



# INFLUENZA WATCH

Week 50  
Ending 12/14/19

## Overview

Influenza activity continues to increase in San Diego. All four influenza strains have been detected in the county this season. When typed, influenza B/Victoria and influenza A(H1N1) have recently been more frequent than the other strains. The early influenza B activity is unusual for this time of year compared to previous seasons. The best protection against all strains of influenza is an influenza vaccination.

## Report Content Links

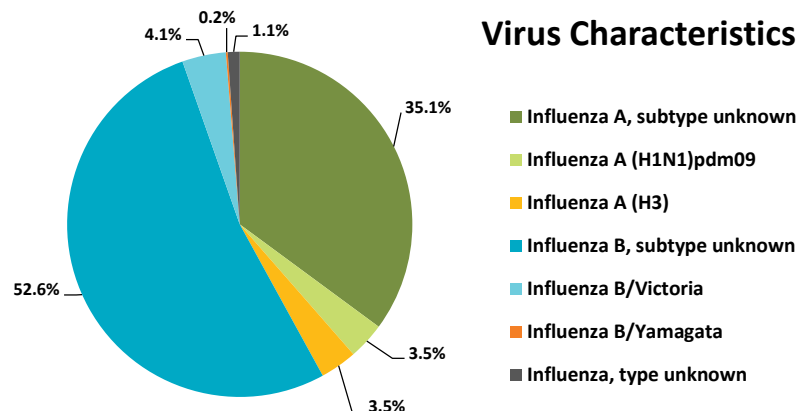
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## Key Points

### Current Week 50 (ending 12/14/2019)

- 489 new influenza detections reported
- No new influenza-related deaths reported this week
- 4% influenza-like illness (ILI) among emergency department visits
- 5% of death certificates registered with pneumonia and/or influenza

## 2019-20 FYTD Season Summary

**1,709**  
Total Cases**7**  
Deaths<sup>†</sup>**5**  
Outbreaks\*

<sup>†</sup> Flu deaths less than 18 years of age are reportable to CDPH.

\* In a congregate living setting, outbreaks are defined as at least one laboratory-confirmed influenza case in the setting of a cluster (≥2 cases) of influenza-like illness (ILI) within a 72-hour period.

**Table 1. Influenza Surveillance Indicators.**

Indicator	2019-20 Season			2018-19 Season			Prior 3-Year Average*		
	Week 50	Week 49	Total to Date	Week 50	Total To Date	Season Total	Week 50	Total To Date	Season Total
All influenza detections reported (rapid or PCR)	489	291	1,709	282	932	9,655	329	1,009	12,110
Percent of emergency department visits for ILI	4%	4%		4%			4%		
Percent of deaths registered with pneumonia and/or influenza	5%	7%		7%			6%		
Number of influenza-related outbreaks <sup>™</sup>	1	0	5	0	0	25	2	5	59
Number of influenza-related deaths reported <sup>^</sup>	0	1	7	1	6	77	1	5	169

Influenza season is July 1 – June 30, Weeks 27-26. Previous weeks case counts or percentages may change due to delayed processing or reporting.

\*Includes FYs 2016-17, 2017-18, and 2018-19.

<sup>™</sup>At least one case of laboratory-confirmed influenza in a setting experiencing two or more cases of influenza like illness (ILI) within a 72-hour period.

Total confirmed influenza outbreaks in prior seasons: 25 in 2018-19, 119 in 2017-18, and 34 in 2016-17.

<sup>^</sup>Current FY deaths are shown by week of report; by week of death for prior FYs. Total deaths reported in prior seasons: 77 in 2018-19, 343 in 2017-18, and 87 in 2016-17.

**Enhanced Influenza Vaccines for Older Adults**

Enhanced influenza vaccines are available for older adults, but comparative immunogenicity data on these vaccines are limited. A study published last week in *Clinical Infectious Disease* represents the first direct comparison of three flu vaccines targeted to seniors against the standard vaccine. It found that the enhanced vaccines produce better immune response, which may translate to better protection for older adults.

A team from the University of Hong Kong and the U.S. Centers for Disease Control and Prevention (CDC) randomly assigned 1,861 adults ages 65 to 82 in Hong Kong to receive the standard quadrivalent flu vaccine or one of three newer options developed for seniors: the high-dose trivalent vaccine (FluZone®) that contains four times more antigen; the trivalent MF59-adjuvanted vaccine (FluAD®); or the quadrivalent recombinant cell-based vaccine (FluBlok®) that has three times more antigen. Participants were immunized from October 2017 to January 2018 and received vaccines containing strains recommended for the 2017-18 Northern Hemisphere flu season.

