

# California Influenza Surveillance Project

## Viral and Rickettsial Disease Laboratory

### 2008-2009

#### Influenza Update – Week 13 (March 29-April 4, 2009)

#### California Influenza Activity

This week flu activity in California was downgraded to “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”) based on an overall decrease in reports of ILI and positive influenza test results throughout the state.

#### National Influenza Activity

During week 13 (March 29-April 4, 2009), influenza activity continued to decrease in the United States. Three hundred forty-eight (12.3%) 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. Two 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:

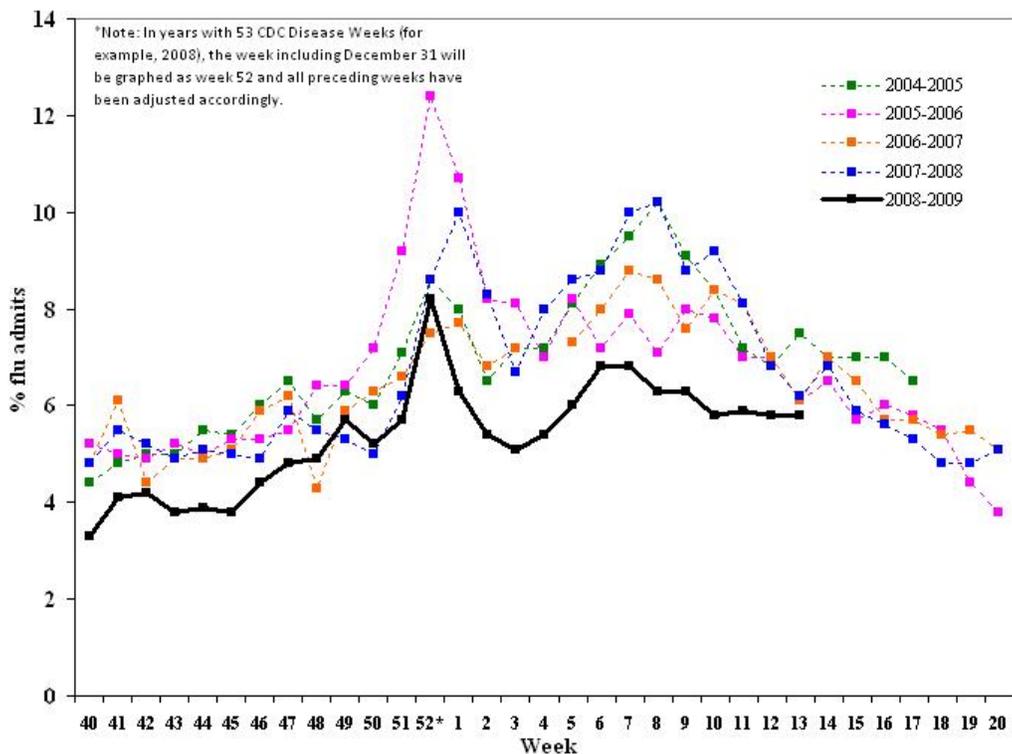
| Week                 | Kaiser Inpatient Data % (range)* |               | Outpatient ILI Data %(# reported)‡ | Kaiser Antiviral Data§ |             |
|----------------------|----------------------------------|---------------|------------------------------------|------------------------|-------------|
|                      | Northern CA                      | Southern CA   |                                    | Northern CA            | Southern CA |
| <b>13</b>            | 5.8 (0.0–9.4)                    | 2.5 (1.0–5.2) | 1.3 (77 reported)                  | 102                    | 81          |
| <b>Previous week</b> | 5.8 (0.0–16.0)                   | 2.6 (1.0–6.0) | 1.8 (77 reported)                  | 119                    | 87          |

