Updates on Immunizations for Adults with Diabetes

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Disclaimer

The findings and opinions expressed in this presentation are those of the author and do not necessarily reflect the view of the Indian Health Service.

Overview

Background

Immunization Recommendations

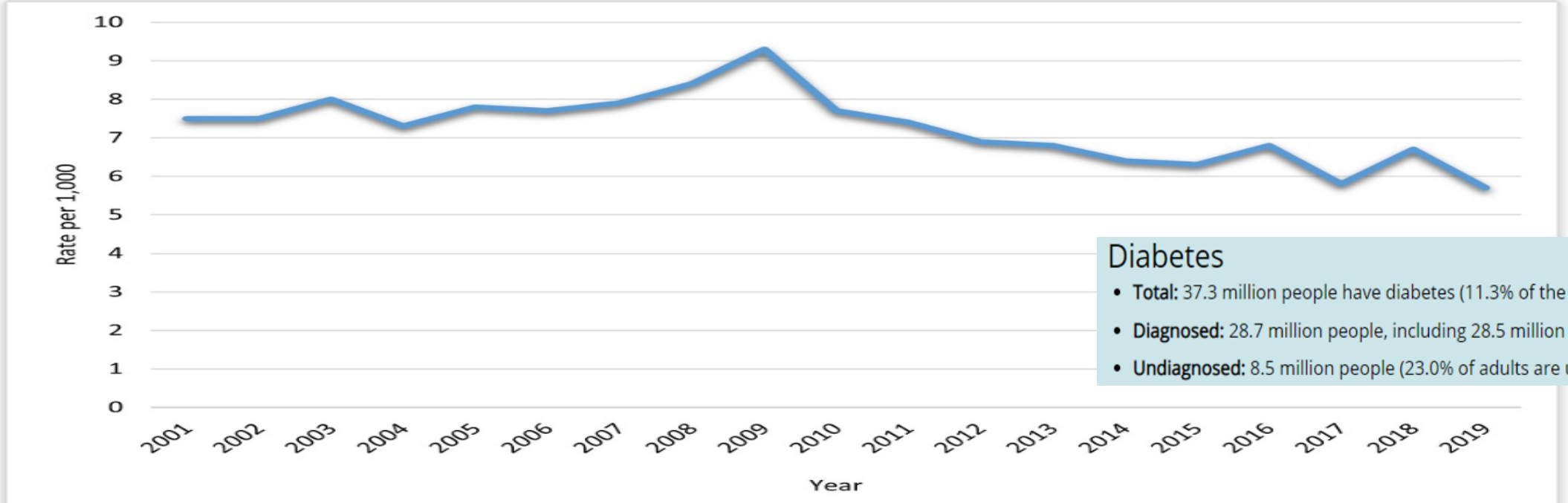
- Adults
- Persons with Diabetes

Improving Immunization Coverage

- Strategies and Practice Standards
- RPMS/EHR Tools
- Resources

Background

Trends in Incidence of Diagnosed Diabetes Among Adults Aged 18 Years or Older, United States, 2001-2019

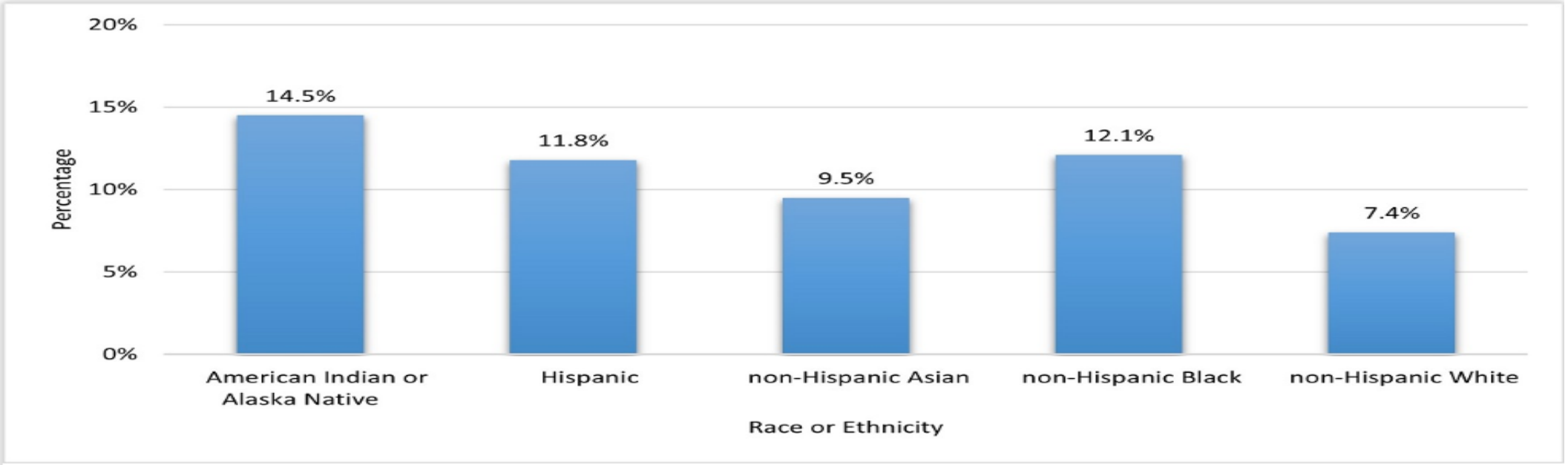


Notes: Rates are age-adjusted to the 2000 US Census standard population. Figure adapted from CDC's *National Diabetes Statistics Report*.
Data source: National Health Interview Survey, Centers for Disease Control and Prevention.

https://www.cdc.gov/diabetes/data/statistics-report/index.html

Background

Percentage of Adults Aged 18 Years or Older with Diagnosed Diabetes, by Racial or Ethnic Group, US 2018-2019



Notes: Percentages are age-adjusted to the 2000 US Census standard population. Figure adapted from CDC's *National Diabetes Statistics Report*.
Data sources: National Health Interview Survey, Centers for Disease Control and Prevention, and the Indian Health Service National Data Warehouse (American Indian or Alaska Native data).

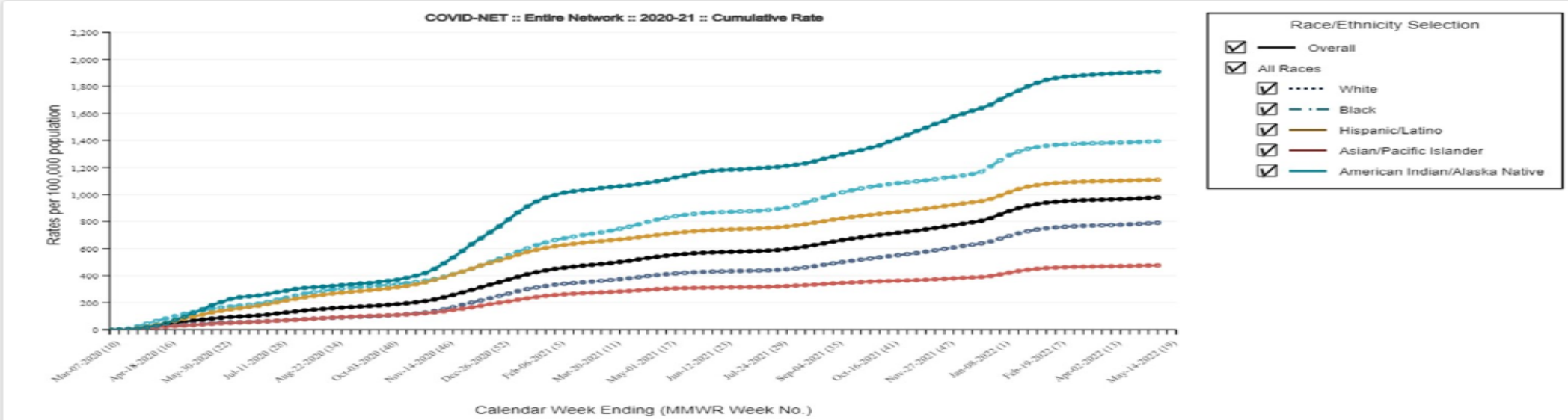
Source : https://www.cdc.gov/diabetes/library/reports/reportcard/national-state-diabetes-trends.html

Background

- Diabetics have higher risk of complications from illnesses
  - Example - Influenza, can raise blood glucose to dangerously high levels.
  - Higher rates of hepatitis B than the rest of the population.
  - Increased risk for death from pneumonia, bacteremia and meningitis infection

Background

Figure 10. Cumulative Laboratory-Confirmed Hospitalizations Associated With COVID-19, by US Racial or Ethnic Group, March 2020–May 14, 2022



Notes: Figure is adapted from CDC's Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET), weekly summary of U.S. COVID-19 Hospitalization Data. This figure is a cumulative rate of COVID-19 hospitalization by racial and ethnicity. The Morbidity and Mortality Weekly Report (MMWR) week is the week of the year that local or state health departments use for disease incidence reporting and publishing.
Data source: Laboratory-Confirmed COVID-19-Associated Hospitalizations, COVID NET, Centers for Disease Control and Prevention.

