

Weekly Update



California Department of Public Health Influenza Surveillance Program

California Influenza and Other Respiratory Disease Surveillance for Week 1 (December 30, 2012–January 5, 2013)

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.

Overall influenza activity in California during Week 1 remained

“regional*.” Influenza Report Highlights

- Outpatient influenza-like illness (ILI) increased 0.5% in week 1 (5.4%) compared to week 52 (4.9%).
- Of 2320 specimens tested during Week 1,
 - 339 (14.6%) were positive for influenza virus; of these
 - 53 (15.6%) were influenza B and
 - 286 (84.4%) were influenza A
 - 68 (23.8%) were subtyped as seasonal A (H3)
 - 1 (0.3%) was subtyped as 2009 A (H1)
 - 217 (75.9%) were not subtyped
- The California Department of Public Health Viral and Rickettsial Disease Laboratory (CDPH-VRDL) has tested 12 influenza isolates for antiviral resistance to date; none have been resistant to neuraminidase inhibitors.
- The Centers for Disease Control and Prevention (CDC) has not strain-typed any California specimens to date.
- Two influenza-associated deaths in adults less than 65 years of age were reported during week 1.
- No cases of novel influenza have been detected in California to date.

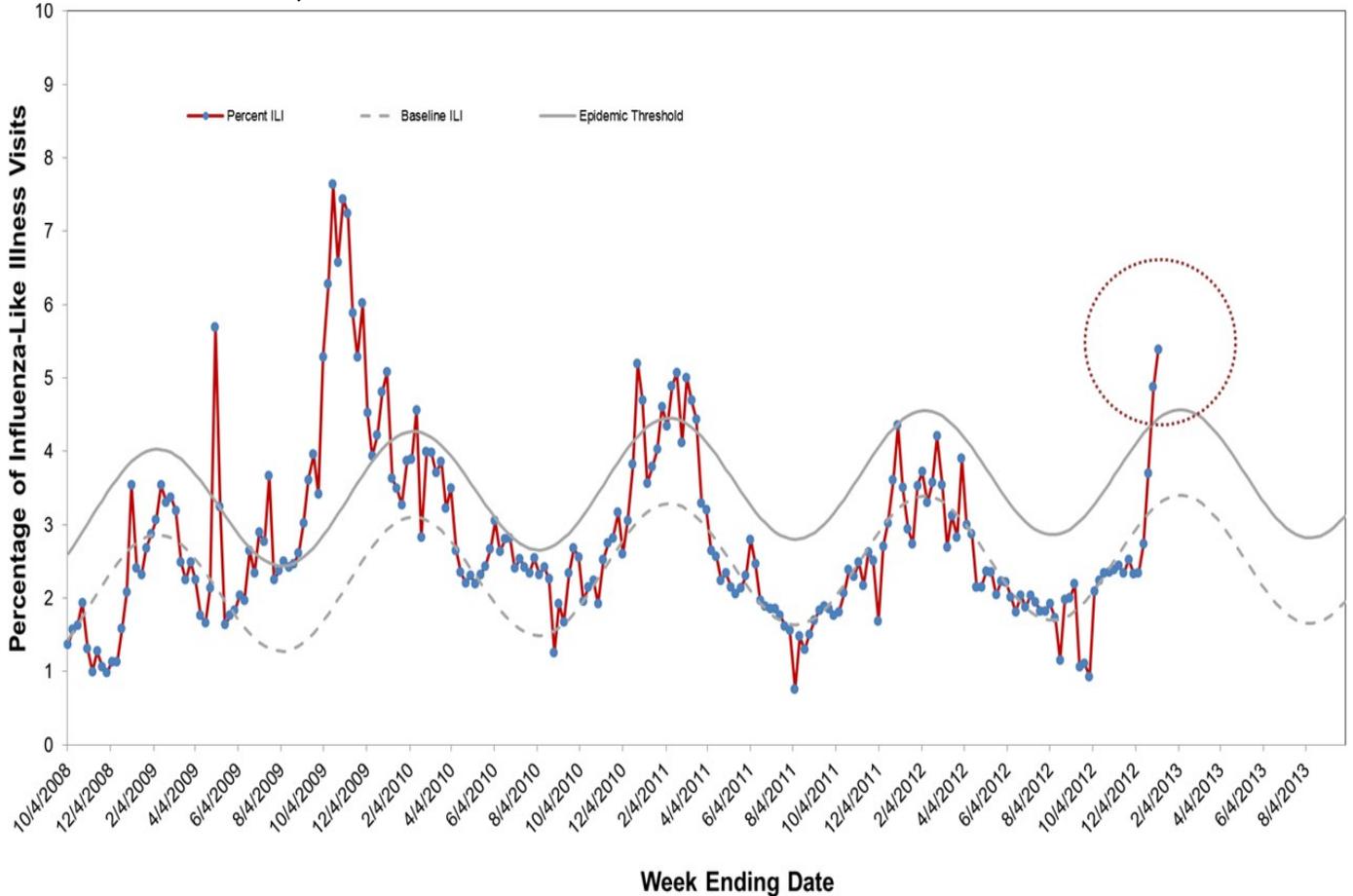
*For the Centers for Disease Control and Prevention (CDC) definitions of influenza geographic distribution, please go to the [CDC influenza web page](http://www.cdc.gov/flu/weekly/overview.htm) at <http://www.cdc.gov/flu/weekly/overview.htm>.

