



Influenza (Flu) and Other Respiratory Viruses

Week 42: October 16, 2022 – October 22, 2022

Highlights



▲ 6.6%
Laboratory
flu positivity



▲ 3.1%
Outpatient
ILI activity



▶ 0.2%
Hospital
flu admissions

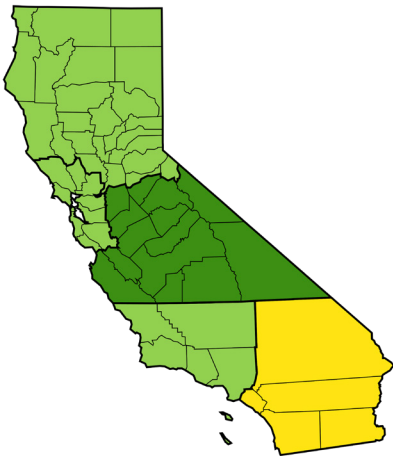
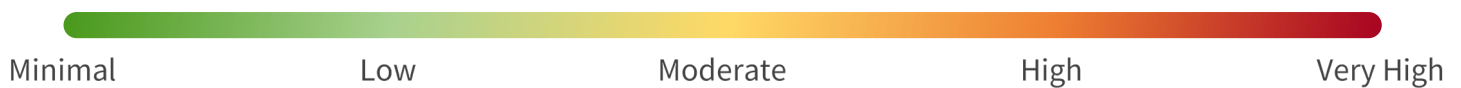


5
Deaths
since 10/2/2022



0
Outbreaks
since 10/2/2022

Influenza Activity Levels⁺



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

Key Messages

- » Overall influenza activity in California is low but increasing; activity in the Lower Southern region is higher than elsewhere in the state.
- » 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 higher than usual for this time of year.
- » Prophylactic palivizumab can prevent serious RSV illness in [high risk-infants](#).

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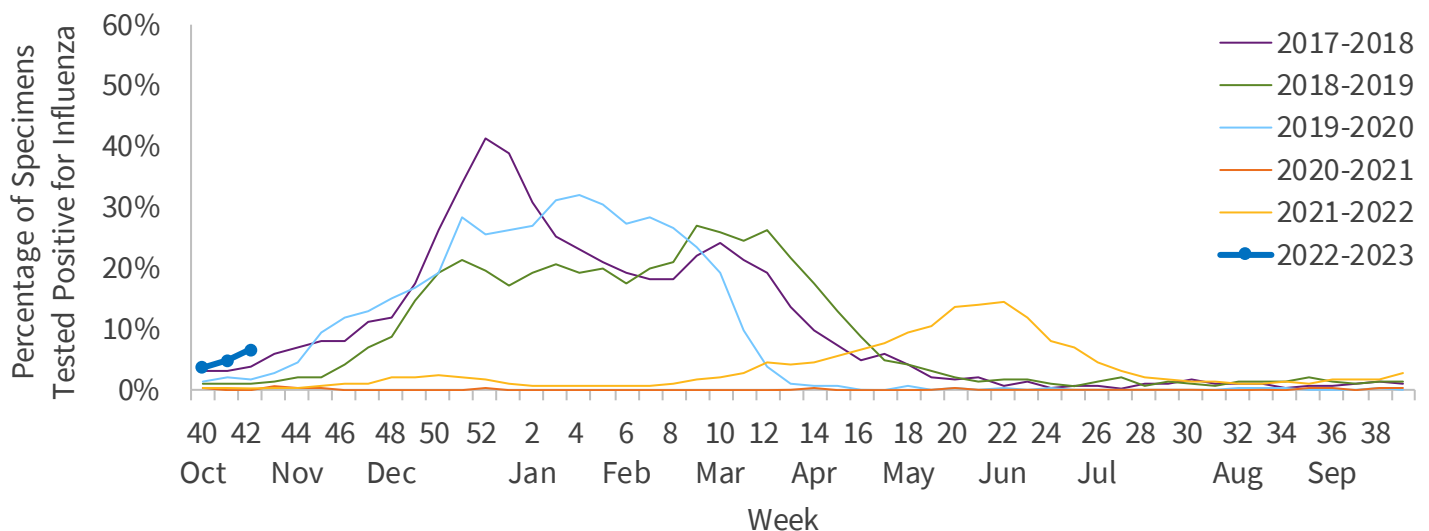
Influenza Laboratory Surveillance

Influenza Detections from the 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 42 (6.6%) was higher compared to Week 41 (4.9%) ([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](#).

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	11,218		31,670	
Influenza Positive	743	6.6	1,629	5.1
A	733	98.7*	1,610	98.8*
B	10	1.3*	19	1.2*

* 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

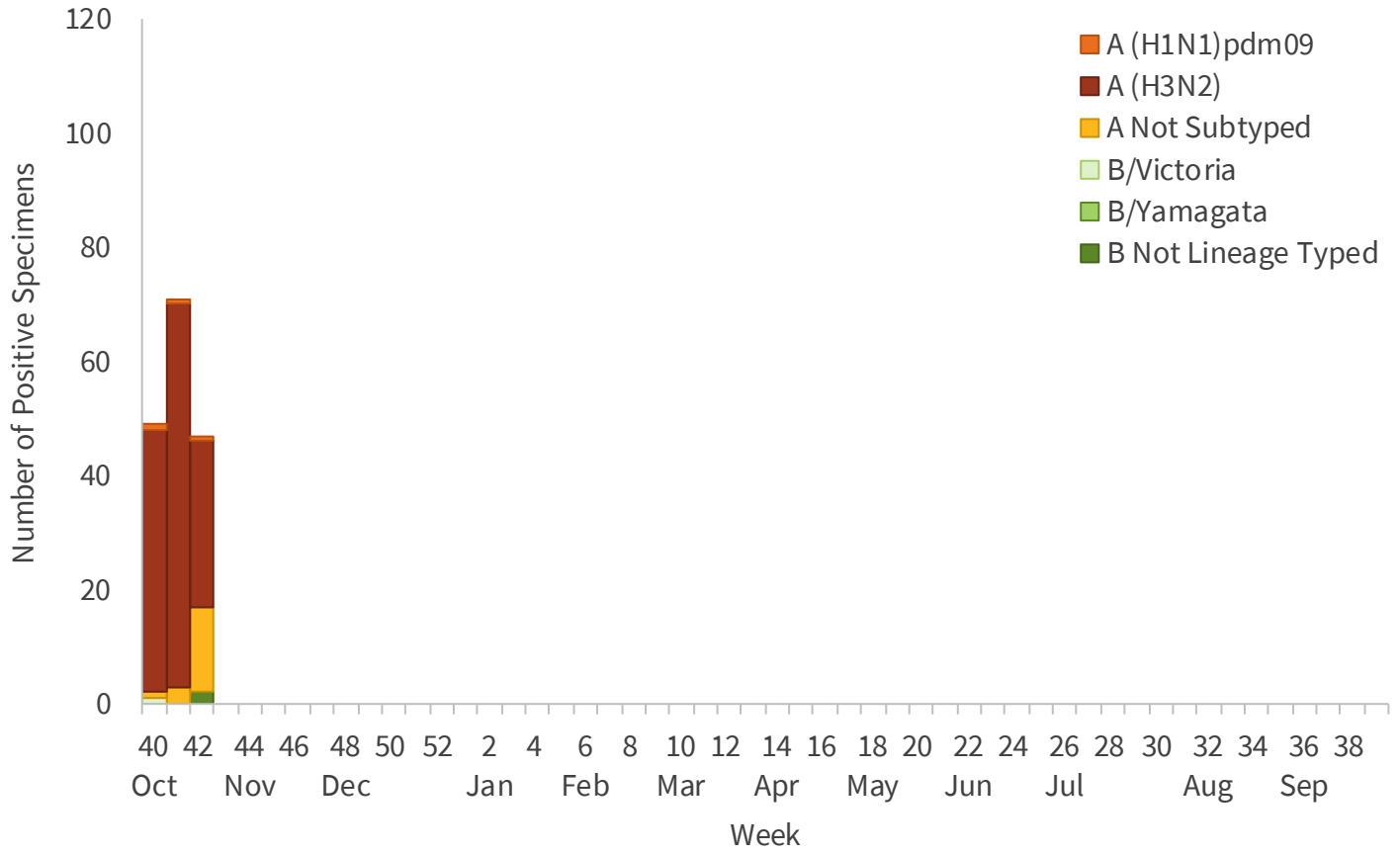


Table 2. Respiratory Specimens Testing Positive for Influenza by Influenza Type and Subtype – Respiratory Laboratory Network, Current Week and Season to Date

	Current Week Number	Current Week Percent	Season to Date Number	Season to Date Percent
Influenza Positive	47		167	
A	45	95.7*	164	98.2*
A (H1)pdm09	1	2.2†	3	1.8†
A (H3)	29	64.4†	142	86.6†
A, not subtyped	15	33.3†	19	11.6†
B	2	4.3*	3	1.8*
B Victoria	0	0.0‡	1	33.3‡
B Yamagata	0	0.0‡	0	0.0‡
B, not lineage typed	2	100.0‡	2	66.7‡

