Certain Acute Vaccine-Preventable Diseases Can Pose a Risk to Adults in the US[1,2]

These diseases can be serious and lead to hospitalization and even death[3-5]

Epidemiology of Pneumococcal Pneumonia

Incidence of Pneumococcal Pneumonia in 2020 (per 100,000 population)[6]

- Adults aged ≥65 years: **3,058.1**
- Adults aged 50–64 years: **1,038.1**
- Adults aged 18–49 years: **455.2**
- Nonbacteremic pneumococcal pneumonia occurred **over 16x more frequently** than IPD in adults aged >50 years in 2019[7]

Hospitalization[8]

- An estimated **225,000** hospitalizations occur each year

Mortality[3]

- Case fatality rate is **5% to 7%** and may be higher among older adults and those with underlying medical conditions

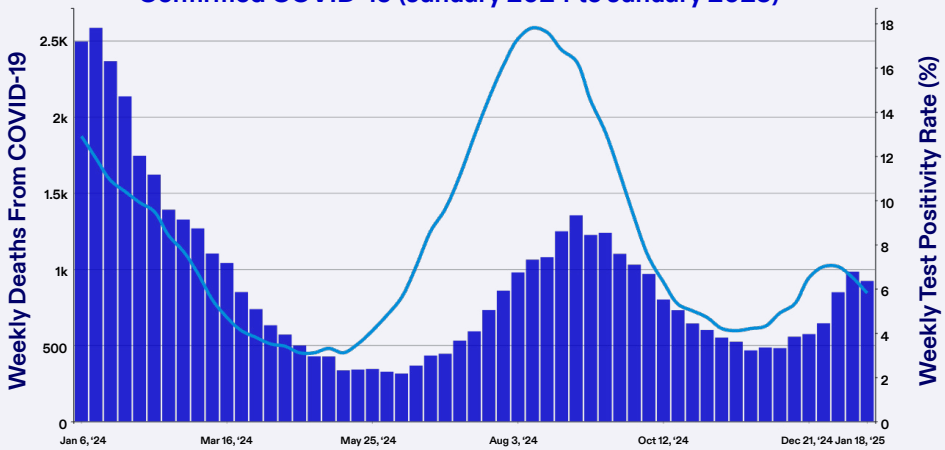
- **Pneumococcal disease incidence rates are higher** among non-Hispanic Black and non-Hispanic American Indian adults than White adults[11]
- **A higher percentage of Black adults have ≥1 risk condition** compared with non-Hispanic White adults, making them eligible for pneumococcal vaccination[11]

Invasive Pneumococcal Disease (IPD)

- There were approximately **3,000 cases** in 2022[9]
- Compared with healthy* adults in the same age range, adults with certain underlying medical conditions have a **greater risk of IPD**[10,†]

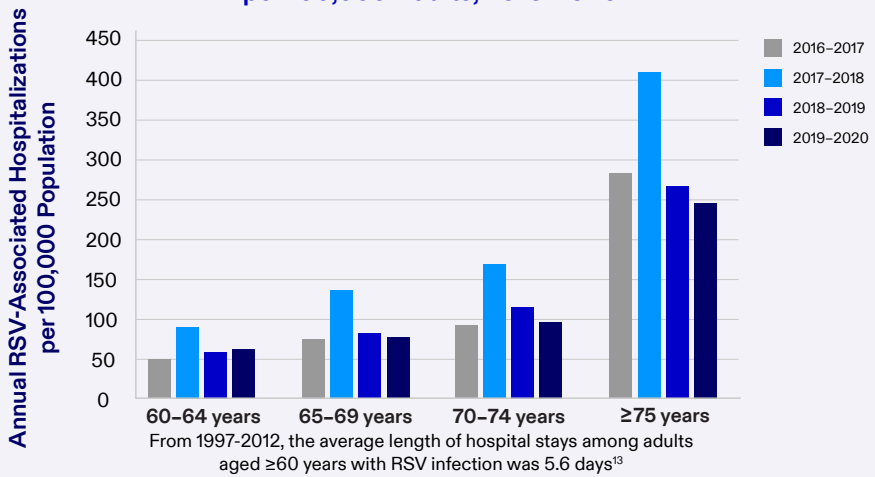
Epidemiology of COVID-19

Weekly Deaths and Test Positivity Rate for all US Patients with Confirmed COVID-19 (January 2024 to January 2025)[4,‡]



Epidemiology of RSV

RSV-NET Estimated Annual Hospitalizations per 100,000 Adults, 2016-2020[12,§,¶]



From 1997-2012, the average length of hospital stays among adults aged ≥60 years with RSV infection was 5.6 days[13]

CAP=community-acquired pneumonia; CDC=US Centers for Disease Control and Prevention; COVID-19=coronavirus disease of 2019; RSV=respiratory syncytial virus.

