Getting to the Point: Adult Immunization Updates

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April 29, 2025

Objectives

- Identify current U.S. trends in adult immunizations
- Recognize challenges and barriers for adult immunization
- Understand updated recs for *S. pneumoniae,* RSV, COVID-19, HBV, and HPV vaccines
- Review guidelines for MMR administration for adults
- Consider tips for difficult vaccine conversations

I have no disclosures.

Why Adults?

In the US, vaccine-preventable infections kill more individuals annually than HIV/AIDS, breast cancer, or traffic accidents. Approximately 50,000 adults die each year from vaccine-preventable diseases in the US.

Krishnarajah, G. et al. *Human Vaccines & Immunotherapeutics* 2014;10(8).

Chronic Disease in the U.S.

129 million people have ≥ 1 major chronic illness (heart disease, cancer, diabetes, obesity, HTN)

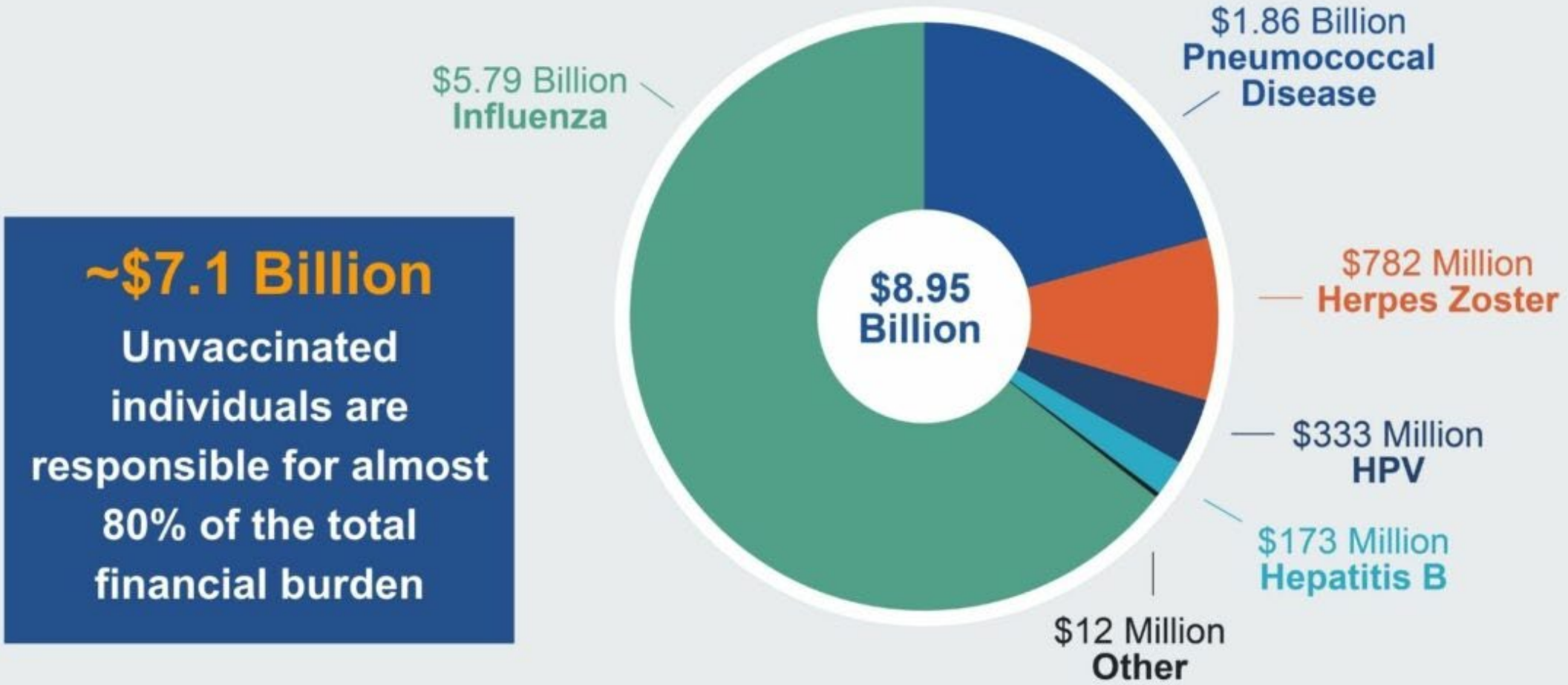
42% have ≥ 2

12% have ≥ 5

90% of the $4.1 trillion annual healthcare expenditure → chronic conditions

Benavidez GA, et al. *Prev Chronic Dis* 2024;21:230267.

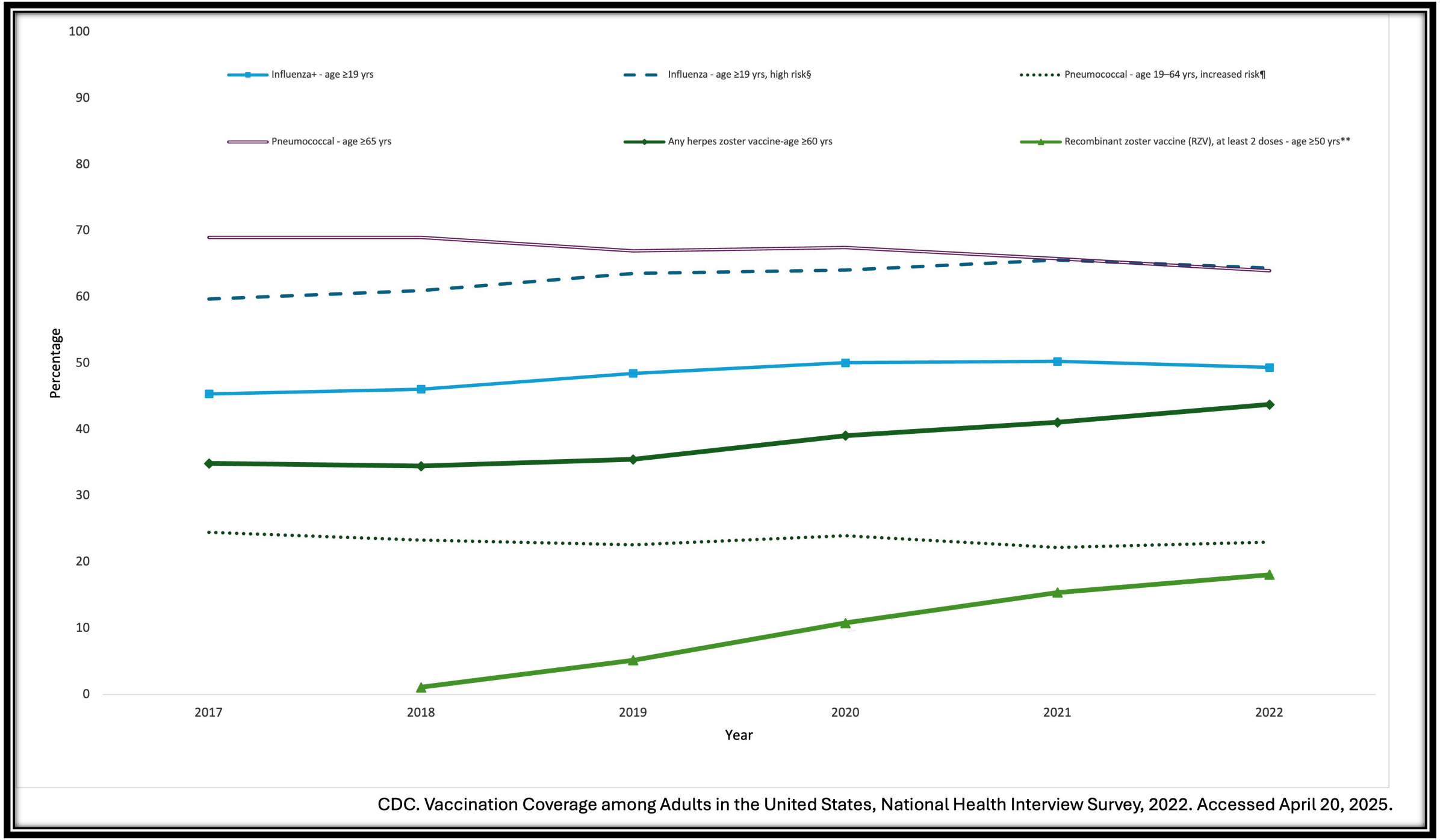
Figure 2: Economic Costs of Vaccine-Preventable Diseases



