Needle Facts: Immunization Update 2026

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Disclosures and Conflict of Interest

Miranda Wilhelm declares no conflicts of interest, real or apparent, and no financial interests in any company, product, or service mentioned in this program, including grants, employment, gifts, stock holdings and honoraria.

Disclosure of AI Use

AI was not used in development of this presentation.

Pharmacist Objectives

At the conclusion of this program, the pharmacist will be able to:

- Discuss the new 2026 Advisory Committee on Immunization Practices (ACIP) recommendations regarding adult and pediatric immunizations
- Review recent vaccine preventable disease outbreaks
- Review influenza vaccine considerations in preparation for the 2026-2027 season
- Discuss a patient's immunization history to determine vaccine recommendations based on the appropriate immunization schedule

Technician Objectives

At the conclusion of this program, the pharmacy technician will be able to:

- Discuss the new 2026 Advisory Committee on Immunization Practices (ACIP) recommendations regarding adult and pediatric immunizations
- Review recent vaccine preventable disease outbreaks
- Review influenza vaccine considerations in preparation for the 2026-2027 season
- Review a patient's immunization history to assist the pharmacist in determining vaccine recommendations based on the appropriate immunization schedule

Pretest Question #1

Which of the following is a pentavalent vaccine containing meningococcal ACWY and MenB serogroups?

A. Penmenvy
B. Bexsero
C. Trumenba
D. MenQuadfi

How many cases of measles have been reported in the US so far this year?

A. 500
B. 2,000
C. 5,000
D. 10,000

Pretest Question #2

Pretest Question #3

What adverse effect was recently added to the warning/precaution section of all influenza vaccine package insert labeling?

A. Myocarditis
B. Febrile seizures
C. Guillain Barre Syndrome
D. Intussusception

ACIP Recommendations

Use of Pentavalent Meningococcal Vaccine

Citation

- Use of the GSK MenACWY-CRM/MenB-4C Pentavalent Meningococcal Vaccine Among Persons Aged ≥10 Years: Recommendations of the Advisory Committee on Immunization Practices, United States, 2025
- MMWR – January 8, 2026, 75(1):7-14

Summary

- What is currently recommended?
- Why are the recommendations being modified now?
- What are the new recommendations?

Recommendation

- When both quadrivalent (MenACWY) and serogroup B (MenB) meningococcal vaccines are indicated concurrently for persons aged ≥10 years, the combination (MenACWY-CRM/MenB-4C) may be administered

HHS announces unprecedented overhaul of US childhood vaccine schedule

Stephanie Soucheray, MA , Liz Szabo, MA, January 5, 2026

Topics: Childhood Vaccines , Public Health , Anti-science

SHARE

Federal officials today announced an unprecedented overhaul of the US childhood immunization schedule, paring the number of universally recommended immunizations from 17 to 11.

The **new vaccination policy**, which takes effect immediately, is modeled after the schedule used by Denmark. Although the Centers for Disease Control and Prevention (CDC) will continue to

Soucheray S, et al. HHS announces unprecedented overhaul of US childhood vaccine schedule. CIDRAP website. Available at: https://www.cidrap.umn.edu/childhood-vaccines/hhs-announces-unprecedented-overhaul-us-childhood-vaccine-schedule. Accessed 7/13/26.

HHS/CDC Vaccine Schedule

Universal	High-Risk	Shared Clinical-Decision Making
• Measles, Mumps, Rubella (MMR) • Polio • Tetanus, Diphtheria, Pertussis • Haemophilus influenaze type b (Hib) • Pneumococcal disease • Human Papillomavirus (HPV) • Varicella	• Respiratory Syncytial Virus (RSV) • Hepatitis A • Hepatitis B • Meningococcal ACWY • Meningococcal B* • Dengue*	• COVID-19 • Seasonal influenza • Rotavirus

Soucheray S, et al. HHS announces unprecedented overhaul of US childhood vaccine schedule. CIDRAP website. Available at: https://www.cidrap.umn.edu/childhood-vaccines/hhs-announces-unprecedented-overhaul-us-childhood-vaccine-schedule. Accessed 7/13/26.

New Schedule Changes (Jan 5)

- Recommends vaccines against 11 diseases, down from 17
- Modeled after Denmark (20 developed nations) Immunization Schedule
  - National Health Care System vs US Model
- Challenged in court – did not follow federal law
- Executive order (June 2, 2026)