† Percentage of specimens positive for influenza A

‡ Percentage of specimens positive for influenza B

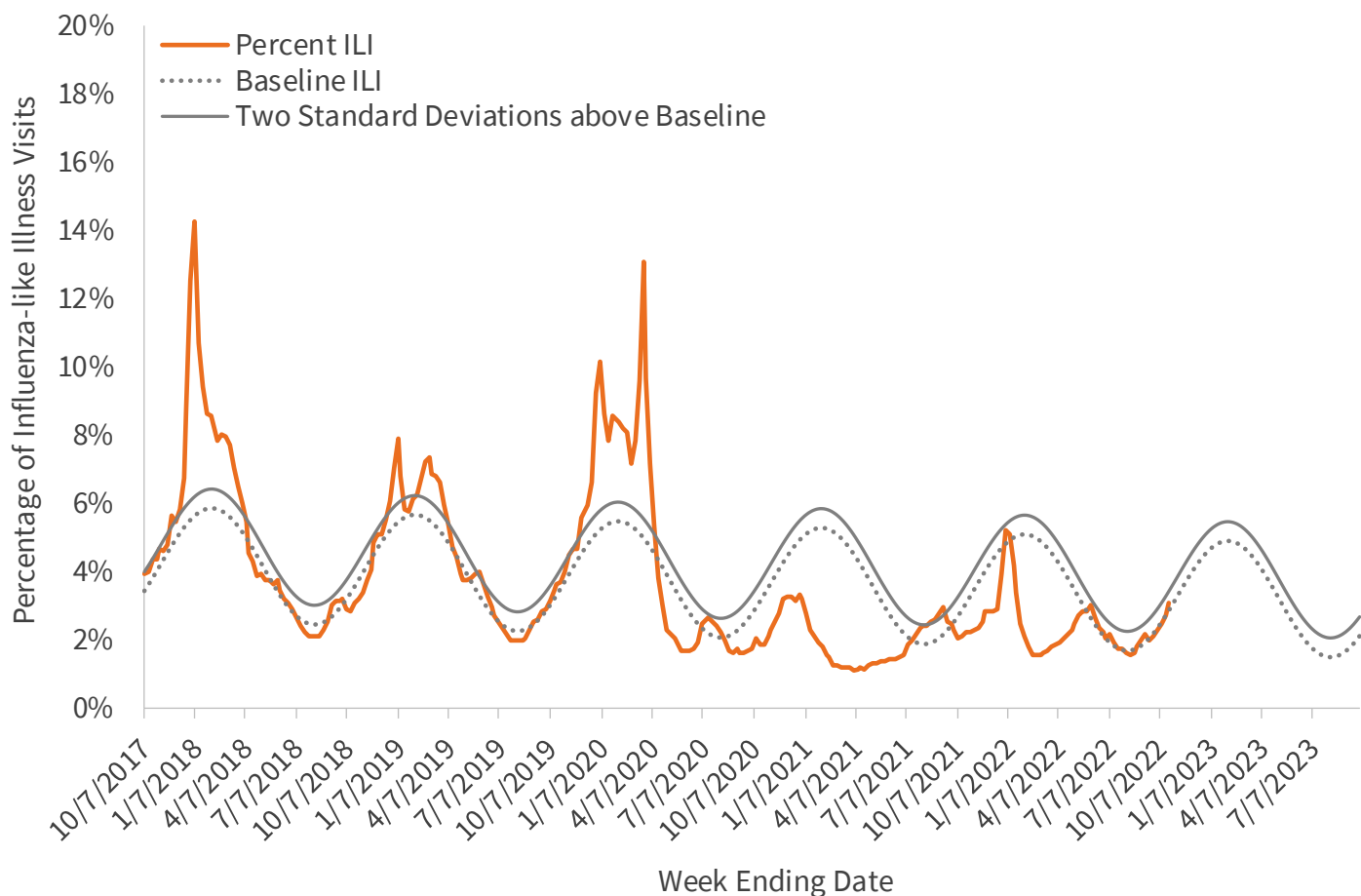
Influenza Outpatient, Inpatient, and Death Surveillance

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 207 enrolled sentinel providers have reported data for Week 42. The percentage of visits for ILI during Week 42 was 3.1% compared to 2.7% during Week 41 and was within 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.

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



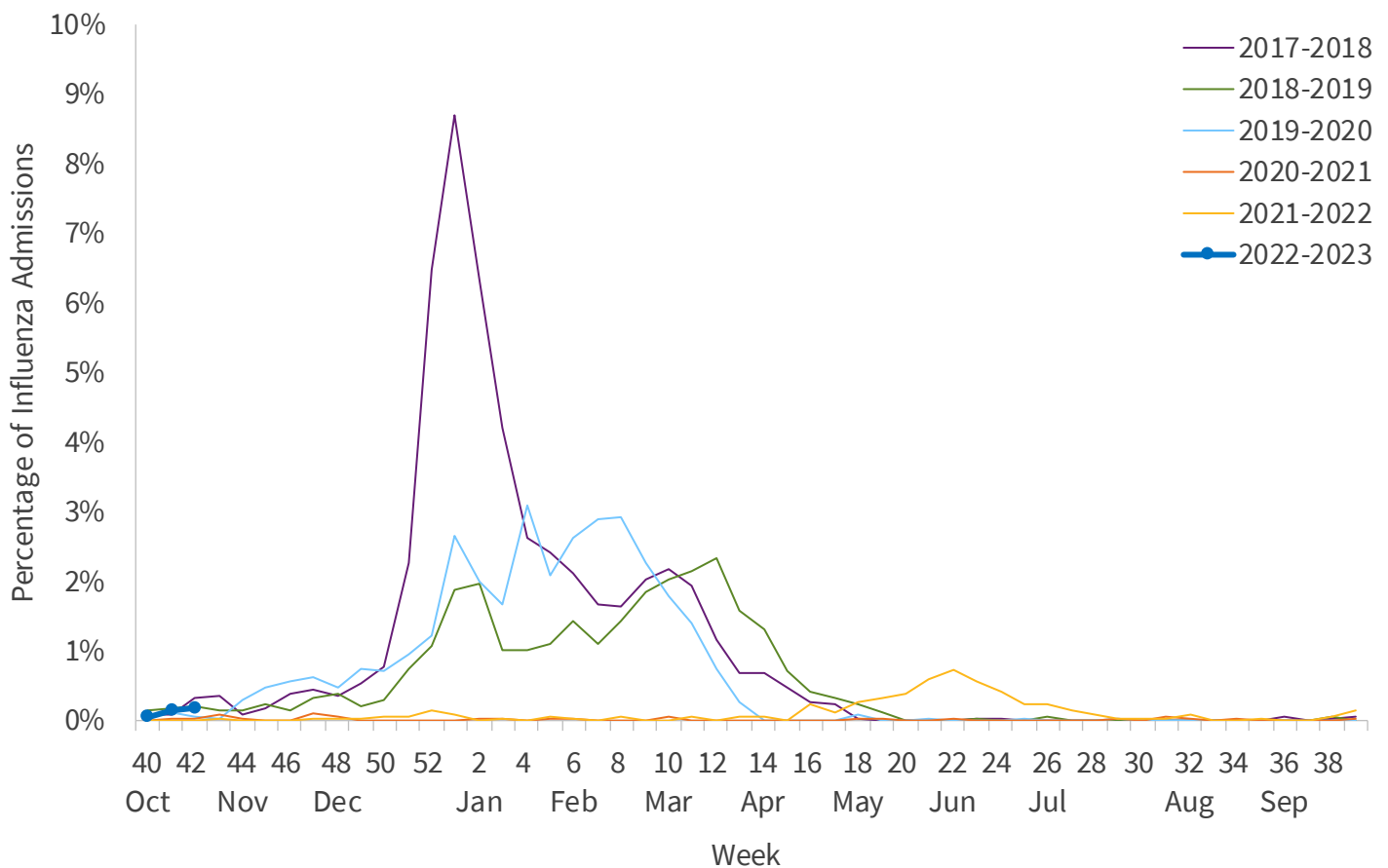
The seasonal baseline was calculated using a regression model applied to data from the five previous seasons, excluding the COVID-19 pandemic. Two standard deviations above the seasonal baseline is the point at which the observed percentage of ILI is significantly higher than would be expected at that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

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 facilities in northern California during Week 42 was 0.2% compared to 0.2% during Week 41 ([Figure 4](#)).

