Summary of the 2017-2018 Influenza Season

Note: See Frequently Asked Flu Questions for 2018-2019 Influenza Season for flu and flu vaccine information specific to the current flu season.

Season Summary Reports

- Seasonal Influenza Vaccine Effectiveness, 2017-2018
- Vaccine Benefits from the 2017 – 2018 Flu Season
- Vaccine Coverage in U.S. 2017-2018 Flu Season

What was the 2017-2018 flu season like?

The 2017-2018 influenza season was a high severity season with high levels of outpatient clinic and emergency department visits for influenza-like illness (ILI), high influenza-related hospitalization rates, and elevated and geographically widespread influenza activity for an extended period. In 2017, CDC began using new methodology to classify seasonal severity and applied the methodology to the 2003-2004 through 2016-2017 seasons. The 2017-18 season was the first season to be classified as a high severity across all age groups.

When did the 2017-2018 flu season peak?

During the 2017-2018 season, influenza-like-illness (ILI) activity began to increase in November, reaching an extended period of high activity during January and February nationally, and remained elevated through the end of March. ILI peaked at 7.5%, the highest percentage since the 2009 flu pandemic, which peaked at 7.7%. Influenza-like illness (ILI) was at or above the national baseline for 19 weeks, making the 2017-2018 season one of the longest in recent years.

For more information, see the MMWR: 2017-18 Influenza Activity Update or visit FluView Interactive.

How many people died from flu during the 2017-2018 season?

While flu deaths in children are reported to CDC, flu deaths in adults are not nationally notifiable. In order to monitor influenza related deaths in all age groups, CDC tracks pneumonia and influenza (P&I)-attributed deaths through the National Center for Health Statistics (NCHS) Mortality Reporting System. This system tracks the proportion of death certificates processed that list pneumonia or influenza as the underlying or contributing cause of death. This system provides an overall indication of whether flu-associated deaths are elevated, but does not provide an exact number of how many people died from flu.

During the 2017-2018 season, the percentage of deaths attributed to pneumonia and influenza (P&I) was at or above the epidemic threshold for 16 consecutive weeks. During the past five seasons, the average number of weeks this indicator was above threshold was 11 (range of 7 to 15 weeks). Nationally, mortality attributed to P&I exceeded 10.0% for four consecutive weeks, peaking at 10.8% during the week ending January 20, 2018.

As it does for the numbers of flu cases, doctor's visits and hospitalizations, CDC also estimates deaths in the United States using mathematical modeling. CDC estimates that from 2010-2011 to 2013-2014, influenza-associated deaths in the United States ranged from a low of 12,000 (during 2011-2012) to a high of 56,000 (during 2012-2013). Death certificate data and weekly influenza virus surveillance information was used to estimate how many flu-related deaths occurred among people whose underlying cause of death on their death certificate included respiratory or circulatory causes. For more information, see Estimating Seasonal Influenza-Associated Deaths in the United States and CDC's Disease Burden of Influenza page.

For more information, see Overview of Influenza Surveillance in the United States, "Mortality Surveillance."

How many children died from flu during the 2017-2018 season?

As of April 19, 2019, a total of 186 pediatric deaths had been reported to CDC during the 2017-2018 season. This number exceeds the previously highest number of flu-associated deaths in children reported during a regular flu season (171 during the 2012-2013 season). Approximately 80% of these deaths occurred in children who had not received a flu vaccination this season. For the most recent data and more information visit FluView: Influenza-Associated Pediatric Mortality.

Since flu-associated deaths in children became a nationally notifiable condition in 2004, the total number of flu-associated deaths among children during one season has ranged from 37 (during the 2011-2012 season) to 186 (during the 2017-18 season, as of April 19, 2019); this excludes the 2009 pandemic, when 358 pediatric deaths from April 15, 2009 through October 2, 2010 were reported to CDC.

How many people were hospitalized from flu during the 2017-2018 season?

From October 1, 2017 through April 28, 2018, 30,453 laboratory-confirmed influenza-related hospitalizations were reported through the Influenza Hospitalization Surveillance Network (FluSurv-NET), which covers approximately 9% of the U.S. population. People 65 years and older accounted for approximately 58% of reported influenza-associated hospitalizations. Overall hospitalization rates (all ages) during 2017-2018 were the highest ever recorded in this surveillance system, breaking the previously recorded high recorded during 2014-2015; a high severity H3N2-predominant season when CDC estimates that hospitalizations captured through FluSurv-NET translated into a total of 710,000 flu hospitalizations that seasons. (For more information on these estimates, see CDC's Disease Burden of Influenza page.) Estimates on the total number of flu-related hospitalizations during 2017-2018 will be available in fall 2018.