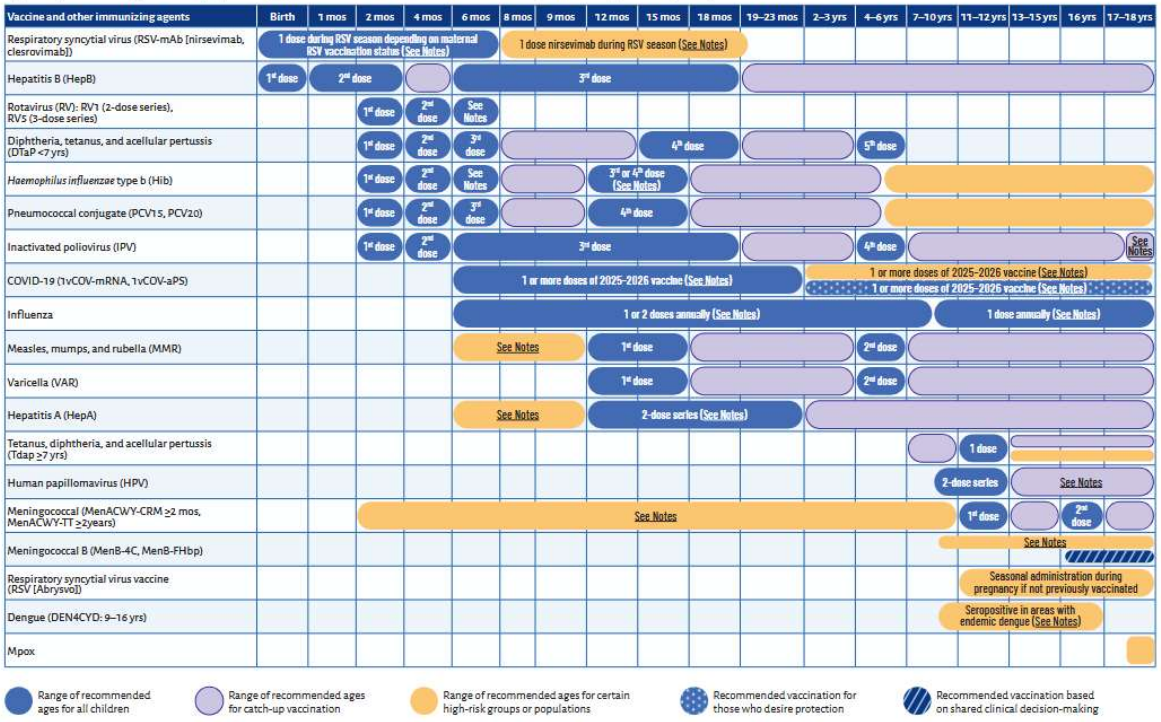
Soucheray S, et al. HHS announces unprecedented overhaul of US childhood vaccine schedule. CIDRAP website. Available at: https://www.cidrap.umn.edu/childhood-vaccines/hhs-announces-unprecedented-overhaul-us-childhood-vaccine-schedule. Accessed 7/13/26.

American Academy of Pediatrics

Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2026

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

These recommendations must be read with the Notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the outlined purple bars. To determine minimum intervals between doses, see the catch-up schedule (Table 2).



AAP Immunization Schedule. AAP Website. Available at: https://publications.aap.org/redbook/resources/15585/AAP-Immunization-Schedule?autologincheck=redirected. Accessed 7/13/26

American College of Obstetricians & Gynecologists Maternal Immunization Schedule

2026 Maternal Immunization Schedule

Vaccines help keep pregnant patients and their growing families healthy.

ACOG
American College of Obstetricians & Gynecologists

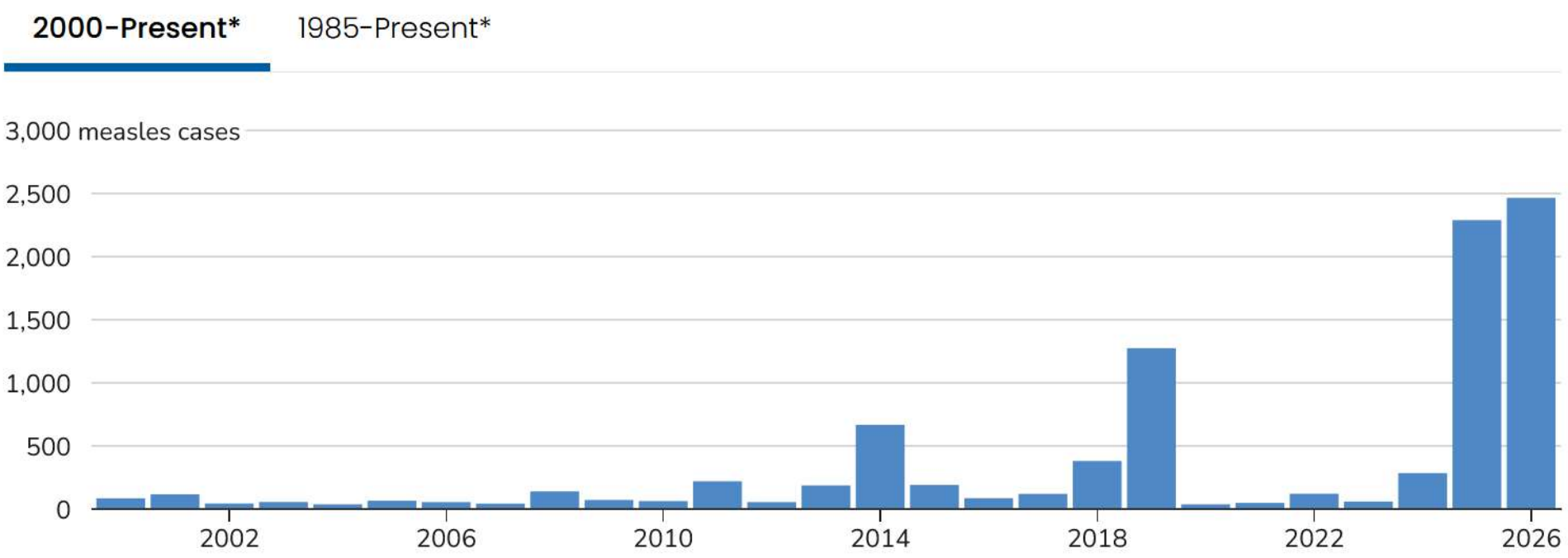
Endorsed by: American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American Academy of Physician Associates (AAPA), American College of Nurse-Midwives (ACNM), Association of Physician Associates in Obstetrics and Gynecology (APAOG), American Pharmacists Association (APhA), Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), Council of Medical Specialty Societies (CMSS), Infectious Diseases Society of America (IDSA), Infectious Diseases Society for Obstetrics and Gynecology (IDSOG), National Medical Association (NMA), National Association of Nurse Practitioners in Women's Health (NPWH), Society for Maternal-Fetal Medicine (SMFM)

