

Vaccines: Today & Tomorrow

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Key Players in U.S. Vaccine Ecosystem

- Pharma
- FDA
- HHS/CDC/ACIP
- Foundations, Funders, Researchers
- Advocacy Groups
- Public Health and Associations
- Payers
- Global influences

National Vaccine Plan 2021-25 Goals

- Develop New and Improved Vaccines
- Enhance Vaccine Safety System
- Support Communication to Inform Enhanced Vaccine Decision Making
- Ensure a Stable Supply of, Access to, & Better Use of Recommended Vaccines in the United States
- Increase Global Prevention of Death and Disease through Safe and Effective Vaccination
- [The National Strategic Plan for Vaccines 2021-2025 | HHS.gov](#)

VACCINES | TODAY & TOMORROW

Dr. Georgina Peacock
**Vaccine Priority #1
for the CDC**

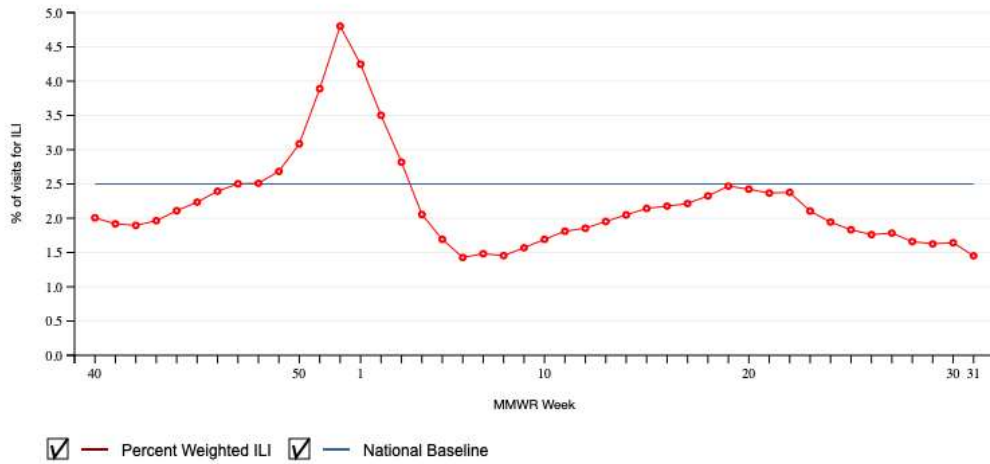
CLOSE vaccine gaps across all ages

- Co-Administration with COVID vaccine as needed for catch up





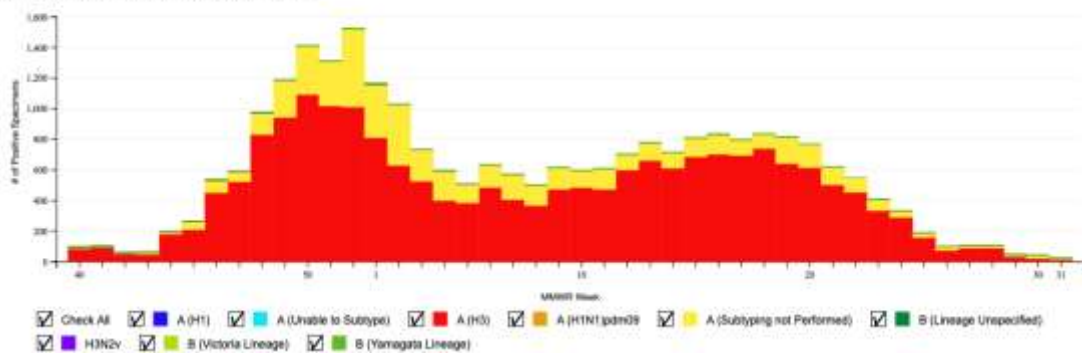
Percentage of visits for ILI, National Summary,
2021-22 Season, week ending Aug 06, 2022
Reported by: U.S. WHO/NREVSS Collaborating Laboratories and ILINet



