

California Influenza and Respiratory Disease Surveillance for Week 50 (December 12–18, 2010)

For Week 50, overall influenza activity in California remained “sporadic.”*

Influenza Highlights (Week 50)

- In Week 50, the California Department of Public Health (CDPH) received no reports of laboratory-confirmed severe (defined as ICU admission or death) influenza among patients under 65 years of age. Since Week 40, the start of this reporting year, 10 severe cases under 65 years of age have been reported; six have been in pediatric patients under 18 years of age and one was a woman who was 32 weeks pregnant and had influenza A (H3). No fatalities have been reported this season.
- Reports of influenza-like illness (ILI) from sentinel providers increased by 0.8% in Week 50 compared to the previous week. The ILI activity in California for Week 50 remained “minimal.”**
- Of 106 specimens tested by polymerase chain reaction (PCR) statewide by the Respiratory Laboratory Network (RLN) during Week 50, 21 (19.8%) were positive for influenza; 12 were influenza A and 9 were influenza B. Ten of the 12 influenza A specimens were subtyped as 2009 H1N1 (2) and H3 (8). Subtyping is pending for the remaining two influenza A specimens. The majority of positive specimens were from southern California.
- The proportion of specimens that were positive for respiratory syncytial virus (RSV) continued to increase substantially.

*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. Laboratory-confirmed case reports

During Week 50, CDPH received no reports of severe laboratory-confirmed influenza among patients under 65 years of age.

A total of 10 severe cases under 65 years of age have been reported since October 1, 2010; a variety of influenza types and subtypes except seasonal A (H1N1) have been detected (Table 1). The median age is 14 years, with a range of 0-55 years. Of the 10 cases, five are previously healthy and five have medical conditions identified by the Advisory Committee on Immunization Practices (ACIP) as risk factors for severe influenza. Three cases were associated with secondary bacterial infections. No influenza-associated fatalities have been reported.

For cases where influenza is identified by rapid test or direct fluorescence assay (DFA) only, local health jurisdictions are encouraged to collect specimens for further

confirmatory PCR testing and subtyping at the local public health laboratory. We are requesting local health departments to forward any specimen collected from a case with severe influenza to the CDPH Viral and Rickettsial Laboratory (VRDL) for further characterization.

