

California Influenza Surveillance Project

Viral and Rickettsial Disease Laboratory

2008-2009

Influenza Update – Week 14 (April 5-April 11, 2009)

California Influenza Activity

This week flu activity in California remained “regional” (defined by the CDC as “Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state”).

National Influenza Activity

During week 14 (April 5-11, 2009), influenza activity continued to decrease in the United States. Two hundred fifty-nine (9.0%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Eight influenza-associated pediatric deaths were reported. The proportion of outpatient visits for influenza-like illness (ILI) was below the national baseline.

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

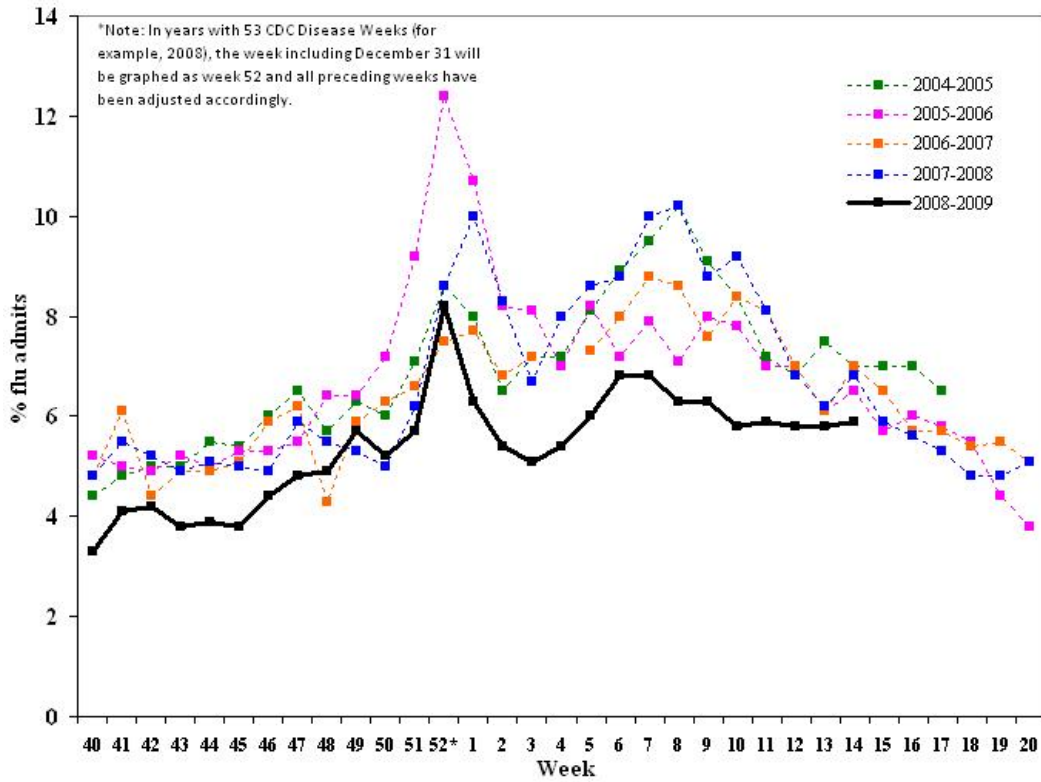
Week	Kaiser Inpatient Data % (range)*		Outpatient ILI Data %(# reported)‡	Kaiser Antiviral Data§	
	Northern CA	Southern CA		Northern CA	Southern CA
14	5.9 (0.1–10.8)	2.1 (0.0–3.8)	1.3 (63 reported)	80	53
Previous week	5.8 (0.0–9.4)	2.5 (1.0–5.2)	1.4 (76 reported)	102	81