	VACCINE	GIVEN DURING EVERY PREGNANCY	GIVEN TO SPECIFIC GROUPS DURING PREGNANCY	CONTRAINDICATED DURING PREGNANCY	CAN BE INITIATED WHILE BREASTFEEDING AND WHILE POSTPARTUM
ROUTINELY RECOMMENDED VACCINES DURING PREGNANCY (use this table in conjunction with table on page 2)	**Inactivated** or **recombinant influenza**	X[1] Administer at any time of the year, at any gestational age			X[1]
	COVID-19	X[2] Administer at any time of the year, at any gestational age			X[2]
	Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap)	X[3] Administer at any time of the year, at 27–36 weeks of gestation			X[3]
	Maternal RSV (Abrysvo)	X[4] Administer seasonally in first eligible pregnancy, at 32 weeks 0 days–36 weeks 6 days of gestation; in subsequent pregnancies, repeat vaccination not indicated and infants should receive a monoclonal antibody			
RECOMMENDED VACCINES BASED ON COMORBIDITIES OR DISEASE RISK FACTORS	**Pneumococcal**		X[5]		X[5]
	Meningococcal conjugate (MenACWY or **MenABCWY)** and **meningococcal serogroup B**		X[6,7]		X[6,7]
	Hepatitis A		X[8]		X[8]
	Hepatitis B		X[8,9]		X[8,9]
	Human papillomavirus (HPV)				X[10]
	Measles-mumps-rubella (MMR)			*[11]	X[11]
	Varicella			*[12]	X[12]

2026 Maternal Immunization Schedule. ACOG website. Available at: https://www.acog.org/-/media/project/acog/acogorg/files/pdfs/programs/immunization/maternal-immunization-schedule.pdf?rev=4b52fc2cc3444d03a9964ab67aa5a7b0&hash=751F4499B1D7C4954A5995052DED3C21. Accessed 7/13/26

