

California Influenza Surveillance Project

Viral and Rickettsial Disease Laboratory

2008-2009

Influenza Update – Week 18 (May 3 – 9, 2009)

Enhanced Surveillance for Swine Influenza A (H1)

In the current swine influenza (H1N1) epidemic, the Viral and Rickettsial Disease Laboratory (VRDL) continues to serve as the state reference laboratory by providing PCR testing for influenza, confirmatory testing for swine influenza (H1N1), and guidance and assistance to our local public health laboratory partners. In addition, Tulare County Public Health Laboratory is now performing confirmatory swine flu testing. Antiviral resistance testing is being performed on a subset of specimens tested to monitor for changing resistance patterns.

VRDL Influenza PCR Surveillance Results (Updated 5/14/09)

PCR	Number of specimens tested	Detected (%)
Influenza A	1757	817 (46%)
Subtyping		
H1	672	158 (23%)
H3	672	183 (27%)
Unsubtypeable	--	331 (49%)
Novel Influenza A (H1N1)	364	348 (96%)

Respiratory Laboratory Network (RLN) Influenza PCR Surveillance Results April 27-May 15, 2009

	Total tested	Flu A (% of total)	H1 (% of Flu A)	H3 (% of Flu A)	Unsubtypeable (% of Flu A)
All RLN*	9875	933 (9%)	217 (23%)	262 (28%)	406 (44%)
Northern	3885	281 (7%)	77 (27%)	82 (29%)	117 (42%)
Central	2546	150 (6%)	71 (47%)	48 (32%)	28 (19%)
Southern	3444	502 (15%)	69 (14%)	132 (26%)	261 (52%)

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

Central CA: Fresno, Stanislaus, San Joaquin, Tulare

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

Antiviral Resistance for Novel Influenza A (H1N1)

	Oseltamivir Resistant	Adamantanes Resistant
Novel influenza virus (H1N1)	0/5	5/5

California Influenza Activity

This week flu activity in California remained “widespread” (defined by CDC as outbreaks of influenza or increases in ILI cases and recent laboratory confirmed influenza in at least half of the regions in the state) based on the increased level of laboratory detections of influenza A throughout the state. As noted in the RLN graphs above, approximately 10% of specimens received by the public health laboratory network statewide have been positive by influenza A. Of these, 23% are subtype H1, 28% are subtype H3 and over 40% are unsubtypeable. Unsubtypeable specimens can be referred to VRDL for confirmatory testing as noted above.

National Influenza Activity

During week 18 (May 3 - 9, 2009), influenza activity remained at approximately the same level as last week in the United States, indicating that there are higher levels of influenza-like illness than is normal for this time of year. One thousand four hundred fifty-four (11.9%) 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. Three influenza-associated pediatric deaths were reported. The proportion of outpatient visits for influenza-like illness (ILI) was above the national baseline.

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

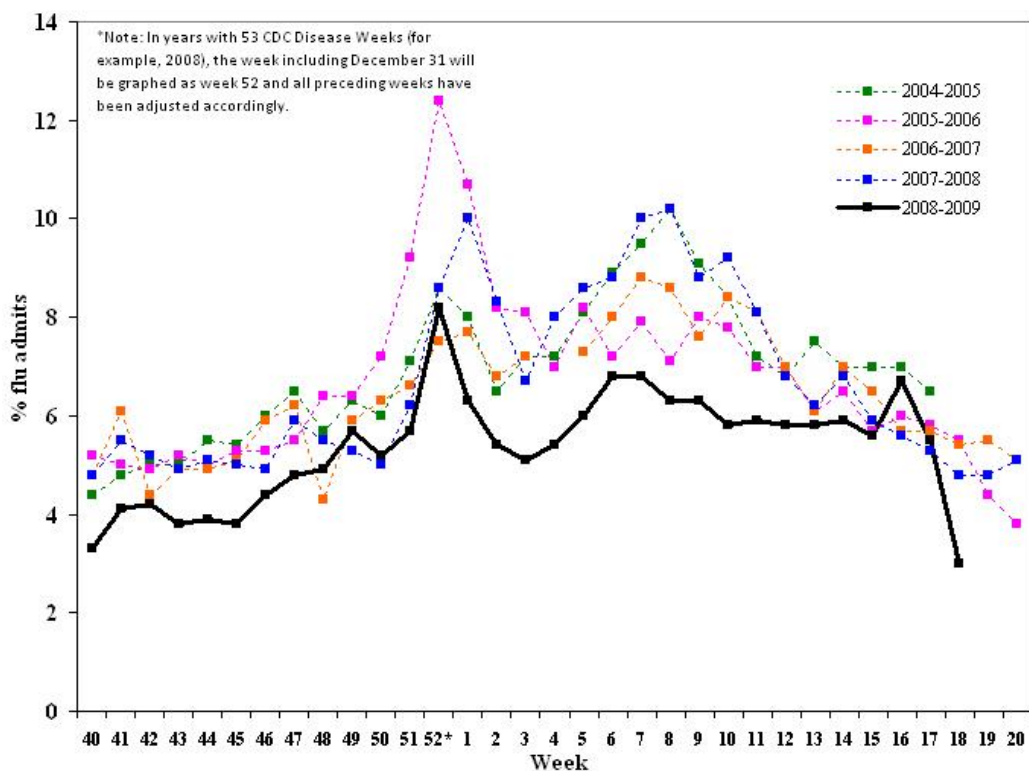
Week	Kaiser Inpatient Data % (range)*		Outpatient ILI Data %(# reported)‡	Kaiser Antiviral Data§	
	Northern CA	Southern CA		Northern CA	Southern CA
18	3.0 (0.0–8.1)	2.0 (1.0–3.3)	3.9 (79 reported)	109	126
Previous week	5.5 (0.1–22.4)	2.3 (0.7–4.5)	4.3 (79 reported)	343	288