FLUVIEW
interactive



Influenza Positive Tests Reported to CDC by Public Health Laboratories, National Summary,
2021-22 Season, week ending Aug 06, 2022
Reported by: U.S. WHO/NREVSS Collaborating Laboratories and S/Net



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■ 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

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			
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		

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 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

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

Vaccine	19–26 years	27–49 years	50–64 years	≥65 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)	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			

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VACCINES | TODAY & TOMORROW

- 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

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		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
			<15% or <200 mm ³	≥15% and ≥200 mm ³							
IIV4 or RIV4	1 dose annually										
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						

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- Recommended vaccination based on shared clinical decision-making
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Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 percentage and count		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
			<15% or <200 mm ³	≥15% and ≥200 mm ³							
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						

Adult Schedule Updates

- Hepatitis B vaccine – universal use ages 19-59
- Pneumococcal vaccines
 - Age 65+: PCV20 OR PCV15 w/ PPSV23 to follow
 - Ages 19-64 risk-based usage
- Recombinant zoster vaccine (RZV)
 - Added 19-49 years if immunocompromised
- COVID-19 vaccine: links in schedule for most UTD recs

[Many US Adults Are Not Fully Protected against Hepatitis B – National Foundation for Infectious Diseases \(nfid.org\)](#)

[Use of RZV in Immunocompromised Adults Aged >19 Years \(medscape.com\)](#)

Other Adult Changes

- Menquadfi replaces Menactra (Men ACWY) from Sanofi, broader age indication (2yrs+), different adjuvant (TT vs D)
- PrevHevBrio – New Adult Hep B recombinant vaccine. In use in Israel x 20 years, may give better immune response in adults w/ comorbidities.
- Meningococcal B Shared Decision Making (SDM) Ages 16-23
- HPV 9 SDM ages 27-45

[Our Pipeline: A Broad Spectrum of Vaccines & Immunotherapeutics | VBI Vaccines Inc.](#)

Men-B

Consider discussing Men B vaccination with patients 16-23 years of age who are not at increased risk for meningococcal disease:

Remember:



- MenB vaccine is not routinely recommended for all adolescents in this age group.
- The vaccine series provides short-term protection against most strains of serogroup B meningococcal bacteria circulating in the United States.

Consider:



- Serogroup B meningococcal disease is an uncommon but deadly disease. In recent years, between 20 and 50 cases occurred in 16 to 23 year olds in the United States each year.
- A low risk of exposure or infection does not mean a person cannot get a MenB vaccine. It is just one potentially important consideration in shared clinical decision-making.
- College students are at increased risk, especially those who are freshmen, attend a four-year university, live in on-campus housing, or participate in sororities and fraternities.
- Serogroup B vaccines are safe and effective, but only offer short-term protection (1 to 2 years) to those who get vaccinated.

If you vaccinate:



- Since these patients are not at increased risk of serogroup B disease, administer:
 - 2-dose series of MenB-4C at least 1 month apart, or
 - 2-dose series of MenB-FHbp at 0, 6 months
- MenB-4C and MenB-FHbp are not interchangeable
- MenB vaccines are safe and effective for this population unless a patient
 - Had a severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
 - Is pregnant; vaccine should be delayed unless the patient is at increased risk and the benefits of vaccination outweigh the potential risks

HPV

for Adults Aged 27-45 Years

HPV vaccination does not need to be discussed with most adults in this age group.

If you do decide to discuss HPV vaccination with an adult patient:

Remember:



- Most HPV infections clear on their own within a year or two, but persistent infections can lead to development of precancers or cancers, usually after several decades.
- HPV vaccination is not routinely recommended for adults 27-45 years of age.
- HPV vaccine effectiveness is highest in people who have never had sex.
- HPV vaccination prevents new HPV infection, it does not treat existing HPV infection or disease.
- Most adults who have had sex have been exposed to HPV before.
- HPV vaccine effectiveness might be low among people with more risk factors for HPV, such as having had sex with more than one person or having certain immunocompromising conditions.

