Massachusetts Department of Public Health

2025 Immunization Schedule Updates

Massachusetts American Academy of Pediatrics

March 6, 2025

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Massachusetts Department of Public Health

Presenter Disclosure Information

I, Angela Fowler, have been asked to disclose any relevant relationships with commercial entities that are either providing financial support for this program or whose products or services are mentioned during my presentation.

I have no relationships to disclose.

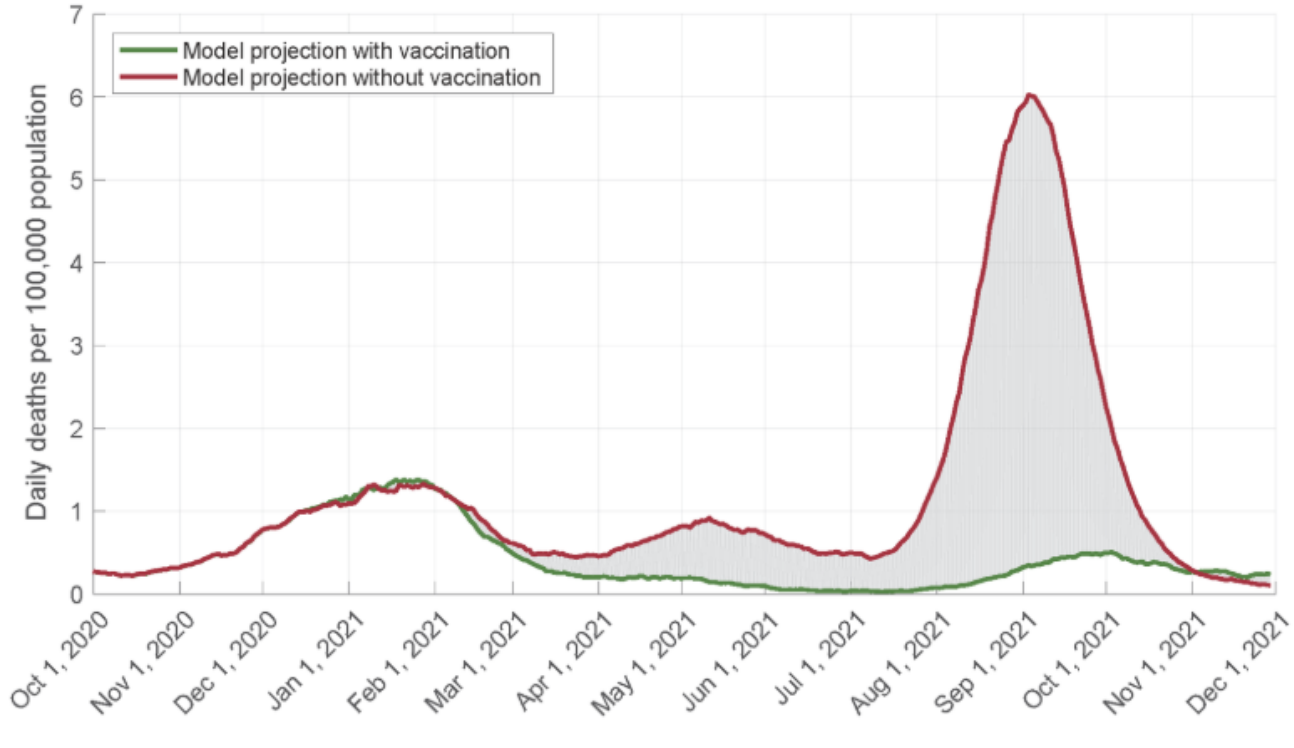
I may discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration, but in accordance with ACIP recommendations.

Outline

- Review of immunization schedule format
- Updates to pediatric schedule
- Updates to adult schedule
- Resources

Vaccines Save Lives!

Projected U.S. Seven-Day Rolling Average of Daily Deaths per 100,000 Population, With and Without Vaccination



Source: Eric C. Schneider et al., *The U.S. COVID-19 Vaccination Program at One Year: How Many Deaths and Hospitalizations Were Averted?* (Commonwealth Fund, December 2021). https://doi.org/10.26099/3542-5n54

COVID-19 vaccines saved millions of lives!

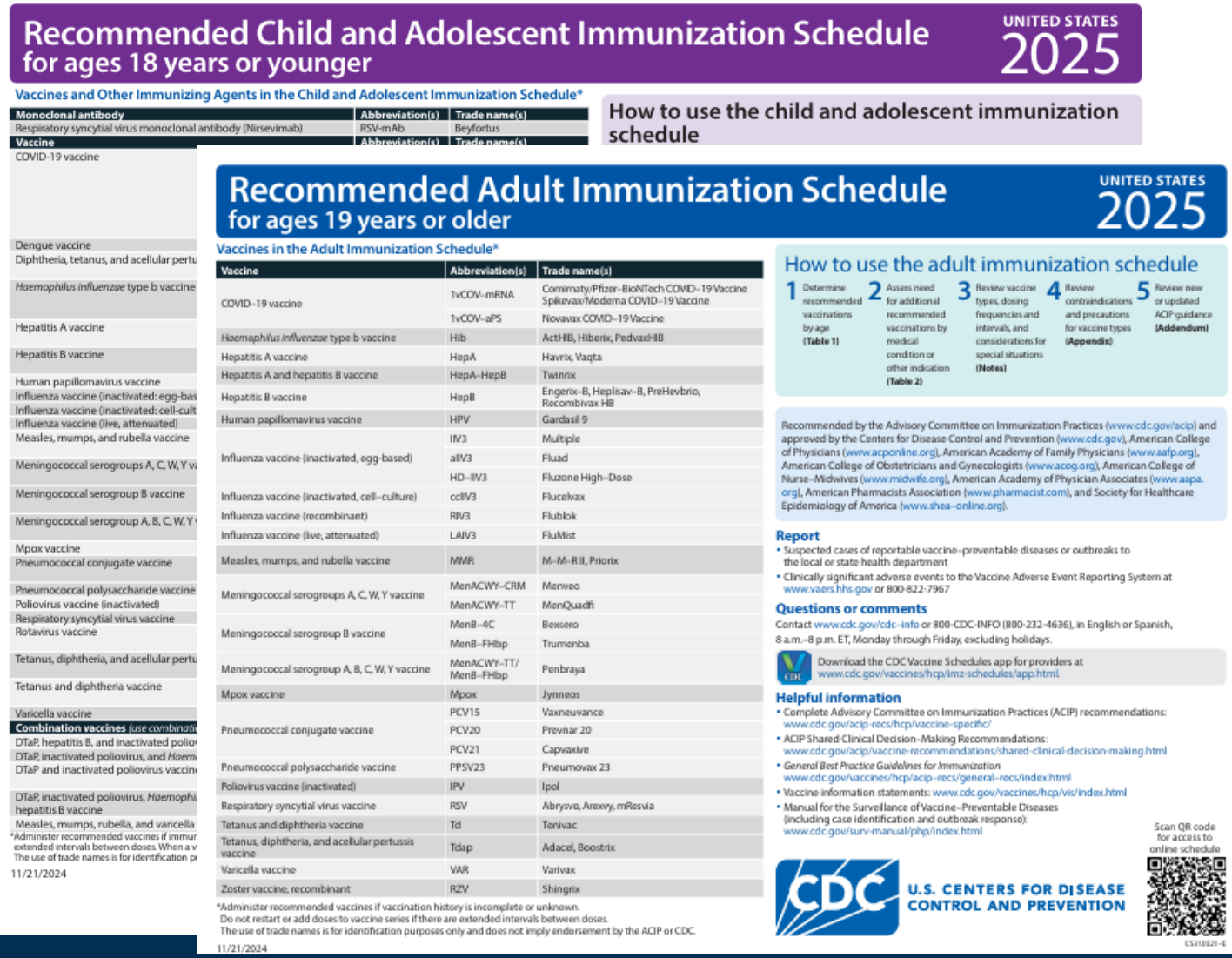
- In the absence of a vaccination program, there would have been approximately **1.1 million additional COVID-19** deaths and more than **10.3 million additional COVID-19 hospitalizations** in the U.S. by November 2021.

- Without the U.S. vaccination program, COVID-19 deaths would have been approximately **3.2 times higher** and COVID-19 hospitalizations approximately **4.9 times higher** than the actual toll during 2021.

Immunization Schedule Format

Immunization Schedules: Overview

- Two separate schedules
  - Child and adolescent schedule (age birth through 18 years)
  - Adult schedule (age 19 years or older)
- Updated each year
- Represents current, approved ACIP policy
- Designed for implementation of ACIP policy



Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger — UNITED STATES 2025

Vaccines and Other Immunizing Agents in the Child and Adolescent Immunization Schedule*

Monoclonal antibody	Abbreviation(s)	Trade name(s)
Respiratory syncytial virus monoclonal antibody (Nirsevimab)	RSV-mAb	Beyfortus

Vaccine	Abbreviation(s)	Trade name(s)
COVID-19 vaccine		
Dengue vaccine		
Diphtheria, tetanus, and acellular pertu		
Haemophilus influenzae type b vaccine		
Hepatitis A vaccine		
Hepatitis B vaccine		
Human papillomavirus vaccine		
Influenza vaccine (inactivated: egg-bas		
Influenza vaccine (inactivated: cell-cult		
Influenza vaccine (live, attenuated)		
Measles, mumps, and rubella vaccine		
Meningococcal serogroups A, C, W, Y v		
Meningococcal serogroup B vaccine		
Meningococcal serogroup A, B, C, W, Y		
Mpox vaccine		
Pneumococcal conjugate vaccine		
Pneumococcal polysaccharide vaccine		
Poliovirus vaccine (inactivated)		
Respiratory syncytial virus vaccine		
Rotavirus vaccine		
Tetanus, diphtheria, and acellular pertu		
Tetanus and diphtheria vaccine		
Varicella vaccine		
Combination vaccines (use combinati		
DTaP, hepatitis B, and inactivated polio		
DTaP, inactivated poliovirus, and *Haem*		
DTaP and inactivated poliovirus vaccin		
DTaP, inactivated poliovirus, *Haemophi* hepatitis B vaccine		
Measles, mumps, rubella, and varicella		

*Administer recommended vaccines if immun extended intervals between doses. When a v The use of trade names is for identification p

11/21/2024

How to use the child and adolescent immunization schedule

Recommended Adult Immunization Schedule for ages 19 years or older — UNITED STATES 2025

Vaccines in the Adult Immunization Schedule*

Vaccine	Abbreviation(s)	Trade name(s)
COVID-19 vaccine	1vCOV-mRNA	Comirnaty/Pfizer-BioNTech COVID-19 Vaccine, Spikevax/Moderna COVID-19 Vaccine
	1vCOV-aPS	Novavax COVID-19 Vaccine
Haemophilus influenzae type b vaccine	Hib	ActHIB, Hiberix, PedvaxHIB
Hepatitis A vaccine	HepA	Havrix, Vaqta
Hepatitis A and hepatitis B vaccine	HepA-HepB	Twinrix
Hepatitis B vaccine	HepB	Engerix-B, Heplisav-B, PreHevbrio, Recombivax HB
Human papillomavirus vaccine	HPV	Gardasil 9
Influenza vaccine (inactivated, egg-based)	IIV3	Multiple
	aIIV3	Fluad
	HD-IIV3	Fluzone High-Dose
Influenza vaccine (inactivated, cell-culture)	ccIIV3	Flucelvax
Influenza vaccine (recombinant)	RIV3	Flublok
Influenza vaccine (live, attenuated)	LAIV3	FluMist
Measles, mumps, and rubella vaccine	MMR	M-M-R II, Priorix
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-CRM	Menveo
	MenACWY-TT	MenQuadfi
Meningococcal serogroup B vaccine	MenB-4C	Bexsero
	MenB-FHbp	Trumenba
Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY-TT/ MenB-FHbp	Penbraya
Mpox vaccine	Mpox	Jynneos
Pneumococcal conjugate vaccine	PCV15	Vaxneuvance
	PCV20	Prevnar 20
	PCV21	Capvaxive
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23
Poliovirus vaccine (inactivated)	IPV	Ipol
Respiratory syncytial virus vaccine	RSV	Abrysvo, Arexvy, mResvia
Tetanus and diphtheria vaccine	Td	Tenivac
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel, Boostrix
Varicella vaccine	VAR	Varivax
Zoster vaccine, recombinant	RZV	Shingrix

*Administer recommended vaccines if vaccination history is incomplete or unknown. Do not restart or add doses to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

11/21/2024

How to use the adult immunization schedule

1 Determine recommended vaccinations by age (Table 1)
2 Assess need for additional recommended vaccinations by medical condition or other indication (Table 2)
3 Review vaccine types, dosing frequencies and intervals, and considerations for special situations (Notes)
4 Review contraindications and precautions for vaccine types (Appendix)
5 Review new or updated ACIP guidance (Addendum)

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American College of Physicians (www.acponline.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse-Midwives (www.midwife.org), American Academy of Physician Associates (www.aapa.org), American Pharmacists Association (www.pharmacist.com), and Society for Healthcare Epidemiology of America (www.shea-online.org).

