



## California Department of Public Health Influenza Surveillance Program

### *California Influenza and Other Respiratory Disease Surveillance for Week 50 (December 7 to December 13, 2014)*

Note: This report includes data from many sources of influenza surveillance and it should be viewed as a preliminary “snapshot” of influenza activity for each surveillance week. Because data are preliminary, the information may be updated in later reports as additional data are received. These data should not be considered population-based or representative of all California public health jurisdictions.

*Due to the holidays the next report will be published on 1/9/15*

**Overall influenza activity in California was “regional\*” during Week 50.**

#### **Influenza Report Highlights**

- Influenza activity in California is low but increasing
- Outpatient influenza-like illness (ILI)
  - 2.3% of patient visits during Week 50 were for ILI, which is about the same as Week 49 (2.4%)
- Hospitalization data
  - 4.9% of Kaiser patients hospitalized during Week 50 were admitted with a pneumonia and/or influenza (P&I) diagnosis, which is about the same as Week 49 (4.8%); the percentage of P&I admissions is within expected levels for this time of year
- Influenza virus detections by Respiratory Laboratory Network and Sentinel Laboratories
  - 246 (13.7%) of 1793 specimens tested were positive for influenza during Week 50, which is higher compared to Week 49 (8.4%)
  - Overall, influenza A (H3) and influenza B viruses have been detected more than influenza 2009 A (H1) viruses
    - Nationally, 32.5% of influenza A (H3) viruses characterized match the 2014–2015 influenza vaccine component
- Influenza-associated deaths among patients 0–64 years of age
  - No laboratory-confirmed influenza deaths were reported during Week 50
- Influenza-associated outbreaks
  - Two laboratory-confirmed influenza outbreaks were reported during Week 50

\*For the Centers for Disease Control and Prevention (CDC) definitions of influenza geographic distribution, please go to <http://www.cdc.gov/flu/weekly/overview.htm>.

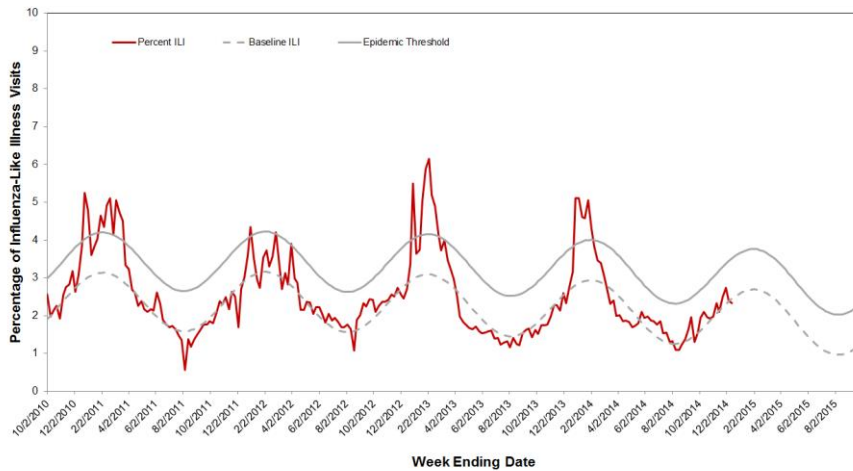
#### **A. Outpatient and Inpatient Data**

##### 1. Influenza Sentinel Providers

Sentinel providers (physicians, nurse practitioners, and physician assistants) situated throughout California report on a weekly basis the number of patients seen with influenza-like illness (ILI) and the total number of patients seen for any reason. ILI is defined as any illness with fever ( $\geq 100^{\circ}\text{F}$  or  $37.8^{\circ}\text{C}$ ) AND cough and/or sore throat (in the absence of a known cause other than influenza).

A total of 92 enrolled sentinel providers have reported data for Week 50. Based on available data, the percentage of visits for ILI in Week 50 (2.3%) was within expected baseline levels for this time of year (Figure 1).