A. Syndromic Surveillance Update

1. CDC Influenza Sentinel Providers

A total of 72 enrolled sentinel providers have reported data for Week 1, compared to an average of 113 providers reporting for each of the previous weeks. Based on available data, the percentage of visits for ILI in Week 1 (5.4%) increased to above the epidemic threshold (4.4%). The percentage of visits for ILI has steadily increased since Week 49 (Figure 1).

Figure 1. Percentage of Influenza-like Illness Visits Among Patients Seen by California Sentinel Providers, 2008– 2013

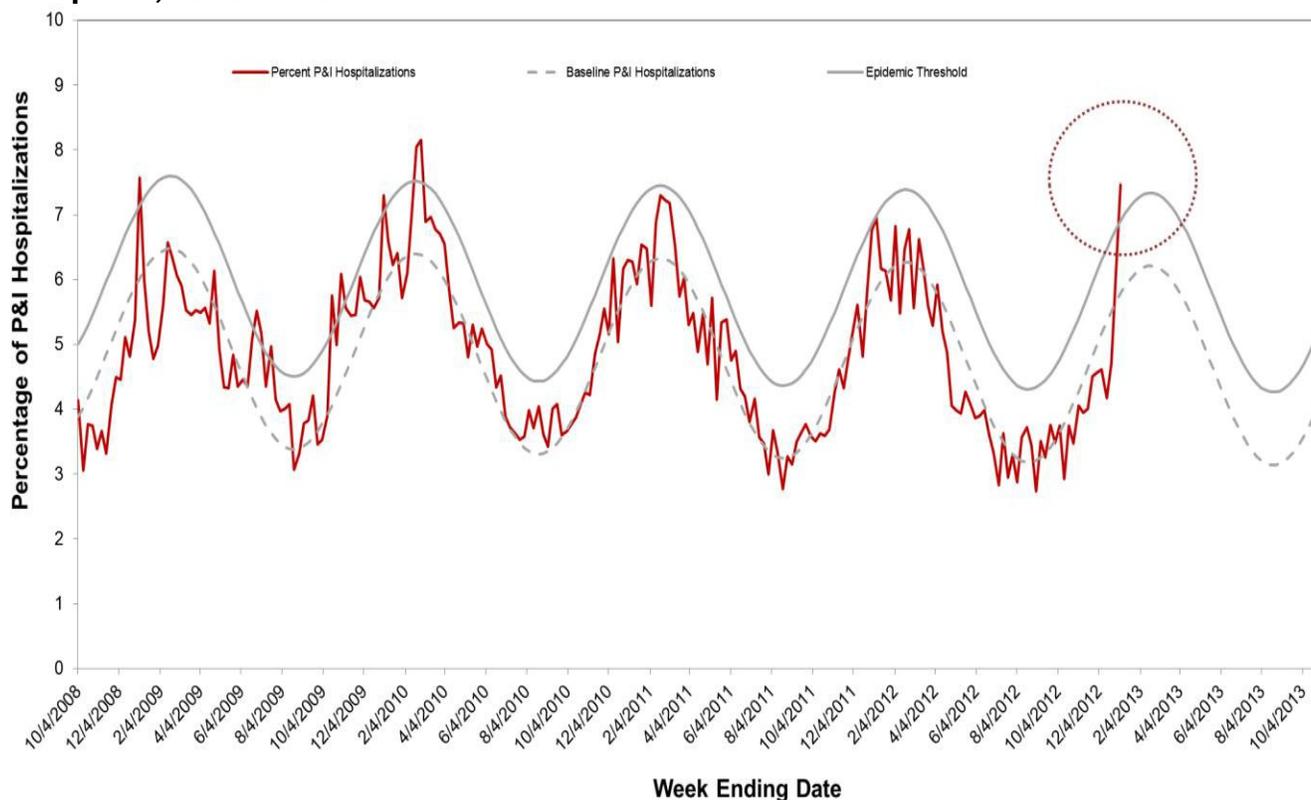


The seasonal baseline was calculated using a regression model applied to data from the previous seven years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of ILI is significantly higher than would be expected at that time of the year.

