Closing Gaps in Vaccine Preventative Care in People with Diabetes

Risks of Vaccine-Preventable Diseases in People with Diabetes

In a retrospective cohort analysis of a US health plan during the 2016-2017 flu season, adults with type 2 diabetes (N=1086) had the following **increased risks** in the 2 weeks before and 4 weeks after an **influenza diagnosis**[1]:

55%

increase in pneumonia

vs adult controls without diabetes (n=1,567; *P*<.05)

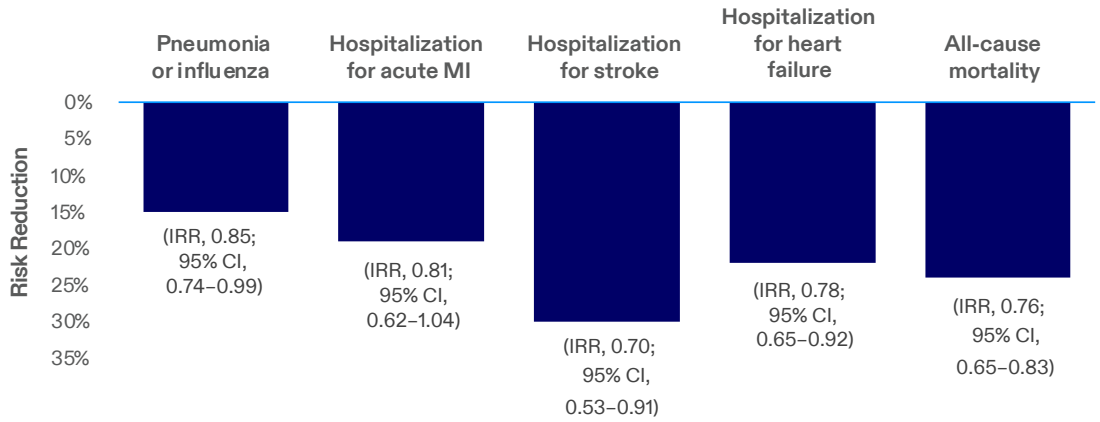
2.5x

more likely to have a hospital visit

than adult controls without diabetes (*P*<.01)

Benefits of Vaccination in People with Diabetes

In a retrospective cohort study of adult patients with type 2 diabetes (N=124,503) between 2003 and 2010, **flu vaccination** was associated with a **reduced risk** of **infections, hospitalizations,** and **premature death** during flu season vs no flu vaccination[2]



In an analysis of claims data from 2005 to 2014, pneumococcal vaccination in adults (aged 30 to 60 years) with a recent diabetes diagnosis was associated with $90.54 per-person savings in pneumococcal disease costs in the 2 years after vs 2 years before vaccination[3]

IRR=incidence rate ratio; MI=myocardial infarction.

References: 1. Samson SI, Konty K, Lee W-N, et al. Quantifying the impact of influenza among persons with type 2 diabetes mellitus: a new approach to determine medical and physical activity impact. *J Diabetes Sci Technol*. 2021;15(1):44-52. **2.** Vamos ET, Paper UJ, Curcin V, et al. Effectiveness of the influenza vaccine in preventing admission to hospital and death in people with type 2 diabetes. *CMAJ*. 2016;188(14):E342-E351. **3.** Hutton DW, McCullough JS, Prosser L. Cost implications of pneumococcal vaccination of adults aged 30-60 with a recent diagnosis of diabetes. *Vaccine*. 2021;39(8):1333-1338.

Vaccination Recommendations in Adults with Diabetes

CDC/ACIP Vaccine Recommendations for Diabetes[1]

Influenza	Pneumococcal	COVID-19[2]	RSV[2*]	Zoster	Tdap	HepB	MMR	Varicella	HPV
1 dose annually	Aged 19 years and older: 1 to 2 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[†]	2 doses at age ≥50 years, 2 to 6 months apart	1 dose Tdap, then Td or Tdap booster every 10 years	2, 3, or 4 doses, depending on vaccine or condition	1 or 2 doses, depending on indication	2 doses, 4 to 8 weeks apart	2 or 3 doses through age 26 years, depending on age at initial vaccination or condition

The American Diabetes Association recommends that people with diabetes receive vaccinations according to **age-appropriate recommendations from CDC/ACIP[3]**

ACIP=Advisory Committee on Immunization Practices; CDC=US Centers for Disease Control and Prevention; CKD=chronic kidney disease; COVID-19=coronavirus disease of 2019; FDA=US Food and Drug Administration; HepB=hepatitis B; HPV=human papillomavirus; MMR=measles, mumps, rubella; RSV=respiratory syncytial virus; Td=tetanus, diphtheria; SGLT2=sodium-glucose cotransporter-2; Tdap=tetanus, diphtheria, acellular pertussis.