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

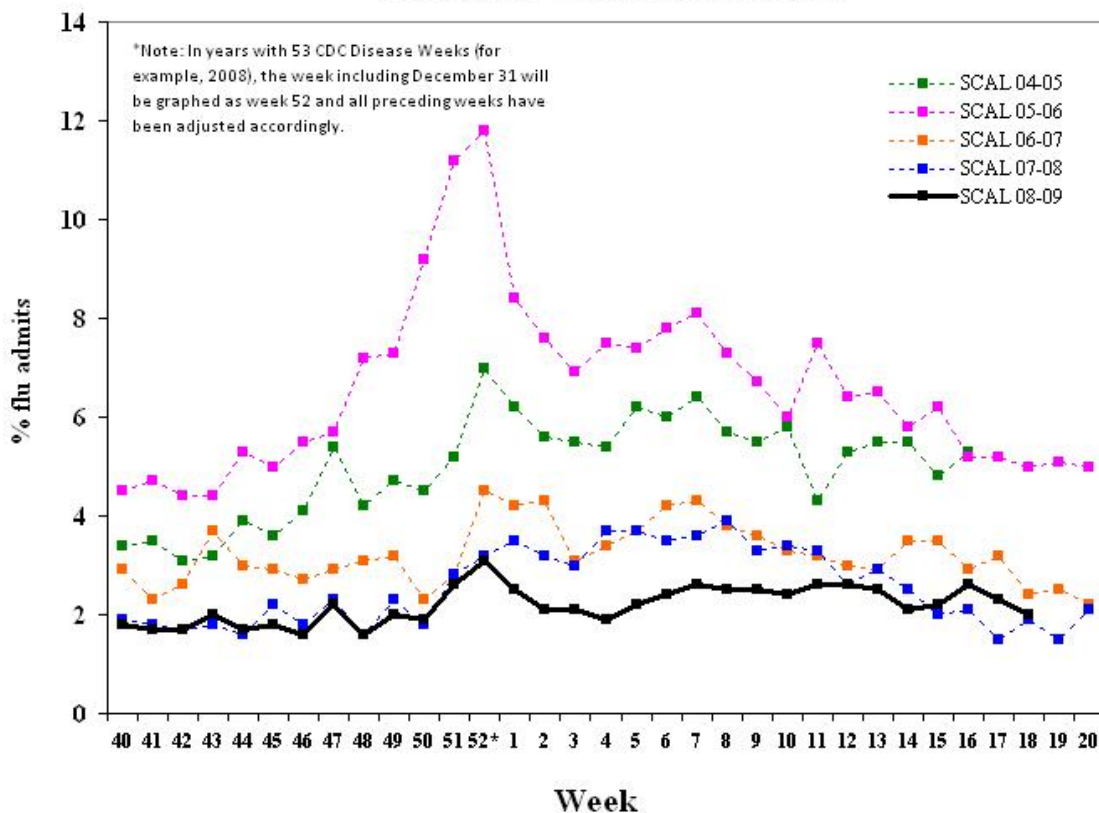
‡ The percentage of outpatient visits for influenza-like illness (ILI) is calculated by dividing the number of ILI visits by the total number of outpatient visits per week