Consider:



- At any age, having a new sex partner is a risk factor for getting a new HPV infection. However, this is only one possible consideration for SCDM.
- Adults with more HPV risk factors (for example, multiple previous sex partners or certain immunocompromising conditions) might have been infected with HPV in the past, so might have a lower chance of getting a new HPV infection in the future.
- Adults with fewer HPV risk factors (for example, few or no previous sex partners) might not have been infected with HPV in the past, so might have a higher chance of getting a new HPV infection from a new sex partner in the future.

If you vaccinate:



- If you and your previously unvaccinated adult patient decide to initiate HPV vaccination, offer a 3-dose series of HPV vaccine at 0, 2, and 6 months.
- If your patient is pregnant, delay HPV vaccination until after pregnancy.
- HPV vaccination is safe, unless a patient had a severe allergic reaction after a previous dose or to a vaccine component.

VACCINES | TODAY & TOMORROW

Range of recommended ages for all children
Range of recommended ages for catch-up vaccination
Range of recommended ages for certain high-risk groups
Recommended vaccination can begin in this age group
Recommended vaccination based on shared clinical decision-making
No recommendation/not applicable

Table 1 Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2022

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 green bars. To determine minimum intervals between doses, see the catch-up schedule (Table 2).

Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16 yrs	17–18 yrs
Hepatitis B (HepB)	1 st dose	← 2 nd dose →			← 3 rd dose →												
Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)			1 st dose	2 nd dose	See Notes												
Diphtheria, tetanus, acellular pertussis (DTaP-7 yrs)			1 st dose	2 nd dose	3 rd dose			← 4 th dose →				5 th dose					
Haemophilus influenzae type b (Hib)			1 st dose	2 nd dose	See Notes		← 3 rd or 4 th dose → See Notes										
Pneumococcal conjugate (PCV13)			1 st dose	2 nd dose	3 rd dose		← 4 th dose →										
Inactivated poliovirus (IPV <18 yrs)			1 st dose	2 nd dose			← 3 rd dose →					4 th dose					
Influenza (IV4) OR Influenza (LAIV4)																	
Measles, mumps, rubella (MMR)					See Notes		← 1 st dose →					2 nd dose					

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Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16 yrs	17–18 yrs
Varicella (VAR)							← 1 st dose →					2 nd dose					
Hepatitis A (HepA)					See Notes		2-dose series, See Notes										
Tetanus, diphtheria, acellular pertussis (Tdap ≥7 yrs)													1 dose				
Human papillomavirus (HPV)													See Notes				
Meningococcal (MenACWY-D ≥9 mos, MenACWY-CRM ≥2 mos, MenACWY-TT ≥2 years)			See Notes										1 st dose		2 nd dose		
Meningococcal B (MenB-4C, MenB-FHbp)															See Notes		
Pneumococcal polysaccharide (PPSV23)															See Notes		
Dengue (DEN4CYD; 9–16 yrs)															Seropositive in endemic areas only (See Notes)		

Pediatric Schedule Updates

- **CATCH UP ALL DOSES ASAP**
- Dengue for endemic areas (Puerto Rico, USVI, American Samoa, Marshall Is.), 9-16 years
- Vaxneuvance (PCV 15) ages 6 weeks +, can complete series
- Vaxelis (DTaP, Inactivated Poliovirus, Haemophilus b Conjugate & Hepatitis B Vaccine) added to Hib schedule options
- Menquadfi replaces Menactra (Men ACWY)
- Men B: Adolescents not at increased risk, age 16-23 years (preferred age 16-18 years) based on SDM
 - Bexsero®: 2-dose series at least 1 month apart
 - Trumenba®: 2-dose series at least 6 months apart; if dose 2 is administered earlier than 6 months, administer a 3rd dose at least 4 months after dose 2