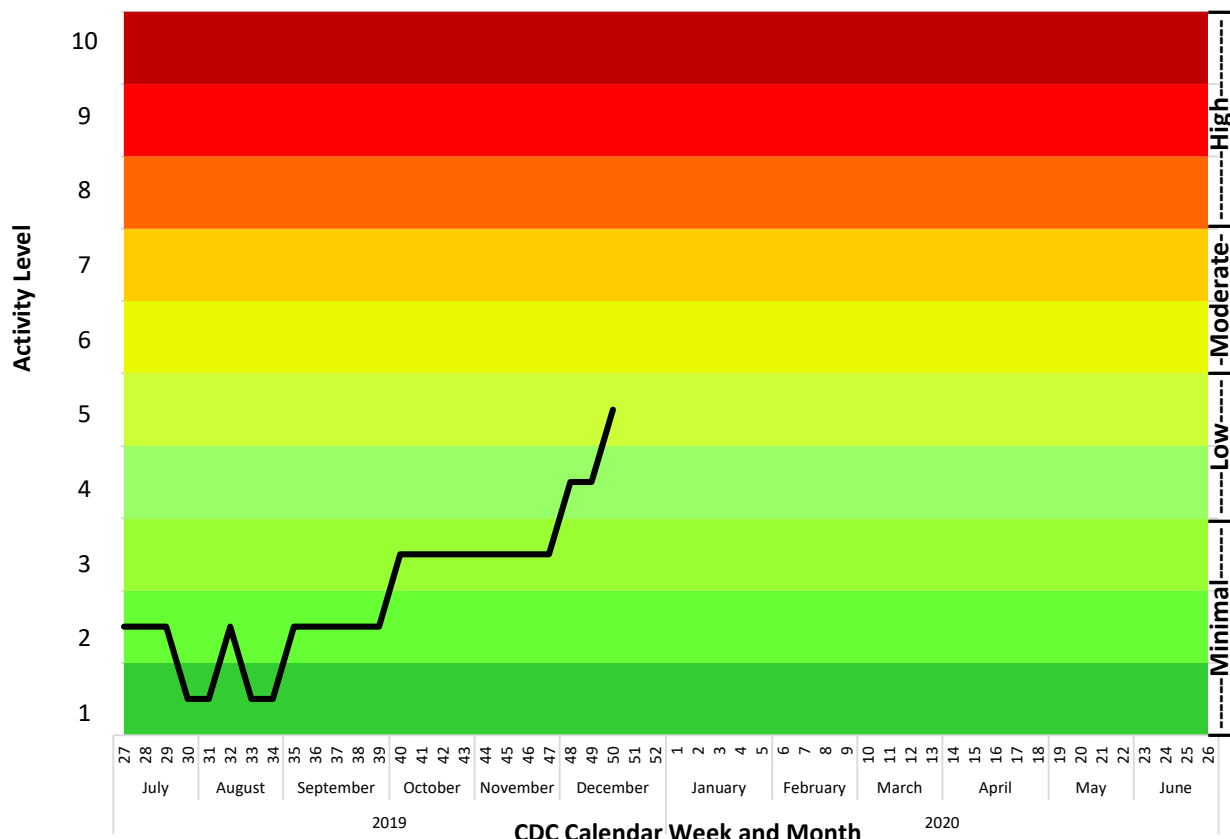
The study found that, when compared to standard vaccine, all three senior formulations triggered an improved immune response based on antibody levels against 2009 H1N1 and H3N2 flu strains. Participants who got the standard vaccine had a 3.4-fold antibody increase to the H3N2 vaccine component, compared with a 4.2- to 4.7-fold increase in those who received one of the enhanced vaccines. Only one significant difference was noted among the three enhanced vaccines: seniors who received the recombinant higher-dose vaccine had a higher antibody response to a cell-like H3N2 virus that was like the H3N2 strain that was circulating in the community. Response to the influenza B Victoria strain in the vaccine was similar among all vaccines, but antibodies were a little higher in those who got high-dose vaccine.

Although the research was conducted in Hong Kong, the enhanced vaccines examined in the study are licensed for use and available in the United States. The study is available here: [Comparative Immunogenicity of Several Enhanced Influenza Vaccine Options for Older Adults: A Randomized, Controlled Trial](#). A CDC press release on the study is available [here](#).

**Table 2. Influenza Cases Reported, 2019-2020 Season\***

Positive Test Type/Subtype	Week 50	Week 49	Total to Date	Percent to Date
Influenza A, subtype unknown	117	89	600	35.1%
Influenza A (H1N1)pdm09	19	11	59	3.5%
Influenza A (H3)	10	1	59	3.5%
Influenza B, subtype unknown	326	164	899	52.6%
Influenza B/Victoria	15	19	70	4.1%
Influenza B/Yamagata	0	2	3	0.2%
Influenza, type unknown	2	5	19	1.1%
<b>Total</b>	<b>489</b>	<b>291</b>	<b>1,709</b>	<b>100.0%</b>

\*Season is July 1- June 30, Weeks 27-26.

**Figure 1. Activity Level of Emergency Department Influenza-Like Illness (ILI),  
2019-20 Season to Date.****Legend**

Minimal			Low		Moderate		High		
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	LEVEL 7	LEVEL 8	LEVEL 9	LEVEL 10
< mean	≥ mean and <1 standard deviation above mean	≥1 and <2 standard deviations above mean	≥2 and <3 standard deviations above mean	≥3 and <4 standard deviations above mean	≥4 and <5 standard deviations above mean	≥5 and <6 standard deviations above mean	≥6 and <7 standard deviations above mean	≥7 and <8 standard deviations above mean	≥8 standard deviations above mean

