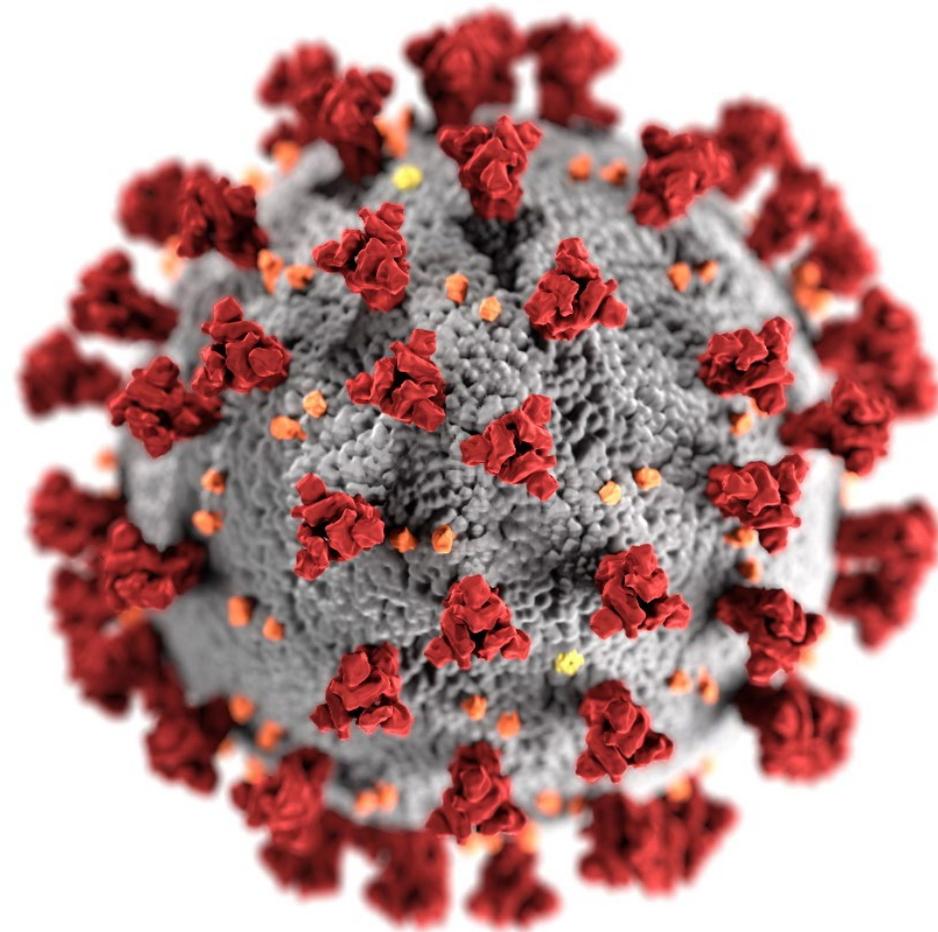


# COVID-19 epidemiology in children ages 6 months–4 years

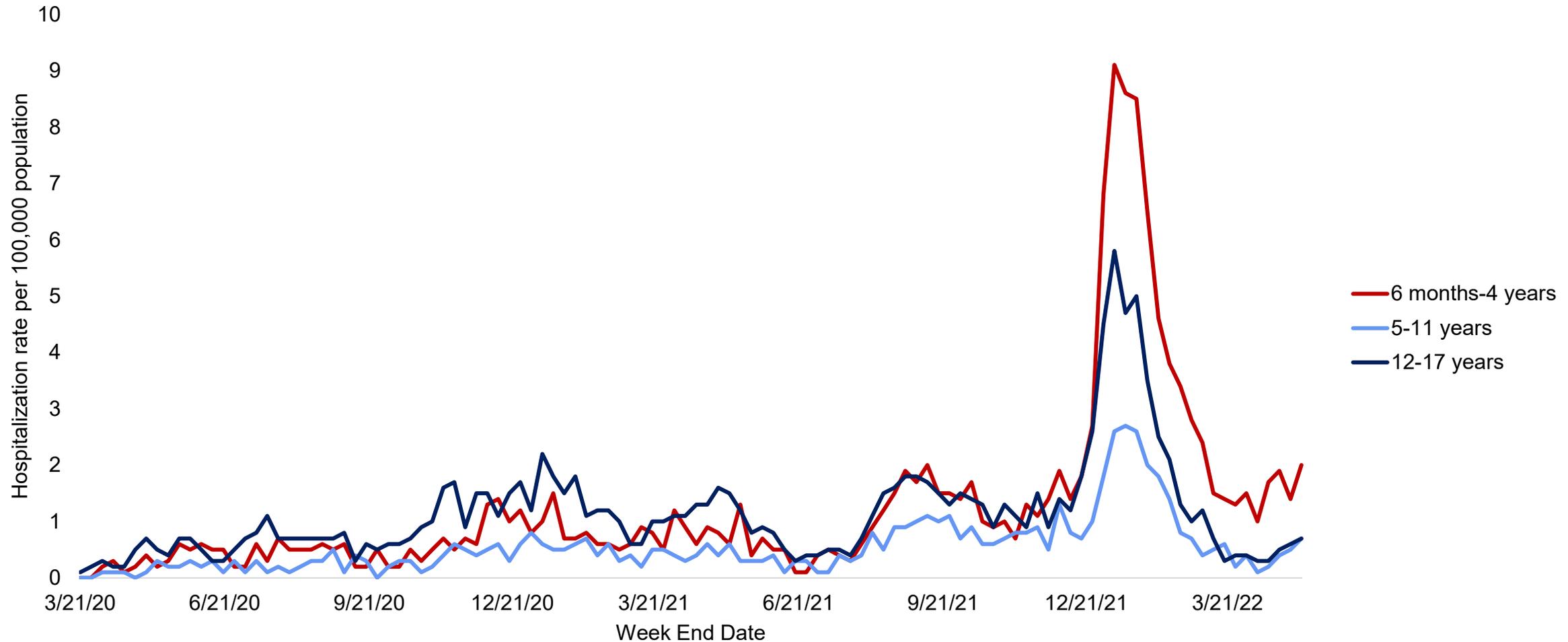
Katherine E. Fleming-Dutra, MD  
National Center for Immunization and Respiratory Diseases  
