

# Closing Gaps in Vaccination Preventative Care in People with Immunocompromising Conditions\*

## Risks of Vaccine-Preventable Diseases in People with Immunocompromising Conditions

In an analysis of MarketScan commercial claims and Medicare data from August 1, 2012, through July 31, 2017, **rates of acute respiratory illness hospitalizations** in adults with immunosuppressive conditions were higher than those in immunocompetent patients<sup>1</sup>:

**2.1–6.7x** **higher risk of hospitalization for acute respiratory illnesses**

In a cross-sectional study of adults hospitalized with influenza (n=35,348), immunocompromised patients had **more severe disease** than immunocompetent patients did<sup>2</sup>:

**19%** **higher risk of mechanical ventilation**

**46%** **higher risk of mortality**

## Benefits of Vaccinations in People with Immunocompromising Conditions

In a cohort study analyzing Medicare claims of beneficiaries aged ≥65 years, vaccinated patients with immunocompromising conditions (n=1,006) had a lower risk of hospitalization than unvaccinated patients did<sup>3</sup>:

**18%** **reduced risk of hospitalization for pneumonia**  
(95% CI, 5.0–31.2)

In a multistate VISION network analysis of patients hospitalized with COVID-19, vaccinated patients with immunocompromising conditions had a lower risk of hospitalization compared with unvaccinated patients<sup>4</sup>:

**36%** **reduction in hospitalization for COVID-19**

In a 5-year prospective study of solid organ transplant and HSCT recipients (n=616), influenza vaccination was associated with decreased risk compared with unvaccinated patients<sup>5</sup>:

**51%** **reduced risk of ICU admission**  
(OR, 0.49; 95% CI, 0.26–0.90; P=.023)

AIDS=acquired immune deficiency syndrome; COVID-19=coronavirus disease of 2019; HIV=human immunodeficiency virus; HSCT=hematopoietic stem cell transplant; ICU=intensive care unit; OR=odds ratio.

\*Immunocompromising conditions include: HIV/AIDS, cancer, stem cell transplantation, solid organ transplantation, receipt of nonsteroid immunosuppressive therapy, immunoglobulin deficiency, complement deficiency, asplenia, rheumatologic and inflammatory disorders, and other rare conditions.<sup>2</sup>

**References:** 1. Patel M, Chen J, Kim S, et al. Analysis of MarketScan Data for immunosuppressive conditions and hospitalizations for acute respiratory illness, United States. *Emerg Infect Dis.* 2020;26(8):1720-1730. 2. Collins JP, Campbell AP, Openo K, et al. Outcomes of immunocompromised adults hospitalized with laboratory-confirmed influenza in the United States, 2011-2015. *Clin Infect Dis.* 2020;70(10):2121-2130. 3. Kobayashi M, Spiller MW, Wu X, et al. Association of pneumococcal conjugate vaccine use with hospitalized pneumonia in Medicare beneficiaries 65 years or older with and without medical conditions, 2014 to 2017. *JAMA Intern Med.* 2023;183(1):40-47. 4. Britton A, Embi PJ, Levy ME, et al. Effectiveness of COVID-19 mRNA vaccines against COVID-19-associated hospitalizations among immunocompromised adults during SARS-CoV-2 omicron predominance — VISION Network, 10 States, December 2021—August 2022. *MMWR Morb Mortal Wkly Rep.* 2022;71(42):1335-1342. 5. Kumar D, Ferreira VH, Blumberg E, et al. A 5-year prospective multicenter evaluation of influenza infection in transplant recipients. *Clin Infect Dis.* 2018;67(9):1322-1329.

# Vaccination Recommendations in Adults with Immunocompromising Conditions\*

## CDC/ACIP Vaccine Recommendations for Immunocompromised<sup>1</sup>

Influenza	Pneumococcal	COVID-19 <sup>2</sup>	RSV <sup>2,†</sup>	Zoster	Tdap	HepB	HPV
1 dose annually	Aged 19 years and older: 1 to 2 pneumonia shots over a person's lifetime	1 dose of 2024-2025 COVID-19 vaccine as authorized or approved by the FDA	Aged 60 years and older: 1 dose <sup>‡</sup>	2 doses at age ≥19 years	1 dose Tdap, then Td or Tdap booster every 10 years	2, 3, or 4 doses, depending on vaccine or condition	3 doses through age 26 years

HepA	MenACWY	MenB	HiB
2, 3, or 4 doses, depending on vaccine and condition	1 or 2 doses, depending on condition	2 or 3 doses, depending on vaccine and condition	3 doses for HSCT recipients only

ACIP=Advisory Committee on Immunization Practice; CDC=US Centers for Disease Control; CKD=chronic kidney disease; FDA=US Food and Drug Administration; HepA=hepatitis A; HepB=hepatitis B; HiB=*Haemophilus influenzae* type b; HPV=human papillomavirus; MenACWY=meningococcal A, C, W, Y; MenB=meningococcal B; RSV=respiratory syncytial virus; Td=tetanus, diphtheria; SGLT2=sodium-glucose co-transporter-2; Tdap=tetanus, diphtheria, acellular pertussis.