Background

- Immunization provides the best protection against vaccine-preventable diseases
  - Vaccines are one of the safest ways to protect your health

ACIP Routine Adult Immunization Recommendations

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2022

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
Influenza inactivated (IIV4) or **Influenza recombinant** (RIV4)	1 dose annually			
or	or			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (see notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			1 dose PCV15 followed by PPSV23 OR 1 dose PCV20
Hepatitis A (HepA)	2 or 3 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
	19 through 23 years			
***Haemophilus influenzae* type b** (Hib)	1 or 3 doses depending on indication			

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision-making

No recommendation/ Not applicable

Source: https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf

ACIP Recommended Immunizations for Adults with Diabetes

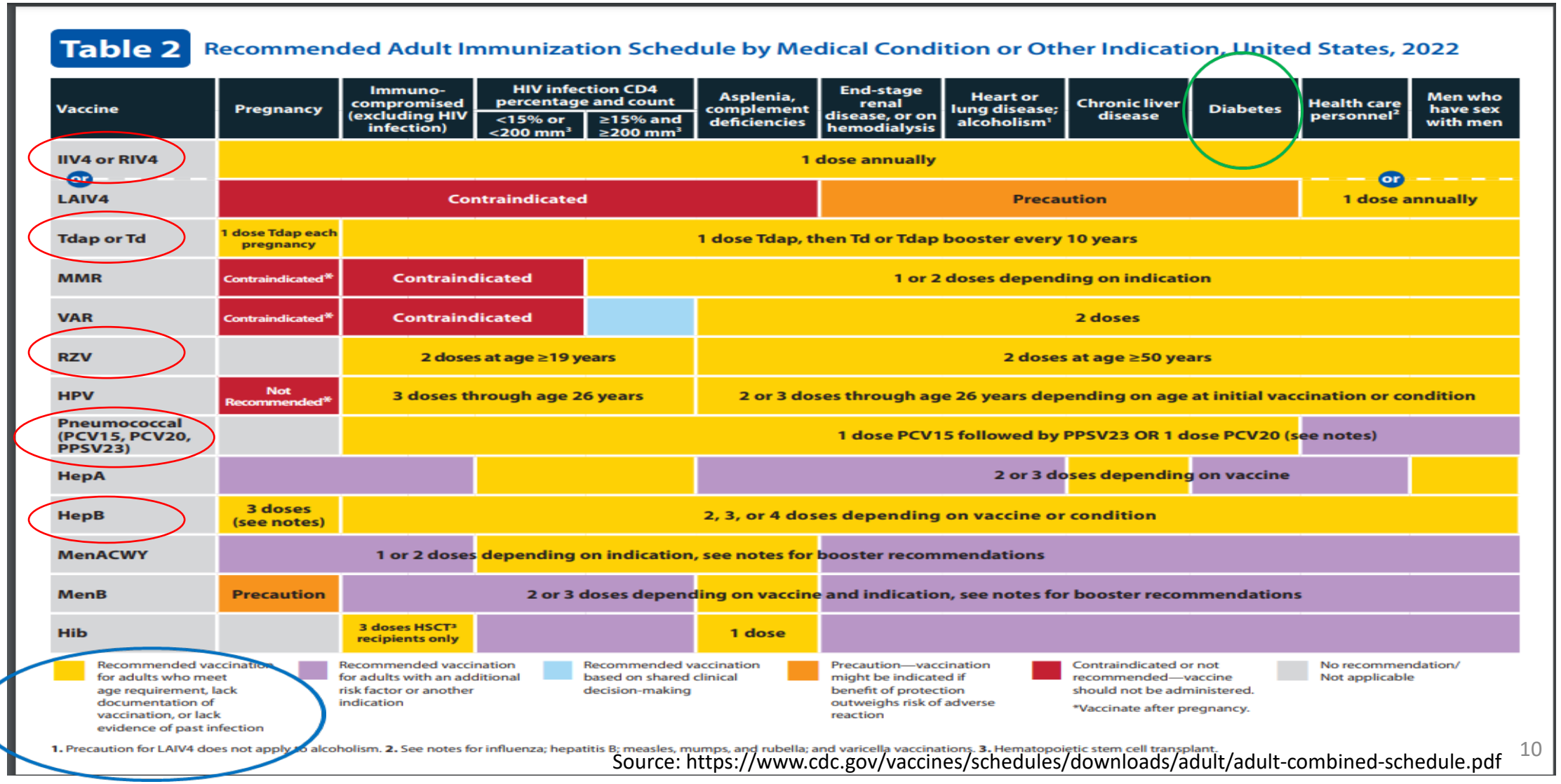


Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2022

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 percentage and count: <15% or <200 mm³	HIV infection CD4 percentage and count: ≥15% and ≥200 mm³	Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease; alcoholism[1]	Chronic liver disease	Diabetes	Health care personnel[2]	Men who have sex with men
IIV4 or RIV4	1 dose annually										
or										or	
LAIV4	Contraindicated					Precaution				1 dose annually	
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	Contraindicated*	Contraindicated		1 or 2 doses depending on indication							
VAR	Contraindicated*	Contraindicated			2 doses						
RZV		2 doses at age ≥19 years			2 doses at age ≥50 years						
HPV	Not Recommended*	3 doses through age 26 years			2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)		1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)									
HepA	2 or 3 doses depending on vaccine										
HepB	3 doses (see notes)	2, 3, or 4 doses depending on vaccine or condition									
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations										
MenB	Precaution	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations									
Hib		3 doses HSCT[3] recipients only			1 dose						

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision-making

Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction

Contraindicated or not recommended—vaccine should not be administered.

*Vaccinate after pregnancy.

No recommendation/ Not applicable

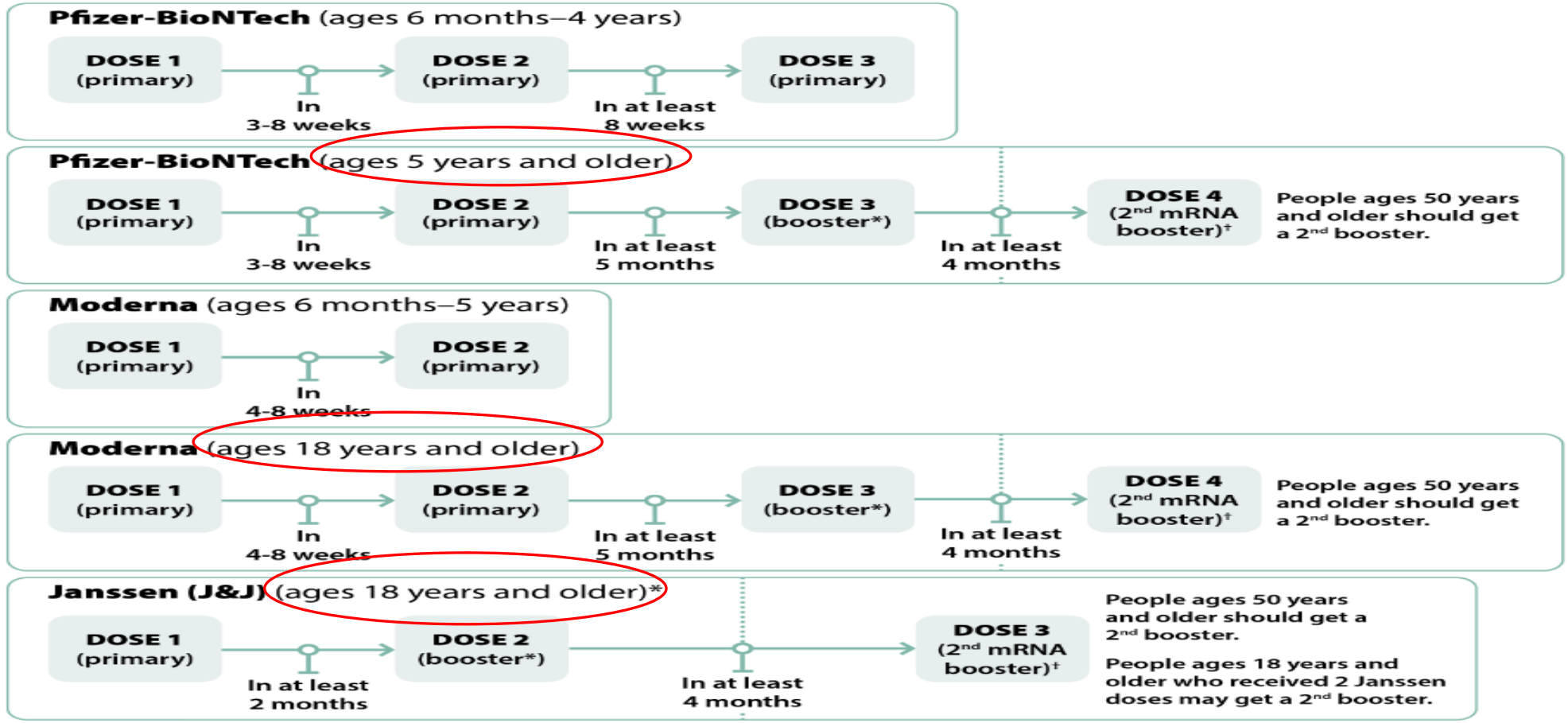
1. Precaution for LAIV4 does not apply to alcoholism. 2. See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. 3. Hematopoietic stem cell transplant.