Report
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7967

Questions or comments
Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.

Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/hcp/imz-schedules/app.html

Helpful information
- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/acip-recs/hcp/vaccine-specific/
- ACIP Shared Clinical Decision-Making Recommendations: www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html
- *General Best Practice Guidelines for Immunization* www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/surv-manual/php/index.html

Scan QR code for access to online schedule

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

CS310821-E

Morbidity and Mortality Weekly Report (*MMWR*)

Search

Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger — United States, 2025

Weekly / January 16, 2025 / 74(2);26–29

Print

Anindita N. Issa, MD[1]; A. Patricia Wodi, MD[1]; Charlotte A. Moser, MS[2]; Sybil Cin

View suggested citation

At its October 2024 meeting, the Advisory Committee on Immunization Practice
Immunization Schedule for Child and Adolescent Ages 18 Years or Younger, Uni
health care providers, as well as public health and other professionals, by provid
recommendations for vaccinating children and adolescents. The 2025 schedule
tables, notes, and appendix.[†] The addendum remains part of the schedule and w
ACIP recommendations that occur before the next annual schedule update. Hea
use all parts of the schedule (the cover page, tables, notes, appendix, and adder
recommendations for individual patients. The 2025 child and adolescent immun
website (https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html).

Consistent with previous years' schedules, the 2025 child and adolescent immu
(https://www.cdc.gov/acip/index.html) and approved by CDC (https://www.cdc.g
(https://www.aap.org), the American Academy of Family Physicians (https://v
College of Obstetricians and Gynecologists (https://www.acog.org/), the Ame
(https://www.midwife.org), the American Academy of Physician Associates (
Association of Pediatric Nurse Practitioners (https://www.napnap.org).

ACIP's recommendations for use of each vaccine and other immunizing agents a
current product-related data, including the epidemiology and societal impacts o
effectiveness, and safety of the vaccine or other immunizing agent; quality of evi
impact on health equity; and economic analyses of immunization policy (*1*,*2*). Fo
are conducted in the context of standard-of-care related to the routine childhoo

Morbidity and Mortality Weekly Report (*MMWR*)

Search

Advisory Committee on Immunization Practices Recommended Immunization Schedule for Adults Aged 19 Years or Older — United States, 2025

Weekly / January 16, 2025 / 74(2);30–33

Print

A. Patricia Wodi, MD[1]; Anindita N. Issa, MD[1]; Charlotte A. Moser, MS[2]; Sybil Cineas, MD[3] (VIEW AUTHOR AFFILIATIONS)

View suggested citation

At its October 2024 meeting, the Advisory Committee on Immunization Practices* (ACIP) approved the Recommended Immunization Schedule for Adults Ages 19 Years or Older, United States, 2025. The schedule supports health care providers, as well as public health and other professionals, by providing a consolidated summary of current ACIP recommendations for adult vaccination. The 2025 schedule includes several updates to the cover page, tables, notes, and appendix.[†] The addendum remains part of the schedule and will be used to summarize new or updated ACIP recommendations that occur before the next annual schedule update. Health care providers are strongly encouraged to use all parts of the schedule (the cover page, tables, notes, appendix, and addendum) together when making recommendations for individual patients. The 2025 adult immunization schedule can be found on the CDC website (https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html).

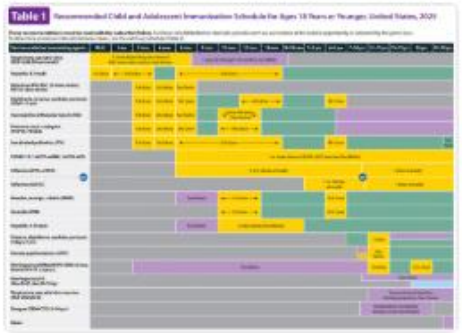
Consistent with previous years' schedules, the 2025 adult immunization schedule is recommended by ACIP (https://www.cdc.gov/acip/index.html) and approved by CDC (https://www.cdc.gov), the American College of Physicians (https://www.acponline.org), the American Academy of Family Physicians (https://www.aafp.org), the American College of Obstetricians and Gynecologists (https://www.acog.org), the American College of Nurse-Midwives

NOVEMBER 21, 2024

Immunization Schedules

The 2025 Immunization Schedules approved by ACIP and adopted by the CDC Director on October 24, 2024 are now available below.

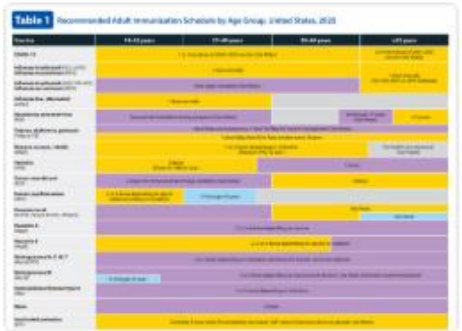
For healthcare providers



Child and Adolescent Immunization Schedule by Age

Guide health care providers in determining recommended vaccines for each age group.

NOV. 21, 2024



Adult Immunization Schedule by Age

Stay up-to-date on getting recommended vaccines. View and print CDC immunization schedules for adult...

NOV. 21, 2024

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

NOVEMBER 21, 2024

Child and Adolescent Immunization Schedule by Age

Recommendations for Ages 18 Years or Younger, United States, 2025

PURPOSE

Guide health care providers in determining recommended vaccines for each age group.

How to use the schedule

Vaccines and Other Immunizing Agents in the Child and Adolescent Immunization Schedule

To make vaccination recommendations, healthcare providers should:

1. Determine recommended vaccine by age (**Table 1 – By Age**)
2. Determine recommended interval for catch-up vaccination (**Table 2 – Catch-up**)
3. Assess need for additional recommended vaccines by medical condition or other indication (**Table 3 – By Medical Indication**)
4. Review vaccine types, frequencies, intervals, and considerations for special situations (**Notes**)
5. Review contraindications and precautions for vaccine types (**Appendix**)
6. Review new or updated ACIP guidance (**Addendum**)

Get email updates

Download the Schedule

- Print the schedule, color PDF
- Print the schedule, black & white PDF
- Download the mobile app

Compliant version of the schedule

NOVEMBER 21, 2024

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Use the cover page, tables, notes, appendix, and addendum together to determine recommended vaccinations for patients.

2024/25 Updates to Pediatric Vaccine Schedule

COVID-19

RSV

Meningococcus

Hib

COVID-19 Vaccine Updates

COVID-19

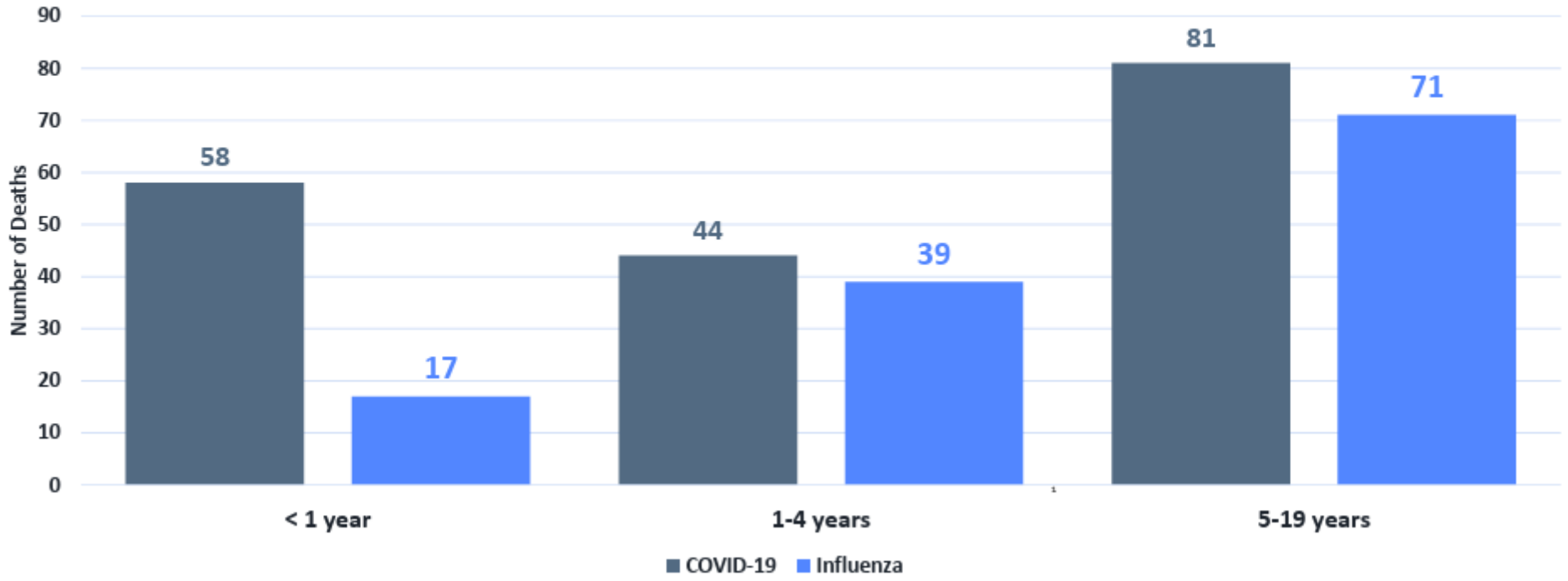
- An infectious disease caused by the SARS-CoV-2 virus
- Most children infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment.
- However, some will become seriously ill and require medical attention.
- Some will develop a chronic syndrome called Long COVID

Underlying Medical Conditions among Patients Admitted to ICU among Children and Adolescents Ages ≤17 Years with COVID-19-associated Hospitalization, July 2023–March 2024

Age category	Among all hospitalized children, % with no underlying conditions	Among those admitted to ICU, % with no underlying conditions (n=363)	Among those with no underlying conditions, what % were admitted to ICU? (n=791)
Overall ≤17 Years	50%	40%	18%