[2021: Haemophilus Influenzae type b-Containing Vaccines—Catch-up Guidance for Children 4 months through 4 years of Age \(cdc.gov\)](#)

Table 1. Immunization Schedule for Children 6 Months through 17 Years of Age

Type	Product*	Recipient Age	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses ^{††}	Doses	Interval Between Doses ^{††}
mRNA vaccine	Moderna (Blue vial cap with magenta-bordered label)	6 months through 5 years	Total doses: 2 doses		Total doses: 3 doses	
			Dose 1 to 2	At least 4–8 weeks [†]	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
	Moderna (Blue vial cap with purple-bordered label)	6 through 11 years	Total doses: 2 doses		Total doses: 3 doses	
			Dose 1 to 2	At least 4–8 weeks [†]	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
	Moderna (Red vial cap with blue-bordered label)	12 through 17 years	Total doses: 2 doses		Total doses: 3 doses	
			Dose 1 to 2	At least 4–8 weeks [†]	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
	Pfizer-BioNTech (Maroon vial cap with maroon-bordered label)	6 months through 4 years	Total number: 3 doses		Total number: 3 doses	
			Dose 1 to 2	At least 3–8 weeks [†]	Dose 1 to 2	At least 3 weeks
			Doses 2 and 3	At least 8 weeks	Dose 2 to 3	At least 8 weeks

Table 1. Immunization Schedule for Children 6 Months through 17 Years of Age

Type	Product*	Recipient Age	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses ^{††}	Doses	Interval Between Doses ^{††}
	Pfizer-BioNTech (Orange vial cap with orange-bordered label)	5 through 11 years	Total number: 3 doses		Total number: 4 doses	
			Dose 1 to 2	At least 3–8 weeks [†]	Dose 1 to 2	At least 3 weeks
			Dose 2 to 3	At least 5 months	Dose 2 to 3	At least 4 weeks
	Pfizer-BioNTech (Purple vial cap with a purple-bordered label or gray vial cap with gray-bordered label)	12 years through 17 years	Total number: 3 doses		Total number: 5 doses	
			Dose 1 to 2	At least 3–8 weeks [†]	Dose 1 to 2	At least 3 weeks
			Dose 2 to 3	At least 5 months	Dose 2 to 3	At least 4 weeks
				Dose 3 to 4	At least 3 months	
				Dose 4 to 5	At least 4 months	

Table 2. Immunization Schedule for Persons 18 Years of Age

Type	Product*	Recipient Age	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses**	Doses	Interval Between Doses**
mRNA	Moderna (Red vial cap with a blue-bordered label)	18 years and older	Total number: 3 or 4 doses		Total number: 5 doses	
			Dose 1 to 2	At least 4–8 weeks†	Dose 1 to 2	At least 4 weeks
			Dose 2 to 3 [§]	At least 5 months	Dose 2 to 3	At least 4 weeks
			Dose 3 to 4 [§]	At least 4 months for persons ages 50 years and older.	Dose 3 to 4 [§]	At least 3 months
					Dose 4 to 5 [§]	At least 4 months