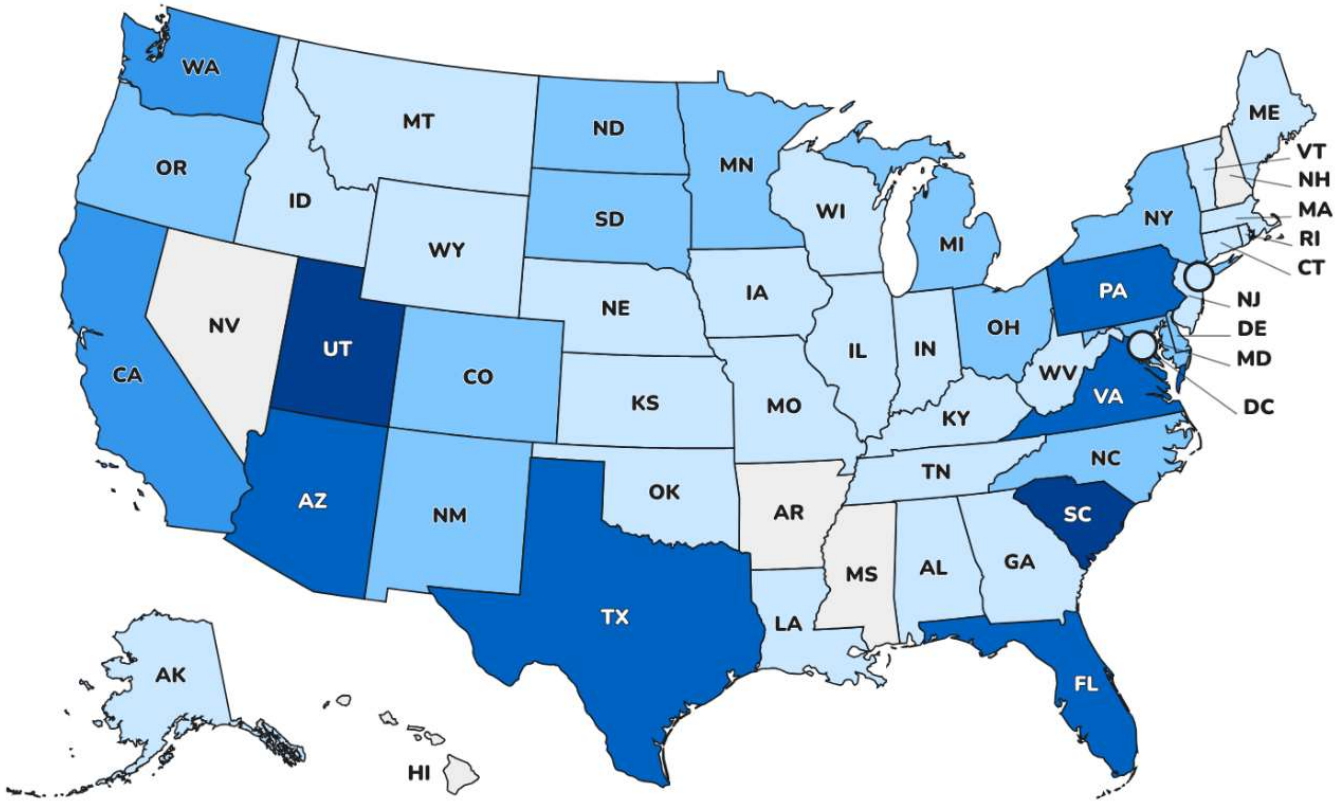
Vaccine Preventable Disease Outbreaks

Measles Outbreak 2026



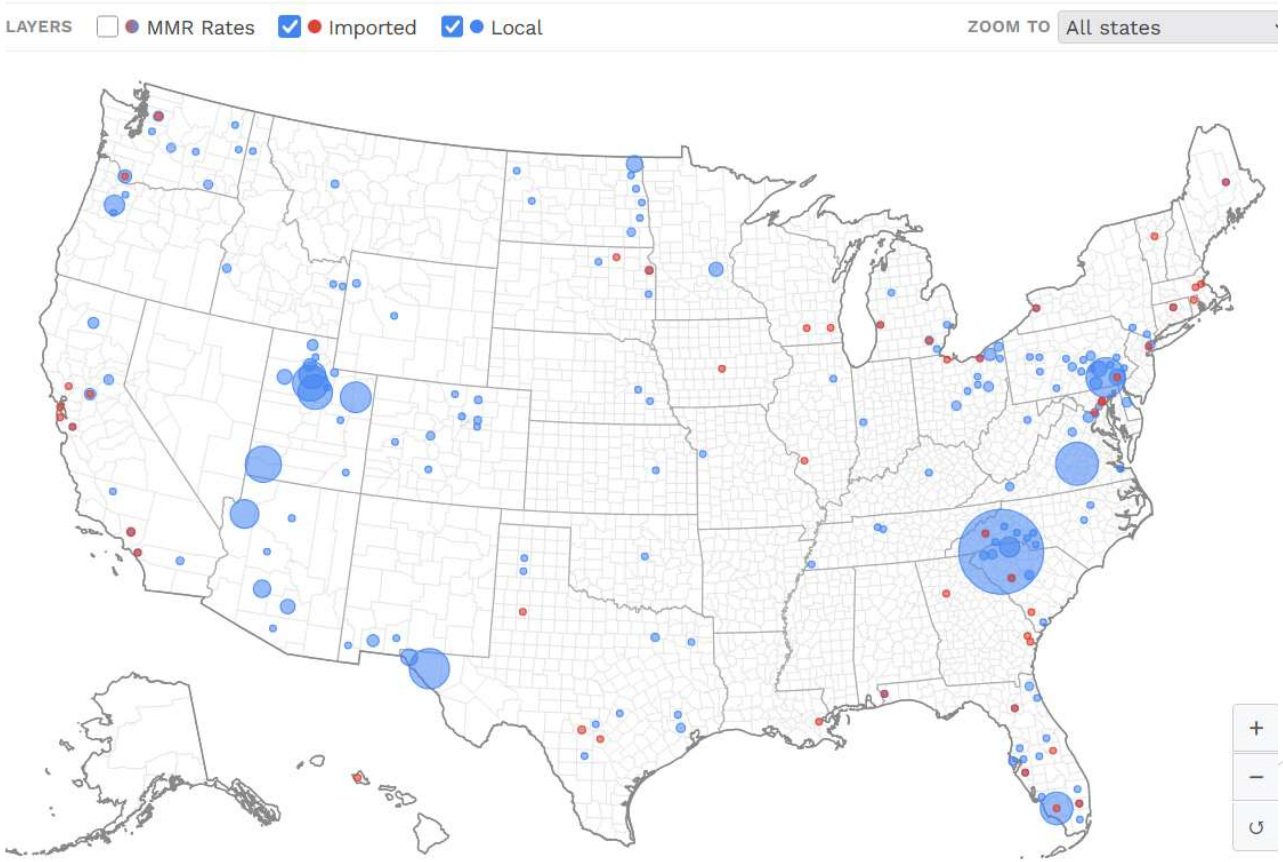
Measles cases and outbreaks. CDC website. Available at: https://www.cdc.gov/measles/data-research/index.html. Accessed 8/8/26.

Measles Outbreak 2026 (Number of cases)



Measles cases and outbreaks. CDC website. Available at: https://www.cdc.gov/measles/data-research/index.html. Accessed 8/8/26.

Measles Outbreak 2026 (Number of cases)



Tracking Measles Cases in the US. Johns Hopkins Bloomberg School of Public Health. Website Available at: https://publichealth.jhu.edu/ivac/resources/usmeasles tracker. Accessed 8/8/26.

Measles Outbreak 2026
TOTAL = 2,465 (August 8, 2026)

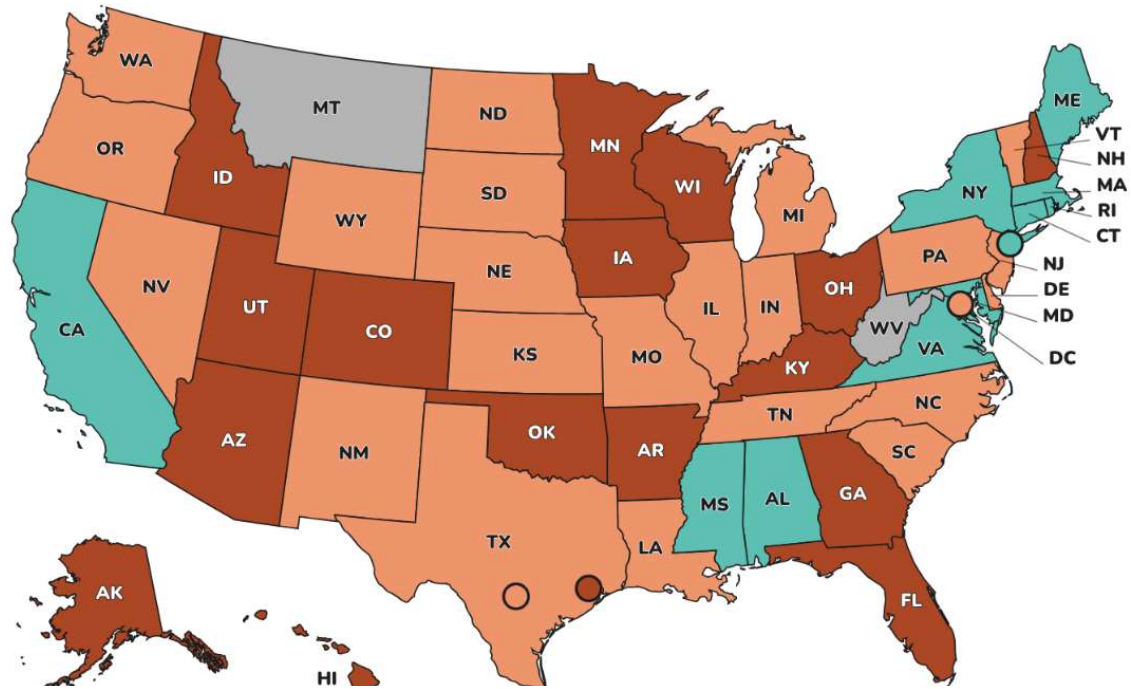
- Age
  - Under 5 years: 481 (20%)
  - 5-19 years: 1,189 (51%)
  - 20+ years: 787 (29%)
  - Age unknown: 8 (<1%)
- US Hospitalizations
  - Under 5 years: 10% (49 of 481)
  - 5-19 years: 3% (41 of 1,189)
  - 20+ years: 9% (74 of 787)
  - Age unknown: 0% (0 of 8)