~$7.1 Billion

Unvaccinated individuals are responsible for almost 80% of the total financial burden

www.nfid.org/resource/call-to-action-strategies-to-improve-adult-immunization-in-the-us. Accessed April 23, 2025.

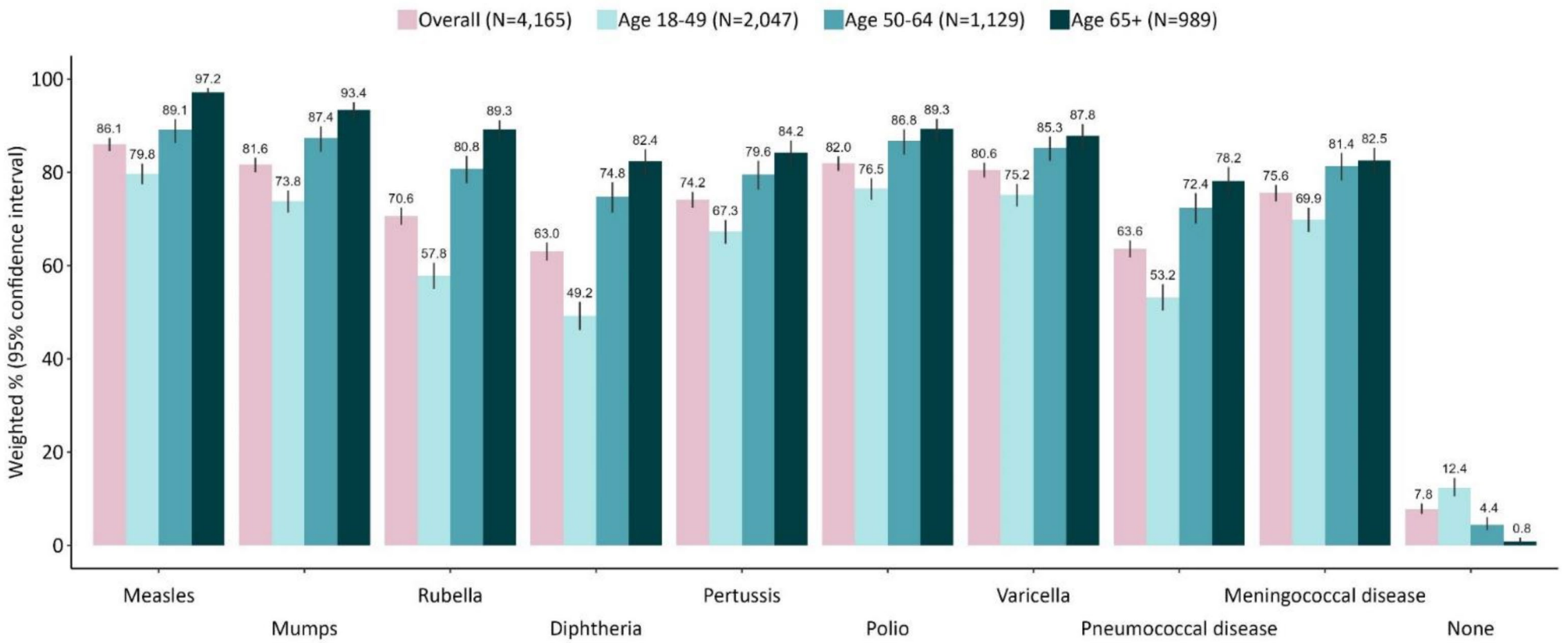


CDC. Vaccination Coverage among Adults in the United States, National Health Interview Survey, 2022. Accessed April 20, 2025.

Suboptimal Vaccination Rates

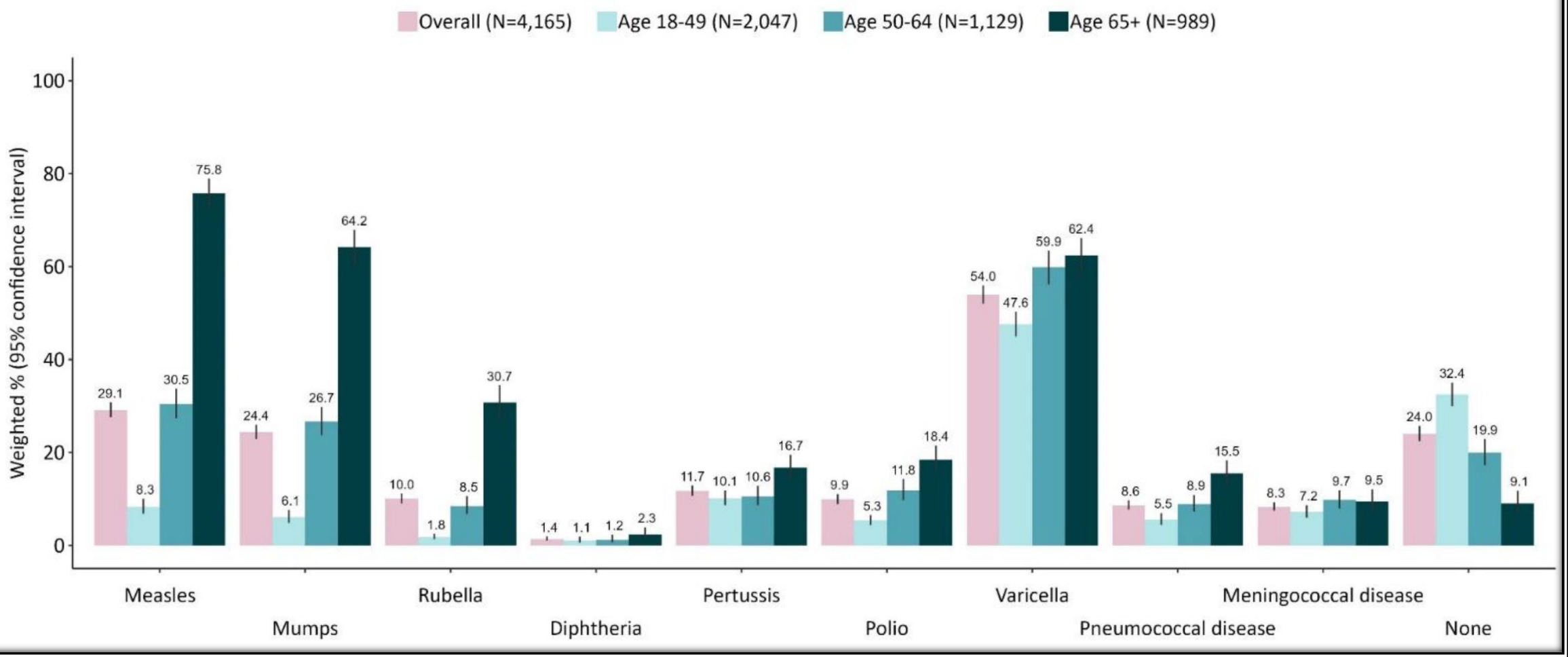
- Access and equity issues
- Costs of stocking vaccines and complex payment systems
- Ever-changing recommendations & competing priorities
- Lack of vaccine requirements for adults
- Lack of insurance and/or public funding for coverage
- Acute issues taking precedence over preventive services
- Limited public awareness and misinformation about vaccines