**Influenza Activity Indicator:**

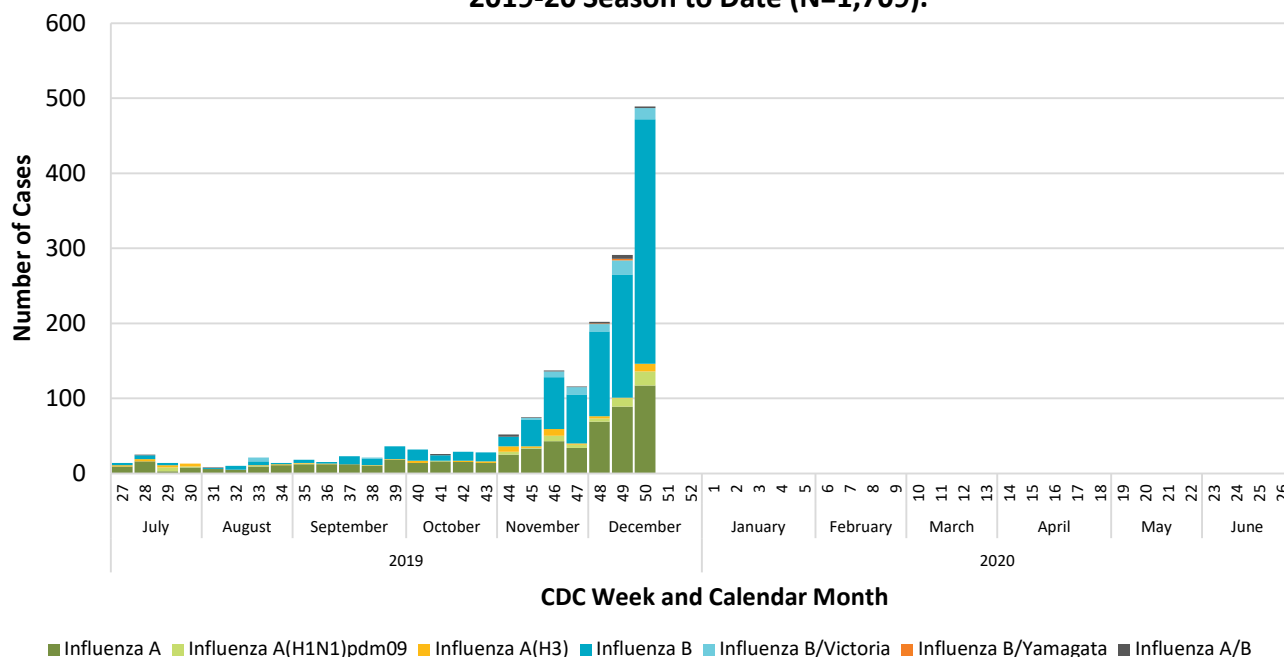
The activity level compares the current week's ED ILI% (emergency department influenza-like illness, percent of all visits) to the mean and number of standard deviations above of the mean of the ED ILI% in non-influenza season weeks (CDC disease weeks 27-39) from the current and prior four seasons.

There are 10 activity levels, classified as: Minimal (levels 1-3), Low (levels 4-5), Moderate (levels 6-7), and High (levels 8-10). An activity level of 1 corresponds to when the ED ILI% is below the mean; level 2 corresponds to when the ED ILI% is less than 1 standard deviation above the mean; level 3 corresponds to when the ED ILI% is more than 1 but less than 2 standard deviations above the mean, and so on, with an activity level of 10 corresponding to when the ED ILI% is at 8 or more standard deviations above the mean.

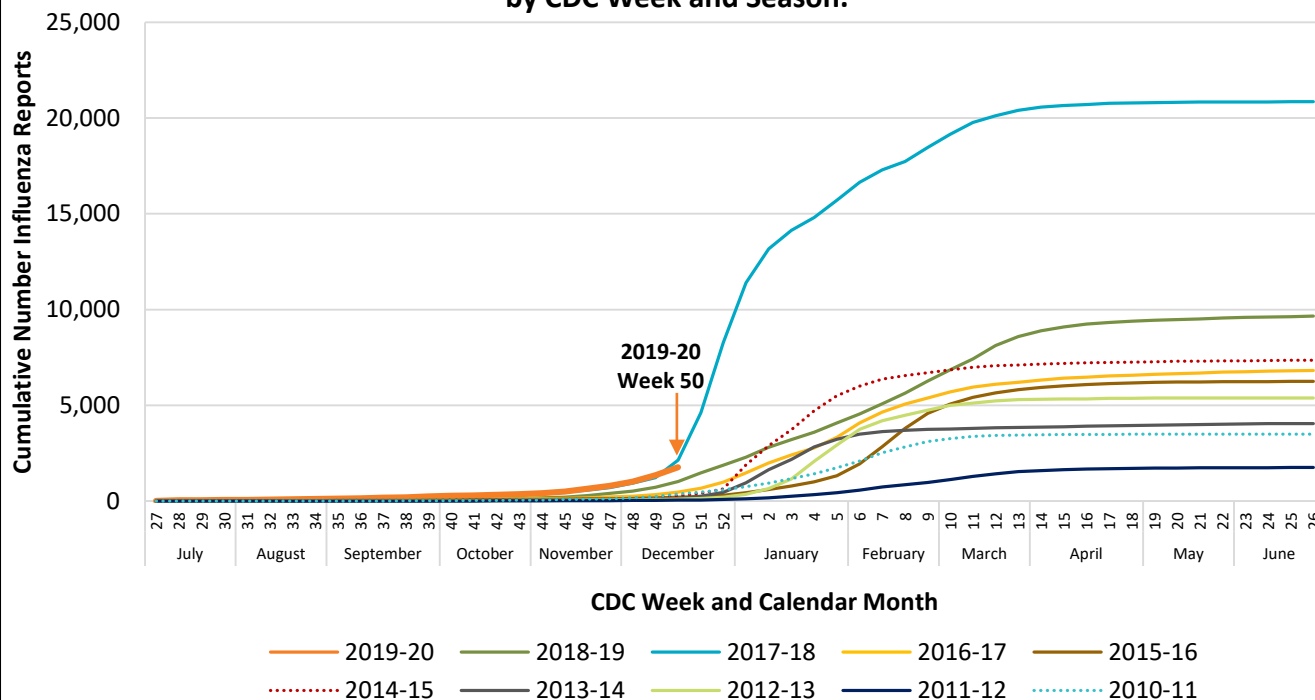
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**Figure 2. San Diego County Influenza Detections by Type and Week of Report, 2019-20 Season to Date (N=1,709).**



**Figure 3. Cumulative Influenza Cases Reported by CDC Week and Season.**



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Figure 4. Proportion of Influenza Cases by Age Group and Season.