Pediatric COVID-19 and Influenza Deaths

Total number of COVID-19 and Influenza-associated deaths[1,2] in 2023, by age group, United States



Other pediatric vaccine preventable diseases: Annual hospitalizations per 100,000 population prior to vaccine recommendation compared to COVID-19

	Hepatitis A[1]	Varicella[2] (Chickenpox)	Vaccine-type Invasive Pneumococcal Disease[3]	COVID-19[4]	
Age	5–14 years	0–4 years	0–4 years	6 months–<18 years	
Time period	2005	1993–1995	1998–1999	2022–2023	2023–2024
Hospitalization Burden (Annual rate per 100,000 population)	<1	29-42	40[5]	6 months–4 years: 74 5–11 years: 17 12–17 years: 24	6 months–4 years: 50 5–11 years: 10 12–17 years: 13

Pediatric vaccine preventable diseases: Deaths per year in the United States prior to vaccine recommendation compared to COVID-19

	Hepatitis A[1]	Meningococcal (ACWY)[2]	Varicella[3]	Rubella[4]	Rotavirus[5]	COVID-19[6]
Age	<20 years	11–18 years	5–9 years	All ages	<5 years	6 months–19 years
Time period	1990–1995	2000–2004	1990–1994	1966–1968	1985–1991	2023
Average deaths per year	3	8	16	17	20	1–4 years: 44 5–19 years: 81

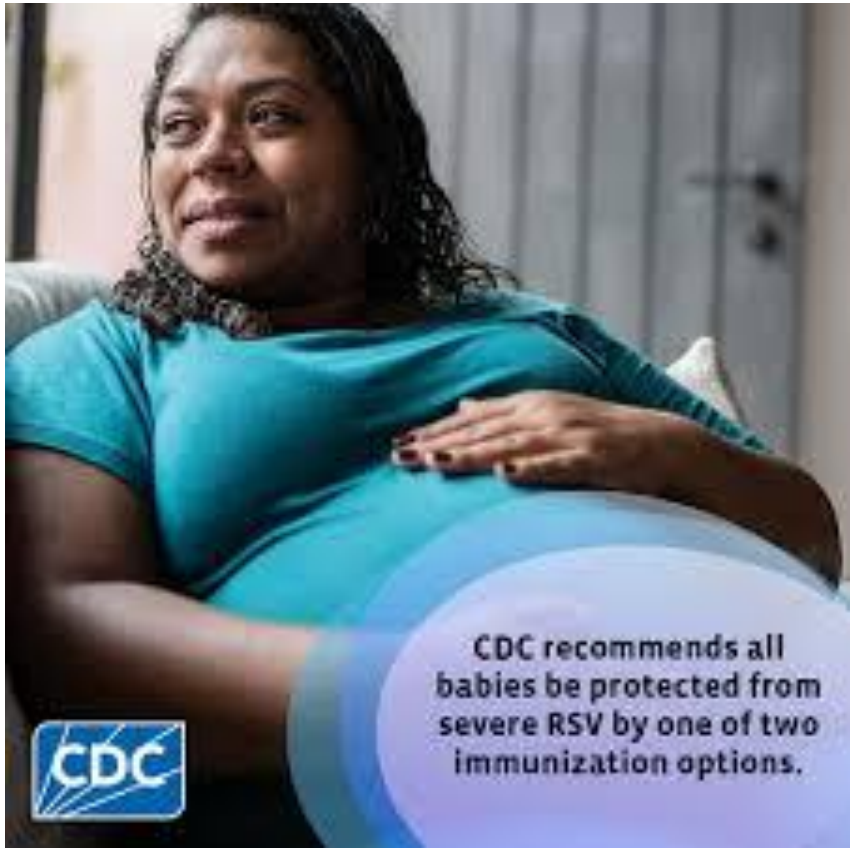
COVID-19 Vaccine Recommendation

- To protect against COVID-19 disease, caused by SARS-CoV-2, ACIP recommended that everyone aged 5 years and older should get 1 dose of a 2024–2025 COVID-19 vaccine as authorized or approved by FDA:
  - Moderna COVID-19 vaccine in persons ≥6 months
  - Pfizer-BioNTech COVID-19 vaccine in persons ≥6 months
  - Novavax COVID-19 vaccine in persons ≥ 12 years*
- Children aged 6 months–4 years need multiple doses of COVID-19 vaccines to be up to date, including at least 1 dose of 2024–2025 COVID-19 vaccine.

RSV Vaccine Updates

RSV

- Respiratory syncytial virus (RSV) is a common respiratory virus that infects the nose, throat, and lungs.
- RSV spreads in the fall and winter along with other respiratory viruses - usually peaks in December and January.
- In the US, RSV is the most common cause of hospitalization in children under 1 year old



RSV

All infants should be protected against severe RSV disease with either maternal RSV vaccine or nirsevimab

Maternal vaccine

Abrysvo, Pfizer

Pregnant persons 32 through 36 weeks' gestation

Administer September through January in most of the continental United States†

Nirsevimab

Beyfortus, Sanofi & AstraZeneca

All infants <8 months*

Second season dose for children ages 8–19 months at increased risk of severe RSV disease

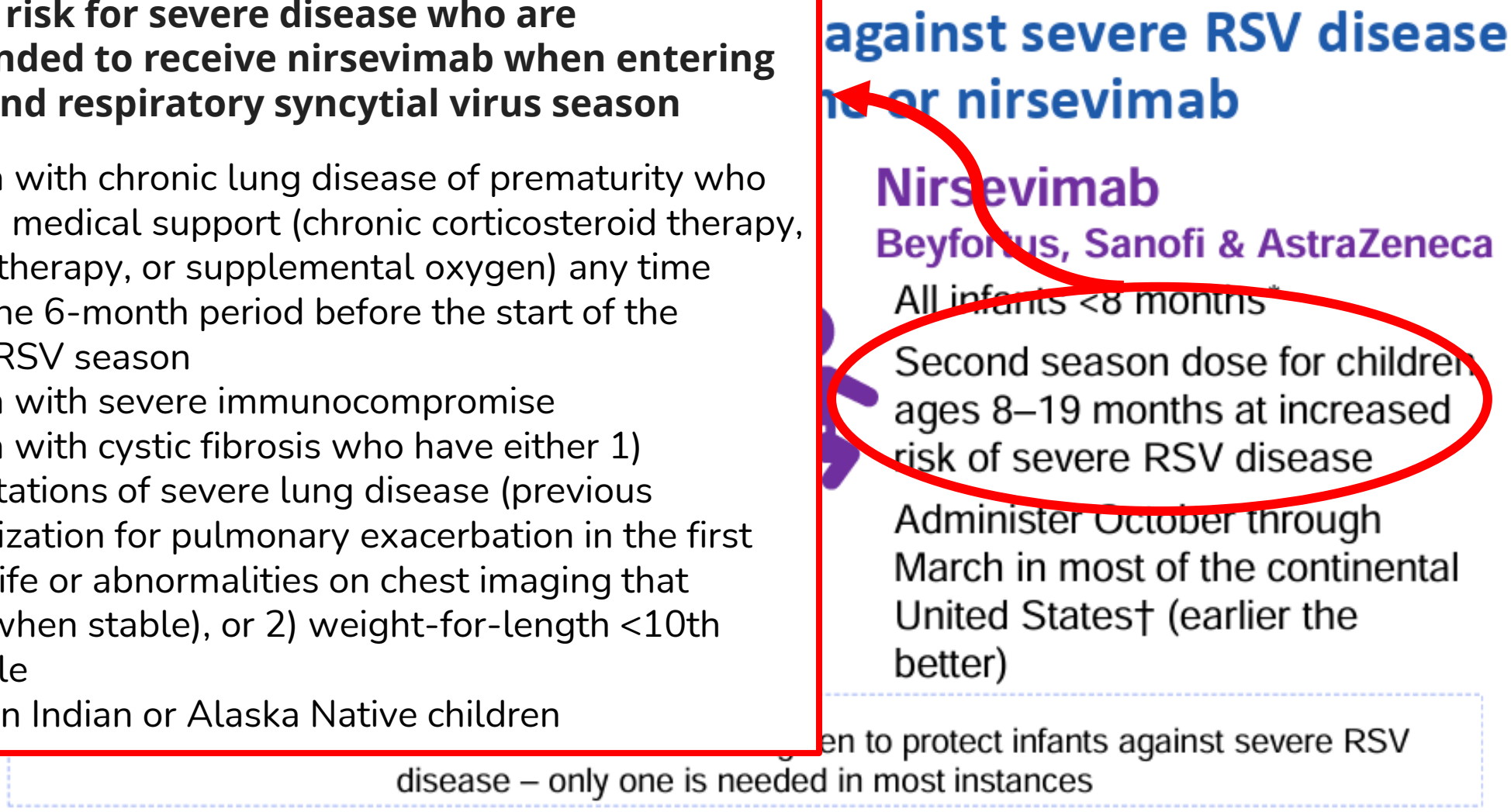
Administer October through March in most of the continental United States† (earlier the better)

*_**Either**_ maternal RSV vaccine or nirsevimab is given to protect infants against severe RSV disease – only one is needed in most instances

RSV

Infants and children aged 8–19 months with increased risk for severe disease who are recommended to receive nirsevimab when entering their second respiratory syncytial virus season

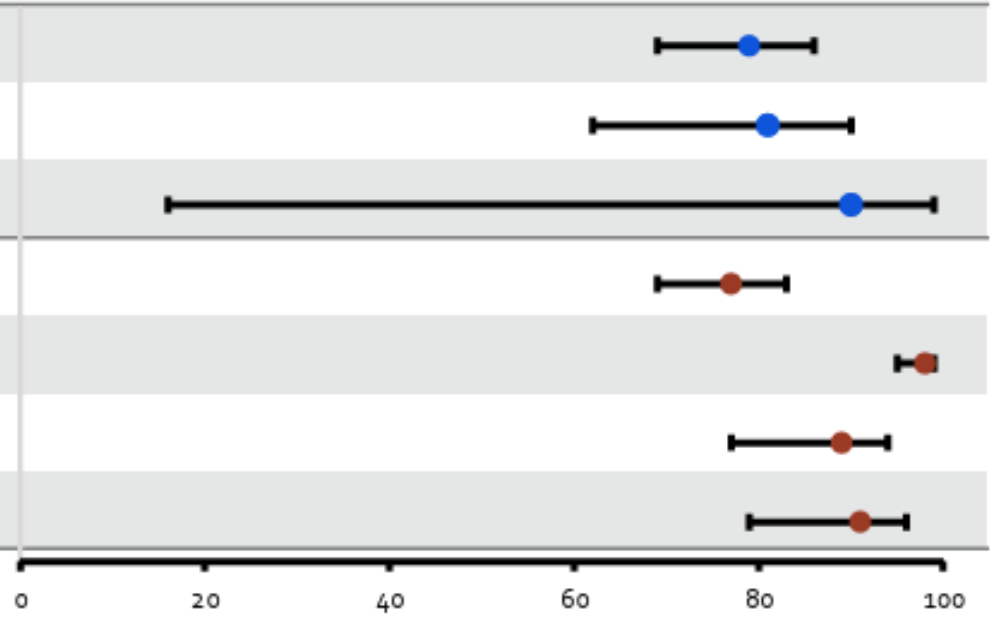
- Children with chronic lung disease of prematurity who required medical support (chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the second RSV season
- Children with severe immunocompromise
- Children with cystic fibrosis who have either 1) manifestations of severe lung disease (previous hospitalization for pulmonary exacerbation in the first year of life or abnormalities on chest imaging that persist when stable), or 2) weight-for-length <10th percentile
- American Indian or Alaska Native children



Nirsevimab Real World Effectiveness

Observational data indicate nirsevimab is working as expected (vs. RCT results) during the first RSV season after approval among infants in their first RSV season

Outcome/Analysis	Vaccine efficacy/effectiveness (%)
Clinical trial, RSV-associated LRTI	79 (69-86)
Clinical trial, RSV-associated LTRI with hospitalization	81 (62-90)
Clinical trial, RSV-associated LRTI with ICU admission	90 (16-99)
VISION, RSV-associated emergency department visits	77 (69-83)
VISION, RSV-associated hospitalization	98 (95-99)
NVSN, medically attended RSV-associated ARI episode	89 (77-94)
NVSN, RSV-associated hospitalization	91 (79-96)



Nirsevimab Schedule Updates

- The “Routine vaccination” section was revised to state that infants born during October–March should be immunized within 1 week of birth, ideally during the birth hospitalization.
- In addition, a revision was made to clarify that for infants born during April–September, the optimal time of year to administer RSV-mAb is October–November.