**Figure 1. Percentage of Influenza-like Illness Visits Among Patients Seen by California Sentinel Providers, 2009–2014**



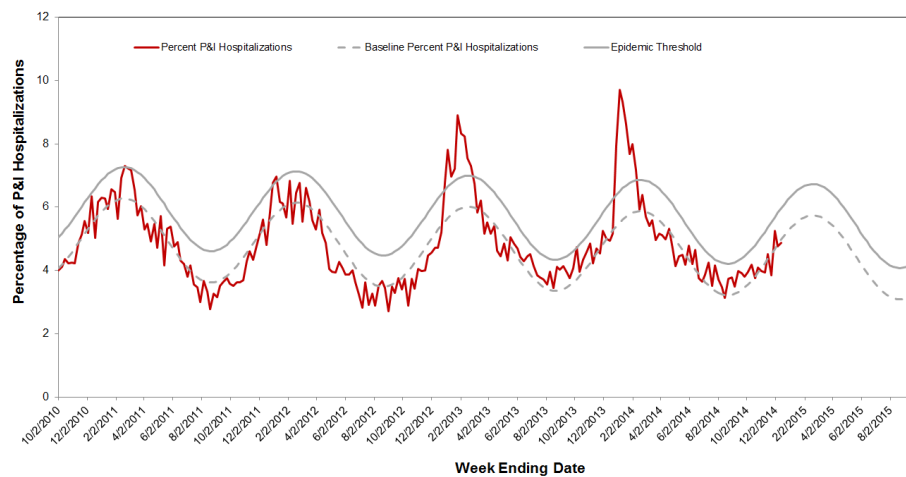
The seasonal baseline was calculated using a regression model applied to data from the previous eight years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of ILI is significantly higher than would be expected at that time of the year.

## 2. Kaiser Permanente Hospitalization Data

Inpatients at Kaiser Permanente facilities with an admission diagnosis including the keywords “flu,” “influenza,” “pneumonia,” or variants of the keywords are defined as pneumonia and influenza (P&I)-related admissions. The number of P&I admissions is divided by the total number of hospital admissions occurring in the same time period to estimate the percentage of P&I admissions. Admissions for pregnancy, labor and delivery, birth, and outpatient procedures are excluded from the denominator.

The percentage of hospitalizations for pneumonia and influenza (P&I) in Kaiser Permanente facilities in northern and southern California during Week 50 was 4.9% which was similar to Week 49 (4.8%) and is within expected baseline levels for this time of the year (Figure 2).

**Figure 2. Percentage of P&I Hospitalizations in Kaiser Permanente Northern and Southern California Hospitals, 2009–2014**



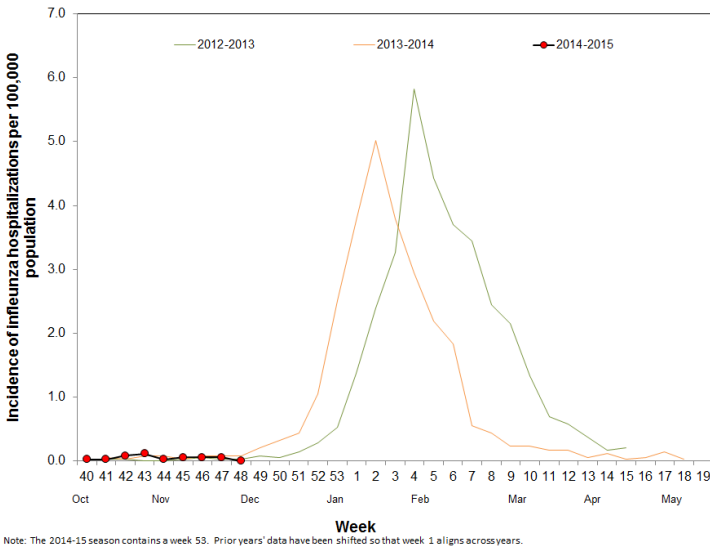
The seasonal baseline was calculated using a regression model applied to data from the previous six years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of pneumonia and influenza hospitalizations in Kaiser Permanente hospitals in northern California is significantly higher than would be expected at that time of the year.