Source: https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf

COVID-19 Vaccine

- Recommended for everyone ages 6 months and older
  - AI/AN persons experience higher rates of COVID-19-related hospitalization and death compared with non-Hispanic Whites
- Three vaccines approved by the FDA help protect against COVID-19
  - Pfizer-BioNTech
  - Moderna
  - Janssen
- Preferential recommendation for Pfizer-BioNTech and Moderna over the Janssen COVID-19 Vaccine

COVID-19 Vaccine Recommendations



*Age-appropriate mRNA COVID-19 vaccines are preferred over Janssen COVID-19 Vaccine for primary and booster vaccination. Janssen COVID-19 Vaccine should only be used in limited situations. See: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#considerations-Janssen

†2nd booster dose for some groups

Source: https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-vacc-schedule-at-a-glance-508.pdf

Pneumococcal Vaccine

- CDC recommends pneumococcal vaccination for young children, adults, and others with risk factors
  - Older adults are at greatest risk of serious illness and death
  - Diabetes is a risk factor for invasive pneumococcal disease
- Two vaccines protect against pneumococcal disease
  - Pneumococcal conjugate vaccines (PCV 13, 15, 20)
  - Pneumococcal polysaccharide vaccine (PPSV23)
  - Updated Pneumococcal Recommendations – Oct 2021

Recommended pneumococcal vaccines for adults

Adults who have never received a pneumococcal conjugate vaccine should receive PCV15 or PCV20 if they

- Are 65 years and older
- Are 19 through 64 years old and have certain medical conditions or other risk factors

If PCV15 is used, it should be followed by a dose of PPSV23.

https://www.cdc.gov/pneumococcal/vaccination.html

Indian Health Service
Division of Epidemiology and Disease Prevention
National Immunization Program

June 15, 2022

Updated Recommendations for Adult Pneumococcal Vaccination

SUMMARY OF RECOMMENDATIONS

On October 20, 2021, the Advisory Committee on Immunization Practices (ACIP) simplified adult pneumococcal vaccination recommendations across age and risk groups, now including people 19-64 years who have any of a broader group of chronic medical conditions and incorporating use of either 20-valent (PCV20) or 15-valent (PCV15) pneumococcal conjugate vaccines (PCV). Both PCV15 and PCV20 were licensed in 2021 for adults aged ≥18 years and expanded pneumococcal serogroup coverage for adults. This recommendation does not affect the pneumococcal vaccine schedule for children ≤18 years.

American Indians and Alaska Natives (AI/AN) are disproportionately affected by invasive pneumococcal disease and experience higher levels of disease and outbreaks in Tribal communities.[5,6,7] Adopting the newest ACIP PCV recommendations may further prevent an additional 30% of invasive pneumococcal disease cases.[5] ACIP outlines two distinct PCV immunization strategies and did not make a preferential recommendation for either among AI/AN individuals.

RECOMMENDATIONS FOR VACCINE USE[1]

Vaccine Information Statement (VIS)

Dosing, Timing & Administration **(Algorithm for PCV15/PPSV23 and PCV20 Pneumococcal Immunization in Appendix B)**
Adults aged 19–64 years with certain chronic diseases and immunocompromising conditions and adults aged ≥65 years who have not previously received any PCV or whose vaccination history is unknown should receive 1 dose of either PCV20 or PCV15.

- **When PCV15 is used, it should be followed with one dose of PPSV23 at least one year later. A minimum interval of 8 weeks can be considered for adults with an immunocompromising condition.**
- **When PCV20 is used, no additional pneumococcal vaccine doses are recommended.**

Adults who have previously received PPSV23 and have not received a pneumococcal conjugate vaccine may receive one dose of either PCV20 or PCV15 at least one year after their last PPSV23 dose. When PCV15 is used in those with a history of PPSV23 receipt, it need not be followed by another dose of PPSV23.
Adults who previously received PCV13 should complete the previously recommended series with PPSV23 (with an interval of one year between doses for adults ≥65 years, or 8 weeks between doses for immunocompromised individuals), or one dose of PCV20 may be used if PPSV23 is not available.

Efficacy[1]
The FDA authorized PCV20 based on immunobridging studies involving the shared serotypes between PCV13 and PPSV23. PCV20 was non-inferior to all serotypes in common with PCV13 and 6 of the 7 serotypes that overlap with PPSV23. PCV15 was compared to PCV13 in clinical trials and found to be non-inferior for the 13 shared serotypes. Note that PCV20 protects against serotype 12F, which has been identified as a contributor to invasive pneumococcal disease among AI/AN, typically impacting children with subsequent transmission to elders. PPSV23 also provides coverage against serotype 12F; however, clinicians should assess the risk of waiting one year between doses for individuals if the PCV15 and PPSV23 series strategy is implemented (note: for immunocompromised patients this timeframe can be reduced to 8 weeks).

Administration
In alignment with CDC and ACIP recommendations, simultaneously administering all vaccines for which a person is eligible at the time of a visit increases the probability that an individual will be up to date on vaccinations. Clinicians should adhere to vaccine schedules and observe the appropriate minimum intervals between products when used in series.

Contraindications
Pneumococcal vaccines should not be administered to persons with a history of a severe allergic reaction, such as anaphylaxis, to any component of the vaccines, or to individuals with a previous allergic reaction to a dose of the same formulation of pneumococcal vaccine or diphtheria toxoid (in the case of PCV15).

Precautions

- **Vaccination should be delayed for patients experiencing moderate or severe acute illness.**
- **Immunocompromised individuals may have a diminished immune response to pneumococcal vaccinations.**

STORAGE AND HANDLING

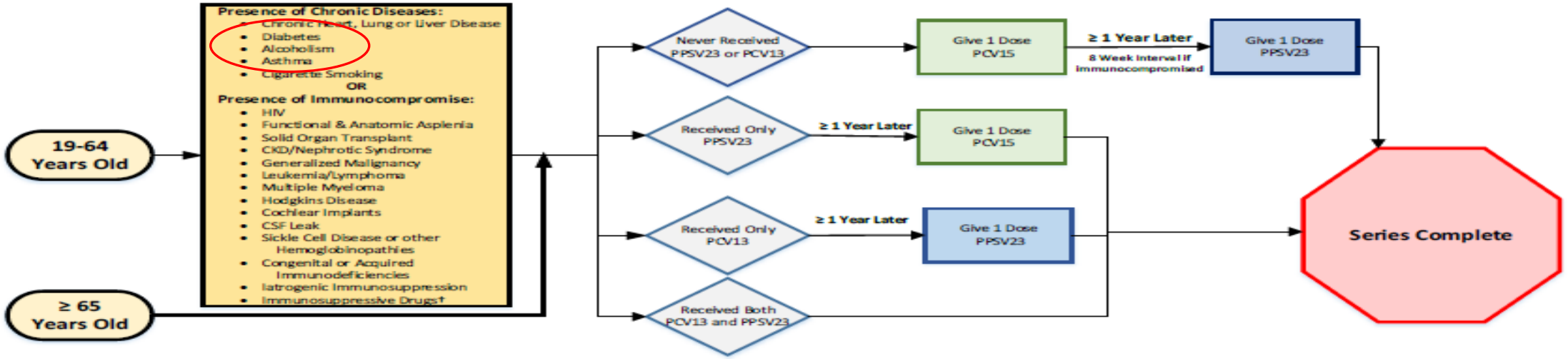
All pneumococcal vaccines (PCV15, PCV20, and PPSV23) should be stored in a refrigerator at 2°C to 8°C. PCV15 and PCV20 require resuspension via vigorous shaking to ensure a homogenous white suspension prior to administration.

