California Influenza and Respiratory Disease Surveillance for Week 49 (December 5–11, 2010)

For Week 49, overall influenza activity in California remained "sporadic.*"

Influenza Highlights (Week 49)

- In Week 49, the California Department of Public Health (CDPH) received three reports of laboratory-confirmed influenza among patients under 65 years of age who were admitted to the ICU. Since Week 40, the start of this reporting year, 10 non-fatal severe cases (defined as ICU admission or death) under 65 years of age have been reported; six have been in pediatric patients under 18 years of age. One of the severe cases reported this past week was 32 weeks pregnant and had influenza A (H3).
- Reports of influenza-like illness (ILI) from sentinel providers decreased in Week 49 compared to previous weeks. The ILI activity in California for Week 49 remained "minimal.**"
- The percentage of Kaiser Permanente hospitalizations for pneumonia and influenza (P&I) increased in northern California during this reporting period, while remaining level in southern California.
- Among 70 specimens tested by polymerase chain reaction (PCR) statewide by the Respiratory Laboratory Network (RLN) during Week 49, 12 were positive for influenza; five were influenza A (H3) and seven were influenza B. All positive specimens were from southern California.
- The proportion of specimens that were positive for respiratory syncytial virus (RSV) increased substantially among sentinel laboratories (20.1% in Week 49, compared to 12.5% in Week 48).

*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 49, CDPH received three reports of severe (defined as ICU admission or death) laboratory-confirmed influenza among patients under 65 years of age; one influenza A (H3), one influenza B, and one influenza A identified by rapid test only. The influenza A (H3) case is an otherwise healthy pregnant woman at 32 weeks gestation that presented with respiratory distress and required mechanical ventilation and premature delivery of her infant.

A total of 10 severe cases under 65 years of age have been reported since October 1, 2010; all influenza types and subtypes except seasonal A (H1N1) have been detected. 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 request 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.