### 3. Influenza-Associated Hospitalizations, California Emerging Infections Program

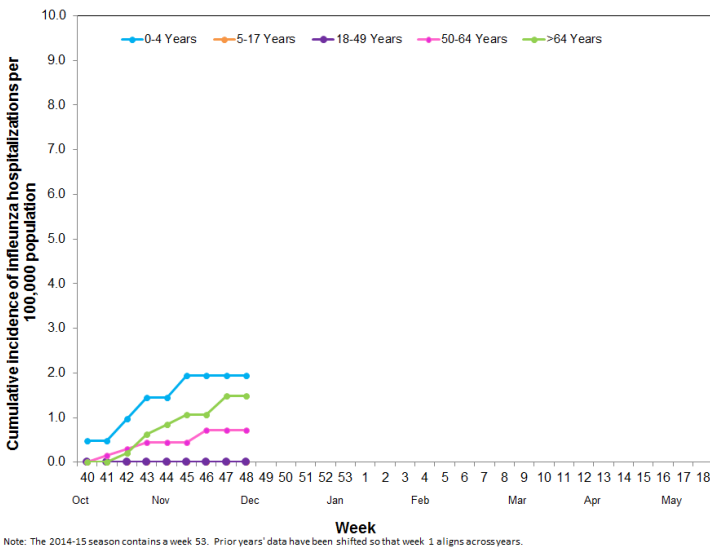
The California Emerging Infections Program (CEIP), Influenza Surveillance Network (FluSurv-NET) conducts population-based surveillance for laboratory-confirmed influenza-associated hospitalizations among patients of all ages in Alameda, Contra Costa, and San Francisco counties.

The incidence of influenza-associated hospitalizations per 100,000 population decreased in Week 48 (0.0) compared to Week 47 (0.06) (Figure 3). Data for Week 49 and Week 50 is not presented because results are still being collected and are likely to change. To date this season, the highest rate of hospitalization is among children age 0-4 years, followed by the >64 years age group (Figure 4).