Figure 1: Awareness of vaccine-preventable diseases among U.S. adults, by age group (CDC Omnibus Surveys, July 11-29, 2024)



CDC. Awareness of vaccine-preventable disease among US adults, July 2024. Accessed April 20, 2025.

Figure 2: Had or know someone who had vaccine-preventable disease among U.S. adults, by age group (CDC Omnibus Surveys, July 11-29, 2024)



CDC. Awareness of vaccine-preventable disease among US adults, July 2024. Accessed April 20, 2025.

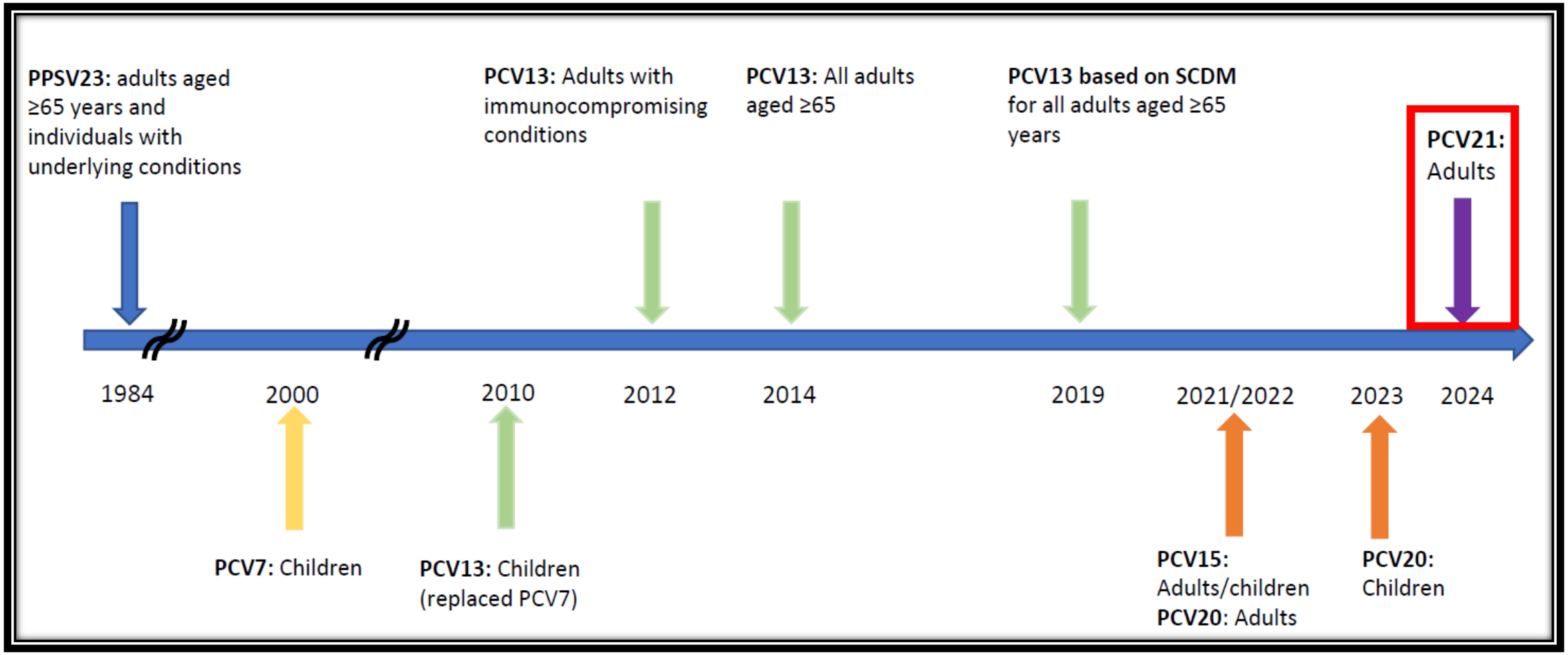
“We’re not just fighting an epidemic; we’re fighting an infodemic. Fake news spreads faster and more easily than this virus and is just as dangerous.”

