



Influenza Highlights



▼ **17.6%**
Laboratory
flu positivity



▲ **6.7%**
Outpatient
ILI activity



▲ **2.8%**
Hospital
flu admissions

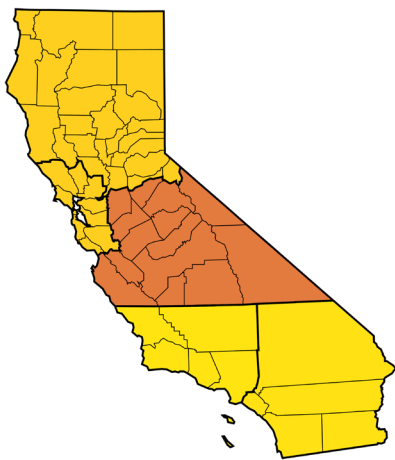
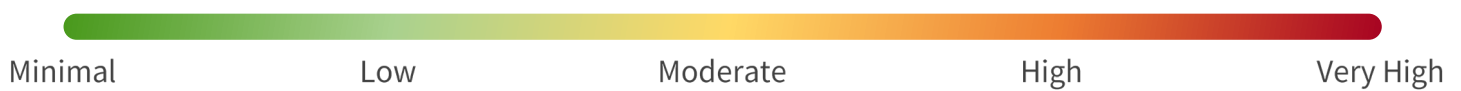


303
Deaths
since 10/2/2022



60
Outbreaks
since 10/2/2022

Influenza Activity Levels⁺



Geographic Area	Activity Level
California Statewide	Moderate
Northern Region	Moderate
Bay Area Region	Moderate
Central Region	High
Upper Southern Region	Moderate
Lower Southern Region	Moderate

Key Messages

- » Overall influenza activity remains elevated in California.
- » The majority of detected influenza viruses are A (H3N2).
- » Now is a good time to get your flu shot to protect yourself against flu, its potentially serious complications, and reduce strain on our healthcare system.
- » Respiratory syncytial virus (RSV) activity is decreasing in California.
- » Prophylactic palivizumab can prevent serious RSV illness in [high risk-infants](#).

In This Report

Influenza Laboratory Surveillance	3
Influenza Detections from Respiratory Laboratory Network and Clinical Sentinel Laboratories	3
Antiviral Resistance Testing	5
Influenza Outpatient, Inpatient, and Death Surveillance	6
Sentinel Provider Outpatient Visits for Influenza-like Illness	6
Influenza Admissions at Kaiser Permanente Northern California Facilities	7
Influenza-associated Hospitalizations in California Emerging Infections Program Counties	9
Influenza Mortality Surveillance from Death Certificates	9
Laboratory-confirmed Influenza-associated Pediatric Deaths	11
Influenza-associated Outbreaks	12
California Border Region Influenza Surveillance Network	13
Syndromic Surveillance Update	13
Virologic Surveillance Update	13
Respiratory Syncytial Virus Surveillance	15
RSV Detections from Clinical Sentinel Laboratories	15
RSV Admissions at Kaiser Permanente Northern California Facilities	15
RSV Mortality Surveillance from Death Certificates	17
Laboratory-confirmed Respiratory Syncytial Virus-associated Deaths	19
Other Respiratory Viruses Surveillance	19
About This Report	20
More Information	20
Highlights Indicators	20
Influenza Activity Levels	20
California Regions	20

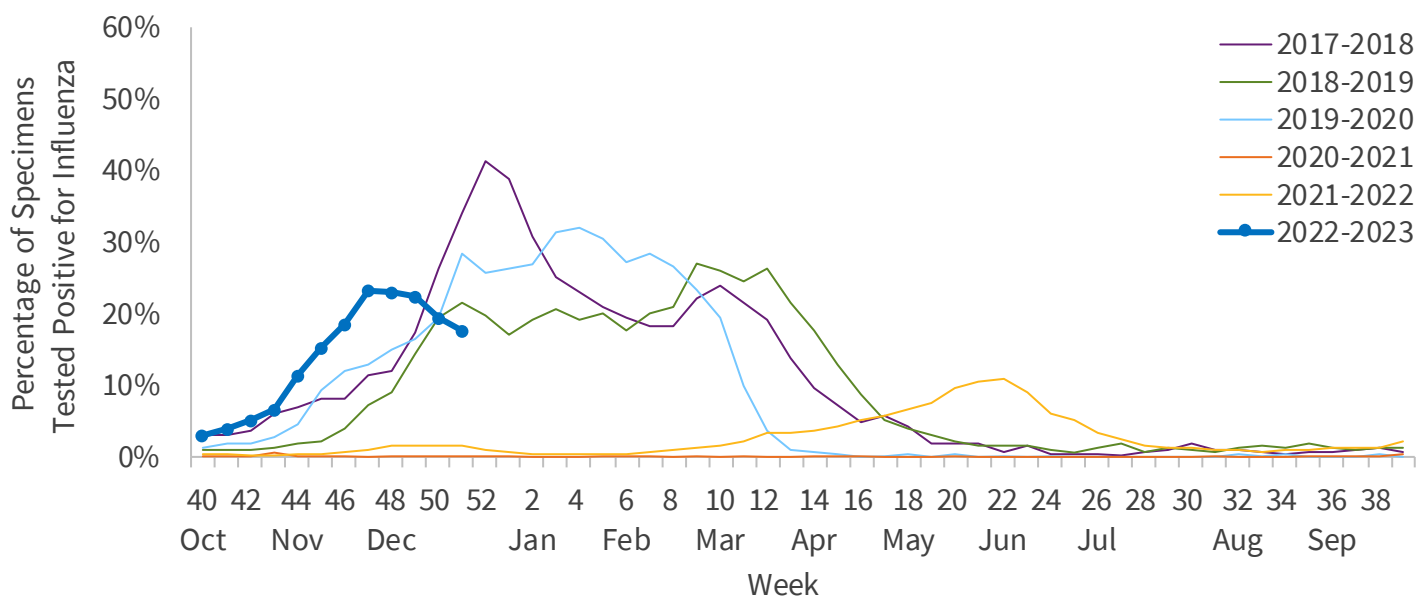
Influenza Laboratory Surveillance

Influenza Detections from Respiratory Laboratory Network and Clinical Sentinel Laboratories

Laboratory surveillance for influenza and other respiratory viruses involves the use of data from clinical sentinel laboratories and public health laboratories in the Respiratory Laboratory Network (RLN) located throughout California. These laboratories report the number of laboratory-confirmed influenza and other respiratory virus detections and isolations on a weekly basis.

The overall percentage of influenza detections in clinical sentinel laboratories during Week 51 (17.6%) was lower compared to Week 50 (19.4%) ([Figure 1](#)). Additional details, including influenza typing and subtyping information from public health laboratories can be found in [Figures 1](#) and [2](#) and [Tables 1](#) and [2](#). Please note that data from multiple clinical sentinel laboratories are missing for Week 51.

Figure 1. Percentage of Influenza Detections at Clinical Sentinel Laboratories, 2017–2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

Table 1. Respiratory Specimens Testing Positive for Influenza – Clinical Sentinel Laboratories, Current Week and Season to Date

	Current Week Number	Current Week Percent	Season to Date Number	Season to Date Percent
Number of Specimens Tested	21,195		292,313	
Influenza Positive	3,720	17.6	47,788	16.3
A	3,714	99.8*	47,676	99.8*
B	6	0.2*	112	0.2*

* Percentage of specimens positive for influenza

Figure 2. Number of Influenza Detections by Type and Subtype Detected in the Respiratory Laboratory Network, 2022–2023 Season to Date

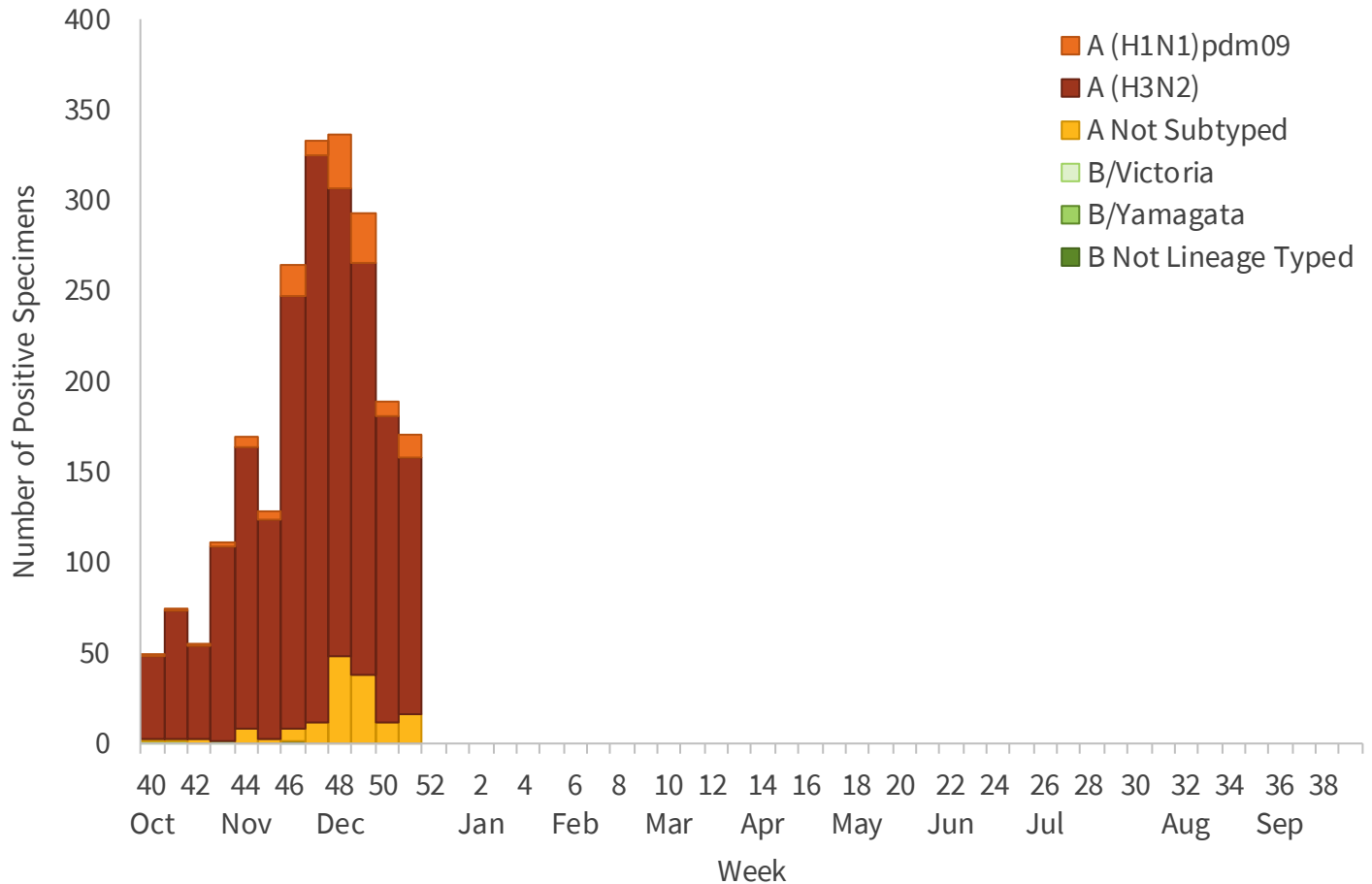


Table 2. Respiratory Specimens Testing Positive for Influenza by Influenza Type and Subtype – Respiratory Laboratory Network, Current Week and Season to Date

	Current Week Number	Current Week Percent	Season to Date Number	Season to Date Percent
Influenza Positive	170		2,171	
A	170	100.0*	2,167	99.8*
A (H1)pdm09	12	7.1 [†]	117	5.4 [†]
A (H3)	142	83.5 [†]	1,903	87.8 [†]
A, not subtyped	16	9.4 [†]	147	6.8 [†]
B	0	0.0*	4	0.2*
B Victoria	0	0.0 [‡]	3	75.0 [‡]
B Yamagata	0	0.0 [‡]	0	0.0 [‡]
B, not lineage typed	0	0.0 [‡]	1	25.0 [‡]

[†] Percentage of specimens positive for influenza A

[‡] Percentage of specimens positive for influenza B

Antiviral Resistance Testing

Of the influenza specimens tested by the CDPH-VRDL to date this season, none have been found to be resistant to Neuraminidase inhibitors ([Table 3](#)).