\*Immunocompromising conditions include HIV/AIDS, cancer, stem cell transplantation, solid organ transplantation, receipt of nonsteroid immunosuppressive therapy, immunoglobulin deficiency, complement deficiency, asplenia, rheumatologic and inflammatory disorders, and other rare conditions.<sup>3</sup>

<sup>†</sup>RSV vaccination is recommended as a single lifetime dose only. Persons who have already received RSV vaccination are NOT recommended to receive another dose.<sup>2</sup>

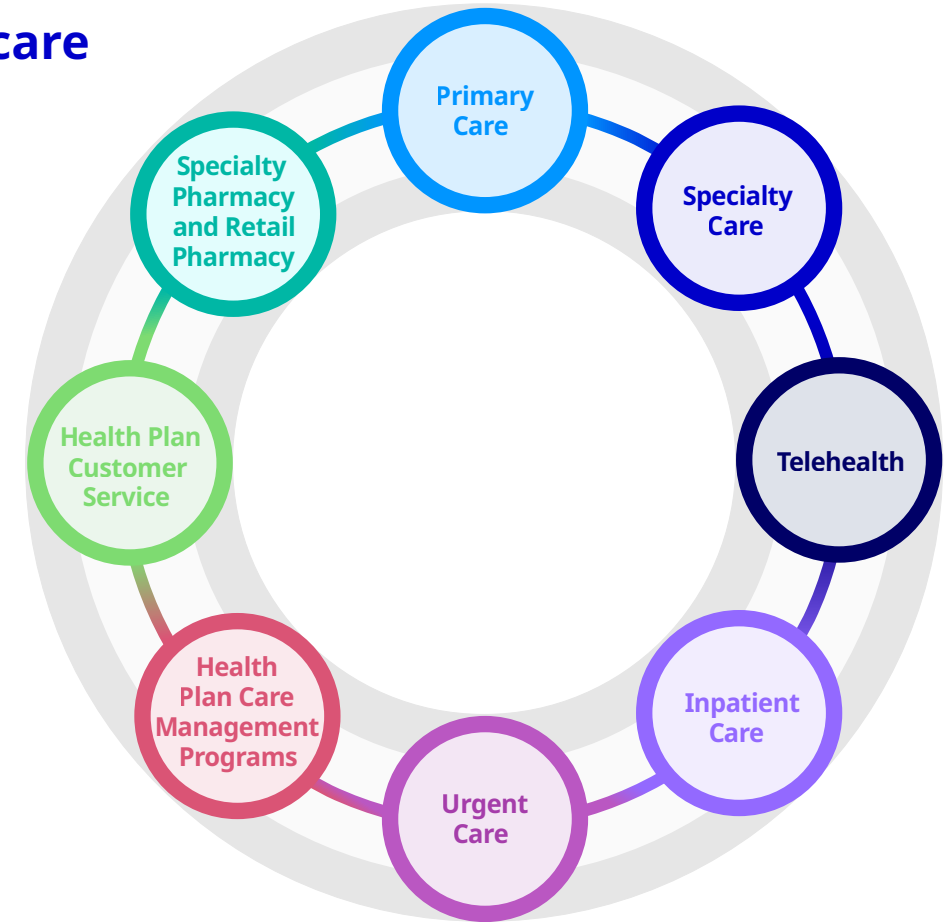
<sup>‡</sup>CKD or other complications or requiring treatment with insulin or SGLT2 inhibitor.<sup>4</sup>

**References:** 1. Centers for Disease Control and Prevention. Recommended adult immunization schedule for ages 19 years or older. Updated August 14, 2024. Accessed August 26, 2024. <https://www.cdc.gov/vaccines/hcp/imz-schedules/downloads/etr/adult/adults-schedule-easy-read.pdf> 2. Centers for Disease Control and Prevention. ACIP Recommendations. Updated June 28, 2024. Accessed July 25, 2024. <https://www.cdc.gov/vaccines/acip/recommendations.html> 3. Collins JP, Campbell AP, Openo K, et al. Outcomes of immunocompromised adults hospitalized with laboratory-confirmed influenza in the United States, 2011-2015. *Clin Infect Dis*. 2020;70(10):2121-2130. 4. Centers for Disease Control and Prevention. Use of respiratory syncytial virus vaccines in adults aged ≥60 years: updated recommendations of the advisory committee on immunization practices — United States, 2024. August 15, 2024. Accessed August 26, 2024. <https://www.cdc.gov/mmwr/volumes/73/wr/pdfs/mm7332e1-H.pdf>

# Points of Care Outside of the PCP Office

## Patients with Chronic Conditions Have Numerous Healthcare Encounters Outside of the PCP Office

- ➔ In a 2021 survey, 35% of patients with chronic conditions report not seeing a **PCP** in the past year<sup>1</sup>
- ➔ **Primary care** represents ~39% of office visits in patients with multiple chronic conditions. **Specialty care** represents ~61% of office visits in patients with chronic disease<sup>2</sup>
- ➔ In 2014, depending on the number of chronic conditions (1-5+)<sup>3</sup>:
  - 6% to 24% of adults had **≥1 hospitalization** per year
  - The average number of **outpatient visits** ranged from 6 to 20 per year
  - The average number of **prescription fills** ranged from 9 to 51 per year



