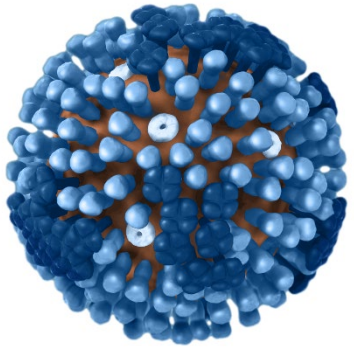
Severity, Disease Burden, and Prevented Burden for the 2024-2025 Influenza Season

Influenza Division, CDC

2024-2025 Influenza Season News



The Guardian US

At least 216 children died in first high-severity US flu season in seven years, CDC says

Number of child deaths is highest in 15 years and cumulative hospitalization rate is highest since 2010-2011

TIME

HEALTH • DISEASE

This Is One of the Worst Flu Seasons in Decades

MARCH 6, 2025 | 3 MIN READ

SCI AM

Why This Year's Flu Season Is the Worst in More Than a Decade

Outpatient flu visits and hospitalizations are higher than at any time in the past 15 years

BY TANYA LEWIS EDITED BY DEAN VISSER

The New York Times

Flu Killed 25 Children in New York This Season, the Most in Many Years

Amid declining vaccination rates, the 2024-25 influenza season exacted a heavy toll, with 216 pediatric deaths nationwide.

Why is the flu so bad this year?

NBC NEWS

Experts cite several factors, including the strains in circulation, vaccination rates and possible waning immunity from masking and social distancing during the Covid pandemic.

In-Season Flu Severity Assessment for the 2024-2025 Season

In-Season Flu Severity Assessment | In-Season Flu Severity Indicators | **Weekly In-Season Flu Severity Indicators**

Preliminary* 2024-2025 Severity Assessments (October 1, 2024, through May 17, 2025):