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

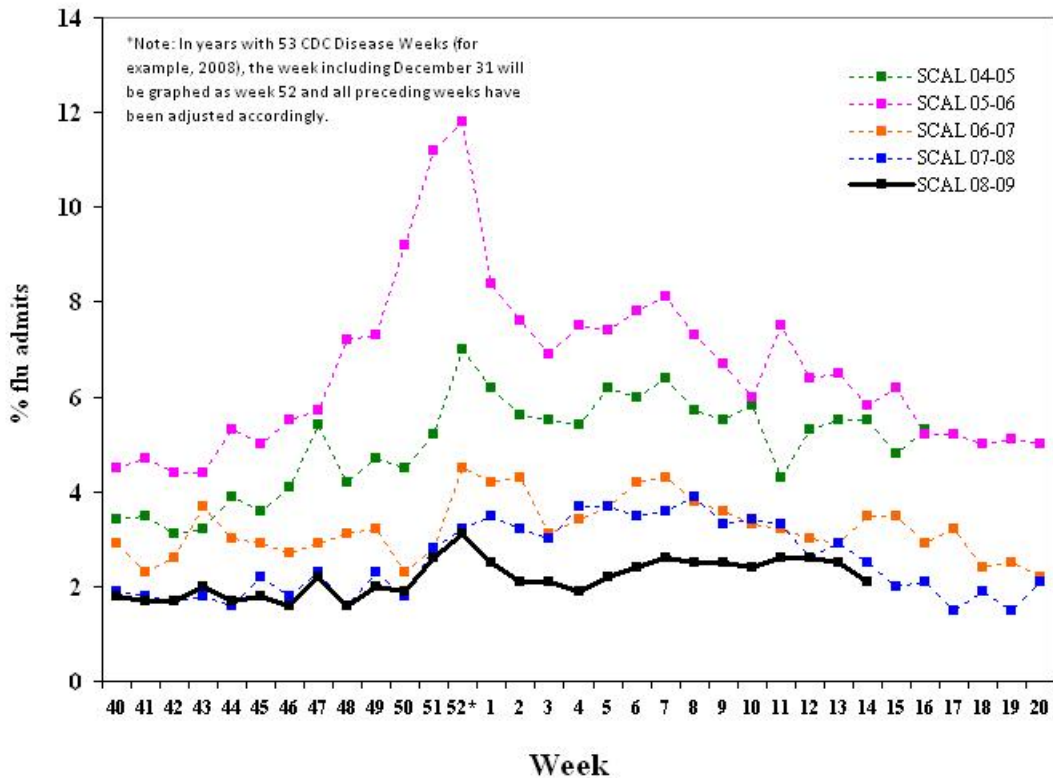
‡ The percentage of outpatient visits for influenza-like illness (ILI) is calculated by dividing the number of ILI visits by the total number of outpatient visits per week

