

California Influenza Surveillance Project

Viral and Rickettsial Disease Laboratory

2008-2009

Influenza Update – Week 11 (March 15-21, 2009)

California Influenza Activity

Due to an increase in reports of hospitalizations and laboratory detections in Central California, flu activity in California was upgraded to “widespread” (defined by the CDC as “Outbreaks of influenza or increases of ILI cases and recent laboratory-confirmed influenza in at least half of the regions of the state.”).

Kaiser Permanente inpatient, sentinel providers’ outpatient influenza-like illnesses, and Kaiser Permanente antiviral data:

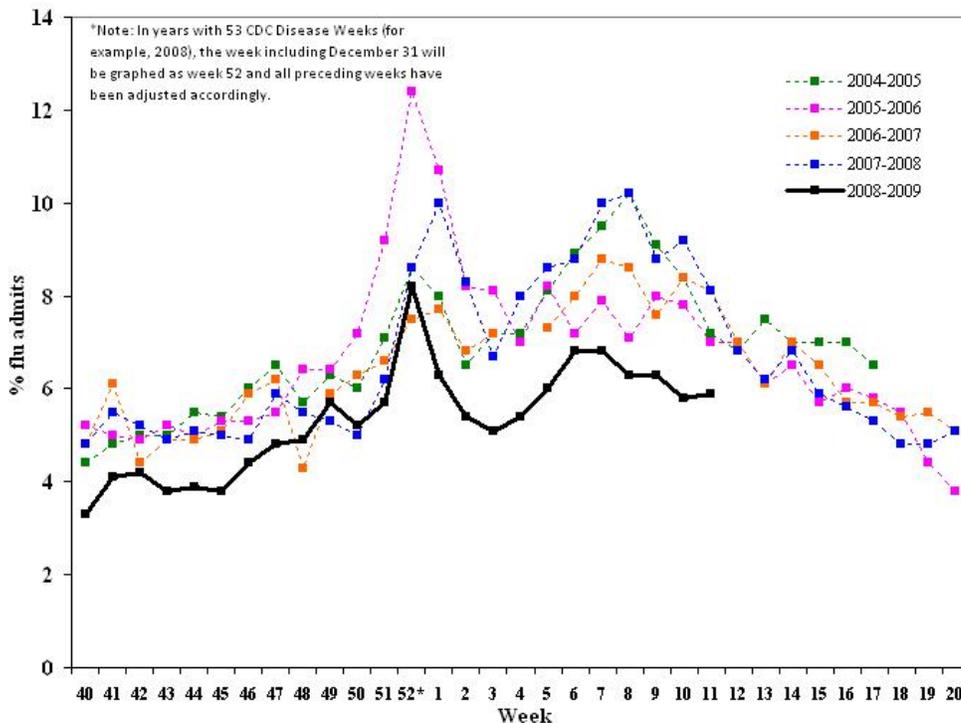
Week	Kaiser Inpatient Data % (range)*		Outpatient ILI Data %(# reported)‡	Kaiser Antiviral Data§	
	Northern CA	Southern CA		Northern CA	Southern CA
11	5.9 (0.0–9.7)	2.6 (0.9–4.7)	2.4 (65 reported)	165	68
Previous week	5.8 (2.3–8.9)	2.4 (0.8–3.6)	2.5 (99 reported)	175	105

* “Flu admissions” are present year-round. During the off-season, these consist chiefly of pneumonia, which represents approximately 3–5% of all admissions

