



California Department of Public Health Influenza Surveillance Program

California Influenza and Other Respiratory Disease Surveillance for Week 49 (November 30 to December 6, 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.

Overall influenza activity in California was “sporadic*” during Week 49.

Influenza Report Highlights

- Influenza activity in California is low but increasing
- Outpatient influenza-like illness (ILI)
 - 1.9% of patient visits during Week 49 were for ILI, which is less than Week 48 (2.8%)
- Hospitalization data
 - 4.8% of Kaiser patients hospitalized during Week 49 were admitted with a pneumonia and/or influenza (P&I) diagnosis, which is lower than Week 48 (5.3%); 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
 - 132 (9.0%) of 1474 specimens tested were positive for influenza during Week 49, which is higher compared to Week 48 (5.0%)
 - Overall, influenza A (H3) and influenza B viruses have been detected more than influenza 2009 A (H1) viruses
 - Nationally, 42% 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 49
- Influenza-associated outbreaks
 - One laboratory-confirmed influenza outbreak was reported during Week 49
- For the [Centers for Disease Control and Prevention \(CDC\)](http://www.cdc.gov/flu/weekly/overview.htm) definitions of influenza geographic distribution, please go to <http://www.cdc.gov/flu/weekly/overview.htm>.

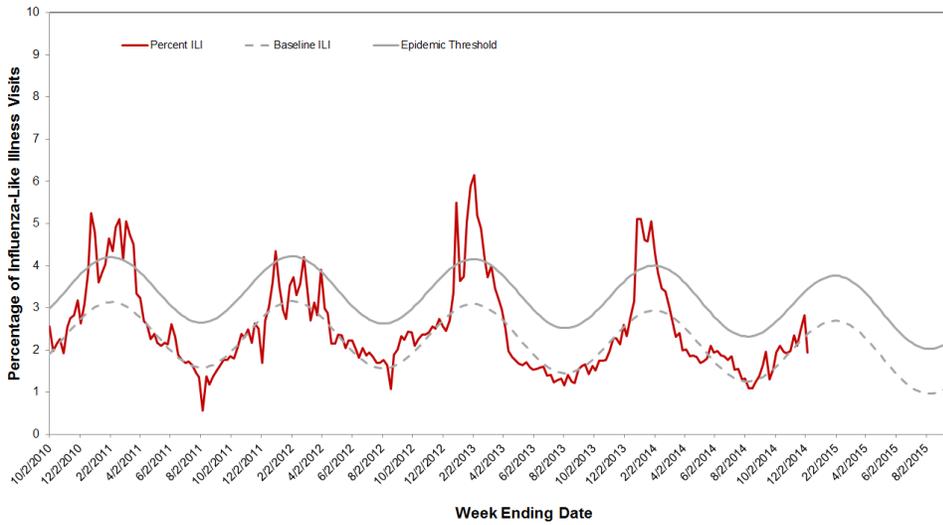
A. Outpatient and Inpatient Data

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°C) AND cough and/or sore throat (in the absence of a known cause other than influenza).

A total of 102 enrolled sentinel providers have reported data for Week 49. Based on available data, the percentage of visits for ILI in Week 49 (1.9%) 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