*Adults without evidence of immunocompromising conditions, chronic medical conditions, or other medical conditions were classified as healthy.[10]

†Retrospective, claims-based cohort study analyzed data from Optum's de-identified Clinformatics Data Mart Database (CDM) between January 1, 2016, and December 31, 2019. This study period was chosen to exclude the COVID-19 era and to include the period immediately before PCV20 review/recommendation. Patients were classified into risk profiles based on the presence of certain medical conditions during the baseline period. Limitations include misclassification or incomplete profiles of patients, lack of information of pneumococcal serotypes, rate ratios not being adjusted for individual-level covariates, and exclusion of individuals with public health insurance or no health insurance. Caution should be used when generalizing study results to other populations and settings.[10]

‡COVID-19 Data Tracker: estimated deaths from January 6, 2024, to January 4, 2025, in patients of all ages. COVID-19 vaccination started at age 6 months. Data as of February 18, 2025.[4]

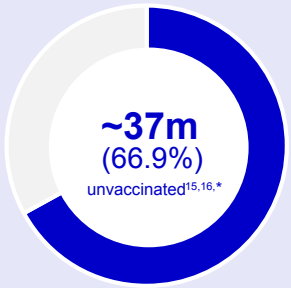
§RSV-NET collects surveillance data on laboratory-confirmed, RSV-associated hospitalizations, including those resulting in death. Data are collected and reported from a network of sites in acute-care hospitals across 161 counties in 13 states.[14]

¶The study was conducted prior to RSV vaccines being available.

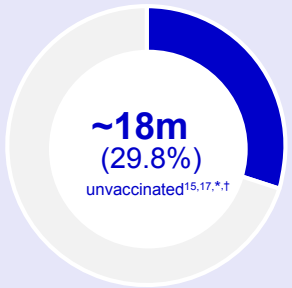
Gaps in Vaccination Leave Patients at Risk

Vaccination rates for select adult immunizations in the US indicate that many eligible adults remain unvaccinated

Pneumococcal Disease



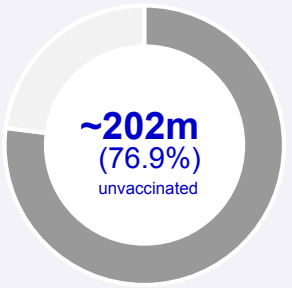
Adults aged 18-64 years with certain chronic conditions as defined by the CDC as of 2023



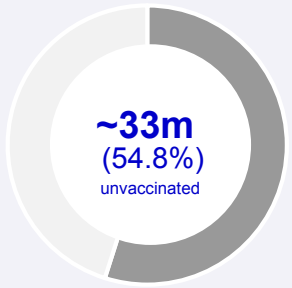
Adults aged ≥65 years as of 2023

COVID-19[17,18,†,‡]

Updated 2024–2025 vaccines

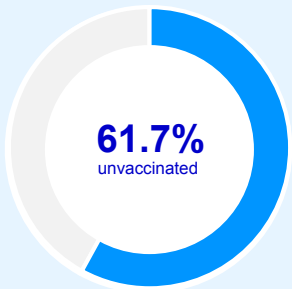


Adults aged ≥18 years as of February 2025

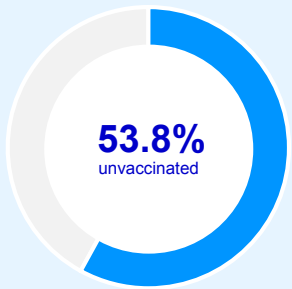


Adults aged ≥65 years as of February 2025

RSV[19]