Maternal RSV Vaccine Safety

- In clinical trials among pregnant persons at 24–36 weeks' gestation, more preterm births were noted among Pfizer RSV vaccine recipients compared to placebo (differences not statistically significant)

- Post-licensure safety surveillance of the Pfizer RSV vaccine in pregnant persons was initiated during the 2023-2024 season

Maternal Safety with Abrysvo

Preterm birth[a] risk among pregnant persons receiving RSV vaccine and unvaccinated matches, 30–36 weeks GA

	Matched pairs, N	RSV vaccinated		Unvaccinated match		Risk Ratio (95% CI)
		N events*	Preterm birth %	N events*	Preterm birth %	
Overall[b]	14,099	571	4.0	637	4.5	0.90 (0.80–1.00)
32–36 weeks	13,965	563	4.0	628	4.5	0.90 (0.80–1.00)

SGA[a] at birth risk in infants born to RSV vaccinated pregnant person or unvaccinated pregnant matches, 30–36 weeks GA[b]

	Matched pairs, N	RSV vaccinated		Unvaccinated match		Risk Ratio (95% CI)
		N events*	SGA at birth %	N events*	SGA at birth %	
Overall	11,920	800	6.7	781	6.6	1.02 (0.93–1.13)
32–36 weeks	11,819	799	6.8	774	6.5	1.03 (0.94–1.14)

Matched analysis of the Vaccine Safety Datalink

Maternal RSV Vaccine Update

Information was added to clarify that infants born to mothers who received RSV vaccination during a previous pregnancy should receive nirsevimab.

Almost half of young infants were not protected from RSV last season because they didn't get RSV antibodies and their mom didn't get maternal vaccination

ACIP recommends either:

- Maternal RSV vaccination (32-36 weeks); or
- Nirsevimab for young infants

We are entering RSV season. Clinicians, talk to pregnant patients and new parents about protecting young babies from RSV

* Internet survey of 2,263 current and recently pregnant women — 2023-24 RSV season

bit.ly/mm7338a2

SEPTEMBER 26, 2024

MMWR

Meningococcal Vaccine Updates

Meningococcus

- Caused by a bacteria *Neisseria meningitidis*.
- The most common forms of meningococcal infections include meningitis and meningococcemia.
- Can be fatal.
- Vaccines target the different serotypes of the bacteria.

Schedule change for Bexsero

- On August 19, FDA approved a new dosing schedule for GSK meningococcal B (MenB) vaccine (Bexsero) that matches the schedule for Pfizer MenB vaccine (Trumenba), with 2 doses given 6 months apart or 3 doses given at 0, 1–2, and 6-month intervals.

- Bexsero's original 2-dose schedule, with a 1-month interval between the two doses, is no longer licensed.

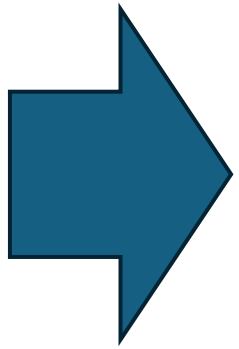
New Bexsero Schedule Recommendations

Healthy adolescents and young adults (based on shared clinical decision making):

– 2-dose series at 0 and 6 months

Persons aged ≥10 years at increased risk for serogroup B meningococcal disease (i.e., persons with anatomic or functional asplenia, complement component deficiencies, or complement inhibitor use; microbiologists routinely exposed to *N. meningitidis* isolates; and persons at increased risk during an outbreak):

– 3-dose series at 0, 1–2, and 6 months



Align with updated FDA label for Bexsero

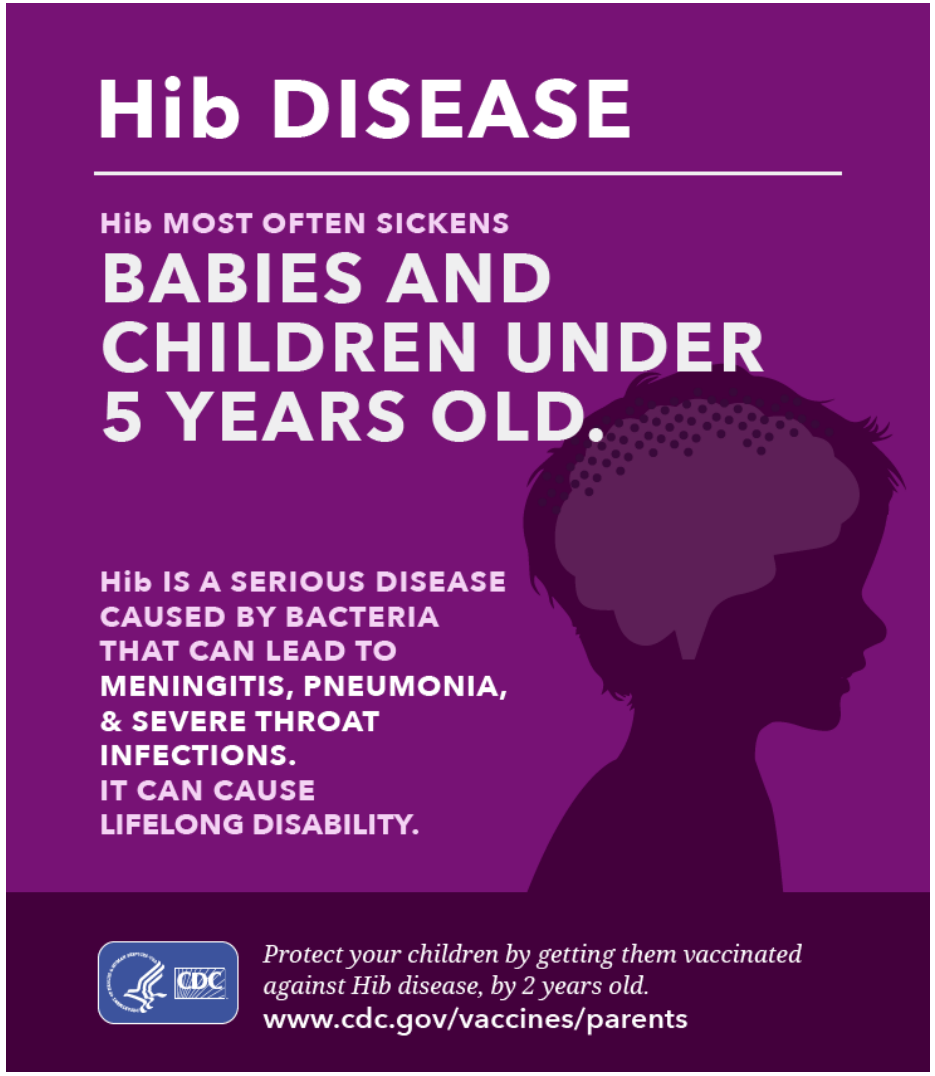
and

Harmonize with existing recommendations for Trumemba

Haemophilus influenzae type B Vaccine Updates

Haemophilus influenzae type B *(HiB)* is a bacteria that can cause serious illnesses like meningitis and pneumonia leading to death in infants and children under 5 years of age.

Before the introduction of effective vaccines, Hib was the leading cause of bacterial meningitis and other invasive bacterial disease in the United States, primarily among children aged <5 years



Hib Infection in American Indian/Alaska Native Children

American Indian/Alaska Native (AI/AN) children aged <5 years have a 31-fold higher incidence of invasive Hib disease than non-Native children. Historically, Hib meningitis peaked at an earlier age among AI/AN infants

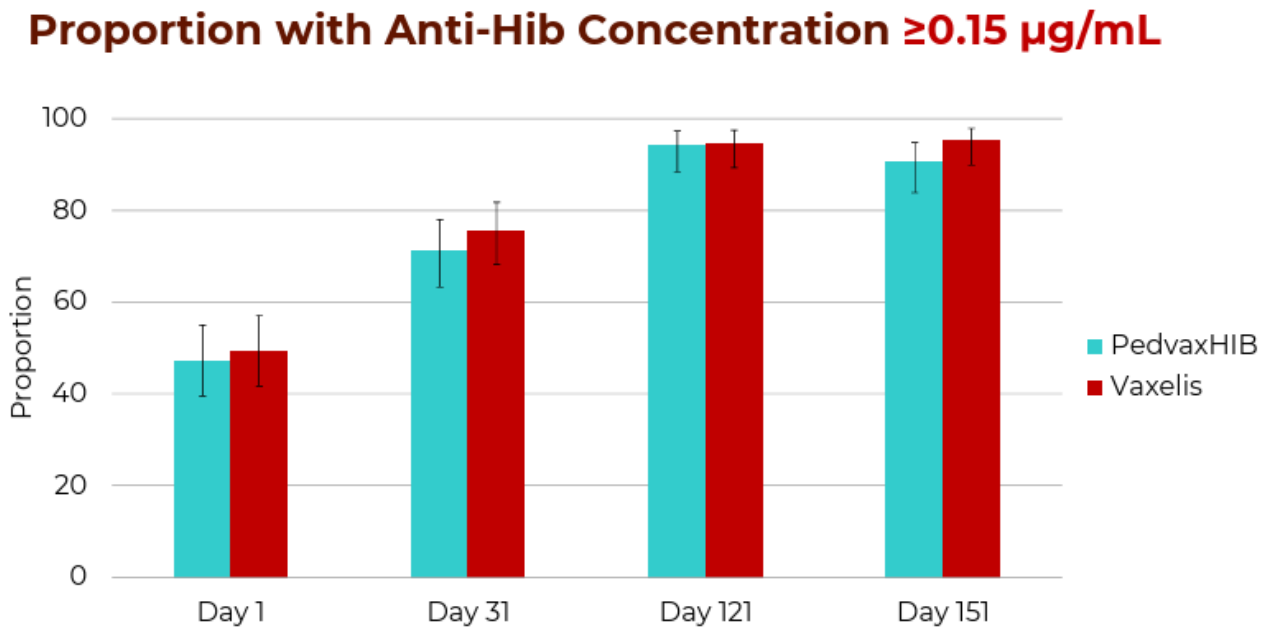
- PRP-OMP (PedvaxHIB) was preferentially recommended for American Indian and Alaska Native (AI/AN) infants → provides a protective antibody response after the first dose

Vaxelis (DTaP-IPV-Hib-HepB) did not have a preferential recommendation for AI/AN infants

- Post-dose 1 immunogenicity data had not previously available
- Lower dose of PRP-OMP than PedvaxHIB (3 mcg vs 7.5 mcg)

Hibvax Study

- Prospective, open-label randomized controlled clinical trial of AI/AN infants
- Randomized to Vaxelis vs. PedvaxHIB
  - Vaxelis administered at ages 2, 4, and 6 months
  - PedvaxHIB administered at ages 2 and 4 months



Use of Vaxelis

- Vaxelis would reduce the number of injections to complete the childhood immunization series → may improve acceptability for parents/guardians and medical providers
- CDC's General Best Practice Guidance for Immunization and American Academy of Pediatrics Red Book both state a general preference for combination vaccines over separate injections of equivalent components
- Adding Vaxelis retains flexibility for providers to continue using PedvaxHIB

Hib Vaccine Update

Vaxelis was added as a second preferred option for primary doses in American Indian and Alaska Native infants.