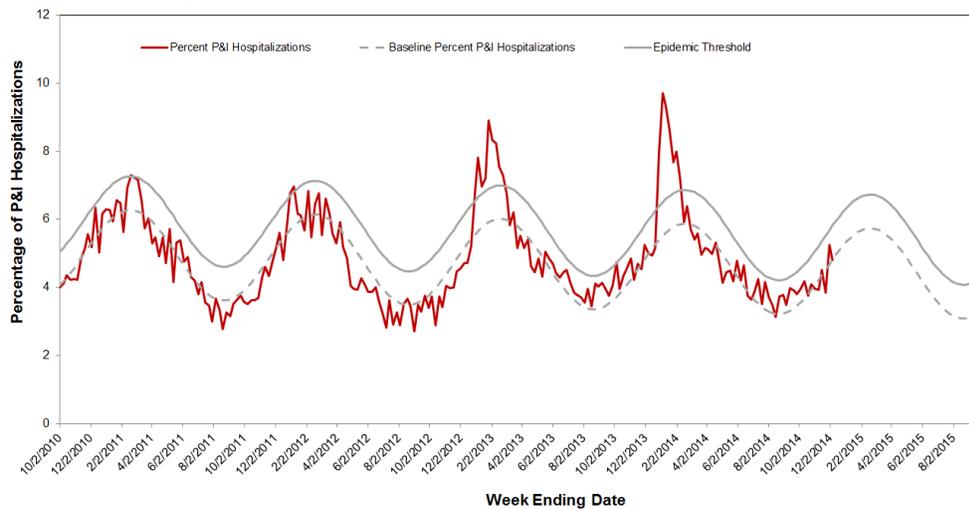
The seasonal baseline was calculated using a regression model applied to data from the previous eight years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of ILI is significantly higher than would be expected at that time 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 49 was 4.8% which was lower compared to Week 48 (5.3%) 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



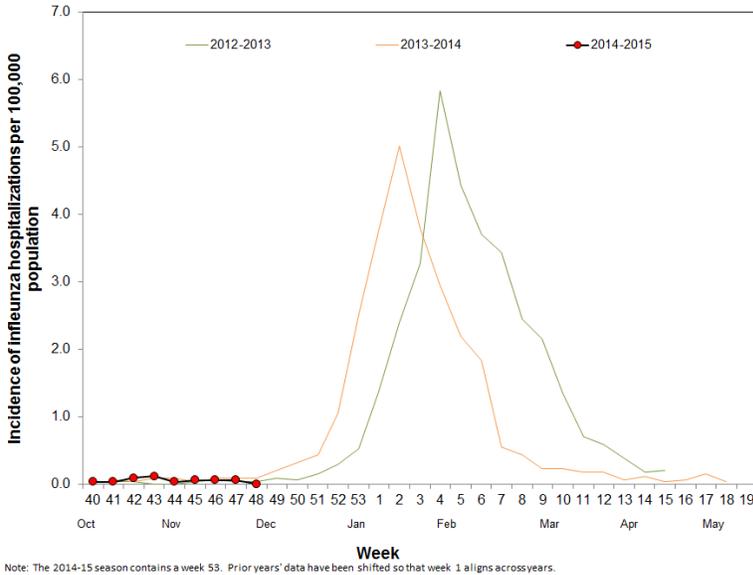
The seasonal baseline was calculated using a regression model applied to data from the previous six years. The epidemic threshold is two standard deviations above the seasonal baseline and is the point at which the observed percentage of pneumonia and influenza hospitalizations in Kaiser Permanente hospitals 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.

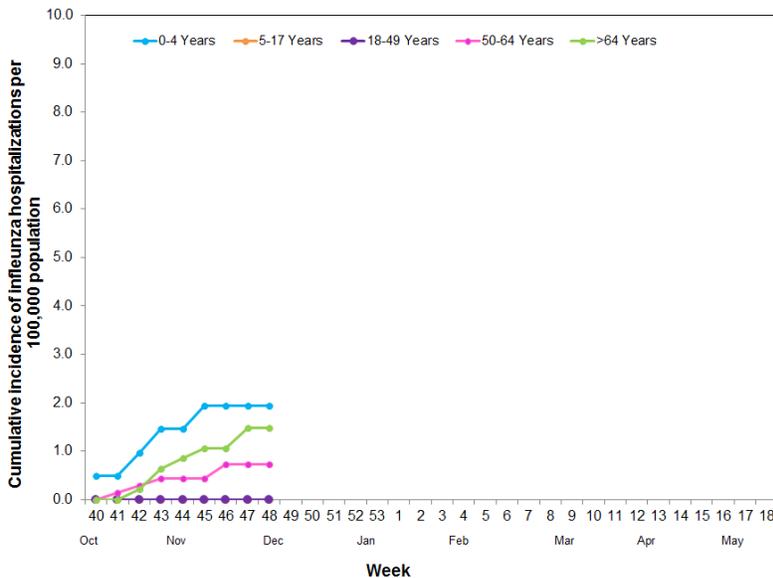
The incidence of influenza-associated hospitalizations per 100,000 population decreased in Week 48 (0.0) compared to Week 47 (0.06) (Figure 3). Data for Week 49 is not presented because results are still being collected and are likely to change. To date this season, the highest rate of hospitalization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