Table 3. Number of Specimens Tested for Neuraminidase Inhibitor Resistance, 2022–2023 Season to Date

	Neuraminidase Inhibitor Resistance
Influenza A (H1)pdm09	0/16
Influenza A (H3)	0/22
Influenza B	0/2

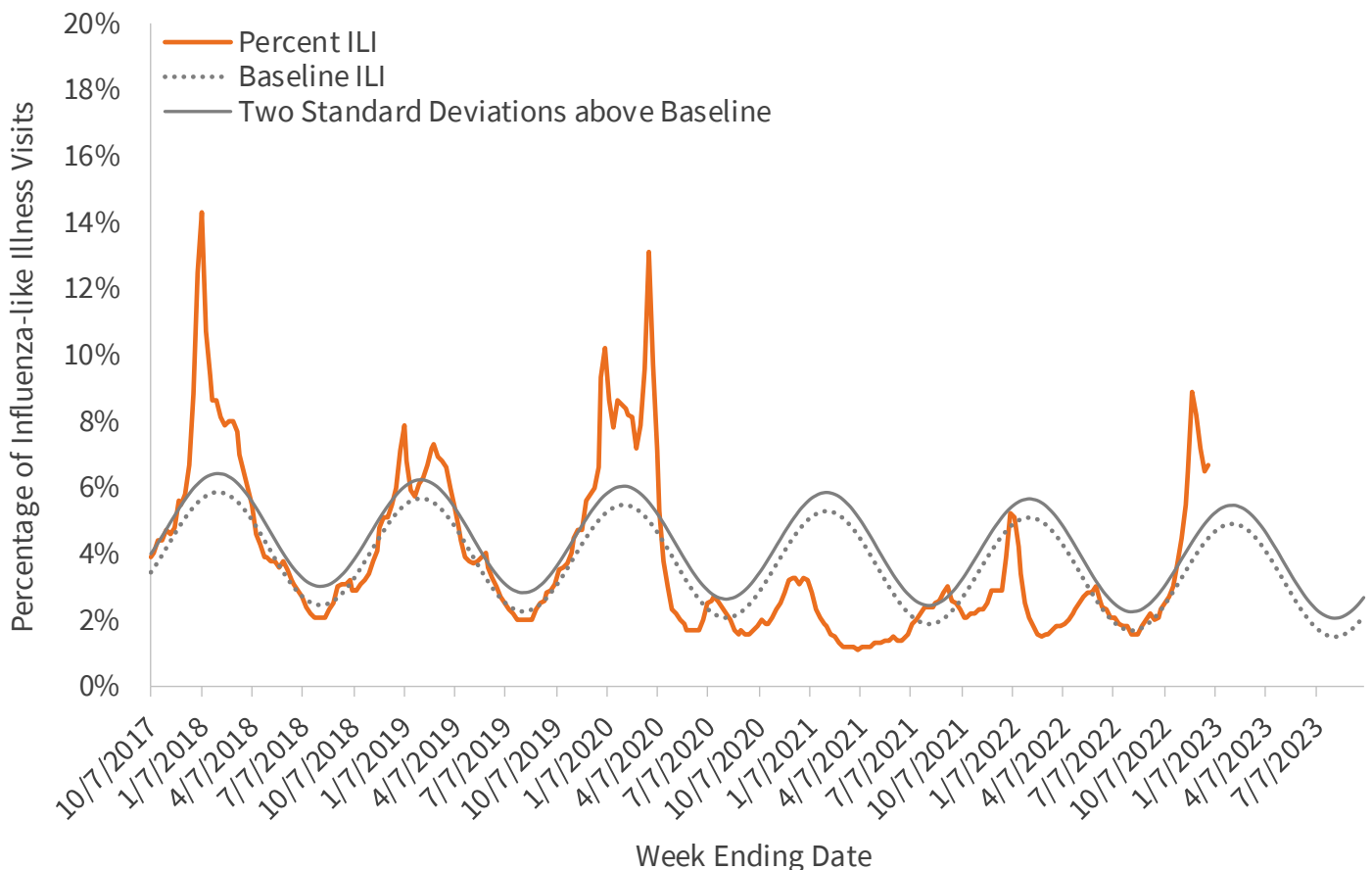
Influenza Outpatient, Inpatient, and Death Surveillance

Sentinel Provider Outpatient Visits for Influenza-like Illness

[Sentinel providers](#) (physicians, nurse practitioners, physician assistants) 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.

A total of 182 enrolled sentinel providers have reported data for Week 51. The percentage of visits for ILI during Week 51 was 6.7% compared to 6.5% during Week 50 and was above expected levels for this time of year ([Figure 3](#)). Increases in ILI-related outpatient visits might also include people seeking care for other respiratory illnesses, including COVID-19. Please note that data from multiple ILI providers are missing for Week 51.

Figure 3. Percentage of Influenza-like Illness Visits Among Patients Seen by California Sentinel Providers, 2017–2023 Season to Date



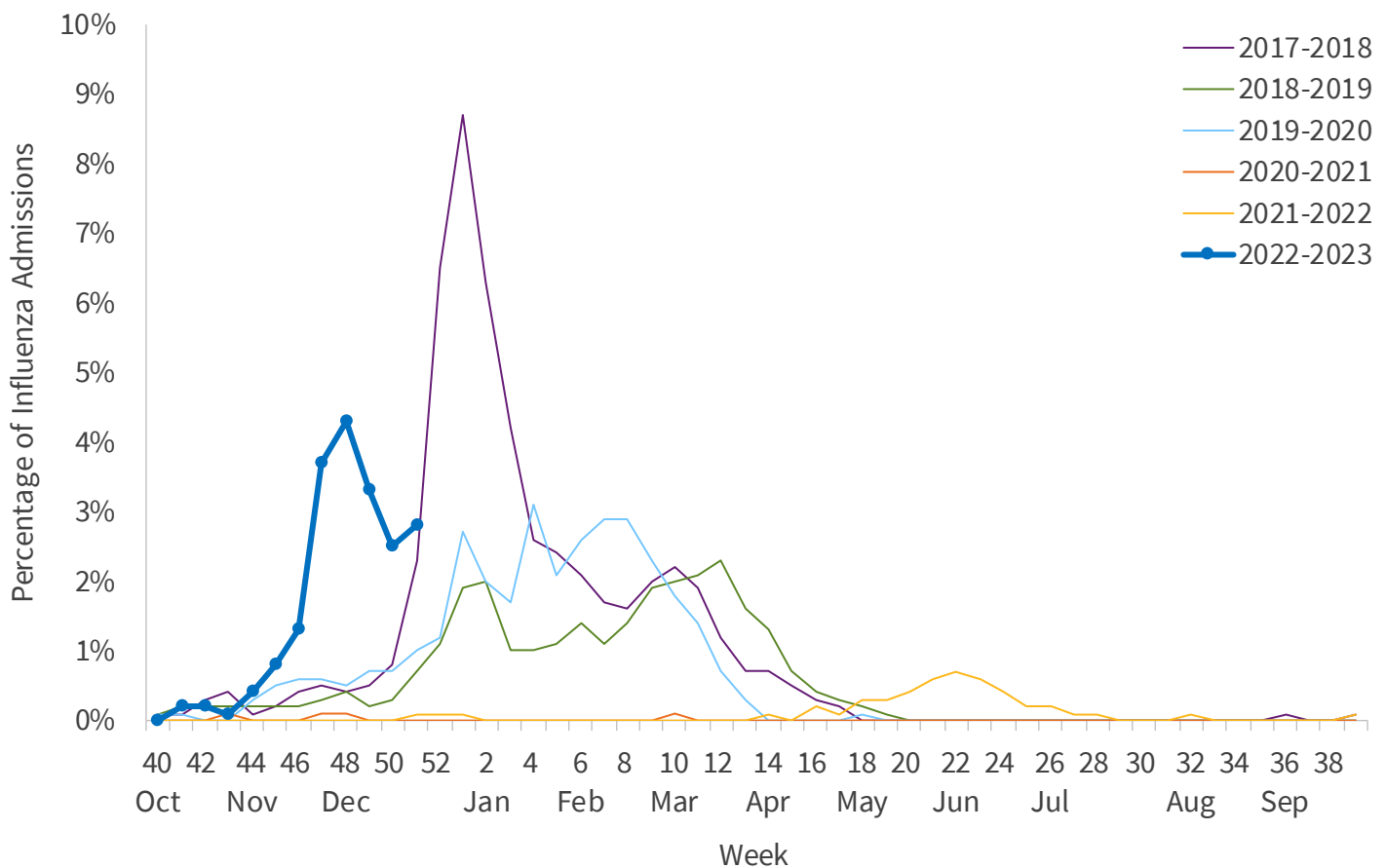
The seasonal baseline was calculated using a regression model applied to data from the five previous seasons, excluding the COVID-19 pandemic. Two standard deviations above the seasonal baseline is the point at which the observed percentage of ILI is significantly higher than would be expected at that time of year. Historic data for large sentinel providers enrolled during the season are included to account for

Influenza Admissions at Kaiser Permanente Northern California Facilities

Inpatients at [Kaiser Permanente Northern California](#) facilities with an admission diagnosis including the keywords “flu,” “influenza,” or variants of the keywords are defined as influenza-related admissions. The number of influenza admissions is divided by the total number of hospital admissions occurring in the same time period to estimate the percentage of influenza admissions. Admissions for pregnancy, labor and delivery, birth, and outpatient procedures are excluded from the denominator. Influenza admission data is not comparable to previous seasons reports which included pneumonia and influenza (P&I) admissions.