2024 Updates to Adults Vaccine Schedule

COVID-19

Pneumococcus

RSV

Influenza

Hepatitis B

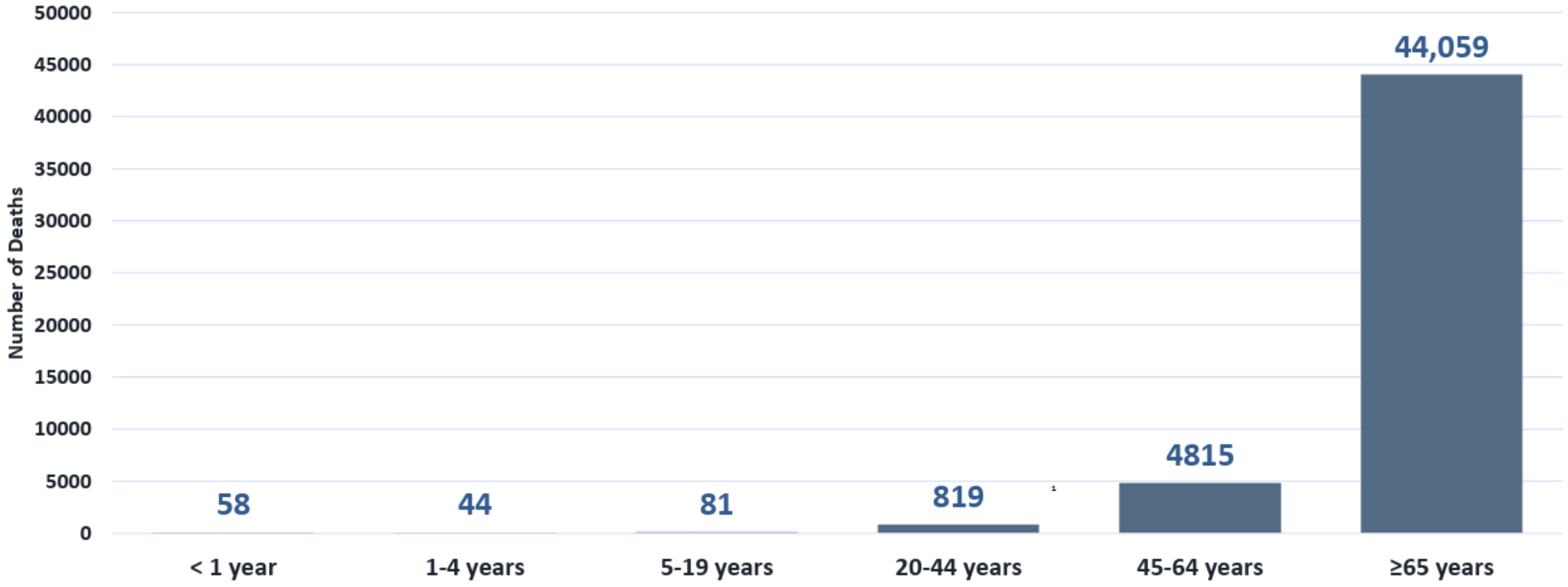
COVID-19 Vaccine Updates

COVID-19

- Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness.

Older Adults are at highest risk from COVID-19

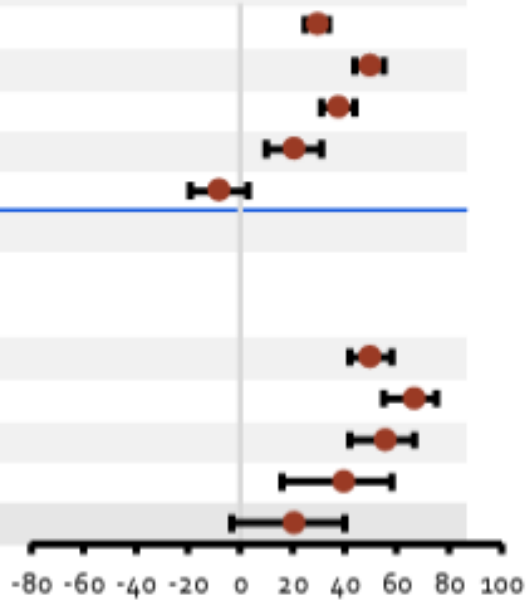
Total number of COVID-19-associated deaths[1,2] in 2023, by age group, United States



VISION: VE of *2023-2024 COVID-19 vaccine* against COVID-19-associated *hospitalization and critical illness* among adults aged ≥18 years

September 2023 – August 2024

Age group/2023 -2024 COVID-19 vaccination status/days since dose	Total encounters	SARSCoV-2-test-positive, N (%)	Median interval since last dose among vaccinated, days (IQR)	Adjusted VE (95% CI)
≥18 years, hospitalization				
No 2023-2024 COVID-19 dose (ref)	83,596	8,025 (10)	728 (499-911)	Ref
2023-2024 COVID-19 dose, 7-299 days earlier	21,468	1,664 (8)	120 (62-189)	30 (25 to 34)
2023-2024 COVID-19 dose, 7-59 days earlier	5,095	382 (8)	34 (21-47)	50 (44 to 55)
2023-2024 COVID-19 dose, 60-119 days earlier	5,623	431 (8)	88 (74-104)	38 (31 to 44)
2023-2024 COVID-19 dose, 120-179 days earlier	4,754	268 (6)	148 (134-164)	21 (10 to 31)
2023-2024 COVID-19 dose, 180-299 days earlier	5,996	583 (10)	227 (202-257)	-8 (-19 to 3)
≥18 years, critical illness				
No 2023-2024 COVID-19 dose (ref)	76,965	1,394 (2)	730 (503-913)	Ref
2023-2024 COVID-19 dose, 7-299 days earlier	20,010	206 (1)	119 (62-187)	50 (42-58)
2023-2024 COVID-19 dose, 7-59 days earlier	4,758	45 (1)	34 (21-46)	67 (55-75)
2023-2024 COVID-19 dose, 60-119 days earlier	5,248	56 (1)	89 (74-104)	56 (42-67)
2023-2024 COVID-19 dose, 120-179 days earlier	4,523	37 (1)	149 (134-164)	40 (16-58)
2023-2024 COVID-19 dose, 180-299 days earlier	5,481	68 (1)	226 (201-256)	21 (-3-40)



COVID-19 Adult Vaccine Recommendations

- ACIP recommends a second dose of 2024–2025 COVID-19 vaccine for **adults ages ≥65 years**.
- ACIP recommends a second dose of 2024–2025 COVID-19 vaccine for people ages **6 months–64 years who are moderately or severely immunocompromised**.
- ACIP recommends additional doses (i.e., 3 or more doses) of 2024–2025 COVID-19 vaccine for people ages ≥6 months who are moderately or severely immunocompromised under shared clinical decision making.

Pneumococcal Vaccine Updates

Pneumococcal Disease

- Caused by bacteria - *Streptococcus pneumoniae*
- More serious clinical syndromes such as pneumonia, bacteremia, and meningitis.
- Less serious, but more common syndromes include acute otitis media and sinusitis.
- Highest incidence in the winter and early spring months in temperate climates.

Pneumococcal Vaccine Updates

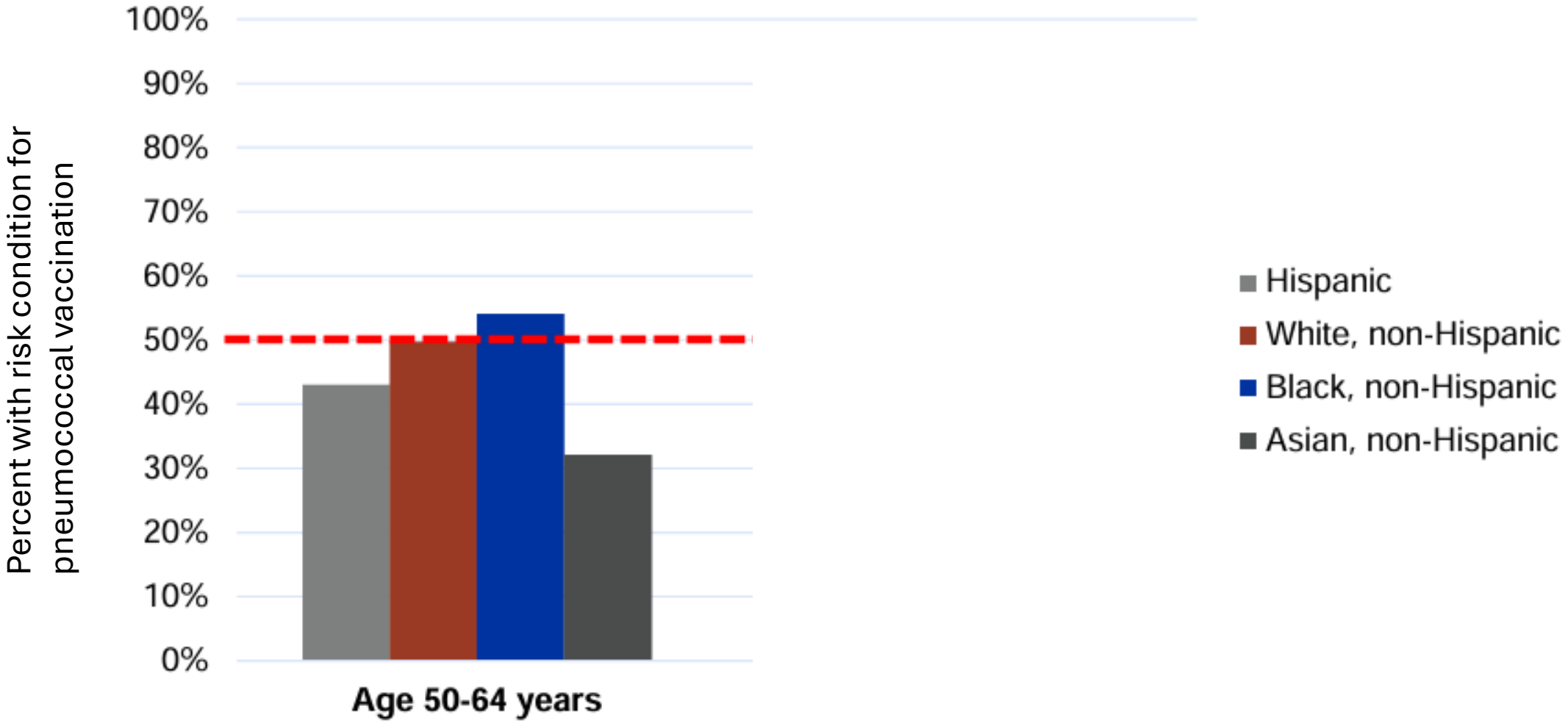
- Pneumococcal conjugate vaccination is universally recommended for adults 50 years of age and older if they have never received a dose of PCV (PCV15, PCV20, or PCV21) or if their previous pneumococcal vaccination history is unknown.