93%

Unvaccinated or unknown status

Measles cases and outbreaks. CDC website. Available at: https://www.cdc.gov/measles/data-research/index.html. Accessed 8/8/26.

MMR Vaccine Coverage for Kindergarteners (2009-2025)



Measles cases and outbreaks. CDC website. Available at: https://www.cdc.gov/measles/data-research/index.html. Accessed 7/9/26.

Influenza Vaccine Considerations

Nomenclature for Influenza Vaccines

Inactivated Influenza Vaccine (IIV)

- Inactivated influenza vaccine standard dose (IIV)
- Cell cultured inactivated influenza vaccine (ccIIV)
- High dose inactivated influenza vaccine (HD-IIV)
- Adjuvanted inactivated influenza vaccine (aIIV)

Recombinant hemagglutinin Influenza Vaccine (RIV)

Live-attenuated Influenza Vaccine (LAIV)

MMWR August 28, 2025, 74(32);500-507.

Influenza Vaccine Composition 2026-2027

Egg-based Formulation

- A/Missouri/11/2025 (H1N1)pdm09-like virus (Updated)
- A/Darwin/1454/2025 (H3N2)-like virus (Updated)
- B/Tokyo/EIS13-175/2025 (B/Victoria lineage)-like virus (Updated)

Cell or Recombinant-based Formulation

- A/Missouri/11/2025 (H1N1)pdm09-like virus (Updated)
- /Darwin/1415/2025 (H3N2)-like virus (Updated)
- B/Pennsylvania/14/2025 (B/Victoria lineage)-like virus (Updated)

Influenza Vaccine Composition for the 2026-2027 US Influenza Season. FDA website. Available at: https://www.fda.gov/vaccines-blood-biologics/vaccines/influenza-vaccine-composition-2026-2027-us-influenza-season. Accessed 7/9/26.

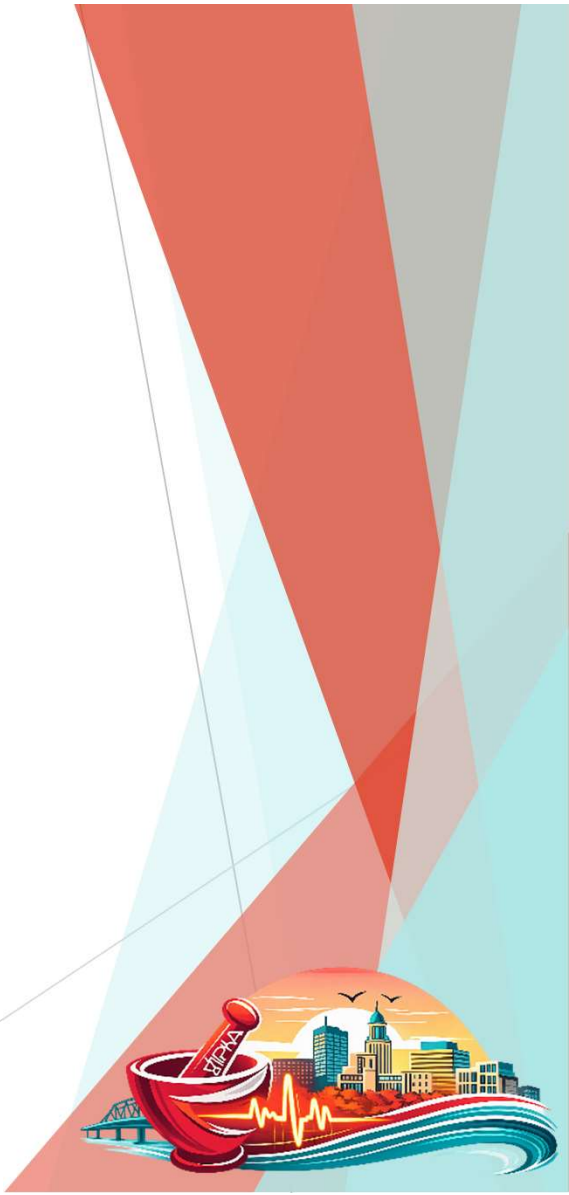
Seasonal Influenza Vaccines

Vaccine	Approved Age Indication
Inactivated Influenza Vaccine (IIV)	
Afluria	≥3 years ≥6 months (needle/syringe)
Fluarix	≥6 months
FluLaval	≥6 months
Fluzone	≥6 months
Fluzone High-Dose (HD-IIV)	≥65 years
Cell Culture Inactivated Influenza Vaccine (ccIIV)	
Flucelvax	≥6 months
Recombinant HA Influenza Vaccine (RIV)	
Flublok	≥9 years
Live Attenuated Influenza Vaccine (LAIV)	
FluMist	2 through 49 years

MMWR August 28, 2025, 74(32);500-507.