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

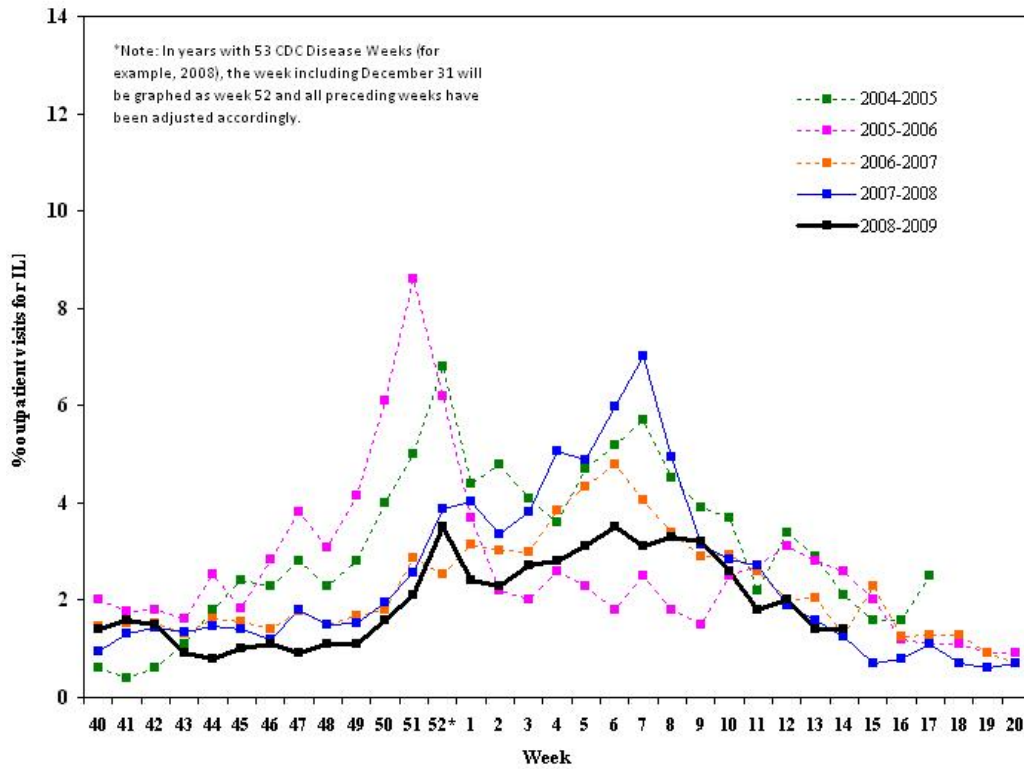
Inpatient "Flu" Admissions 2004-2009 Northern California Kaiser



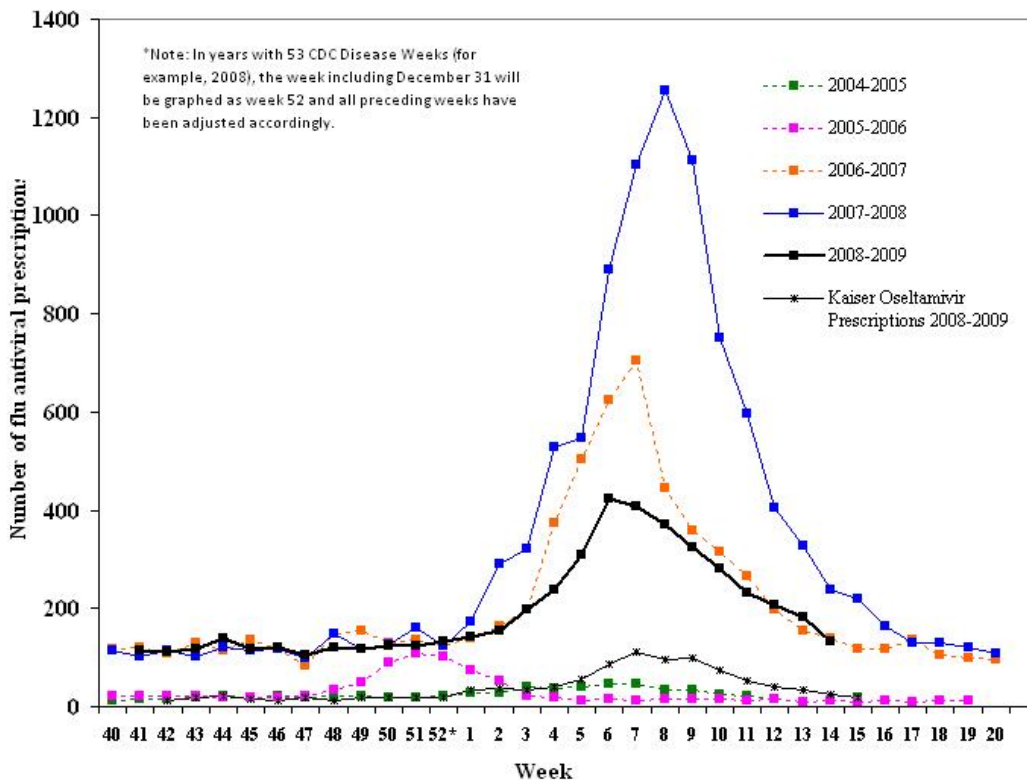
Inpatient "Flu" Admissions 2004-2009 Southern California Kaiser