Dr. Tedros Adhanom Ghebreyesus

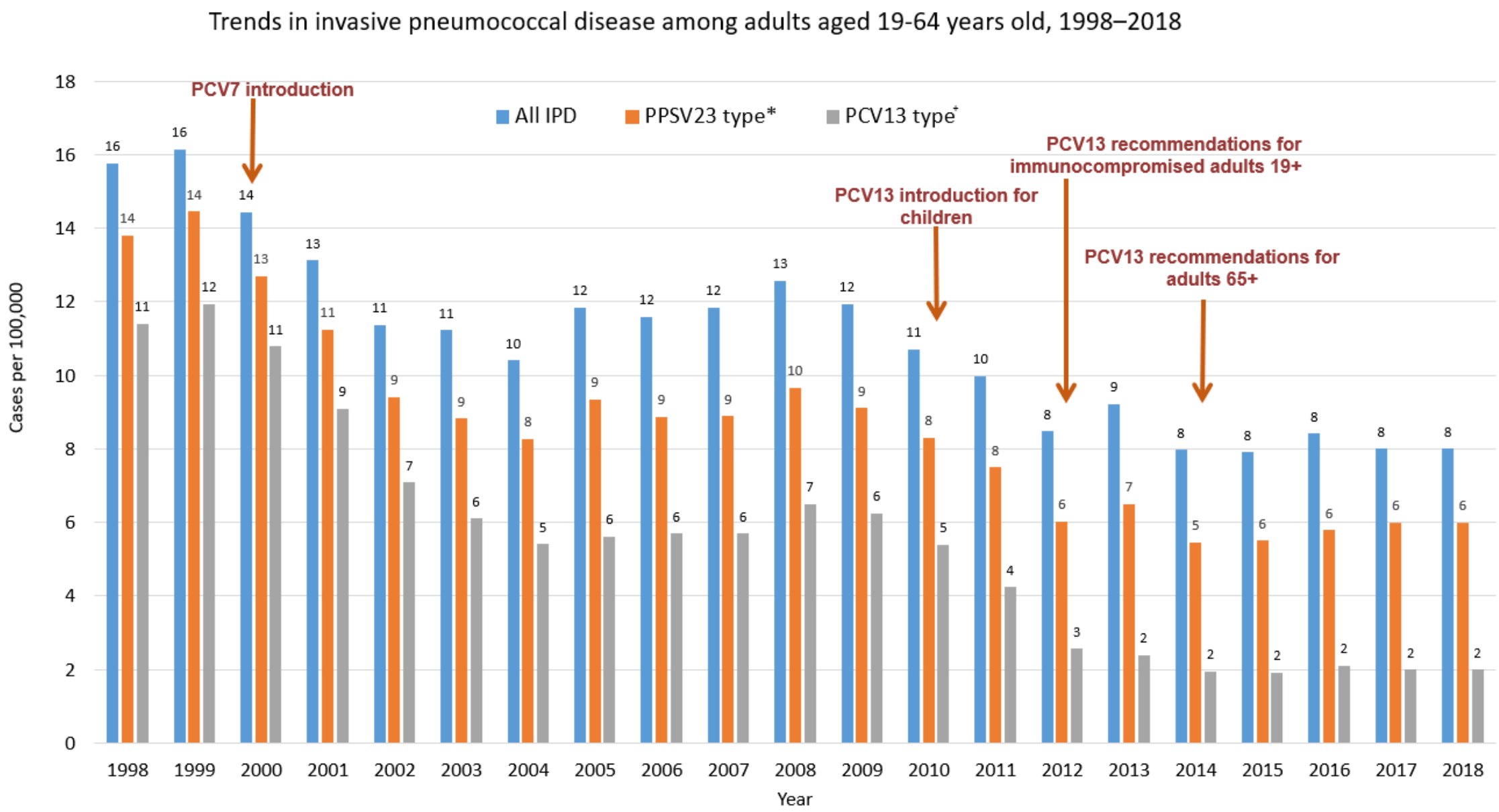
February 15, 2020

Streptococcus pneumoniae

History of Pneumococcal Vaccines



www.cdc.gov/acip/downloads/slides-2025-04-15-16/01-Kobayashi-Pneumococcal-508.pdf , Accessed April 23, 2025.



*PPSV23 serotypes: 1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, and 33F
†PCV13 serotype: 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F

https://www.cdc.gov/pneumococcal/surveillance.html, Accessed August 22, 2021.

Invasive Pneumococcal Disease

- Decreased with childhood immunization
- BUT still accounts for 12-13% of all patients hospitalized with pneumonia
- ~225,000 hospitalizations annually in the U.S.
- PCV is T-cell dependent
  - Produces memory B cells
  - Induces greater immune memory than PPSV23 (T-cell independent)

CDC MMWR. Expanded Recommendations for Use of Pneumococcal Vaccines Among Adults Aged ≥ 50 Years: Recommendations of the ACIP -- United States, 2024.

Expansion of Pneumococcal Vaccines

Before October 2024

- All adults ≥ 65 years
- Ages 19-64 years with risks for pneumococcal disease

After October 2024

- Single dose of PCV for all PCV-naïve adults ≥ 50 years
- No change to risk-based vaccination of younger adults

CDC MMWR. Expanded Recommendations for Use of Pneumococcal Vaccines Among Adults Aged ≥ 50 Years: Recommendations of the ACIP -- United States, 2024.

Rationale for Expansion

- Among adults aged 50-64 hospitalized with pneumococcal pneumonia, ~90% had ≥1 risk condition
- 2018-2022: 56% and 83% of IPD cases were due to serotypes contained in PCV20 and PCV21, respectively
- Overall, 32-54% of adults aged 50-64 have ≥1 risk condition, but only 37% vaccinated compared to 70% with age-based vaccination
- Significant racial disparities among Black and AI/AN with IPD rates peaking at younger ages

CDC MMWR. Expanded Recommendations for Use of Pneumococcal Vaccines Among Adults Aged ≥ 50 Years: Recommendations of the ACIP -- United States, 2024.

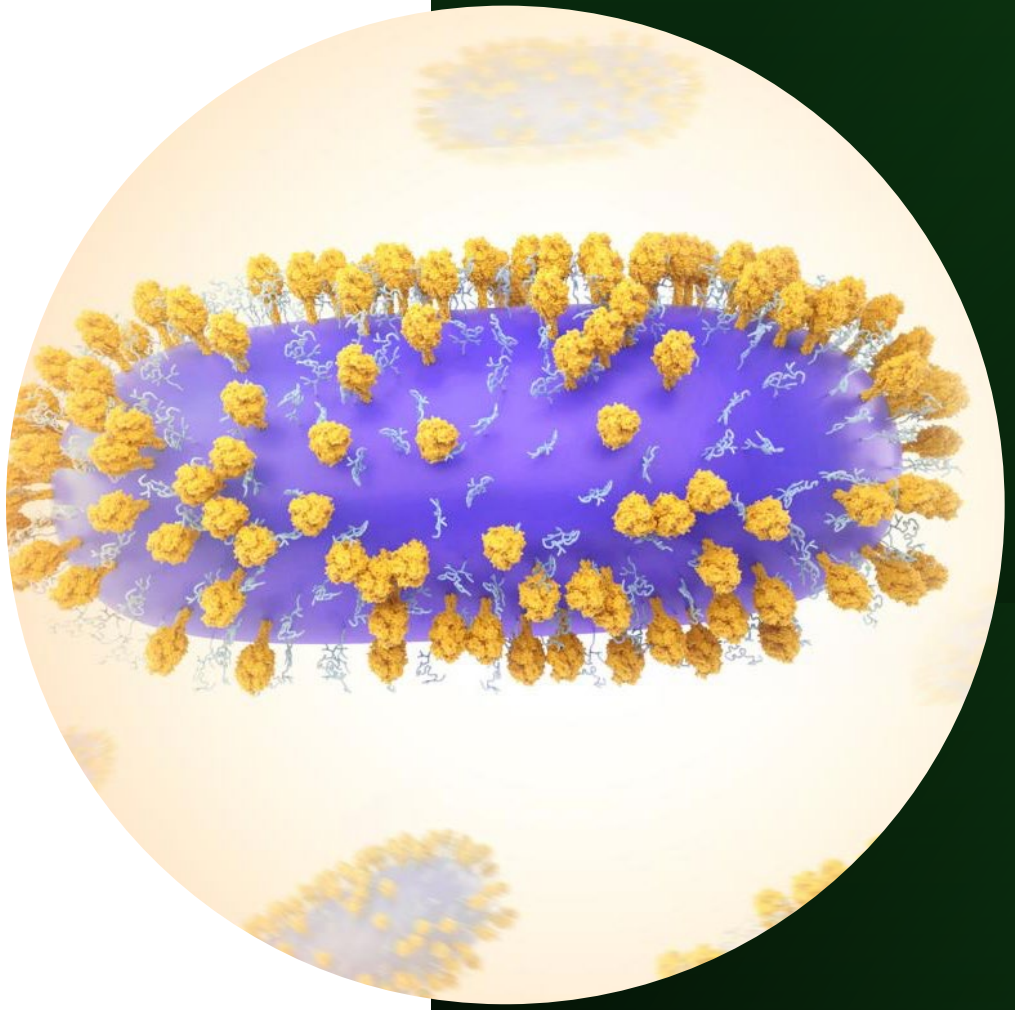
Pneumococcal Vaccine Options

PCV20 (Prevnar 20) or PCV21(CAPVAXIVE)