- PCV21 was added to the list of recommended pneumococcal conjugate vaccines.

Before Oct 2024 ACIP Meeting – Adult PCV recommended for:

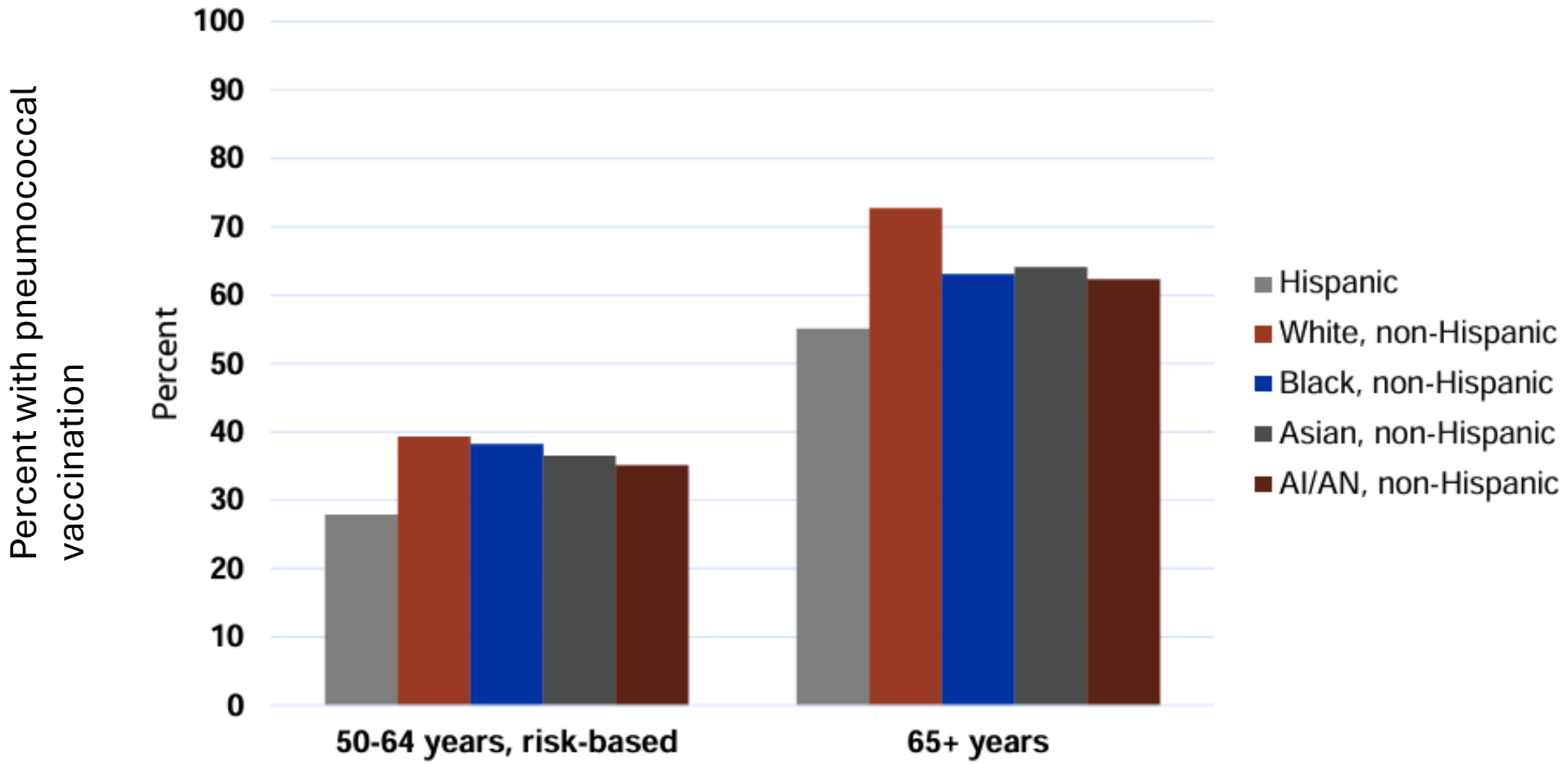
- Adults aged ≥65 years who have not received a PCV
- Adults aged 19–64 years with certain underlying conditions or risk factors who have not received a PCV

About 32–54% of adults aged 50–64 years have underlying conditions with risk-based pneumococcal vaccine indication*



Presented at the October 2024 ACIP meeting

Disparities in pneumococcal vaccine coverage by race/ethnicity exist for both age-based and risk-based indications



Source: BRFSS 2022; AI/AN=American Indian and Alaska Native

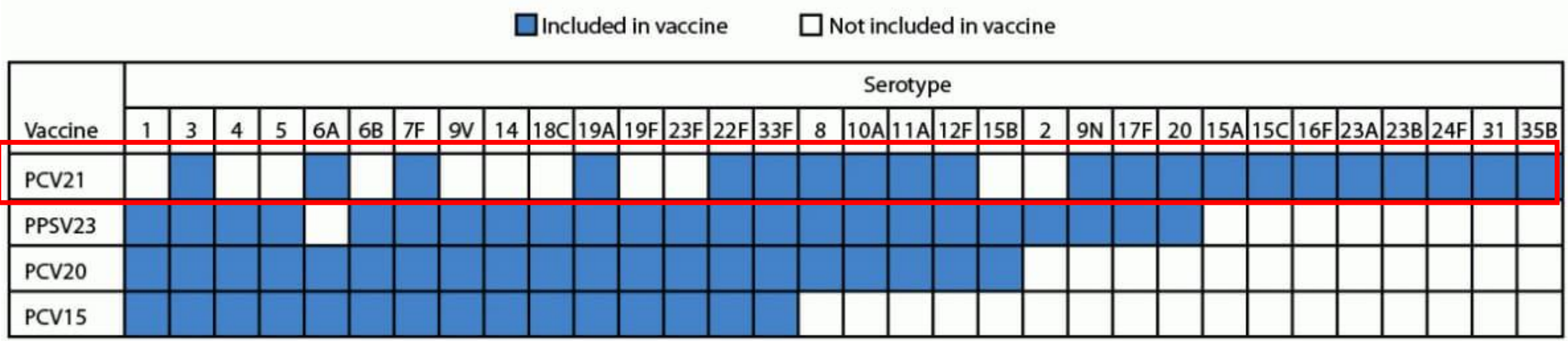
Presented at the October 2024 ACIP meeting

Pneumococcal Vaccines for Adults

■ Included in vaccine ☐ Not included in vaccine

Vaccine	Serotype																												
	1	3	4	5	6A	6B	7F	9V	14	18C	19A	19F	23F	22F	33F	8	10A	11A	12F	15B	2	9N	17F	20	15A	15C	16F	23A	23B	24F	31	35B
PCV21		■			■		■				■			■	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■
PPSV23	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
PCV20	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■												
PCV15	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																	

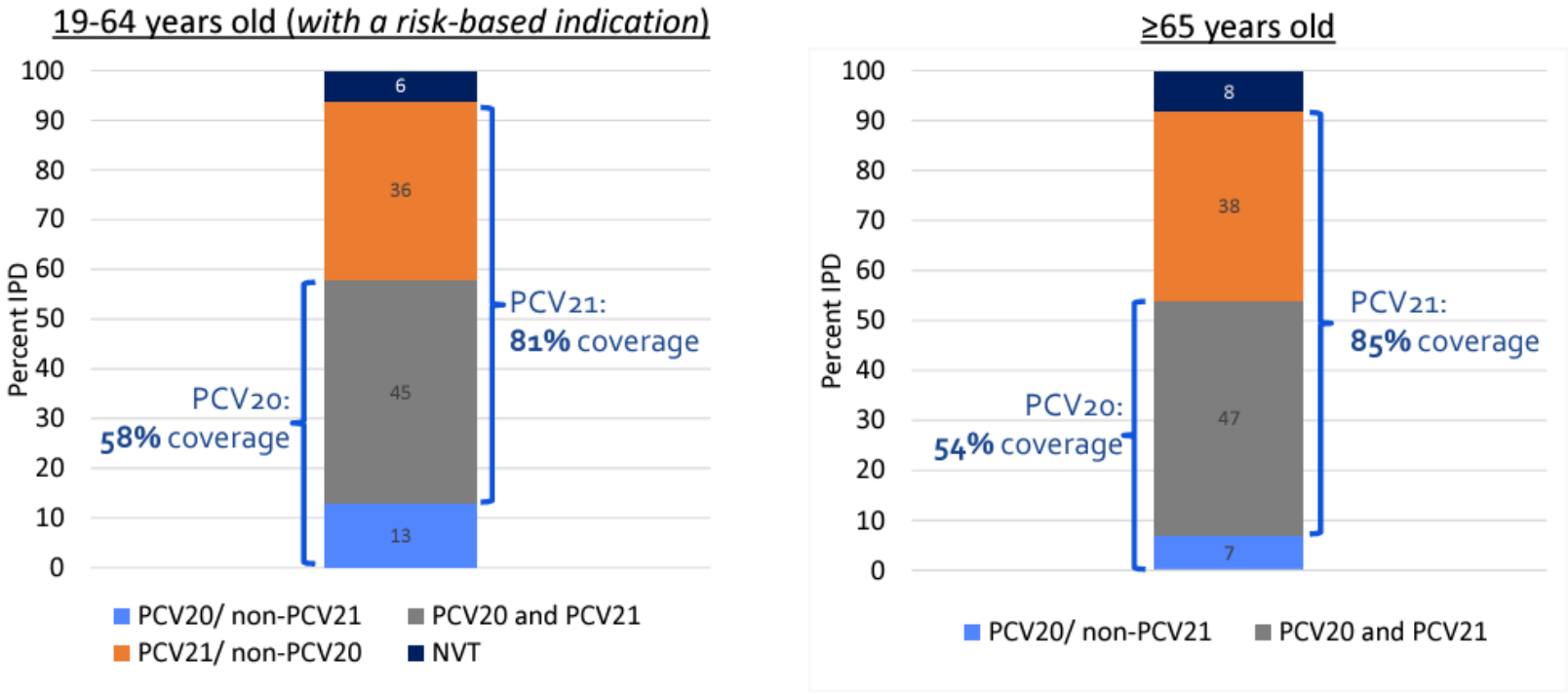
Pneumococcal Vaccines for Adults



Vaccine	Serotype																												
	1	3	4	5	6A	6B	7F	9V	14	18C	19A	19F	23F	22F	33F	8	10A	11A	12F	15B	2	9N	17F	20	15A	15C	16F	23A	23B	24F	31	35B
PCV21		■			■		■				■			■	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■
PPSV23	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
PCV20	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■												
PCV15	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																	

PCV21

Proportion of IPD by vaccine-type among adults with a pneumococcal vaccine indication, 2018–2022



PCV20/ non-PCV21 serotype: 1, 4, 5, 6B, 9V, 14, 18C, 19F, 23F, 15B
PCV20/ in-PCV21 serotypes: 3, 6A, 7F, 19A, 22F, 33F, 8, 10A, 11A, 12F, +6C
PCV21/ non-PCV20 serotypes: 9N, 17F ,20, 15A, 15C, 16F, 23A, 23B, 24F, 31, 35B

Gierke February 2024 ACIP meeting presentation

PCV21 is unique from other PCVs in that it was developed to target adult disease

PCV21 covers 81 to 85% of the serotypes that commonly affect adults

PCV20 covers 54 to 58% of the serotypes that commonly affect adults

Presented at the June 2024 ACIP meeting

PCV Recommended for Adults 50 years and Older

Pneumococcal Vaccine Timing for Adults

Make sure your patients are up to date with pneumococcal vaccination.

