

California Influenza and Respiratory Disease Surveillance for August 1 – 28, 2010

During the past month, overall influenza activity in California remained “sporadic” (defined by the 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)”). Reports of ILI from sentinel providers, Kaiser Permanente hospitalizations for pneumonia and influenza, and laboratory detections of influenza and respiratory syncytial virus (RSV) have remained steady during the past month. There were four detections of influenza A during week 34 (August 22-28, 2010). Two were 2009 H1N1 and two were not subtyped.

CALIFORNIA INFLUENZA HIGHLIGHTS

2009 H1N1 Influenza:

- CDPH case report forms continue to be submitted for individuals with probable or confirmed 2009 H1N1 who require hospitalization in an intensive care unit (ICU cases) or who die (fatal cases).
- A total of 2114 severe cases (defined as patients who were admitted to the ICU and/or died) of 2009 H1N1 influenza have been reported to CDPH between April 23, 2009 and August 28, 2010.
- CDPH received no reports of fatal 2009 H1N1 influenza cases for the period August 1-28, 2010. The most recent death in California due to 2009 H1N1 influenza was reported for the week of April 17, 2010. A total of 596 deaths associated with 2009 H1N1 influenza have been reported to CDPH to date.
- Statewide cumulative mortality due to reported 2009 H1N1 influenza is 1.5 cases per 100,000 population. As in previous months, the fatality rate remains highest among individuals aged 50-64 years (3.2 per 100,000) and lowest among children aged 1-4 years (0.2 per 100,000).
- In the past month, no new cases meeting the case definition for severe pediatric influenza have been reported. Since April 1, 2009, a total of 621 cases have been reported, 535 (86%) of which have been confirmed or probable 2009 H1N1 influenza. A total of 40 fatalities have been reported among these 621 severe pediatric influenza cases.
- Of 2299 specimens tested by VRDL, eight¹ cases of oseltamivir resistance have been identified among California residents with laboratory-confirmed 2009 H1N1 influenza infections.

Seasonal Influenza:

- Reports of ILI from sentinel providers have decreased from the peak in early November 2009 but remain above the historical baseline.
- Influenza detections by sentinel laboratories have remained low for the last several reporting periods.
- Sporadic influenza B cases have been seen in the border counties in the past few months; all have been identified as the strain B/Brisbane/60/2008 which is a component of the 2010-11 vaccine.

Other Respiratory Diseases:

- This week there was one detection of parainfluenza type 2 and six rhinovirus detections.

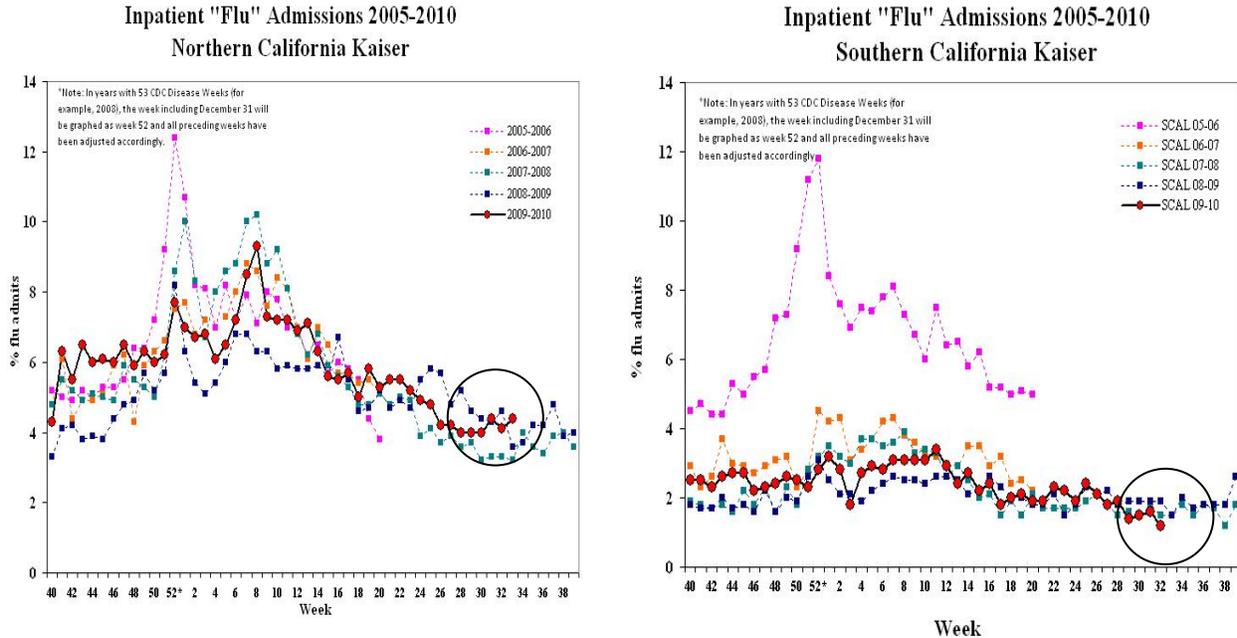
¹ One Louisiana resident was mistakenly included in the previous case count.