Hosted under vaccine recommendations -https://www.ihs.gov/epi/immunization-and-vaccine-preventable-diseases/resources-for-providers/

APPENDIX B

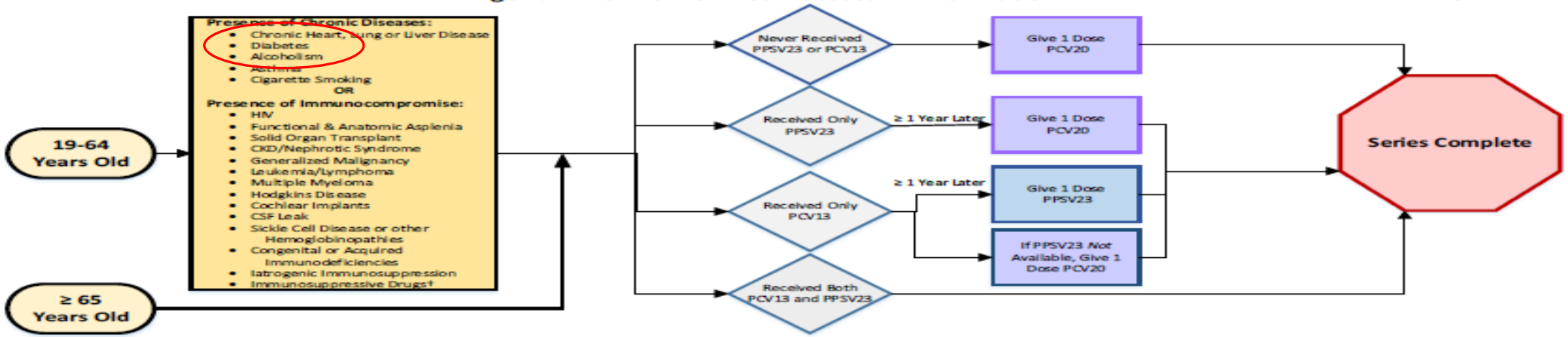
Algorithm for PCV15/PPSV23 Pneumococcal Immunization

Revised 06/2022



Algorithm for PCV20 Pneumococcal Immunization

Revised 06/2022



Hosted under vaccine recommendations -https://www.ihs.gov/epi/immunization-and-vaccine-preventable-diseases/resources-for-providers/

Influenza Vaccine

- CDC recommends annual influenza vaccination for all persons aged 6 months and older who do not have contraindications for prevention of influenza virus.
  - People with diabetes are at higher risk of serious flu complications
- ACIP influenza recommendation – 2022/2023 season
  - Influenza vaccine composition for 2022-23
  - Change in approved age indication for Flucelvax Quadrivalent (ccIIV4)
  - Recommendations for influenza vaccination of persons aged ≥65 years

Influenza Recommendation – 2022/2023 Season

US Influenza Vaccine Composition for 2022-23

- All vaccines will be quadrivalent.
- Influenza A(H3N2) and influenza B/Victoria components updated.

2021-22	2022-23
Egg-based IIV4s and LAIV4:	***Egg-based IIV4s and LAIV4:***
A/Victoria/2570/2019 (H1N1)pdm09-like	A/Victoria/2570/2019 (H1N1)pdm09-like
A/Cambodia/e0826360/2020 (H3N2)-like	A/Darwin/9/2021 (H3N2)-like
B/Washington/02/2019 (Victoria lineage)-like	B/Austria/1359417/2021 (Victoria lineage)-like
B/Phuket/3073/2013 (Yamagata lineage)-like	B/Phuket/3073/2013 (Yamagata lineage)-like
Cell-culture-based IIV4 and RIV4:	***Cell-culture-based IIV4 and RIV4:***
A/Wisconsin/588/2019 (H1N1)pdm09-like	A/Wisconsin/588/2019 (H1N1)pdm09-like
A/Cambodia/e0826360/2020 (H3N2)-like	A/Darwin/6/2021 (H3N2)-like
B/Washington/02/2019 (Victoria lineage)-like	B/Austria/1359417/2021 (Victoria lineage)-like
B/Phuket/3073/2013 (Yamagata lineage)-like	B/Phuket/3073/2013 (Yamagata lineage)-like

Red type denotes change compared 2021-22.

https://www.fda.gov/advisory-committees/advisory-committee-calendar/vaccines-and-related-biological-products-advisory-committee-march-3-2022-meeting-announcement#event-materials

Influenza Recommendation – 2022/2023 Season

Change in Age Indication for Flucelvax Quadrivalent

- Cell-culture based quadrivalent inactivated influenza vaccine (ccIIV4).
  - Previously approved for ages ≥4 years; approved in March 2021 for ages ≥2 years.
  - Approved in October 2021 for ages ≥6 months.

- All standard-dose unadjuvanted IIV4s now approved for ages ≥6 months.

Influenza Recommendation – 2022/2023 Season

Influenza Vaccination for Persons Aged ≥65 Years

Revised proposed language:

--ACIP recommends that adults aged ≥65 years preferentially receive any one of the following higher dose or adjuvanted influenza vaccines: quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (aIIV4).

--If none of these three vaccines is available at an opportunity for vaccine administration, then any other age-appropriate influenza vaccine should be used.

Hepatitis B Vaccine

- The CDC recommends hepatitis B vaccine for all age groups for prevention of hepatitis B virus that can cause lifelong infections such as cirrhosis of the liver

Cause	AI/AN Rate: 2009-2011	US All Races Rate: 2010	Ratio: AI/AN to US All Races
Chronic liver disease and cirrhosis	42.9	9.4	**4.6**

(Age-adjusted mortality rates per 100,000 population)

8th leading cause of death in AI/AN

Source: Mortality Disparity Rates American Indians and Alaska Natives (AI/AN) in the IHS Service Area 2009-2011 and U.S. All Races 2010

Hepatitis B Recommendations

- The following groups <u>should</u> receive hepatitis B vaccines
  - All infants [No change]
  - Unvaccinated children aged <19 years [No change]
  - **Adults 19 through 59 years of age**
  - **Adults 60 years of age and older with risk factors for Hepatitis B infection**
- The following group <u>may</u> receive hepatitis B vaccines
  - **Adults ≥60 years without known risk factors for hepatitis B infection**