Percent of Influenza-like Illness Visits out of All Outpatient Visits, all ages

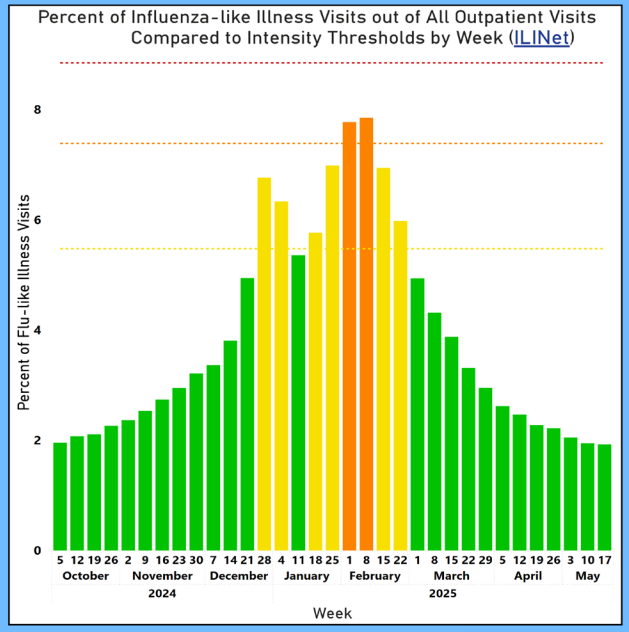
High — **7.9%** Peak Week Value ILINet

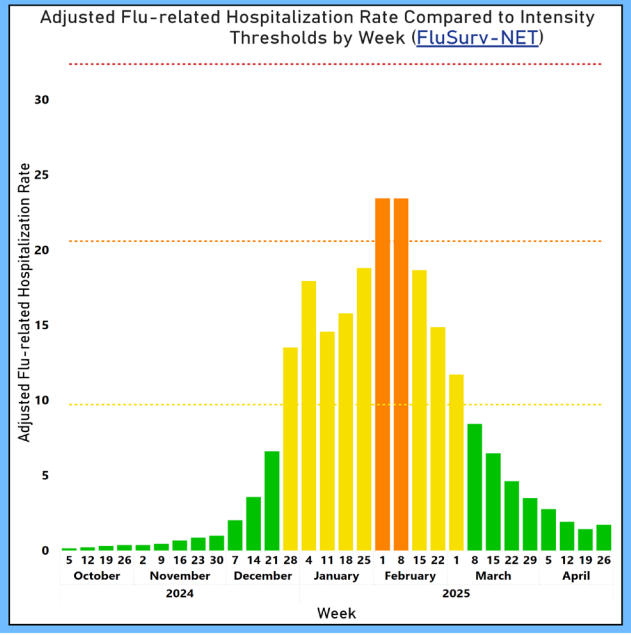
Adjusted Flu-related Hospitalization Rate, all ages

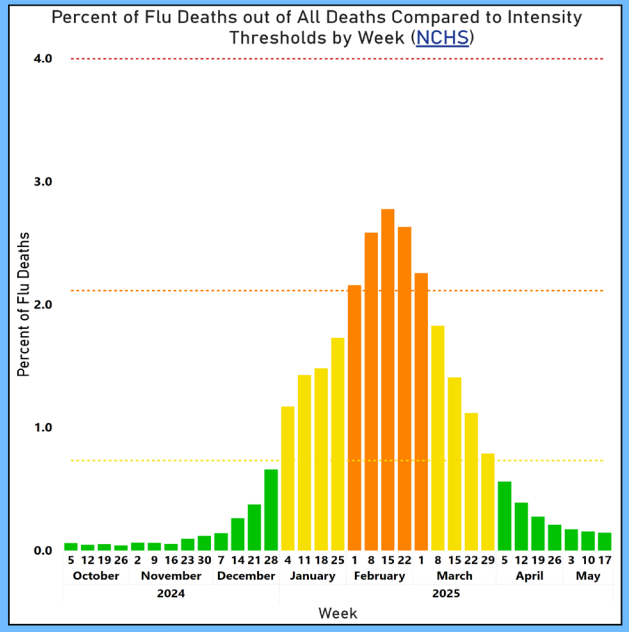
High — **23.4**/100,000 Peak Week Value FluSurv-NET

Percent of Flu Deaths out of All Deaths, all ages

High — **2.8%** Peak Week Value NCHS







Low Severity | Moderate Severity | High Severity | Very High Severity

*In-season severity assessments are preliminary because the season is ongoing and influenza viruses continue to circulate. As the season progresses, severity will continue to be assessed and the classification may change. These data are also subject to revision as weekly data may not be complete due to reporting delays and backfill.

Information on intensity thresholds and classifying the severity of flu seasons can be found here: How CDC Classifies Flu Severity | CDC

All source data can be downloaded here: Weekly U.S. Influenza Surveillance Report | CDC

Influenza Severity Assessment by Season and by Age Group

	Severity Classification by Age Group			
Influenza Season*	**0-17 years**	**18-64 years**	**≥65 years**	**All Ages**
2009-2010	Very High	Moderate	Low	Moderate
2010-2011	Moderate	Moderate	Moderate	Moderate
2011-2012	Low	Low	Low	Low
2012-2013	Moderate	Moderate	High	Moderate
2013-2014	Moderate	Moderate	Moderate	Moderate
2014-2015	Moderate	Moderate	High	High
2015-2016	Low	Moderate	Low	Moderate
2016-2017	Moderate	Moderate	Moderate	Moderate
2017-2018	High	High	High	High
2018-2019	Moderate	Moderate	Moderate	Moderate
2019-2020	High	High	Moderate	Moderate
2021-2022	Low	Low	Low	Low
2022-2023	High	Moderate	Moderate	Moderate
2023-2024	Moderate	Moderate	Moderate	Moderate
2024-2025	High	High	High	High

*Severity assessment was not completed for 2020-2021 season because of minimal influenza activity