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

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



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

B. Laboratory Update - Influenza

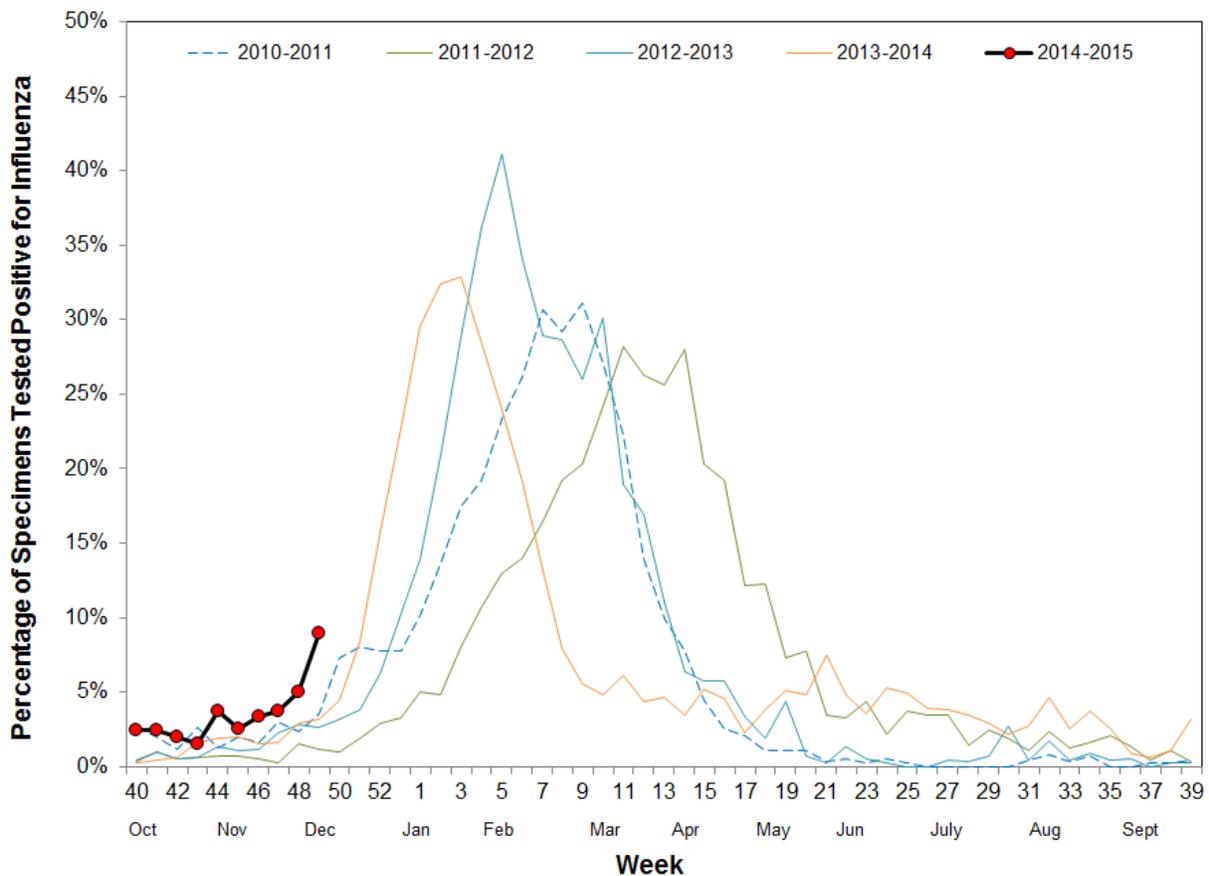
1. Respiratory Laboratory Network (RLN) and Sentinel Laboratory Surveillance Results