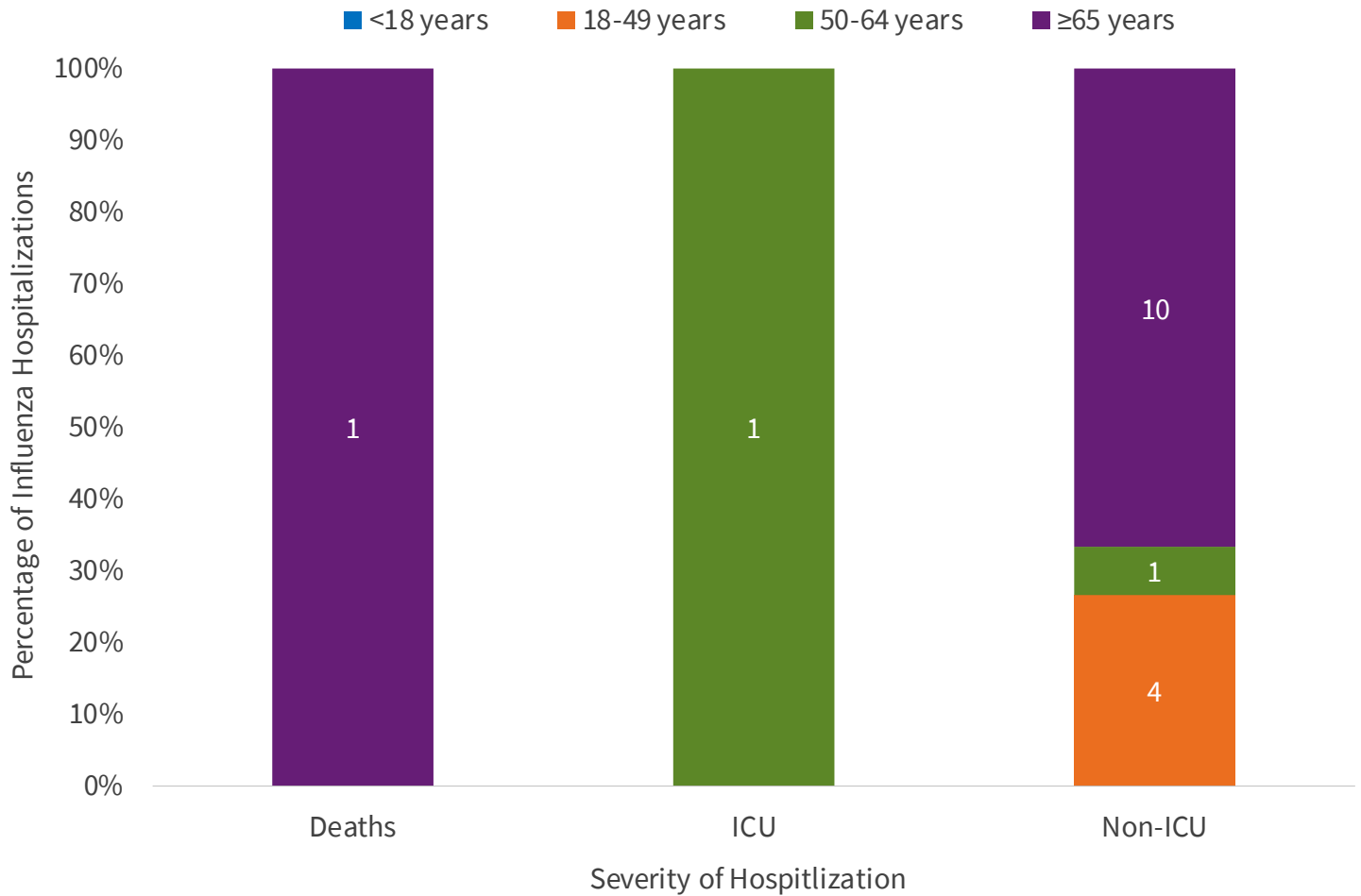
Figure 4. Percentage of Influenza Admissions at Kaiser Permanente Northern California Facilities, 2017-2023 Season to Date



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

To date, 15 non-intensive care unit (ICU) hospitalizations, one ICU admission, and one death have occurred among persons with influenza admission diagnoses. All influenza admissions occurred among persons ≥ 18 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

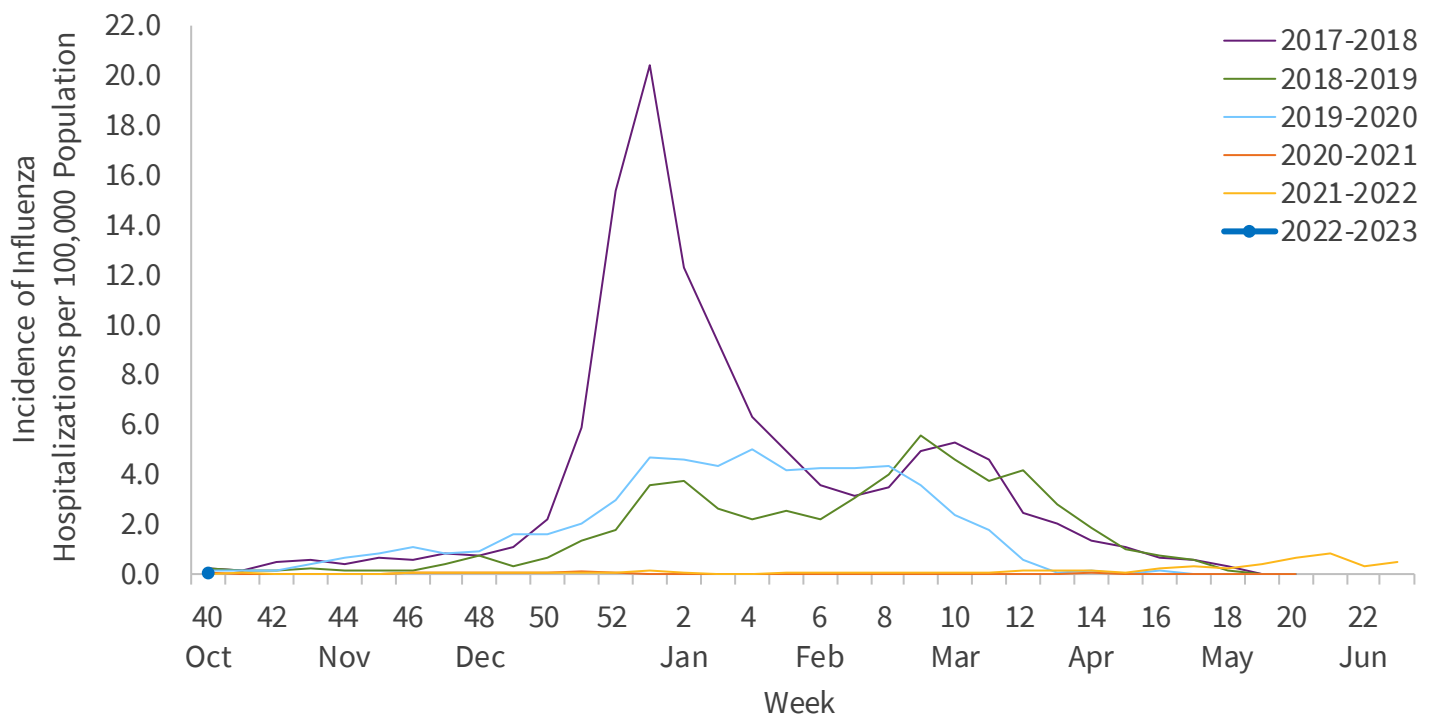


Influenza-associated Hospitalizations in California Emerging Infections Program Counties

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.

Three new influenza-associated hospitalizations were reported during week 40. To date during the 2022–2023 season, 3 influenza hospitalizations have been reported ([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



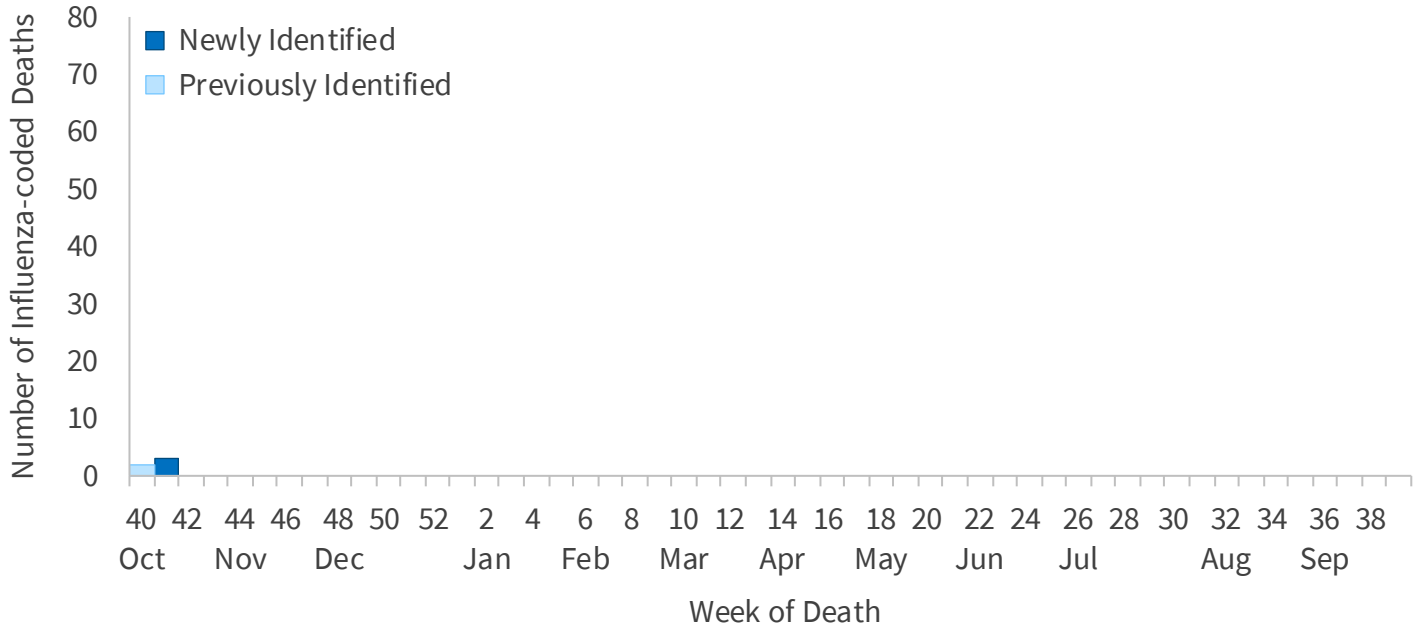
Note: Data have been shifted so that Week 1 aligns across seasons. For the 2021–2022 season, the CEIP surveillance period was extended through Week 23 due to elevated influenza activity. Comparable data from all other seasons are not available.

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.