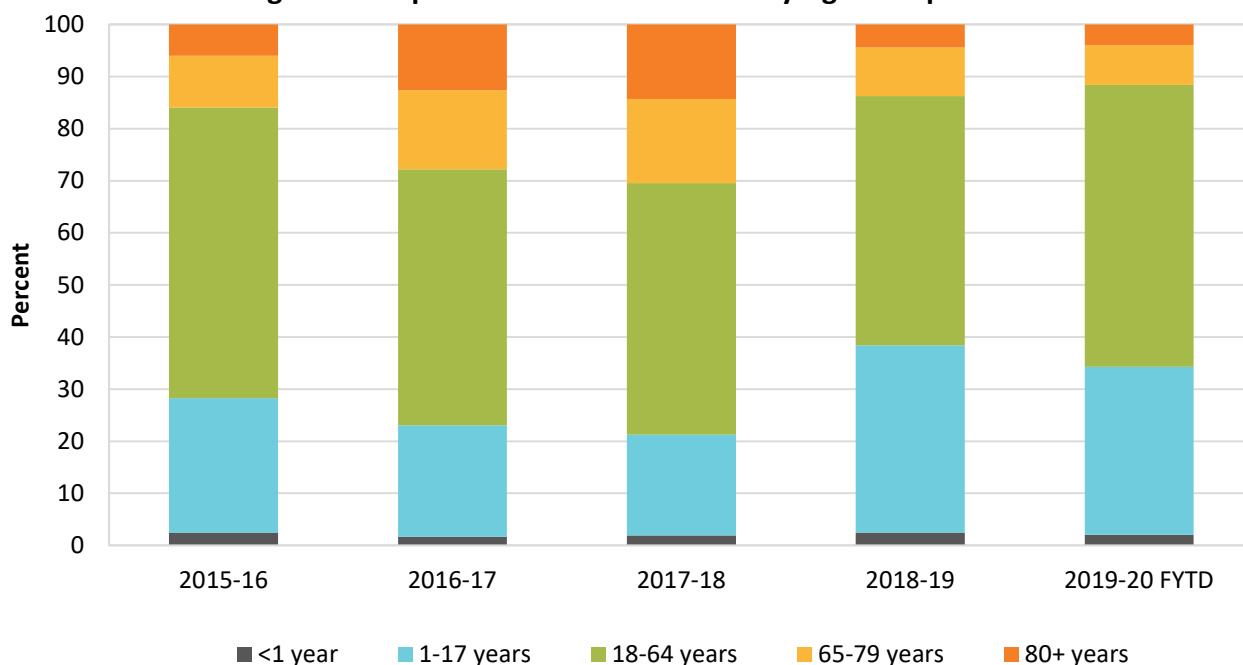
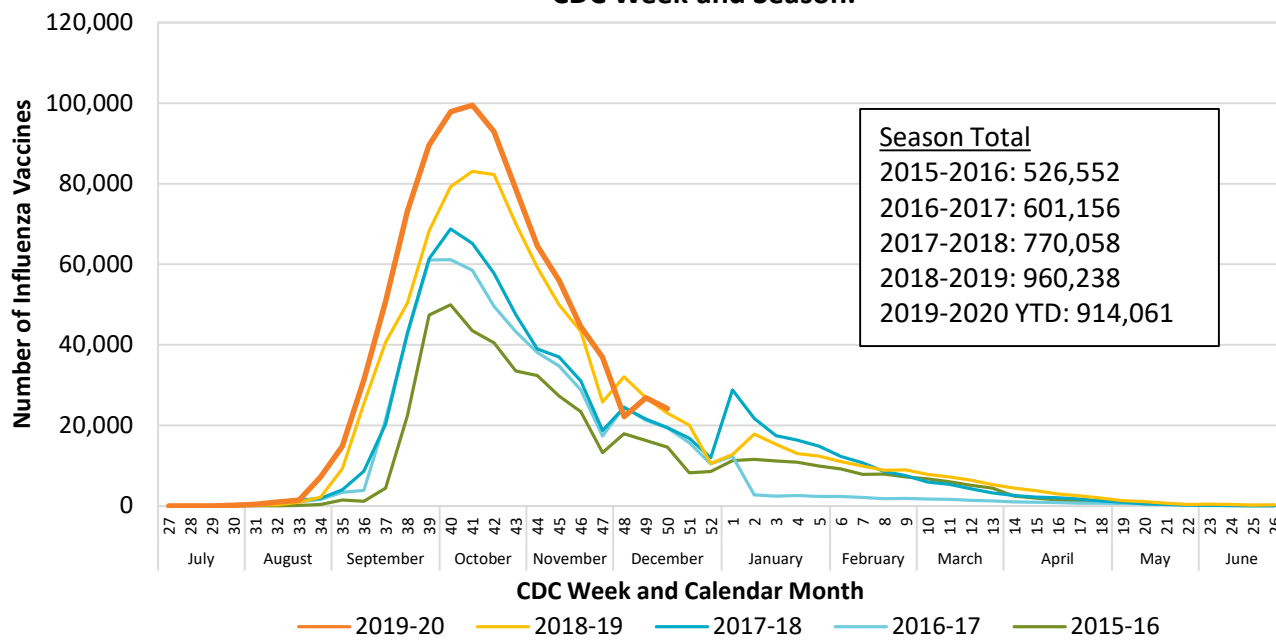


Figure 5. Number of Influenza Vaccinations Administered\* by CDC Week and Season.