*RSV vaccination is recommended as a single lifetime dose only. Persons who have already received RSV vaccination are NOT recommended to receive another dose.[2]

[†]CKD or other complications or requiring treatment with insulin or SGLT2 inhibitor.[4]

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.** American Diabetes Association Professional Practice Committee. Comprehensive medical evaluation and assessment of comorbidities: standards of medical care in diabetes: 2023. *Diabetes Care*. 2023;46(suppl 1):S49-S67. **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

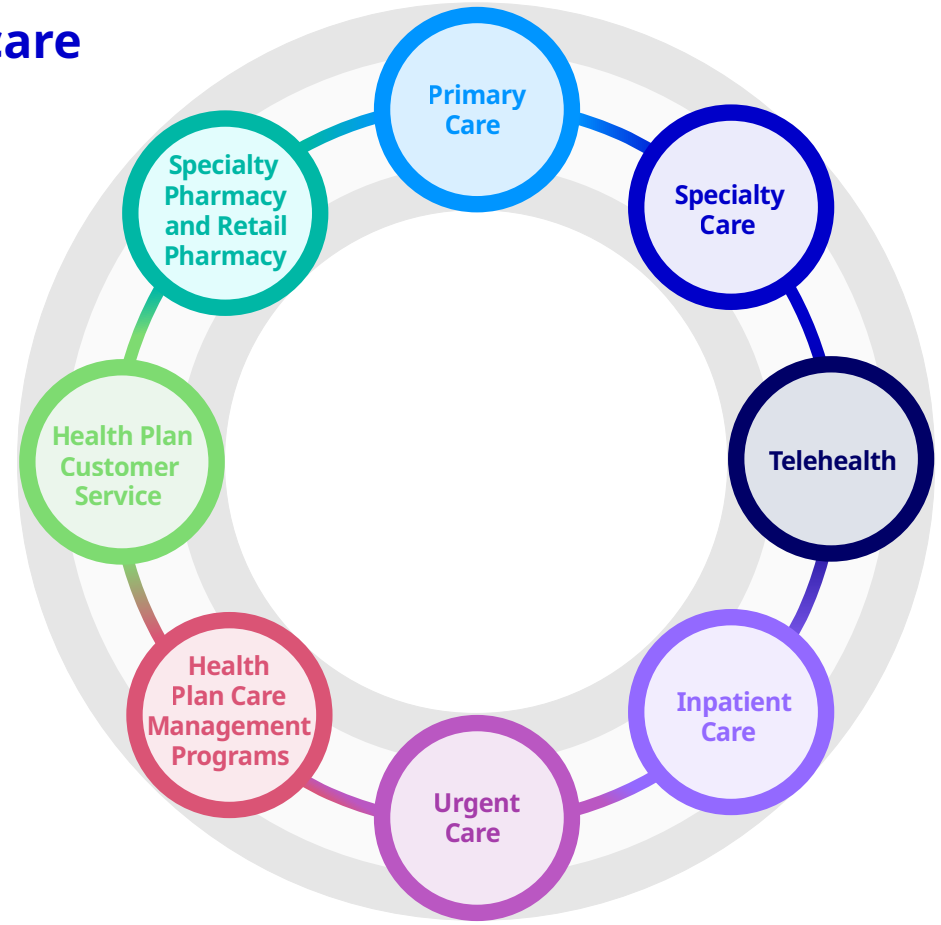
Points of Care Outside of the PCP Office

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[1]

- **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[2]

- In 2014, depending on the number of chronic conditions (1-5+)[3]:
  - 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[4]

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 **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[1]

1 ASSESS

2 RECOMMEND

3 ADMINISTER or REFER

4 DOCUMENT

ASSESS the immunization status of all your patients at every clinical encounter

Strongly RECOMMEND vaccines that your patients need

ADMINISTER or REFER your patients to a vaccination provider

DOCUMENT vaccines received by your patients

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[2]
- Provide a strong recommendation from an HCP and/or specialist to motivate a patient with chronic conditions to vaccinate[3]
- 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[1]

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.

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