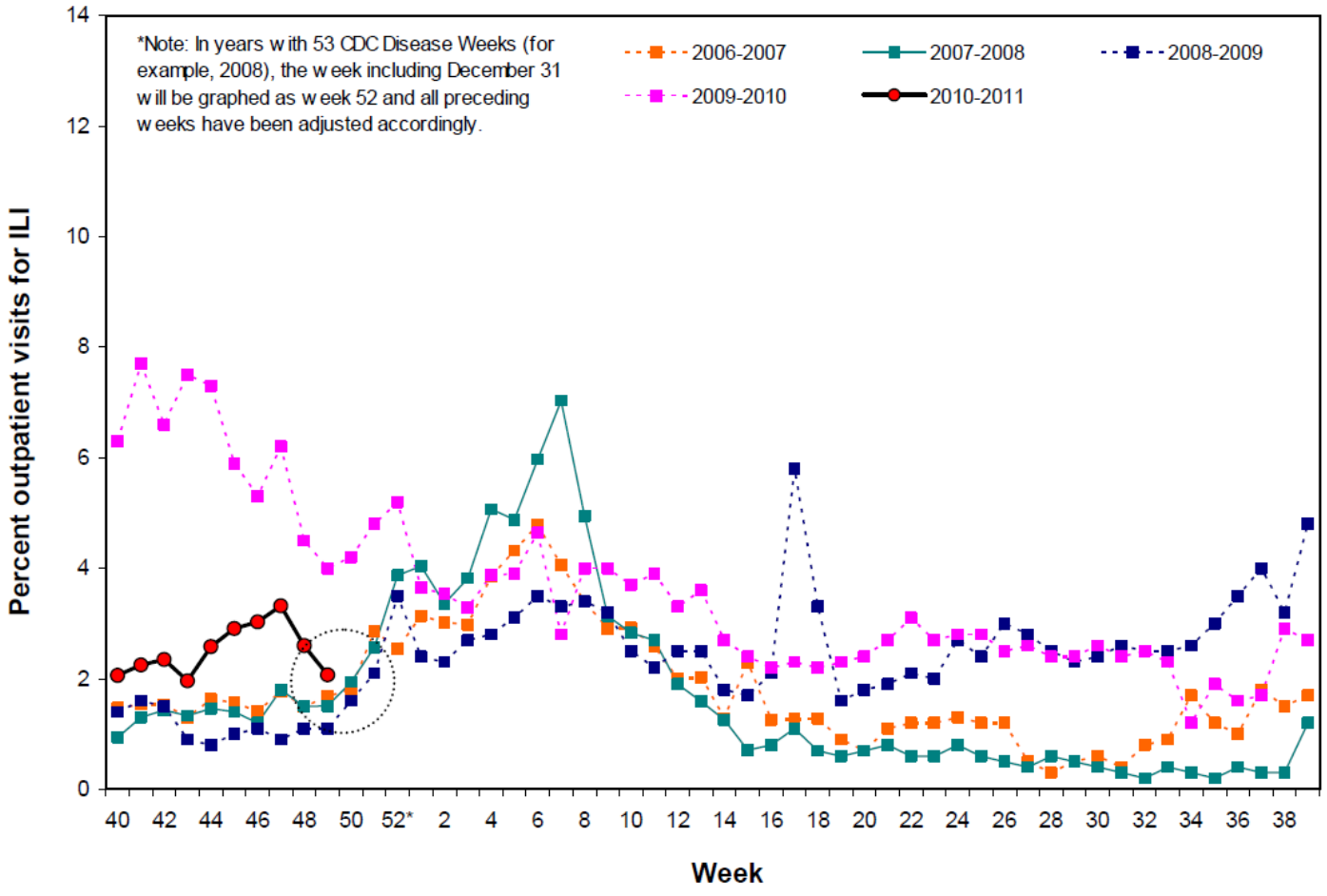
B. Syndromic Surveillance

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 decreased during Week 49 (December 5 – December 11, 2010) compared to the previous week. A total of 94 sentinel providers reported Week 49 data, 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) Influenza 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).

During Week 49 (December 5–11, 2010), of 70 specimens tested by the RLN, 12 were positive for influenza; five were influenza A (H3) and seven were influenza B. All positive specimens were from southern California.

Table 1. Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results from Selected Laboratories[a], Week 49 (December 5–11, 2010)

Method of Testing and Strain of Virus	Total RLN [a] Number (%)	Northern CA Number (%)	Central CA Number (%)	Southern CA Number (%)
Number of specimens tested by PCR	**70**	**19**	**6**	**45**
Influenza A [b]	5 (7.1)	0 (0.0)	0 (0.0)	5 (11.1)
A (H1) [c]	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
A (H3) [c]	5 (100.0)	0 (0.0)	0 (0.0)	5 (100.0)
A (2009 H1N1) [c]	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Influenza B [b]	7 (10.0)	0 (0.0)	0 (0.0)	7 (15.6)
Number of specimens tested by R-mix	**47**	**0**	**13**	**34**
RSV [d]	1 (2.1)	0 (0.0)	1 (7.7)	0 (0.0)
Other respiratory viruses [d]	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

[a] RLN labs reporting Week 49 data, by region:
Northern CA: Contra Costa, Placer, Sacramento, Santa Clara, Shasta
Central CA: Fresno, San Joaquin, Tulare
Southern CA: Long Beach, Orange, Riverside, 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

2. Sentinel Laboratory Positive Results Data

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 49 (December 5–11, 2010). Of the 1,148 specimens tested for influenza, 52 (4.5%) were positive for influenza A and 23 (2.0%) were positive for influenza B. Of 1,025 specimens tested for RSV, 206 (20.1%) specimens were positive.

Table 2. Influenza and other respiratory virus detections from 69 Sentinel Laboratories for Week 49, December 5–11, 2010

Virus Strains	Number (%) and Total Tested
Influenza A	52 (4.5%) [a] Total tested Week 49: 1,148
Influenza B	23 (2.0%) [b] Total tested Week 49: 1,148
RSV	206 (20.1%) [c] Total tested Week 49: 1,025

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

a Alameda (5), Contra Costa (3), Imperial (17), Long Beach (1), Los Angeles (5), Placer (1), San Francisco (5), San Mateo (4), Santa Clara (7), Solano (2), Sonoma (1), Stanislaus (1)

b Contra Costa (1), Imperial (12), Long Beach (1), Los Angeles (2), Riverside (1), San Francisco (2), San Mateo (1), Santa Clara (3)

c Alameda (32), Contra Costa (10), Fresno (11), Imperial (7), Kern (1), Kings (2), Long Beach (10), Los Angeles (7), Madera (3), Merced (10), Orange (1), Placer (4), Riverside (4), San Francisco (15), San Bernardino (1), Sacramento (7), San Diego (2), San Joaquin (7), San Mateo (17), Santa Clara (39), Solano (1), Sonoma (9), Stanislaus (6)

