Protect & Prevent: Adult Vaccination Recommendation Updates & Implementation Strategies

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Faculty Disclosure

I have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

Learning Objectives

- By the end of this webinar, participants will be able to:
  - Interpret CDC adult immunization schedules;
  - Describe adult vaccination recommendations, indications, and contraindications; and
  - Identify strategies to improve adult immunization rates.

ADULT IMMUNIZATION SCHEDULES

https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-schedule-vaccines.html

Reading an Immunization Schedule

- Multiple schedules available:
  - Children and adolescents
  - Adults
  - Medical indications
  - Catch-up
- Determine recommended vaccinations by age
- Assess need for additional recommended vaccinations
- Review vaccine types, frequencies, intervals, and considerations for special circumstances

https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-schedule-vaccines.html
https://www.cdc.gov/vaccines/hcp/imz-schedules/child-adolescent-age.html

What do the colors mean?

Yellow- Recommended

Yellow with squares- Recommended vaccination can begin in this age group

Purple- Recommended for those with an additional risk factor/indication

Blue- Recommended based on shared clinical decision making

Green- Recommended ages for catch-up immunization

Orange- Precaution (vaccination may be indicated if benefit of protection outweighs risk of adverse reaction)

Red- NOT recommended/contraindicated

Grey- No recommendation/not applicable

Brown-Recommended for all age-eligible children, and additional doses may be necessary based on medical condition or other indications

https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf
https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2025

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID–19	1 or more doses of 2024–2025 vaccine (See Notes)			2 or more doses of 2024-2025 vaccine (See Notes)
Influenza inactivated (IIV3, ccIIV3) **Influenza recombinant** (RIV3)	1 dose annually			1 dose annually (HD–IIV3, RIV3, or aIIV3 preferred)
Influenza inactivated (aIIV3; HD–IIV3) **Influenza recombinant** (RIV3)	Solid organ transplant (See Notes)			
Influenza live, attenuated (LAIV3)	1 dose annually			
Respiratory syncytial virus (RSV)	Seasonal administration during pregnancy (See Notes)		60 through 74 years (See Notes)	≥75 years
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)			For health care personnel (See Notes)
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, PCV21, PPSV23)			See Notes	See Notes
Hepatitis A (HepA)	2, 3, or 4 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)	19 through 23 years	2 or 3 doses depending on vaccine and indication (See Notes for booster recommendations)		
***Haemophilus influenzae* type b** (Hib)	1 or 3 doses depending on indication			
Mpox	2 doses			
Inactivated poliovirus (IPV)	Complete 3-dose series if incompletely vaccinated. Self–report of previous doses acceptable (See Notes)			

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

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

Recommended vaccination based on shared clinical decision–making

No Guidance/ Not Applicable

https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html#table-age

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2025

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions or indications are often not mutually exclusive. If multiple medical conditions or indications are present, refer to guidance in all relevant columns. See Notes for medical conditions or indications not listed.

VACCINE	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count		Men who have sex with men	Asplenia, complement deficiency	Heart or lung disease	Kidney failure, End–stage renal disease or on dialysis	Chronic liver disease; alcoholism[a]	Diabetes	Health care Personnel[b]
			<15% or <200/mm³	≥15% and ≥200/mm³							
COVID–19		See Notes									
Influenza inactivated Influenza recombinant		Solid organ transplant (See Notes)	1 dose annually								
LAIV3					1 dose annually if age 19–49 years		1 dose annually if age 19–49 years				
RSV	Seasonal administration (See Notes)	See Notes				See Notes			Liver disease (See Notes)	See Notes	
Tdap or Td	Tdap: 1 dose each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	*										
VAR	*			See Notes							
RZV		See Notes									
HPV	*	3-dose series if indicated									
Pneumococcal											
HepA											
Hep B	See Notes									Age ≥ 60 years	
MenACWY											
MenB											
Hib		HSCT: 3 doses[c]				Asplenia: 1 dose					
Mpox	See Notes				See Notes						See Notes
IPV		Complete 3-dose series if incompletely vaccinated. Self–report of previous doses acceptable (See Notes)									

- Recommended for all adults who lack documentation of vaccination, **OR** lack evidence of immunity
- Not recommended for all adults, but recommended for some adults based on either age **OR** increased risk for or severe outcomes from disease
- Recommended vaccination based on shared clinical decision–making
- Recommended for all adults, and additional doses may be necessary based on medical condition or other indications. See Notes.
- Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction
- Contraindicated or not recommended *Vaccinate after pregnancy, if indicated
- No Guidance/ Not Applicable

a. Precaution for LAIV3 does not apply to alcoholism.

b. See Notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations.

c. Hematopoietic stem cell transplant.