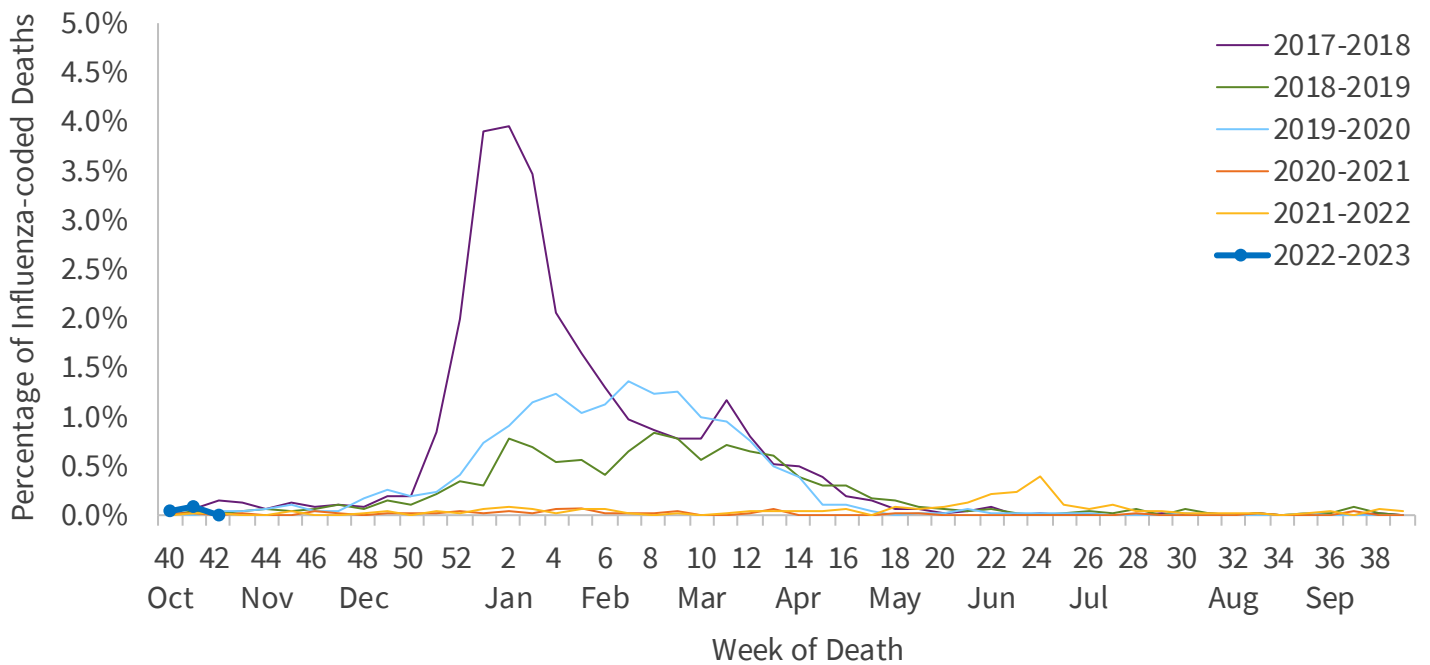
During Week 42, three influenza-coded deaths were identified. To date during the 2022–2023 influenza season, five influenza-coded deaths have been identified (Figure 7). The percentage of deaths coded as influenza during Week 42 was 0.0% compared to 0.1% during Week 41 (Figure 8).

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



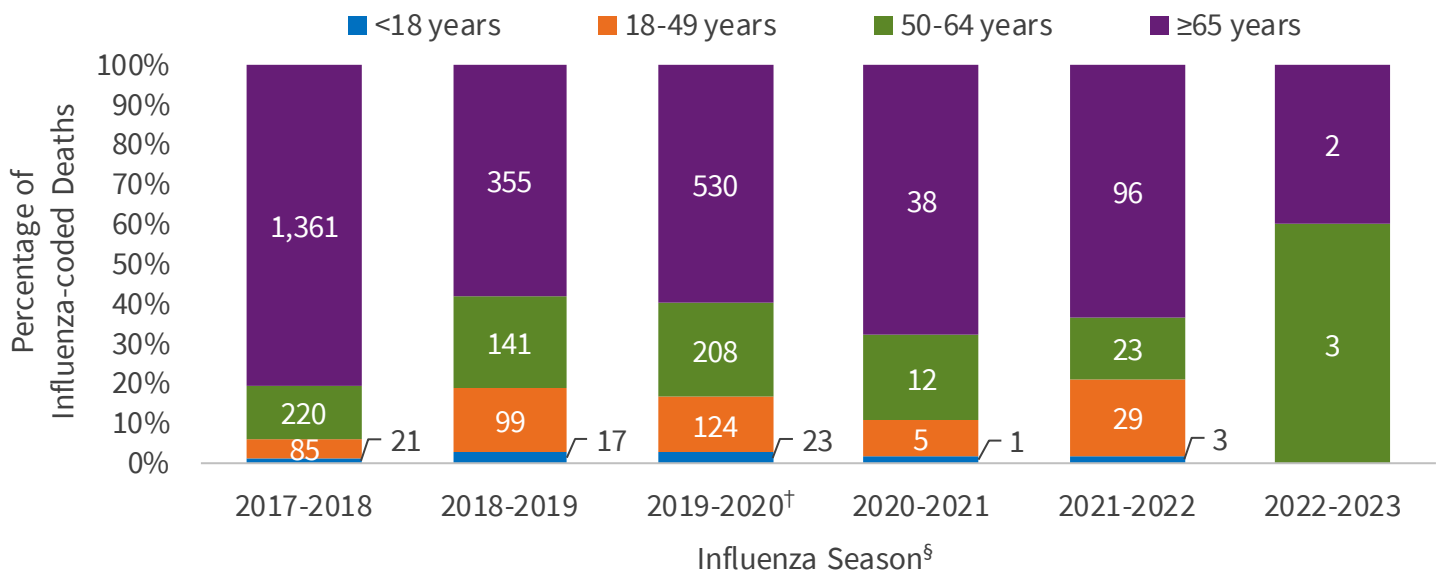
Note: Coding of deaths can be delayed by several weeks. Influenza-coded deaths will be included once enough information is available to identify them.

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



To date, five influenza-coded deaths have been identified among persons ≥ 50 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 season has unknown age and is not included in the figure.

[§] 2017–2018 influenza season: October 1, 2017–September 29, 2018; influenza A (H3N2) predominant season
 2018–2019 influenza season: September 30, 2018–September 28, 2019; mixed influenza A (H1N1)pdm09 and influenza A (H3N2) season

2019–2020 influenza season: September 29, 2019–September 26, 2020; mixed influenza B (Victoria) and influenza A (H1N1)pdm09 season

2020–2021 influenza season: September 27, 2020–October 2, 2021; Influenza activity was too low to determine a predominant strain

2021–2022 influenza season: October 3, 2021–October 1, 2022; influenza A (H3N2) predominant season

Laboratory-confirmed Influenza-associated Pediatric Deaths

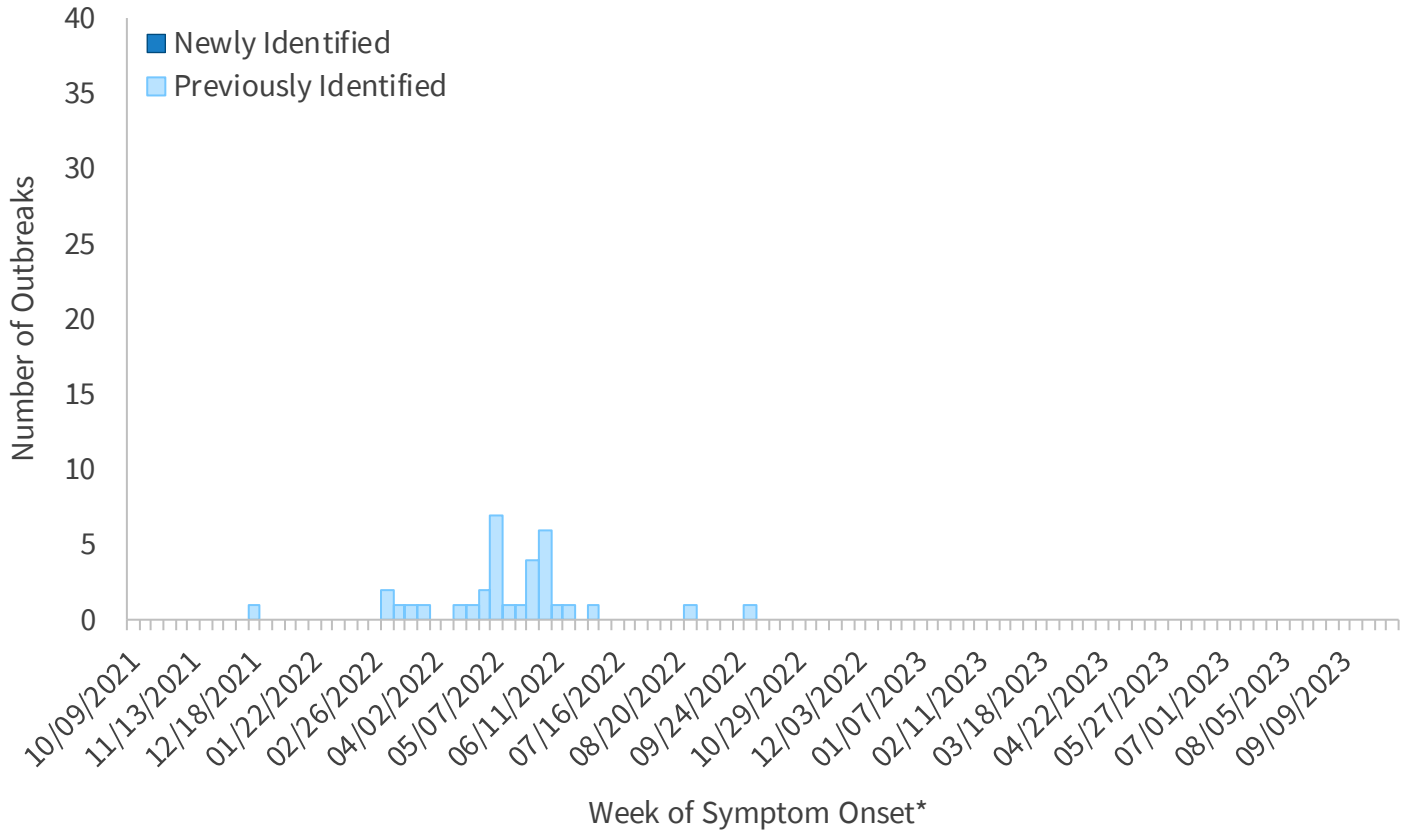
Influenza-associated deaths in children <18 years of age are nationally notifiable. The weekly influenza report includes confirmed deaths formally reported to CDPH through October 22, 2022 (Week 42). Methods used to identify pediatric influenza-coded deaths on death certificates differ from those used to identify the influenza-associated pediatric deaths presented below, which require laboratory confirmation of influenza, and might not include the same individuals.