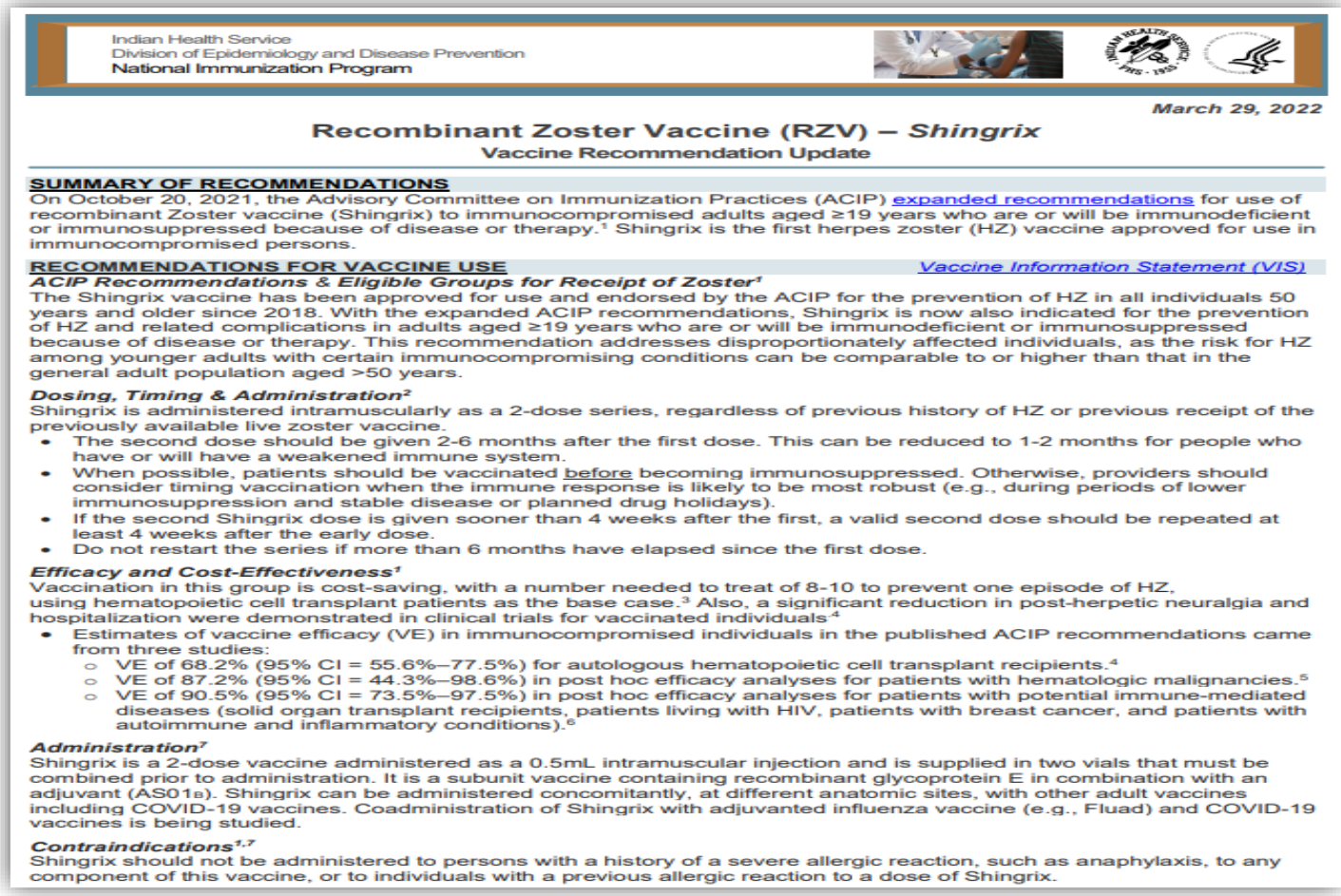
ACIP Approved Hepatitis B Vaccines

- Recombivax-HB (monovalent, aluminum adjuvant)
  - Approved for use at any age
- Engerix-B (monovalent, aluminum adjuvant)
  - Approved for use at any age
- Twinrix (combination HepA + HepB)
  - Approved for use in adults > 18 years
- Heplisav-B (monovalent, 1018 adjuvant) [New in 2018]
  - Approved for use in adults > 18 years, 2-dose series over 1 month
- PreHevbrio (monovalent, aluminium adjuvant) [New in 2022]
  - Approved for use in adults > 18 years, 3-dose series over 6 months

Zoster Vaccine

- CDC recommends Shingrix (recombinant zoster vaccine, or RZV) for the prevention of shingles and related complications
- Summary or recommendations
  - Routine vaccination of adults 50 years and older
    - 2 dose series, 2 to 6 months apart
  - Vaccination of immunocompromised adults 19 years and older
    - 2 dose series, 2–6 months after the first.

Zoster Vaccine Resource



Indian Health Service
Division of Epidemiology and Disease Prevention
National Immunization Program

March 29, 2022

Recombinant Zoster Vaccine (RZV) – *Shingrix*

Vaccine Recommendation Update

SUMMARY OF RECOMMENDATIONS

On October 20, 2021, the Advisory Committee on Immunization Practices (ACIP) expanded recommendations for use of recombinant Zoster vaccine (Shingrix) to immunocompromised adults aged ≥19 years who are or will be immunodeficient or immunosuppressed because of disease or therapy.[1] Shingrix is the first herpes zoster (HZ) vaccine approved for use in immunocompromised persons.

RECOMMENDATIONS FOR VACCINE USE *Vaccine Information Statement (VIS)*

ACIP Recommendations & Eligible Groups for Receipt of Zoster[1]

The Shingrix vaccine has been approved for use and endorsed by the ACIP for the prevention of HZ in all individuals 50 years and older since 2018. With the expanded ACIP recommendations, Shingrix is now also indicated for the prevention of HZ and related complications in adults aged ≥19 years who are or will be immunodeficient or immunosuppressed because of disease or therapy. This recommendation addresses disproportionately affected individuals, as the risk for HZ among younger adults with certain immunocompromising conditions can be comparable to or higher than that in the general adult population aged >50 years.

Dosing, Timing & Administration[2]

Shingrix is administered intramuscularly as a 2-dose series, regardless of previous history of HZ or previous receipt of the previously available live zoster vaccine.

- The second dose should be given 2-6 months after the first dose. This can be reduced to 1-2 months for people who have or will have a weakened immune system.
- When possible, patients should be vaccinated before becoming immunosuppressed. Otherwise, providers should consider timing vaccination when the immune response is likely to be most robust (e.g., during periods of lower immunosuppression and stable disease or planned drug holidays).
- If the second Shingrix dose is given sooner than 4 weeks after the first, a valid second dose should be repeated at least 4 weeks after the early dose.
- Do not restart the series if more than 6 months have elapsed since the first dose.

Efficacy and Cost-Effectiveness[1]

Vaccination in this group is cost-saving, with a number needed to treat of 8-10 to prevent one episode of HZ, using hematopoietic cell transplant patients as the base case.[3] Also, a significant reduction in post-herpetic neuralgia and hospitalization were demonstrated in clinical trials for vaccinated individuals.[4]

- Estimates of vaccine efficacy (VE) in immunocompromised individuals in the published ACIP recommendations came from three studies:
  - VE of 68.2% (95% CI = 55.6%–77.5%) for autologous hematopoietic cell transplant recipients.[4]
  - VE of 87.2% (95% CI = 44.3%–98.6%) in post hoc efficacy analyses for patients with hematologic malignancies.[5]
  - VE of 90.5% (95% CI = 73.5%–97.5%) in post hoc efficacy analyses for patients with potential immune-mediated diseases (solid organ transplant recipients, patients living with HIV, patients with breast cancer, and patients with autoimmune and inflammatory conditions).[6]

Administration[7]

Shingrix is a 2-dose vaccine administered as a 0.5mL intramuscular injection and is supplied in two vials that must be combined prior to administration. It is a subunit vaccine containing recombinant glycoprotein E in combination with an adjuvant (AS01B). Shingrix can be administered concomitantly, at different anatomic sites, with other adult vaccines including COVID-19 vaccines. Coadministration of Shingrix with adjuvanted influenza vaccine (e.g., Fluad) and COVID-19 vaccines is being studied.

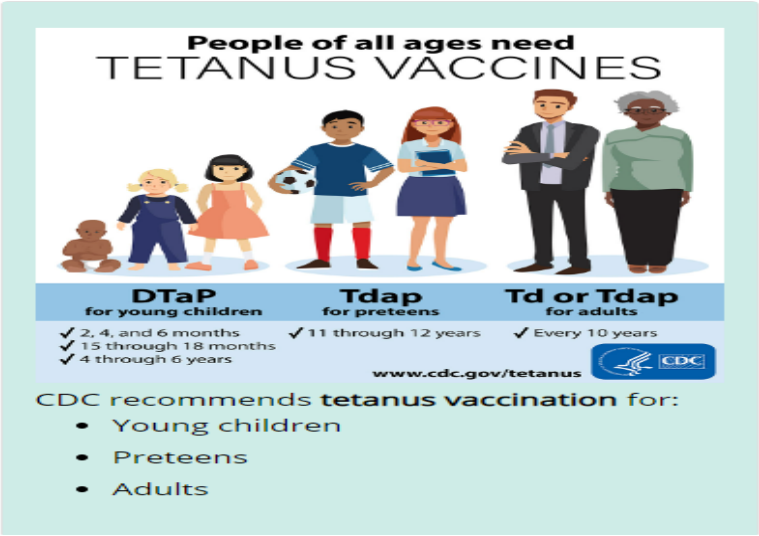
Contraindications[1,7]

Shingrix should not be administered to persons with a history of a severe allergic reaction, such as anaphylaxis, to any component of this vaccine, or to individuals with a previous allergic reaction to a dose of Shingrix.