The percentage of admissions for influenza in Kaiser Permanente Northern California facilities during Week 51 was 2.8% compared to 2.5% during Week 50 ([Figure 4](#)).

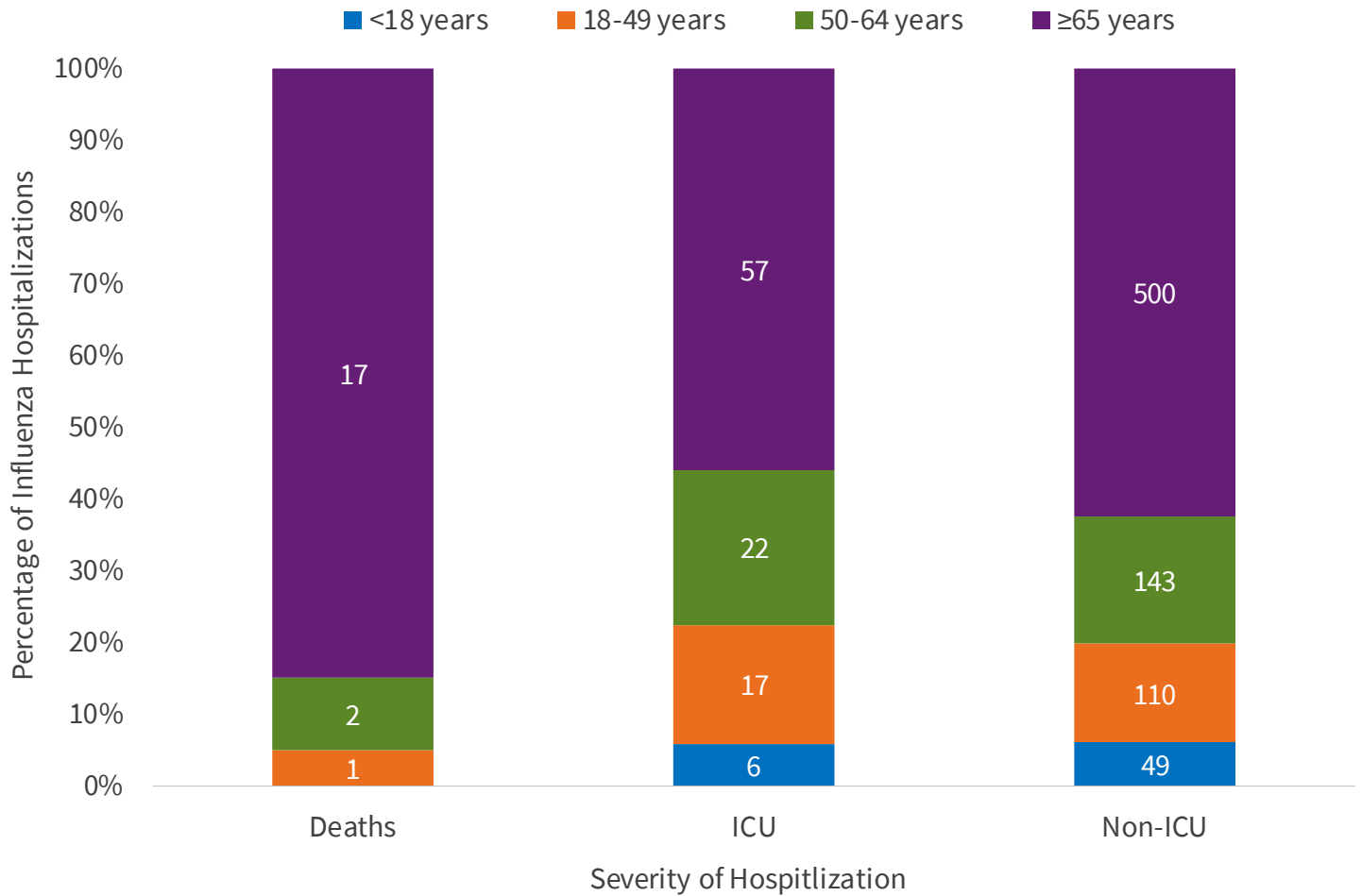
Figure 4. Percentage of Influenza Admissions at Kaiser Permanente Northern California Facilities, 2017-2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

To date, 802 non-intensive care unit (ICU) hospitalizations, 102 ICU admissions, and 20 deaths have occurred among persons with influenza admission diagnoses. Most influenza admissions occurred among persons ≥ 65 years ([Figure 5](#)). Please note that influenza admissions serve as a proxy for influenza activity, but do not necessarily represent laboratory-confirmed influenza infections.

Figure 5. Age Group Distribution of Non-ICU, ICU, and Deaths Associated with Influenza Admissions at Kaiser Permanente Northern California Facilities, 2022–2023 Season to Date

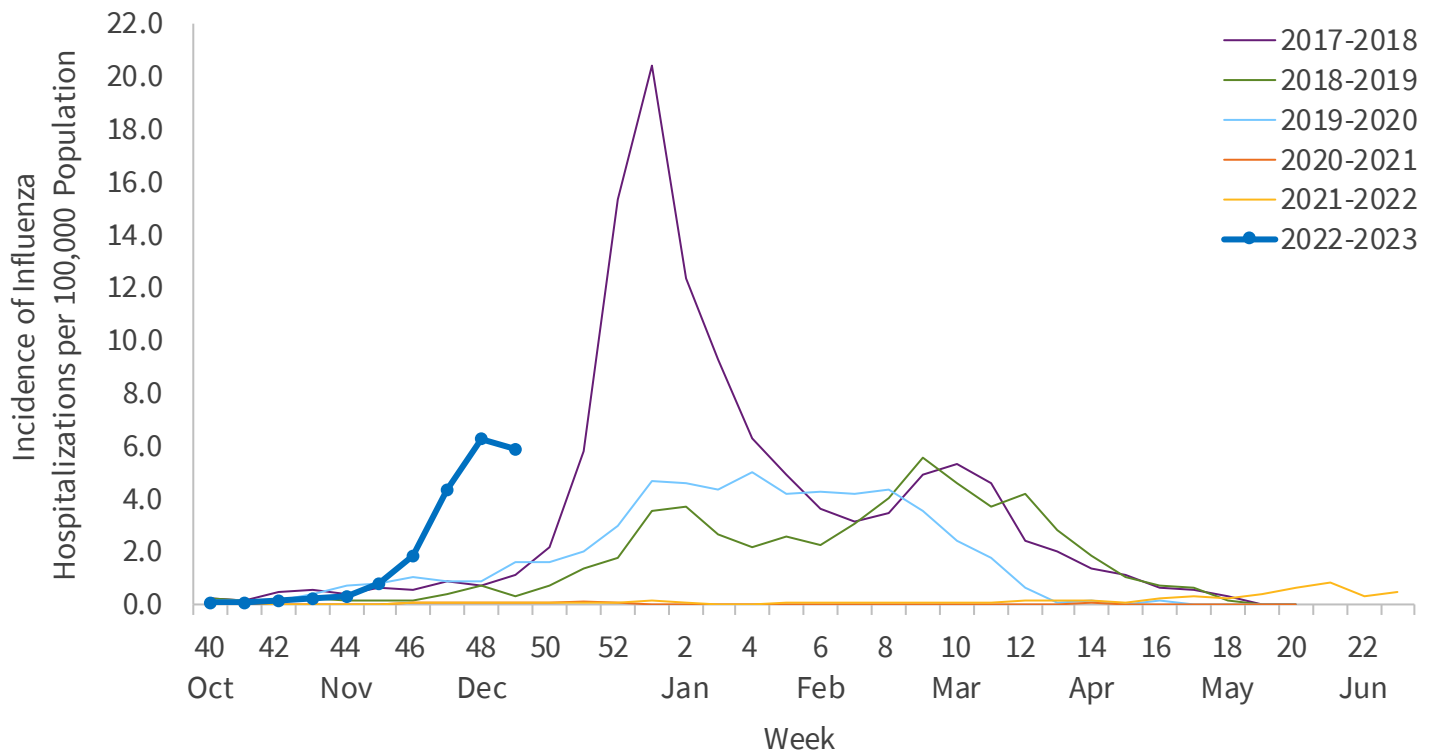


Influenza-associated Hospitalizations in California Emerging Infections Program Counties

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 during Week 49 was 5.86 compared to 6.26 during Week 48 ([Figure 6](#)). Data for the most recent two weeks are not presented because results are still being collected and are likely to change.

Figure 6. Incidence of Influenza-associated Hospitalizations per 100,000 Population in CEIP Counties, 2017–2023 Season to Date



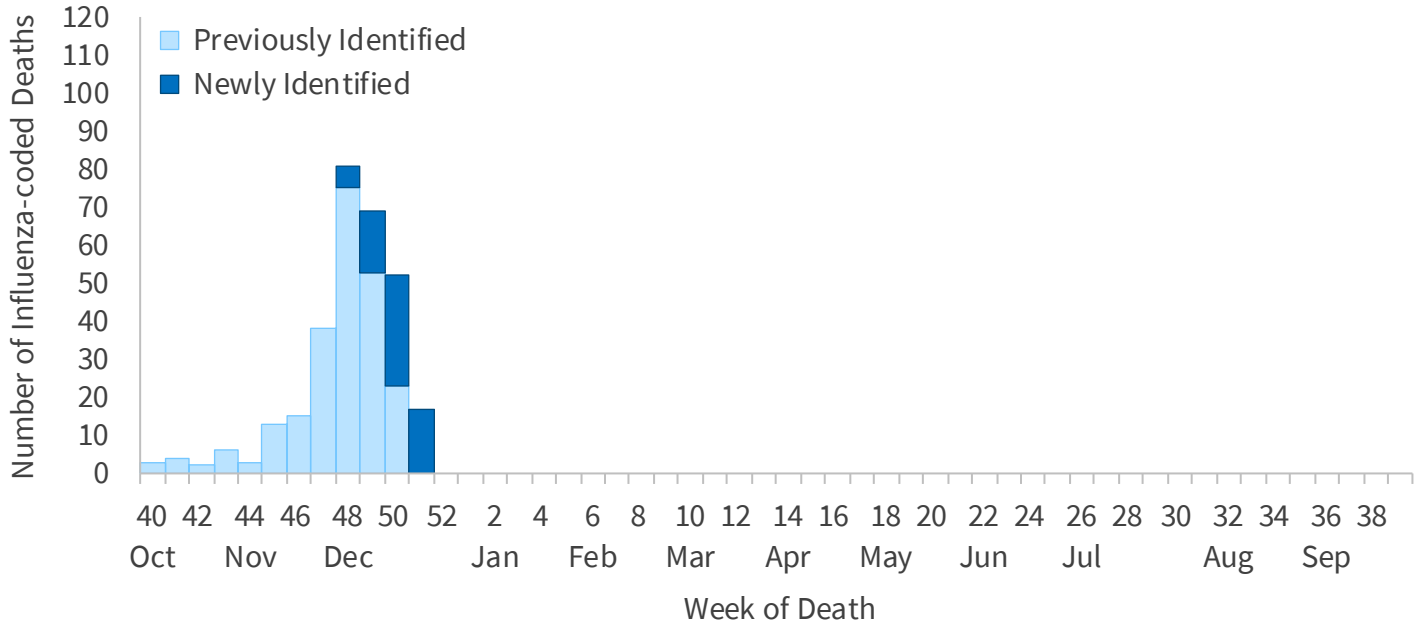
Note: Data have been shifted so that Week 1 aligns across seasons. For the 2021-2022 season, the CEIP surveillance period was extended through Week 23 due to elevated influenza activity. Comparable data from all other seasons are not available.