Adults ≥50 years old
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 → ≥1 year† → PPSV23¶
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

Shared clinical decision-making for those who already completed the series with PCV13 and PPSV23

Prior vaccines	Shared clinical decision-making option for adults ≥65 years old
Complete series: PCV13 at any age & **PPSV23** at ≥65 yrs	≥5 years → PCV20 or PCV21 — Together, with the patient, vaccine providers **may choose** to administer PCV20 or PCV21 to adults ≥65 years old who have already received PCV13 (but not PCV15, PCV20, or PCV21) at any age and PPSV23 at or after the age of 65 years old.

- ACIP recommends a pneumococcal conjugate vaccine (PCV) for all PCV naïve adults aged ≥50 years

RSV Vaccine Updates

RSV in Adults

- Difficult to distinguish it from the common cold or other respiratory viruses (like the flu or COVID-19).

- RSV can be dangerous for older adults, especially those who have certain medical conditions, are elderly or frail, or live in a nursing home.

Increased GBS Risk Associated with Protein Subunit RSV Vaccines

Three RSV vaccines were approved for use in the U.S.

- RSVPreF3+AS01 (GSK – AREXVY)
- RSVPreF (Pfizer – ABRYSVO)
- mRNA-1345 (Moderna – mRESVIA)

- Pre-licensure clinical trials identified a small number of GBS cases in Arexvy and Abrysvo vaccines

- Reports submitted to VAERS identified higher GBS rates after Arexvy and Abrysvo vaccination than expected background rates

End-of-Season SCCS Results: GBS and RSV Vaccination

IRR and Attributable Risk (AR)

Seasonality, Farrington Analysis, and PPV-Based Multiple Imputation – Chart Confirmed + Not Returned Cases

Inferential Analysis Results	RSVPreF3+AS01	RSVPreF
Eligible Vaccines	2,202,247	1,024,442
*Cases in the Risk Interval	24	18
*Cases in the Control Interval	11	<11
IRR (95% CI)	2.46 (1.19, 5.08)	2.02 (0.93, 4.40)
AR per 100,000 Doses (95% CI)	0.65 (0.18, 1.12)	0.90 (-0.02, 1.81)
AR Per 100,000 PY (95% CI)	5.71 (1.61, 9.80)	7.82 (-0.17, 15.81)

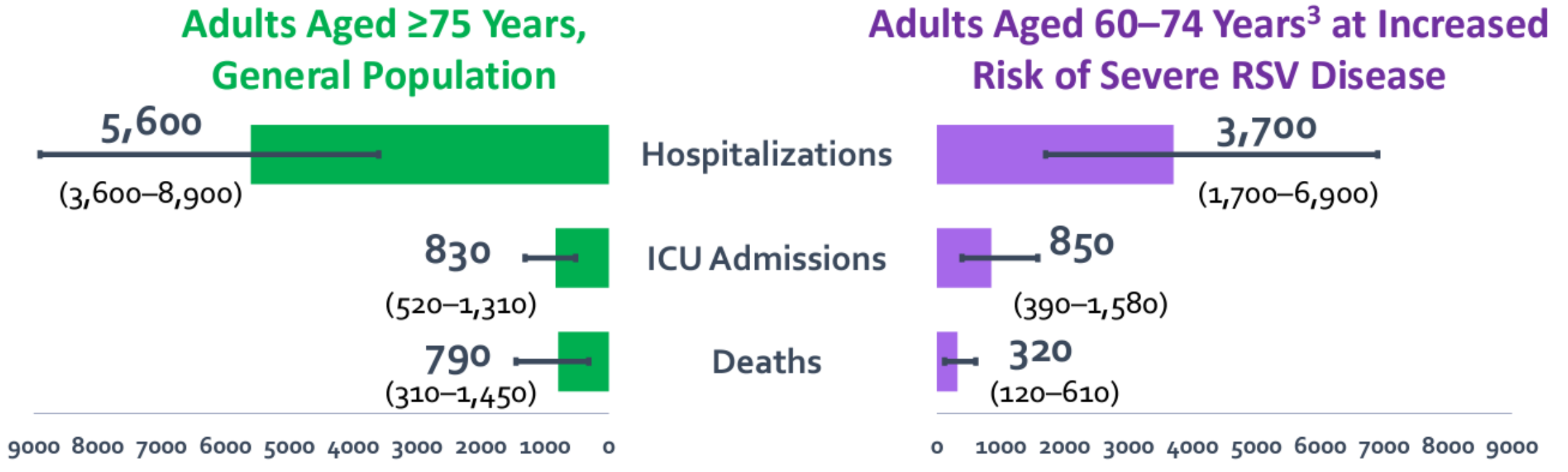
*Cases in risk and control intervals are the average number of true cases in the multiple imputation process
Small cell sizes <11: suppressed to protect patient confidentiality

Presented at the October 2024 ACIP meeting

Presented at the October 2024 ACIP meeting

Estimated RSV-Associated Outcomes[1] Preventable over 3 RSV Seasons vs. attributable risk of GBS estimated from self-controlled case series analysis through FDA-CMS partnership, 42-day risk interval[2]

Per 1 Million Persons Vaccinated with Protein Subunit RSV Vaccine:



0–18[4] attributable cases of GBS

Presented at the October 2024 ACIP meeting

FDA Requires Guillain-Barré Syndrome (GBS) Warning in the Prescribing Information for RSV Vaccines Abrysvo and Arexvy: FDA Safety Communication

[Posted 1/7/2025]

AUDIENCE: Patient, Health Care Professional, Pharmacy, Immunology, Pulmonology

ISSUE: FDA has required and approved safety labeling changes to the Prescribing Information for Abrysvo (Respiratory Syncytial Virus Vaccine) manufactured by Pfizer Inc. and Arexvy (Respiratory Syncytial Virus Vaccine, Adjuvanted) manufactured by GlaxoSmithKline Biologicals. Specifically, FDA has required each manufacturer to include a new warning about the risk for Guillain-Barré syndrome (GBS) following administration of their Respiratory Syncytial Virus (RSV) vaccine. The Prescribing Information for each vaccine has been revised to include the following language in the Warnings and Precautions section:

- Abrysvo - The results of a postmarketing observational study suggest an increased risk of Guillain-Barré syndrome (GBS) during the 42 days following vaccination with Abrysvo.
- Arexvy - The results of a postmarketing observational study suggest an increased risk of Guillain-Barré syndrome during the 42 days following vaccination with Arexvy.

BACKGROUND: GBS is a rare disorder in which the body's immune system damages nerve cells, causing muscle weakness and sometimes paralysis.

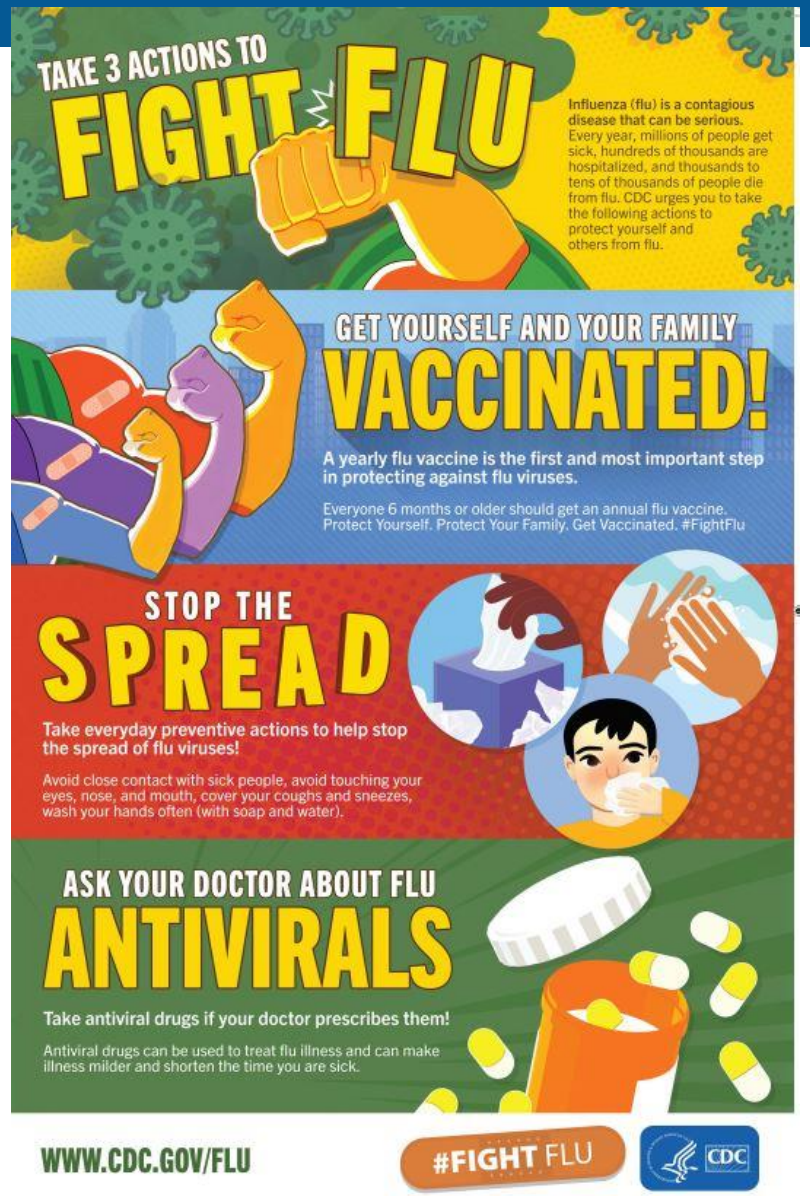
Influenza Vaccine Updates

Influenza

- Contagious respiratory illness caused by influenza viruses Infect the nose, throat, and sometimes the lungs.
- Can cause mild to severe illness, and at times can lead to death.

Influenza Vaccine Update

Added HD-IIV3 and aIIV3 to the vaccines that may be administered to solid organ transplant recipients aged 19–64 years who are receiving immunosuppressive medications.