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

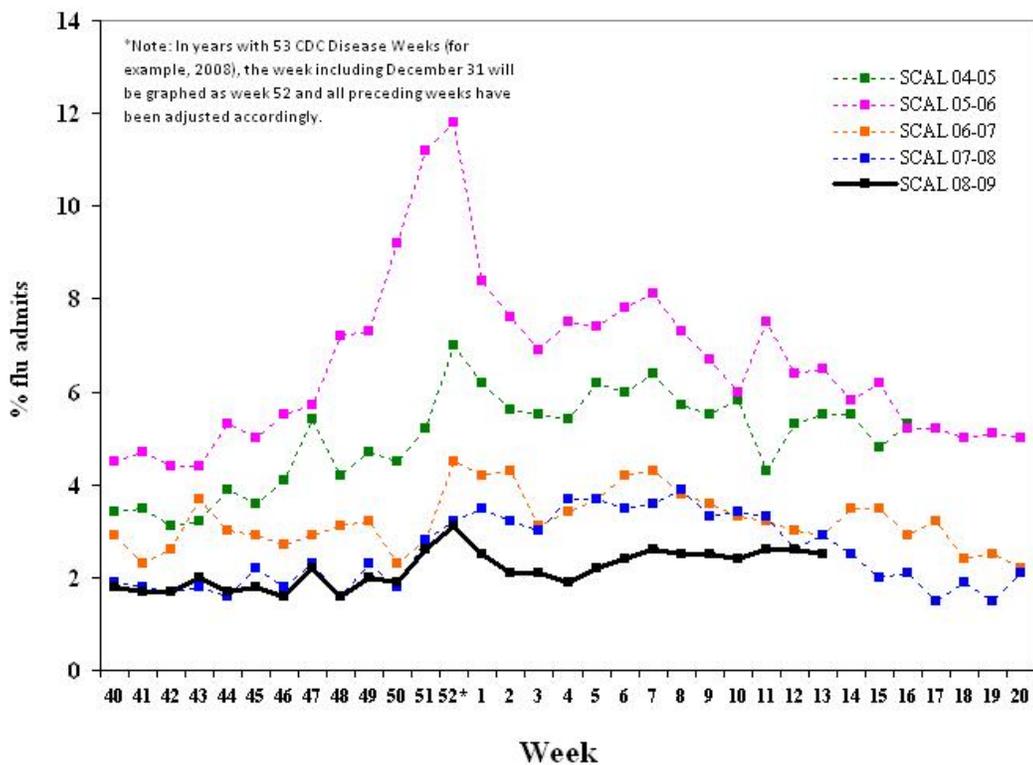
‡ The percentage of outpatient visits for influenza-like illness (ILI) is calculated by dividing the number of ILI visits by the total number of outpatient visits per week

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

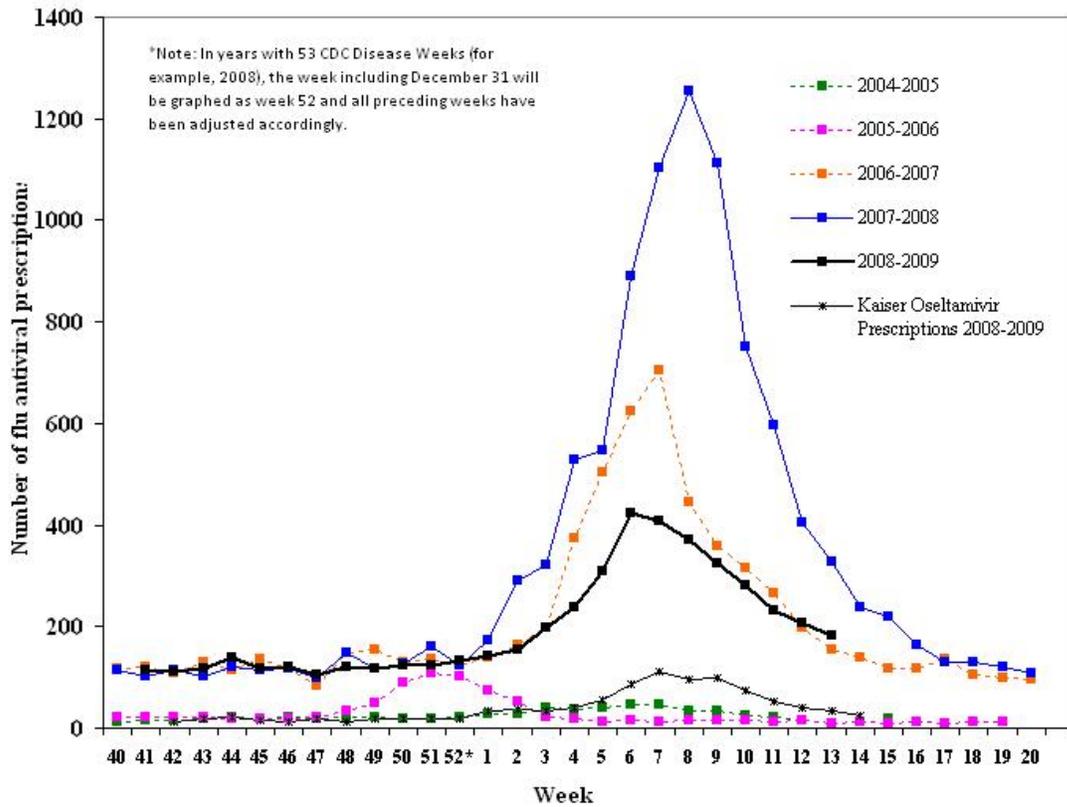
## Inpatient "Flu" Admissions 2004-2009 Northern California Kaiser