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 14	Number of Sites Reporting	24	388 specimens submitted (33 pending, 234 positive by PCR)
	Influenza A	68 ^a Total to date: 4443	130 ^e
	Influenza B	151 ^b Total to date: 2367	104 ^f
	Influenza A/B	0 Total to date: 3	N/A
	RSV	41 ^c Total to date: 7278	N/A
	Other Respiratory Viruses	20 ^d Total to date: 222	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 (14); Contra Costa (5); Fresno (3); Los Angeles (1); Orange (2); Placer (2); Sacramento (7); San Diego (16); San Francisco (2); San Mateo (1); Santa Clara (13); Solano (1); Sonoma (1)

^b Alameda (24); Contra Costa (8); Fresno (18); Long Beach (4); Los Angeles (1); Napa (1); Orange (5); Placer (4); Sacramento (6); San Diego (8); San Francisco (6); San Joaquin (2); San Mateo (20); Santa Clara (37); Solano (4); Sonoma (1); Stanislaus (1); Tulare (1)

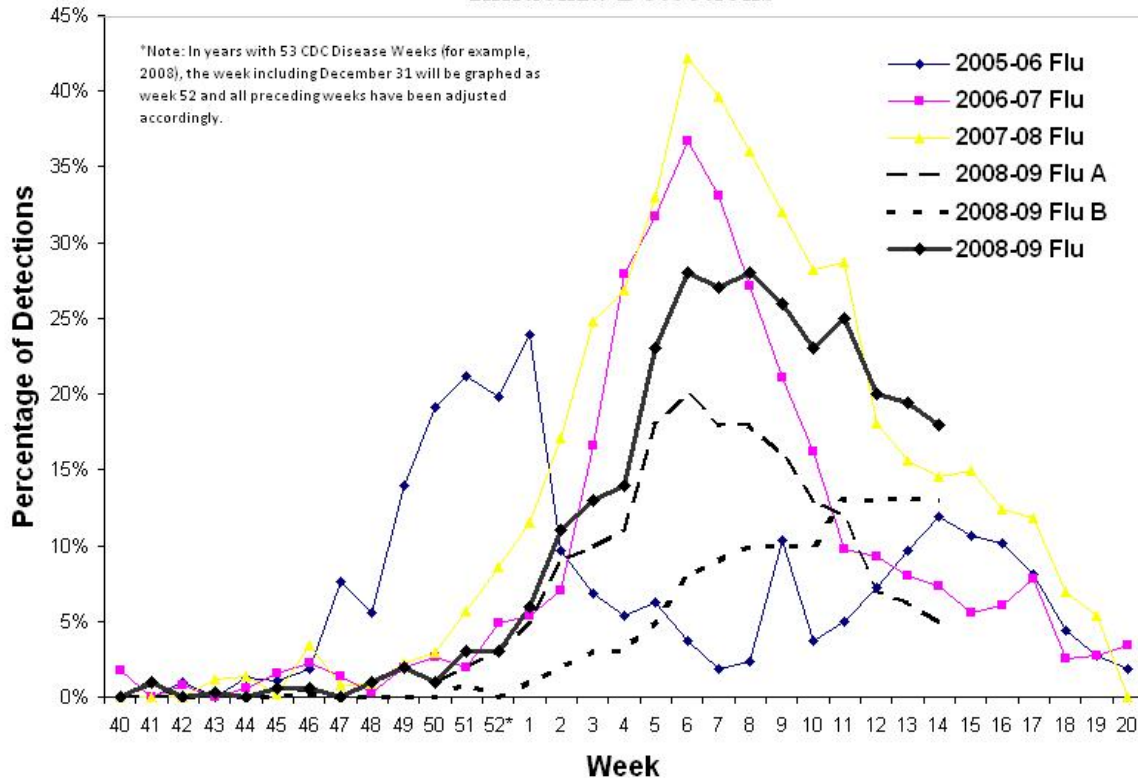
^c Alameda (6); Contra Costa (3); Fresno (7); Long Beach (5); Los Angeles (3); Marin (2); Riverside (1); Sacramento (5); San Francisco (1); San Joaquin (2); Santa Clara (2); Shasta (1); Solano (1); Sonoma (1); Tulare (1)