Figures 2 and 3 summarize the combined laboratory data from both the RLN and the sentinel laboratories. Figure 2 shows that influenza detections increased during Week 49 (December 5– 11, 2010). Of the samples tested during Week 49, 4.7% were influenza A and 2.5% were influenza B. Figure 3 shows that there was a large increase in RSV detections during Week 49 (19.3%, compared to 12.4% 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

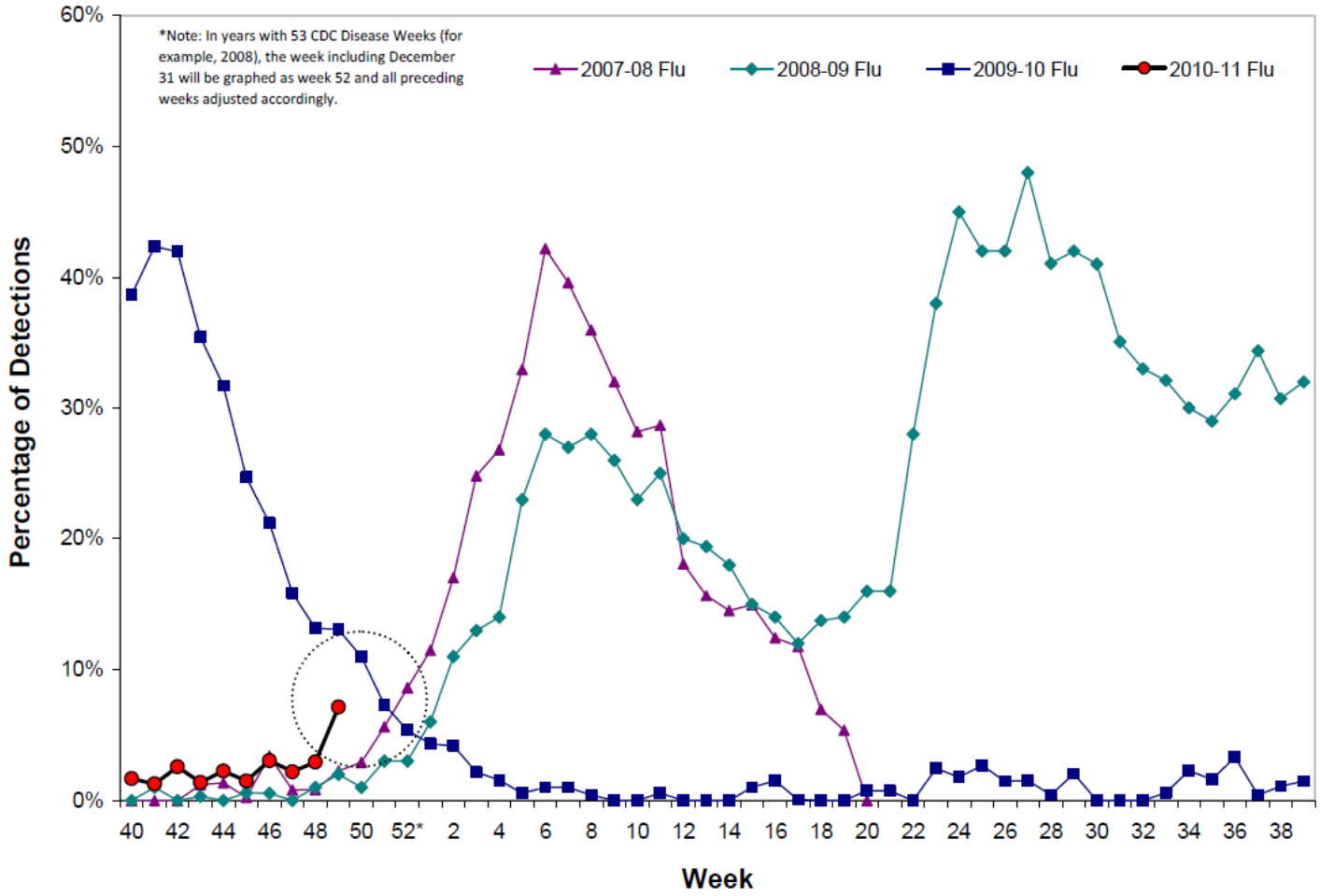


Figure 3. RSV detections at Sentinel Laboratories/Respiratory Laboratory Network, 2006-2011