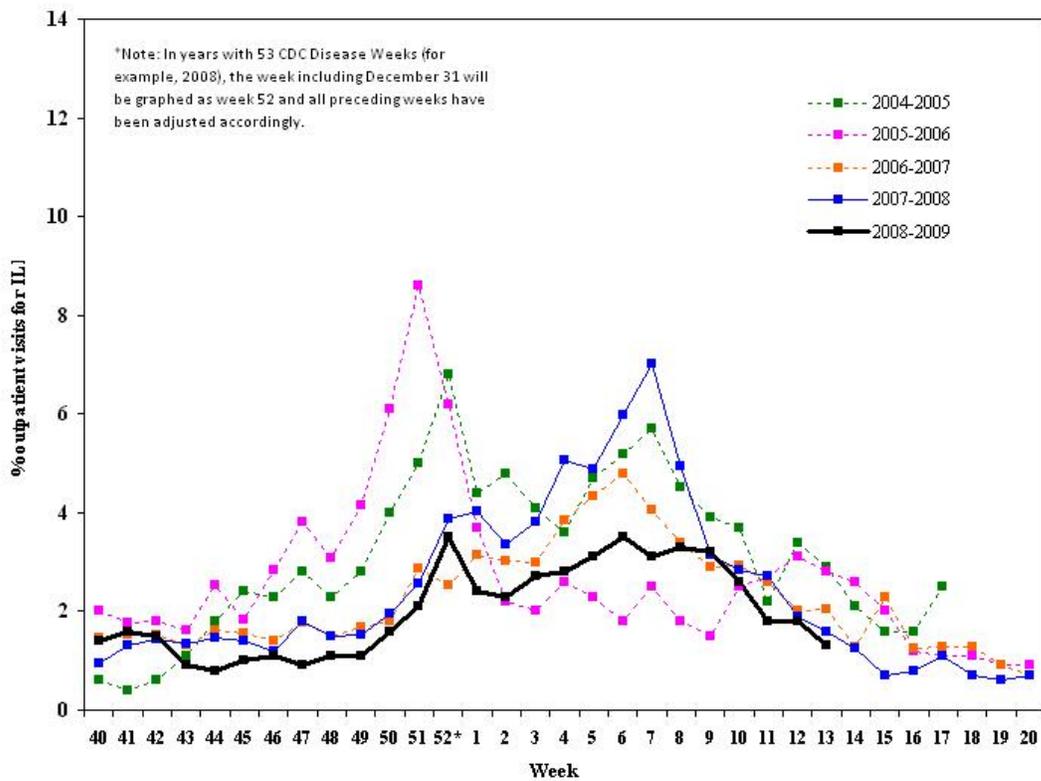
## Inpatient "Flu" Admissions 2004-2009 Southern California Kaiser



## 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 <sup>‡</sup> | Sentinel Providers   |
|---------|---------------------------|---|--|
| Week 13 | Number of Sites Reporting | 25  | 367 specimens submitted<br>(20 pending, 226 positive by PCR) |
|         | Influenza A               | 102 <sup>a</sup><br>Total to date: 4312                           | 125 <sup>e</sup>   |
|         | Influenza B               | 186 <sup>b</sup><br>Total to date: 2195                           | 101 <sup>f</sup>   |
|         | Influenza A/B             | 0<br>Total to date: 3   | N/A  |
|         | RSV                       | 68 <sup>c</sup><br>Total to date: 7082                            | N/A  |
|         | Other Respiratory Viruses | 8 <sup>d</sup><br>Total to date: 170                              | N/A  |

<sup>‡</sup>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.