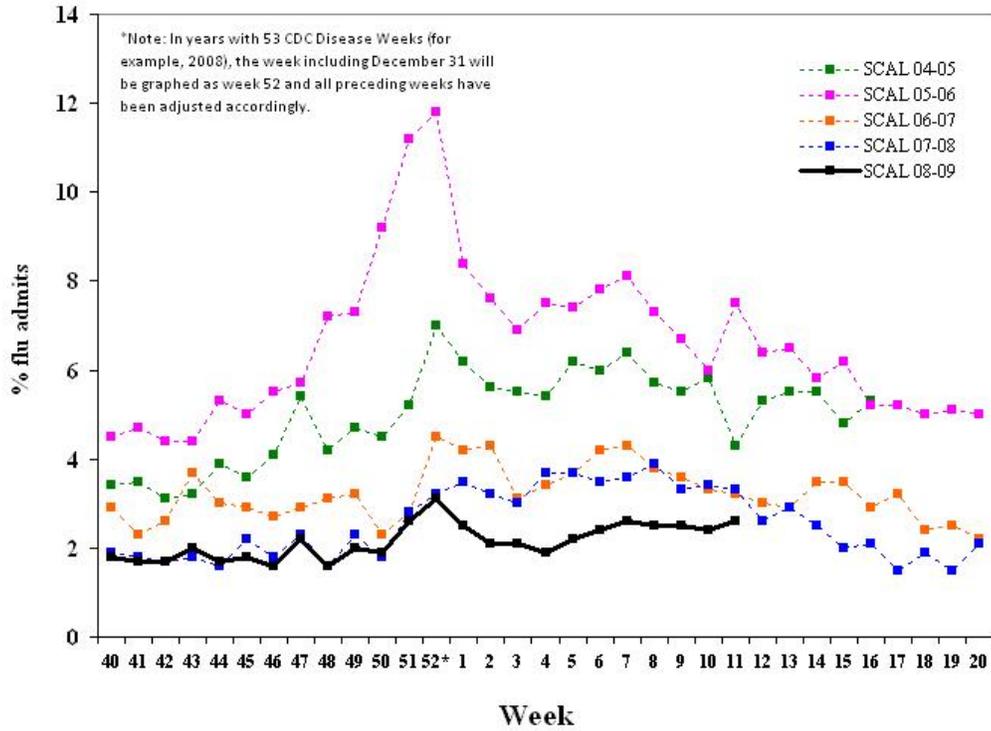
‡ The percentage of outpatient visits for influenza-like illness (ILI) is calculated by dividing the number of ILI visits by the total number of outpatient visits per week

§ The number of prescriptions filled for the antiviral drugs used for influenza (amantadine, rimantadine, zanamivir, and oseltamivir) by Kaiser outpatient pharmacies in California

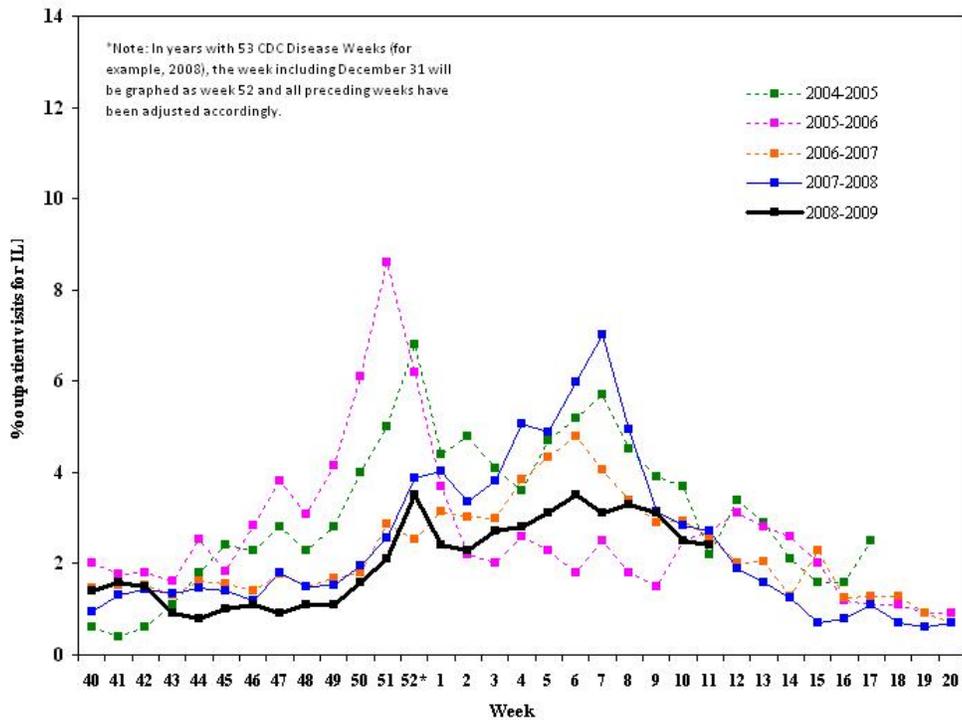
Inpatient "Flu" Admissions 2004-2009
Northern California Kaiser



