California Influenza and Respiratory Disease Surveillance for Week 52 (December 26, 2010-January 1, 2011)

For Week 52, overall influenza activity in California remained "sporadic.*"

Influenza and Respiratory Disease Highlights (Week 52)

- A low number of sentinel providers reported during the holiday period (76 compared to an average in previous weeks of 120). Reports of influenza-like illness (ILI) decreased by 3.0% in Week 52 compared to the previous week. The ILI activity in California for Week 52 remained "minimal.**"
- The percentage of Kaiser Permanente hospitalizations for pneumonia and influenza (P&I) increased in both northern and southern California during Week 52.
- Of 150 specimens tested by polymerase chain reaction (PCR) statewide by the Respiratory Laboratory Network (RLN) during Week 52, 41 (27.3%) were positive for influenza; 21 (14%) were influenza A and 20 (13%) were influenza B. The influenza A specimens were subtyped as H3 (14) and 2009 H1N1 (7). The majority of positive specimens were from Orange and San Diego counties.
- The proportion of specimens tested statewide that were positive for respiratory syncytial virus (RSV) continued to increase substantially; 624 of 1,397 (44%) of specimens tested were positive. The percentage of RSV detections in Week 52 exceeds the range of percentages seen for RSV at the same time in previous years.
- CDPH would like to remind our partners of the importance of confirmatory influenza testing by PCR and subtyping for severe influenza cases. Many of the cases reported to us are diagnosed by non-molecular rapid tests, which can be falsely positive early in the season and do not identify subtype (e.g. H1 or H3). We ask that you please work closely with hospitals in your jurisdiction to promptly notify you of these cases and to save any residual respiratory specimens for further confirmation and characterization at your public health laboratory. This information is critical to help CDPH monitor what influenza types and subtypes are circulating and causing illness in California, and can affect treatment recommendations.

*Sporadic 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 influenza-like-illness (ILI)."
**Minimal is defined by the CDC as ILI activity from outpatient clinics being below the average percent of ILI visits that occur during spring and fall weeks with little or no influenza virus circulation.

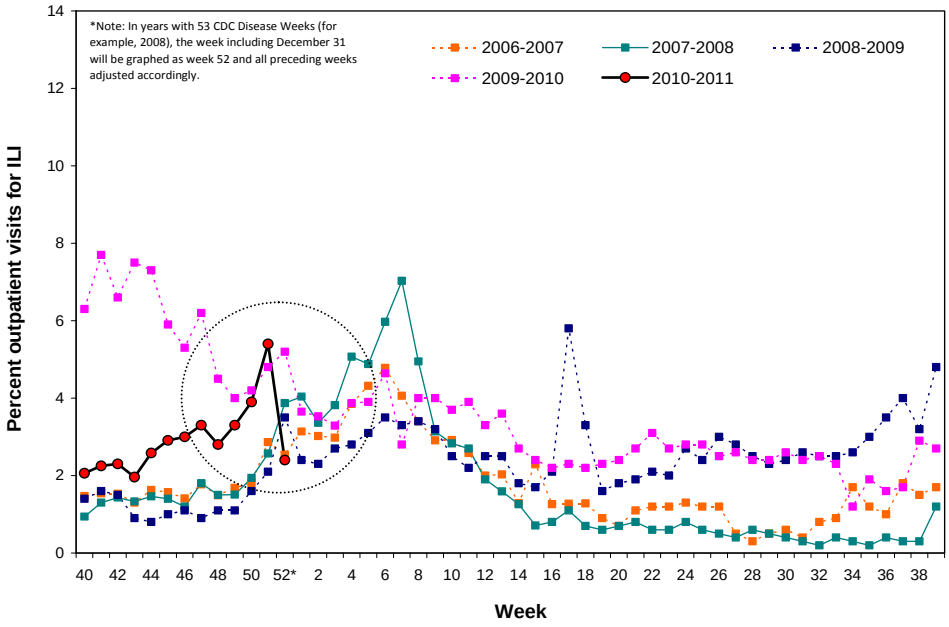
A. Syndromic Surveillance

<u>CDC Influenza Sentinel Providers</u>

Sentinel providers report the number of outpatient visits for influenza-like illness (ILI) and the total number of visits per week. These data are reported weekly as a percentage of total visits due to ILI. The ILI case definition is 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.

ILI decreased during Week 52 (2.4%) compared to the previous week (5.4%). A total of 76 sentinel providers reported data in Week 52 compared to an average of 120 providers reporting in prior weeks. Some ILI visits during recent weeks may not yet be reported.

Figure 1. California Sentinel Providers – Influenza-Like Illness Visits, 2006-2011



B. Laboratory Update

1. Respiratory Laboratory Network (RLN) PCR Surveillance Results

The Respiratory Laboratory Network is composed of 23 local public health laboratories that offer PCR testing for influenza A and B and testing using the R-mix shell vial culture system to identify five other common respiratory viruses (RSV, adenovirus, and parainfluenza virus type 1-3).

