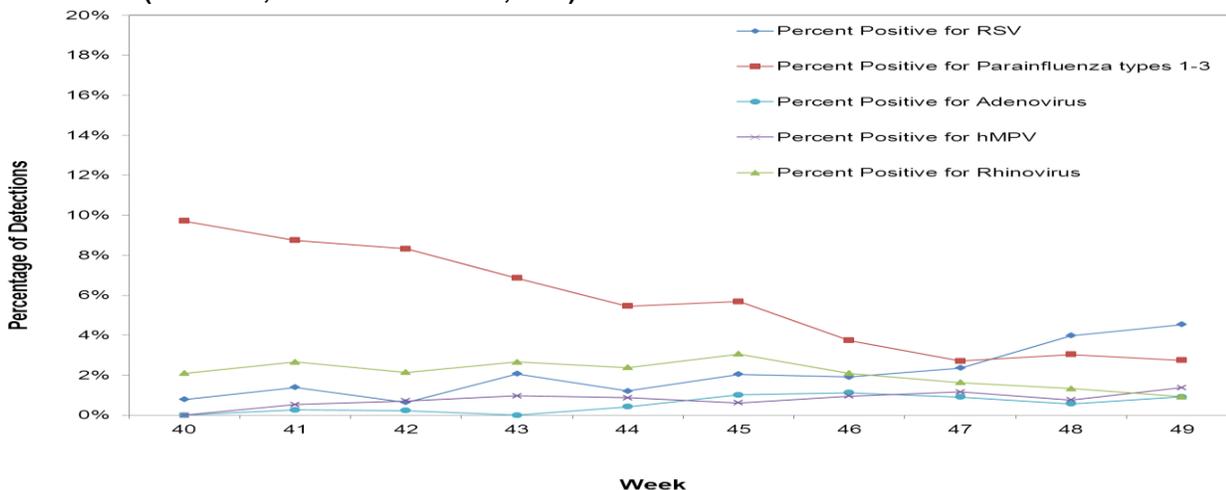
To date for the 2011-2012 season, of the 47 influenza A detections, 2 (4.3%) have been subtyped as A (2009 H1N1) and 10 (21.3%) have been subtyped as seasonal A (H3). Neither the RLN nor VRDL have identified any influenza viruses by PCR typing or subtyping that are suggestive of S-OtrH3N2 infection.

Figure 2. Percentage of Influenza Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2007–2012



Sentinel laboratories reported continued circulation of parainfluenza virus in both northern and southern California, but in decreasing proportion compared to previous weeks (Figure 3). Additionally, there was an increase in detections of respiratory syncytial virus (RSV) during Week 49 (4.5%, compared to 4.0% in Week 48).

Figure 3. Other Respiratory Pathogen Detections in Respiratory Laboratory Network and Sentinel Laboratories, Weeks 40-49 (October 2, 2011 – December 10, 2011)



2. Antiviral Resistance Testing (AVR)

The CDPH-VRDL performs surveillance for antiviral resistance testing on a limited basis and on individual cases upon special request. During the 2011-12 influenza season, as part of a CDC national surveillance effort, the VRDL will be implementing a functional assay to survey circulating influenza strains for resistance to neuraminidase inhibitors. In addition, selected 2009 A/H1 clinical specimens will be tested using pyrosequencing for a single known mutation that confers oseltamivir resistance (H275Y). Since high levels of resistance to adamantanes (amantadine and rimantadine) are observed among circulating influenza A viruses (2009 A/H1 and A/H3), adamantane resistance testing will not be performed at the VRDL on a routine basis.

The combined AVR data is summarized below and should be considered for epidemiological purposes only.

CDPH-VRDL has tested eight influenza specimens to date during the 2011-2012 influenza season (Table 1), all of which have been sensitive to neuraminidase inhibitors.

Table 1. Number of specimens tested for antiviral resistance

	Neuraminidase Inhibitors Resistance
Influenza 2009 A/H1	0/1
Influenza A/H3	0/7

3. Influenza Virus Strain Characterization

The CDPH-VRDL, as part of the CDC-WHO regional laboratory network, has the capacity to perform antigenic characterization (strain-typing) on select circulating influenza strains based on type/subtype, geographic area, demographics, and case definition. However, because strain-typing requires the culture of viruses at high titers and the use of a broad panel of antisera, most antigenic characterization is conducted at the CDC. Upon special request, the VRDL can expedite strain-typing on a limited number of samples using a smaller panel of antisera.

One California specimen have been strain-typed to date during the 2011-2012 influenza season as A/Perth/16/2009-like (H3N2); this strain is covered by the 2011-2012 vaccine for the Northern Hemisphere.

C. Laboratory-confirmed Fatal Case Reports

Currently, as mandated under Section 2500 of the California Code of Regulations, deaths among cases age 0-64 years with laboratory-confirmed influenza are reportable to CDPH.

CDPH has received no reports of influenza-associated deaths among persons less than 65 years of age to date this season.

For questions regarding influenza surveillance and reporting in California, please email InfluenzaSurveillance@cdph.ca.gov. This account is monitored daily by several epidemiologists.

To obtain additional information regarding influenza, please visit the CDPH influenza website at [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

A copy of the case report form for reporting any laboratory-confirmed influenza case that was either admitted to the ICU or died can be downloaded from [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).