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 49 was 9.0%, which was higher compared to Week 48 (5.0%) (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

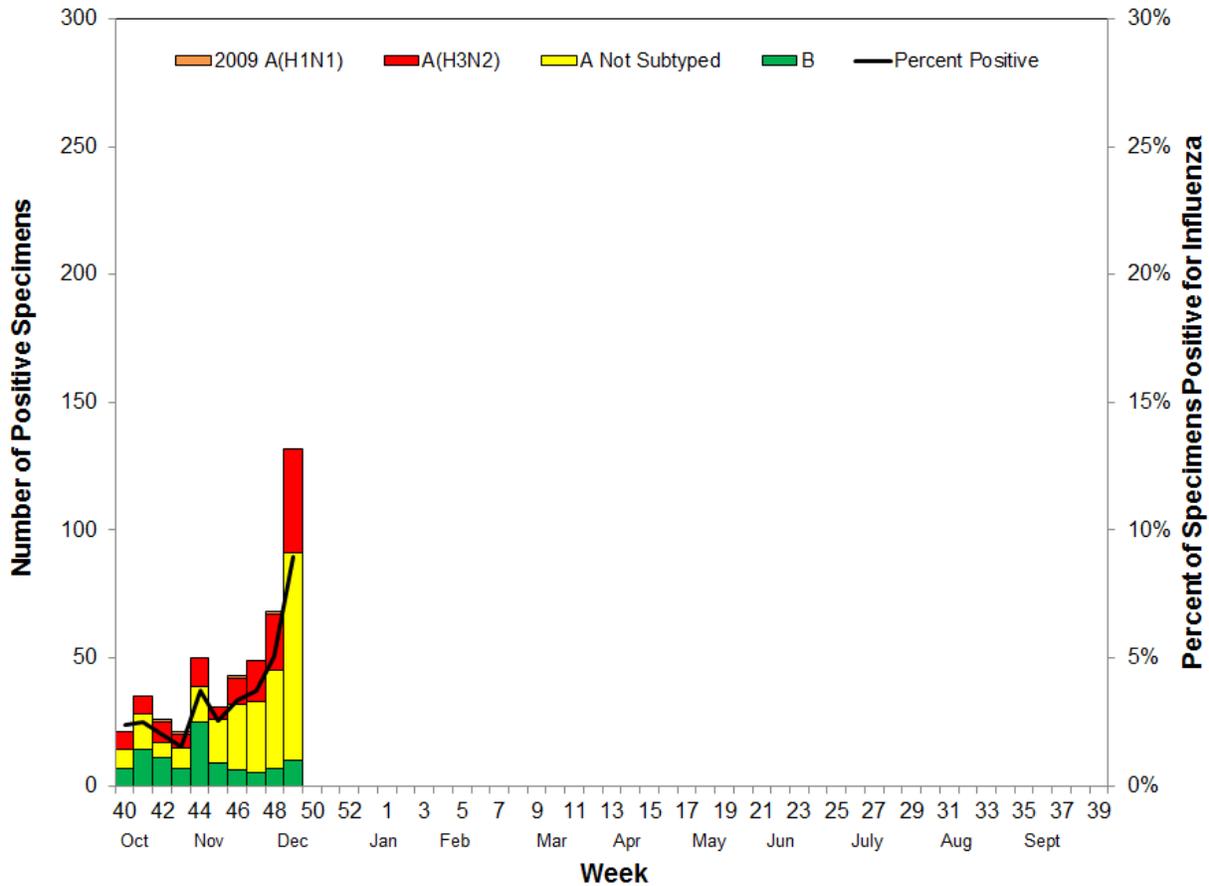


Table 1. Respiratory Specimens Testing Positive for Influenza by Influenza Type and Subtype — Respiratory Laboratory Network and Sentinel Laboratories, Current Week and Season to Date

	Week 49		Season to Date	
	Number	Percent	Number	Percent
Number of Specimens Tested	1474		12927	
Number of Specimens Positive for Influenza	132	9.0*	476	3.7*
Influenza Type/Subtype of Positive Specimens				
A	122	92.4 [†]	375	78.8 [†]
2009 A (H1)	0	0.0 [‡]	4	1.1 [‡]
A (H3)	41	33.6 [‡]	132	35.2 [‡]
A, not subtyped	81	66.4 [‡]	239	63.7 [‡]
B	10	7.6 [†]	101	21.2 [†]

* Percent of total specimens tested for influenza

[†] Percent of specimens positive for influenza

[‡] 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 6, 2014 (Week 49).