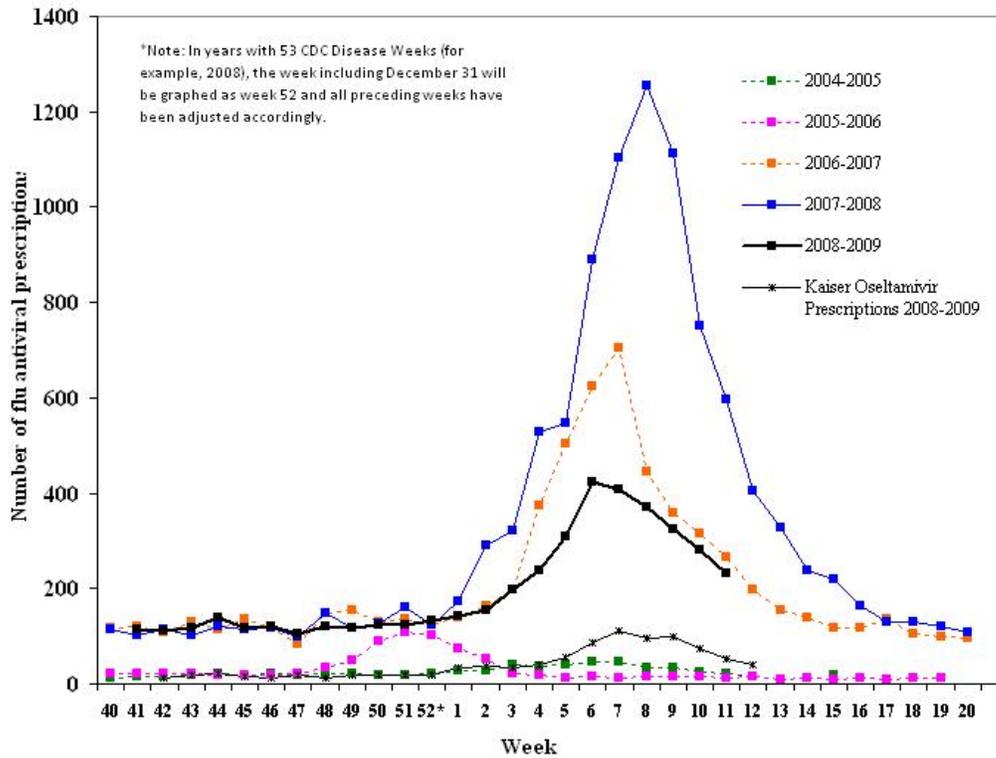
Inpatient "Flu" Admissions 2004-2009 Southern California Kaiser



California Sentinel Providers Influenza-Like Illness (ILI) Visits 2004-2009



Kaiser Pharmacy Data Influenza Antiviral Usage 2004-2009



Laboratory Data (Positive influenza and other virus results from sentinel laboratories, local public health laboratories and VRDL)

		Sentinel Laboratories/Respiratory Laboratory Network [‡]	Sentinel Providers
Week 11	Number of Sites Reporting	22	349 specimens submitted (50 pending, 187 positive by PCR)
	Influenza A	279 ^a Total to date: 4066	113 ^e
	Influenza B	285 ^b Total to date: 1799	74 ^f
	Influenza A/B	0 Total to date: 3	N/A
	RSV	138 ^c Total to date: 6926	N/A
	Other Respiratory Viruses	10 ^d Total to date: 153	N/A