2. Kaiser Permanente Hospitalization Data

The percentage of hospitalizations for pneumonia and influenza (P&I) in Kaiser Permanente facilities in northern California increased during Week 1 (7.5%), compared to Week 52 (6.1%) (Figure 2). The percentage increased to above the epidemic threshold (6.9%) during Week 1.

Figure 2. Percentage of P&I Hospitalizations in Kaiser Permanente Northern California Hospitals, 2008–2013



The seasonal baseline was calculated using a regression model applied to data from the previous five years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of pneumonia and influenza hospitalizations in Kaiser Permanente hospitals in northern California is significantly higher than would be expected at that time of the year.

B. Laboratory Update

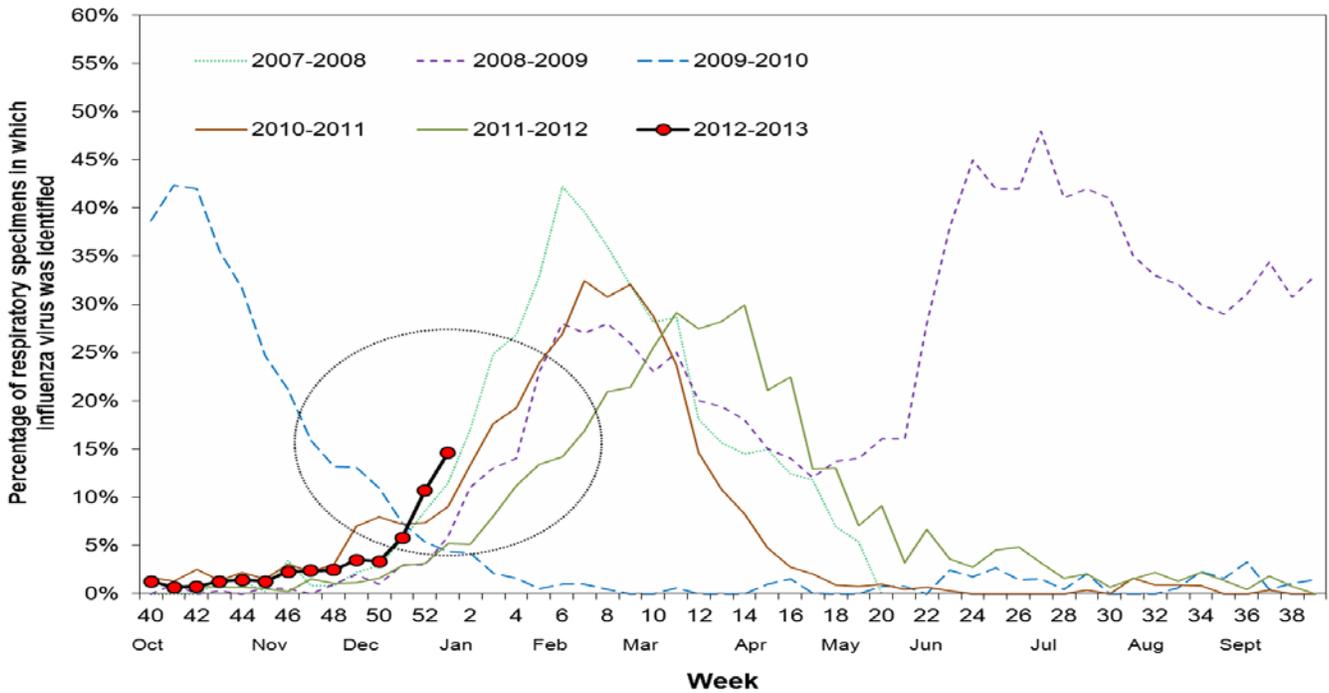
1. Respiratory Laboratory Network (RLN) and Sentinel Laboratory Surveillance Results

The percentage of influenza detections in the RLN and sentinel laboratories increased in Week 1 (14.6%, compared to 10.7% in Week 52) (Figure 3). In Week 1, of 2320 specimens tested by the RLN and sentinel laboratories, 53 (2.3%) were positive for influenza B and 286 (12.3%) were positive for influenza A. Of the 286 specimens that tested positive for influenza A, 68 (23.8%) were subtyped as seasonal A (H3), 1 (0.3%) was subtyped as 2009 A (H1), and 217 (75.9%) had no further subtyping performed.

To date for the 2012–2013 season, of 15,979 specimens tested, 861 (5.4%) were positive for influenza; of these, 148 (17.2%) were influenza B and 713 (82.8%) were influenza A. Of the 713 specimens that tested positive for influenza A, 218 (30.6%) were subtyped as seasonal A (H3), 10 (1.4%) were subtyped as 2009 A (H1), and 485 (68.0%) had no further subtyping performed.