PCV15 (Vaxneuvance) with PPSV23 (Pneumovax 23)

PneumoRecs
VaxAdvisor

Respiratory syncytial virus



Respiratory syncytial virus

- 123,000-193,000 adult hospitalizations annually
- Highest burden in adults ≥ 75 yrs
- Recommended in 2023-24 for adults ≥ 60 using SCDM
- As of spring 2024, 20-25% of adults ≥ 60 vaccinated
- Allowed for post-licensure safety and effectiveness evaluation for Arexvy (GSK) and Abrysvo (Pfizer) – protein subunit vaccines
- mResvia (Moderna) FDA-approved as 3rd option in May 2024 – mRNA vaccine

Havers FP, et al. JAMA Netw Open 2024;7(11):e2444756.
CDC MMWR. Use of RSV vaccines in adults ≥ 60 yrs: updated recommendations of the ACIP, United States, 2024.

Initial Outcomes

mRNA Vaccine (mResvia)

- ~37,000 immunocompetent
- Efficacy in preventing symptomatic, lab confirmed RSV-LRTD:
  - ~80% (median 3.7 mo.)
  - ~48% (median 18.8 mo.)
- No serious ADEs in 42-d. follow up

Protein Subunit (Arexvy, Abrysvo)

- ~75% effective during 1st RSV season after vaccination
- No clear association with GBS, but surveillance ongoing
- No clear association with ITP, but surveillance ongoing

CDC MMWR. Use of RSV vaccines in adults ≥ 60 yrs: updated recommendations of the ACIP, United States, 2024.

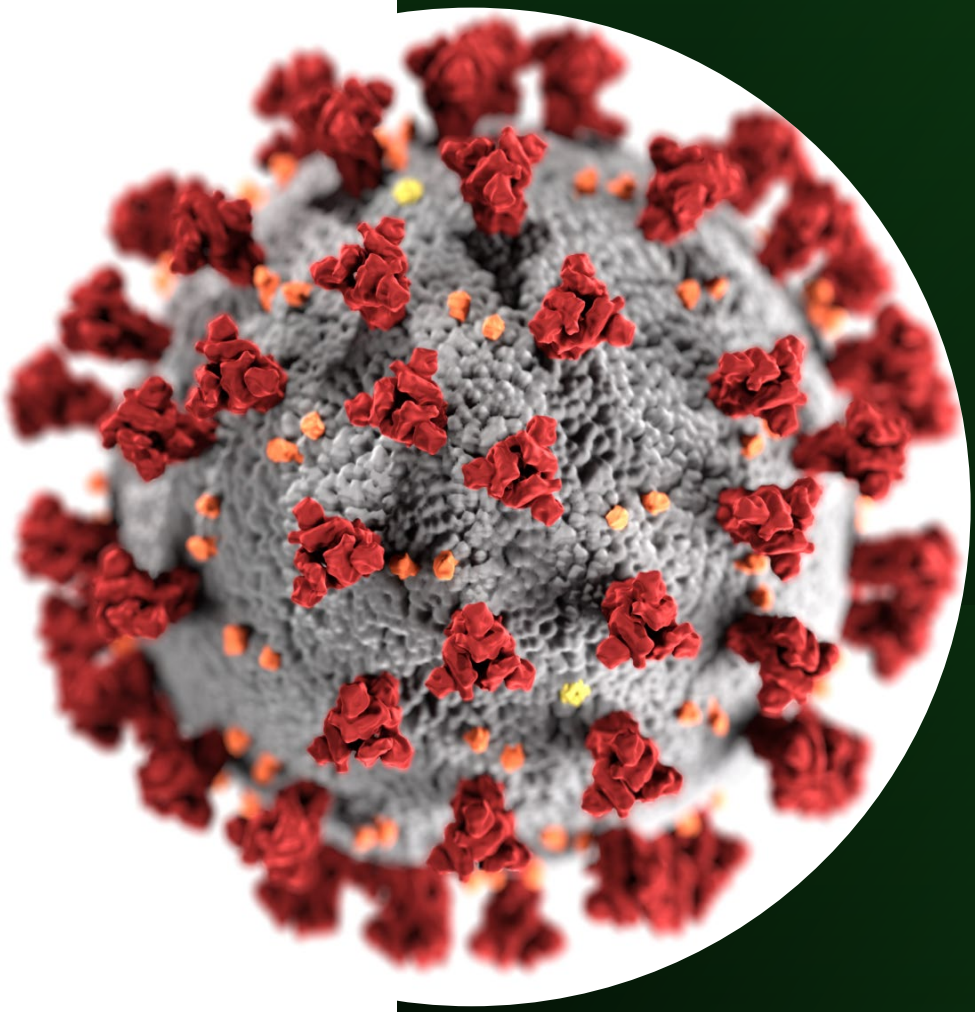
June 2024 ACIP Updates

- Single dose of approved RSV vaccine for:
  - All adults ≥ 75 yrs
  - Adults aged 60-74 with increased risk of severe disease
- For adults who previously received a single dose, no additional doses are recommended

- GSK's Arexvy approved for adults aged 50-59
- April 2025 ACIP
  - Adults aged 50-59 with risks should be able to get RSV
- Lots more to come…

CDC MMWR. Use of RSV vaccines in adults ≥ 60 yrs: updated recommendations of the ACIP, United States, 2024.

SARS-CoV-2



COVID-19 Updates

Routine Schedule

- People ages 5-64 should receive 1 dose of age-appropriate 2024-2025 vaccine
- People aged ≥65 should receive 2 doses of any 2024-2025 vaccine, spaced 6 months apart (minimum 2 mo. interval)

Immunocompromised Schedule

- Unvaccinated – multidose initial series and 1 dose of 2024-2025 after completing the series (minimum interval 2 mo.)
- Previous initial series – two doses spaced 6 mo. apart (2 mo. min)
- May receive additional doses using shared decision-making

www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#routine-vaccination-guidance. Accessed April 23, 2025.