Syndrome Surveillance

1. Kaiser Permanente Hospitalization Data ("Flu Admissions")

An admission diagnosis of flu, pneumonia, or influenza (collectively "Flu Admissions") serves as a surrogate marker for the more accurate, but less timely, discharge diagnosis. 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 influenza and pneumonia admissions. As indicated in the circles, Figures 1 and 2 show that during the past month the percentage of Kaiser hospitalizations for pneumonia and influenza has remained steady in northern and southern California. The trend data for both regions remain within the range of percentages seen for seasonal influenza in previous years. Data were not available for weeks 33 and 34 in southern California and week 34 in northern California.

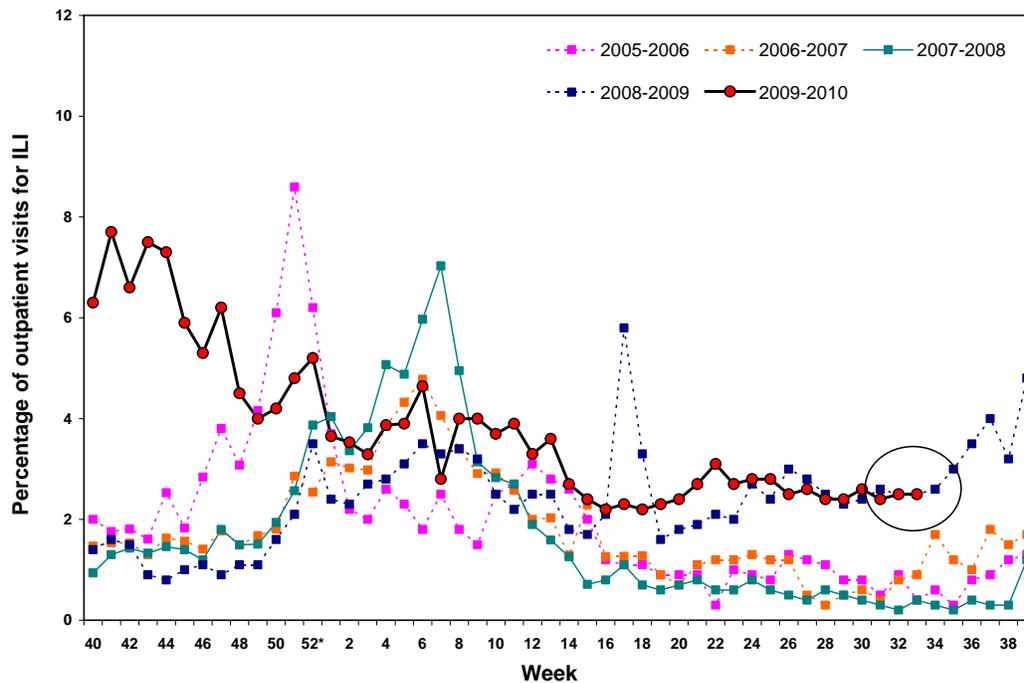
Figures 1-2. Inpatient "Flu" Admissions at Kaiser Facilities, 2005-2010.