^d parainfluenza type 2 (1); parainfluenza type 3 (3); human metapneumovirus (15)

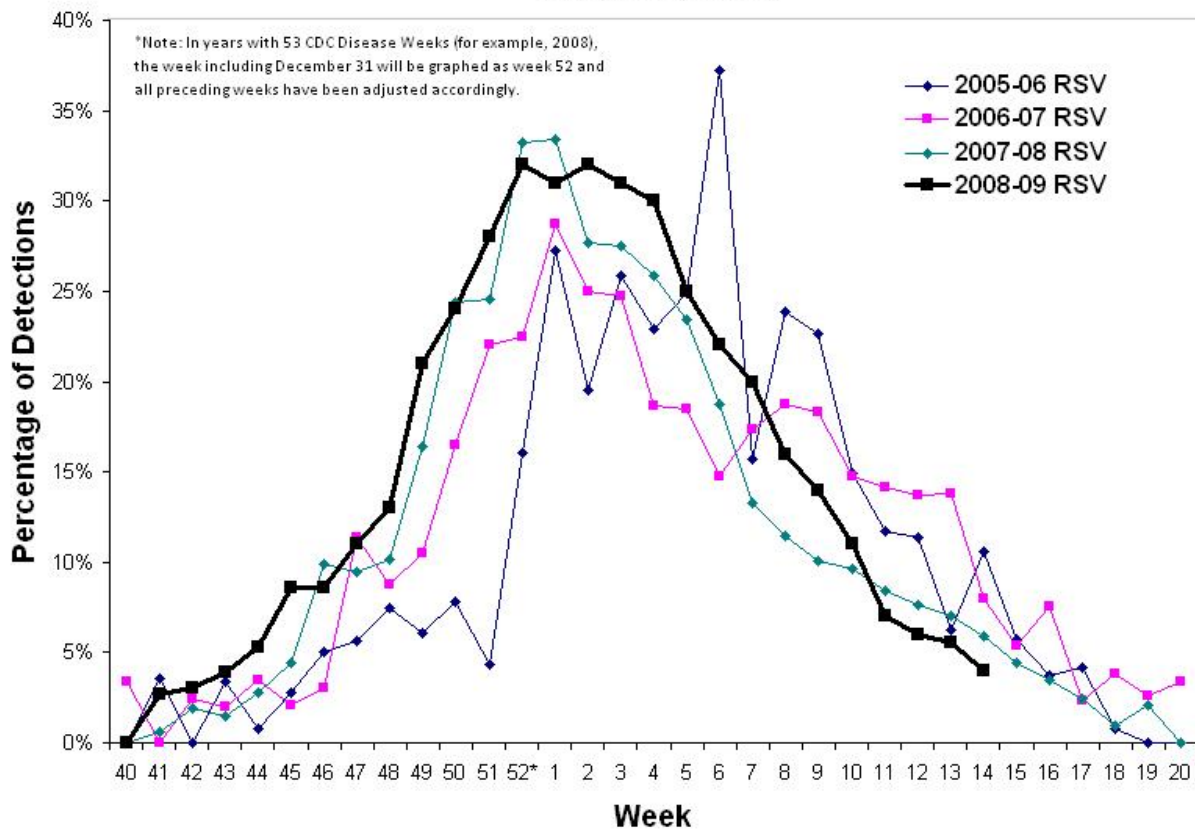
^e Santa Barbara (36); Santa Clara (12); Butte (10); Los Angeles (9); Alameda (7); Fresno (7); San Diego (7); Kern (6); San Francisco (5); Stanislaus (5); Riverside (4); Sacramento (3); San Bernardino (3); Tulare (3); El Dorado (2); San Benito (2); Contra Costa (1); Humboldt (1); Inyo (1); Madera (1); Marin (1); Merced (1); Santa Cruz (1); Ventura (1)