Influenza Contraindications (IIV, ccIIV, RIV, LAIV)

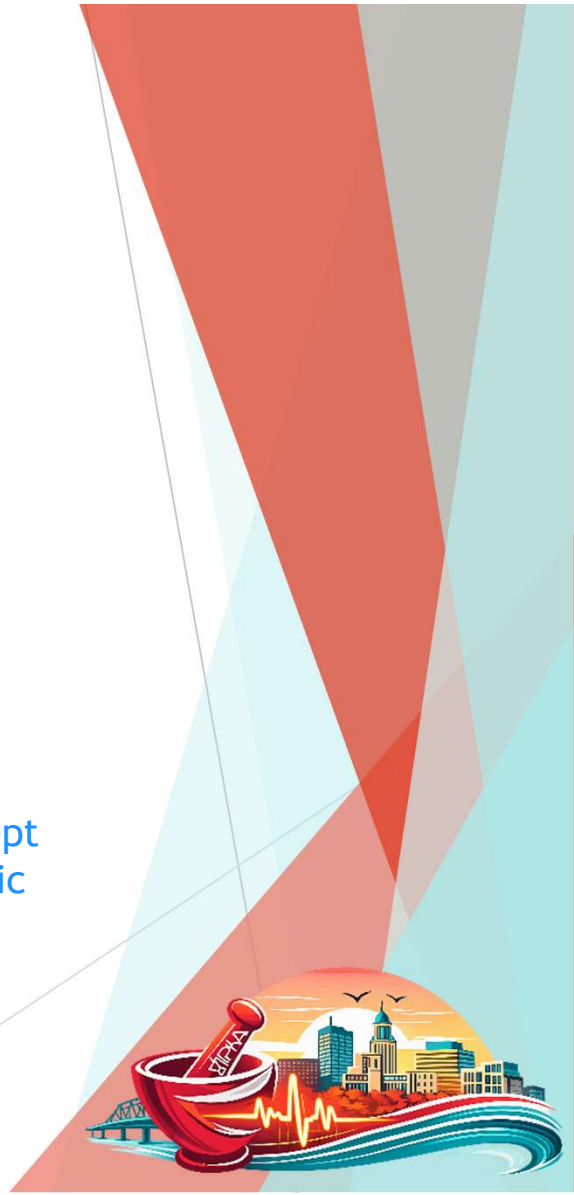
- History of severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine or to a previous dose of any influenza vaccine
- History of severe allergic reaction to a previous dose or any ccIIV (RIV) or any component of ccIIV (RIV)
- Concomitant aspirin- or salicylate-containing therapy in children and adolescents
- Children aged 2 through 4 years who have received a diagnosis of asthma or who had wheezing or asthma in the preceding 12 months
- Children and adults who are immunocompromised
- Close contacts and caregivers of severely immunosuppressed person who requires a protected environment
- Pregnancy
- Cerebrospinal fluid (CSF) leaks
- Persons with cochlear implants
- Receipt of influenza antiviral medication (48 hours oseltamivir/zanamivir; 5 days peramivir; 17 days baloxavir)



MMWR August 28, 2025, 74(32);500-507.

Influenza Precautions (IIV, ccIIV, RIV, LAIV)

- Moderate or severe acute illness with or without fever
- History of Guillain-Barre syndrome within 6 weeks of receipt of influenza vaccine
- History of severe allergic reaction to a previous dose of any other influenza vaccine
- Asthma in person aged ≥5 years
- Other underlying medical conditions that might predispose to complications after wild-type influenza infection (chronic pulmonary, cardiovascular [except isolated hypertension], renal, hepatic, neurologic, hematologic, or metabolic disorders [including diabetes])



MMWR August 28, 2025, 74(32);500-507.

Recent FDA Safety Communication

----------WARNINGS AND PRECAUTIONS----------

- Appropriate medical treatment must be immediately available to manage potential anaphylactic reactions following administration of Fluzone. (5.1)
- If Guillain-Barré syndrome (GBS) has occurred within 6 weeks following previous influenza vaccination, the decision to give Fluzone should be based on careful consideration of the potential benefits and risks. (5.2)
- Syncope has been reported ~~following administration~~ of Fluzone. (5.3)
- In two separate postmarketing observational studies, an increased risk of febrile seizures was observed during the first day following vaccination with standard dose trivalent (2024-2025) and quadrivalent (2023-2024) influenza vaccines in children 6 months through 4 years of age. (5.4, 6.2)

2026 Safety and Availability Communications. FDA website. Available at: https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/2026-safety-and-availability-communications. Accessed 7/9/26. Fluzone Package Insert. FDA website. Available at: https://www.fda.gov/media/170019/download. Accessed 7/9/26.