Centers for Disease Control and Prevention  
June 17, 2022



[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

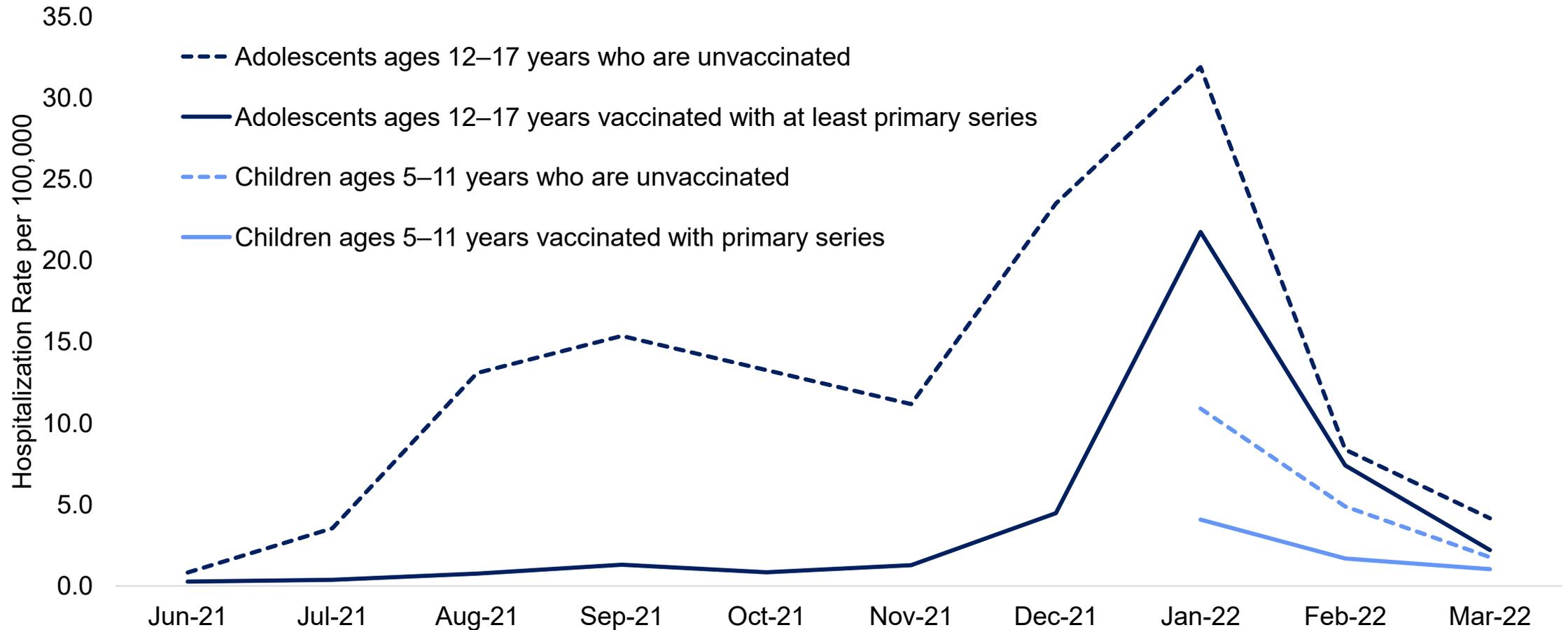
# COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET

March 2020 – March 2022



# Rates of monthly COVID-19-associated hospitalizations by vaccination status among children and adolescents 5–17 years, COVID-NET

June 2021 – March 2022



# Percent of children ages 6 months–4 years with COVID-19 associated hospitalization with underlying health conditions

■ At least 1 underlying medical conditions    ■ No underlying medical conditions

New Vaccine Surveillance Network, March 2020  
– April 2022

46%

54%

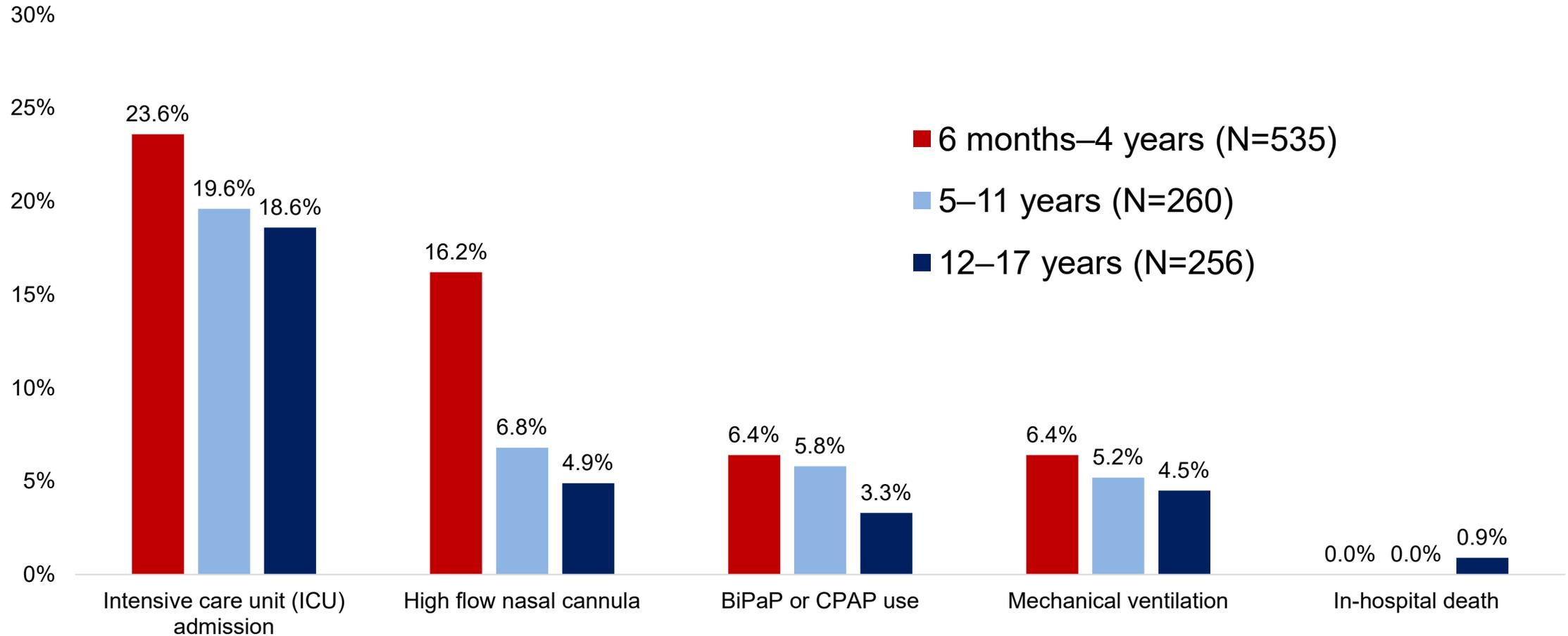
COVID-NET, March 2020 – March 2022

49%

51%

Source: 1. New Vaccine Surveillance Network. Preliminary data as of May 25, 2022, reflecting data from March 2020–April 2022  
2. COVID-NET data. Accessed May 21, 2022, reflecting data from March 2020–March 2022

# Severity of COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET, December 19, 2021 – March 31, 2022 (Omicron period)



BiPaP: bilevel positive pressure, CPAP: continuous positive pressure

Source: COVID-NET data. Accessed May 21, 2022.

# COVID-19 is a leading cause of death among children ages 0–19 years

March 1, 2020–April 30, 2022

Age group	Rank of COVID-19 among causes of death
<1 year	4
1–4 years	5
5–9 years	5
10–14 years	4
15–19 years	4

Based on death certificate data from the National Center for Health Statistics. COVID-19 based on cumulative total incidence of COVID-19 deaths from March 1, 2020-April 30, 2022.

Source: Flaxman S, Whittaker C, Semenova E et al. Covid-19 is a leading cause of death in children and young people ages 0-19 years in the United States. medRxiv 2022.05.23.22275458; doi: <https://doi.org/10.1101/2022.05.23.22275458>

# Pediatric vaccine preventable diseases: Deaths per year in the United States prior to recommended vaccines

	Hepatitis A <sup>1</sup>	Meningococcal (ACWY) <sup>2</sup>	Varicella <sup>3</sup>	Rubella <sup>4</sup>	Rotavirus <sup>5</sup>	COVID-19 <sup>6</sup>
Age	<20 years	11–18 years	5–9 years	All ages	<5 years	6 months – 4 years
Time period	1990–1995	2000–2004	1990–1994	1966–1968	1985–1991	Jan 2020–May 2022