^f Santa Barbara (45); Santa Clara (15); San Joaquin (6); Alameda (5); Butte (4); Fresno (4); Los Angeles (4); Marin (4); Riverside (3); Sacramento (3); Contra Costa (2); San Francisco (2); El Dorado (1); Placer (1); San Diego (1); San Mateo (1); Solano (1); Stanislaus (1); Ventura (1)

Sentinel Laboratories/Respiratory Laboratory Network Influenza Detections

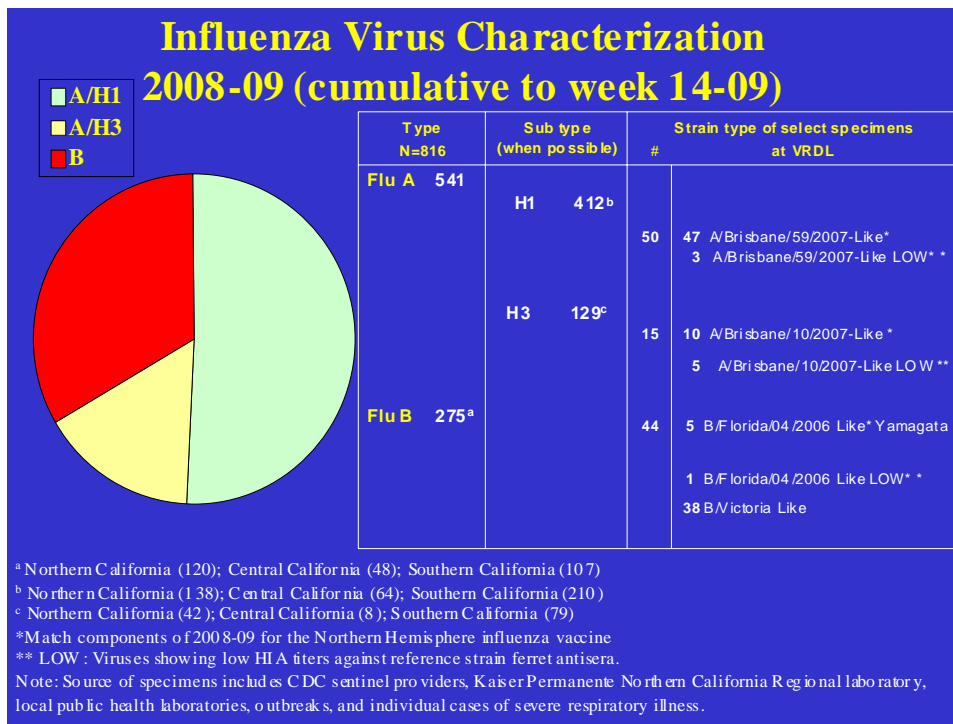


Sentinel Laboratories/Respiratory Laboratory Network RSV Detections



Virologic Characterization at VRDL and Local Public Health Laboratories

Out of 816 influenza specimens characterized so far, both influenza A (541) and influenza B (275) 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](https://emergency.cdc.gov/han/dir.asp) can be accessed at: <https://emergency.cdc.gov/han/dir.asp>.

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 13-09)

	Oseltamivir Resistant	Adamantanes Resistant
Influenza A (H1N1)	37/39	1/39
Influenza A (H3N2)	0/28	28/28
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).