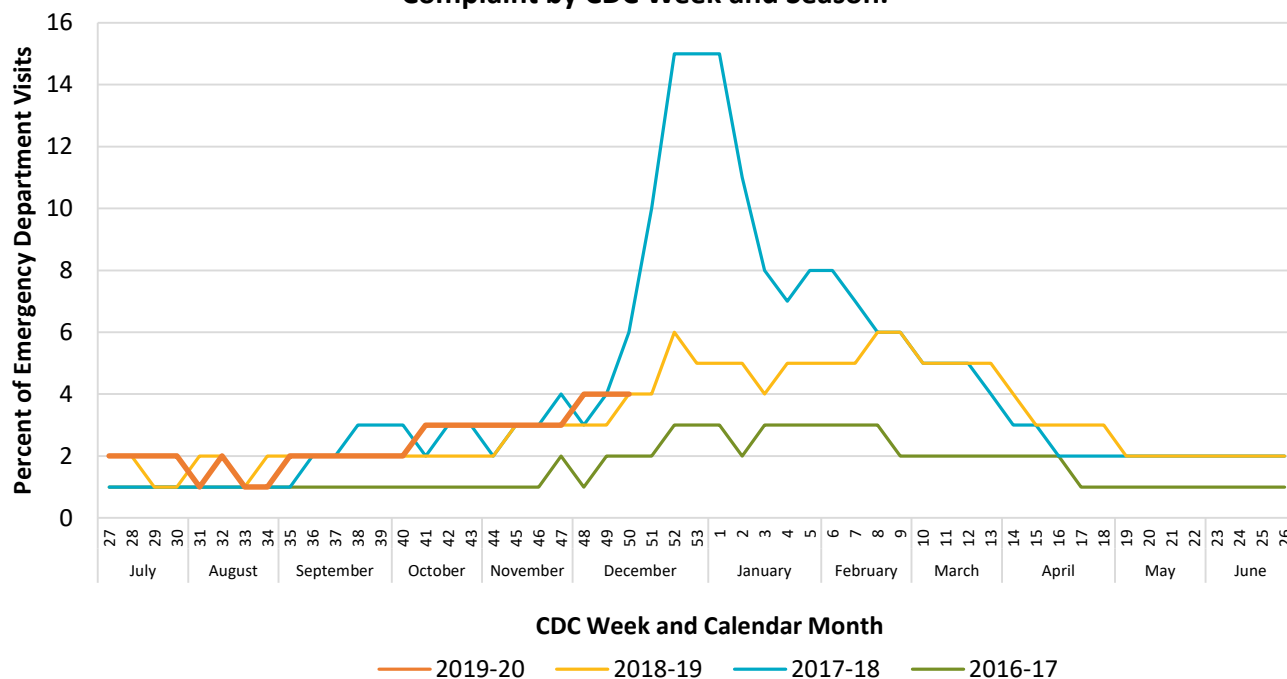


\* Influenza vaccinations administered and entered into the San Diego Immunization Registry ([SDIR](#))

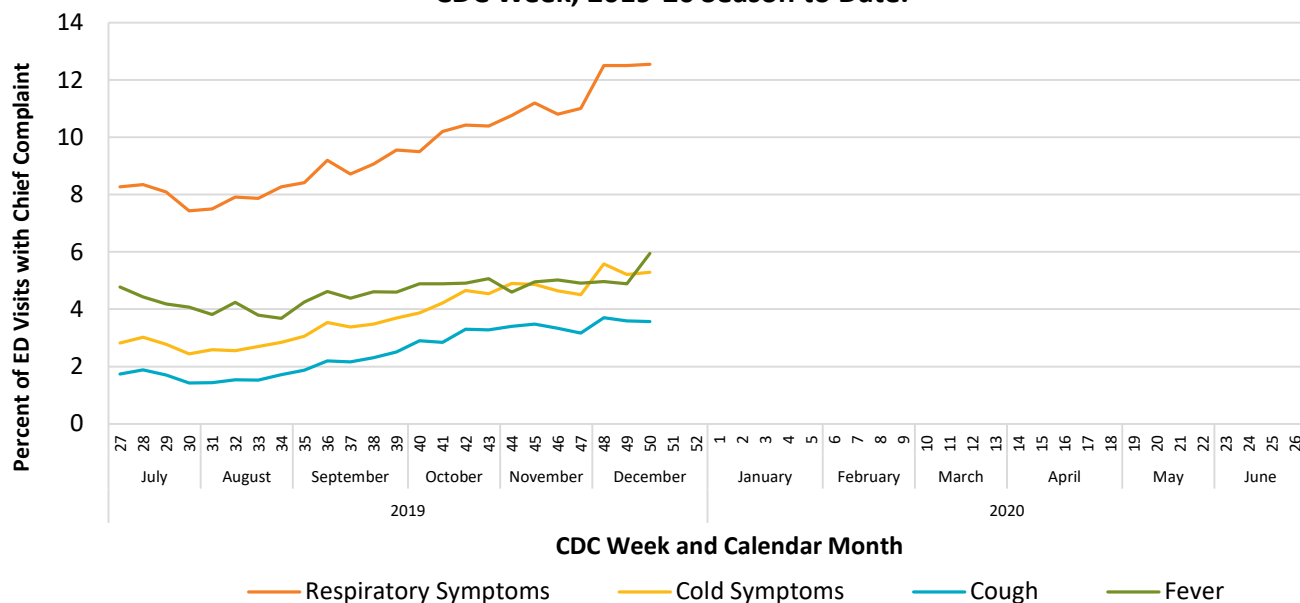
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**Figure 6. Percent of Emergency Department Visits for ILI Chief Complaint by CDC Week and Season.**