**Figure 3. Incidence of Influenza Hospitalizations in CEIP Counties, 2011–2014**



**Figure 4. Cumulative incidence of influenza hospitalizations in CEIP counties by age group, 2014-2015**



## B. Laboratory Update - Influenza

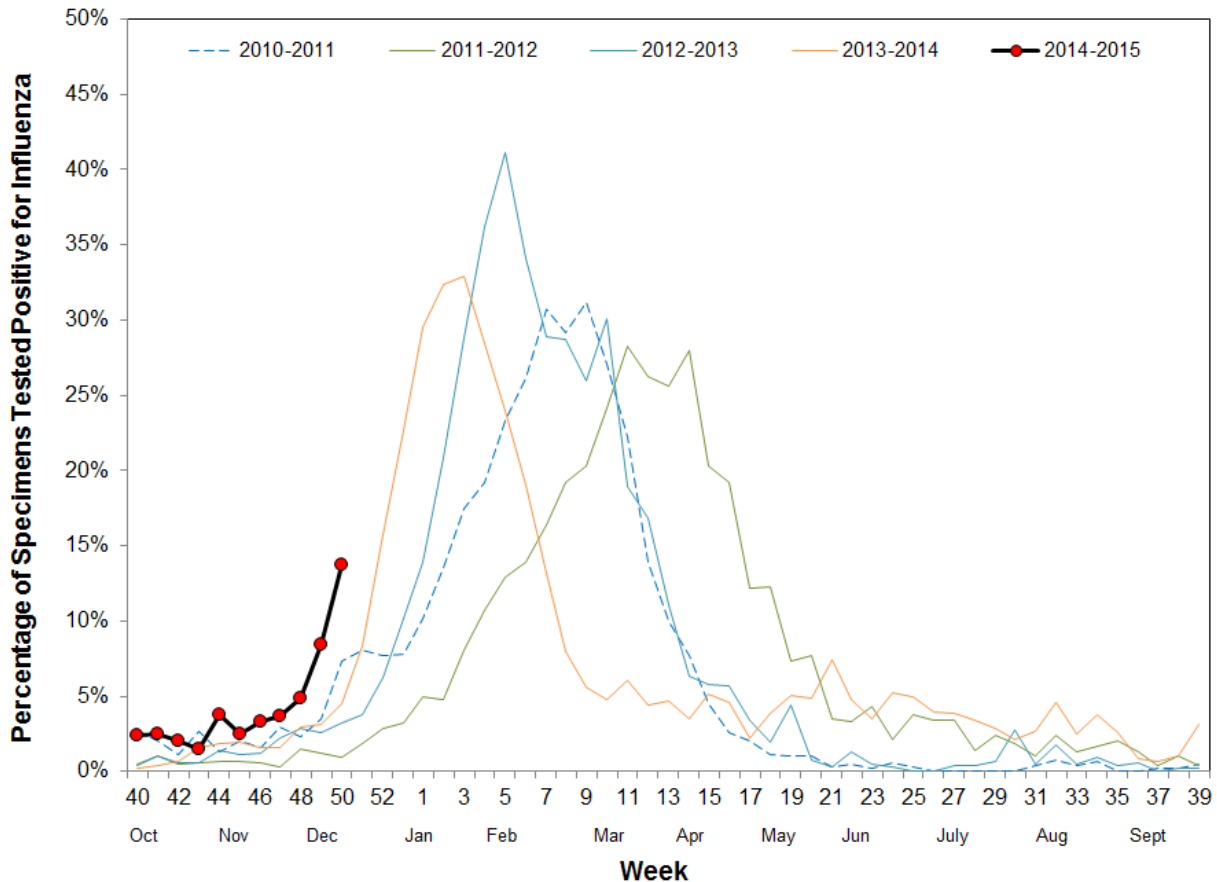
### 1. Respiratory Laboratory Network (RLN) and Sentinel Laboratory Surveillance Results

Laboratory surveillance for influenza and other respiratory viruses involves the use of data from hospital, academic, private and public health laboratories located throughout California. These laboratories report the number of laboratory-confirmed influenza and other respiratory virus detections and isolations on a weekly basis.

The percentage of influenza detections in the RLN and sentinel laboratories in Week 50 was 13.7%, which was higher compared to Week 49 (8.4%) (Figure 5). Additional details can be found in Figure 6 and Table 1.

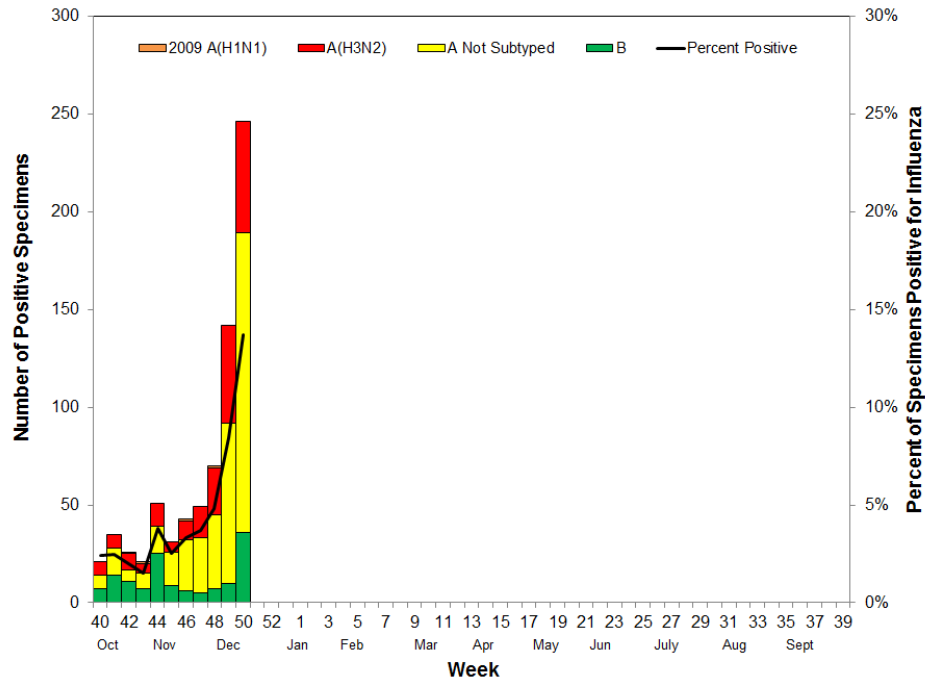
Neither the RLN nor CDPH-VRDL have identified any influenza viruses by polymerase chain reaction (PCR) typing or subtyping that are suggestive of a novel influenza virus.