ACIP Options June 2025

Options for initial series

- Maintain universal policy for ≥6 mo. that includes multi-dose initial series
- Narrow current recs and only maintain this series for certain populations

Options for annual doses

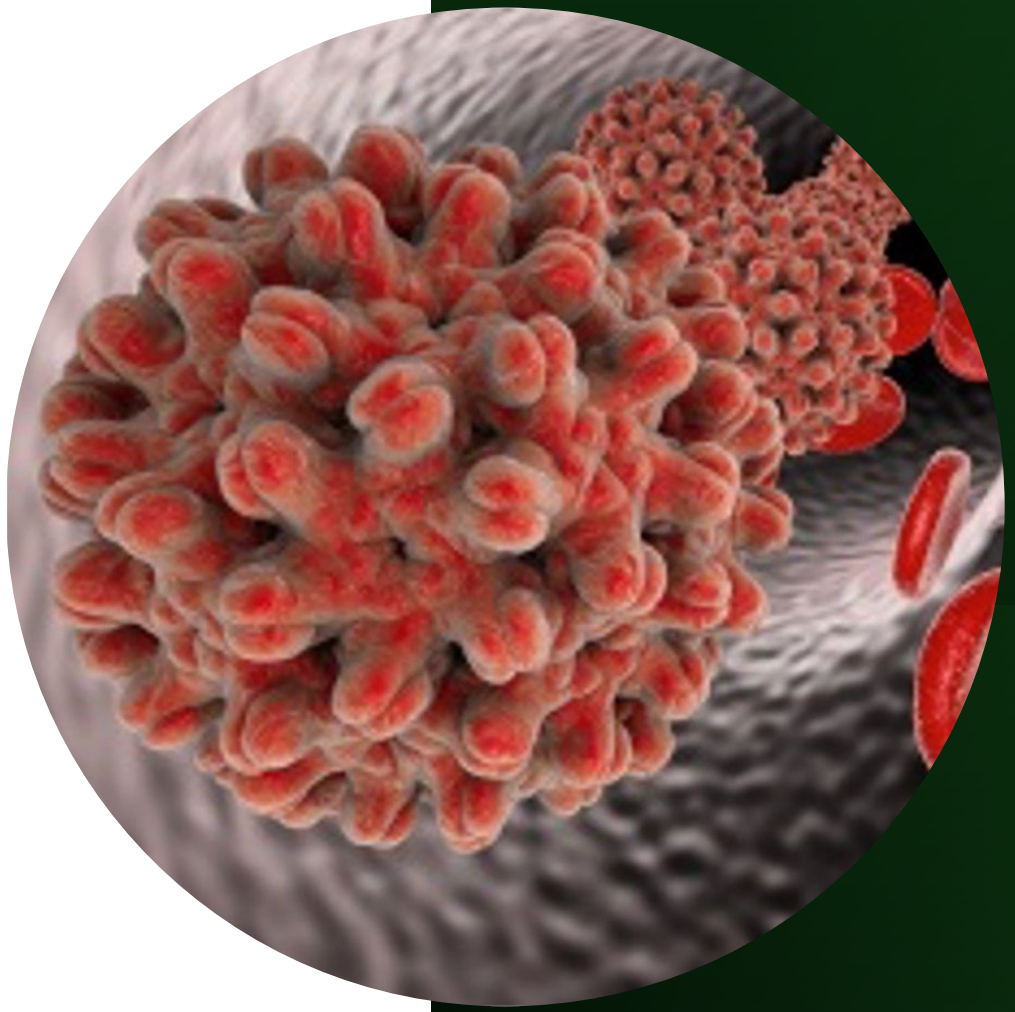
- Maintain universal policy for ≥6 mo.
- Risk-based rec only for groups at increased risk of severe COVID
- Combination of risk-based and universal vaccine recs

Options for semi-annual doses

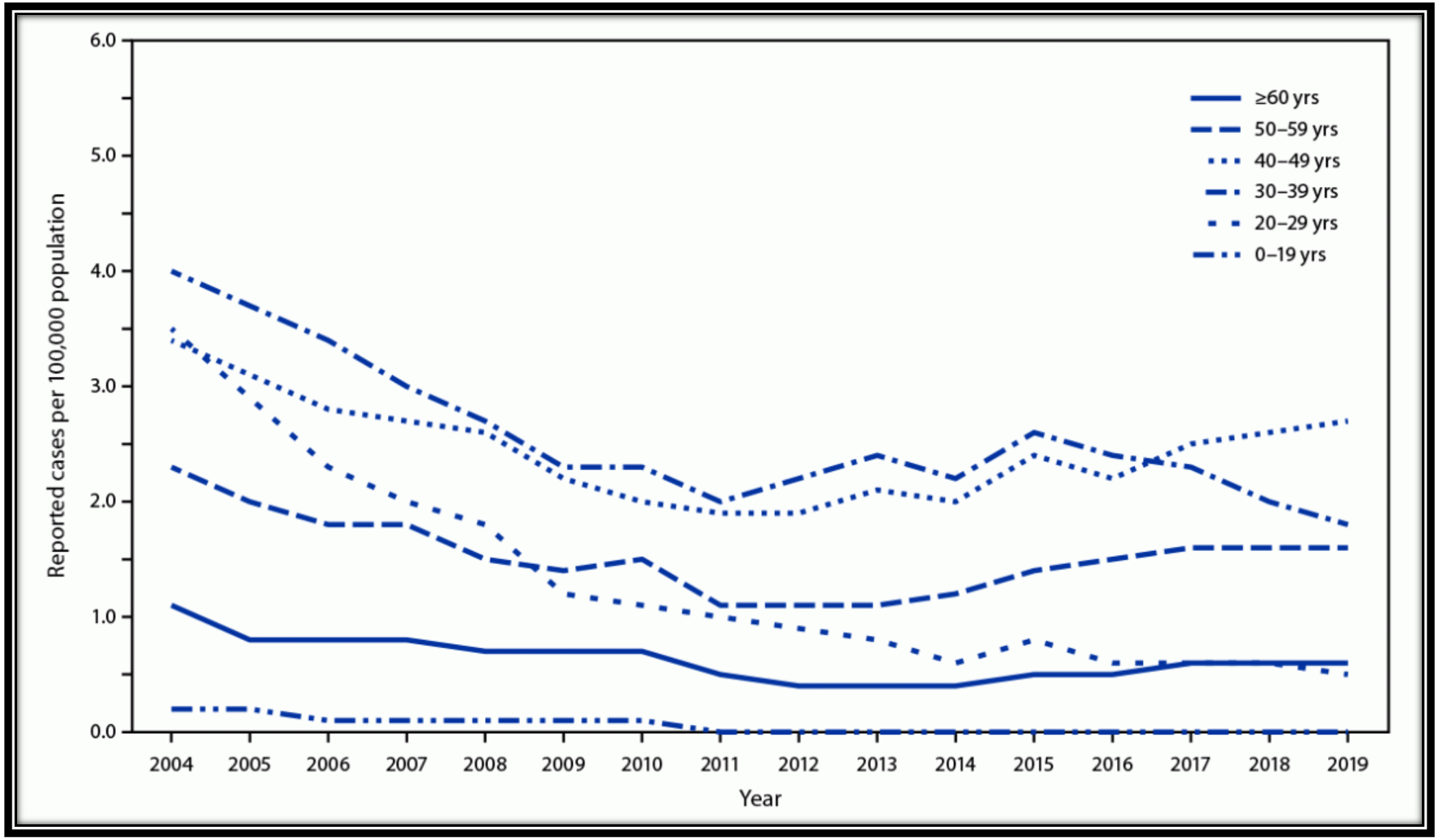
- Persons ≥65 yrs
- Persons ≥6 mo. who are mod or severe immunocompromised

www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#routine-vaccination-guidance. Accessed April 23, 2025.

