

Influenza (Flu)



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2022-2023 U.S. Flu Season: Preliminary In-Season Burden Estimates

CDC estimates* that, from October 1, 2022 through March 18, 2023, there have been:

26 – 52 million
flu **illnesses**



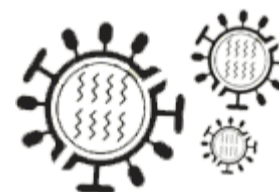
12 – 25 million
flu **medical visits**



290,000 – 630,000
flu **hospitalizations**



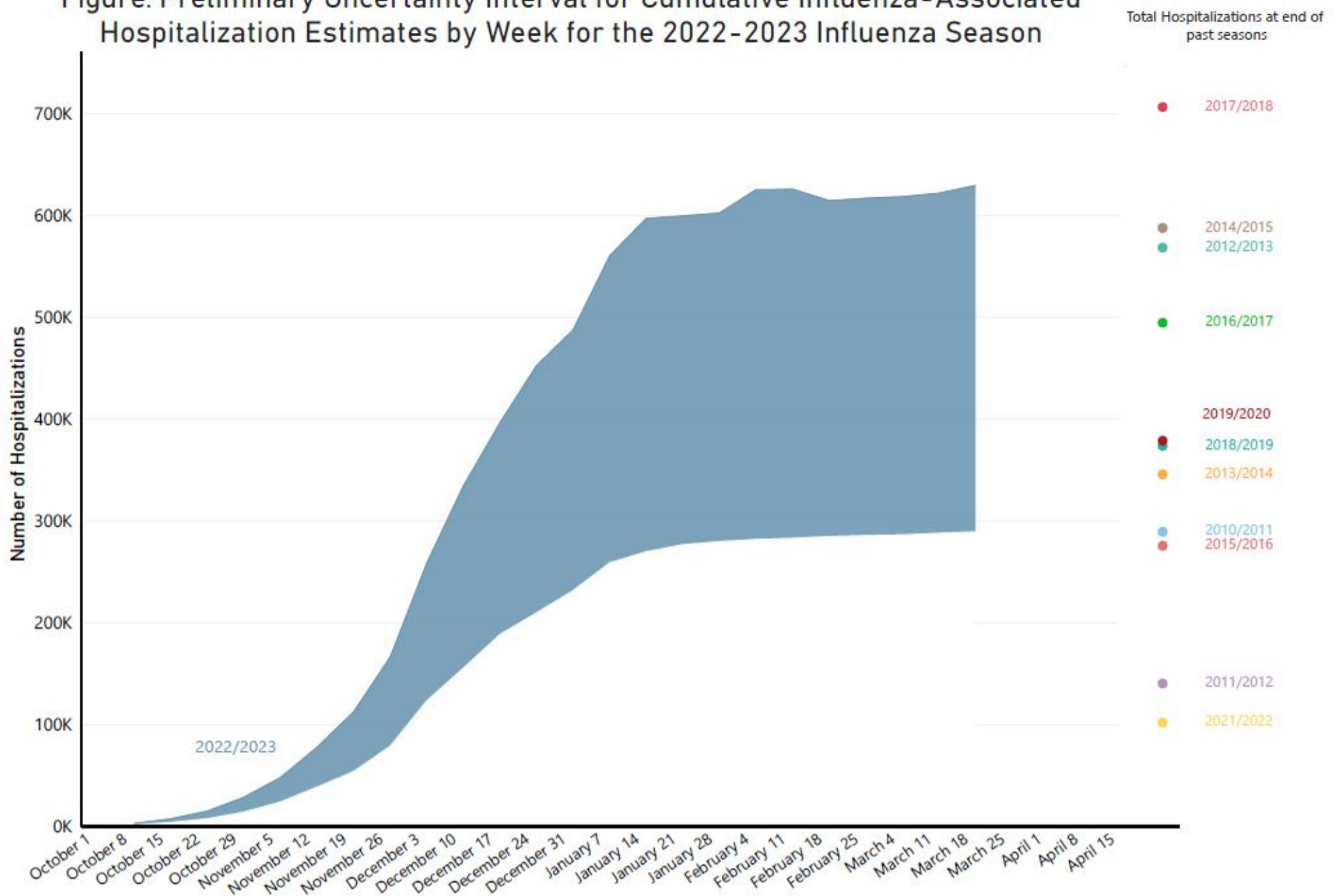
18,000 – 56,000
flu **deaths**



*Because influenza surveillance does not capture all cases of flu that occur in the U.S., CDC provides these estimated ranges to better reflect the larger burden of influenza. These estimates are calculated based on data collected through CDC's Influenza Hospitalization Surveillance Network (FluSurv-NET) and are **preliminary**.