The percentage of specimens that tested positive for influenza increased in Week 52 (27.3%) compared to Week 51 (22.2%). Of 150 specimens tested by the RLN during Week 52, 21 (14%) were positive for influenza A, including 14 influenza A (H3) and 7 influenza A (2009 H1N1). An additional 20 (13%) specimens were positive for influenza B (Table 1). The majority of positive specimens were from Orange and San Diego counties.

The percentage of specimens that tested positive for RSV from the RLN decreased in Week 52 (5.6%) compared to Week 51 (8.3%). However, the overall number of specimens tested by R-mix has been small.

Table 1. Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results from Selected Laboratories*, Week 52 (December 26, 2010–January 1, 2011)

	Total RLN*	Northern CA	Central CA	Southern CA
	No. (%)	No. (%)	No. (%)	No. (%)
Number of specimens tested by PCR	**150**	**21**	**20**	**109**
Influenza A	21 (14.0)†	2 (9.5)†	5 (25.0)†	14 (12.8)†
A (seasonal H1N1)	0 (0.0)‡	0 (0.0)	0 (0.0)	0 (0.0)
A (H3)	14 (66.7)‡	1 (50.0)‡	1 (20.0)‡	12 (85.7)‡
A (2009 H1N1)	7 (33.3)‡	1 (50.0)‡	4 (80.0)‡	2 (14.3)‡
Influenza B	20 (13.3)†	0 (0.0)	0 (0.0)	20 (18.3)†
Number of specimens tested by R-mix	**36**	**0**	**19**	**17**
RSV	2 (5.6)¶	0 (0.0)	2 (10.5)¶	0 (0.0)
Other respiratory viruses	2 (5.6)¶,††	0 (0.0)	2 (10.5)¶	0 (0.0)

* RLN labs reporting Week 52 data, by region:
Northern CA: Contra Costa, Placer, Sacramento, Santa Clara, Shasta
Central CA: Fresno, San Joaquin, Tulare
Southern CA: Long Beach, Los Angeles, Orange, Riverside, San Diego, San Luis Obispo, Santa Barbara

† Percent of total specimens tested for influenza by PCR

‡ Percent of influenza A positives

¶ Percent of total specimens tested by R-mix

†† Adenovirus (2)

2. Sentinel Laboratory Surveillance Results

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.

Table 2 shows positive influenza and RSV results reported from sentinel laboratories during Week 52. The percentage of specimens that tested positive for influenza remained about the same in Week 52 (5.7%) compared to Week 51 (5.8%). Of the 1,327 specimens tested for influenza in Week 52, 46 (3.5%) were positive for influenza A and 29 (2.2%) were positive for influenza B. Of 1,397 specimens tested for RSV during Week 52, 614 (44.0%) were positive. This was a substantial increase from the previous week, when 462 (32.4%) of 1,409 specimens tested positive for RSV.

Table 2. Influenza and other respiratory virus detections from Sentinel Laboratories, December 26, 2010–January 1, 2011

	No.	(%)
Number of sites reporting	**65**	
Total specimens tested for influenza	**1,327**	
Influenza A	46	(3.5)*
Influenza B	29	(2.2)†
Total specimens tested for RSV	**1,397**	
RSV	614	(44.0)‡

Total number of positive lab results reported, by local health jurisdiction of patient's residence and/or site location:

* Alameda (6), Contra Costa (4), Fresno (5), Long Beach (4), Los Angeles (2), Placer (2), Sacramento (1), San Diego (4), San Francisco (2), San Joaquin (1), San Mateo (5), Santa Clara (8), Sonoma (1), Stanislaus (1)

† Alameda (1), Contra Costa (2), Imperial (1), Long Beach (5), Los Angeles (6), Orange (2), Riverside (2), San Diego (4), San Joaquin (1), Santa Clara (1), Solano (2), Sonoma (1), Stanislaus (1)

‡ Alameda (85), Butte (1), Contra Costa (41), Fresno (47), Kern (5), Kings (3), Long Beach (41), Los Angeles (34), Madera (24), Merced (18), Orange (2), Placer (17), Riverside (12), Sacramento (32), San Diego (5), San Bernardino (2), San Francisco (17), San Joaquin (27), San Mateo (31), Santa Clara (103), Solano (13), Sonoma (31), Stanislaus (18), Tulare (5)

Figures 2 and 3 summarize the combined laboratory data from both the RLN and the sentinel laboratories. Figure 2 shows that influenza detections increased in Week 52 (7.9%) compared to Week 51 (6.9%). Of the samples tested during Week 52, 4.5% were influenza A and 3.3% were influenza B. Figure 3 shows that there was another sharp increase in RSV detections during Week 52 (43.0%, compared to 32.4% the previous week), continuing an upward trend that started in Week 43 (October 24–30, 2010). The percentage of RSV detections in Week 52 exceeds the range of percentages seen for RSV at the same time in previous years.