[‡]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 (35); Contra Costa (16); Fresno (26); Kern (2); Long Beach (7); Los Angeles (4); Marin (3); Merced (2); Napa (2); Orange (4); Placer (6); Riverside (1); Sacramento (25); San Bernardino (1); San Diego (44); San Francisco (16); San Joaquin (5); San Mateo (8); Santa Clara (51); Santa Cruz (1); Solano (6); Sonoma (2); Stanislaus (4); Tulare (1); Ventura (6); Yolo (1)

^b Alameda (52); Contra Costa (14); Fresno (23); Long Beach (8); Los Angeles (6); Madera (1); Marin (5); Merced (1); Napa (1); Orange (7); Placer (3); Sacramento (22); San Diego (24); San Francisco (9); San Joaquin (12); San Mateo (26); Santa Clara (47); Solano (11); Sonoma (7); Stanislaus (2); Tulare (1); Ventura (1); Yolo (1); Unknown (1)

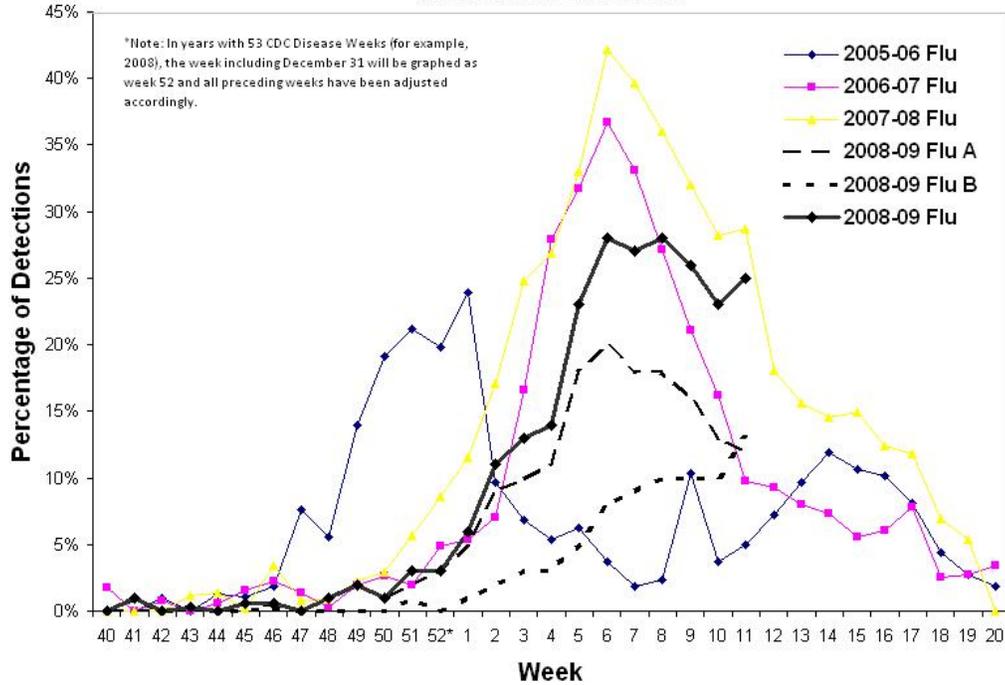
^c Alameda (12); Contra Costa (6); Fresno (15); Kern (1); Kings (3); Long Beach (12); Los Angeles (8); Madera (3); Marin (1); Merced (1); Orange (1); Placer (8); Sacramento (20); San Diego (3); San Francisco (3); San Joaquin (4); San Mateo (9); Santa Clara (14); Solano (8); Sonoma (4); Stanislaus (2)

^d adenovirus (2); human metapneumovirus (7); parainfluenza type 3 (1)