Influenza Mortality Surveillance from Death Certificates

Deaths occurring in California among residents who had influenza noted in any cause of death field on the death certificate (text or coded) are defined as “influenza-coded deaths.” The percentage of influenza-coded deaths is calculated by dividing the number of influenza-coded deaths by the total number of all-cause deaths during the same period. Influenza-coded deaths are not necessarily laboratory-confirmed and are an underestimate of all influenza-associated deaths. Please note that during the 2022-2023 season, an update to the methods used to identify influenza-coded deaths resulted in some changes to data from previous seasons.

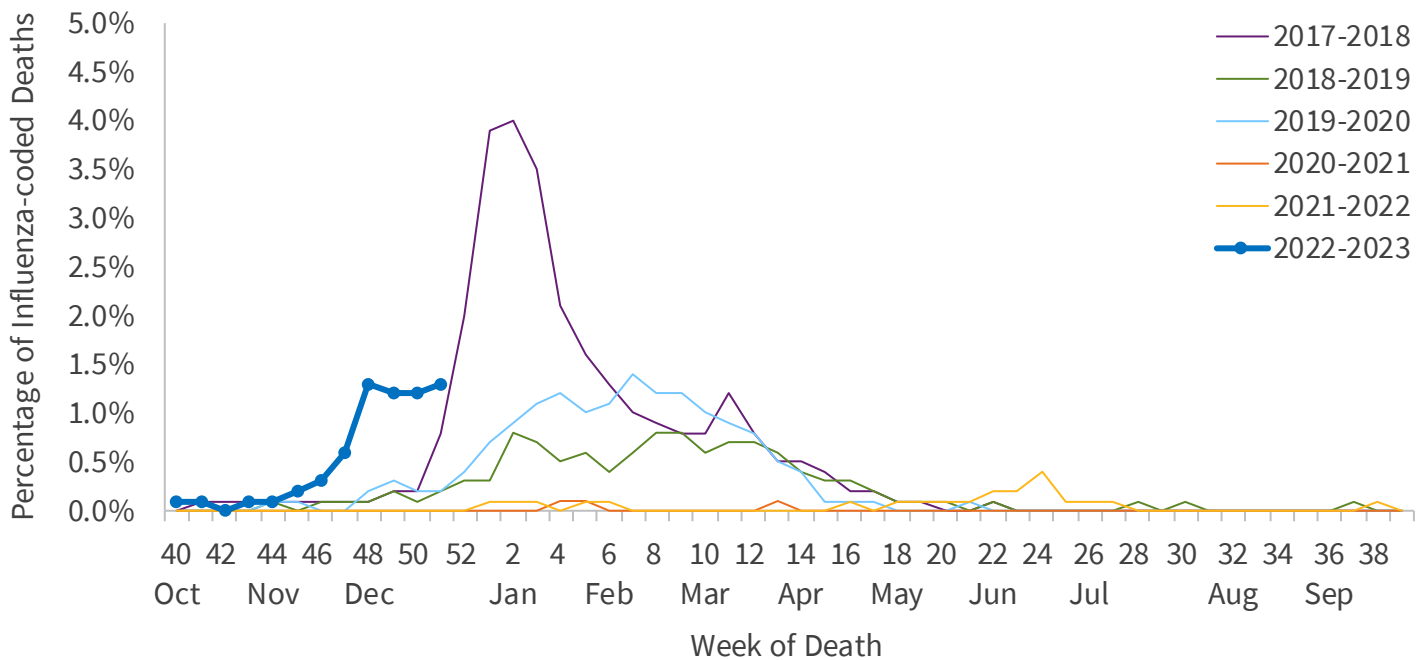
During Week 51, 68 influenza-coded deaths were identified. To date during the 2022–2023 influenza season, 303 influenza-coded deaths have been identified (Figure 7). The percentage of deaths coded as influenza during Week 51 was 1.3% compared to 1.2% during Week 50 (Figure 8).

Figure 7. Number of Influenza-coded Deaths Identified from Death Certificates by Week of Death, 2022–2023 Season to Date



Note: Coding of deaths can be delayed by several weeks. Influenza-coded deaths will be included once enough information is available to identify them.

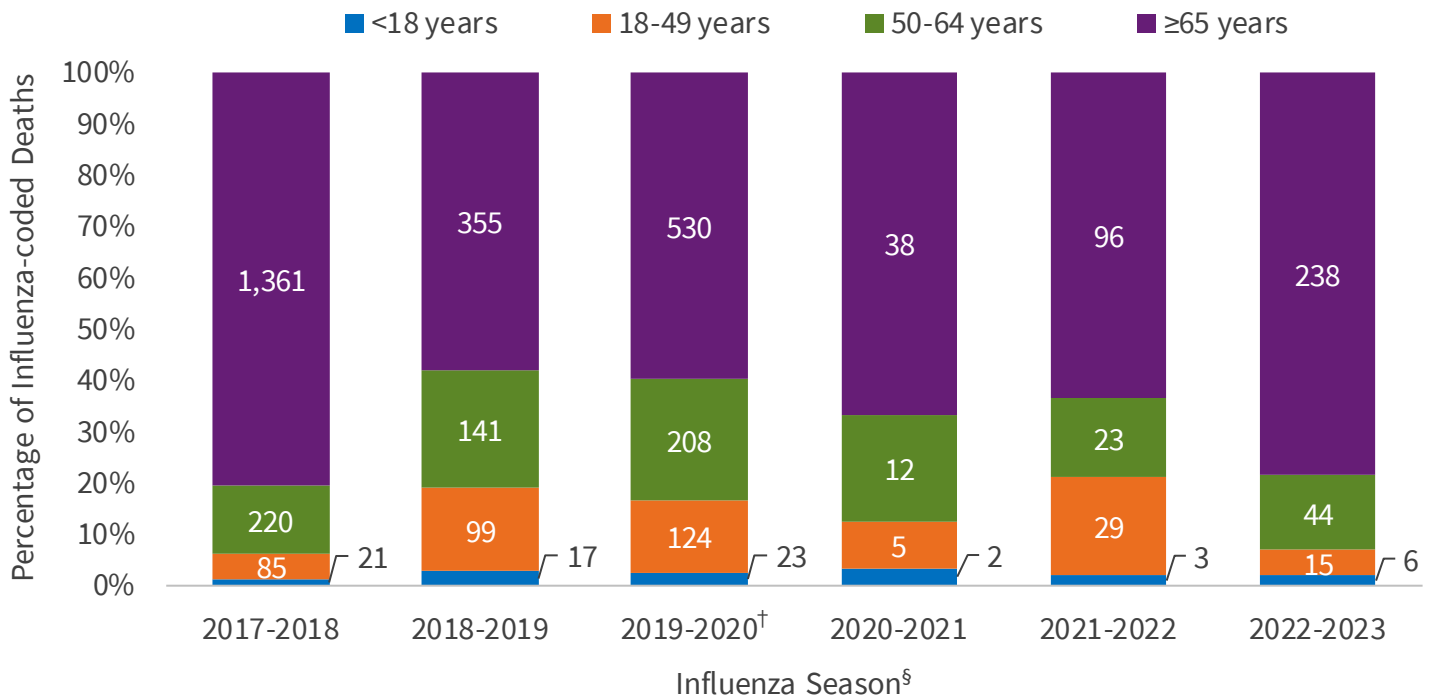
Figure 8. Percentage of Influenza-coded Deaths from Death Certificates, 2017–2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

To date, the majority of influenza-coded deaths (78.5%) have been identified among persons ≥ 65 years of age during the 2022–2023 influenza season (Figure 9).

Figure 9. Age Distribution of Influenza-coded Deaths from Death Certificates, 2017–2023 Season to Date



* Methods used to identify pediatric influenza-coded deaths on death certificates do not consider laboratory testing and thus differ from those used to identify the influenza-associated pediatric deaths presented below, which require laboratory confirmation of influenza.

[†] One death during the 2018–2019 influenza season has unknown age and is not included in the figure.

[§] 2017–2018 season: Oct. 1, 2017–Sept. 29, 2018; influenza A (H3N2) predominant season
 2018–2019 season: Sept. 30, 2018–Sept. 28, 2019; mixed influenza A (H1N1)pdm09 and influenza A (H3N2) season
 2019–2020 season: Sept. 29, 2019–Sept. 26, 2020; mixed influenza B (Victoria) and influenza A (H1N1)pdm09 season
 2020–2021 season: Sept. 27, 2020–Oct. 2, 2021; influenza activity was too low to determine a predominant strain
 2021–2022 season: Oct. 3, 2021–Oct. 1, 2022; influenza A (H3N2) predominant season
 2022–2023 season: Oct. 2, 2022–Sept. 30, 2023; influenza A (H3N2) predominant season

