

California Influenza and Other Respiratory Disease Surveillance for Weeks 51 and 52 (December 18-31, 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 (ILI) and laboratory detections, overall influenza activity in California for Weeks 51 and 52 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 in Weeks 51 (1.1%) and 52 (1.2%).
- Of 2620 specimens tested by the Respiratory Laboratory Network (RLN) and sentinel laboratories during Weeks 51 and 52, 15 (0.6%) were positive for influenza B and 66 (2.5%) were positive for influenza A; of the influenza A specimens, 14 (21.2%) were subtyped as A (H3), 2 (3.0%) were subtyped as A (2009 H1N1), and 50 (75.8%) were not subtyped.
- The California Department of Public Health Viral and Rickettsial Disease Laboratory (CDPH-VRDL) has performed antiviral resistance testing on 20 influenza specimens during the 2011-2012 influenza season; no resistance to neuraminidase inhibitors has been identified.
- Three specimens from California residents have been strain-typed this season; all matched with components of the 2011-12 influenza vaccine for the Northern Hemisphere.
- CDPH received no report of a laboratory-confirmed influenza-associated death among persons less than 65 years of age in Weeks 51 and 52.
- No suspected or confirmed influenza A (H3N2)v [variant influenza A (H3N2), formerly called swine-origin triple reassortant A (H3N2)] has been detected in California to date.

*Sporadic activity is defined by the Centers for Disease Control and Prevention (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