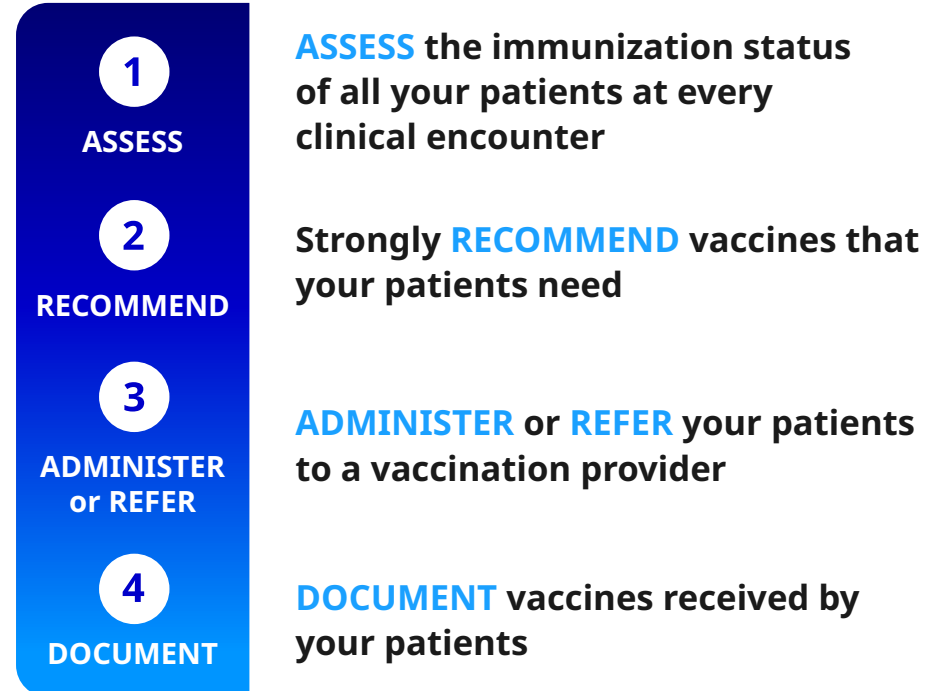
**These healthcare encounters present opportunities to ASSESS, RECOMMEND, ADMINISTER or REFER, and DOCUMENT vaccinations in patients with chronic conditions<sup>4</sup>**

PCP=primary care provider.





**References:** 1. National Foundation for Infectious Diseases. 2021 chronic health conditions surveys: gaps between healthcare professionals and adult patients. Accessed August 26, 2024. <https://www.nfid.org/infectious-diseases/2021-chronic-health-conditions-survey-gaps-between-healthcare-professionals-and-adult-patients/> 2. Ward BW, Myrick KL, Cherry DK. Physician specialty and office visits made by adults with diagnosed multiple chronic conditions: United States, 2014-2015. *Public Health Rep.* 2020;135(3):372-382. 3. Buttorff C, Ruder T, Bauman M. Multiple chronic conditions in the United States. Accessed August 26, 2024. [https://www.rand.org/content/dam/rand/pubs/tools/TL200/TL221/RAND\\_TL221.pdf](https://www.rand.org/content/dam/rand/pubs/tools/TL200/TL221/RAND_TL221.pdf) 4. Centers for Disease Control and Prevention. Standard for adult immunization practice. Updated May 2, 2016. Accessed July 12, 2024. <https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/index.html>

# Strategies and Best Practices for Prioritizing Vaccinations

## CDC Standards for Adult Immunization Practice<sup>1</sup>



## Help Improve Vaccination Rates in Patients with Chronic Conditions

-  Assess patient vaccination status at every encounter with the healthcare system to help decrease missed opportunities to vaccinate<sup>2</sup>
-  Provide a strong recommendation from an HCP and/or specialist to motivate a patient with chronic conditions to vaccinate<sup>3</sup>
-  Use specialist visits, telehealth visits, hospital stays, and post-discharge follow-up
-  Collaborate with network specialty pharmacies

**CDC Standards for Adult Immunization Practice emphasize the role of ALL HCPs—whether they provide immunization services or not—in ensuring that adult patients are fully immunized<sup>1</sup>**

HCP=healthcare professional.

**References:** 1. Centers for Disease Control and Prevention. Standard for adult immunization practice. Updated May 2, 2016. Accessed August 26, 2024. <https://www.cdc.gov/vaccines-adults/hcp/imz-standards/index.html> 2. Centers for Disease Control and Prevention. Vaccine needs assessment. A series on standards for adult immunization practice. Accessed August 26, 2024. <https://www.cdc.gov/vaccines/hcp/adults/downloads/standards-immz-practice-assessment.pdf> 3. Centers for Disease Control and Prevention. Chapter 3: Immunization Strategies for Healthcare Practices and Providers. In: Hall E, Wodi AP, Hamborsky J, Morelli V, Schillie S, eds. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. 14th ed. Public Health Foundation; 2021:30-41.