

Influenza (Flu)



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Preliminary Estimated Influenza-Related Illnesses, Medical Visits, Hospitalizations, and Deaths in the United States – 2021-2022 Influenza Season

Note: The burden estimates on this page have been updated from the preliminary estimates reported in October 2022 based on the availability of additional data. More information on [why preliminary flu burden estimates change](#) is available below.

The overall burden of influenza (flu) for the 2021-2022 season was an estimated **9.4 million** flu illnesses, **4.3 million** flu-related medical visits, **100,000** flu-related hospitalizations, and **4,900** flu deaths ([Table 1](#)).

For the past several years, CDC has used a mathematical model to estimate the numbers of influenza illnesses, medical visits, hospitalizations, and deaths ([1-4](#)). The methods used to calculate the estimates have been described previously ([1-2](#)). CDC uses the estimates of the burden of flu in the population to inform policy and communications related to influenza prevention and control.

2021–2022 Burden Estimates

Since the emergence of SARS-CoV-2, influenza activity has been lower than observed before the pandemic. Compared with influenza seasons prior to pandemic, the 2021–2022 influenza season was mild and occurred in two waves, with a higher number of hospitalizations in the second wave. Influenza activity in the United States during the 2021–2022 season began to increase in November, declined in January 2022, increased again in March 2022 and remained elevated until mid-June 2022. The season was characterized by two distinct waves and predominately influenza A virus circulation. Overall, influenza A(H3N2) viruses were the most commonly detected influenza viruses this season. The 2021-22 season is described as having low severity^{**}; however, the effect of influenza differed by age group and the severity of the season in some age groups was higher– hospitalization rates among older adults aged ≥ 65 years old were higher compared with other age groups ([5](#)).

CDC estimates that the burden of illness during the 2021–2022 season was low with an estimated 9.4 million people sick with flu, 4.3 million visits to a health care provider for flu, 100,000 hospitalizations for flu, and 4,900 flu deaths ([Table 1](#)). The number of cases of influenza-associated illness, medically attended illnesses, hospitalizations, and deaths were the lowest since the 2011-2012 season which was the first full season following the influenza A(H1N1)pdm09 pandemic ([6](#)). Adoption of mitigation measures intended to prevent the spread of COVID-19 may have also impacted the timing or severity of influenza activity during the 2021-2022 season.

CDC's estimates of hospitalizations and mortality associated with the 2021–2022 influenza season show that despite the co-circulation of SARS-CoV-2 and other respiratory viruses, influenza viruses do still cause severe disease and death. Older adults accounted for 84% of deaths, which is similar to recent seasons before the COVID-19 pandemic. These findings continue to highlight the fact that older adults are particularly vulnerable to severe disease with influenza virus infection and that influenza prevention measures such as vaccination are important to reducing the impact of the seasonal epidemics on the population and healthcare system.

Deaths in children with laboratory-confirmed influenza virus infection have been a reportable disease in the United States since 2004; 49 deaths were [reported](#) for the 2021-22 season as of October 31, 2023. Although it is possible that reported deaths may under-estimate the true number of deaths for this age group, no deaths in children (aged <18 years) were

observed through the Influenza Hospital Surveillance Network ([FluSurv-NET](#)) during the 2021-2022 influenza season. As a result, it was not possible to estimate deaths in this age group.

Conclusion

During the 2021-2022 influenza season, CDC estimates that influenza was associated with 9.4 million illnesses, 4.3 million medical visits, 100,000 hospitalizations, and 4,900 deaths. The influenza burden was similar to the burden observed during the 2011-2012 season.

Why did the estimates for the 2021-2022 flu season change compared with previous estimates for this season?

CDC's model used to estimate the burden of flu includes information collected about flu testing practices and vital records death data. Because current testing and death data were not available at the time of estimation (it takes approximately two years to finalize information on flu testing practices), the estimates that were previously published on the CDC website were made using testing information from prior flu seasons.