**Figure 5. Percentage of Influenza Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2009–2014**



Note: The 2014–15 season contains a week 53. Prior years' data have been shifted so that week 1 aligns across years.

**Figure 6. Number of Influenza Detections by Type and Subtype Detected in Respiratory Laboratory Network and Sentinel Laboratories, 2014–2015**



**Table 1. Respiratory Specimens Testing Positive for Influenza by Influenza Type and Subtype — Respiratory Laboratory Network and Sentinel Laboratories, Current Week and Season to Date**

	Week 50		Season to Date	
	Number	Percent	Number	Percent
<b>Number of Specimens Tested</b>	1793		15049	
<b>Number of Specimens Positive for Influenza</b>	246	13.7*	735	4.9*
<b>Influenza Type/Subtype of Positive Specimens</b>				
A	210	85.4 <sup>†</sup>	598	81.4 <sup>†</sup>
2009 A (H1)	0	0.0 <sup>‡</sup>	4	0.7 <sup>‡</sup>
A (H3)	57	27.1 <sup>‡</sup>	201	33.6 <sup>‡</sup>
A, not subtyped	153	72.9 <sup>‡</sup>	393	65.7 <sup>‡</sup>
B	36	14.6 <sup>†</sup>	137	18.6 <sup>†</sup>

\* Percent of total specimens tested for influenza

<sup>†</sup> Percent of specimens positive for influenza

<sup>‡</sup> Percent of influenza A positives

## 2. Antiviral Resistance Testing

The CDPH-VRDL has not tested any influenza specimens for antiviral resistance to date during the 2014–2015 influenza season.

## 3. Influenza Virus Strain Characterization

No California specimens have been strain-typed to date during the 2014–2015 influenza season.

## **C. Laboratory-Confirmed Severe Influenza Case Reports**

Currently, as mandated under Section 2500 of the California Code of Regulations, deaths among patients

aged 0–64 years with laboratory-confirmed influenza are reportable to CDPH. The weekly influenza report includes confirmed deaths formally reported to CDPH as of December 13, 2014 (Week 50).

As of Week 50, CDPH has received no reports of laboratory-confirmed influenza-associated deaths among patients <65 years of age during the 2014–2015 influenza season.