**Figure 7. Percent of Emergency Department Visit Chief Complaints for Cough, Cold, Fever, or Respiratory Symptoms\* by CDC Week, 2019-20 Season to Date.**

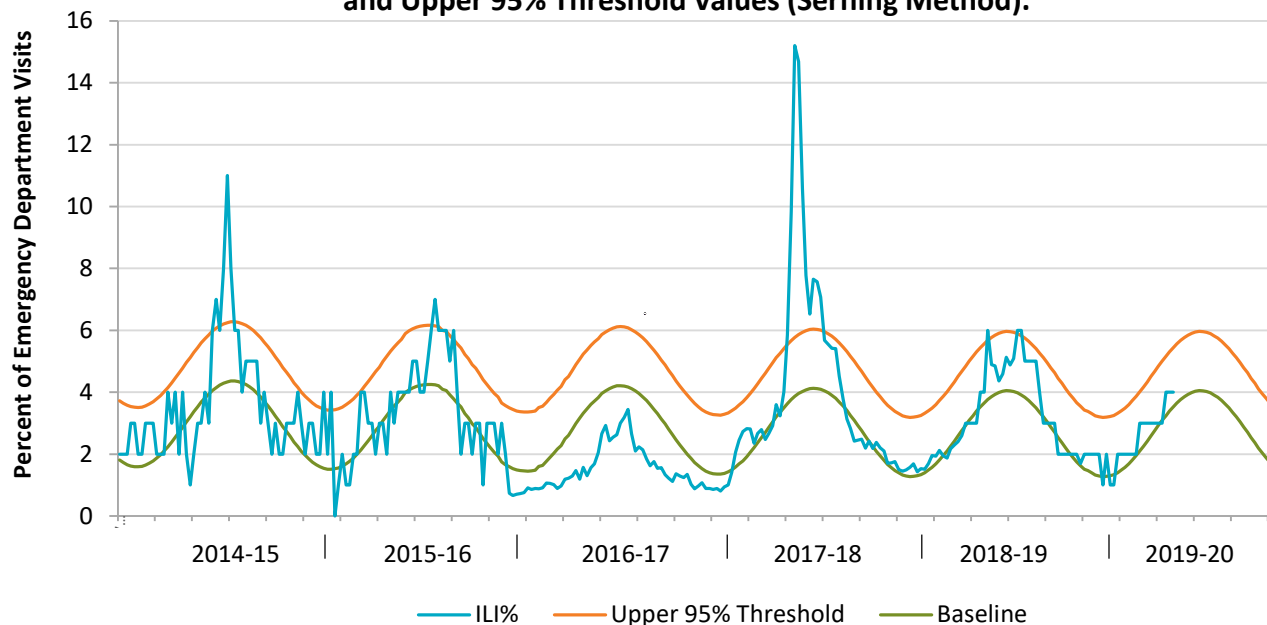


\* Respiratory category includes cough, cold symptoms, influenza-like illness, and other respiratory symptoms.

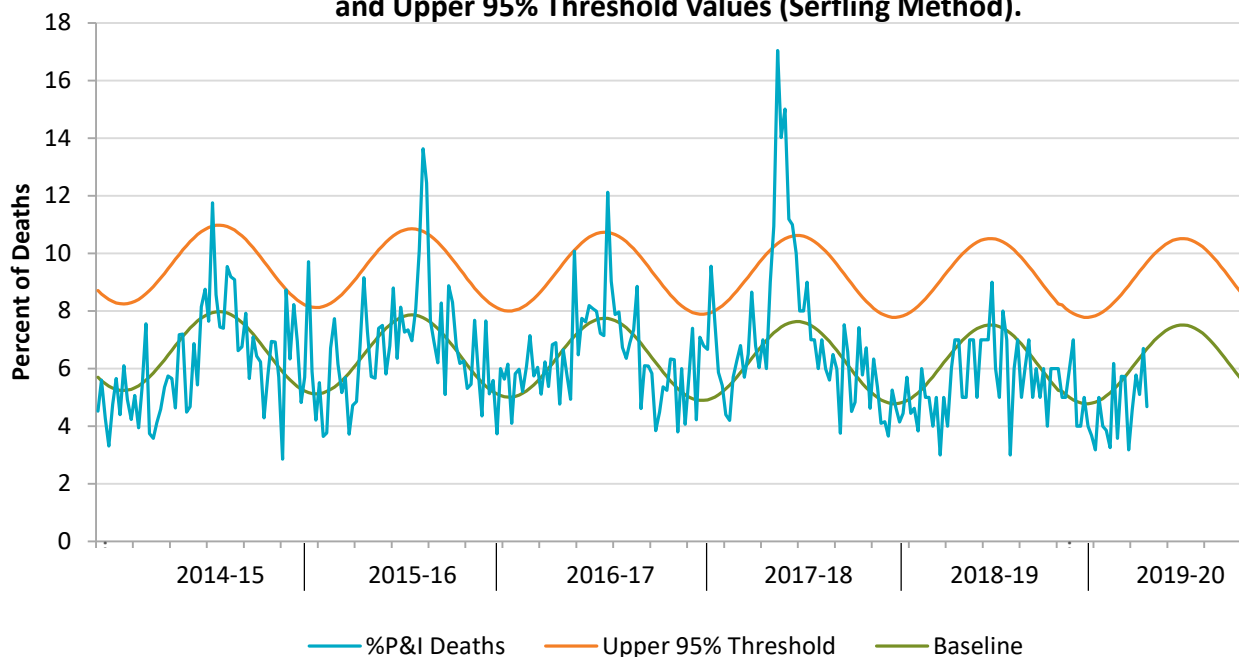
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**Figure 8. Percent of San Diego County Emergency Department Visits for Influenza-like Illness by CDC Week and Season Compared to 5-Year Baseline and Upper 95% Threshold Values (Serfling Method).**