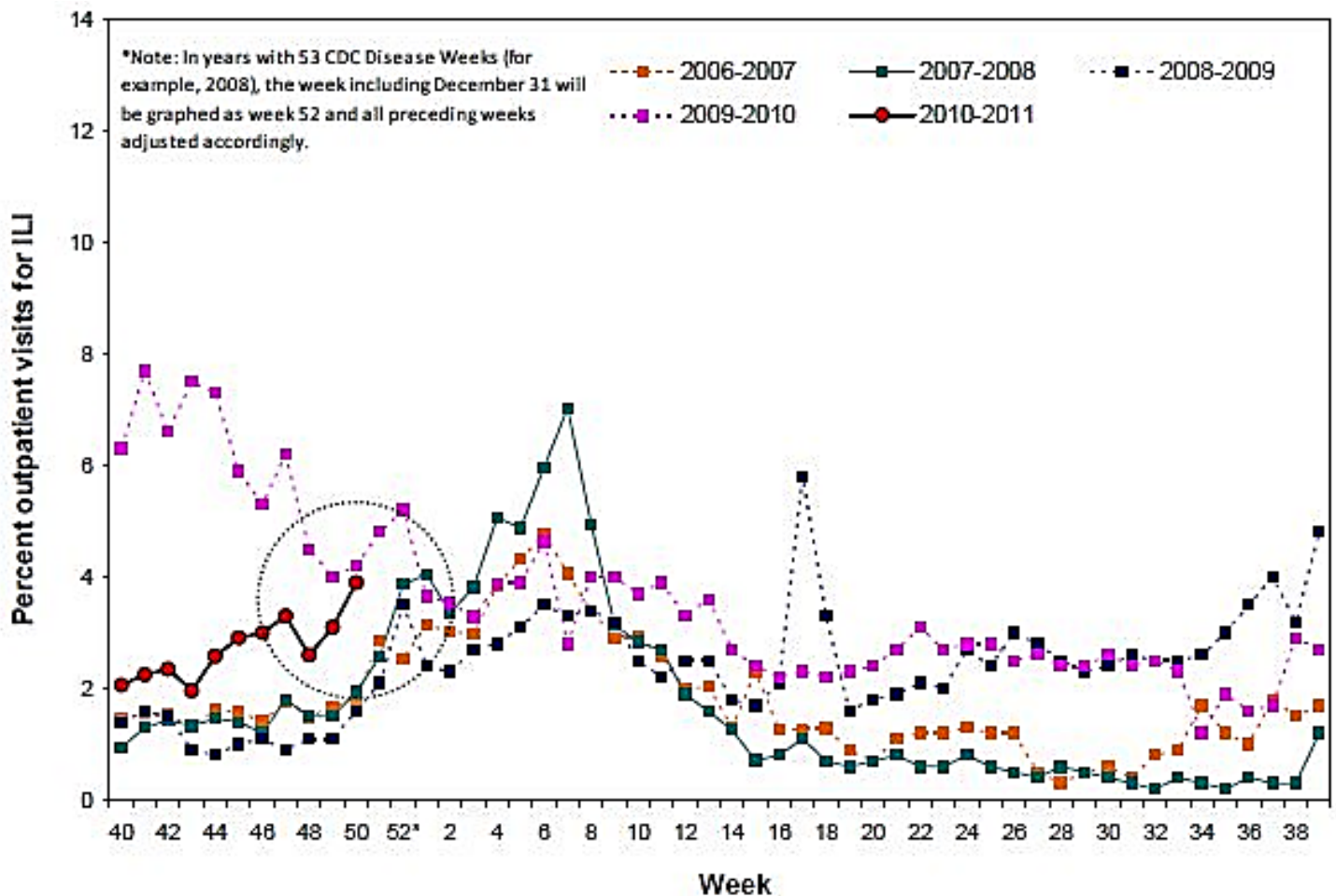
B. Syndromic Surveillance

CDC Influenza Sentinel Providers

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 increased during Week 50 (3.9%) compared to the previous week (3.1%). A total of 75 sentinel providers reported data in Week 50 compared to an average of 121 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



C. 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 50 (19.8%) compared to Week 49 (12.4%). Of 106 specimens tested by the RLN during Week 50, 12 were positive for influenza A, including two influenza A (2009 H1N1), eight influenza A (H3) and two influenza A with subtyping results pending. An additional nine specimens were positive for influenza B (Table 1). The majority of positive specimens were from southern California.

Influenza A (H3) was also identified in two specimens from northern California and one specimen from central California.

The percentage of specimens that tested positive for RSV from the RLN increased substantially in Week 50 (8.7%) compared to Week 49 (2.1%).

Table 1. Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results from Selected Laboratories^a, Week 50 (December 12–18, 2010)

	Total RLN^a No. (%)	Northern CA No. (%)	Central CA No. (%)	Southern CA No. (%)
Number of specimens tested by PCR	106	17	18	71
Influenza A	12(11.3) ^b	2(11.8) ^b	1(5.6) ^b	9(12.7) ^b
A (H1)	0(0.0) ^c	0(0.0)	0(0.0)	0(0.0)
A (H3)	8(66.7) ^c	2(100.0) ^c	1(100.0) ^c	5(55.6) ^c
A (2009 H1N1)	2(16.7) ^c	0(0.0)	0(0.0)	2(22.2) ^c
A - subtyping pending	2(16.7) ^c	0(0.0)	0(0.0)	2(22.2) ^c
Influenza B	9(8.5) ^b	0(0.0)	0(0.0)	9(12.7) ^b
Number of specimens tested by R-mix	23	0	13	10
RSV	2(8.7) ^d	0(0.0)	2(15.4) ^d	0(0.0)
Other respiratory viruses	1(4.3) ^{d, e}	0(0.0)	1(7.7) ^d	0(0.0)

^a RLN labs reporting Week 50 data, by region:

Northern CA: Contra Costa, El Dorado, Sacramento, Santa Clara

Central CA: Fresno, San Joaquin, Tulare

Southern CA: Long Beach, Los Angeles, Orange, San Diego, Santa Barbara

^b Percent of total specimens tested for influenza by PCR

^c Percent of influenza A positives

^d Percent of total specimens tested by R-mix

^e Adenovirus (1)

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 50. The percentages of specimens that tested positive for influenza and RSV increased in Week 50 (7.1% and 24.3%, respectively) compared to Week 49 (6.4% and 18.9%, respectively). Of the 1,392 specimens tested for influenza in Week 50, 55 (4.0%) were positive for influenza A and 44 (3.2%) were positive for influenza B. Of 1,340 specimens tested for RSV, 325 (24.3%) specimens were positive.

Table 2. Influenza and other respiratory virus detections from Sentinel Laboratories, December 12–18, 2010

Number of sites reporting	NO. (%) 71
Total specimens tested for influenza	1,392
Influenza A	55(4.0) ^a
Influenza B	44(3.2) ^b
Total specimens tested for RSV	1,340
RSV	325(24.3) ^c

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

^a Alameda (6), Fresno (1), Imperial (16), Long Beach (1), Los Angeles (7), Marin (1), Monterey (1), Placer (2), San Francisco (2), Sacramento (2), San Mateo (5), Santa Clara (8), Solano (2), Sonoma (1)

^b Alameda (1), Contra Costa (4), Fresno (1), Imperial (15), Kern (1), Long Beach (5), Los Angeles (7), Placer (1), Riverside (1), Sacramento (1), San Diego (2), San Mateo (1), Santa Clara (3), Solano (1)

c Alameda (54), Contra Costa (20), Fresno (15), Imperial (21), Long Beach (19), Los Angeles (19), Madera (3), Marin (1), Merced (7), Monterey (1), Orange (1), Placer (4), Riverside (5), San Francisco (23), Sacramento (17), San Diego (3), San Joaquin (9), San Mateo (30), Santa Clara (53), Solano (2), Sonoma (7), Stanislaus (8), Ventura (1), Yolo (2)