As of Week 49, 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

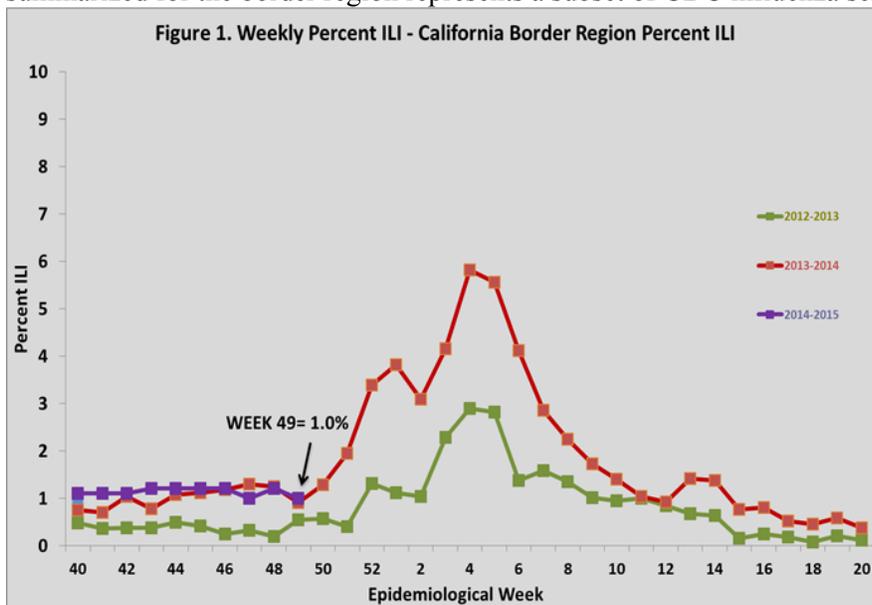
CDPH received its first report of a laboratory-confirmed influenza outbreak during Week 49. The outbreak occurred in a correctional facility in Central California and was caused by influenza A (H3).

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.

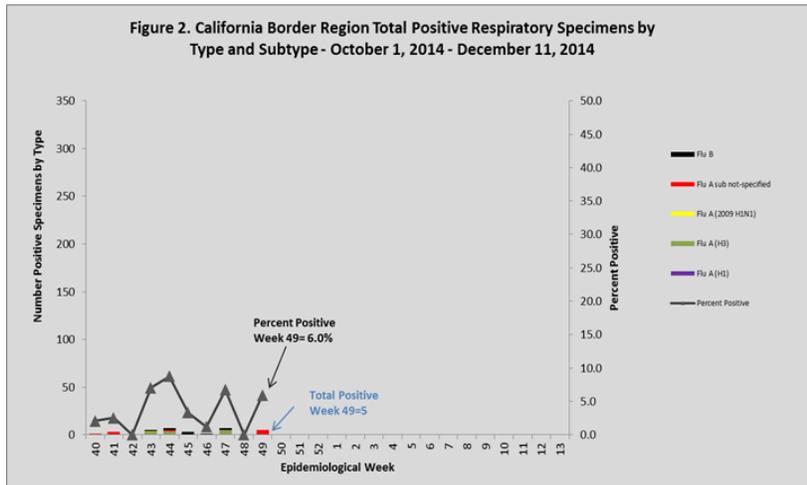
1. Syndromic Surveillance Update

A total of six border region sentinel providers reported data during Week 49, compared to nine during Week 48 of 2014. The total number of patients screened by all sentinel sites for ILI during Week 49 was 1,535. Outpatient ILI activity decreased by 0.2% from Week 48 (1.2% ILI) to Week 49 (1.0% ILI). ILI activity for the California border region was higher for Week 49 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