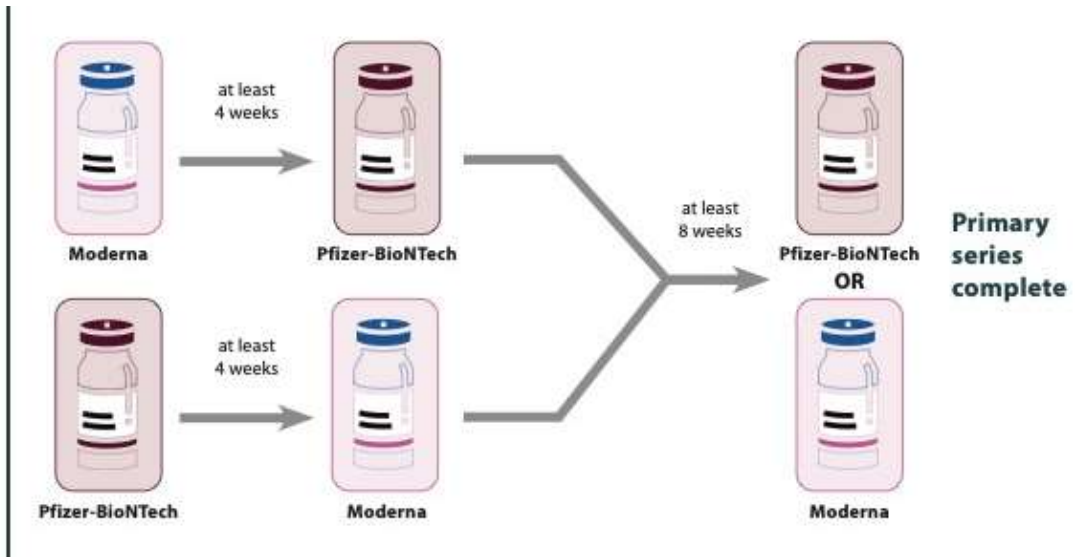
Table 2. Immunization Schedule for Persons 18 Years of Age

Type	Product*	Recipient Age	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses ^{††}	Doses	Interval Between Doses ^{††}
vaccine	Pfizer-BioNTech (Purple vial cap with a purple-bordered label or gray vial cap with gray-bordered label)	18 years and older	Total number: 3 or 4 doses		Total number: 5 doses	
			Dose 1 to 2	At least 3-8 weeks [†]	Dose 1 to 2	At least 3 weeks
			Dose 2 to 3	At least 5 months [†]	Dose 2 to 3	At least 4 weeks
			Dose 3 to 4	At least 4 months for persons ages 50 years and older [†]	Dose 3 to 4 [§]	At least 3 months
					Dose 4 to 5 [§]	At least 4 months
Protein subunit vaccine	Novavax	18 years and older	Total number: 2 doses [†]		Total number: 2 doses	
			Dose 1 to 2	At least 3-8 weeks [†]	Dose 1 to 2	At least 3 weeks

Table 2. Immunization Schedule for Persons 18 Years of Age

Type	Product*	Recipient Age	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses**	Doses	Interval Between Doses**
Adenovirus vector vaccine	Janssen*	18 years and older	Total number: 2 or 3 doses		Total number: 4 doses	
			Dose 1 to 2	At least 8 weeks	Dose 1 to 2	At least 4 weeks (mRNA vaccine)†
			Dose 2 to 3	At least 4 months for persons ages 50 years and older (mRNA vaccine)**	Dose 2 to 3	At least 8 weeks†
					Dose 3 to 4	At least 4 months (mRNA vaccine)†

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Table 3. COVID-19 Vaccine Products Summary

Product*	Age Indications†	Diluent	Dose/Injection Amount
Type: mRNA vaccine			
Moderna (Blue vial cap with magenta-bordered label)	6 months through 5 years	NONE	Any dose in the primary series. Booster doses are not recommended for this age group. 25 µg/ 0.25 mL
Moderna (Blue vial cap with purple-bordered label)	6 through 11 years	NONE	Any dose in the primary series. Booster doses are not authorized for children, ages 6 through 11 years, who received a Moderna primary series. 50 µg/0.5 mL
	18 years and older	NONE	Booster dose only. 50 µg/0.5 mL
Moderna (Red vial cap with blue-bordered label)	12 years and older	NONE	Any dose in the primary series. Booster doses are not authorized for adolescents, ages 12 through 17 years, who received a Moderna primary series. 100 µg/ 0.5 mL
	18 years and older	NONE	Any dose in the primary series. Booster dose 100 µg/ 0.5 mL 50 µg/ 0.25 mL
Pfizer-BioNTech (Maroon vial cap with maroon-bordered label)	6 months through 4 years	2.2 mL 0.9% sodium chloride (normal saline, preservative-free)	Any dose in the primary series. Booster doses are not recommended for this age group. 3 µg/0.2 mL
Pfizer-BioNTech (Orange vial cap with orange-bordered label)	5 through 11 years	1.3 mL 0.9% sodium chloride (normal saline, preservative-free)	Any dose in the primary series and booster doses. 10 µg/0.2 mL