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

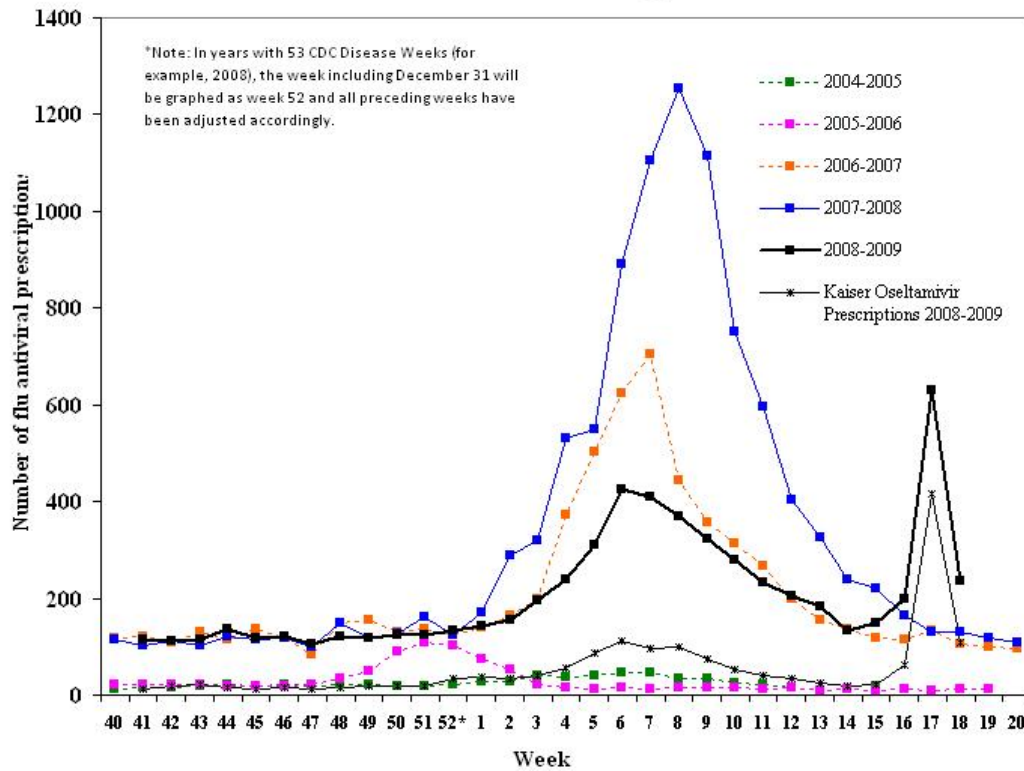
Inpatient "Flu" Admissions 2004-2009 Northern California Kaiser



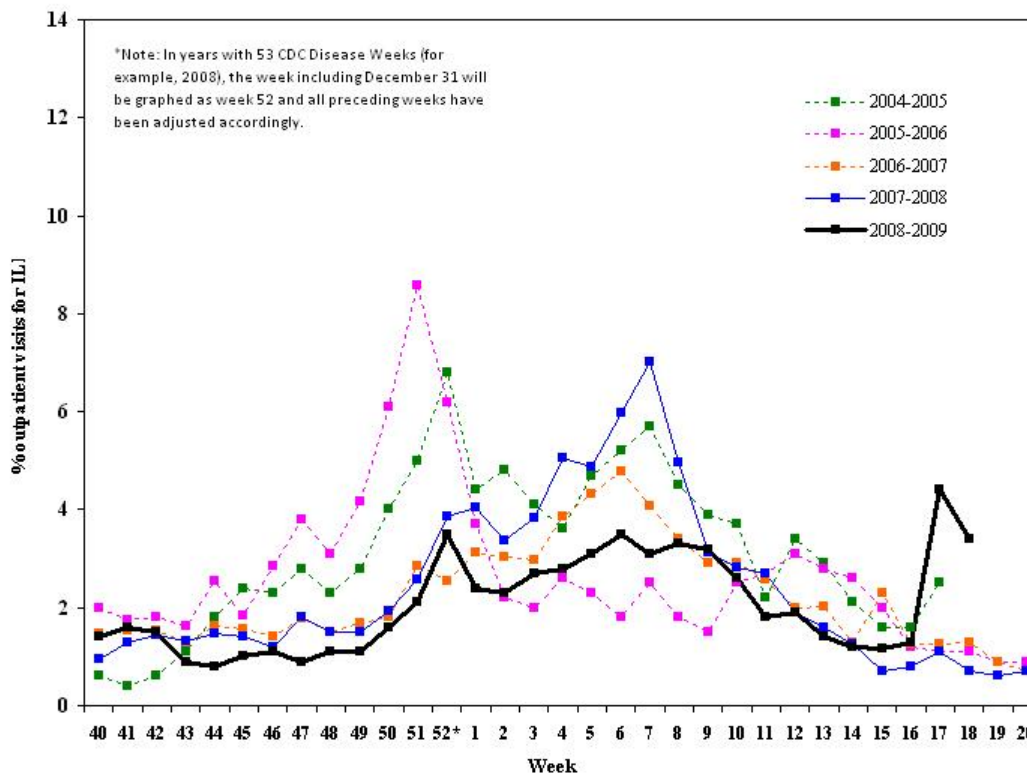
Inpatient "Flu" Admissions 2004-2009 Southern California Kaiser