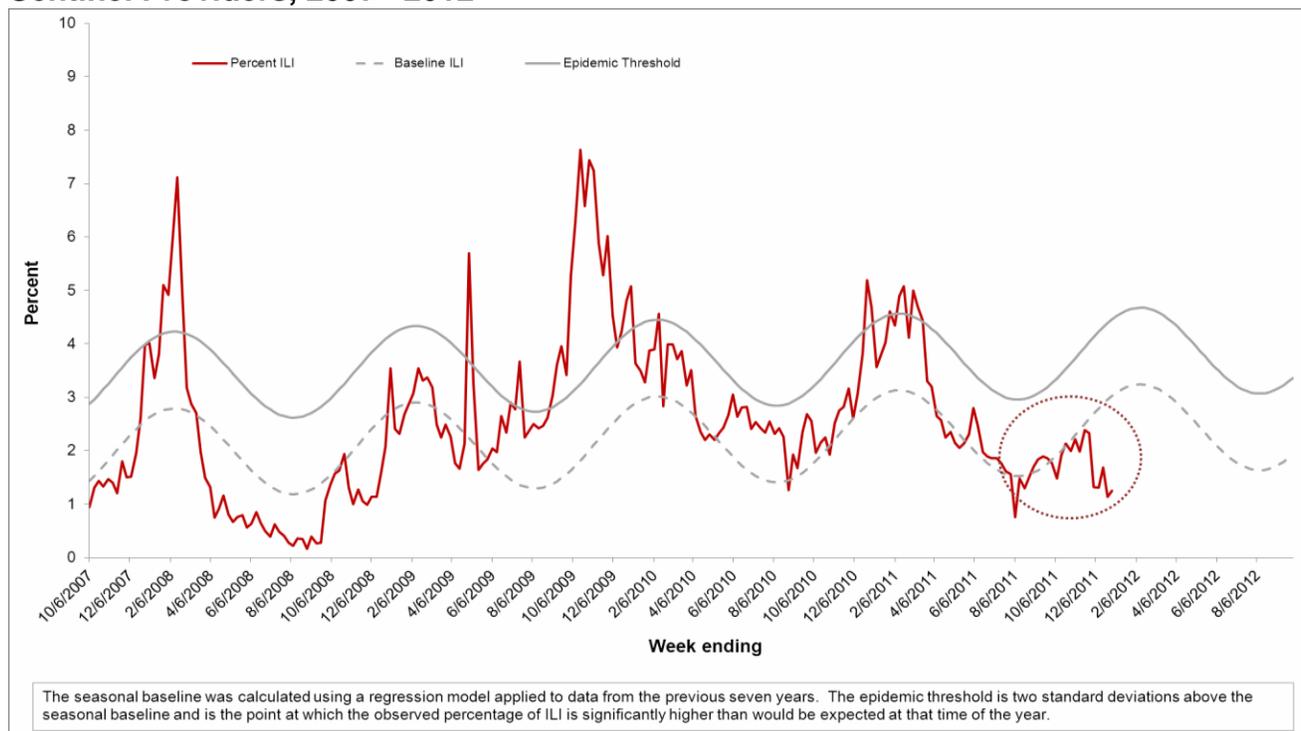
1. CDC Influenza Sentinel Providers

Sentinel providers (physicians, nurse practitioners, and physician assistants) 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 Centers for Disease Control and Prevention (CDC) goal of 1 sentinel provider per 250,000 population.

A total of 82 (39.6%) and 66 (31.9%) out of 207 enrolled sentinel providers have reported data for Weeks 51 and 52, respectively. Based on available data, the percentage of ILI visits for Weeks 51 (1.1%) and 52 (1.2%) 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.

The percentages of Kaiser hospitalizations for P&I in northern California increased in Weeks 51 (6.3%) and 52 (7.3%) compared to Week 50 (5.3%). Similarly, the percentages of Kaiser hospitalizations for P&I in southern California increased in Weeks 51 (5.2%) and 52 (5.9%) compared to Week 50 (4.6%).

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 polymerase chain reaction (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.

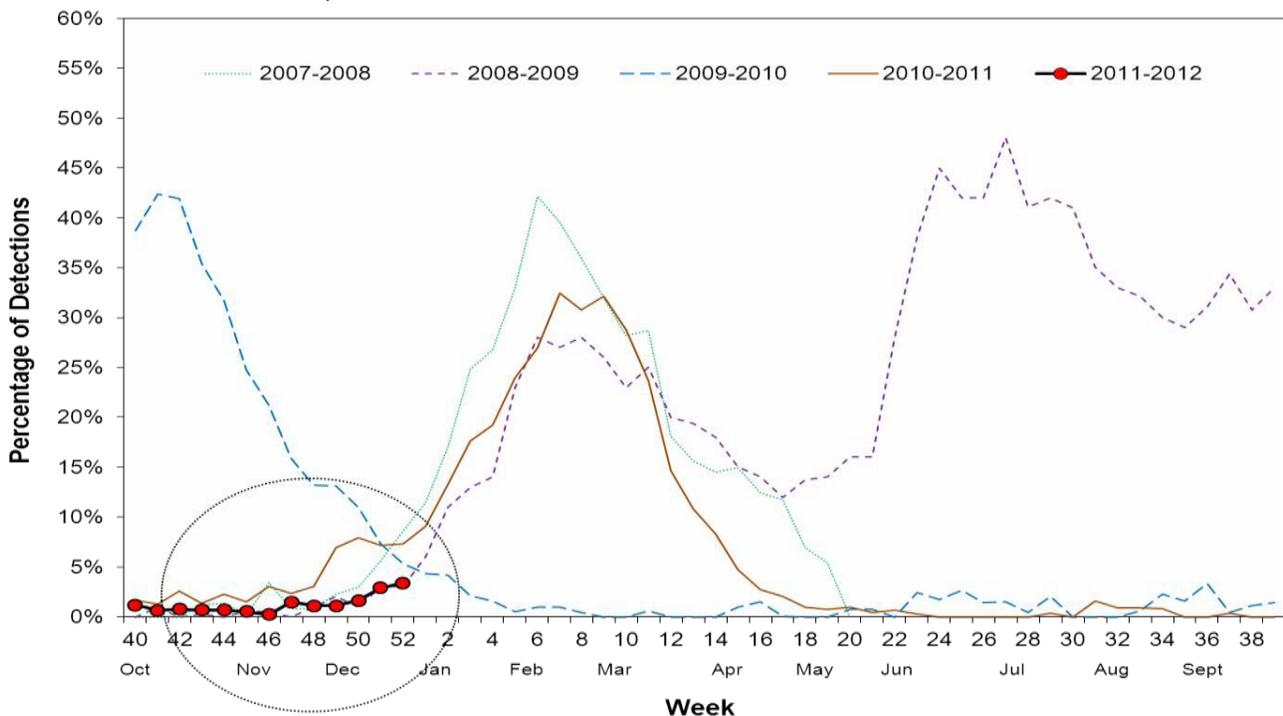
The percentage of influenza detections in the RLN and sentinel laboratories increased in Weeks 51 (2.9%) and 52 (3.4%) compared to Week 50 (1.6%), (Figure 2).