<sup>a</sup> Alameda (9); Contra Costa (3); Fresno (11); Los Angeles (2); Madera (1); Orange (3); Placer (6); Sacramento (6); San Diego (20); San Francisco (1); San Joaquin (2); San Mateo (8); Santa Clara (19); Solano (2); Sonoma (4); Stanislaus (1); Tulare (2); Ventura (2)

<sup>b</sup> Alameda (42); Contra Costa (7); Fresno (23); Los Angeles (3); Marin (4); Orange (7); Placer (5); Sacramento (7); San Diego (16); San Francisco (7); San Joaquin (5); San Mateo (7); Santa Clara (33); Solano (9); Sonoma (6); Tolumne (1); Tulare (2); Ventura (1); Unknown (1)

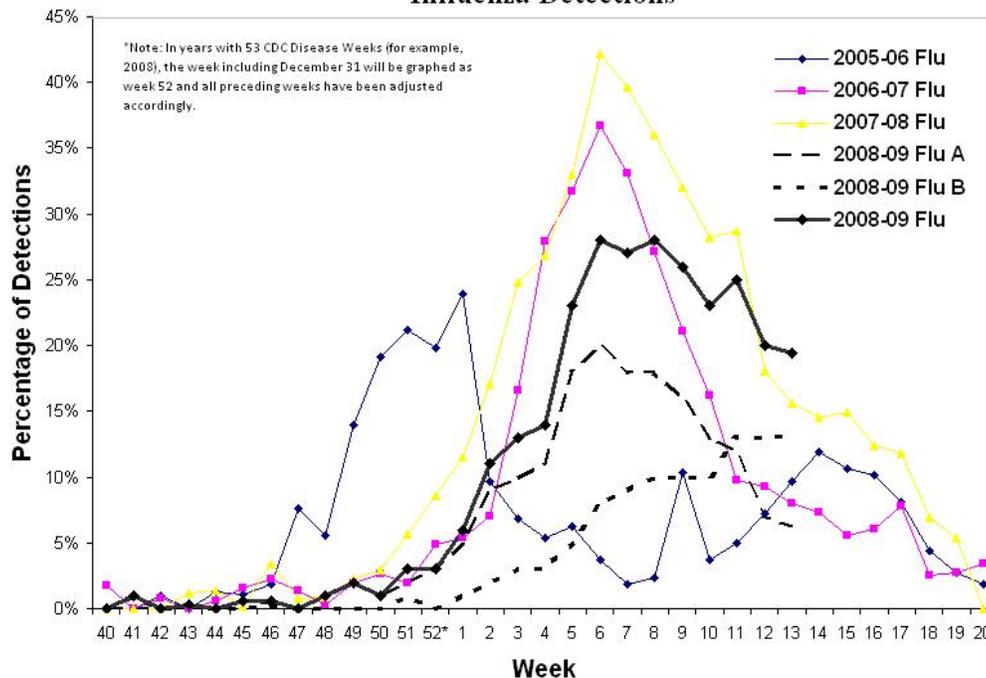
<sup>c</sup> Alameda (6); Contra Costa (10); Fresno (9); Los Angeles (2); Madera (2); Mariposa (3); Placer (6); Riverside (1); Sacramento (8); San Diego (1); San Francisco (1); San Joaquin (1); San Mateo (4); Santa Clara (7); Solano (4); Sonoma (2); Unknown (1)

<sup>d</sup> adenovirus (2); parainfluenza type 3 (6)

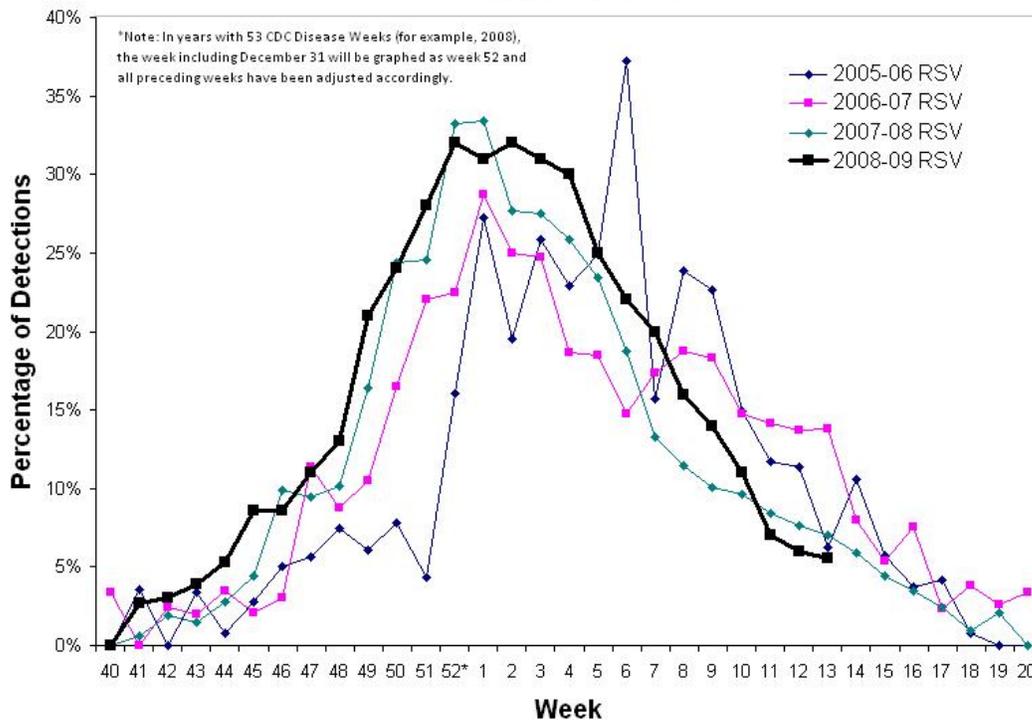
<sup>e</sup> Santa Barbara (32); Santa Clara (12); Butte (10); Los Angeles (9); Alameda (7); Fresno (7); San Diego (7); Kern (6); San Francisco (5); Stanislaus (5); Riverside (4); Sacramento (3); San Bernardino (3); Tulare (3); El Dorado (2); San Benito (2); Contra Costa (1); Humboldt (1); Inyo (1); Madera (1); Marin (1); Merced (1); Santa Cruz (1); Ventura (1)