**Figure 9. Percent of San Diego County Deaths Registered with Pneumonia and/or Influenza by CDC Week and Season Compared to Prior 5-Year Baseline and Upper 95% Threshold Values (Serfling Method).**



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Figure 10. Influenza Deaths by Type and Season.

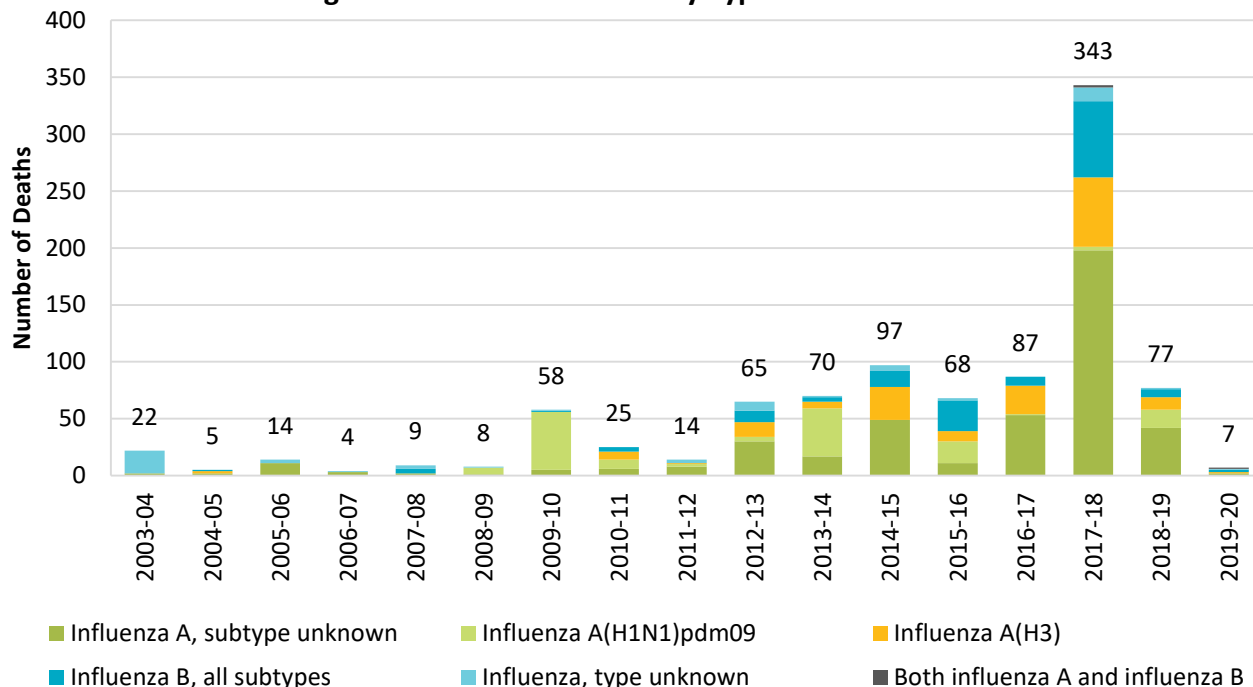
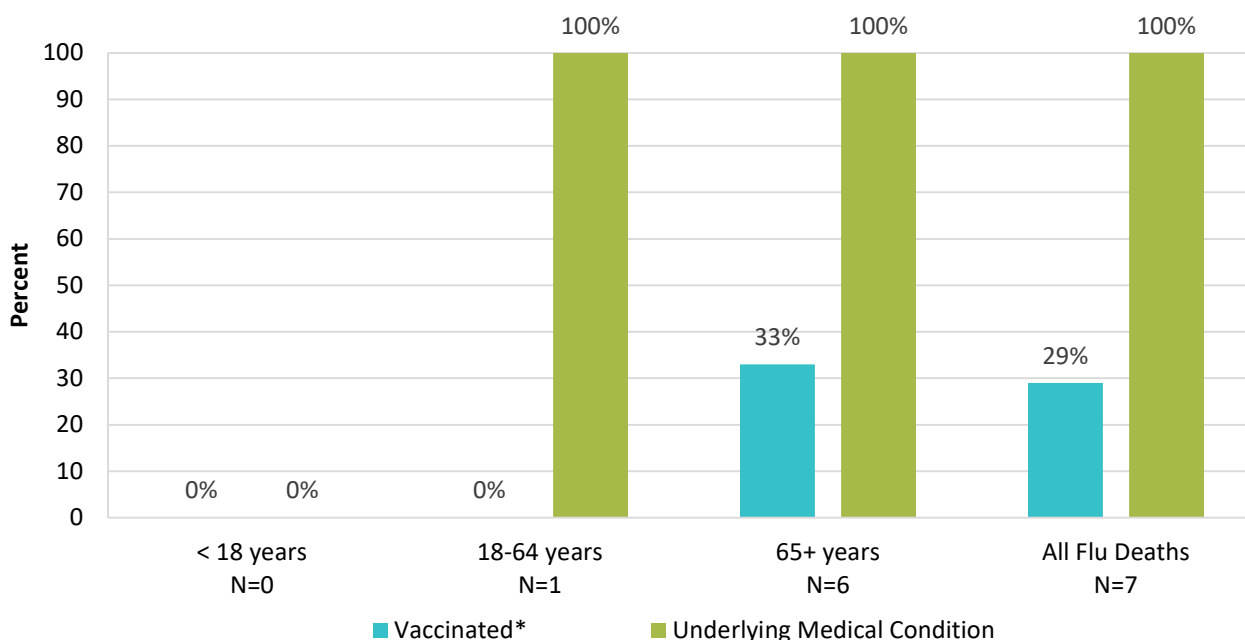