Table 3. COVID-19 Vaccine Products Summary

Product*	Age Indications†	Diluent	Dose/Injection Amount	
Type: mRNA vaccine				
Pfizer-BioNTech (Purple vial cap with a purple-bordered label)	12 years and older	1.8 mL 0.9% sodium chloride (normal saline, preservative-free)	Any dose in the primary series and booster doses.	30 µg/0.3 mL
Pfizer-BioNTech (Gray vial cap with a gray-bordered label)	12 years and older	NONE	Any dose in the primary series and booster doses.	30 µg/0.3 mL
Product	Age Indications	Diluent	Dose/Injection Amount	
Type: Protein sub unit vaccine				
Novavax (Royal blue cap)	18 years and older	NONE	Any dose in the primary series. Persons who received a Novavax COVID-19 Vaccine primary series are not eligible for booster doses (any product).	5 µg rS and 50 µg of Matrix-M™ adjuvant/0.5 mL
Product	Age Indications	Diluent	Dose/Injection Amount	
Type: Viral vector vaccine				
Janssen* (Blue Cap)	18 years and older	NONE	Primary and 1st booster dose.	5x10 ¹⁰ viral particles/0.5 mL

Monkeypox Vaccines

2 Vaccines

- Jynneos approved 2019, being shipped now to select sites, demand vastly outstrips supply, likely to get 1st dose only for MSM and other hi risk groups (2 dose series, 4 wks apart), 786K doses to be shipped
- ACAM 2000 (older vaccine, smallpox vax), in greater supply but variolation technique required, NOT for use with Immunocompromised, Pregnancy, Eczema
- Both PrEP (best option) and PEP (before Sx start, best within 4 days of exposure, some efficacy up to 14 days))

[Monkeypox \(hhs.gov\)](#)

[Considerations for Monkeypox Vaccination | Monkeypox | Poxvirus | CDC](#)

[Key Facts About Monkeypox Vaccine | FDA](#)

[There's Already a Vaccine For Monkeypox. Here's What We Know About it \(cnet.com\)](#)

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Variolation Technique





Future Developments

- Pan COVID vaccines – spike proteins and more
- Universal Flu Vaccines
- Mucosal (nasal and gut administration) immunity
- More trials involving high risk populations
- Correlates of Protection markers (GMT/Antibody levels)

[New COVID vaccines: here's the White House's plan | Popular Science \(popsci.com\)](#)

[Seroprotection rate, mean fold increase, seroconversion rate: which parameter adequately expresses seroresponse to influenza vaccination? - PubMed \(nih.gov\)](#)

Universal Flu Vaccine Goals

- At least 75% effective
- Likely to target the stem (stable) rather than head (variable) of virus
- Protection lasting at least one year
- May be boosted by seasonal flu vaccines
- Suitable for all age groups
- Offers protection for all/most influenza strains

[Universal Influenza Vaccine Research | NIH: National Institute of Allergy and Infectious Diseases](#)

[Trial of potential universal flu vaccine opens at NIH Clinical Center | National Institutes of Health \(NIH\)](#)

Pipeline Vaccines

- CMV – primary prevention and ? therapeutic options (glioblastoma),
- Multiple mRNA vaccines potential: HIV, Zika, Malaria, TB (+/- lipid coated nanoparticle)
- RSV – Adults and <24 months likely
 - Late clinical trials underway, e.g. VANIR study enrolling age 60+ now (mRNA)
 - 4 vaccines based in 3 technologies (Protein subunits, Viral vector, mRNA)
 - Awareness campaigns already underway