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https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html#table-age

Shared Clinical Decision-Making

- Vaccinations that are not recommended for everyone in a particular age group or for everyone in an identifiable risk group
- Individual based decision process between a health care provider and the patient or parent/guardian
- Based on best available evidence of who may benefit from vaccination, individual's characteristics, values, and preferences
- Health care provider's clinical discretion and characteristics of the vaccine are considered
- Patients may benefit, but unlikely to have population-level impacts

https://www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html

Shared Clinical Decision-Making

Applies to the following vaccinations:

- Meningococcal B (MenB) vaccination for adolescents and young adults aged 16 to 23 years
- Hepatitis B (HepB) vaccination for adults age 60 years and older with diabetes mellitus
- Human papillomavirus (HPV) vaccination for adults aged 27 to 45 years
- Pneumococcal conjugate vaccination (PCV20 or PCV21) for adults aged 65 years and older who have completed the recommended vaccine series with both PCV13 (at any age) and PPSV23
- Additional doses of COVID-19 vaccination for people who are moderately or severely immunocompromised

https://www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html

Shared Clinical Decision-Making

Health care providers

- ANYONE who provides or administers vaccines

- Primary care physicians
- Specialists
- Physician assistants
- Nurse practitioners
- Registered nurses
- Pharmacists

https://www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html

RECOMMENDED VACCINATIONS

Focusing on Select Vaccination Recommendations for Adults

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Tetanus, Diphtheria, and Pertussis

- Tetanus
  - Bacterial disease that causes painful tightening of the muscles
  - Can get from a cut or a wound
  - Three out of 10 people who get the disease die from it
- Diphtheria
  - Bacterial disease that affects the respiratory system
  - Can lead to swollen glands in the neck and even swelling of the heart muscles
- Pertussis
  - Bacterial respiratory tract infection
  - Leads to violent coughing and choking spells
  - Most severe in babies

Td/Tdap

Tdap

- Recommended for:
  - Adolescents 11-12 years of age
  - Adults who have not received a dose of Tdap previously
  - Women with each pregnancy between weeks 27-36

Booster doses of Td or Tdap

- Recommended for:
  - All adults every 10 years

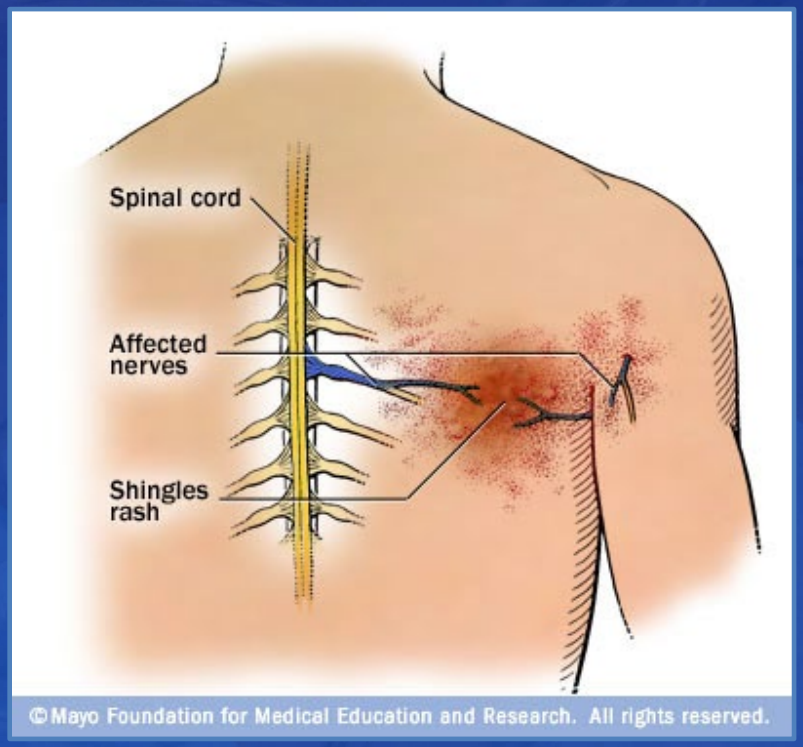
Td/Tdap

- Contraindications:
  - Severe allergic reaction after a previous dose or to one of the vaccine components
  - Encephalopathy not attributable to another identifiable cause, within 7 days of administration of a previous dose of DTP or DTaP

https://www.cdc.gov/vaccines/hcp/imz-best-practices/contraindications-precautions.html