Influenza Disease Burden Estimation

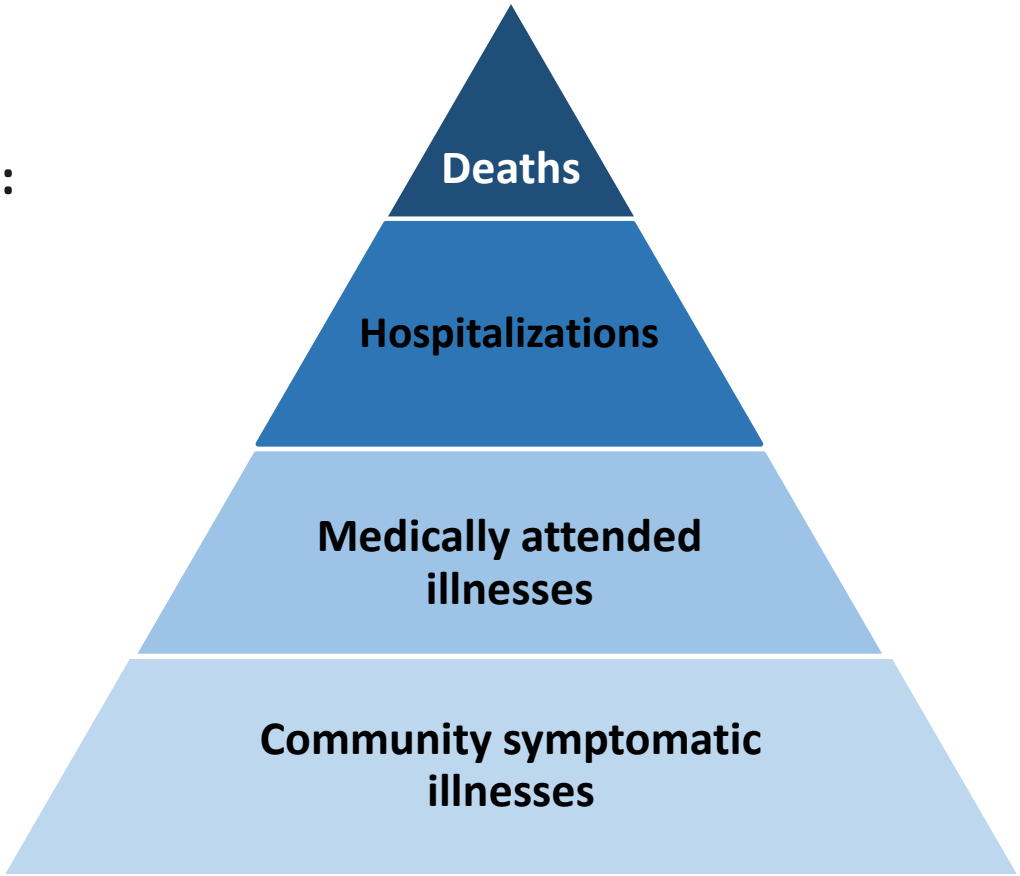
Why it is necessary to estimate influenza disease burden

- **Influenza is not a notifiable, reportable disease in the U.S.**
  - Except for pediatric deaths
- **Sentinel surveillance systems in healthcare settings cannot capture all influenza virus infections**
- **Not everyone who is ill seeks medical care**
- **Not everyone who seek medical care will be tested for influenza**
- **Even if someone with influenza seeks care and is tested, depending on where in the course of an illness and type of specimen collected, they may test negative**
- **Influenza symptoms are non-specific and individuals could be misdiagnosed with having a different respiratory illness especially when not tested**

https://www.cdc.gov/flu-burden/php/about/why-cdc-estimates.html

U.S. Annual Influenza Burden Estimates

- **Disease burden is estimated by clinical disease severity**
- **Calculated using five age groups:**
  - 0-4 years
  - 5-17 years
  - 18-49 years
  - 50-64 years
  - 65+ years