This web page provides weekly, preliminary estimates of the cumulative in-season numbers of flu illnesses, medical visits, hospitalizations, and deaths in the United States. CDC does not know the exact number of people who have been sick and affected by influenza because influenza is not a reportable disease in most areas of the United States. However, CDC has estimated the burden of flu since 2010 using a mathematical model that is based on data collected through the [Influenza Hospitalization Surveillance Network \(FluSurv-NET\)](#), a network that covers approximately 9% of the U.S. population.

Figure: Preliminary Uncertainty Interval for Cumulative Influenza-Associated Hospitalization Estimates by Week for the 2022-2023 Influenza Season



Limitations

The estimates of the preliminary, cumulative burden of seasonal influenza are subject to several limitations.

First, the cumulative rate of lab-confirmed flu-related hospitalizations reported during the season may be an underestimate of the rate at the end of the season because of identification and reporting delays.

Second, rates of lab-confirmed flu-related hospitalizations were adjusted for the frequency of flu testing and the sensitivity of flu diagnostic assays. However, data on testing practices during the current flu season are not available in real-time. To make these estimates, CDC uses data on testing practices from the past flu seasons as a proxy. If more testing is being done compared to past flu seasons, these estimates may be inflated. Preliminary in-season burden estimates are finalized when data on contemporary testing practices become available, and the estimates may decrease if testing has increased. During the ongoing COVID-19 pandemic, testing may be higher and it is possible these estimates will be higher than our final estimates.

Third, estimates medical visits for flu-like illnesses are based on data from prior seasons, which may not be accurate if the severity of illness or patterns of care-seeking have changed.

Frequently Asked Questions

What is cumulative burden of flu?

CDC does not know the exact number of people who have been sick and affected by flu because flu is not a reportable disease in most areas of the United States. However, these numbers are estimated using a mathematical model, based on observed rates of lab-confirmed. The cumulative burden of flu is an estimate of the number of people who have been sick, seen a healthcare provider, been hospitalized, or died as a result of flu within a certain timeframe. The **in-season** preliminary

burden estimates are provided weekly during flu season when sufficient data are available to make an estimate, and **end-of-season** preliminary estimates are given at the end of each flu season. End-of-season preliminary estimates will be updated year-to-year and are considered final when all data are available (used to calculate these estimates are on a two-year delay).

How does CDC estimate the cumulative burden of seasonal flu?

Preliminary estimates of the cumulative burden of seasonal flu are based on crude rates of lab-confirmed flu-related hospitalizations, reported through the [Influenza Hospitalization Surveillance Network \(FluSurv-NET\)](#), which are adjusted for the frequency of flu testing during recent prior seasons and the sensitivity of flu diagnostic tests. Rates of hospitalization are then multiplied by previously estimated ratio of hospitalizations to symptomatic illnesses, and frequency of seeking medical care to calculate symptomatic illnesses, medical visits, hospitalizations, and deaths associated with seasonal flu, respectively.

Why does the preliminary, in-season estimate of flu burden change each week?

The in-season estimates of flu burden are preliminary and change week-by-week as new flu hospitalizations are reported to CDC. New reports include both new admissions that have occurred during the reporting week and also patients admitted in previous weeks that have been newly reported to CDC.

How does the number of flu hospitalizations estimated so far this season compare with previous end-of-season hospitalization estimates?

The estimates on this page are preliminary, cumulative and will increase as the season progresses. Past end-of-season estimates (2010-2020) have ranged from 140,000-710,000 and are available [here](#).

What was the estimated burden for 2021-2022?

Since the emergence of SARS-CoV-2, influenza activity has been lower than observed before the pandemic. Compared with influenza seasons prior to the pandemic, the 2021–2022 influenza season was mild and occurred in two waves, with a higher number of hospitalizations in the second wave. During the 2021-2022 influenza season, CDC estimates that influenza was associated with 9 million illnesses, 4 million medical visits, 10,000 hospitalizations, and 5,000 deaths. The influenza burden was similar to the burden observed during the 2011-2012 season.

More information on the 2021-2022 flu season burden estimates is available [here](#).

For information about the estimated burden of COVID-19, visit: [Estimated COVID-19 Burden | CDC](#).

Last Reviewed: March 24, 2023