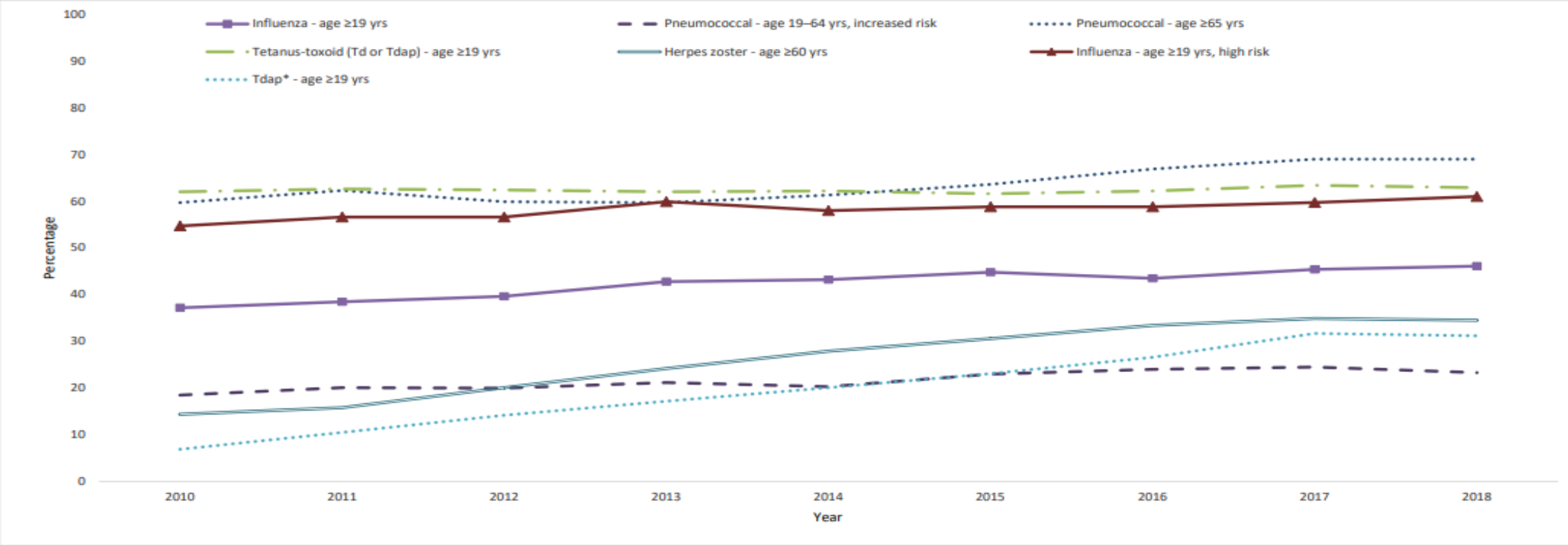
Hosted under vaccine recommendations -https://www.ihs.gov/epi/immunization-and-vaccine-preventable-diseases/resources-for-providers/

TDAP Vaccine

- CDC recommends diphtheria, tetanus, and whooping cough (pertussis) vaccination (Tdap) for all adults
  - Adults who have never received Tdap should get 1 dose of Tdap.
  - Subsequently Td vaccine booster or Tdap every 10 years.



Adult Vaccine Coverage Rates



Abbreviations: Td = tetanus and diphtheria toxoids; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine.

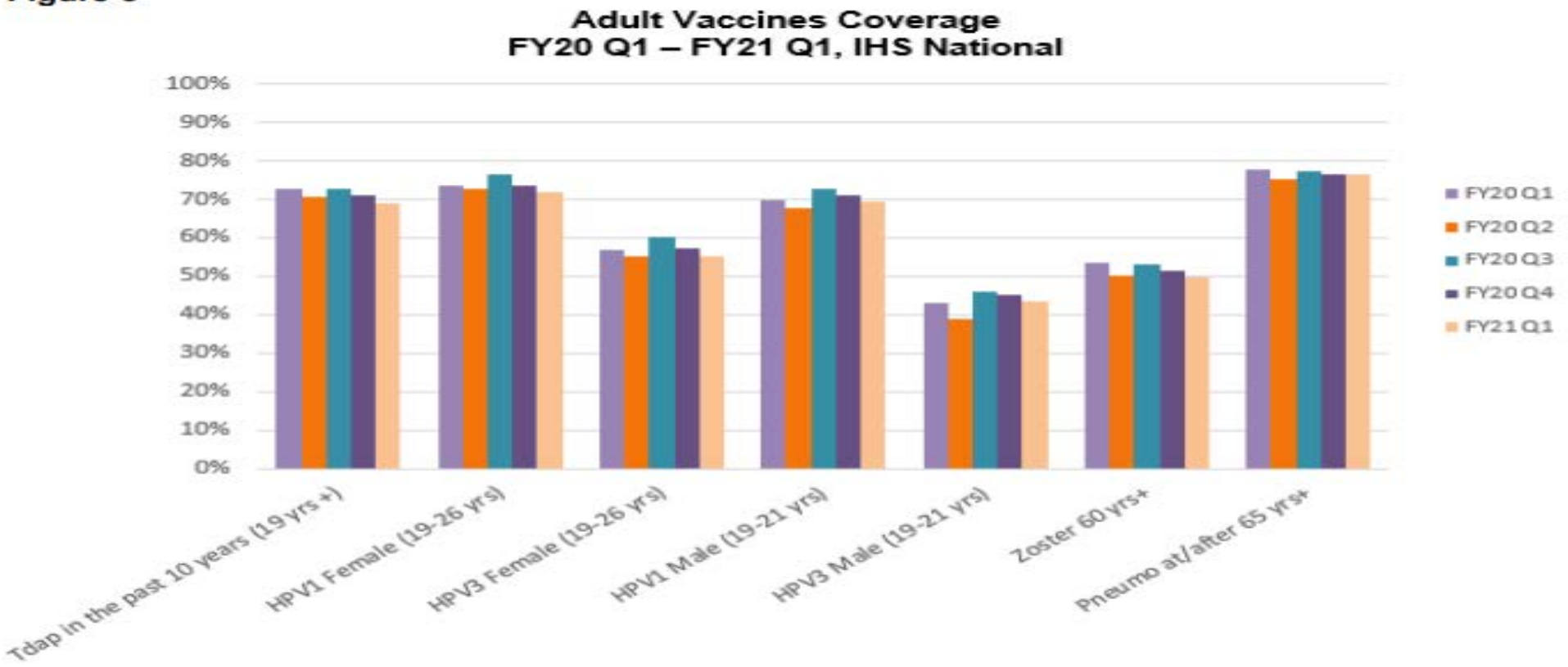
* Tdap vaccination coverage data among adults aged ≥65 years are available beginning in the NHIS 2012 survey.

Source: https://www.cdc.gov/mmwr/volumes/70/ss/ss7003a1.htm

FIGURE. Estimated proportion of adults aged ≥19 years who received selected vaccines, by age group and risk status — National Health Interview Survey, United States, 2010–2018

Adult Vaccine Coverage Rates

Figure 6



Vaccination Challenges

- Transportation issues
- Patients not coming to clinic for care
- Address and phone numbers change frequently
- Vaccine hesitancy and refusals
- Most adults are not aware they need vaccines.
  - Patient may not be aware of the health benefits of vaccines
- Providers not giving a strong recommendation for vaccines
- Missed Opportunities
  - Not routinely assessing vaccination status

Strategies and Standards

Assess

- Provider reminders in the EHR
- Monitor immunization coverage

Recommend

- Make a STRONG recommendation

Vaccinate

- Standing orders
- Expand access – nurse only visits, pharmacy visits, walk-in visits, extended clinic hours

Strategies and Standards

Document

- Reminder/Recall strategies
  - IHS/EHR reminders, reminder/ recall notices to patients who are due (letters, phone calls, postcards)
- Ensure patients return for additional vaccine doses if needed
- Document vaccines given in other locations

Vaccine Assessment Tool

Clinical Decision Support for Immunizations

- Shows which vaccines patients are due for
  - Takes into account minimum intervals and ages
- All routine, AGE-BASED recommendations
- Use RPMS immunization package to identify patients with diabetes
  - RPMS/EHR reminders
  - Lists and Letters in the RPMS Immunization package
    - Only available in the roll and scroll environment (NOT EHR)

IHS RPMS Immunization Package Resources

- https://www.ihs.gov/epi/immunization-and-vaccine-preventable-diseases/resources-for-providers/

Provider Reminders/Forecaster

Influenza	**Yes**	**2021-2022 Season**
PCV15/PCV20 for 65 years+	**No**	**Pending ICE 1.35.1**
PCV15/PCV20 for immunocompromised/risk factors – 19-64yrs	**No**	**Pending ICE 1.35.1**
PPSV23 for adults with high risk condition	**Yes**	**Yes**
Tdap for everyone 19 years +	**Yes**	**Yes**
Zoster for 50 years +	**Yes**	**Yes**
Hepatitis B for all patients who receive first dose	**Yes**	
Hepatitis B for adults 19-59 years with diabetes	**No**	**Pending ICE 1.35.1**
HPV 19- 26 years	**Yes**	**Yes**
HPV 27 -45 years – optional	**Yes**	

Influenza Resources

IHS.gov/flu

- IHS Weekly Surveillance Reports
- Health Care Personnel vaccination policy and FAQ