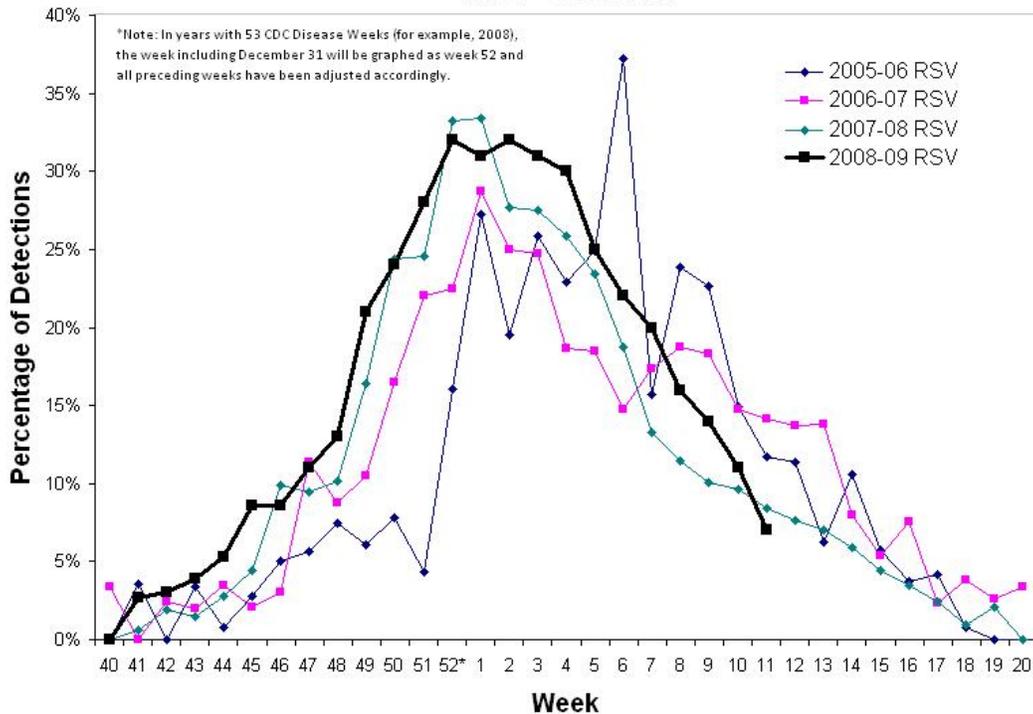
^e Santa Barbara (29); Santa Clara (12); Butte (10); Los Angeles (8); Alameda (7); Kern (6); San Diego (6); San Francisco (5); Stanislaus (5); Fresno (4); Riverside (4); San Bernardino (3); Tulare (3); San Benito (2); Contra Costa (1); El Dorado (1); Inyo (1); Madera (1); Marin (1); Merced (1); Sacramento (1); Santa Cruz (1); Ventura (1)

^f Santa Barbara (34); Santa Clara (12); San Joaquin (6); Alameda (3); Butte (3); Marin (2); Riverside (2); Sacramento (2); San Francisco (2); Contra Costa (1); El Dorado (1); Fresno (1); Los Angeles (1); Placer (1); San Diego (1); San Mateo (1); Ventura (1)