In week 51, of 1378 specimens tested by the Respiratory Laboratory Network (RLN) and sentinel laboratories, 8 (0.6%) were positive for influenza B and 31 (2.2%) were positive for influenza A; 9 (29.0%) influenza A specimens were subtyped as A (H3) and 22 (71.0%) were not subtyped. The influenza-positive specimens were reported from Alameda, Contra Costa, Fresno, Los Angeles, Marin, Placer, Sacramento, San Diego, San Francisco, San Joaquin, Santa Clara, and Stanislaus counties.

In week 52, of 1242 specimens tested by the Respiratory Laboratory Network (RLN) and sentinel laboratories, 7 (0.6%) were positive for influenza B and 35 (2.8%) were positive for influenza A; 2 (5.7%) influenza A specimens were subtyped as A (2009 H1N1), 5 (14.3%) were subtyped as A (H3), and 28 (80.0%) were not subtyped. The influenza-positive specimens were reported from Alameda, Contra Costa, Napa, Orange, Placer, Sacramento, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Clara, Solano, Sonoma, and Yolo counties.

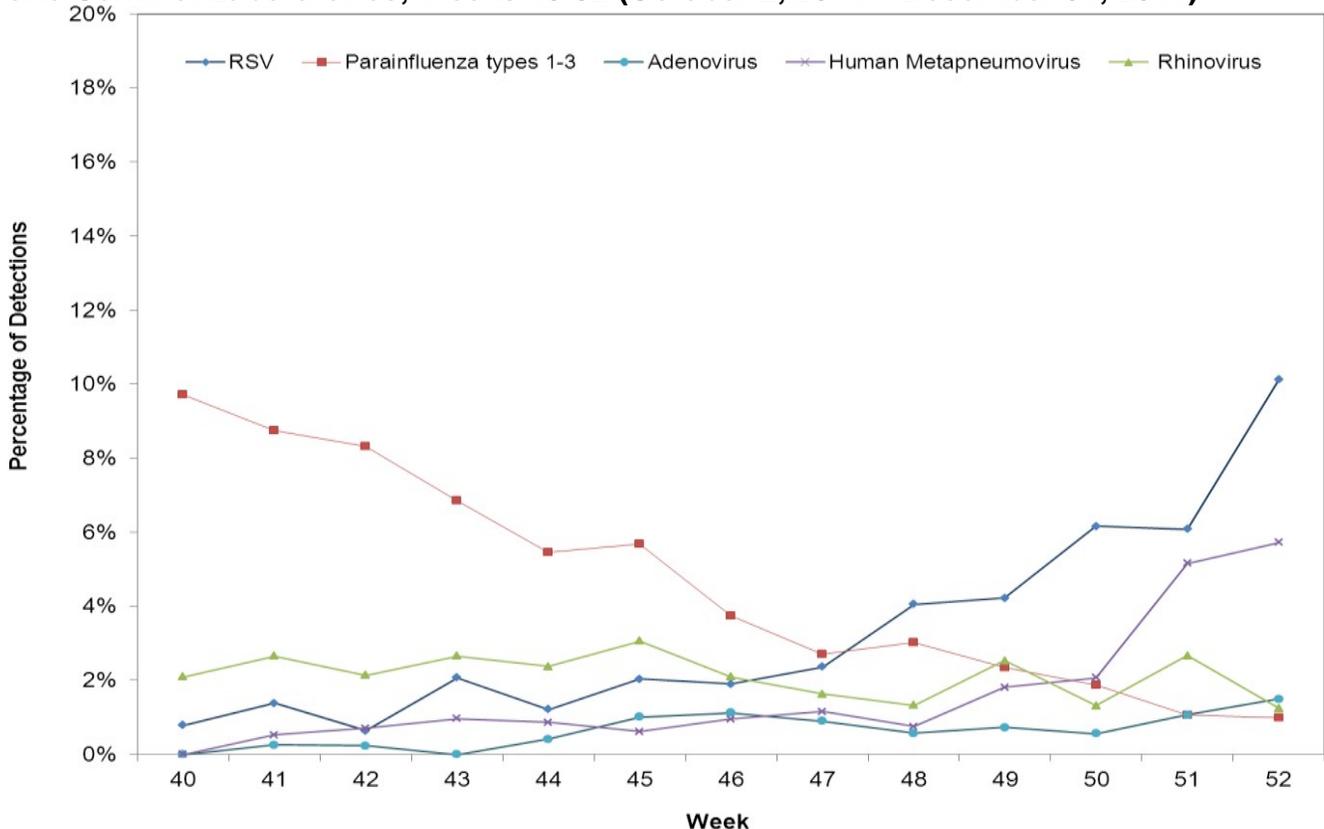
To date for the 2011-2012 season, of the 12,064 specimens tested, 170 (1.4%) were positive for influenza; 41 (24.1%) were B and 129 (75.9%) were influenza A. Of the influenza A detections, 4 (3.1%) were subtyped as A (2009 H1N1), 24 (18.6%) were subtyped as seasonal A (H3) and 101 (78.3%) had no further subtyping performed. Neither the RLN nor VRDL has identified any influenza viruses by PCR typing or subtyping that are suggestive of the influenza A (H3N2)v infection, although the number of specimens tested has been low.