[CMV-DC Vaccine in Treating Patients with Newly Diagnosed or Recurrent Glioblastoma, Recurrent Malignant Glioma, or Recurrent Medulloblastoma \(cancer.gov\)](#)

[The Application and Future Potential of mRNA Vaccines < Yale School of Public Health](#)

[mRNA technology promises to revolutionize future vaccines and treatments for cancer, infectious diseases | AAMC](#)

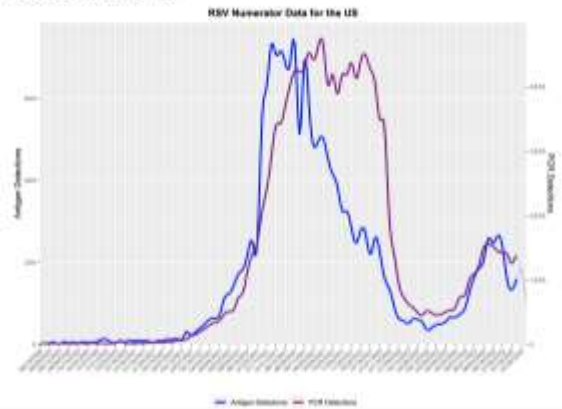
[Is There an RSV Vaccine, or Will One Be Developed Soon? - GoodRx](#)

Respiratory Syncytial Virus (RSV)

Percent Positive



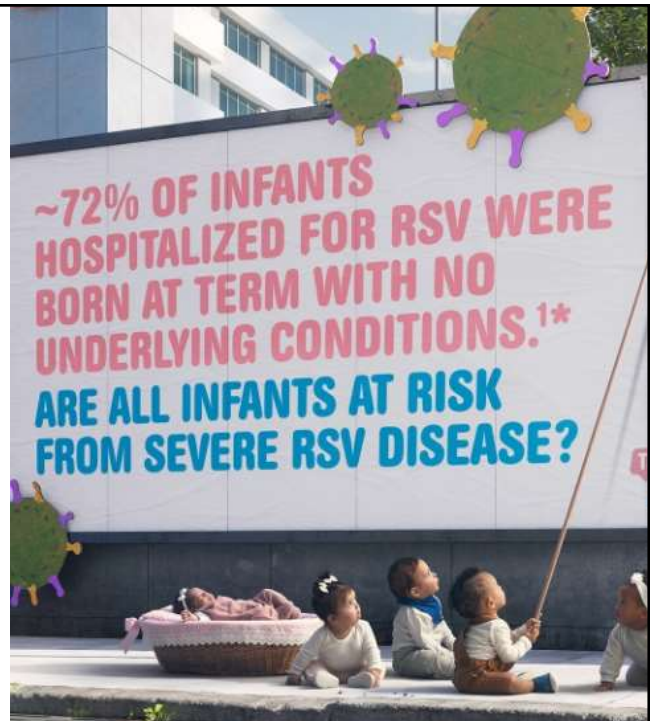
Detections



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Sanofi Pasteur “Rethink RSV” Launch

Pediatric doses



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10 June 2022 (Investor & Media)

GSK announces positive pivotal phase III data for its respiratory syncytial virus (RSV) vaccine candidate for older adults

[Prefusion F Protein-Based Respiratory Syncytial Virus Immunization in Pregnancy - PubMed \(nih.gov\)](#)

Conclusions: RSVpref vaccine elicited neutralizing antibody responses with efficient transplacental transfer and without evident safety concerns. (Funded by Pfizer; ClinicalTrials.gov number, [NCT04032093](#)).