CDC.gov/flu

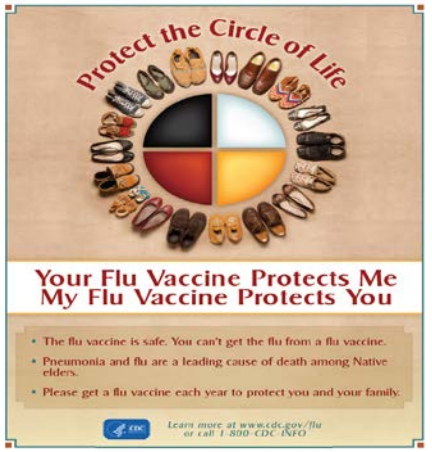
- CDC Weekly Surveillance Reports, Flu Activity data
- Influenza related information, education material, flu vaccine recommendations

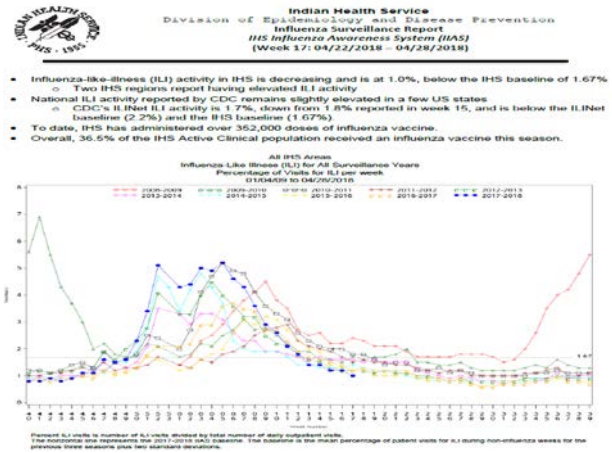
Immunize.org

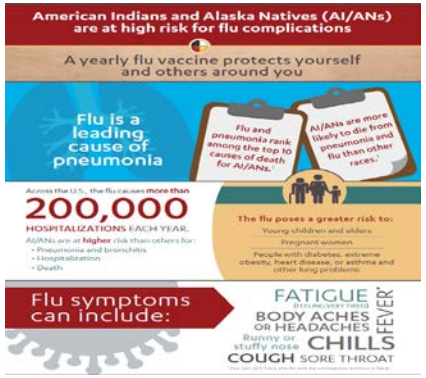
- Immunization Action Coalition

Nfid.org/influenza

- National Foundation for Infectious Diseases

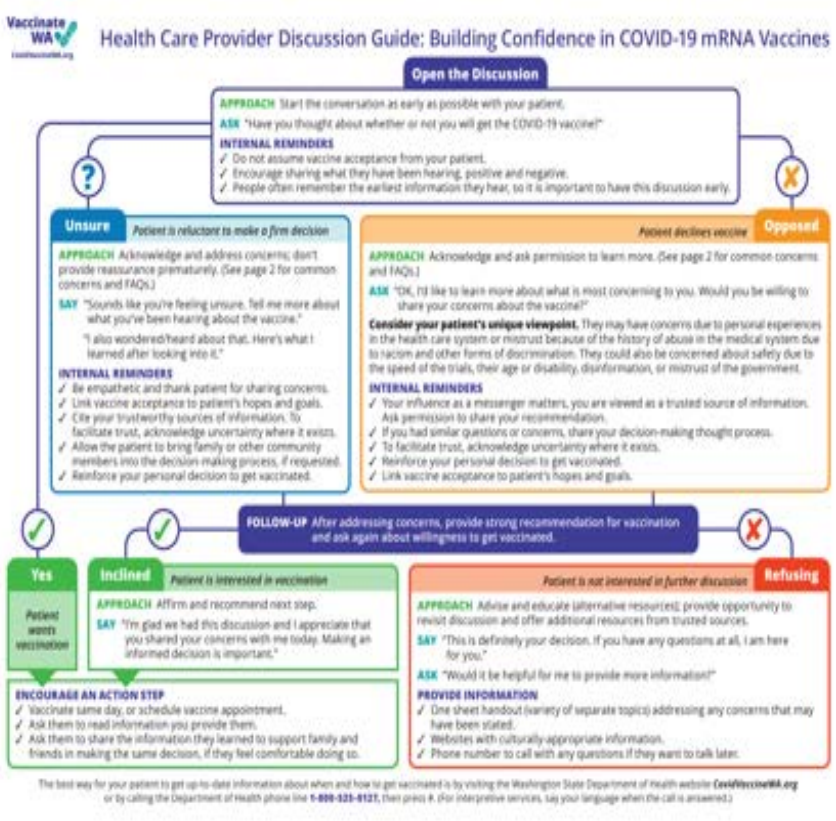




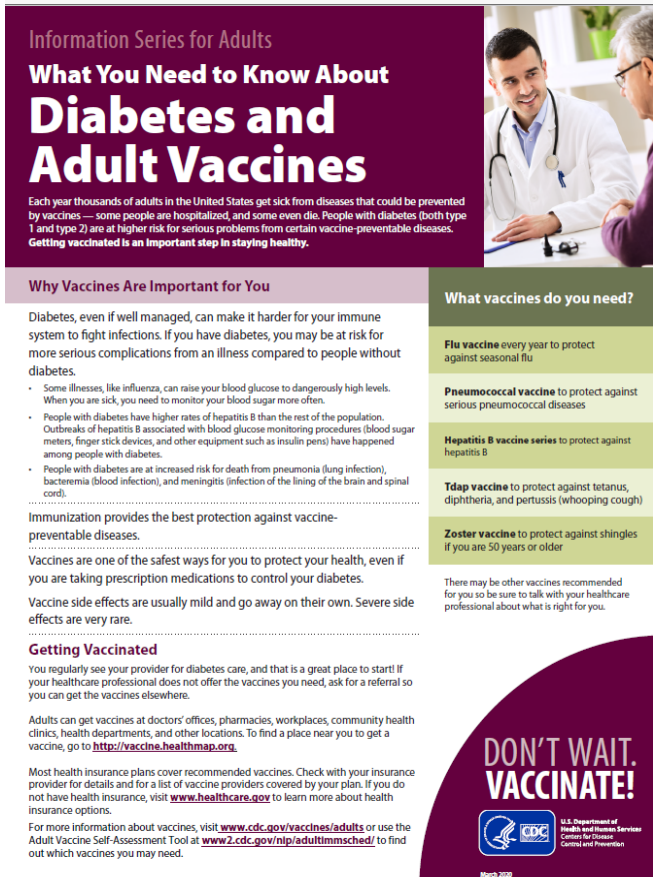


Resources for Vaccine Confidence

- SHARE YOUR REASONS FOR GETTING YOUR CHILDREN VACCINATED
- TALK TO OTHERS ABOUT VACCINES AND LISTEN WITH EMPATHY TO CONCERNS
- ADDRESS MISINFORMATION AND SHARE FACTS
- CELEBRATE!



https://waportal.org/partners/home/doh-digest/editions/2022-04-14/guidance-materials-revised-providers-and-facilities



Information Series for Adults

What You Need to Know About

Diabetes and Adult Vaccines

Each year thousands of adults in the United States get sick from diseases that could be prevented by vaccines — some people are hospitalized, and some even die. People with diabetes (both type 1 and type 2) are at higher risk for serious problems from certain vaccine-preventable diseases. **Getting vaccinated is an important step in staying healthy.**

Why Vaccines Are Important for You

Diabetes, even if well managed, can make it harder for your immune system to fight infections. If you have diabetes, you may be at risk for more serious complications from an illness compared to people without diabetes.

- Some illnesses, like influenza, can raise your blood glucose to dangerously high levels. When you are sick, you need to monitor your blood sugar more often.
- People with diabetes have higher rates of hepatitis B than the rest of the population. Outbreaks of hepatitis B associated with blood glucose monitoring procedures (blood sugar meters, finger stick devices, and other equipment such as insulin pens) have happened among people with diabetes.
- People with diabetes are at increased risk for death from pneumonia (lung infection), bacteremia (blood infection), and meningitis (infection of the lining of the brain and spinal cord).

Immunization provides the best protection against vaccine-preventable diseases.

Vaccines are one of the safest ways for you to protect your health, even if you are taking prescription medications to control your diabetes.

Vaccine side effects are usually mild and go away on their own. Severe side effects are very rare.

Getting Vaccinated

You regularly see your provider for diabetes care, and that is a great place to start! If your healthcare professional does not offer the vaccines you need, ask for a referral so you can get the vaccines elsewhere.

Adults can get vaccines at doctors' offices, pharmacies, workplaces, community health clinics, health departments, and other locations. To find a place near you to get a vaccine, go to **http://vaccine.healthmap.org.**

Most health insurance plans cover recommended vaccines. Check with your insurance provider for details and for a list of vaccine providers covered by your plan. If you do not have health insurance, visit **www.healthcare.gov** to learn more about health insurance options.