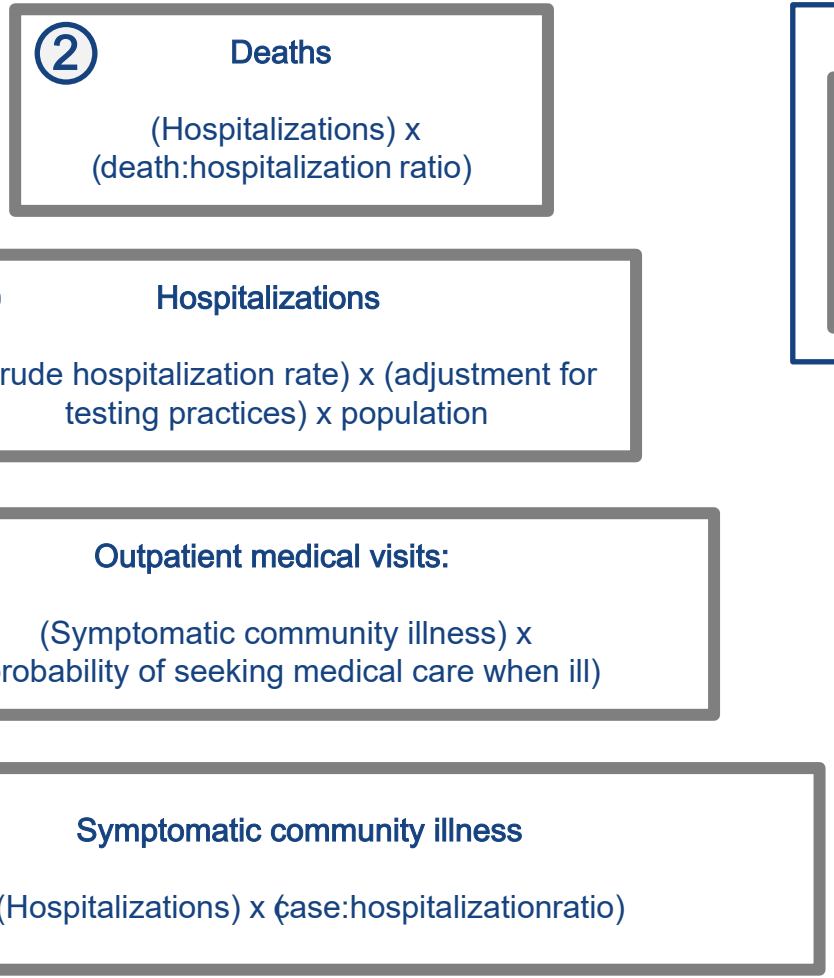
Data Source

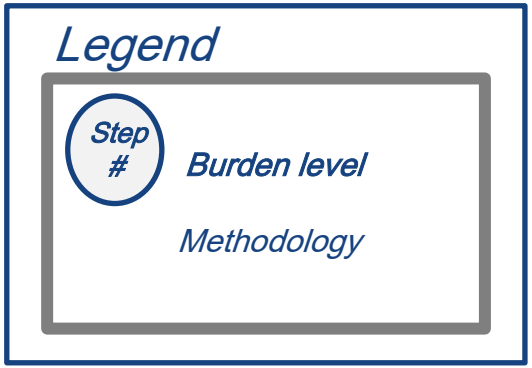
Cause of death from death certificate, risk of death when hospitalized, and location of death (in vs. out of hospital (ref 1)

Routine sentinel surveillance for patients hospitalized with laboratory-confirmed influenza and data from a survey of influenza testing practices at sentinel hospitals (ref 1)

Telephone survey of healthcare-seeking behavior during influenza-like illness (ref 3)

Field investigations of influenza (ref 2)