No laboratory-confirmed influenza-associated deaths among children <18 years of age were reported to CDPH during Week 42. To date, CDPH has received no reports of laboratory-confirmed influenza-associated deaths among persons <18 years of age during the 2022–2023 influenza season.

Influenza-associated Outbreaks

No laboratory-confirmed influenza outbreaks were reported during Week 42. To date, no laboratory-confirmed influenza outbreaks have been reported to CDPH for the 2022–2023 season. The last laboratory-confirmed influenza outbreak reported to CDPH occurred during the week ending October 1, 2022.

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.

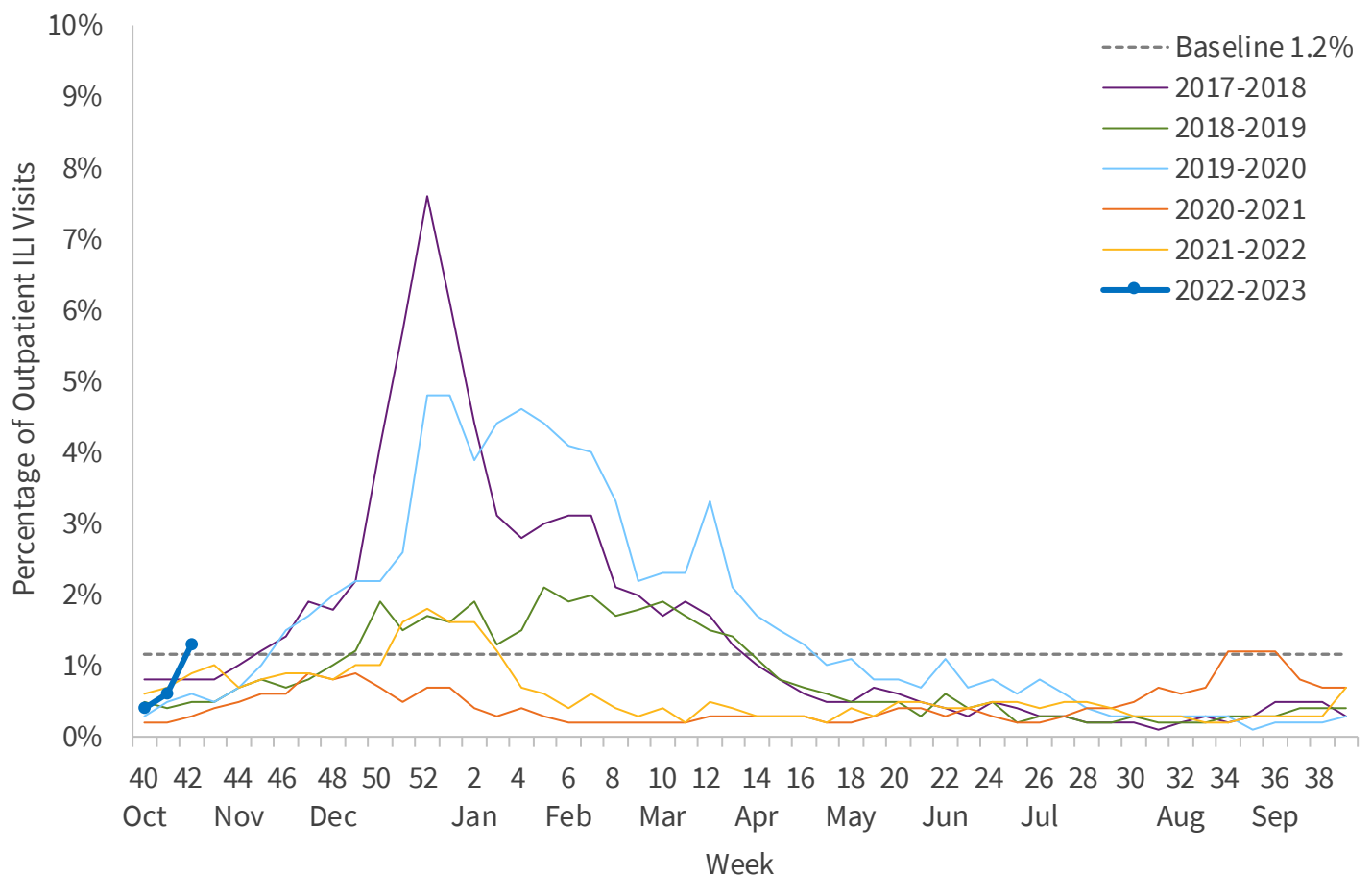
California Border Region Influenza Surveillance Network

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 eight border region sentinel providers reported data during Week 42. The total number of patients screened by all sentinel sites for ILI during Week 42 was 8,129. Outpatient ILI activity was 1.3% in Week 42 ([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.

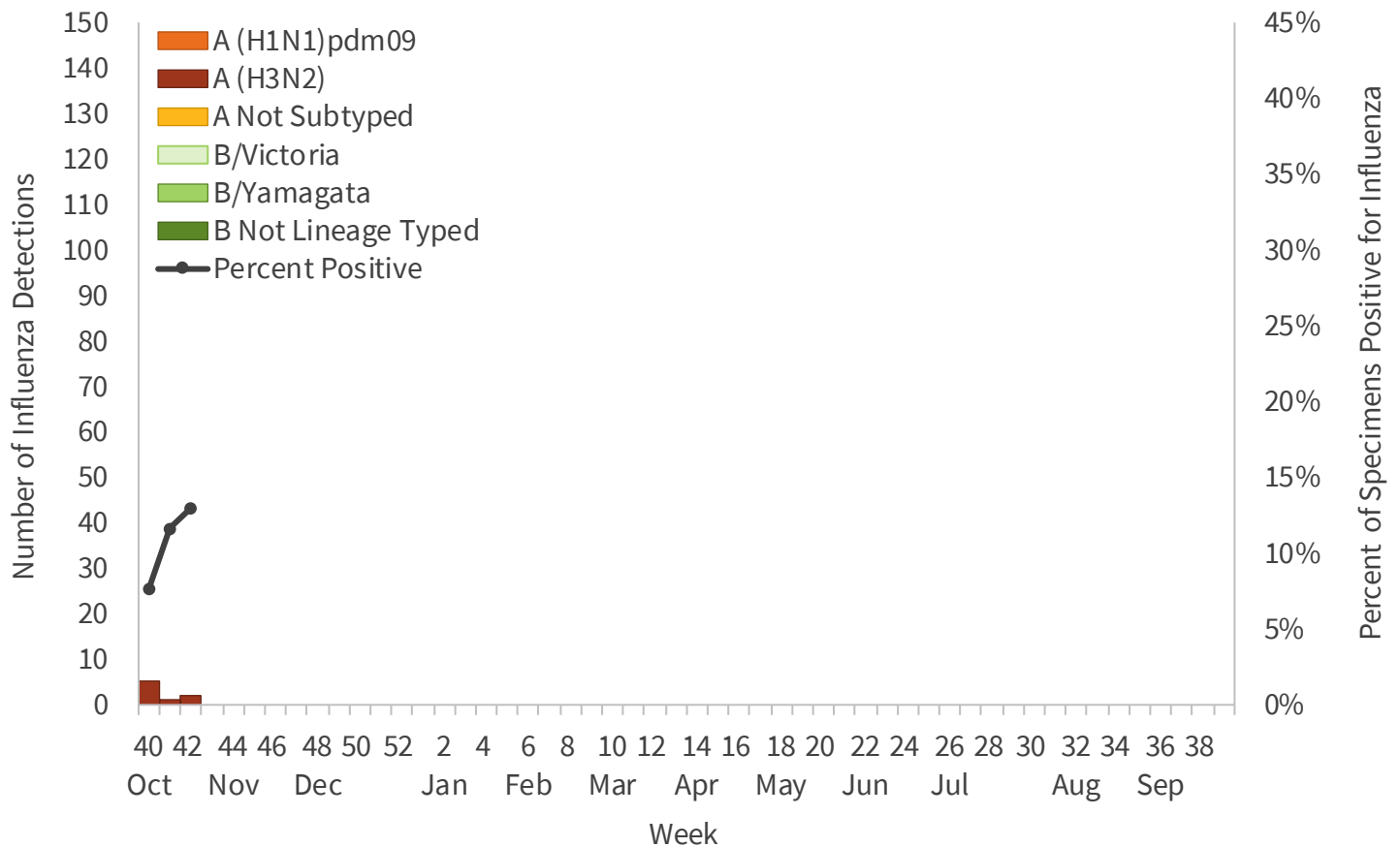
Virologic Surveillance Update

During Week 42, 721 respiratory specimens were tested from border region sentinel clinical laboratories; of these, 94 (13.0%) tested positive for influenza (91 [96.8%] influenza A and three [3.2%] influenza B). Cumulatively this season, a total of 2,051 respiratory specimens were tested from border region sentinel clinical laboratories; of these, 226 (11.0%) tested positive for influenza (221 [97.8%] influenza A and five [2.2%] influenza B).