Kaiser Pharmacy Data Influenza Antiviral Usage 2004-2009



California Sentinel Providers Influenza-Like Illness (ILI) Visits 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 18	Number of Sites Reporting	31	735 specimens submitted (17 pending, 254 positive by PCR)
	Influenza A	672 ^a Total to date: 5650	150 ^e
	Influenza B	295 ^b Total to date: 3075	104 ^f
	Influenza A/B	0 Total to date: 3	N/A
	RSV	50 ^c Total to date: 7384	N/A
	Other Respiratory Viruses	43 ^d Total to date: 310	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 (41); Contra Costa (50); El Dorado (4); Fresno (30); Long Beach (27); Los Angeles (91); Marin (10); Merced (1); Monterey (15); Napa (3); Orange (27); Placer (10); Riverside (14); Sacramento (43); San Bernardino (46); San Diego (31); San Francisco (14); San Joaquin (19); San Mateo (14); Santa Barbara (12); Santa Clara (97); Shasta (2); Solano (9); Sonoma (12); Stanislaus (9); Tulare (16); Ventura (24); Yolo (1)

^b Alameda (45); Contra Costa (46); Fresno (8); Kern (1); Long Beach (6); Los Angeles (4); Marin (3); Monterey (1); Napa (4); Orange (4); Placer (5); Riverside (3); Sacramento (21); San Bernardino (2); San Diego (2); San Francisco (5); San Joaquin (14); San Mateo (17); Santa Clara (54); Solano (22); Sonoma (17); Stanislaus (11)

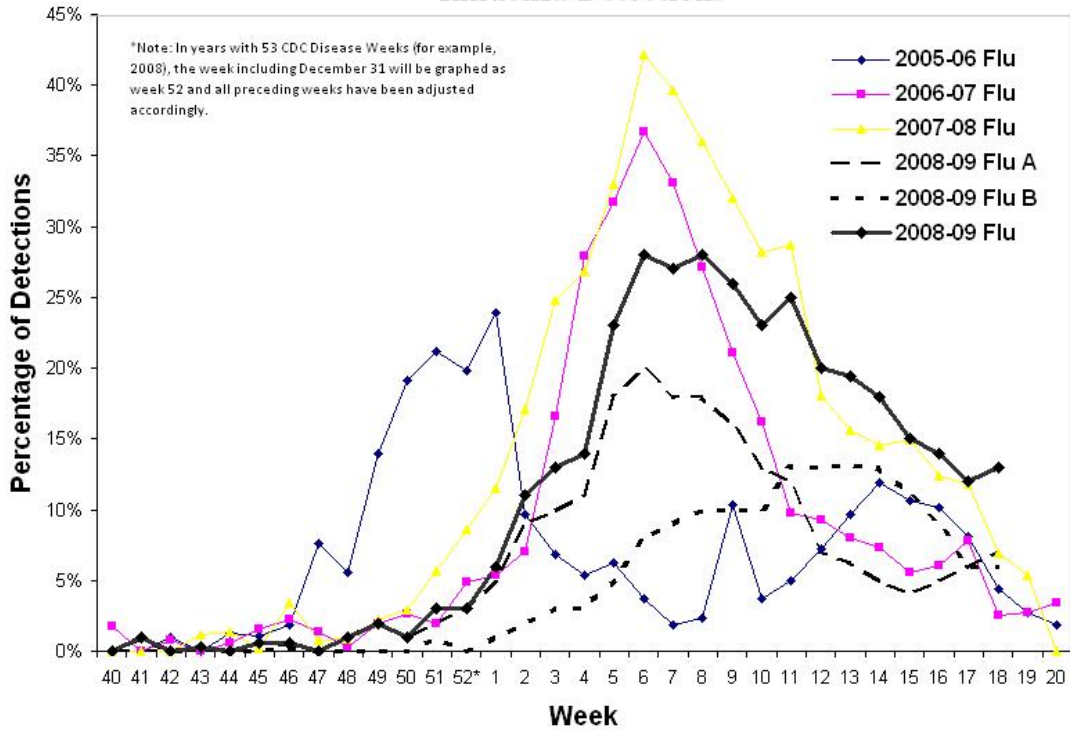
^c Contra Costa (7); Fresno (8); Los Angeles (1); Marin (2); Placer (2); Sacramento (5); San Francisco (1); San Joaquin (16); San Mateo (1); Santa Clara (5); Solano (2)