2. CDC Influenza Sentinel Providers

Sentinel providers report the number of outpatient visits for ILI and the total number of visits per week. These data are reported weekly as a percentage of total visits due to ILI. During the 2009-10 influenza season, the percentages of ILI were highest in weeks 41 (October 11-17, 2009) through 44 (November 1-7, 2009). Since then, there has been a downward trend in ILI percentage; however the percentage of ILI in the past four months has been similar to what was seen at this time last year when 2009 H1N1 was the most prevalent influenza virus circulating, and this percentage is above historical baseline levels. Data for the most recent week (Week 34) are not included due to delay in reporting.

Figure 3. California Sentinel Providers – Influenza-Like Visits, 2005-2010.



Laboratory Update

1. Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results

During Week 34 (August 22-28, 2010), two of the specimens received by the RLN were positive for influenza (Table 1). Both were from San Francisco County.

Table 1. Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results from Selected Laboratories*, Week 34 (August 22-28, 2010)

	Total Flu A tested	Flu A (% of total)	H1 (% of Flu A)	H3 (% of Flu A)	H1N1 (% of Flu A)	Total Flu B tested	Flu B (% of total)	Total RSV tested (R-mix)	RSV (% of total)
Total RLN*	8	2 (25%)	0 (0%)	0 (0%)	2 (25%)	8	0 (0%)	6	0 (0%)
Northern	3	2 (67%)	0 (0%)	0 (0%)	2 (67%)	3	0 (0%)	0	0 (0%)
Central	2	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2	0 (0%)	4	0 (0%)
Southern	3	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3	0 (0%)	2	0 (0%)

* 16 RLN laboratories reporting, including:

Northern CA: Contra Costa, El Dorado, Marin, Sacramento, San Francisco, Santa Clara, Shasta

Central CA: Fresno, Monterey, San Joaquin, Tulare

Southern CA: Long Beach, Orange, Riverside, San Diego, San Luis Obispo

2. Laboratory Positive Results Data

Sentinel providers have submitted 622 respiratory specimens to date since the start of the 2009-10 influenza season (week 40, October 4-10, 2009). Of these, 268 were positive for influenza A, none were positive for influenza B, 16 were positive for RSV, and 36 were positive for other respiratory viruses (human metapneumovirus [19]; adenovirus [8]; parainfluenza type1 [4]; parainfluenza type 3 [4]; parainfluenza type 4 [1]).

Table 2 shows positive influenza and other virus results in the past week (August 22-28, 2010) from sentinel laboratories, local public health laboratories and VRDL. Of the four positive influenza A specimens, two were 2009 H1N1 and two were not subtyped.

Table 2. Influenza and other respiratory virus detections, August 22-28, 2010.

		Sentinel Laboratories/Respiratory Laboratory Network [†]
Week 34	Number	22 sites reporting
	Influenza A	4 ^a Total tested week 34: 175
	Influenza B	0 Total tested week 34: 175
	RSV	1 Total tested week 34: 153
	Other Respiratory Viruses	7 ^b Total tested week 34: 148

[†]Sentinel laboratories are hospital, academic, private, and public health laboratories located throughout California that provide data on the number of laboratory-confirmed influenza and other respiratory virus detections and isolations. The Respiratory Laboratory Network (RLN) is a network of 23 local public health laboratories that offer enhanced diagnostic testing with the “R-mix” shell vial assay, which detects several respiratory pathogens, including influenza A and B viruses, respiratory syncytial virus, parainfluenza virus, and adenovirus. Some RLN labs also offer PCR testing for influenza A and B.

^a Alameda (1); Sacramento (1); San Francisco (2)

^b parainfluenza type 2 (1); rhinovirus (6)

Laboratory detections for influenza peaked in week 27 of 2009 (July 5-11, 2009; Figure 6). Detections of influenza have remained low during the past month.

Figure 4. Influenza detections at sentinel laboratories/Respiratory Laboratory Network, 2006-10.