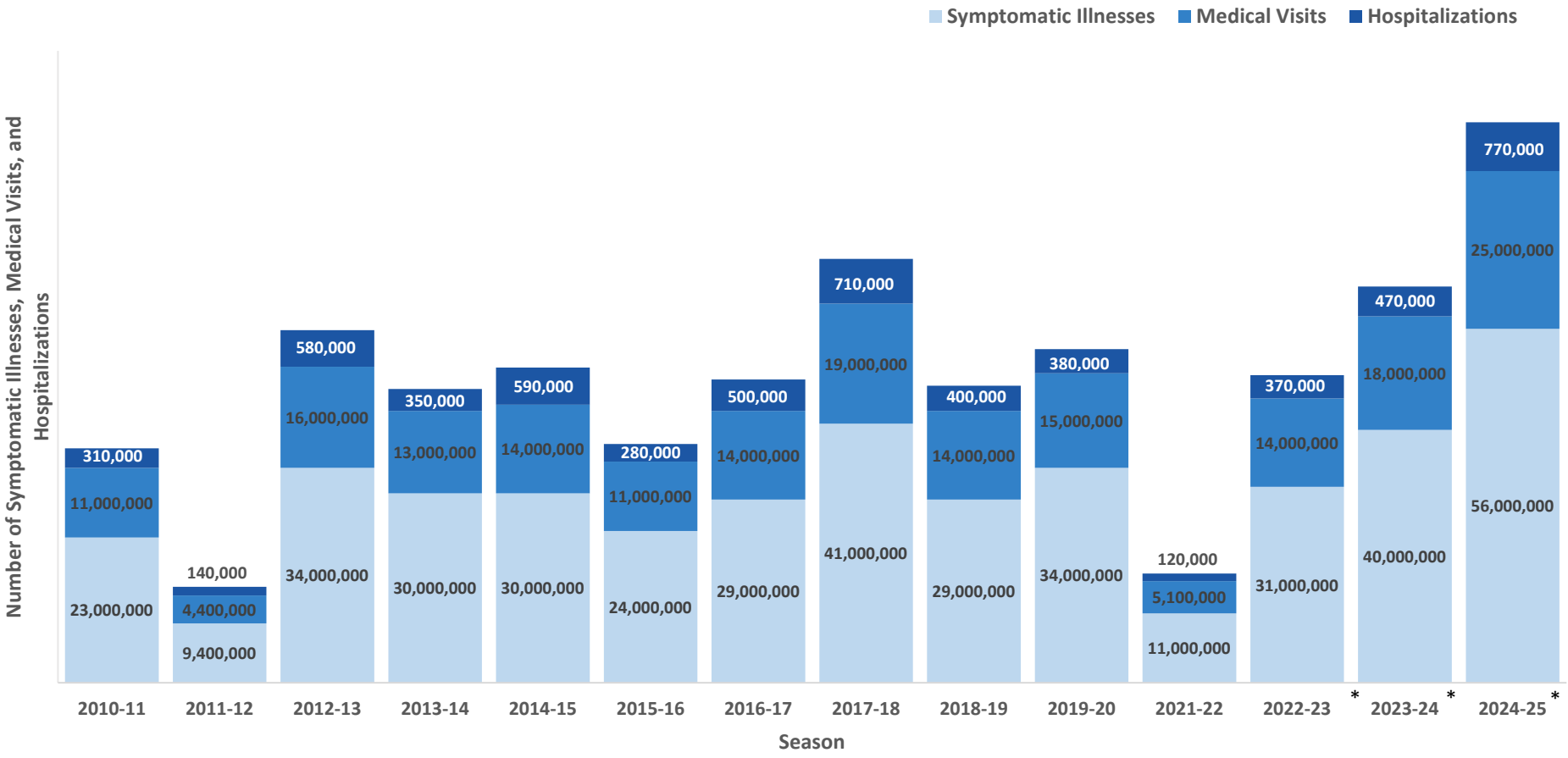


1: Reed, et al., *PLoSOne* 2015
2: Reed, et al., *EID* 2009
3: Biggerstaff, et al., *AJPH* 2012