Figures 2 and 3 summarize the combined laboratory data from both the RLN and the sentinel laboratories. Figure 4 shows that influenza detections increased in Week 50 (8.0%) compared to Week 49 (6.9%). Of the samples tested during Week 50, 4.5% were influenza A and 3.5% were influenza B. Figure 5 shows that there was a sharp increase in RSV detections during Week 50 (24.0%, compared to 18.2% the previous week), continuing an upward trend that started in Week 43 (October 24–30, 2010). This increase is consistent with trends in RSV activity seen at this time in previous years.

Figure 2. Influenza detections at Sentinel Laboratories/Respiratory Laboratory Network, 2007-2011

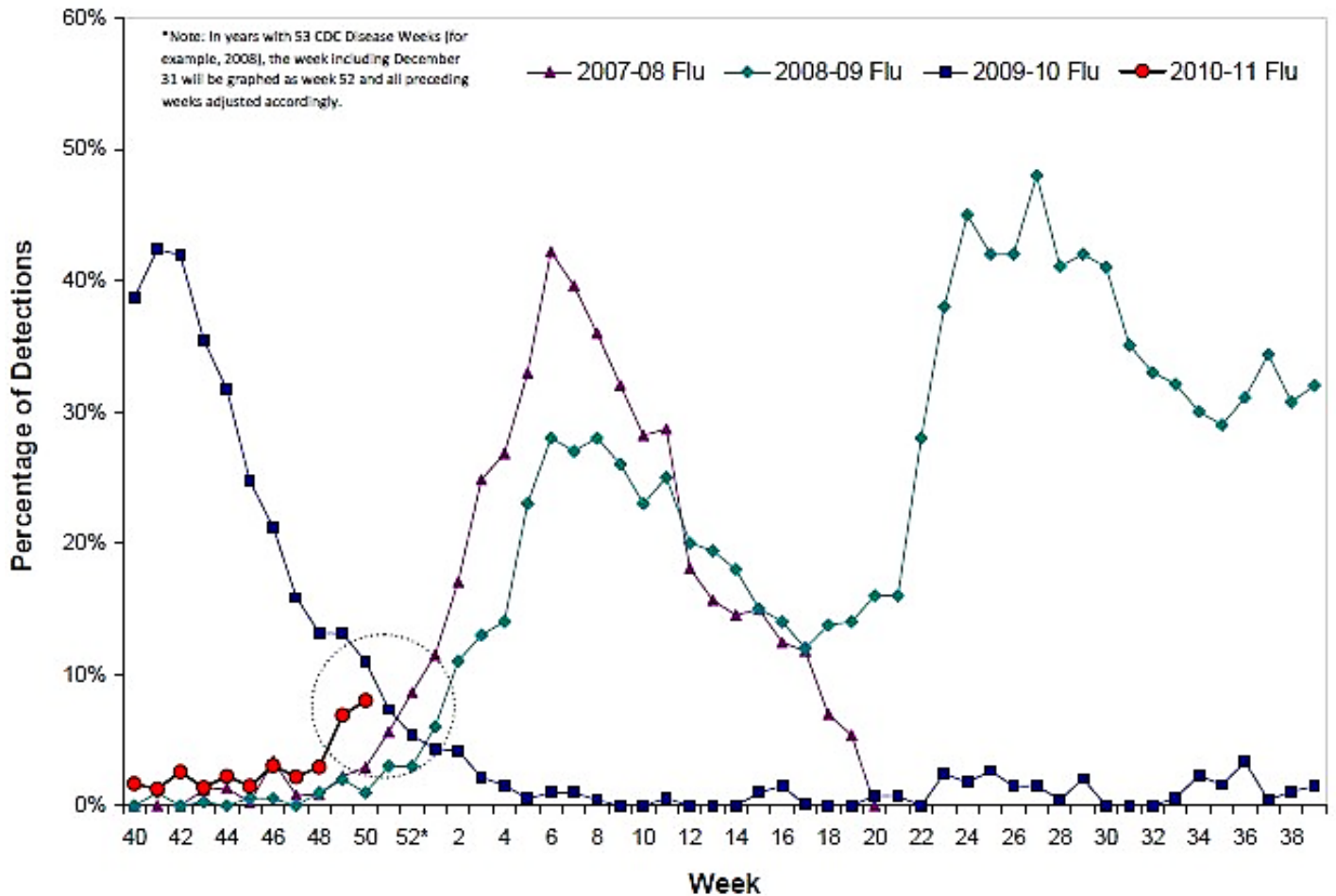


Figure 3. RSV detections at Sentinel Laboratories/Respiratory Laboratory Network, 2006-2011