Zoster

- 1 out of 3 people in U.S. will develop shingles during their lifetime
- Risk of shingles and having serious complications increases with age, especially over 50 years



https://www.cdc.gov/shingles/about/index.html

Zoster Vaccine Recombinant, Adjuvanted

- Indication:
  - For the prevention of herpes zoster in adults aged 50 years and older
  - Adults 19 years of age and older who are immunocompromised
  - NOT indicated for the prevention of primary varicella infection
- Storage:
  - Both the antigen and adjuvant need to be stored between 36°F to 46°F (refrigerated)
  - Protect from light
  - Do not freeze

Zoster Vaccine Recombinant, Adjuvanted package insert

Zoster Vaccine Recombinant, Adjuvanted

- Dosage:
  - 0.5 mL
  - 2 dose series
  - Second dose administered 2-6 months after the first dose
    - Do NOT need to restart if more than 6 months elapsed since 1st dose
- Dosage Preparation:
  - Reconstitute with accompanying suspension
  - Reconstituted vaccine should be opalescent, colorless to pale brown liquid
  - After reconstitution can be stored in refrigerator for 6 hours and should be discarded if not used within that timeframe

Zoster Vaccine Recombinant, Adjuvanted package insert
Morbidity and Mortality Weekly Report (MMWR). January 26, 2018; 67(3); 103–108

Zoster Vaccine Recombinant, Adjuvanted

- Contraindications:
  - History of severe allergic reaction to any component of the vaccine or after a previous dose of the Zoster Vaccine Recombinant, Adjuvanted vaccine

https://www.cdc.gov/vaccines/hcp/imz-best-practices/contraindications-precautions.html

Human Papillomavirus (HPV)

- About 85% of people will get an HPV infection in their lifetime
- Most common sexually transmitted infection in U.S.
- A cause of:
  - Genital warts in women and men
  - Cervical cancer in women
  - Anogenital cancer
  - Oropharyngeal cancer
- Vaccination could prevent more than 90% of cancers caused from HPV from ever developing

www.cdc.gov/hpv/hcp/clinical-overview/index.html

HPV Vaccine

- Recommended for males and females 11 to 12 years of age
  - Can be administered as early as 9 years of age up through 26 years of age
- Shared clinical decision making: men & women 27 to 45 years of age
- 2-dose schedule if series started before age 15
  - Second dose 6 to 12 months after the first dose
- 3-dose schedule if series started on or after 15th birthday
  - Second dose 1 to 2 months after the first dose
  - Third dose 6 months after the first dose
- Immunocompromised patients should also receive the 3 dose schedule

HPV Vaccine

- Contraindications:
  - Severe allergic reaction after a previous dose of the vaccine or to a vaccine component, including yeast

Pneumococcal Disease

- Bacterial disease
- Caused by Streptococcus pneumoniae or pneumococcus
- Infection types include:
  - Pneumonia (lung infection)
  - Bacteremia (blood infection)
  - Sinusitis (sinus infection
  - Meningitis (infection of the lining of the brain and spinal cord)
  - Otitis media (middle ear infection)
- Invasive infections are usually severe and can lead to hospitalization or death

www.cdc.gov/pneumococcal/about/index.html

Pneumococcal Vaccination

- Recommended for:
  - All adults 50 years of age and older
  - Adults 19-49 years of age with certain risk conditions
- Two types of vaccinations available:
  - Pneumococcal conjugate vaccine (PCV15, PCV20, or PCV21)
    - 0.5 mL dose
  - Pneumococcal polysaccharide vaccine (PPSV23)
    - 0.5 mL dose

www.cdc.gov/pneumococcal/vaccines/adults.html

Pneumococcal Vaccination

Adults ≥50 years old
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥1 year† → **PPSV23¶**
PCV15 only at any age	≥1 year† → **PPSV23¶**	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended; schedule is complete.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13 only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13 at any age & **PPSV23** at <65 yrs	≥5 years → **PCV20 or PCV21**	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
† Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak (CSF) leak
§ For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is ≥1 year since last PCV13 dose and ≥5 years since last PPSV23 dose