NEJM April 28 2022

Mosquirix

Key takeaways:

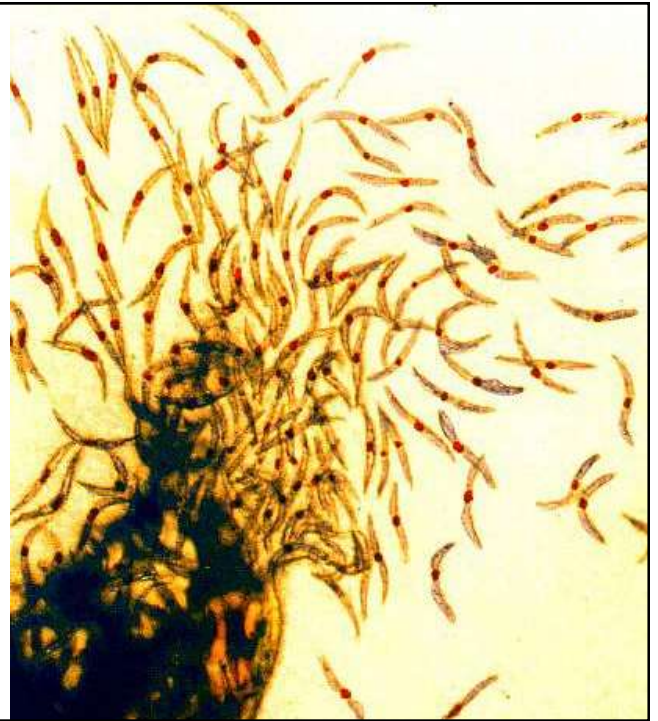
- In October 2021, the World Health Organization (WHO) recommended a malaria vaccine for children living in areas where malaria is common. This is the world's first malaria vaccine.
- The vaccine is called RTS,S (RTS,S/AS01), but it's also known as Mosquirix.
- The vaccine is about 30% effective against severe sickness caused by one particular type of malaria parasite (*P. falciparum*).
- ONLY vaccine currently available, meets WHO guidance for minimum 75% effectiveness
- Manufactured by GSK, 30 years in development with PATH, UNICEF, Gates Foundation
- In 2019: 400,000 deaths worldwide, mostly children
- [World Health Organization \(WHO\) Recommends Newly Approved Malaria Vaccine - GoodRx](#)

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Malaria Vaccine

- Chemoprophylaxis Vaccination
- Phase 2 in Mali now
- Live sporozites plus either Pyrimethamine or Chloroquine
- mRNA vaccine offers another option

[Malaria vaccines provide strong and lasting immunity | National Institutes of Health \(NIH\)](#)



Proposals in 2022-23 White House Budget

- New VFA program for uninsured adults
- Move Medicare Part D vaccines to Part B: SIGNED INTO LAW

Cost Sharing and Vaccines

AVAC
ADULT VACCINE
ACCESS COALITION

With the new Inflation Reduction Law, now Medicare Part D beneficiaries won't face high out-of-pocket costs for their vaccines.



MARKET	VACCINES	OUT-OF-POCKET
Commercial	All CDC-Recommended	\$0
Medicaid Expansion	All CDC-Recommended	\$0
Traditional Medicaid	Determined by state	\$50 - \$3.40
Medicare Part B	Pneumococcal, influenza, hepatitis B	\$0
Medicare Part D	All other CDC recommended vaccines, shingles, Tdap, future vaccines	\$0 - \$160

Source: Alexandra Stewart, <https://doi.org/10.1016/j.vaccine.2019.11.050>
Mennett, <http://www.mennett.com/Insights/White-Papers/2018/Medicare-Part-D-Cost-Sharing-Trends-for-Adult-Vacc>

Favorite Resources

- Immunization Action Coalition ([Immunize.org](https://immunize.org))
- Vaccinate Your Family (vaccinateyourfamily.org)
- National Foundation For Infectious Diseases ([NFID.org](https://www.nfid.org))
- CDC Immunization Division ([Vaccines and Immunizations | CDC](#))
- [Vaccine Information Statements \(VISs\) | CDC](#)
- Vaccine Adverse Events Reporting System ([Vaccine Adverse Event Reporting System \(VAERS\) | CDC](#))
 - V-SAFE (COVID only self report): [V-safe After Vaccination Health Checker | CDC](#)

Questions?

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