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



The proportion of human metapneumovirus (hMPV) detections has been steadily increasing in the past few weeks (2.1%, 5.2% and 5.7% in Weeks 50, 51, and 52, respectively). Likewise, respiratory syncytial virus (RSV) detections have also been steadily increasing, with a sharp increase in Week 52 (10.1%), (compared to 6.1% and 6.2% in Weeks 51 and 50, respectively), (Figure 3).

Figure 3. Other Respiratory Pathogen Detections in Respiratory Laboratory Network and Sentinel Laboratories, Weeks 40-52 (October 2, 2011 – December 31, 2011)



2. Antiviral Resistance Testing (AVR)

The 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 implemented 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). Adamantane resistance testing will not be performed at the VRDL on a routine basis. The combined AVR data are summarized below and should be considered for epidemiological purposes only.

CDPH-VRDL has tested 20 influenza specimens to date during the 2011-2012 influenza season, all of which have been sensitive to neuraminidase inhibitors (Table 1).

Table 1. Number of specimens tested for antiviral resistance

	Neuraminidase Inhibitors Resistance
Influenza A (2009 H1N1)	0/1
Influenza A (H3N2)	0/19

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 CDPH-VRDL can expedite strain-typing on a limited number of samples using a smaller panel of antisera.

Three California specimens have been strain-typed to date during the 2011-2012 influenza season; all matched with components of the 2011-2012 vaccine for the Northern Hemisphere (Table 2).

Table 2. Influenza virus antigenic characterization for the 2011-12 season

	Total (N=3)
Influenza A	2
A/Perth/16/2009-like (H3N2)*	2
Influenza B	1
B/Brisbane/60/2008-Like*	1

*Matches components of the 2011-12 Northern Hemisphere influenza vaccine

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.

No reports of influenza-associated deaths among persons age 0-64 years was received by CDPH in Weeks 51 and 52. To date during the 2011-2012 influenza season, CDPH has received one report of an influenza- associated death in an adult in the 30-40 year age range with multiple chronic medical conditions.

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](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.aspx) at <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.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 the [Severe Influenza Case History Form](https://www.cdph.ca.gov/CDPH%20Document%20Library/ControlledForms/cdph9070.pdf) Link at <https://www.cdph.ca.gov/CDPH%20Document%20Library/ControlledForms/cdph9070.pdf>.