Hepatitis B virus

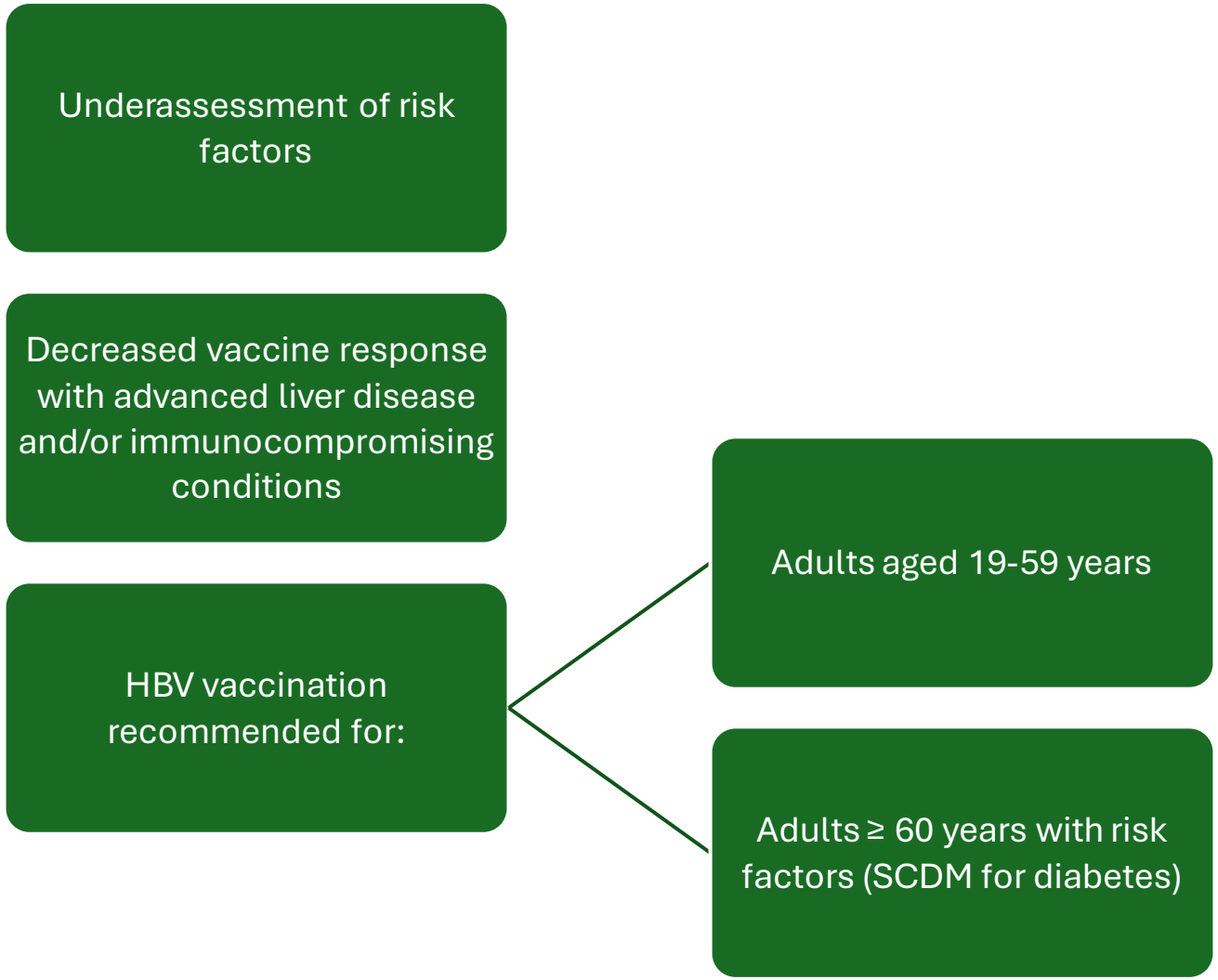


Rates of reported acute HBV infection, by age group– United States 2004-2019



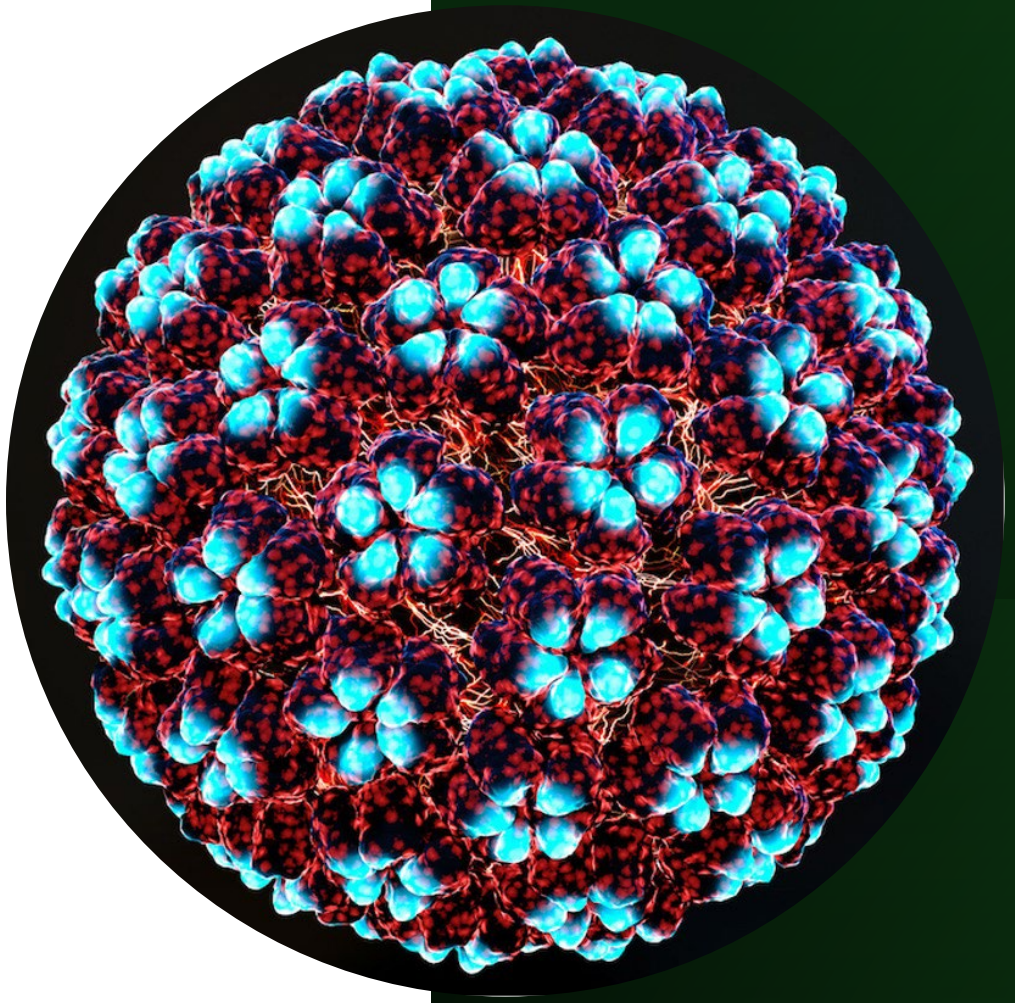
CDC MMWR. Universal hepatitis B vaccination in adults aged 19-59 years: updated recommendations of the ACIP – United States, 2022.