During Week 42, two influenza positive specimens were reported from border region RLN laboratories; of which, two (100.0%) were influenza A. Of the two specimens that tested positive for influenza A at RLN laboratories, two (100.0%) were subtyped as A (H3). Cumulatively this season, a total of eight influenza positive specimens have been detected at border region RLN laboratories; of which eight (100.0%) were influenza A. Of the eight specimens that tested positive for influenza A at RLN laboratories, eight (100.0%) were subtyped as A (H3).

Laboratory data summarized in [Figure 12](#) include data from border region influenza clinical sentinel laboratories (percentage of specimens testing positive for influenza) as well as data from border region RLN laboratories (influenza type and subtype/lineage type).

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

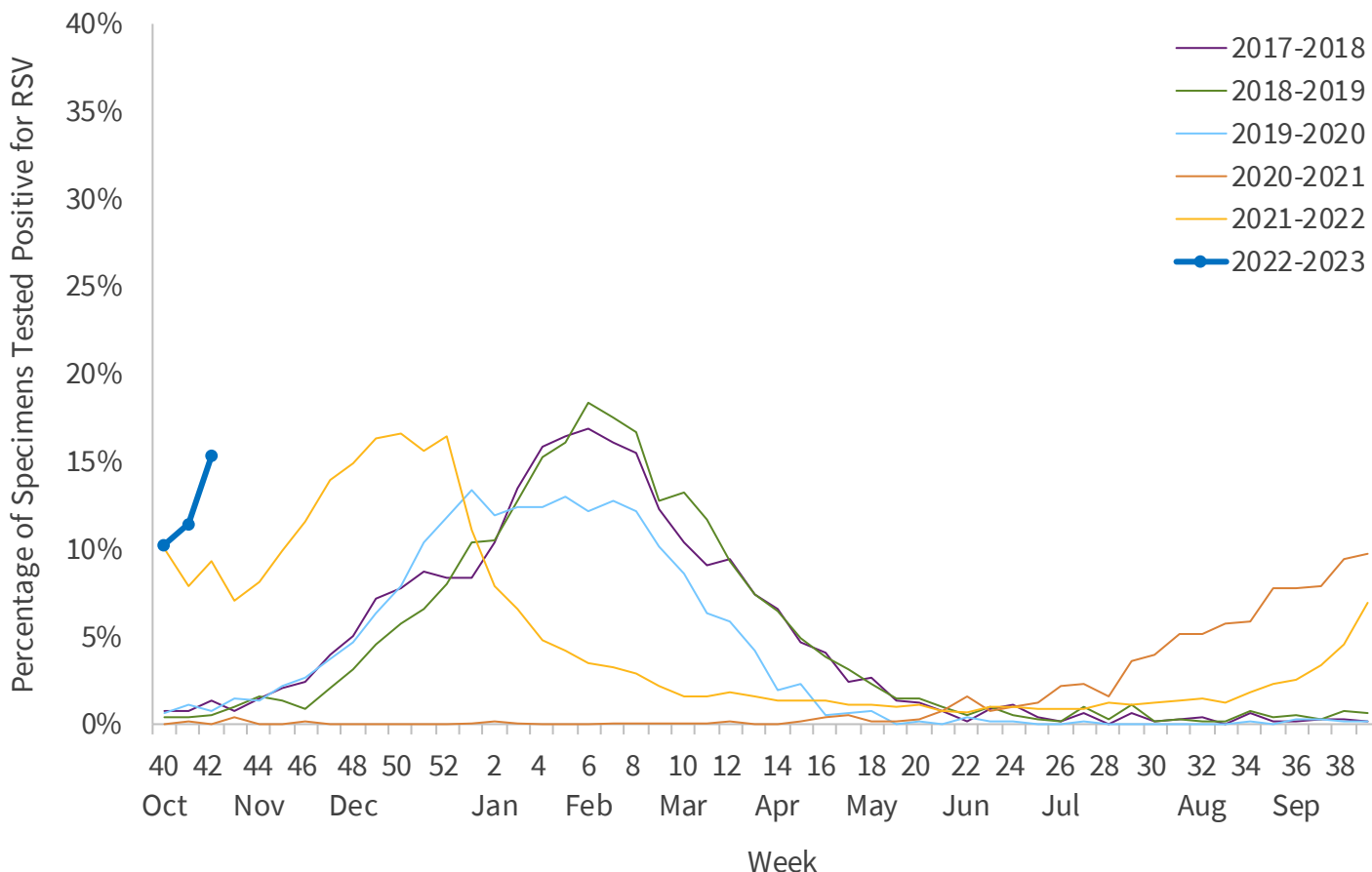


Respiratory Syncytial Virus Surveillance

RSV Detections from Clinical Sentinel Laboratories

During Week 42, 10,503 specimens were tested for RSV and 1,610 (15.3%) were positive, which is higher compared to Week 41 (11.5%) ([Figure 13](#)).

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



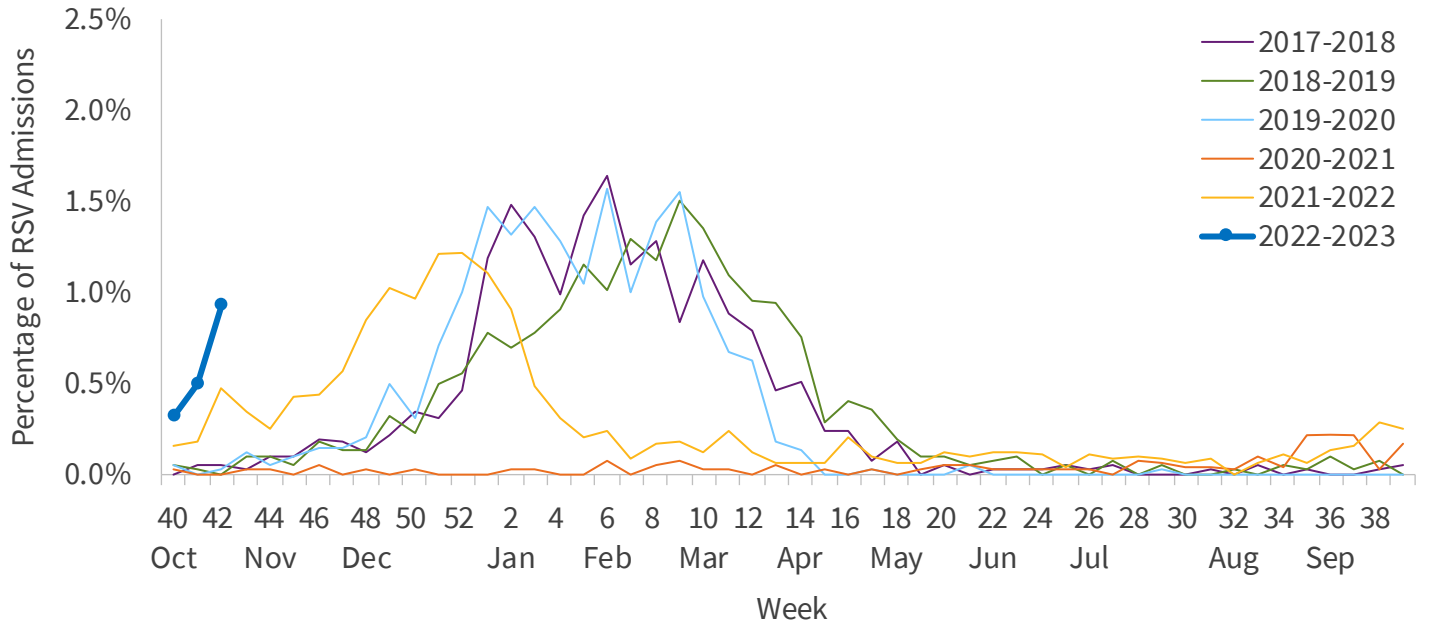
Note: Data have been shifted so that Week 1 aligns across seasons.

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 42 was 0.9% compared to 0.5% during Week 41 ([Figure 14](#)).