Adults 60–74 years with risk factors as of February 2025



Adults ≥75 years as of February 2025

*Cumulative receipt of any pneumococcal pneumonia vaccine based on Behavioral Risk Factor Surveillance System, 2023.[15]
†Based on US census data, 2023.[17]
‡Receipt of 2024–2025 COVID-19 vaccine based on the National Immunization Survey as of February 14, 2025.[18]

Concurrent infections emphasize the importance of immunizations

Bacterial coinfections associated with influenza are a leading cause of disease and death, especially among high-risk groups such as the elderly[20]

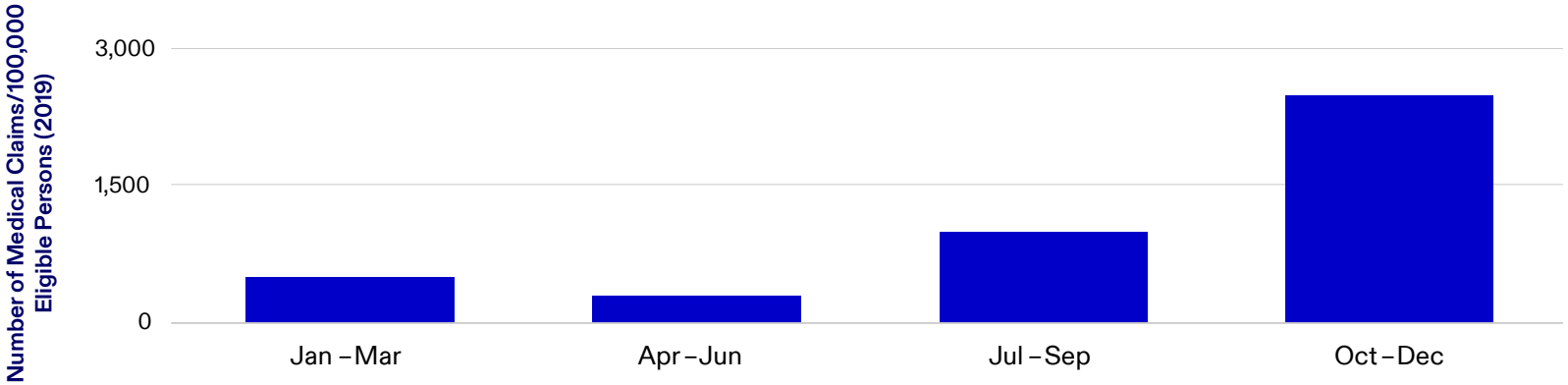
Bacterial pneumonia has been reported in 12% to 79% of adults hospitalized with RSV-positive acute respiratory infections[21]

Adults coinfected with SARS-CoV-2 and *Streptococcus pneumoniae* were shown to have impaired immunity to SARS-CoV-2[22]

CDC=US Centers for Disease Control and Prevention; SARS-CoV-2=severe acute respiratory syndrome coronavirus.

Year-Round Vaccination Efforts Can Help Alleviate Seasonal Pressure to Close Vaccination Gaps

Medical Offices and Institutions Administer Most Adult Vaccines During the Fall/Winter Season[23,*,†]



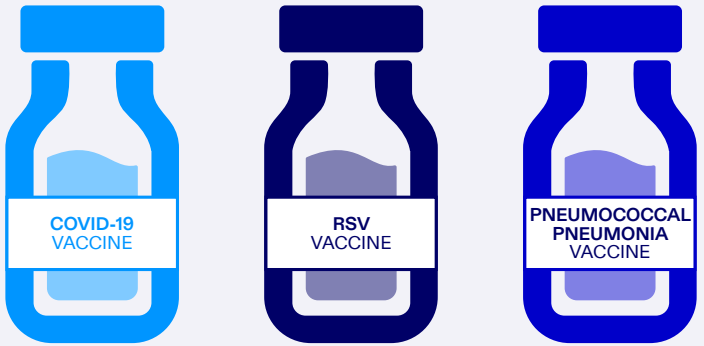
*Based on IQVIA Datasets that include US-based office and institutional medical claims covering approximately 191 million patients. Office settings include professionals, ambulatory, and general healthcare sites; institutional settings include hospitals, skilled nursing facilities, and other institutions for outpatient and inpatient procedures and services. The chart above displays adult vaccinations in 2019, including flu, HPV, pneumococcal, shingles, and Tdap.[23]

†This information is an estimate derived from the use of information under license from the following IQVIA information service: Anonymized Patient Level Data (LRx/Dx) for the period ending July 31, 2023. IQVIA expressly reserves all rights, including rights of copying, distribution, and republication.