Figure 2. Influenza detections at Sentinel Laboratories/Respiratory Laboratory Network, 2006-2011

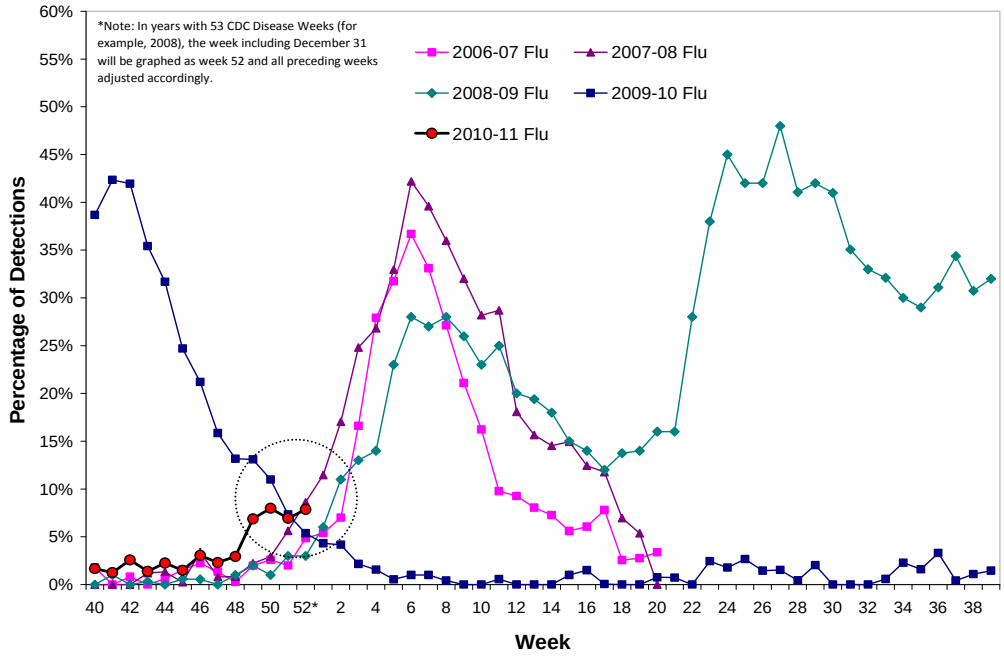
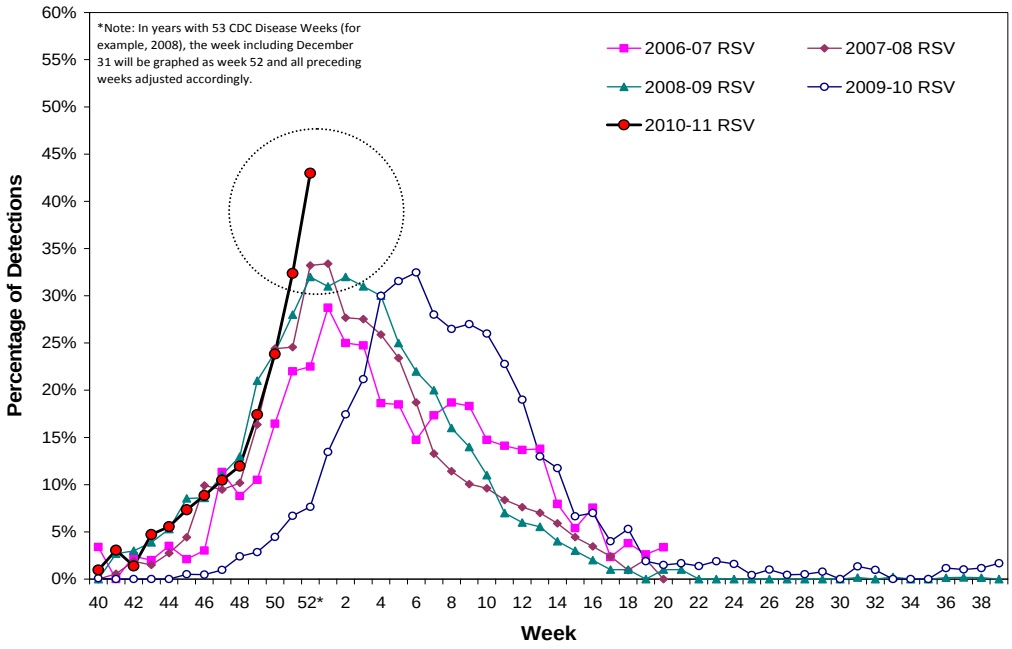


Figure 3. RSV detections at Sentinel Laboratories/Respiratory Laboratory Network, 2006-2011



For questions regarding this report or 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.