The 2021-2022 burden estimates are still preliminary and may change as more information for the season becomes available.

More information on [How CDC Estimates Flu Burden](#) is available, as well as answers to [frequently asked questions about CDC's flu burden estimates](#).

Burden Estimates Limitations

These estimates are subject to some [limitations](#).

Tables

Table 1: Estimated influenza disease burden, by age group — United States, 2021-2022 influenza season*

Age group	Symptomatic Illnesses		Medical Visits		Hospitalizations		Deaths	
	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†
0-4 yrs	897,024	(644,495, 2,043,278)	601,006	(423,008, 1,374,413)	6,254	(4,493, 14,245)	0	(0, 0)
5-17 yrs	2,746,026	(1,875,516, 7,163,044)	1,427,934	(951,166, 3,734,515)	7,529	(5,142, 19,640)	0	(0, 0)
18-49 yrs	3,766,312	(2,721,194, 6,854,286)	1,393,536	(969,629, 2,578,530)	21,140	(15,274, 38,473)	99	(0, 314)
50-64 yrs	1,506,298	(1,120,626, 2,752,445)	647,708	(461,076, 1,203,877)	15,974	(11,884, 29,189)	763	(362, 1,583)
65+ yrs	581,594	(396,511, 1,464,150)	325,693	(216,022, 813,240)	52,872	(36,046, 133,105)	4,115	(3,233, 23,566)

	Symptomatic Illnesses		Medical Visits		Hospitalizations		Deaths	
Age group	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†
All ages	9,497,254	(7,872,627, 15,347,668)	4,395,876	(3,622,500, 7,228,190)	103,769	(83,895, 189,882)	4,977	(4,027, 24,558)

Table 2: Estimated rates of influenza-associated disease outcomes, per 100,000, by age group — United States, 2021-2022 influenza season*