For more information about vaccines, visit **www.cdc.gov/vaccines/adults** or use the Adult Vaccine Self-Assessment Tool at **www2.cdc.gov/nip/adultimmsched/** to find out which vaccines you may need.

What vaccines do you need?

Flu vaccine every year to protect against seasonal flu

Pneumococcal vaccine to protect against serious pneumococcal diseases

Hepatitis B vaccine series to protect against hepatitis B

Tdap vaccine to protect against tetanus, diphtheria, and pertussis (whooping cough)

Zoster vaccine to protect against shingles if you are 50 years or older

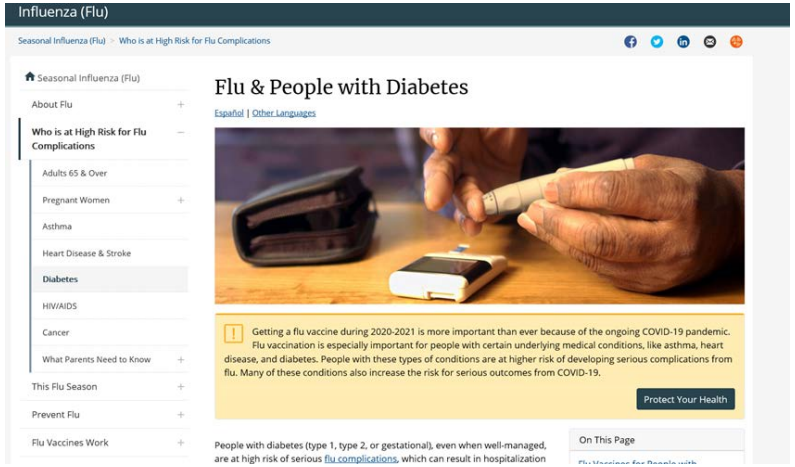
There may be other vaccines recommended for you so be sure to talk with your healthcare professional about what is right for you.

DON'T WAIT. VACCINATE!

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

March 2020

CDC: www.cdc.gov/vaccines and www.cdc.gov/flu and www.cdc.gov/diabetes/vaccines



Influenza (Flu)

Seasonal Influenza (Flu) › Who is at High Risk for Flu Complications

Seasonal Influenza (Flu)
About Flu
Who is at High Risk for Flu Complications
Adults 65 & Over
Pregnant Women
Asthma
Heart Disease & Stroke
Diabetes
HIV/AIDS
Cancer
What Parents Need to Know
This Flu Season
Prevent Flu
Flu Vaccines Work

Flu & People with Diabetes

Español | Other Languages

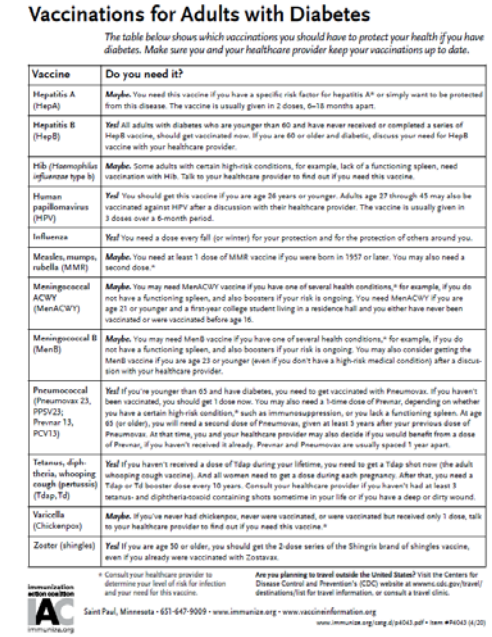
Getting a flu vaccine during 2020-2021 is more important than ever because of the ongoing COVID-19 pandemic. Flu vaccination is especially important for people with certain underlying medical conditions, like asthma, heart disease, and diabetes. People with these types of conditions are at higher risk of developing serious complications from flu. Many of these conditions also increase the risk for serious outcomes from COVID-19.

Protect Your Health

People with diabetes (type 1, type 2, or gestational), even when well-managed, are at high risk of serious flu complications, which can result in hospitalization

On This Page

CDC Infographic: https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/diabetes/infographic/index.html



Vaccinations for Adults with Diabetes

The table below shows which vaccinations you should have to protect your health if you have diabetes. Make sure you and your healthcare provider keep your vaccinations up to date.

Vaccine	Do you need it?
Hepatitis A (HepA)	**Maybe.** You need this vaccine if you have a specific risk factor for hepatitis A* or simply want to be protected from this disease. The vaccine is usually given in 2 doses, 6–18 months apart.
Hepatitis B (HepB)	**Yes!** All adults with diabetes who are younger than 60 and have never received or completed a series of HepB vaccine, should get vaccinated now. If you are 60 or older and diabetic, discuss your need for HepB vaccine with your healthcare provider.
Hib (Haemophilus influenzae type b)	**Maybe.** Some adults with certain high-risk conditions, for example, lack of a functioning spleen, need vaccination with Hib. Talk to your healthcare provider to find out if you need this vaccine.
Human papillomavirus (HPV)	**Yes!** You should get this vaccine if you are age 26 years or younger. Adults age 27 through 45 may also be vaccinated against HPV after a discussion with their healthcare provider. The vaccine is usually given in 3 doses over a 6-month period.
Influenza	**Yes!** You need a dose every fall (or winter) for your protection and for the protection of others around you.
Measles, mumps, rubella (MMR)	**Maybe.** You need at least 1 dose of MMR vaccine if you were born in 1957 or later. You may also need a second dose.*
Meningococcal ACWY (MenACWY)	**Maybe.** You may need MenACWY vaccine if you have one of several health conditions,* for example, if you do not have a functioning spleen, and also boosters if your risk is ongoing. You need MenACWY if you are age 21 or younger and a first-year college student living in a residence hall and you either have never been vaccinated or were vaccinated before age 16.
Meningococcal B (MenB)	**Maybe.** You may need MenB vaccine if you have one of several health conditions,* for example, if you do not have a functioning spleen, and also boosters if your risk is ongoing. You may also consider getting the MenB vaccine if you are age 23 or younger (even if you don't have a high-risk medical condition) after a discussion with your healthcare provider.
Pneumococcal (Pneumovax 23, PPSV23; Prevnar 13, PCV13)	**Yes!** If you're younger than 65 and have diabetes, you need to get vaccinated with Pneumovax. If you haven't been vaccinated, you should get 1 dose now. You may also need a 1-time dose of Prevnar, depending on whether you have a certain high-risk condition,* such as immunosuppression, or you lack a functioning spleen. At age 65 (or older), you will need a second dose of Pneumovax, given at least 5 years after your previous dose of Pneumovax. At that time, you and your healthcare provider may also decide if you would benefit from a dose of Prevnar, if you haven't received it already. Prevnar and Pneumovax are usually spaced 1 year apart.
Tetanus, diphtheria, whooping cough (pertussis) (Tdap, Td)	**Yes!** If you haven't received a dose of Tdap during your lifetime, you need to get a Tdap shot now (the adult whooping cough vaccine). And all women need to get a dose during each pregnancy. After that, you need a Tdap or Td booster dose every 10 years. Consult your healthcare provider if you haven't had at least 3 tetanus- and diphtheria-toxoid containing shots sometime in your life or if you have a deep or dirty wound.
Varicella (Chickenpox)	**Maybe.** If you've never had chickenpox, never were vaccinated, or were vaccinated but received only 1 dose, talk to your healthcare provider to find out if you need this vaccine.*
Zoster (shingles)	**Yes!** If you are age 50 or older, you should get the 2-dose series of the Shingrix brand of shingles vaccine, even if you already were vaccinated with Zostavax.

* Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

Are you planning to travel outside the United States? Visit the Centers for Disease Control and Prevention's (CDC) website at wwwnc.cdc.gov/travel/destinations/list for travel information, or consult a travel clinic.

Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

www.immunize.org/catg.d/p4043.pdf • Item #P4043 (6/20)

Page last reviewed: October 27, 2021

Content source: Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases (NCIRD)

Immunization Action Coalition: https://www.immunize.org

Resources

IHS Immunization Resources:
- https://www.ihs.gov/epi/vaccine/resources/
- https://ww.IHS.gov/flu

CDC Vaccine Resources
- www.cdc.gov/vaccines
- www.cdc.gov/diabetes/vaccines

Immunization Action Coalition
- www.immunize.org

Adult and Influenza Education Materials:
- http://nptec.gptchb.org/infectious-disease/national-vaccination-project/

Association of American Indian Physicians/ASTHO
- Influenza media kit and PSA videos for AI/AN communities
  - https://www.aaip.org/programs/capacity-building-assistance/influenza-vaccination/

National Foundation for Infectious Diseases
- https://ww.nfid.org/influenza

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