Sentinel Laboratories/Respiratory Laboratory Network Influenza Detections

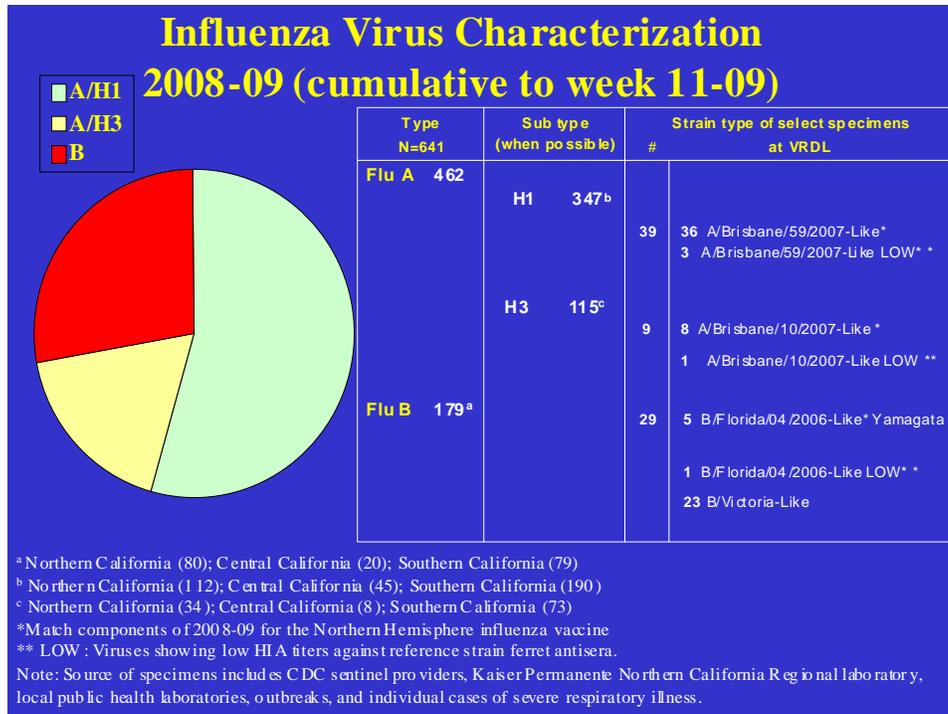


Sentinel Laboratories/Respiratory Laboratory Network RSV Detections



Virologic Characterization at VRDL and Local Public Health Laboratories

Out of 641 influenza specimens characterized so far, both influenza A (462) and influenza B (179) have been identified. Results to date for influenza subtypes and antigenic characterization (strain-typing) are shown below; "low reactors" are influenza viruses that do not appear by hemagglutinin inhibition assay to match current vaccine strains and are sent to CDC for further characterization.



Antiviral Resistance

In December 2008, a Health Advisory was issued by the CDC providing interim recommendations for use of antiviral medications given the observation of high levels of resistance to oseltamivir in influenza A/subtype H1 viral isolates. The CDC Health Advisory can be accessed at: <http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00279>.

Identification of subtype following confirmation of influenza A infection may be very useful in situations such as institutional outbreaks (e.g. long term care facilities or prisons), where implementation of mass treatment or chemoprophylaxis with antivirals is considered. Subtyping is available at some local public health laboratories as well as VRDL. Throughout the season the CDPH Viral and Rickettsial Disease Laboratory will continue to perform surveillance for antiviral resistance and provide periodic updates.

Antiviral Resistance (cumulative to Week 11-09)

	Oseltamivir Resistant	Adamantanes Resistant
Influenza A (H1N1)	23/25	1/25
Influenza A (H3N2)	0/13	13/13
Influenza B	0/3	N/A*

***The adamantanes drugs are not effective against influenza B viruses. Antiviral resistance data on influenza viruses circulating in CA are provided by CDC.**

Respiratory Laboratory Network:

County Name	Rmix	PCR
Alameda	X	X
El Dorado	X	X
Contra Costa		X
Fresno	X	X
Humboldt		X
Imperial	X	
Long Beach	X	X
Los Angeles	X	X
Monterey		X
Orange	X	X
Placer	X	X
Riverside		X
Sacramento	X	
San Bernardino	X	X
San Diego	X	X
San Francisco	X	X
San Joaquin	X	X
Santa Clara	X	X
Shasta	X	X
Solano	X	X
Sonoma	X	
Stanislaus	X	
Tulare	X	X
Ventura	X	X
VRDL	X	X

Please continue to assist us in recruiting primary care providers (physicians, nurse practitioners, and physician assistants) to be sentinel physicians in your area. For more information, contact Melissa Dahlke at flu@cdph.ca.gov or 510-620-3494.

For questions about the California Influenza Surveillance Project, please contact Erica Boston (erica.boston@cdph.ca.gov) or Janice Louie (janice.louie@cdph.ca.gov).