Average deaths per year	3	8	16	17	20	86

<sup>1</sup>Vogt TM , Wise ME, Bell BP, Finelli L. Declining hepatitis A mortality in the United States during the era of hepatitis A vaccination. J Infect Dis 2008; 197:1282–8.

<sup>2</sup>National Notifiable Diseases Surveillance System with additional serogroup and outcome data from Enhanced Meningococcal Disease Surveillance for 2015-2019.

<sup>3</sup>Meyer PA, Seward JF, Jumaan AO, Wharton M. Varicella mortality: trends before vaccine licensure in the United States, 1970-1994. J Infect Dis. 2000;182(2):383-390. doi:10.1086/315714

<sup>4</sup>Roush SW , Murphy TV; Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. JAMA 2007; 298:2155–63.

<sup>5</sup>Glass RI, Kilgore PE, Holman RC, et al. The epidemiology of rotavirus diarrhea in the United States: surveillance and estimates of disease burden. J Infect Dis. 1996 Sep;174 Suppl 1:S5-11.

<sup>6</sup><https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-Counts-by-Age-in-Years/3apk-4u4f/data>. Accessed May 14, 2022

# Summary: COVID-19 epidemiology in children and adolescents ages 6 months–4 years

- As of June 12, 2022, COVID-19 has caused **>570,000** cases among infants age <1 year and **>1.9 million** cases among children ages 1–4 years
- Omicron surge in the United States led to the highest numbers of COVID-19 cases, emergency department visits, and hospitalization rates seen during the pandemic

# **Summary: COVID-19 epidemiology in children and adolescents ages 6 months–4 years**

- Children ages 6 months–4 years are at risk of severe illness from COVID-19
  - More than half of hospitalized children ages 6 months–4 years had no underlying conditions
  - During Omicron predominance, COVID-19 associated hospitalizations among children ages 6 months–4 years have similar or increased severity compared to older children and adolescents
  - Burden of COVID-19 hospitalization is similar to or exceeds that of other pediatric vaccine preventable diseases
- COVID-19 pandemic continues to have significant impact on families and increases disparities