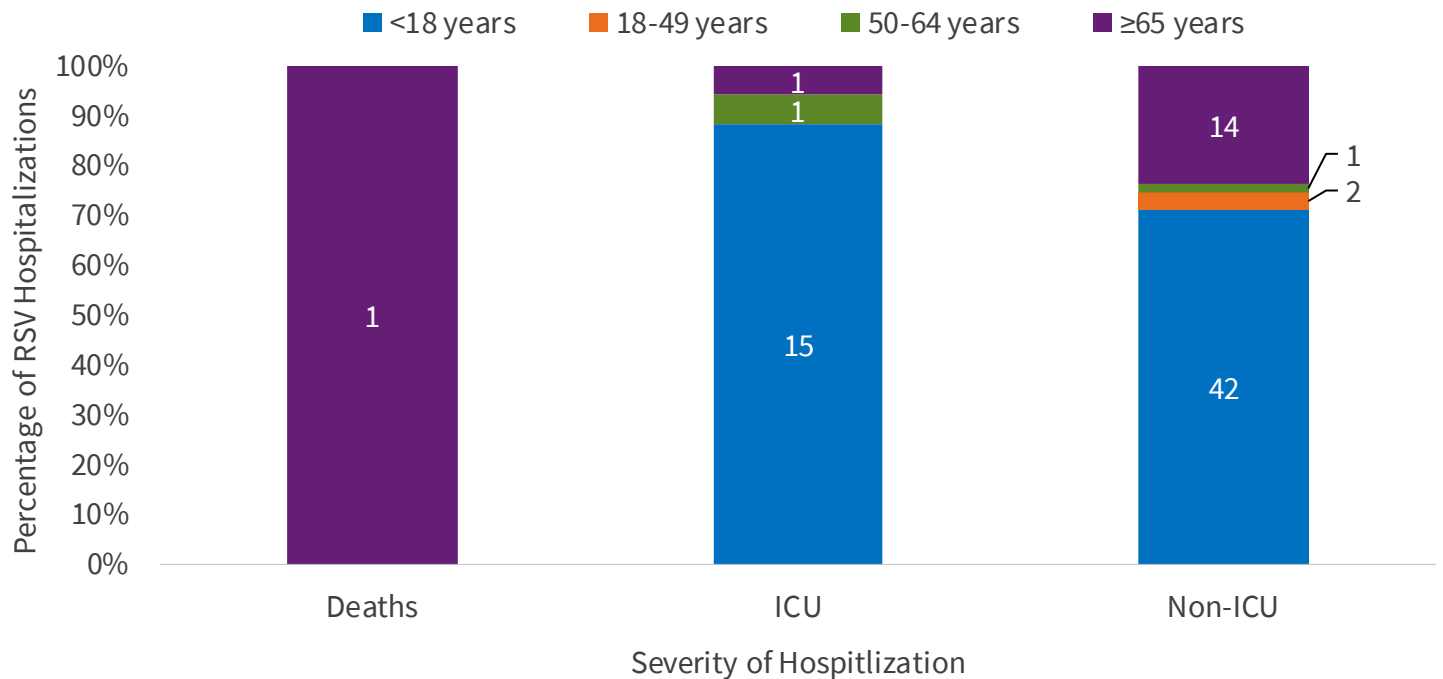
Figure 14. Percentage of RSV Admissions in Kaiser Permanente Northern California Facilities, 2017–2023 Season to Date



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

To date, 59 non-intensive care unit (ICU) hospitalizations, 17 ICU admissions, and one death 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

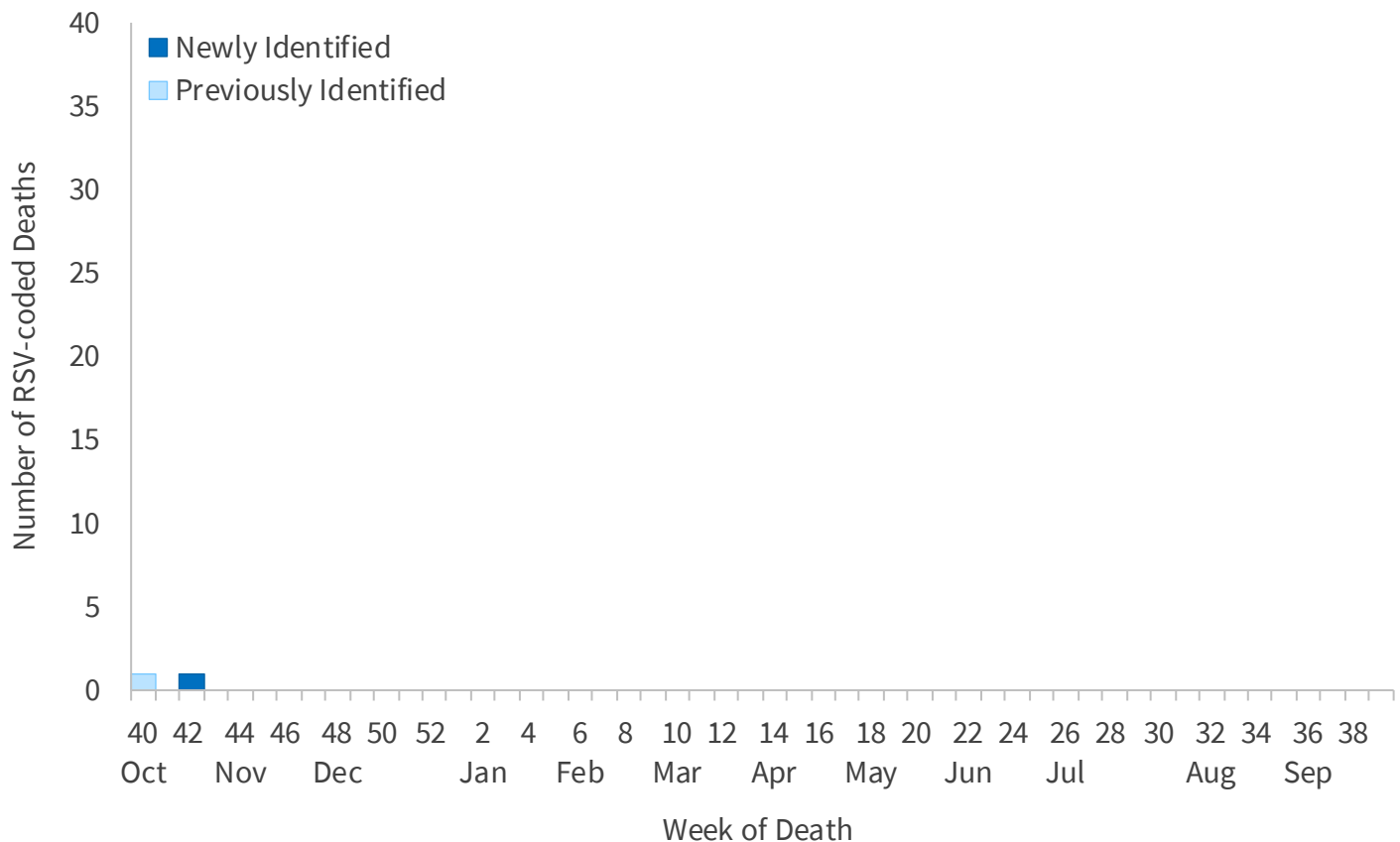


RSV Mortality Surveillance from Death Certificates

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.

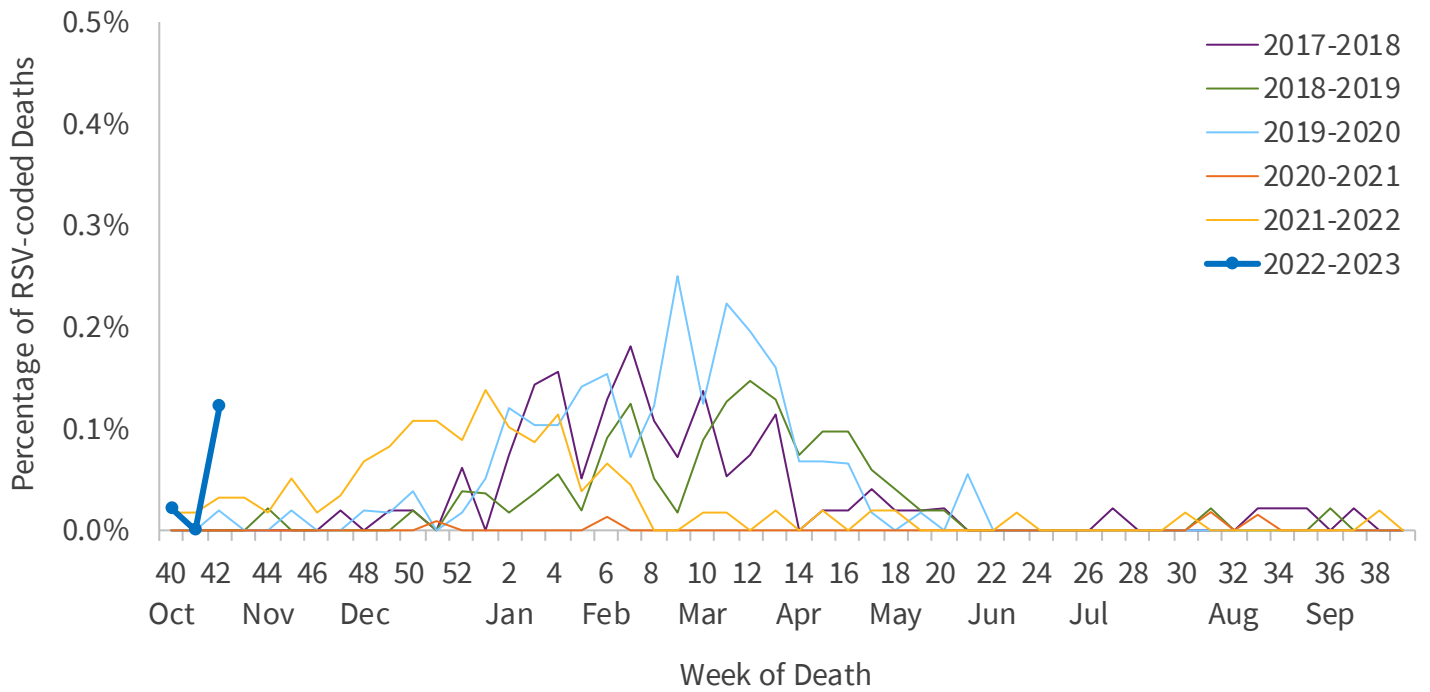
During Week 42, one RSV-coded death was identified. To date during the 2022–2023 influenza season, two RSV-coded deaths have been identified ([Figure 16](#)). The percentage of deaths coded as RSV during Week 42 was 0.12% compared to 0.00% during Week 41 ([Figure 17](#)).