Influenza and Febrile Seizures

- Safety monitoring of health outcomes following influenza vaccination during the 2023-2024 season among US Commercially-insured individuals aged 6 months through 64 years: Self-Controlled case series
- Vaccine. September 2025
- **Methods**
  - Self-controlled case series
  - Incidence rates for 9 safety outcomes
- **Results**
  - 10 million influenza vaccinees
  - Febrile seizure risk
    - Incident Rate Ratio (IRR) for standard dose 1.68 (95% CI 1.17-2.43)
    - IRR for any 1.67 ((5% CI 1.16-2.41)
  - Transient ischemic attack
    - IRR for standard dose 1.28 (95% CI 1.04-1.59)
    - IRR for any 1.29 (95% CI 1.05-1.59)
- **Conclusion**
  - Risk was minimal; continue surveillance

Vaccine. 2025 Sep 17:63:127614.

mRNA Seasonal Influenza Vaccine

- mFlusiva (Moderna) approved by VRBPAC in June 2026
- Efficacy and Safety of an mRNA Seasonal Influenza Vaccine in Adults
  - Methods
    - Phase 3, double-blind, active-controlled trial
    - Adults 50 years of age and older
    - Trivalent mRNA or standard-dose influenza vaccine
    - Primary Endpoint = Vaccine efficacy (VE) against RT-PCR confirmed influenza-like illness (ILI)
  - Results
    - ILI observed in 411 of 20.179 with mRNA (2.0%) vs 557 of 20.124 with comparator (2.8%)
    - VE 26.6% (95% CI, 16.7 to 35.4)
    - Met criteria for noninferiority, superiority and higher-level superiority
    - ADRs were more frequent with mRNA vaccine (injection-site pain 65.8% vs 29.8%, fatigue 45.1% vs 20.3%, headache 37.8% vs 18.0%, myalgia 35.4% vs 11.6%)

N Engl J Med. 2026 May 7;394(18):1803-1813.

Special Population Considerations

- Preparations should be single-dose formulations that are thimerosal free
- Adults ≥65 years preferentially recommend
  - HD-IIV, RIV, aIIV
  - If not available, any age-appropriate vaccine should be used
- Solid organ transplant recipients aged 18-64 years may receive
  - HD-IIV, aIIV (not a preference)

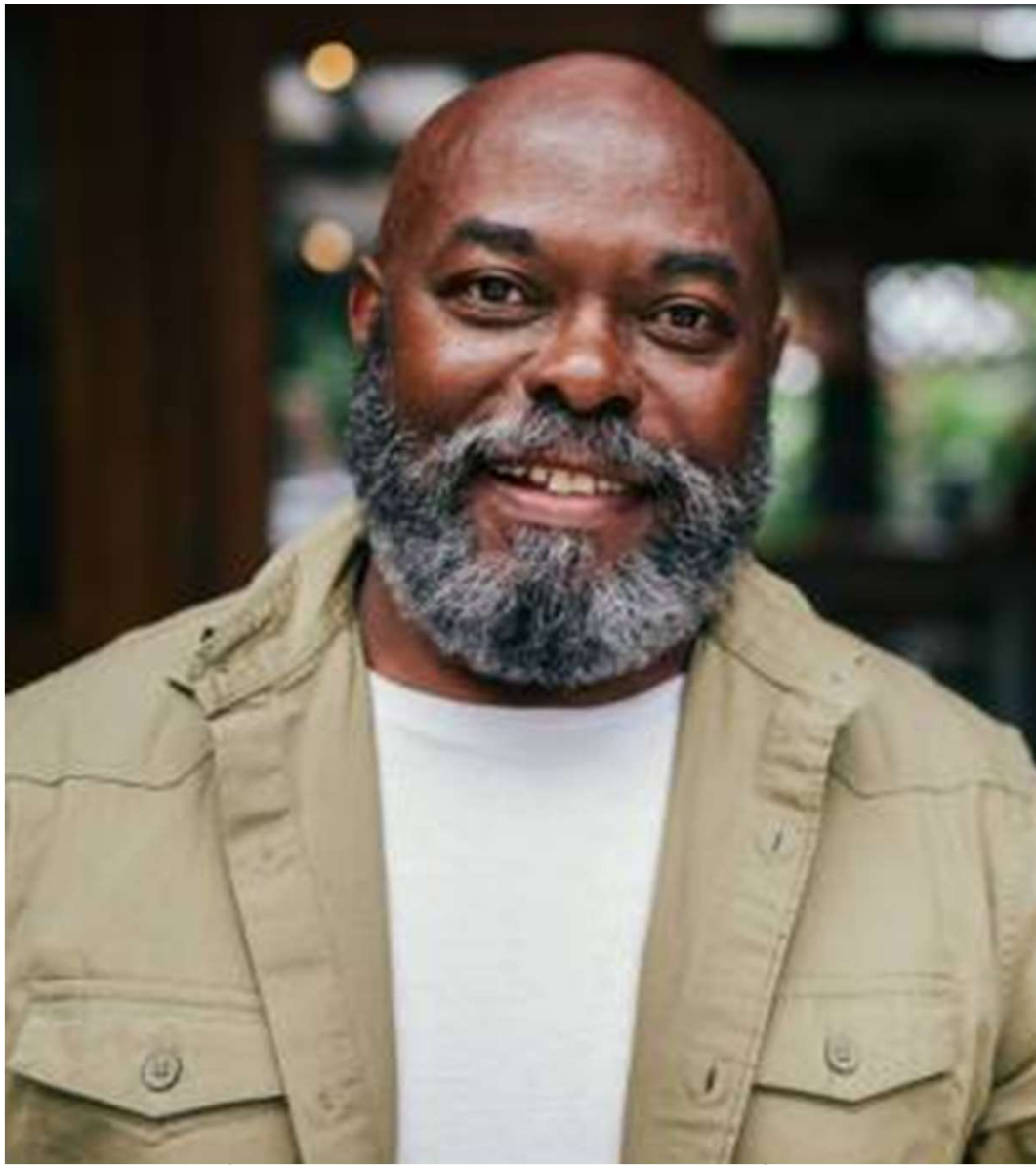
MMWR August 28, 2025, 74(32);500-507.