Figure 11. Percent of Influenza Deaths by Age Group, Vaccination Status, and Underlying Medical Condition, 2019-20 Season.



\* known to be vaccinated



## Influenza Reporting in San Diego County

Individual influenza cases are now reportable to Public Health as of October 1, 2019. Please report laboratory-positive influenza results to the County Epidemiology Program by **FAX (858) 715-6458** using a [Confidential Morbidity Report Form](#), or an [Influenza Case Report Form](#), and/or a copy of the laboratory results. Also, please indicate if the patient died and/or is a resident of a congregate living facility (if known).

Influenza specimens may be sent to [Public Health Laboratory](#) (PHL) for confirmation and subtyping. Please contact PHL at **(619) 692-8500 before submitting** or for questions and use the current PHL Test Request Form found at [https://www.sandiegocounty.gov/hhsa/programs/phs/phs\\_laboratory/](https://www.sandiegocounty.gov/hhsa/programs/phs/phs_laboratory/). Contact the Epidemiology Program by telephone **(619) 692-8499** or email ([EpiDiv.HHSA@sdcounty.ca.gov](mailto:EpiDiv.HHSA@sdcounty.ca.gov)) with questions about influenza data. Influenza outbreaks should be reported by telephone to **(619) 692-8499**.

### Resource Links

- County of San Diego Epidemiology Program [www.sdepi.org](http://www.sdepi.org)
- County of San Diego [2018-19 Influenza Season Summary](#)
- Influenza Watch* [Slide Deck](#) – A slide version of this report for presentations
- County of San Diego Immunization Program (SDIZ) [www.sdiz.org](http://www.sdiz.org)
- San Diego Regional Immunization Registry (SDIR) <http://www.sdiz.org/CAIR-SDIR/index.html>
- California Department of Public Health (CDPH) [Influenza Update](#)
- Centers for Disease Control and Prevention (CDC) [Influenza Surveillance](#)

## Influenza Watch Data Sources

The following sources of data are used to produce this report:

- Influenza case reports:** Medical providers and laboratories report individual cases of confirmed influenza via fax or electronic laboratory reporting (ELR) to Public Health Services Epidemiology Program (Epidemiology).
- Influenza deaths:** Hospital infection control professionals report influenza-related deaths. Pediatric flu deaths (under 18 years of age) are legally reportable in California; however, San Diego County requests that all influenza-related deaths be reported for surveillance purposes. Influenza-related deaths are also identified through death certificate registration. The County Office of Vital Records notifies Epidemiology when a new death is registered with influenza listed as a cause of death or underlying condition. In addition, influenza case reports are compared to death data for San Diego County, and matches are evaluated to determine if their influenza infection was related to the cause of death.
- Percent pneumonia and influenza deaths:** The percentage of all deaths registered that had either pneumonia and/or influenza listed as a cause of death is obtained directly from the Vital Records VRIS data system on a weekly basis.
- Influenza-like illness (ILI):** Electronic emergency department (ED) visit data is submitted to Epidemiology daily, and the number of all ILI chief complaints and total visits are used to calculate the ED ILI percentage for each week. ILI is defined as fever ( $>100^{\circ}\text{F}$  or  $37.8^{\circ}\text{C}$ ) and cough and/or sore throat, in the absence of a known cause.
- Influenza outbreaks:** In a congregate living setting, outbreaks are defined as at least one laboratory-confirmed influenza in the setting of a cluster ( $\geq 2$  cases) of influenza-like illness (ILI) within a 72-hour period. Influenza outbreaks are reportable in California. Epidemiology identifies outbreaks when facilities call to report. Other potential outbreaks are identified when multiple cases share an address or have a residential address that matches a skilled nursing or long-term care facility.
- Number of vaccines:** The San Diego Immunization Registry (SDIR) provides weekly updates on the number of flu vaccinations given based on the number of flu vaccinations registered by participating providers.

The purpose of the weekly *Influenza Watch* is to summarize current influenza surveillance in San Diego County.

**Please note that reported weekly data are preliminary and may change due to delayed submissions and additional laboratory results.**