Important steps can help protect eligible adults

When an adult comes in for a vaccine, consider what other respiratory disease vaccines they may be eligible to receive[24]

- Certain adults may be eligible for more than 1 vaccination in a single visit[25]
- Vaccination schedules and reminders can help adults stay up-to-date on CDC recommendations and help protect them from vaccine-preventable respiratory diseases[24,26,27,‡]
- Consult CDC recommendations to see when co-administration may be appropriate for certain respiratory vaccines[28]

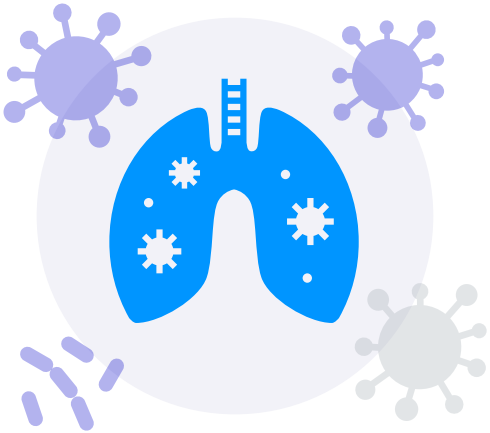


Dx=medical claims; HPV=human papillomavirus; LRx=longitudinal prescription data; Tdap=tetanus, diphtheria, pertussis.

‡Vaccines vary in their respective requirements for frequency of administration.

Explore Your Existing Protocols to Help Streamline Eligible Vaccine Recommendations

At each patient visit, encourage care teams to:



- Provide a strong recommendation for appropriate respiratory disease immunizations and develop an administration plan[27]
- Proactively schedule eligible adults to return for any respiratory vaccines they did not receive during the initial visit[26]
- Use every opportunity to assess vaccination status[24]

Ensure your practice has a plan in place to help adults stay up-to-date on all recommended immunizations for which they are eligible.[24] Refer to CDC Best Practices for Patient Care for additional guidance