Rationale for Updated Recommendation



CDC MMWR. Universal hepatitis B vaccination in adults aged 19-59 years: updated recommendations of the ACIP – United States, 2022.

Human papillomavirus



HPV Vaccination: Adults Aged 27-45

- High-risk HPV genotypes 16 and 18 cause
  - ~70% of cervical cancers
  - 80-90% of HPV-related neoplasms at other sites
- Vaccines most effective before exposure through sexual activity
- SCDM for adults aged 27-45
  - No commercial testing available to determine prior exposure
  - Vaccines do not prevent progression of HPV infection to disease
  - 3-dose series (0, 2, 6 months)

CDC MMWR. Human papillomavirus vaccination for adults: updated recommendations for the ACIP, 2019.

HPV ACIP April 2025

HPV Work Group in favor of dose # change

Continue to review data and discuss modifications including:

- Expanding a 2-dose recommendation from 9-14 to 9-26, or older
- Recommending 1 dose for 9-14, 9-20 yrs, or through another age

www.cdc.gov/acip/downloads/slides-2025-04-15-16/07-Markowitz-HPV-508.pdf. Accessed April 23, 2025.

Measles

MMR for Adults

One dose	•Adults born in 1957 or later at low risk and have no documented vaccination or lab evidence of immunity
Two doses	•High-risk adults without prior documented vaccination and no lab evidence of immunity •Healthcare personnel •International travelers born in or after 1957 •People attending college or other post-high school educational institutions

*People vaccinated in 1963-1967 who received inactivated measles vaccine or do not know, should be revaccinated per above

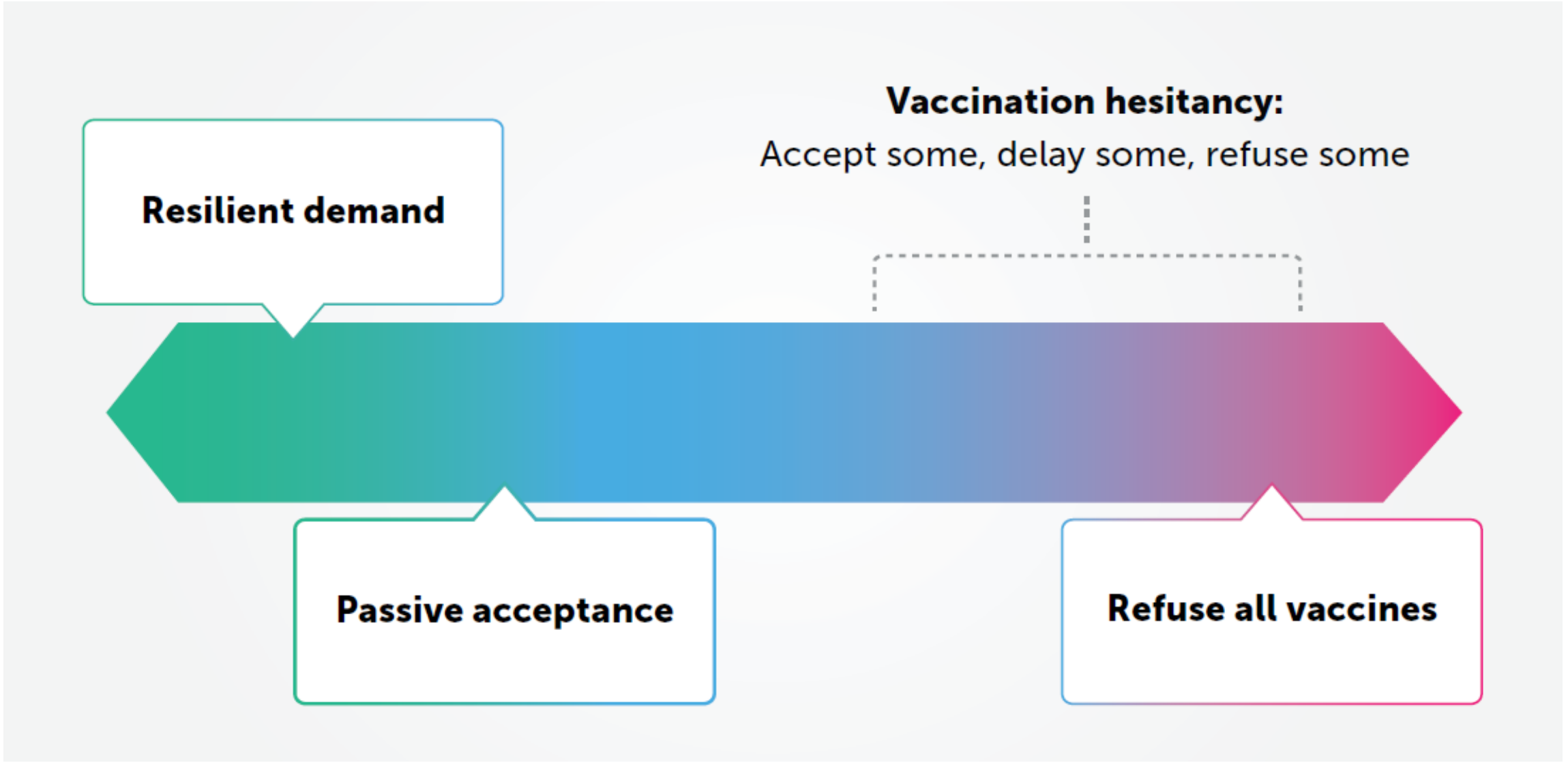
www.cdc.gov/mmwr/pdf/rr/rr6204.pdf. Accessed April 23, 2025.

Shared Clinical Decision-Making

- MenB for persons aged 16–23 years
- HBV vaccination for adults ≥ 60 years with diabetes mellitus
- HPV vaccination for adults aged 27–45 years
- PCV20 or PCV21 for adults ≥ 65 years who completed both PCV13 (any age) and PPSV23 (at age ≥65 years)
- Additional doses of COVID-19 vaccination for moderately or severely immunocompromised persons

www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html. Accessed April 20, 2025.

The science is easy (mostly), but the conversations can be hard.



Meeting the Challenge of Vaccination Hesitancy. The Sabin-Aspen Vaccine Science and Policy Group. May 2020. Available at: https://www.sabin.org/updates/resources/meeting-challenge-vaccination-hesitancy. Accessed July 5, 2021.

The 3 C's of Vaccine Hesitancy

Complacency

Convenience

Confidence

Meeting the Challenge of Vaccination Hesitancy. The Sabin-Aspen Vaccine Science and Policy Group. May 2020. Available at: https://www.sabin.org/updates/resources/meeting-challenge-vaccination-hesitancy. Accessed July 5, 2021.

Quick Tips for Difficult Conversations

- Listen and validate the person’s concerns
- Rely on science and data AND personal experience
- Account for the varied experience of people
- Avoid politics
- Avoid repeating misinformation
- And, most importantly, listen

Questions?