Laboratory-confirmed Influenza-associated Pediatric Deaths

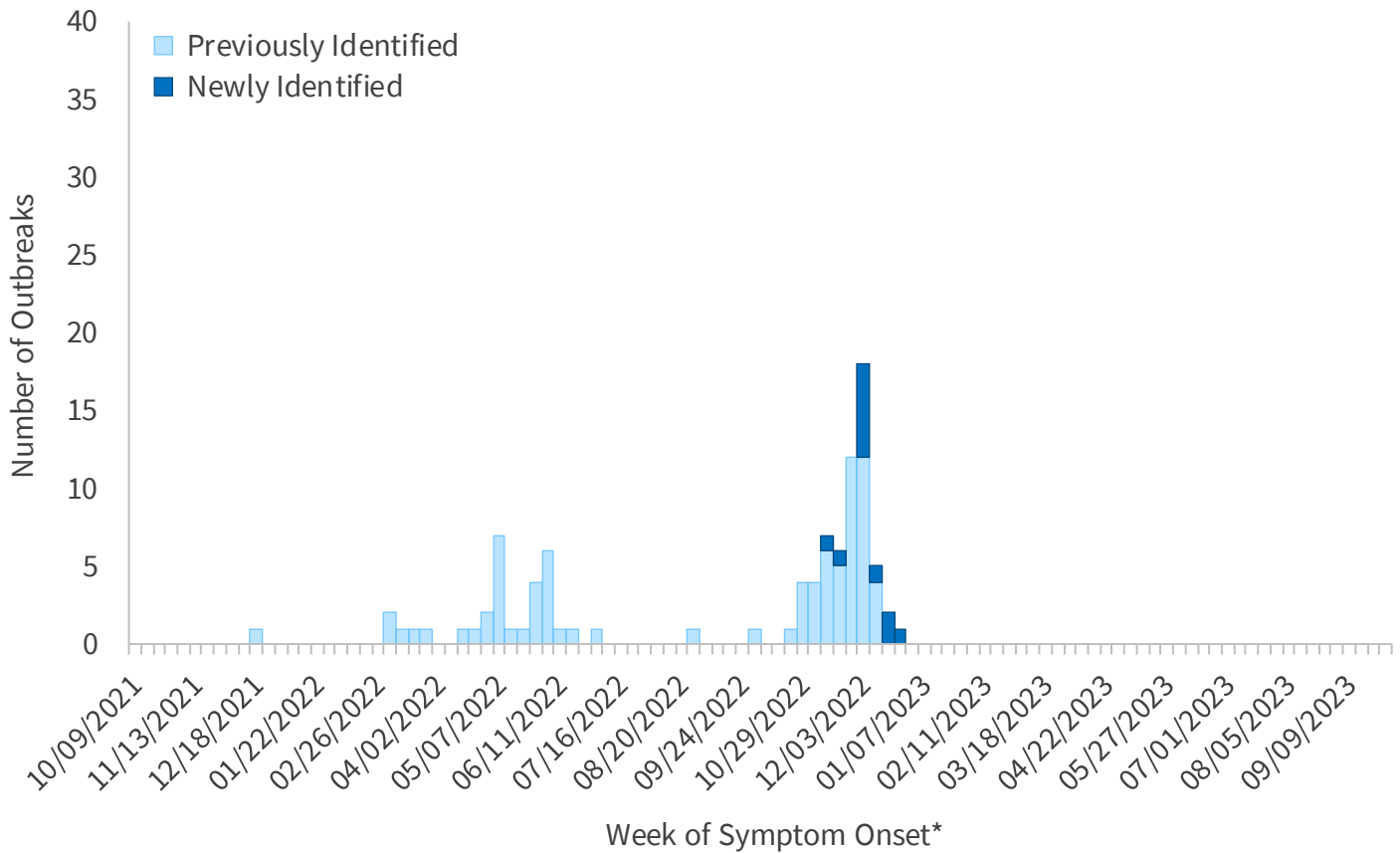
Influenza-associated deaths in children <18 years of age are nationally notifiable. The weekly influenza report includes confirmed deaths formally reported to CDPH through December 24, 2022 (Week 51). Methods used to identify pediatric influenza-coded deaths on death certificates differ from those used to identify the influenza-associated pediatric deaths presented below, which require laboratory confirmation of influenza, and might not include the same individuals.

One laboratory-confirmed influenza-associated death among a child <18 years of age was reported to CDPH during Week 51. To date, CDPH has received five reports of laboratory-confirmed influenza-associated deaths among persons <18 years of age during the 2022–2023 influenza season.

Influenza-associated Outbreaks

Twelve laboratory-confirmed influenza outbreaks were reported during Week 51. To date, 60 laboratory-confirmed influenza outbreaks have been reported to CDPH during the 2022–2023 season.

Figure 10. Number of Laboratory-confirmed Influenza-associated Outbreaks by Week of First Onset, 2021–2023 Season to Date



*Earliest date associated with the outbreak was used for outbreaks without reported date of first patient's symptom onset.

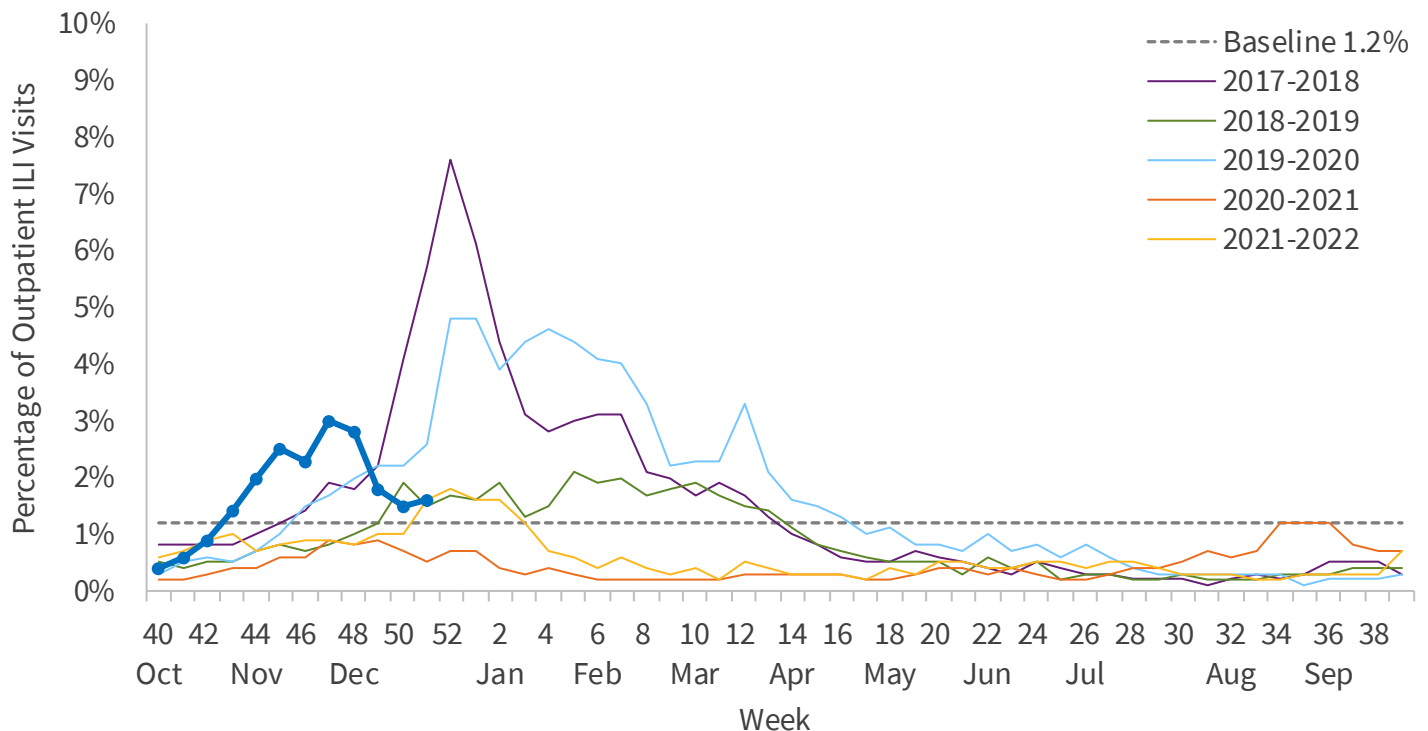
California Border Region Influenza Surveillance Network

The border influenza surveillance network is comprised of outpatient sentinel provider 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.

Syndromic Surveillance Update

A total of 10 border region sentinel providers reported data during Week 51. The total number of patients screened by all sentinel sites for ILI during Week 51 was 9,342. Outpatient ILI activity was 1.6% in Week 51 ([Figure 11](#)). All influenza syndromic data summarized for the border region represent a subset of CDC influenza sentinel providers in California. Increases in ILI-related outpatient visits might also include people seeking care for other respiratory illness, including COVID-19.

Figure 11. Percentage of Influenza-like Illness Visits among Patients Seen by Sentinel Providers — California Border Region, 2017–2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

Virologic Surveillance Update

The percentage of influenza detections in border region clinical sentinel laboratories during Week 51 is 14.3%. The percentage during Week 50 is suppressed in Figure 12 due to missing clinical sentinel laboratory reports, resulting in a very small number of reported specimens tested ([Figure 12](#)). Additional details, including influenza typing, subtyping, and lineage typing information from border region clinical sentinel laboratories and RLN laboratories can be found in [Figure 12](#) and [Table 4](#).

Figure 12. Number of Influenza Detections by Type and Subtype Detected in RLN Laboratories and the Percentage of Specimens Testing Positive at Clinical Sentinel Laboratories — California Border Region, 2022–2023 Season to Date

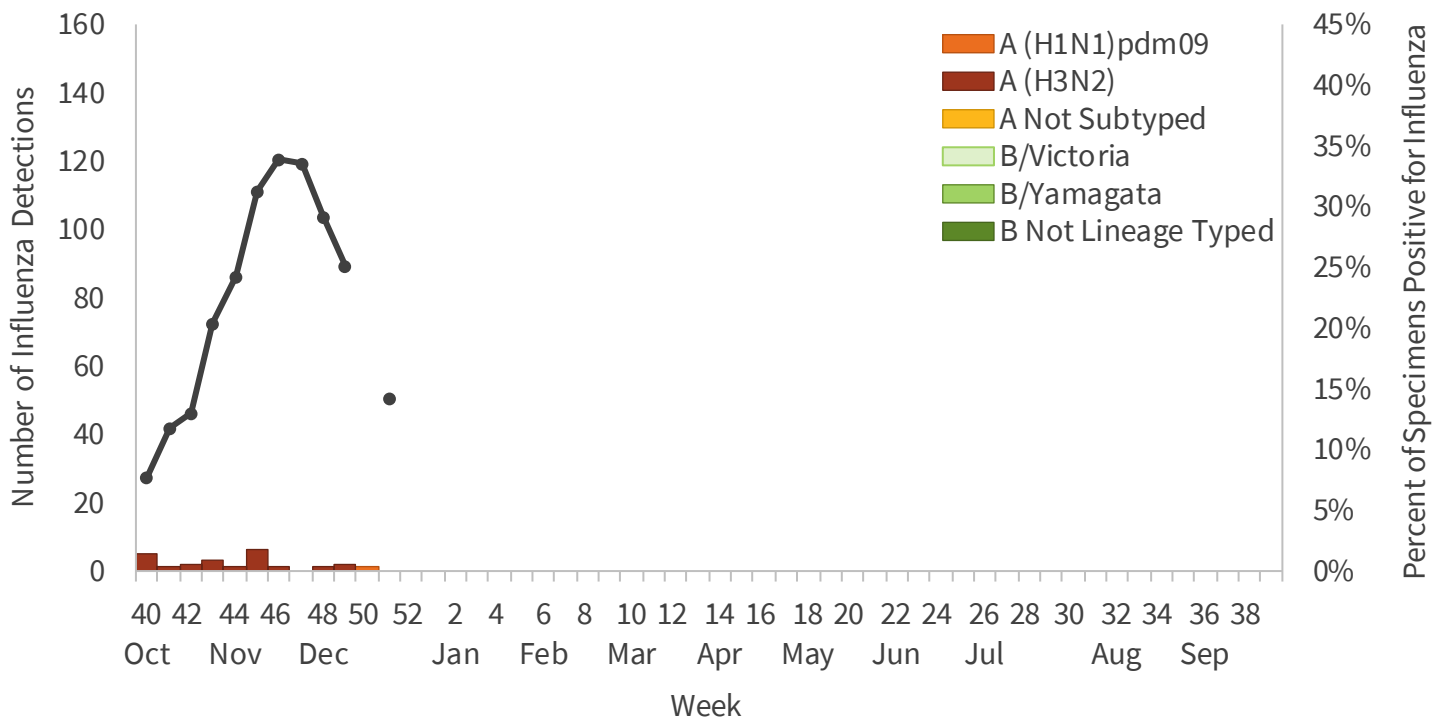


Table 4. Respiratory Specimens Testing Positive for Influenza by Influenza Type, Subtype, and Lineage Type — Clinical Sentinel Laboratories and RLN, California Border Region, Current Week and Season to Date