^d parainfluenza type 3 (34); human metapneumovirus (7); adenovirus (1); parainfluenza type 2 (1)

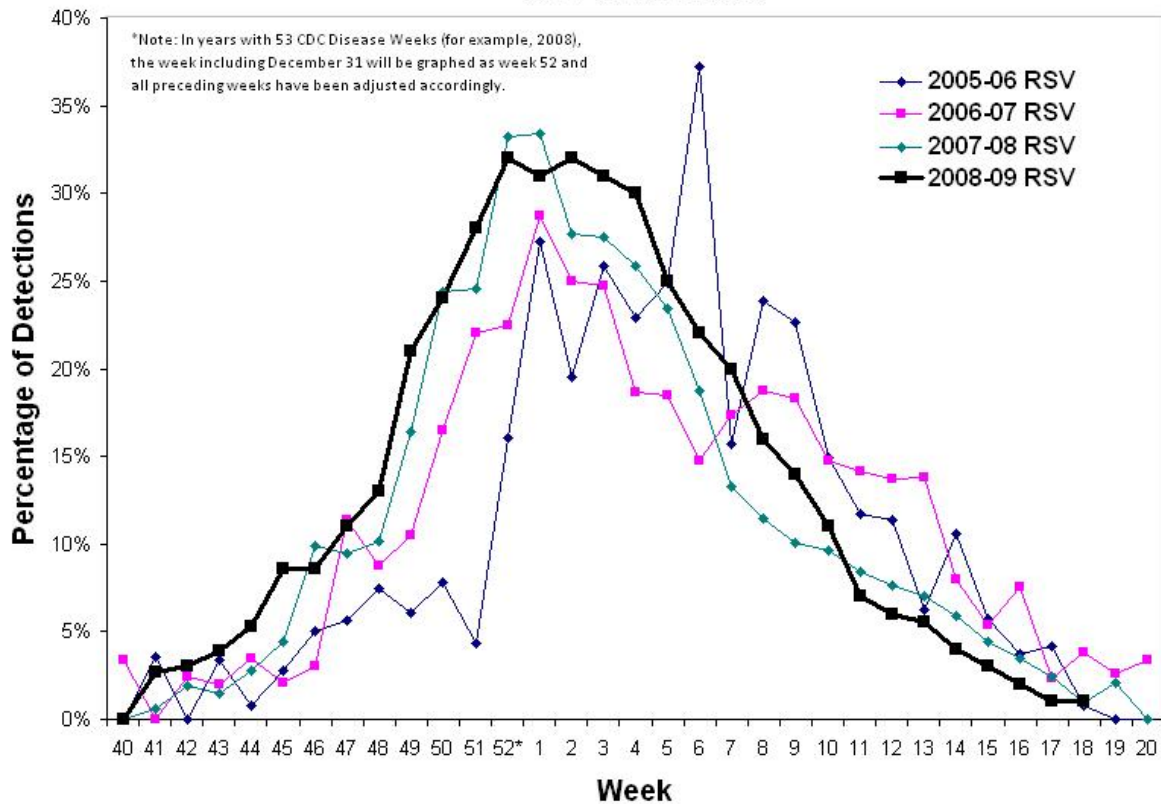
^e Santa Barbara (36); Santa Clara (17); Los Angeles (14); Butte (11); Alameda (8); Fresno (8); San Diego (7); Kern (6); Stanislaus (6); Tulare (6); San Francisco (5); Riverside (4); Placer (3); Sacramento (3); San Bernardino (3); El Dorado (2); San Benito (2); Contra Costa (1); Humboldt (1); Inyo (1); Madera (1); Marin (1); Merced (1); Santa Cruz (1); Ventura (1); Yolo (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



Respiratory Laboratory Network:

County Name	Rmix	PCR
Alameda		
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.