Patient Case

Patient Case

CD is a 65-year-old male who presents to the community pharmacy for an annual influenza vaccine.

What is the first question that you should ask CD about immunizations?



CD's Profile and Immunization Record

Medication Profile

- Metformin 1,000 mg 1 PO BID
- Empagliflozin 25 mg 1 PO daily
- Lisinopril 10 mg 1 PO daily
- Amlodipine 10 mg 1 PO daily
- HCTZ 25 mg 1 PO daily
- Atorvastatin 40 mg 1 PO daily

Immunization Record

- COVID-19 – primary series + booster yearly
- Influenza – yearly x 30 years
- RZV – 2 doses at age 60 years
- PPSV23 – 1 dose at age 40 years
- Hepatitis B – 3 doses at age 40 years
- Tdap – 1 dose at age 60 years

Screening Question	Response
1. Are you sick today?	No
2. Do you have allergies to medications, food, a vaccine component, or latex?	No
3. Have you ever had a serious reaction after receiving a vaccine?	No
4. Do you have any of the following: a long-term health problem with heart, lung, kidney, or metabolic disease (e.g., diabetes), asthma, a blood disorder, no spleen, a cochlear implant, or a spinal fluid leak? Are you on long-term aspirin therapy?	Yes
5. Do you have cancer, leukemia, HIV/AIDS, or any other immune system problem?	No
6. Do you have a parent, brother, or sister with an immune system problem?	No
7. In the past 6 months, have you taken medications that affect your immune system, such as prednisone, other steroids, or anticancer drugs; drugs for the treatment of rheumatoid arthritis, Crohn's disease, or psoriasis; or have you had radiation treatments?	No
8. Have you had a seizure or a brain or other nervous system problem?	No
9. Have you ever been diagnosed with a heart condition (myocarditis or pericarditis) or have you had Multisystem inflammatory Syndrome (MIS-A or MIS-C) after an infection with the virus that causes COVID-19?	No
10. In the past year, have you received immune (gamma) globulin, blood/blood products, or an antiviral drug?	No
11. Are you pregnant?	N/A
12. Have you received any vaccinations in the past 4 weeks?	No
13. Have you ever felt dizzy or faint before, during, or after a shot?	No
14. Are you anxious about getting a shot today?	No

What vaccinations are recommended for CD?

Schedule for Adults by Medical Condition

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	Diabetes	Health care personnel[a]
			<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)									

RSV?

- All adults ages 75 and older
- Adults 50 to 74 years at increased risk

- Chronic cardiovascular disease (e.g., heart failure, coronary artery disease, or congenital heart disease [excluding isolated hypertension])
- Chronic lung or respiratory disease (e.g., chronic obstructive pulmonary disease, emphysema, asthma, interstitial lung disease, or cystic fibrosis)
- End-stage renal disease or dependence on hemodialysis or other renal replacement therapy
- Diabetes mellitus complicated by chronic kidney disease, neuropathy, retinopathy, or other end-organ damage, or requiring treatment with insulin or sodium-glucose cotransporter-2 (SGLT2) inhibitor
- Chronic liver disease
- Neurologic or neuromuscular conditions causing impaired airway clearance or respiratory muscle weakness (e.g., poststroke dysphagia, amyotrophic lateral sclerosis, or muscular dystrophy [excluding history of stoke without impaired airway clearance])
- Chronic hematologic conditions (e.g., sickle cell disease or thalassemia)
- Severe obesity (BMI ≥40 kgmm2
- Moderate or severe immune compromise
- Residence in a nursing home
- Other chronic medical conditions that a healthcare provider determines would increase risk for severe disease

RSV Vaccine Guidance for Adults. CDC website. Available at: https://www.cdc.gov/rsv/hcp/vaccine-clinical-guidance/adults.html. Accessed 7/13/26.

Pneumococcal Conjugate Vaccine?

- Routine for adults ≥50 years old
- Adults 19-49 years old with specific 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
- Adults 19-49 years old with a cochlear implant or cerebrospinal fluid leak
- Adults 19-49 years old with chronic health conditions
  - Alcoholism
  - Chronic heart disease, including congestive heart failure and cardiomyopathies
  - Chronic liver disease
  - Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma
  - Cigarette smoking
  - Diabetes mellitus

Pneumococcal Vaccine Timing for Adults. CDC Website. Available at: https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf. Accessed 7/13/26

CD Case Summary

- COVID-19 vaccine fall booster x1 (repeat in 6 months)
- Inactivated influenza vaccine
  - Which one?
    - HD-IIV, aIIV, RIV x1
- Respiratory syncytial virus vaccine (RSV) x1
- Pneumococcal conjugate vaccine
  - Which one?
    - PCV15, PCV20 or PCV21

Final Tips & Take Home Points

- Evolving guidance with shifting federal guidelines and professional association recommendations have made immunization recommendations a challenge
- Measles outbreak continues as vaccination rates have declined
- Influenza vaccine for 2026-2027 season will be trivalent
- Review all patient's immunization history to determine vaccine recommendations based on the appropriate immunization schedule

Resources and References

- Immunize.org
  - https://www.immunize.org/
- Center for Infectious Disease Research and Policy
  - https://www.cidrap.umn.edu/
- Advisory Committee on Immunization Practices
  - https://www.cdc.gov/acip/index.html
- Centers for Disease Control and prevention Vaccines and Immunization
  - https://www.cdc.gov/vaccines/index.html
- CDC Weekly US Influenza Surveillance Report
  - https://www.cdc.gov/fluview/index.html

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Thank you

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