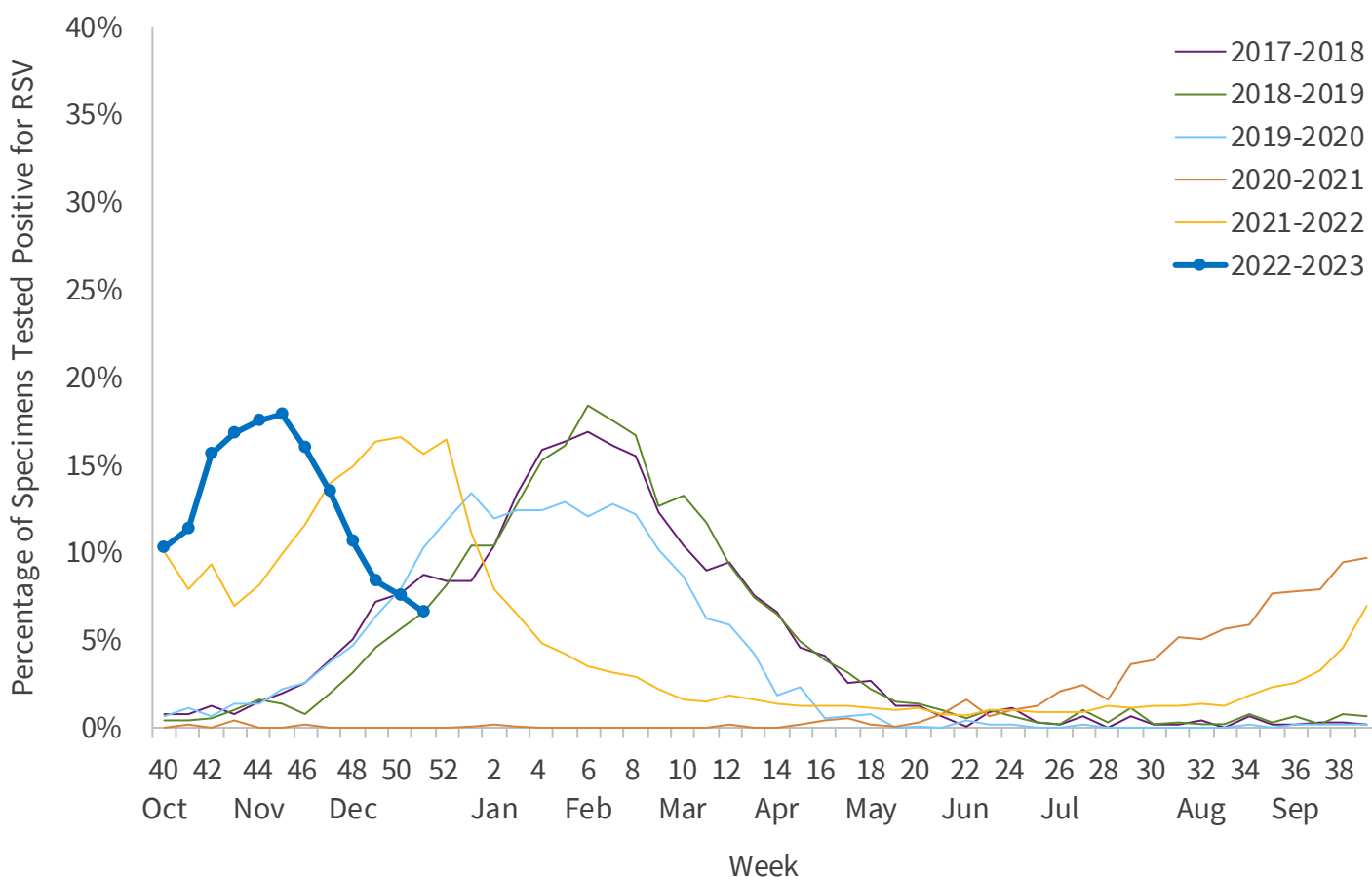
	Current Week Number	Current Week Percent	Season to Date Number	Season to Date Percent
Clinical Sentinel Laboratories				
Number of Specimens Tested	800		9,426	
Influenza Positive	114	14.3	2,222	23.6
A	113	99.1*	2,208	99.4*
B	1	0.9*	14	0.6*
Respiratory Laboratory Network				
Influenza Positive	0		23	
A	0	0.0*	23	100.0*
A (H1)pdm09	0	0.0 [†]	1	4.3 [†]
A (H3)	0	0.0 [†]	22	95.7 [†]
A, not subtyped	0	0.0 [†]	0	0.0 [†]
B	0	0.0*	0	0.0*
B Victoria	0	0.0 [†]	0	0.0 [†]
B Yamagata	0	0.0 [†]	0	0.0 [†]
B, not lineage typed	0	0.0 [†]	0	0.0 [†]

Respiratory Syncytial Virus Surveillance

RSV Detections from Clinical Sentinel Laboratories

During Week 51, 19,475 specimens were tested for RSV and 1,276 (6.6%) were positive, which is lower compared to Week 50 (7.5%) ([Figure 13](#)). Please note that data from multiple clinical sentinel laboratories are missing for Week 51.

Figure 13. Percentage of RSV Detections at Clinical Sentinel Laboratories, 2017–2023 Season to Date



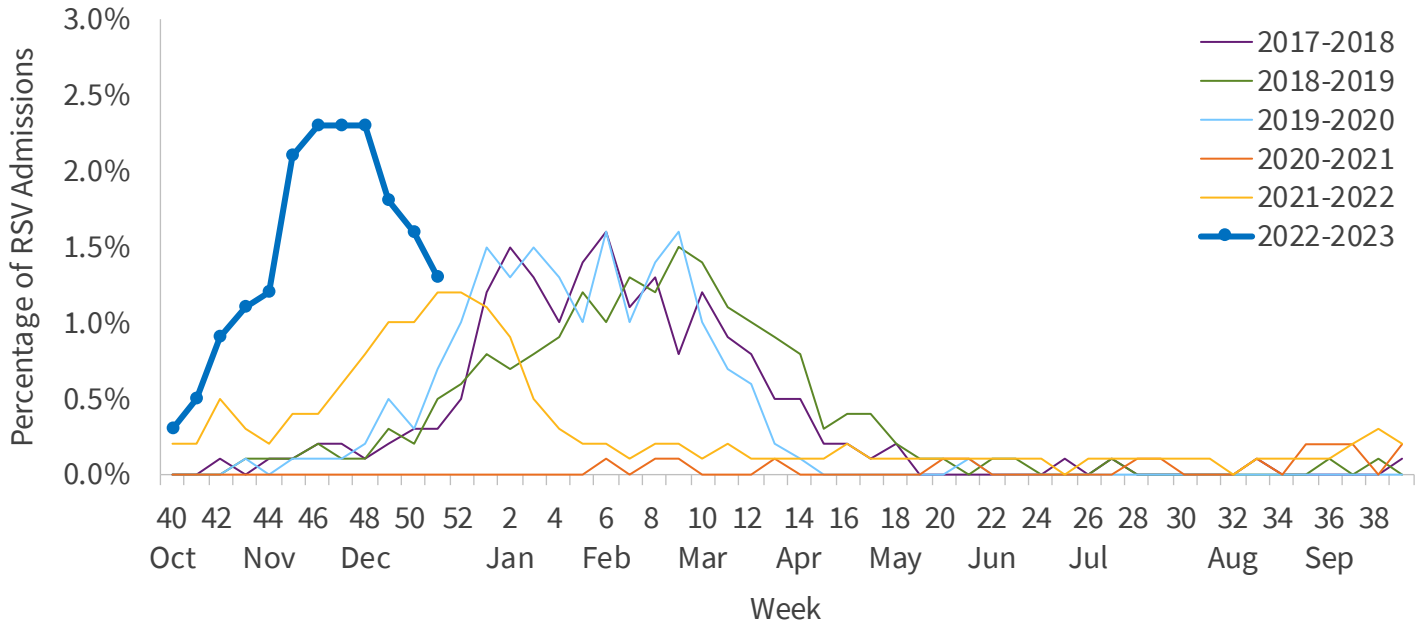
Note: Data have been shifted so that Week 1 aligns across seasons.

RSV Admissions at Kaiser Permanente Northern California Facilities

Inpatients at Kaiser Permanente Northern California facilities with an admission diagnosis including the keywords “RSV,” “syncytial,” “bronchiolitis,” and variants of the keywords are defined as respiratory syncytial virus (RSV)-related admissions. The number of RSV admissions is divided by the total number of hospital admissions occurring in the same period to estimate the percentage of RSV admissions. Admissions for pregnancy, labor and delivery, birth, and outpatient procedures are excluded from the denominator.

The percentage of admissions for RSV in Kaiser Permanente facilities in northern California during Week 51 was 1.3% compared to 1.6% during Week 50 ([Figure 14](#)).