https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf

Pneumococcal Vaccination

Adults 19–49 years old with specified immunocompromising conditions
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥8 weeks → **PPSV23**[¶]
PCV15 only at any age	≥8 weeks → **PPSV23**[¶]	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13 only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13 and **1 dose of PPSV23** at any age	≥5 years → **PCV20 or PCV21**	
PCV13 and **2 doses of PPSV23** at any age	≥5 years → **PCV20 or PCV21**	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.
Immunocompromising conditions	• Chronic renal failure • Congenital or acquired asplenia • Congenital or acquired immunodeficiency[§] • Generalized malignancy • HIV infection • Hodgkin disease • Iatrogenic immunosuppression[¶] • Leukemia • Lymphoma • Multiple myeloma • Nephrotic syndrome • Sickle cell disease/other hemoglobinopathies • Solid organ transplant	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

[¶] If PPSV23 is not available, PCV20 or PCV21 may be used

[§] Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease)

[¶] Includes diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy

https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf

Pneumococcal Vaccination

- Contraindications (PCV):
  - Severe allergic reaction after a previous dose of PCV or any diphtheria-toxoid containing vaccine or to a component of the vaccine
- Contraindications (PPSV):
  - Severe allergic reaction after a previous dose or to a vaccine component

https://www.cdc.gov/vaccines/hcp/imz-best-practices/contraindications-precautions.html

COVID-19 Vaccine FDA Approvals

- **COMIRNATY** is approved for use in individuals who are:
  - 65 years of age and older, or
  - 5 years through 64 years of age with at least one underlying condition that puts them at high risk for severe outcomes from COVID-19
- **MNEXSPIKE** is approved for use in individuals who are:
  - 65 years of age and older, or
  - 12 years through 64 years of age with at least one underlying condition that puts them at high risk for severe outcomes from COVID-19
- **NUVAXOVID** is approved for use in individuals who are:
  - 65 years of age and older, or
  - 12 years through 64 years of age with at least one underlying condition that puts them at high risk for severe outcomes from COVID-19
- **SPIKEVAX** is approved for use in individuals who are:
  - 65 years of age and older, or
  - 6 months through 64 years of age with at least one underlying condition that puts them at high risk for severe outcomes from COVID-19

https://www.fda.gov/vaccines-blood-biologics/industry-biologics/coronavirus-covid-19-cber-regulated-biologics

RSV

- Respiratory Syncytial Virus Infection (RSV)
- Symptoms (usually appear in stages):
  - Runny nose
  - Congestion
  - Decrease in appetite
  - Coughing
  - Sneezing
  - Fever
  - Wheezing
- Most children will have had RSV by their second birthday

https://www.cdc.gov/rsv/symptoms/?CDC_AAref_Val=https://www.cdc.gov/rsv/about/symptoms.html

RSV Transmission

- From coughing or sneezing of an infected person
- Getting virus droplets from a cough or sneeze in the eyes, nose, or mouth
- Touching a surface with RSV on it and then touching your face before washing hands
- Direct contact (such as kissing) with the face of someone with RSV

https://www.cdc.gov/rsv/causes/index.html

RSV Vaccine Recommendations

- Everyone 75 years of age and older
- Adults 50-74 years of age who are at an increased risk of severe RSV
- Pregnant patients between 32-36 weeks gestation between September to January (ONLY Abrysvo)

cdc.gov/rsv/vaccines/adults.html

RSV Vaccines

- Abrysvo™ (Pfizer RSV Vaccine)
  - Single dose
  - 120 mcg/dose
  - FDA approved for use in:
    - Patients 60 years of age and older
    - Pregnant patients between 32 to 36 weeks gestation between September to January
    - Adults 18-59 years of age who are at increased risk of lower respiratory tract disease caused by RSV

https://labeling.pfizer.com/ShowLabeling.aspx?id=19589

RSV Vaccines

- Arexvy™ (GSK RSV Vaccine)
  - Single dose
  - 120 mcg/dose
  - FDA approved for use in:
    - Patients 60 years of age and older
    - Adults 18-59 years of age who are at increased risk of lower respiratory tract disease caused by RSV

https://gskpro.com/content/dam/global/hcpportal/en_US/Prescribing_Information/Arexvy/pdf/AREXVY.PDF

RSV Vaccines

- mResvia® (Moderna RSV Vaccine)
  - Single dose
  - 50 mcg/dose
  - FDA approved for use in:
    - Patients 60 years of age and older
    - Adults 18-59 years of age who are at increased risk of lower respiratory tract disease caused by RSV

https://static.modernatx.com/pm/6cef78f8-8dad-4fc9-83d5-d2fbb7cff867/36130c97-6fb0-4bea-9f2e-fb5be7a90729/36130c97-6fb0-4bea-9f2e-fb5be7a90729_viewable_rendition__v.pdf