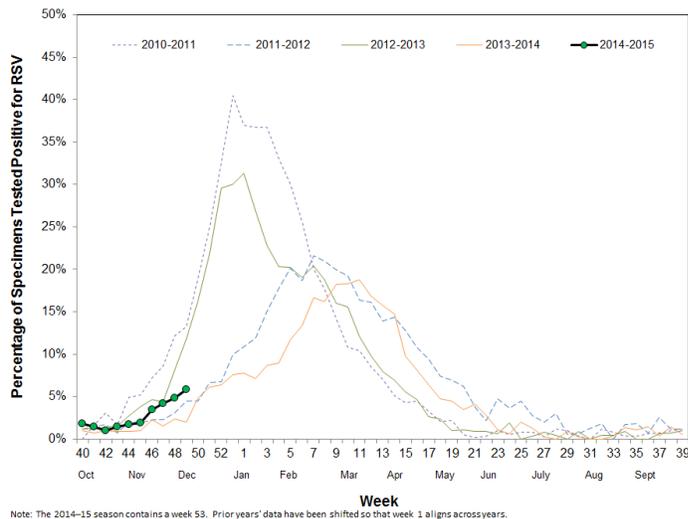
Cumulatively this season, a total of 814 respiratory specimens have been tested from border region clinics; of these, 32 (3.9%) tested positive for influenza. Of the 32 specimens that have tested positive, 23 (71.9%) were influenza A and 9 (28.1%) were influenza B. Of the 23 specimens that tested positive for influenza A, 12 (52.2%) were A (H3), 1 (4.3%) was 2009 A (H1), and 10 (43.5%) had no further subtyping performed. For Week 49, a total of 84 respiratory specimens were submitted for testing; 5 (6.0%) were positive for influenza virus. Of the 5 specimens that tested positive, all were influenza A and had no 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

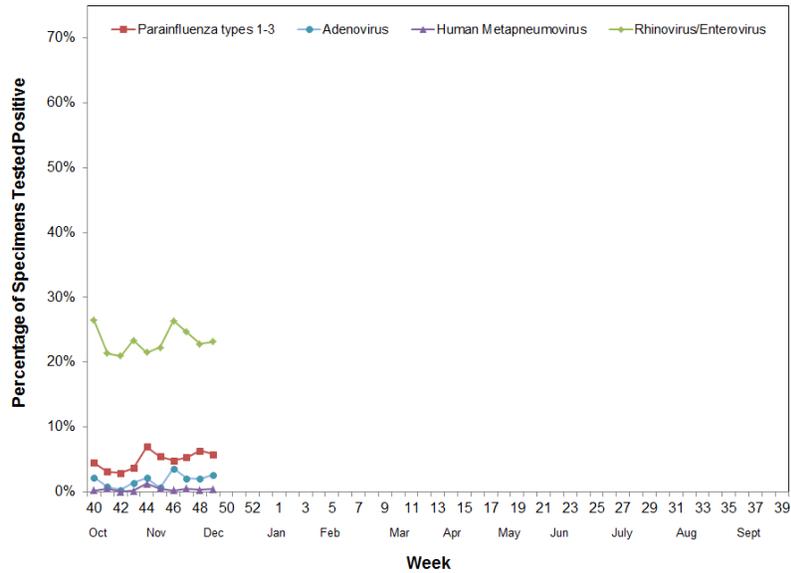
During Week 49, there were 1316 specimens tested for RSV and 77 (5.9%) were positive, which represents a slight increase compared to Week 48 (4.8%) (Figure 7). Information on other respiratory viruses can be found in Figure 8.

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. 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](#).

To obtain additional information regarding influenza, please visit the [CDPH influenza website](#).

Download a copy of the [case report form](#) for reporting any laboratory-confirmed influenza case that was either admitted to the ICU or died.