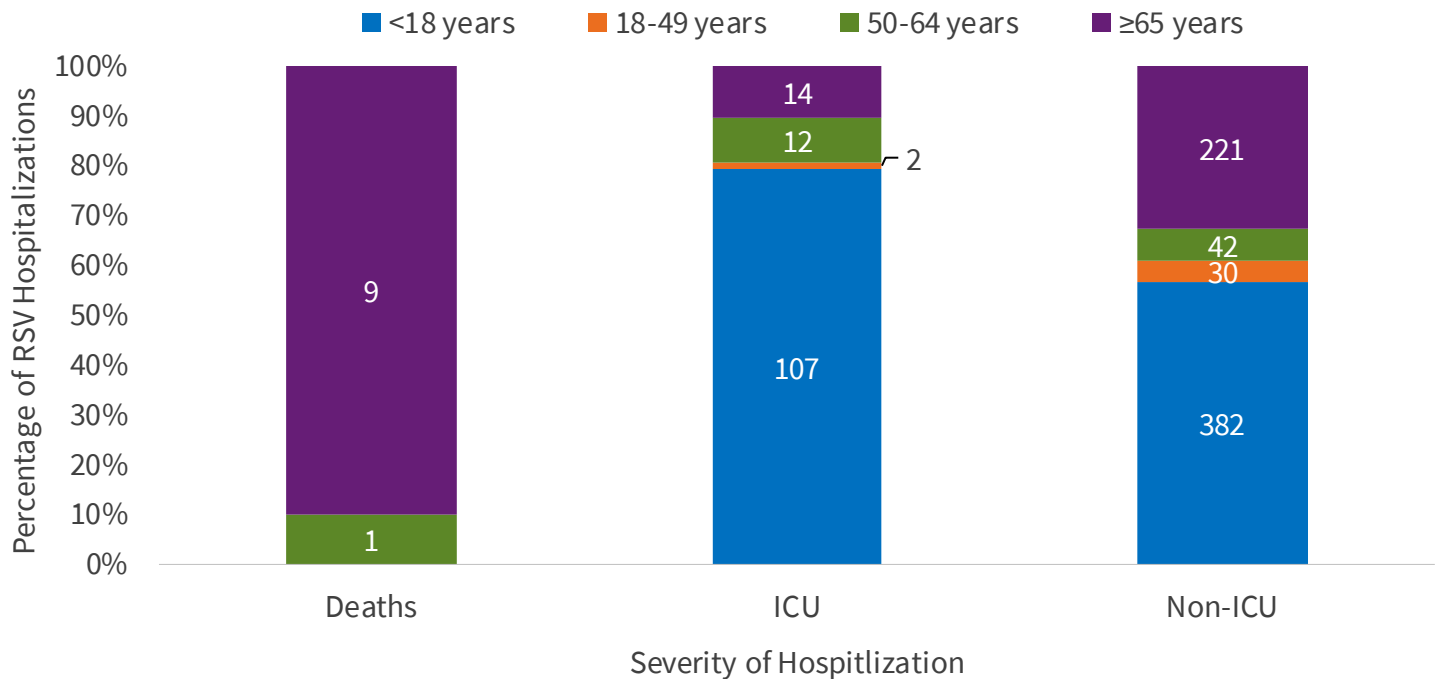
Figure 14. Percentage of RSV Admissions in Kaiser Permanente Northern California Facilities, 2017-2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

To date, 675 non-intensive care unit (ICU) hospitalizations, 135 ICU admissions, and ten deaths have occurred among persons with RSV admission diagnoses. Most RSV admissions occurred among persons <18 years (Figure 15). Please note that RSV admissions serve as a proxy for RSV activity, but do not necessarily represent laboratory-confirmed RSV infections.

Figure 15. Age Group Distribution of Non-ICU, ICU, and Deaths Associated with RSV Admissions in Kaiser Permanente Northern California Facilities, 2022-2023 Season to Date

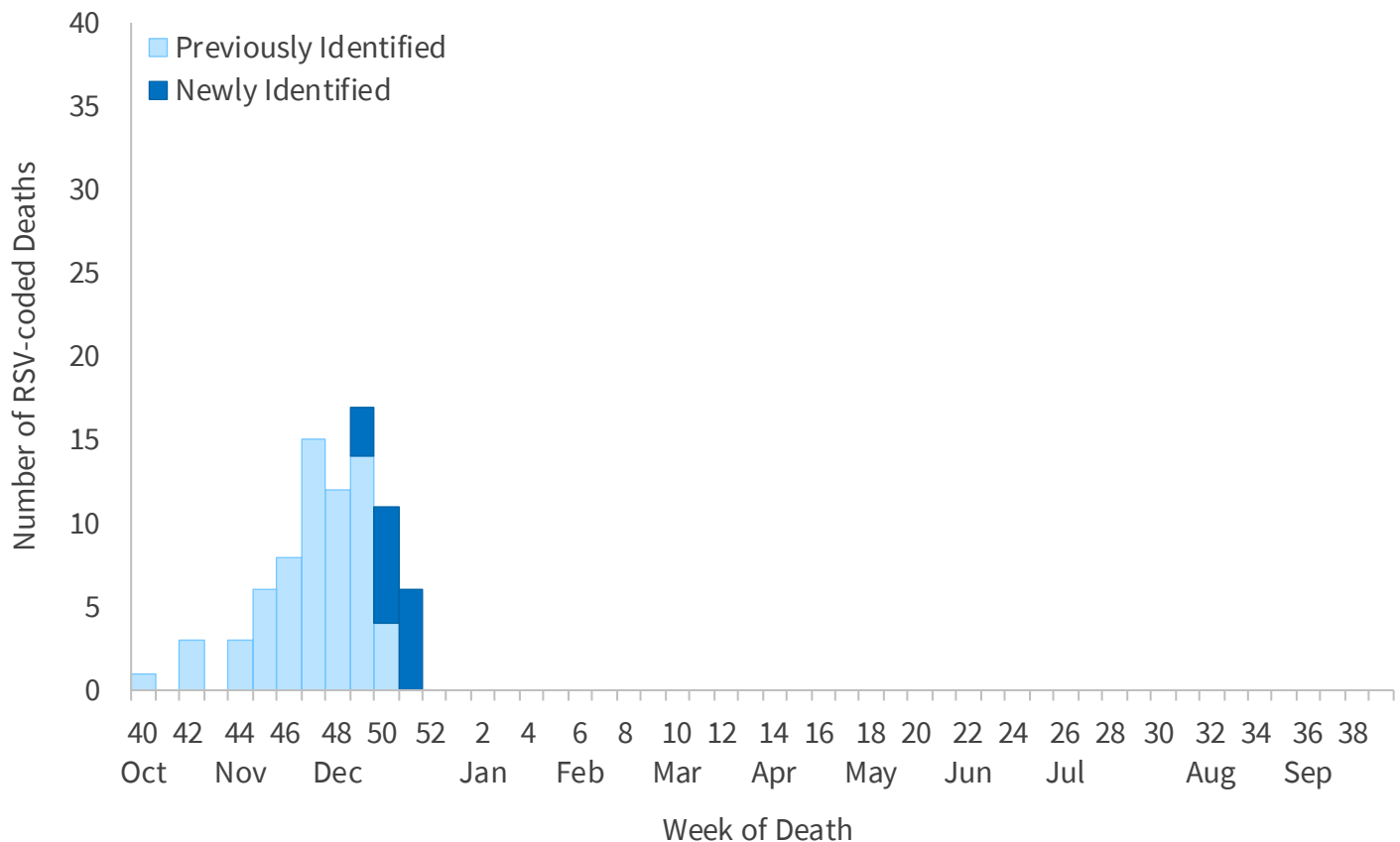


RSV Mortality Surveillance from Death Certificates

Deaths occurring in California among residents who had RSV noted in any cause of death field on the death certificate (text or coded) are defined as “RSV-coded deaths.” The percentage of RSV-coded deaths is calculated by dividing the number of RSV-coded deaths by the total number of all-cause deaths during the same period. RSV-coded deaths are not necessarily laboratory-confirmed and are likely to be an underestimate of all RSV-associated deaths.

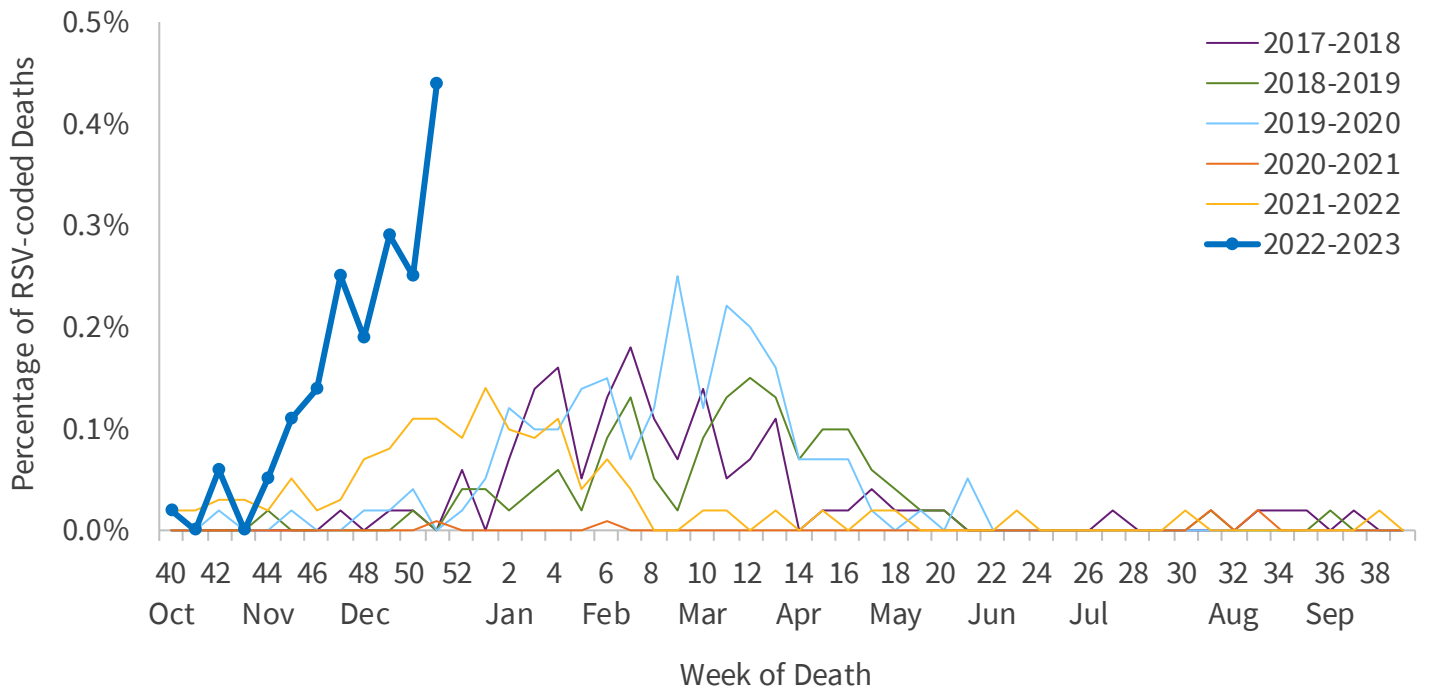
During Week 51, 16 RSV-coded deaths were identified. To date during the 2022–2023 influenza season, 82 RSV-coded deaths have been identified ([Figure 16](#)). The percentage of deaths coded as RSV during Week 51 was 0.44% compared to 0.25% during Week 50 ([Figure 17](#)).

Figure 16. Number of RSV-coded Deaths Identified from Death Certificates by Week of Death, 2022–2023 Season to Date



Note: Coding of deaths can be delayed by several weeks. RSV-coded deaths will be included once enough information is available to identify them.