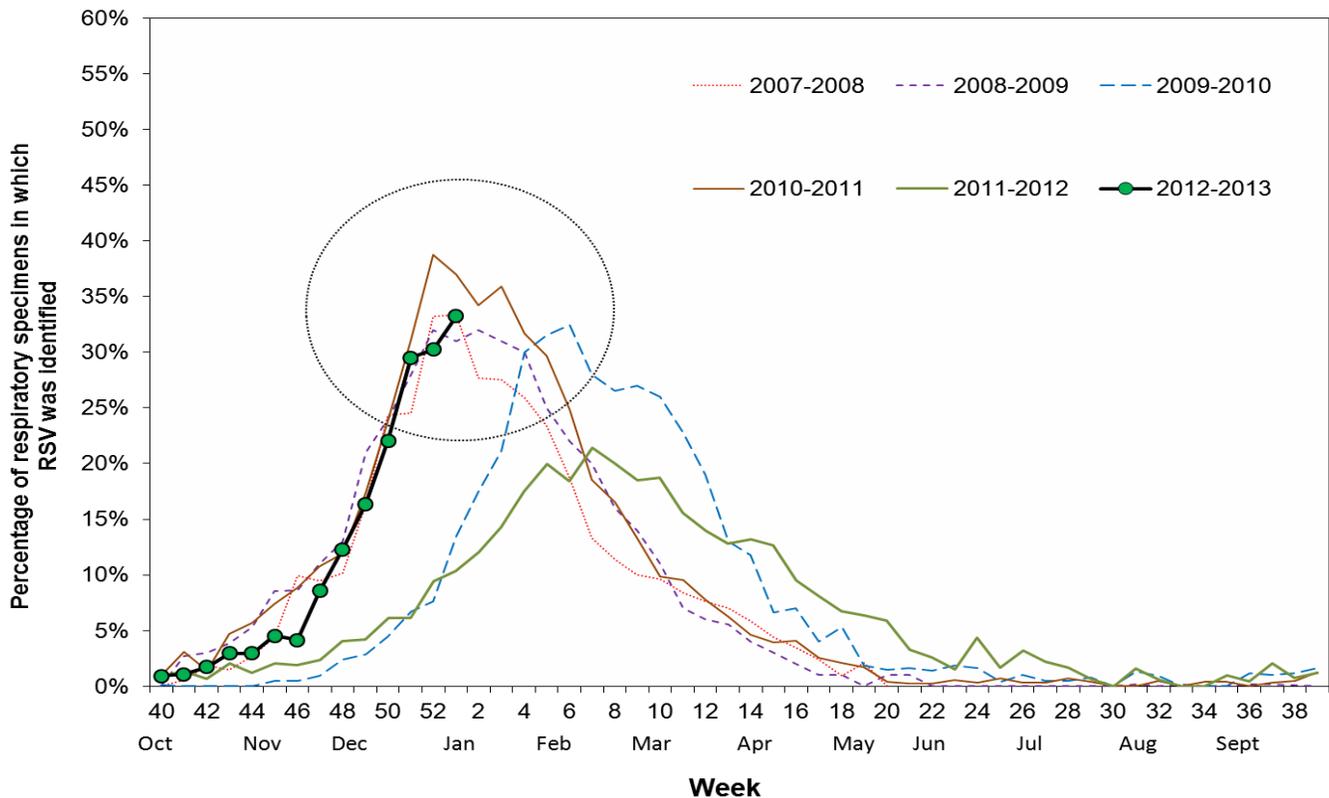
Neither the RLN nor CDPH-VRDL have identified any influenza viruses by polymerase chain reaction (PCR) typing or subtyping that are suggestive of a novel influenza virus.

Figure 3. Percentage of Influenza Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2007–2013



Respiratory syncytial virus (RSV) detections increased in Week 1 (33.2%, compared to 30.2% in Week 52) (Figure 4).

Figure 4. Percentage of RSV Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2007–2013



2. Antiviral Resistance Testing

The CDPH-VRDL performs surveillance for antiviral resistance (AVR) testing on a limited basis and on individual cases upon special request. During the 2012–2013 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 seasonal A (H3) and 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 seasonal 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 twelve influenza A (H3) specimens to date during the 2012–2013 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)	N/A
Influenza A (H3)	0/12

3. Influenza Virus Strain Characterization

No California specimens have been strain-typed to date during the 2012–2013 influenza season.

c. Laboratory-confirmed Fatal Case Reports

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

CDPH received two reports influenza-associated deaths in adults less than 65 years of age during Week 1. A total of four influenza-associated deaths among persons less than 65 years of age have been reported to CDPH to date during the 2012–2013 influenza season.

d. Influenza-associated Outbreaks

CDPH has received no reports of laboratory-confirmed influenza outbreaks to date during the 2012–2013 influenza season.

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

For more information regarding the different influenza surveillance data sources, please visit the [CDPH Influenza Surveillance Program](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Flu-Reports.aspx) at <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Flu-Reports.aspx>

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>