Preliminary Influenza Disease Burden, 2024-2025 by Age Group

Age Group	Symptomatic Illnesses (95% Uncertainty Interval)	Medically Attended Illnesses (95% Uncertainty Interval)	Hospitalizations (95% Uncertainty Interval)
0-4 years	**3,600,000** (2,900,000, 5,800,000)	**2,400,000** (1,800,000, 4,000,000)	**25,000** (20,000, 40,000)
5-17 years	**11,000,000** (8,600,000, 24,000,000)	**5,800,000** (4,100,000, 12,000,000)	**31,000** (24,000, 65,000)
18-49 years	**22,000,000** (16,000,000, 38,000,000)	**8,100,000** (5,300,000, 14,000,000)	**120,000** (91,000, 210,000)
50-64 years	**14,000,000** (10,000,000, 31,000,000)	**6,000,000** (3,700,000, 13,000,000)	**150,000** (110,000, 320,000)
⩾65 years	**4,900,000** (3,400,000, 11,000,000)	**2,700,000** (1,700,000, 6,200,000)	**440,000** (310,000, 990,000)
Total	**56,000,000** (47,000,000, 83,000,000)	**25,000,000** (20,000,000, 38,000,000)	**770,000** (620,000, 1,400,000)

Influenza Disease Burden Varied by Season



*Preliminary Estimates

Influenza Vaccine Prevented Influenza Disease Burden Estimation

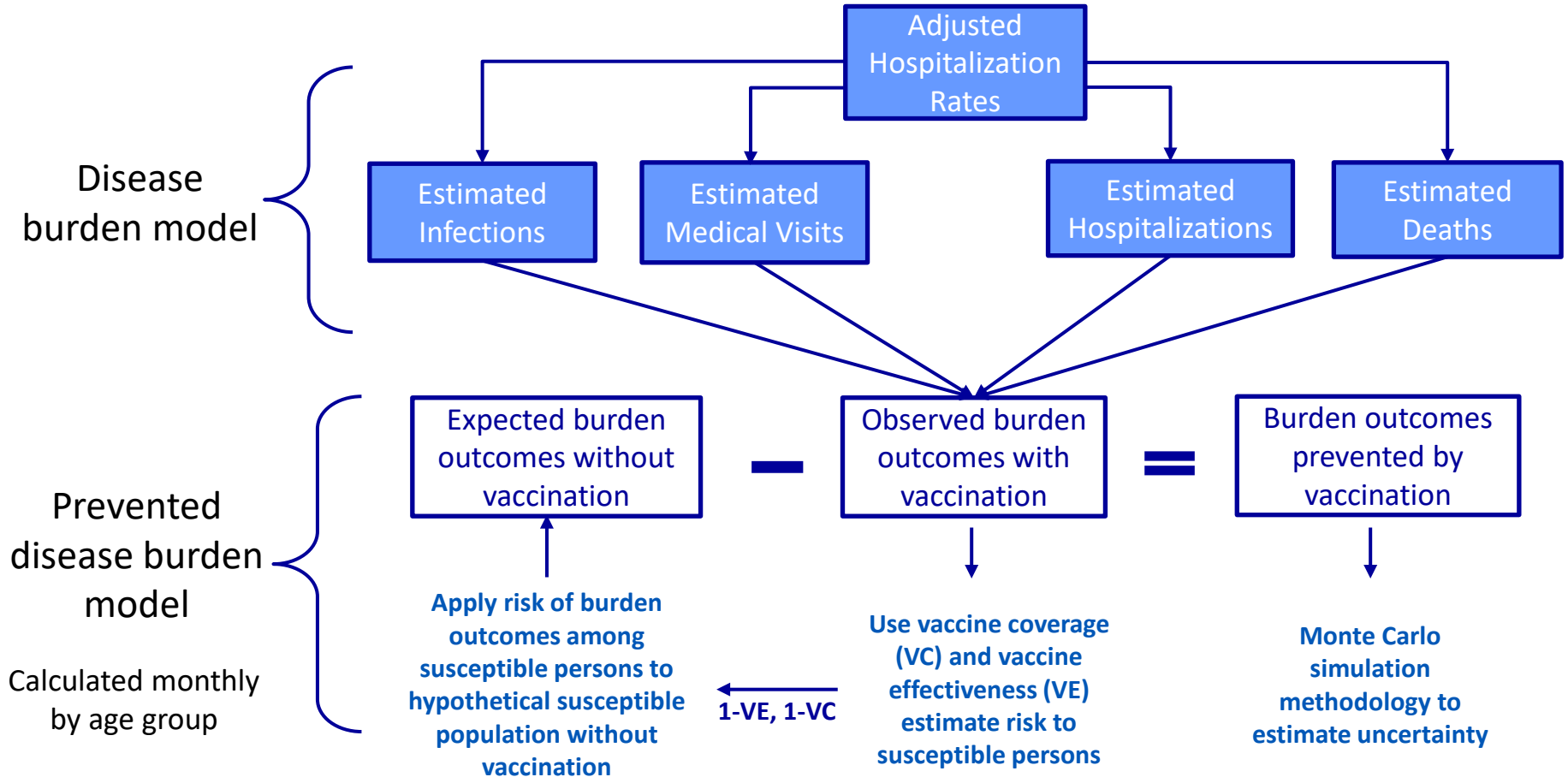
Influenza Vaccine Prevented Disease Burden Components