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.

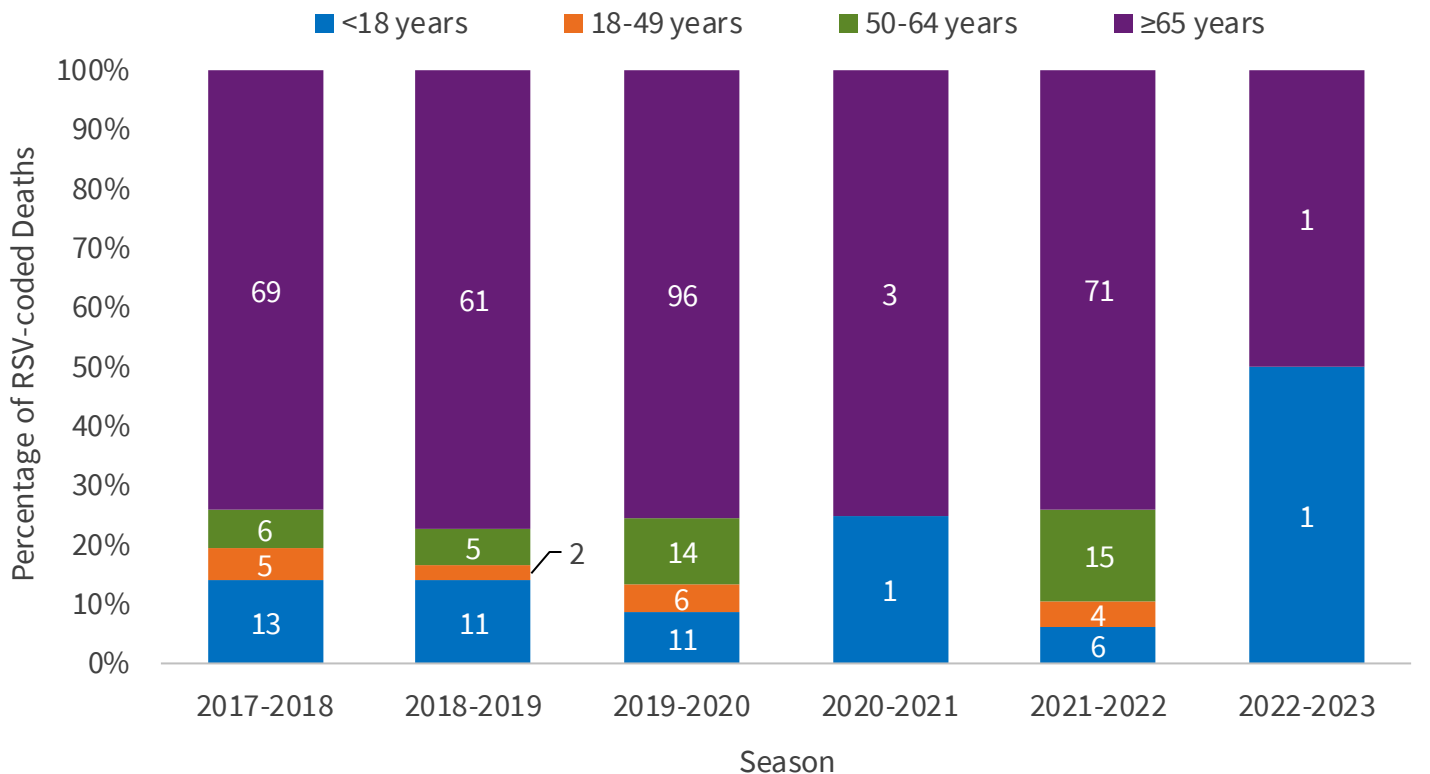
Figure 17. Percentage of RSV-coded Deaths from Death Certificates, 2017–2023 Season to Date



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

To date, two RSV-coded deaths have been identified among a person <18 years and a person ≥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

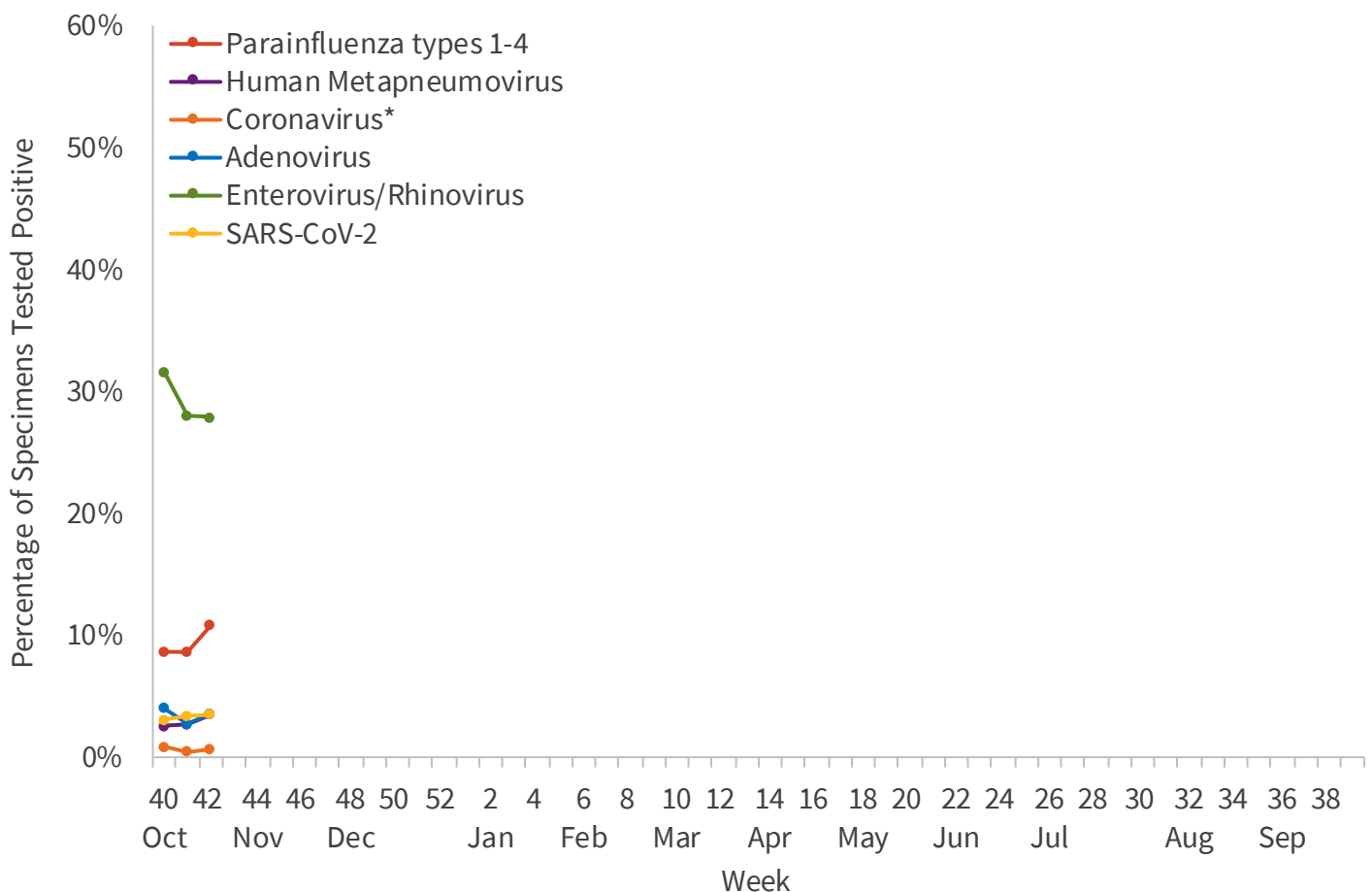
Currently, as mandated under Section 2500 of the California Code of Regulations, deaths among children aged 0–4 years with laboratory-confirmed RSV are reportable to CDPH. The weekly influenza report includes confirmed deaths formally reported to CDPH through October 22, 2022 (Week 42).

No laboratory-confirmed RSV-associated deaths among children <5 years of age were reported to CDPH during Week 42. To date, CDPH has received no 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 42, adenovirus, coronavirus (non-SARS-CoV-2), human metapneumovirus, and parainfluenza virus activity increased; enterovirus/rhinovirus and SARS-CoV-2 activity were similar to the previous week ([Figure 19](#)).

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

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/Week2022-2342_DataTables.xlsx) (www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/Week2022-2342_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 (▶).

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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%.

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.