What flu viruses circulated during the 2017-2018 season?

Influenza A(H3N2) viruses predominated overall during the 2017-2018 season. However, influenza B viruses became more commonly reported than influenza A viruses in early March 2018 through May 2018.

How much flu vaccine was produced and distributed during the 2017-2018 season?

Flu vaccine is produced by private manufacturers, so supply depends on manufacturers. For the 2017-2018 season, manufacturers originally projected they would provide between 151 million and 166 million doses of injectable vaccine for the U.S. market. As of February 23, 2018, manufacturers reported having shipped approximately 155.3 million doses of flu vaccine; a record number of flu vaccine doses distributed. More information about flu vaccine supply is available at Seasonal Influenza Vaccine Supply & Distribution.

How effective was the 2017-2018 flu vaccine?

The overall vaccine effectiveness (VE) of the 2017-2018 flu vaccine against both influenza A and B viruses is estimated to be 40%. This means the flu vaccine reduced a person's overall risk of having to seek medical care at a doctor's office for flu illness by 40%. Protection by virus type and subtype was: 25% against A(H3N2), 65% against A(H1N1) and 49% against influenza B viruses. These VE estimates were presented to the Advisory Committee on Immunization Practices on June 20, 2018.

While flu vaccine can vary in how well it works, flu vaccination is the best way to prevent flu and its potentially serious complications and prevents millions of flu illnesses and related doctors' visits and tens of thousands of hospitalizations. For example, during the 2016–2017 influenza season, CDC estimates that flu vaccine prevented an estimated 5.3 million illnesses, 2.6 million medical visits, and 85,000 hospitalizations associated with influenza. Similar estimates for 2017-2018 will be released in fall 2018. Influenza vaccination also has been shown to reduce the risk of flu death in children.

For more information about previous vaccine effectiveness, visit How Well Does the Seasonal Flu Vaccine Work?.

Was this season's flu vaccine a good match for circulating viruses?

Yes. The majority of the influenza viruses collected from the United States during the 2017-2018 flu season were characterized antigenically and genetically as being similar to the cell-grown reference viruses representing the 2017–18 Northern Hemisphere influenza vaccine viruses.

How many antiviral resistant viruses were detected during the 2017-2018 season?

Antiviral resistance means that a virus has changed in such a way that antiviral drugs are less effective or not effective at all in treating or preventing illnesses with that virus. Since October 1, 2017, CDC tested 1,147 influenza A(H1N1)pdm09, 2,354 influenza A(H3N2), and 1,118 influenza B viruses for resistance to antiviral medications (i.e., oseltamivir, zanamivir, or peramivir). While the majority of the tested viruses showed susceptibility to the antiviral drugs, 11 (1.0%) H1N1pdm09 viruses were resistant to both oseltamivir and peramivir, but were sensitive to zanamivir. These results indicate that these antiviral drugs continue to be recommended treatment options for illness caused by currently circulating influenza viruses.

Publications

Morbidity and Mortality Weekly Reports (*MMWR*)

- Update: Influenza Activity in the United States During the 2017–18 Season and Composition of the 2018–19 Influenza Vaccine
- Update: ACIP Recommendations for the Use of Quadrivalent Live Attenuated Influenza Vaccine (LAIV4) — United States, 2018–19 Influenza Season
- Health Advisory: Seasonal Influenza A(H3N2) Activity and Antiviral Treatment of Patients with Influenza
- Update: Influenza Activity — United States, October 1–November 25, 2017
- Update: Influenza Activity — United States and Worldwide
- Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices — United States, 2017–18 Influenza Season

CDC Flu Reports & Spotlights

- CDC Grand Rounds: Public Health Response to Severe Influenza
- Study Shows Flu Vaccine Reduces Risk of Severe Illness August 1, 2018
- Influenza Division Staff Win Two Charles C. Shepard Awards June 14, 2018
- CDC Reported Flu Deaths in Children Exceeds Seasonal High June 8, 2018
- Influenza A (H1N2) Reassortant Infection in the Netherlands March 29, 2018
- Study of Flu-Related Deaths in Children Shows Healthy Children at Risk February 12, 2018
- Seasonal Flu Death Estimate Increases Worldwide December 13, 2017
- CDC Releases Educational Materials for Teachers for Use with “Junior Disease Detectives: Operation Outbreak” Graphic Novel August 17, 2018

Media Reports

- Transcript for CDC Update on Widespread Flu Activity
- Transcript for CDC Update on Flu Activity
- Transcript for CDC Telebriefing Update on Widespread Flu Activity

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