References: 1. Centers for Disease Control and Prevention. Immunizations for respiratory viruses prevention. Updated September 11, 2024. Accessed March 6, 2025. https://www.cdc.gov/respiratory-viruses/prevention/immunizations.html **2.** Centers for Disease Control and Prevention. Adult immunization schedule by age. Updated November 21, 2024. Accessed March 6, 2025. https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html. **3.** Centers for Disease Control and Prevention. Clinical features of pneumococcal disease. Updated February 6, 2024. Accessed March 6, 2025. https://www.cdc.gov/pneumococcal/hcp/clinical-signs/index.html **4.** Centers for Disease Control and Prevention. COVID data tracker: trends in United States COVID-19 hospitalizations, deaths, emergency visits, and test positivity by geographic area. Updated February 10, 2025. Accessed March 6, 2024. https://covid.cdc.gov/covid-data-tracker/#trends_select_testpositivity_00 **5.** Centers for Disease Control and Prevention. COVID data tracker: COVID-NET laboratory-confirmed COVID-19 hospitalizations. Updated February 7, 2025. Accessed February 13, 2025. https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalization-network **6.** Huang L, Wasserman M, Grant L, et al. Burden of pneumococcal disease due to serotypes covered by the 13-valent and new higher-valent pneumococcal conjugate vaccines in the United States. *Vaccine*. 2022;40(33):4700-4708. **7.** Thomas RE. Pneumococcal pneumonia and invasive pneumococcal disease in those 65 and older: rates of detection, risk factors, vaccine effectiveness, hospitalisation and mortality. *Geriatrics* (*Basel*). 2021;6(1):13. **8.** Ramirez J, Furmanek S, Chandler TR, et al. Epidemiology of pneumococcal pneumonia in Louisville, Kentucky, and its estimated burden of disease in the United States. *Microorganisms*. 2023;11(11):2813. **9.** Centers for Disease Control and Prevention. 2022. Active Bacterial Core Surveillance Report, Emerging Infections Program Network, *Streptococcus pneumoniae*, 2022. Accessed April 4, 2025. https://www.cdc.gov/abcs/downloads/SPN_Surveillance_Report_2022.pdf **10.** Grant LR, Meche A, McGrath L, et al. *Open Forum Infect Dis.* 2023;10(5):ofad192. **11.** Kobayashi M, Leidner AJ, Gierke R, et al. Expanded recommendations for use of pneumococcal conjugate vaccines among adults aged ≥50 years: recommendations of the Advisory Committee on Immunization Practices— United States, 2024. *MMWR Morb Mortal Wkly Rep* 2025;74(1):1–8. **12.** Melgar M. Evidence to recommendations framework: respiratory syncytial virus (RSV) in adults. June 21, 2023. Accessed March 6, 2025. https://www.cdc.gov/acip/downloads/slides-2023-06-21-23/06-RSV-Adults-Melgar-508.pdf **13.** Pastula ST, Hackett J, Coalson J, et al. Hospitalizations for respiratory syncytial virus among adults in the United States, 1997-2012. *Open Forum Infect Dis.* 2017;4(1):ofw270. **14.** Centers for Disease Control and Prevention. RSV-NET overview and methods. Updated October 25, 2022. Accessed March 6, 2025. https://www.cdc.gov/rsv/php/surveillance/rsv-net.html **15.** Centers for Disease Control and Prevention. Vaccination coverage among adults. Updated August 8, 2024. Accessed March 6, 2025. https://www.cdc.gov/adultvaxview/about/general-population.html **16.** Chilson E, McGrath L, Alfred T, Vietri J. Estimating the population newly eligible for the pneumococcal conjugate vaccine. *Am J Prev Med.* 2024;66(1):164-168. **17.** US Census Bureau. S0101 Age and Sex. Accessed March 6, 2025. https://data.census.gov/table/ACSST1Y2023.S0101 **18.** Centers for Disease Control and Prevention. Vaccination trends. Updated February 28, 2025. Accessed March 6, 2025. https://www.cdc.gov/respiratory-viruses/data/vaccination-trends.html **19.** Centers for Disease Control and Prevention. Weekly RSV vaccination dashboard. Updated February 19, 2025. Accessed March 6, 2025. https://www.cdc.gov/rsvvaxview/dashboard/index.html **20.** Joseph C, Togawa Y, Shindo N. Bacterial and viral infections associated with influenza. *Influenza Other Respir Viruses*. 2013; (Suppl 2):105-113. **21.** Godefroy R, Giraud-Gatineau A, Jimeno MT, et al. Respiratory syncytial virus infection: its propensity for bacterial coinfection and related mortality in elderly adults. *Open Forum Infect Dis*. 2020;7(12):ofaa546. **22.** Mitsi E, Reiné J, Urban BC, et al. *Streptococcus pneumoniae* colonization associates with impaired adaptive immune responses against SARS-CoV-2. *J Clin Invest*. 2022;132(7):e157124. **23.** IQVIA. Trends in vaccine administration in the United States. Accessed February 13, 2025. https://www.iqvia.com/insights/the-iqviainstitute/reports-and-publications/reports/trends-in-vaccine-administration-in-the-united-states **24.** American Society for Health-System Pharmacists. ASHP guidelines on the pharmacist's role in immunization. Accessed March 6, 2025. https://www.ashp.org/-/media/assets/policy-guidelines/docs/guidelines/pharmacists-roleimmunization.ashx **25.** Centers for Disease Control and Prevention. Chapter 6: vaccine administration. In: Hall E, Wodi AP, Hamborsky J, Morelli V, Schillie S, eds. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. 14th ed. Public Health Foundation; 2021:69-96. **26.** Betsch C, Schmid P, Verger P, et al. A call for immediate action to increase COVID-19 vaccination uptake to prepare for the third pandemic winter. *Nat Commun*. 2022;13(1):7511. **27.** Centers for Disease Control and Prevention. Adult immunization standards. Updated August 9, 2024. Accessed March 6, 2025. https://www.cdc.gov/vaccines-adults/hcp/imz-standards/ **28.** Centers for Disease Control and Prevention. Getting a flu vaccine and other recommended vaccines at the same time. Updated September 17, 2024. Accessed March 6, 2025. https://www.cdc.gov/flu/vaccines/coadministration.html

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