<sup>f</sup> Santa Barbara (45); Santa Clara (15); San Joaquin (6); Alameda (5); Butte (4); Fresno (4); Marin (3); Riverside (3); Sacramento (3); Contra Costa (2); Los Angeles (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

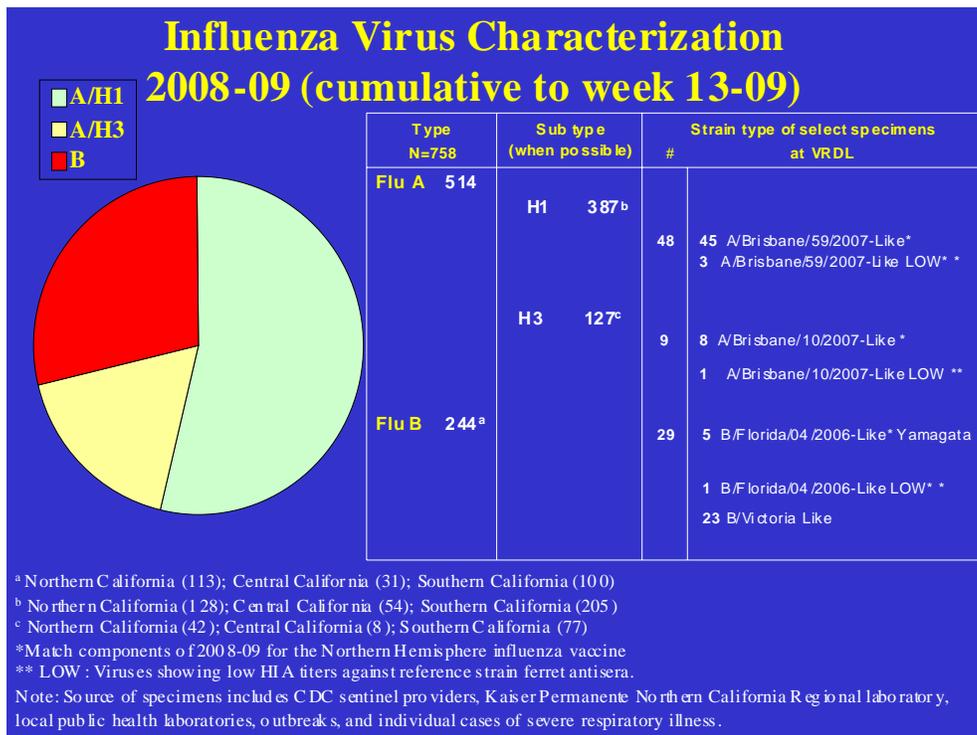


## Sentinel Laboratories/Respiratory Laboratory Network RSV Detections



### Virologic Characterization at VRDL and Local Public Health Laboratories

Out of 758 influenza specimens characterized so far, both influenza A (514) and influenza B (244) 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](mailto: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](mailto:erica.boston@cdph.ca.gov)) or Janice Louie ([janice.louie@cdph.ca.gov](mailto:janice.louie@cdph.ca.gov)).