Disease Burden	Vaccine Coverage	Vaccine Effectiveness
56 million illnesses 25 million medical visits 770,000 hospitalizations	 35–71% (Varies by age group)	Outpatient  38–56% (Varies by age group and flu type) Inpatient  39–62% (Varies by age group and flu type)

Data Sources: Vaccine Coverage: NIS-FLU, BRFSS; Outpatient VE estimates: VE Network, NVSN, VISION Network; Inpatient VE estimates: NVSN, VISION Network, IVY

https://www.cdc.gov/flu-burden/php/about-burden-prevented/index.html

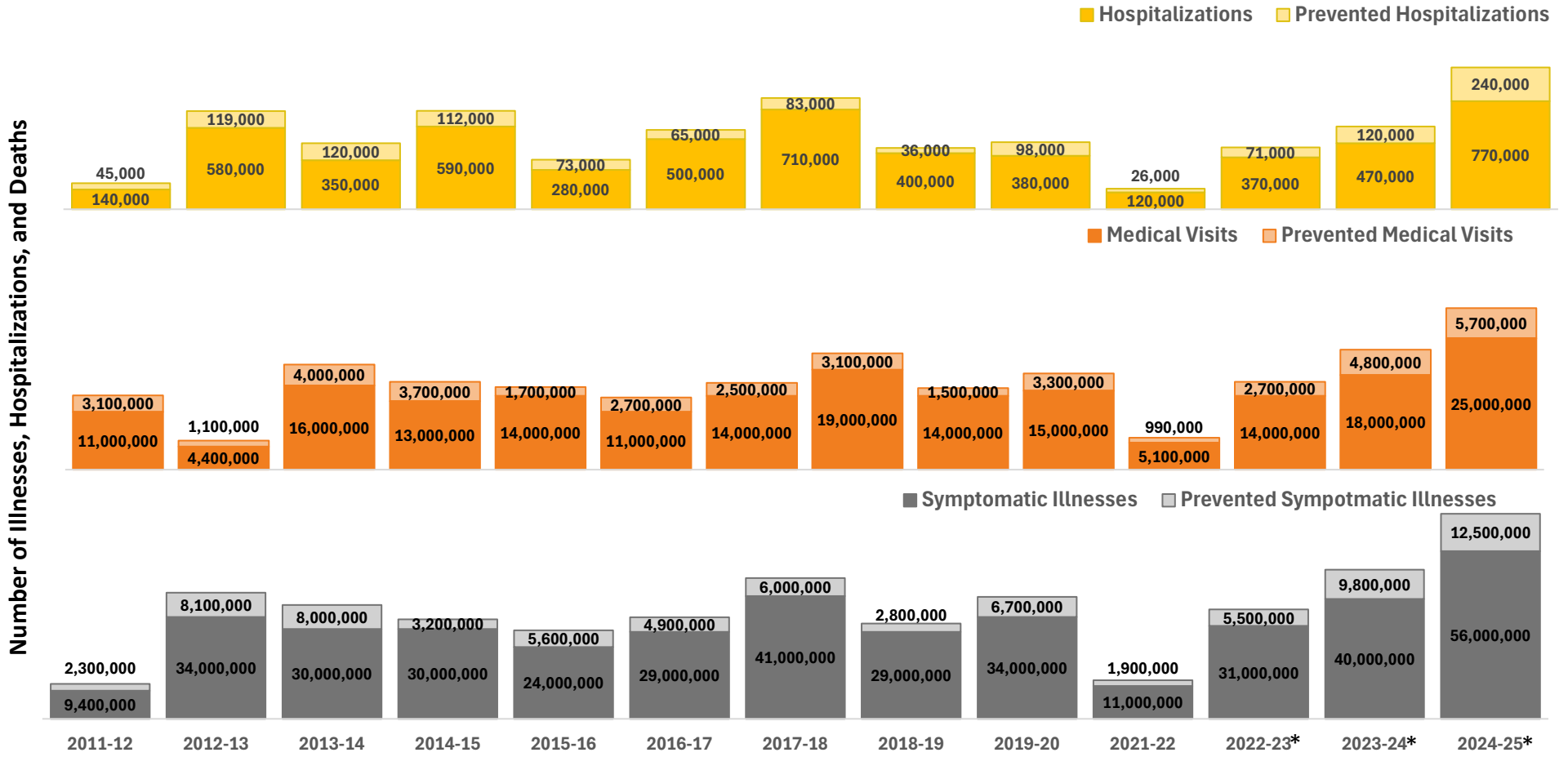
Influenza Prevented Disease Burden Model



Preliminary Influenza Disease Burden Prevented by Vaccination, 2024-2025 by Age Group

Age Group	Symptomatic Illnesses	Medically Attended Illnesses	Hospitalizations
0-4 years	**1,200,000** (910,000, 2,000,000)	**810,000** (600,000, 1,300,000)	**9,700** (7,300, 16,000)
5-17 years	**2,200,000** (1,600,000, 4,800,000)	**1,200,000** (840,000, 2,500,000)	**7,700** (5,600, 17,000)
18-49 years	**3,800,000** (2,700,000, 6,400,000)	**1,400,000** (1,000,000, 3,000,000)	**18,000** (13,000, 31,000)
50-64 years	**3,300,000** (2,300,000, 7,300,000)	**1,400,000** (1,000,000, 3,000,000)	**32,000** (22,000, 63,000)
⩾65 years	**1,600,000** (1,100,000, 3,500,000)	**900,000** (600,000, 2,000,000)	**170,000** (120,000, 380,000)
Total	**12,000,000** (10,000,000, 18,000,000)	**5,700,000** (4,800,000, 8,400,000)	**240,000** (180,000, 460,000)

Influenza Disease and Prevented Burden 2011-2024†



*Preliminary Estimates; †https://www.cdc.gov/flu-burden/php/data-vis-vac/past-burden-prevented-est.html

Conclusions

- **Influenza causes significant impacts on healthcare settings and substantial disease burden on the population**
- **2024-2025 season was classified as high severity for all age ages and by age group and is the first high severity season since 2017-2018**
- **Estimated influenza disease burden was the highest the U.S. has seen in the last decade**
- **Influenza vaccine prevented an estimated 240,000 hospitalizations, most in adults aged 65 years and older, and likely prevented the season from being even more severe**

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348   cdc.gov