#### D. Influenza-Associated Outbreaks

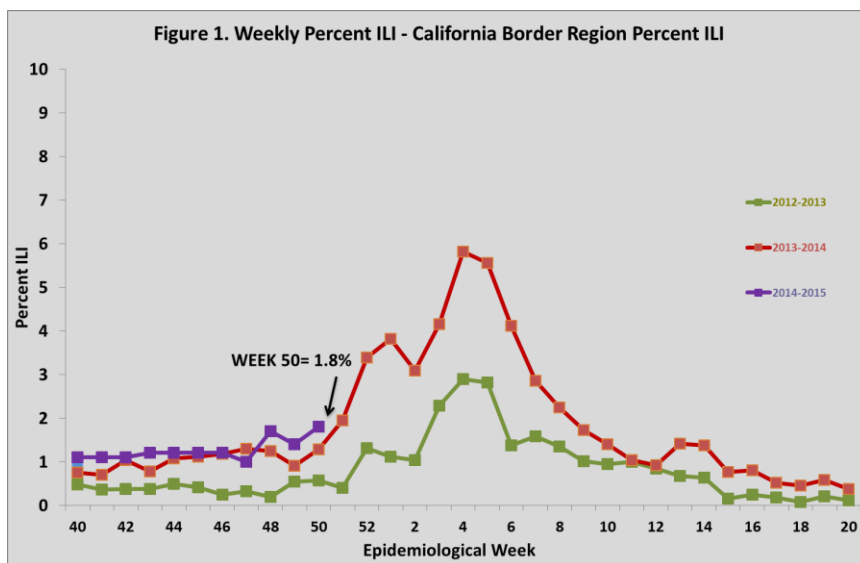
CDPH received two laboratory-confirmed influenza outbreaks during Week 50. Both outbreaks were caused by influenza A. One outbreak occurred in an assisted living facility in the Bay Area and the second in a school located in Southern California.

#### E. California Border Region Influenza Surveillance Network Data

The border influenza surveillance network is comprised of outpatient provider sentinel sites whose geographical coverage extends approximately 100 kilometers (60 miles) north of the California-Baja California border and includes Imperial and San Diego Counties, as well as some parts of Riverside County.

##### 1. Syndromic Surveillance Update

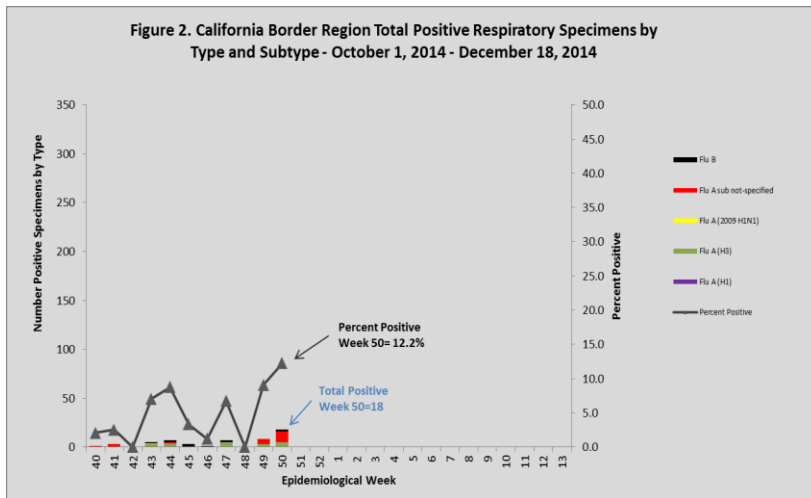
A total of 10 border region sentinel providers reported data during Week 50, compared to 14 during Week 49 of 2014. The total number of patients screened by all sentinel sites for ILI during Week 50 was 5,679. Outpatient ILI activity increased by 0.4% from Week 49 (1.4% ILI) to Week 50 (1.8% ILI). ILI activity for the California border region was higher for Week 50 when compared to activity for the same week during the 2012–2013 and 2013–2014 influenza seasons (Figure 1). All influenza syndromic data summarized for the border region represents a subset of CDC influenza sentinel providers in California.