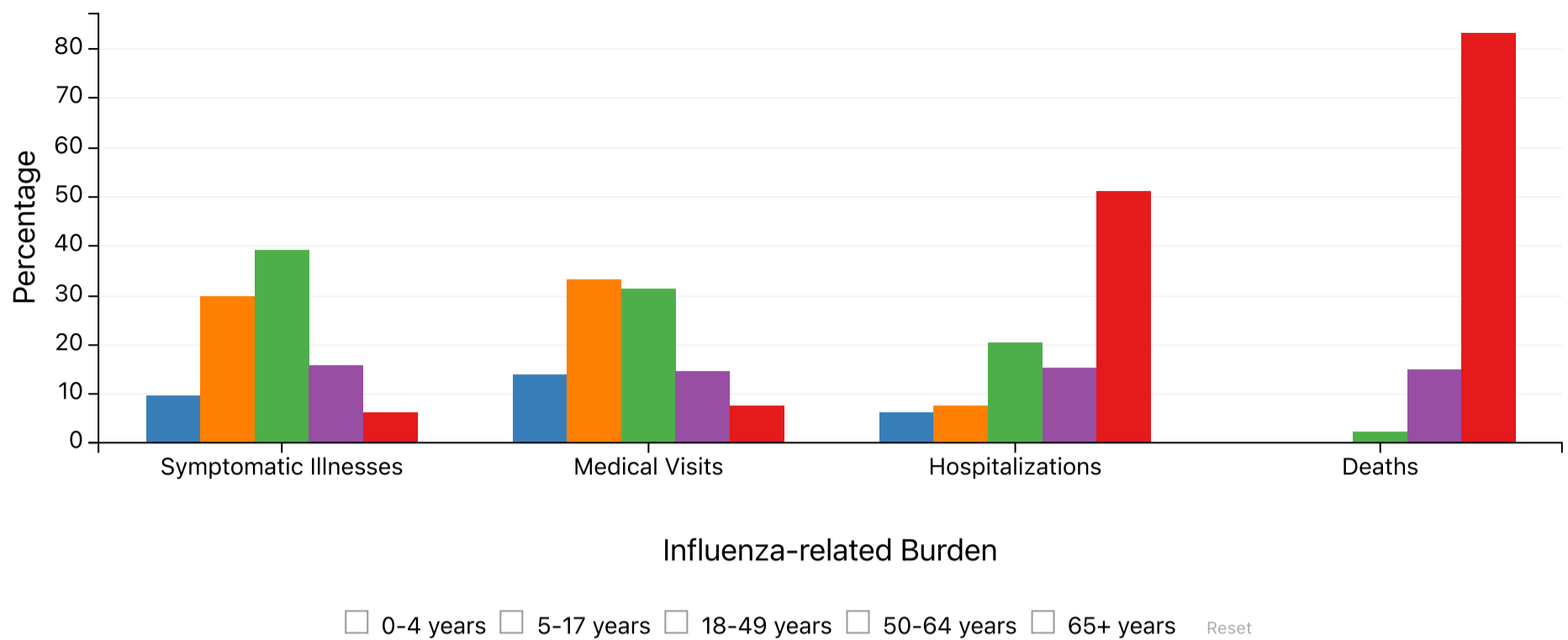
	Illness rate		Medical visit rate		Hospitalization rate		Mortality rate	
Age group	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†	Estimate	95% UI†
0-4 yrs	4,764.50	(3,423.2, 10,852.7)	3,192.20	(2,246.8, 7,300.1)	33.2	(23.9, 75.7)	0	(0.0, 0.0)
5-17 yrs	5,016.60	(3,426.3, 13,085.8)	2,608.60	(1,737.6, 6,822.4)	13.8	(9.4, 35.9)	0	(0.0, 0.0)
18-49 yrs	2,714.10	(1,960.9, 4,939.3)	1,004.20	(698.7, 1,858.1)	15.2	(11.0, 27.7)	0.1	(0.0, 0.2)
50-64 yrs	2,364.30	(1,758.9, 4,320.3)	1,016.70	(723.7, 1,889.6)	25.1	(18.7, 45.8)	1.2	(0.6, 2.5)
65+ yrs	1,041.40	(710.0, 2,621.7)	583.2	(386.8, 1,456.2)	94.7	(64.5, 238.3)	7.4	(5.8, 42.2)

*Some of the data used to calculate burden estimates are incomplete or not yet available. These estimates will change as those data become available and the estimates are updated.

**No pediatric deaths were reported in the surveillance system used to estimate the flu death burden; thus, our model was unable to estimate any pediatric deaths due to flu during the 2021-22 season [the Influenza Hospital Surveillance Network ([FluSurv-NET](#))]. However, 49 pediatric deaths (as of October 31, 2023) were reported through a different surveillance system for reporting of pediatric deaths due to flu ([the Influenza-associated Pediatric Mortality Surveillance System](#)).

†Uncertainty interval: Adjusted estimates are presented in two parts: an uncertainty interval [UI] and a point estimate. The uncertainty interval provides a range in which the true number or rate of flu illnesses, medical visits, hospitalizations, or deaths would be expected to fall if the same study was repeated many times, and it gives an idea of the precision of the point estimate. A 95% uncertainty interval means that if the study were repeated 100 times, then 95 out of 100 times the uncertainty interval would contain the true point estimate. Conversely, in only 5 times out of a 100 would the uncertainty interval not contain the true point estimate.

Percentage of Influenza-related illnesses, medical visits, hospitalizations, and deaths by age group, 2021-2022 Influenza Season



Data Table

	Symptomatic Illnesses	Medical Visits	Hospitalizations	Deaths
0-4 years	9.6	13.8	6.1	0
5-17 years	29.6	33.1	7.4	0
18-49 years	39.1	31.2	20.2	2.2
50-64 years	15.6	14.5	15.2	14.9
65+ years	6.1	7.4	51	83

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