RSV Vaccines

- Contraindications:
  - Severe allergic reaction to any vaccine components

https://www.cdc.gov/rsv/hcp/vaccine-clinical-guidance/adults.html

Influenza

- Contagious respiratory illness caused by influenza virus
- Usually comes on suddenly
- Symptoms
  - Fever or feeling feverish/chills
  - Cough
  - Sore throat
  - Runny or stuffy nose
  - Muscle or body aches
  - Headaches
  - Fatigue
  - Vomiting/diarrhea (more common in children)

Influenza Vaccine

Egg-based vaccines

- A/Victoria/4897/2022 (H1N1)pdm09-like virus;
- **A/Croatia/10136RV/2023 (H3N2)-like virus**; and
- B/Austria/1359417/2021 (B/Victoria lineage)-like virus

Cell- or recombinant-based vaccines

- A/Wisconsin/67/2022 (H1N1)pdm09-like virus;
- **A/District of Columbia/27/2023 (H3N2)-like virus**; and
- B/Austria/1359417/2021 (B/Victoria lineage)-like virus

https://www.raps.org/news-and-articles/news-articles/2025/3/fda-makes-flu-vaccine-recommendations-after-cancel
https://www.fda.gov/vaccines-blood-biologics/influenza-vaccine-composition-2025-2026-us-influenza-season
https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2025-2026-nh-influenza-season

Influenza Vaccine Recommendations

- Recommended for all persons 6 months of age and older without contraindications
- High-dose inactivated and adjuvanted inactivated influenza vaccines preferentially recommended for those 65 years of age and older
- High-dose inactivated and adjuvanted inactivated influenza vaccines were recommended as acceptable options (along with other age-appropriate vaccines) for solid organ transplant recipients on immunosuppressive medication regimens ages 18-64 years of age

Influenza Vaccine

- Contraindications:
  - Severe allergic reaction after a previous dose or to a vaccine component

Hepatitis B Vaccine Recommendations

- Adults 19-59 years of age
- Adults 60 years of age and older with risk factors or those who want protected through vaccination
- Products available:
  - Engerix-B® and Recombivax HB®: 3 dose series
  - Heplisav-B®: 2 dose series

https://www.cdc.gov/hepatitis-b/hcp/vaccine-administration/index.html

Other Adult Vaccinations

- Measles, Mumps, Rubella
- Varicella
- Hepatitis A
- Meningococcal A, C, W, Y
- Meningococcal B
- Haemophilus influenzae type b
- Mpox
- Inactivated poliovirus

https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html

IMPROVING ADULT IMMUNIZATION RATES

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Making the Most out of Each Encounter

- Review patient immunization records through your system
- Note which vaccinations a patient may be due or over due to receive
- Make strong recommendation during patient outreach
- Document in the patient profile which vaccinations are recommended to ensure opportunities are not missed

Vaccination Rates Lower in Rural Counties

- Research has shown a 40% lower vaccination rate in rural areas compared to urban areas
- Fewer adolescents in rural areas are getting HPV and meningococcal vaccines compared to those in urban areas

https://pmc.ncbi.nlm.nih.gov/articles/PMC11680148/
https://www.cdc.gov/rural-health/php/public-health-strategy/public-health-strategies-for-vaccination-in-rural-communities.html

Barriers in Rural Areas

- Distance to provider
- Transportation
- Health insurance coverage
- Health literacy
- Stigma
- Workforce shortages
- Privacy
- Confidence that they will receive quality care

https://www.ruralhealthinfo.org/topics/healthcare-access

Addressing Vaccine Hesitancy

- Patients have different reasons for being hesitant
- Messaging needs tailored to fit the needs of each patient
- Patients may be hesitant towards a certain vaccine or all vaccines
- Patients may be hesitant to healthcare in general

Tips for Addressing Vaccine Hesitancy

- Listen to your patients' concerns
- Ask why they are hesitant
- Tailor your message based on the patient
- Counter any misinformation
- Know that you are a trusted source of information
- Discuss the benefits of vaccination
- Address concerns related to side effects
- Share success stories

https://www.ama-assn.org/delivering-care/public-health/covid-19-vaccine-hesitancy-10-tips-talking-patients

Questions?