##### 2. Virologic Surveillance Update

Cumulatively this season, a total of 965 respiratory specimens have been tested from border

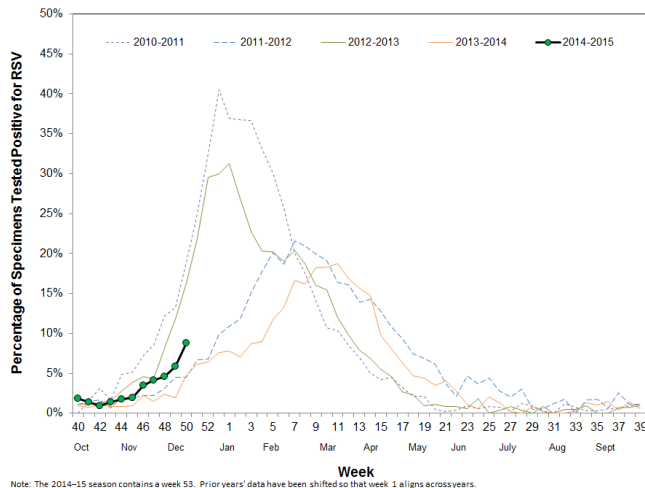
region clinics; of these, 53 (5.5%) tested positive for influenza. Of the 53 specimens that have tested positive, 42 (79.2%) were influenza A and 11 (20.8%) were influenza B. Of the 42 specimens that tested positive for influenza A, 20 (47.6%) were A (H3), 1 (2.4%) was 2009 A (H1), and 21 (50.0%) had no further subtyping performed. For Week 50, a total of 147 respiratory specimens were submitted for testing; 18 (12.2%) were positive for influenza virus. Of the positive specimens 16 (88.9%) were influenza A, and 2 (11.1%) were influenza B. Of the 16 specimens that tested positive for influenza A, 5 (27.8%) were A (H3) and 11 (61.1%) had no further subtyping performed. Laboratory data summarized in Figure 2 includes data from influenza sentinel sites as well as laboratory data from other border region laboratories.



### F. Laboratory Update – Other Respiratory Viruses

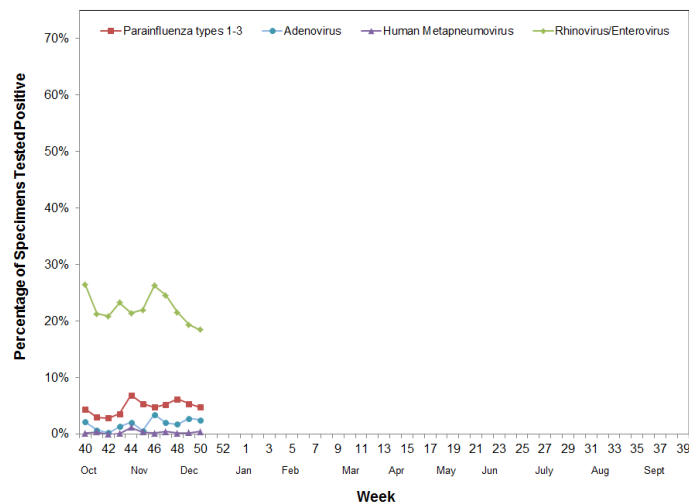
During Week 50, there were 1201 specimens tested for RSV and 106 (8.8%) were positive, which is higher compared to Week 49 (5.9%) (Figure 7). Information on other respiratory viruses can be found in Figure 8.

**Figure 7. Percentage of RSV Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2009–2014**



Note: The 2014-15 season contains a week 53. Prior years' data have been shifted so that week 1 aligns across years.

**Figure 8. Percentage of Other Respiratory Pathogen Detections in Respiratory Laboratory Network and Sentinel Laboratories, 2014–2015**



For questions regarding influenza surveillance and reporting in California, please email [InfluenzaSurveillance@cdph.ca.gov](mailto:InfluenzaSurveillance@cdph.ca.gov). This account is monitored daily by several epidemiologists.

For more information regarding the different influenza surveillance data sources, please visit the CDPH Influenza Surveillance Program at <http://www.cdph.ca.gov/programs/dcdc/Pages/CaliforniaInfluenzaSurveillanceProject.aspx>.

To obtain additional information regarding influenza, please visit the CDPH influenza website at [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).

A copy of the case report form for reporting any laboratory-confirmed influenza case that was either admitted to the ICU or died can be downloaded from [http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza\(Flu\).aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/Influenza(Flu).aspx).