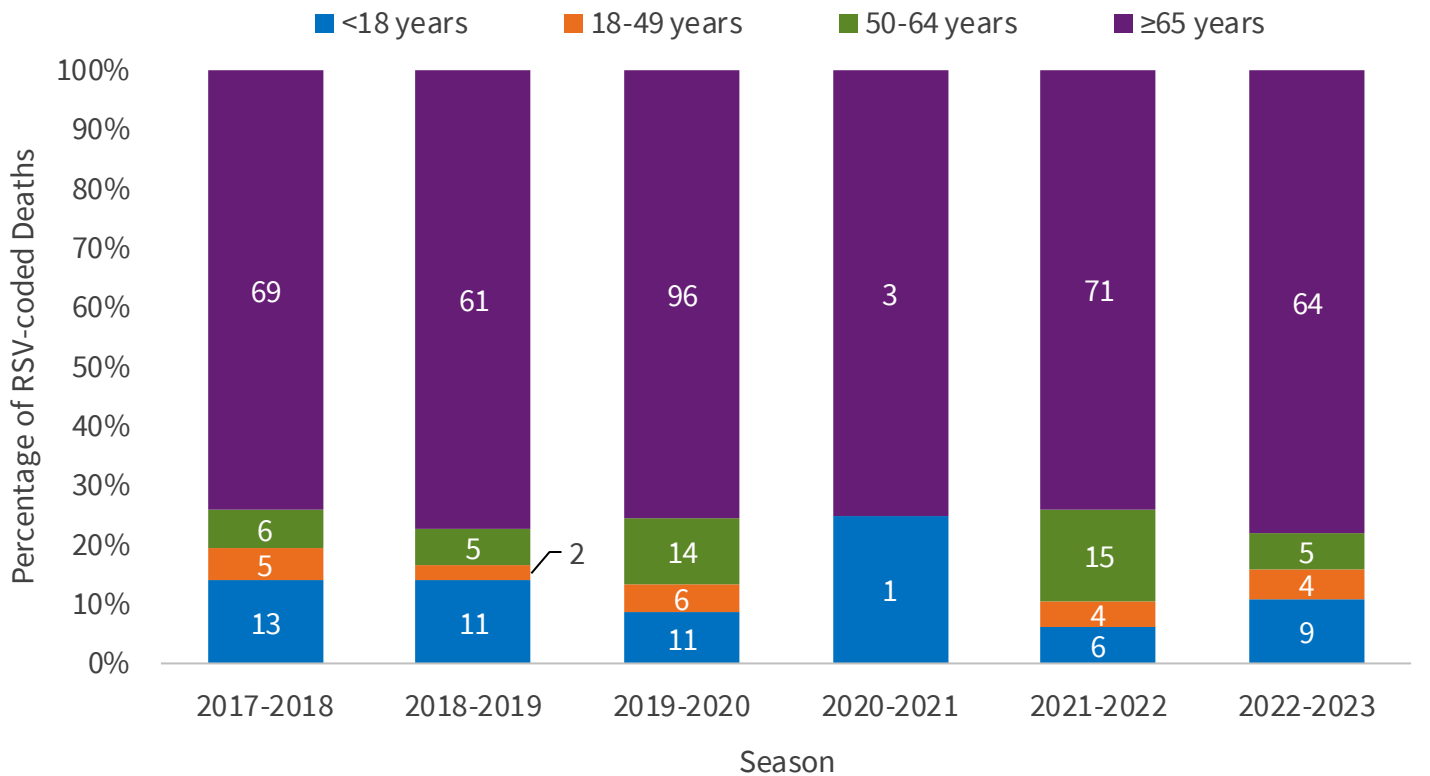
Figure 17. Percentage of RSV-coded Deaths from Death Certificates, 2017–2023 Season to Date



Note: Data have been shifted so that Week 1 aligns across seasons.

To date, 64 (78.1%) RSV-coded deaths have been identified among persons ≥ 65 years of age during the 2022–2023 influenza season ([Figure 18](#)).

Figure 18. Age Distribution of RSV-coded Deaths from Death Certificates, 2017–2023 Season to Date



Laboratory-confirmed Respiratory Syncytial Virus-associated Deaths

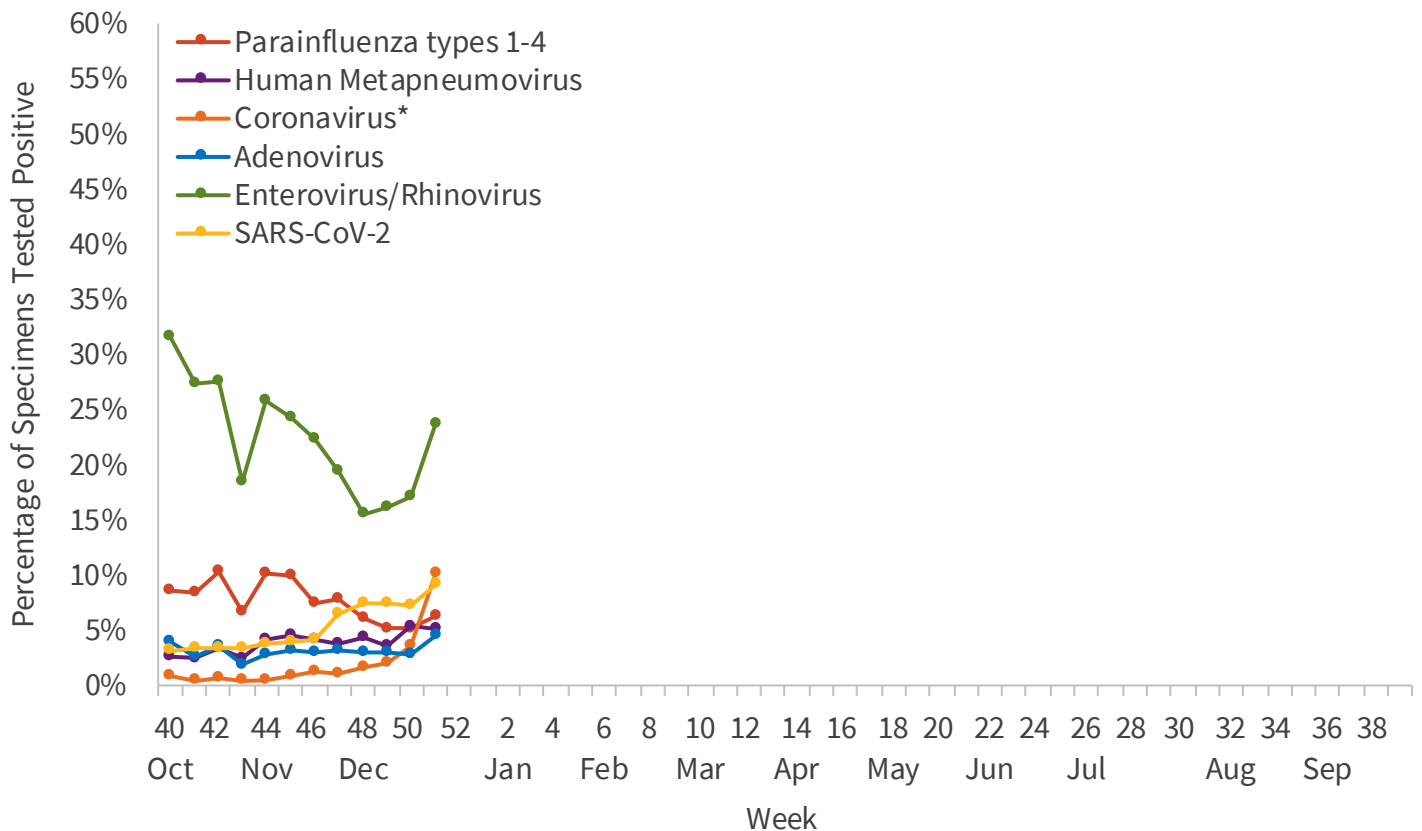
Currently, as mandated under Section 2500 of the California Code of Regulations, deaths among children aged 0–4 years with laboratory-confirmed RSV are reportable to CDPH. The weekly influenza report includes confirmed deaths formally reported to CDPH through December 24, 2022 (Week 51).

One laboratory-confirmed RSV-associated death in a child <5 years of age was reported to CDPH during Week 51. To date, CDPH has received eight reports of laboratory-confirmed RSV-associated deaths among children <5 years of age during the 2022–2023 influenza season.

Other Respiratory Viruses Surveillance

During Week 51, adenovirus, coronavirus (non-SARS-CoV-2), enterovirus/rhinovirus, parainfluenza virus, and SARS-CoV-2 virus activity increased; and human metapneumovirus activity remained similar compared to the previous week ([Figure 19](#)). Please note that data from multiple clinical sentinel laboratories are missing for Week 51.

Figure 19. Percentage of Other Respiratory Pathogen Detections at Clinical Sentinel Laboratories, 2022-2023 Season to Date



*Coronaviruses identified include common human coronaviruses 229E, NL63, OC43, and HKU1 and do NOT include SARS-CoV-2.

About This Report

This report includes data from many sources of influenza and other respiratory virus surveillance, and it should be viewed as a preliminary “snapshot” of 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.

More Information

- › An accessible Excel file with data for all figures can be downloaded from the [CDPH Flu webpage](http://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/Week2022-2351_DataTables.xlsx) (www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/Week2022-2351_DataTables.xlsx).
- › For questions regarding influenza surveillance and reporting in California, please email InfluenzaSurveillance@cdph.ca.gov.
- › To obtain additional information regarding influenza, please visit the [CDPH Influenza website](http://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.aspx) (www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.aspx).
- › For information about national influenza activity, please visit the U.S. Centers for Disease Control and Prevention’s [FluView](http://www.cdc.gov/flu/weekly/index.htm) (www.cdc.gov/flu/weekly/index.htm) and [FluView Interactive](http://www.cdc.gov/flu/weekly/fluviewinteractive.htm) (www.cdc.gov/flu/weekly/fluviewinteractive.htm) websites.
- › For information about COVID-19 in California, please visit the [California COVID-19 website](http://www.covid19.ca.gov) (www.covid19.ca.gov).

Highlights Indicators

Triangle symbols are used to indicate direction of change between the previous week and the current week for laboratory flu positivity, outpatient ILI activity, and hospital flu admissions: Increase (▲), decrease (▼), no change (▶).

[Back to Top of Report](#)

Influenza Activity Levels⁺

Minimal: The percentage of specimens positive for influenza is <2%.

Low: The percentage of specimens positive for influenza is between 2% and <10%.

Moderate: The percentage of specimens positive for influenza is between 10% and <20%.

High: The percentage of specimens positive for influenza is between 20% and <40%.

Very High: The percentage of specimens positive for influenza is ≥40%.

Insufficient Data: Total number of specimens tested is below the threshold for activity level determination.

California Regions

Northern: Alpine, Amador, Butte, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo, and Yuba counties

Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties

Central Valley: Calaveras, Fresno, Inyo, Kings, Madera, Mariposa, Merced, Mono, Monterey, San Benito, San Joaquin, Stanislaus, Tulare, and Tuolumne counties

Upper Southern: Kern, Los Angeles, San Luis Obispo, Santa Barbara, and Ventura counties

Lower Southern: Imperial, Orange, Riverside, San Bernardino, and San Diego counties

⁺ Influenza activity levels are derived from the percentage of specimens from clinical sentinel laboratories that tested positive for influenza.