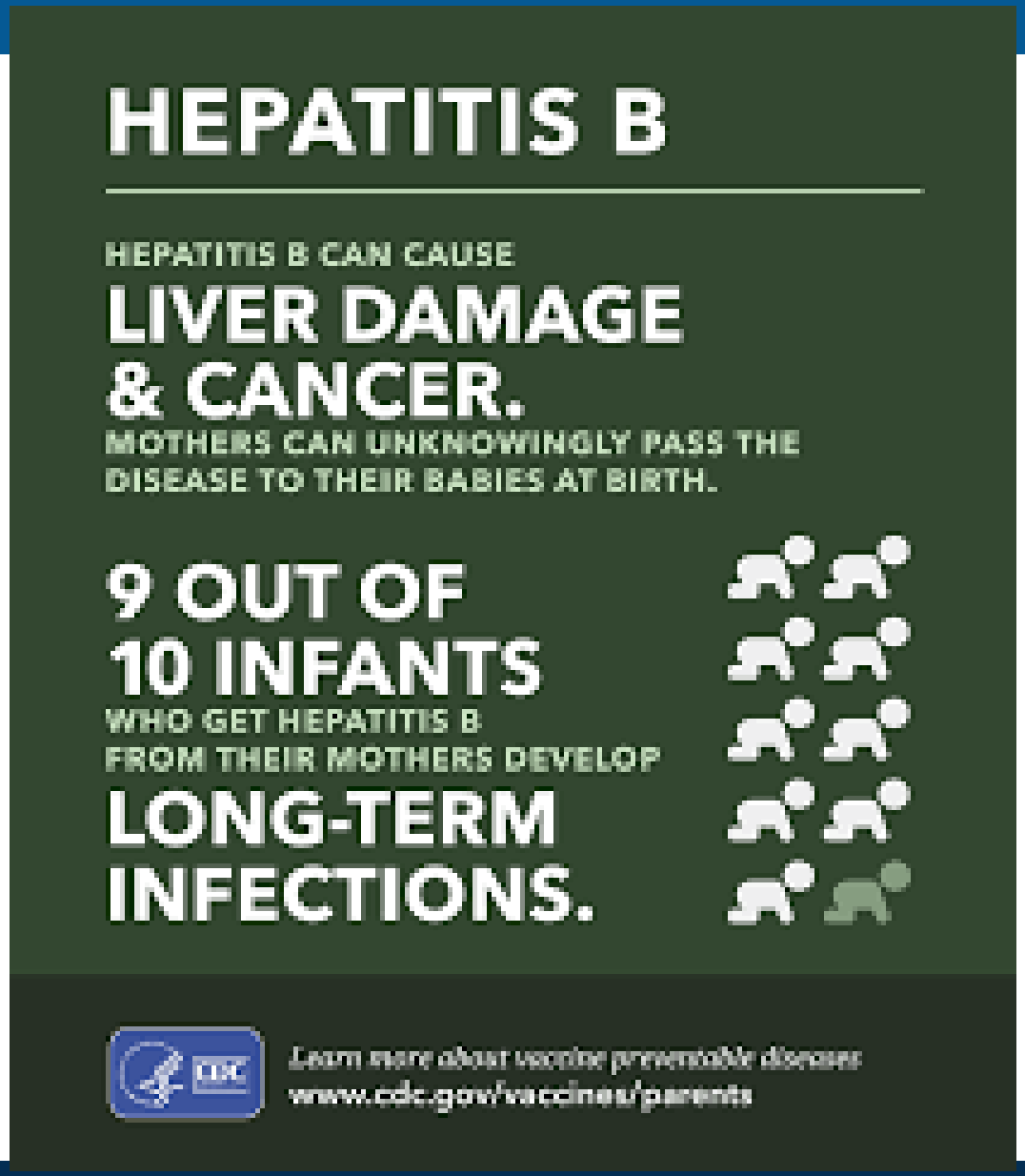


Hepatitis B Vaccine Updates

Hepatitis B

Hepatitis B is a viral infection that attacks the liver. It is caused by the hepatitis B virus (HBV).

HBV is transmitted through contact with infected blood, semen, or other body fluids.



Hepatitis B Vaccine update

- In 2024, the FDA updated the package insert for Heplisav-B and the CDC updated its recommendations to include Heplisav-B as an option for pregnant people.
- There is no longer a pregnancy exposure registry monitoring pregnancy outcomes for women who are exposed to Heplisav-B during pregnancy.
- Limited data suggests that the vaccine doesn't harm developing fetuses.
- Other vaccines that can be used during pregnancy Engerix-B, Recombivax HB, and Twinrix (HepA-HepB)

Vaccines & Immunizations

SEARCH

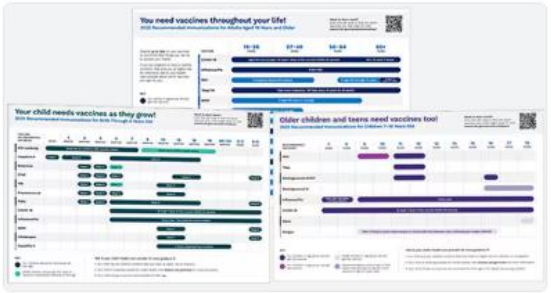
Vaccine Basics | Vaccines and the Diseases They Prevent | Vaccines by Age | VaxView Vaccination Coverage | Glossary

Vaccine Schedules For You and Your Family | Vaccine Resources | VIEW ALL

Vaccine Schedules For You and Your Family

Stay up to date on getting recommended vaccines for you and your family.

Learn More



Vaccines Recommendations

Vaccines for Your Children

When the time comes for your child to get his or her vaccines, here are some useful tips about what...

Vaccine Information for Adults

Links to various Web pages covering where to find vaccines, how to pay for vaccines, vaccine records...

Pregnancy and Travel

- Pregnancy and Vaccination
- Travelers

Resources

Download “CDC Vaccine Schedules” free for iOS and Android devices.

Product Specs

Version: 12.3.0

Requirements: Requires iOS 11.0 or later and Android 5.1 or later; optimized for tablets and useful on smartphones.

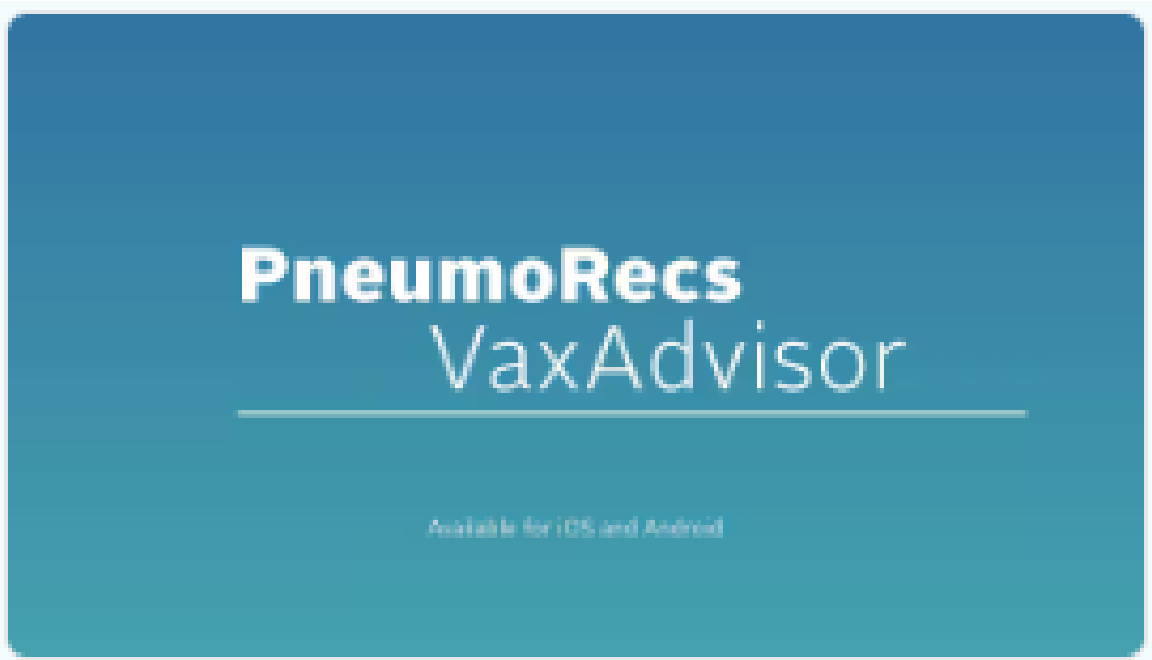
Updates: Changes in the app are released through app updates.

Download app free for iOS

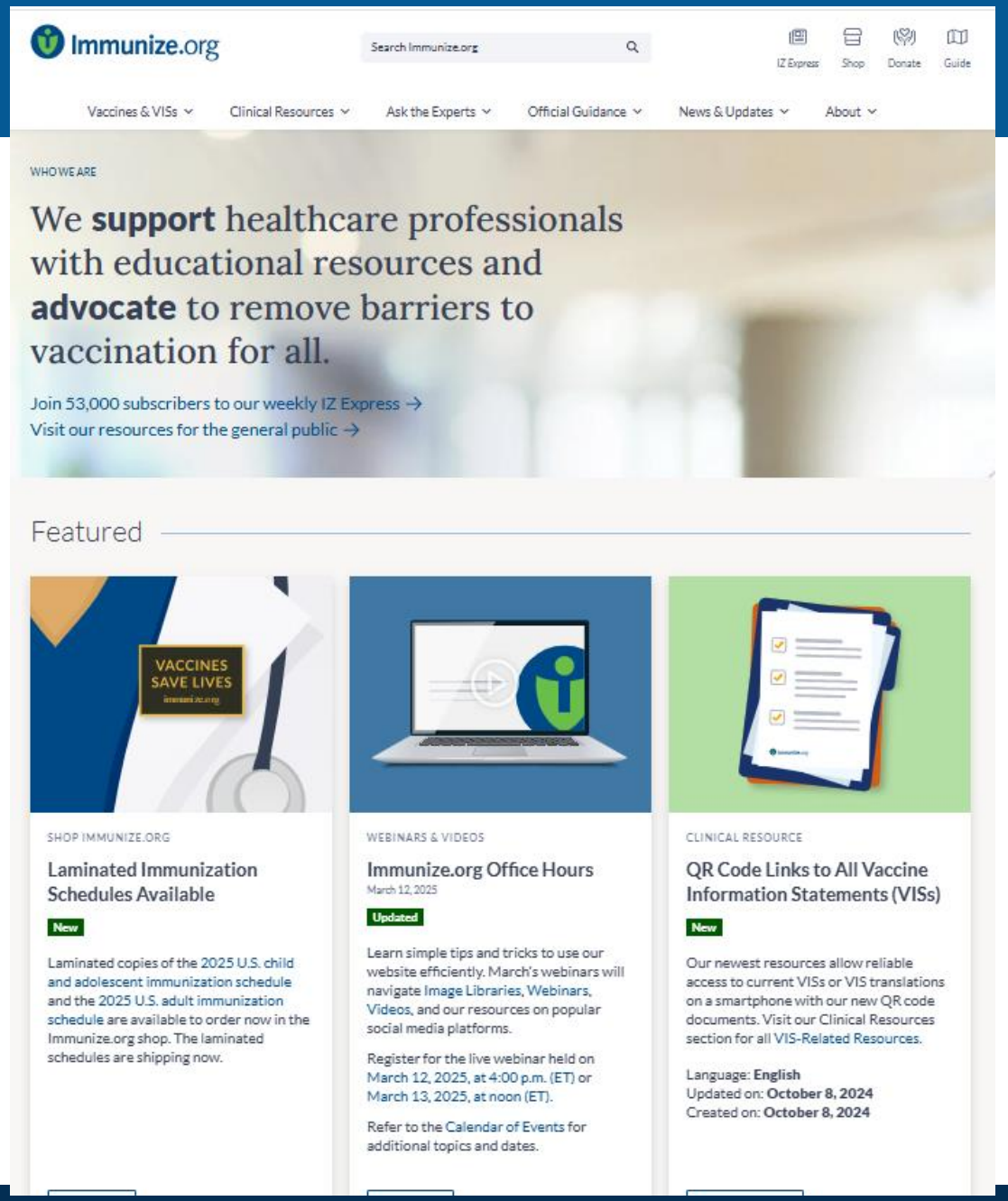
Available on the App Store

Download app free for **Android**

ANDROID APP ON Google play



Resources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We support healthcare professionals with educational resources and advocate to remove barriers to vaccination for all.
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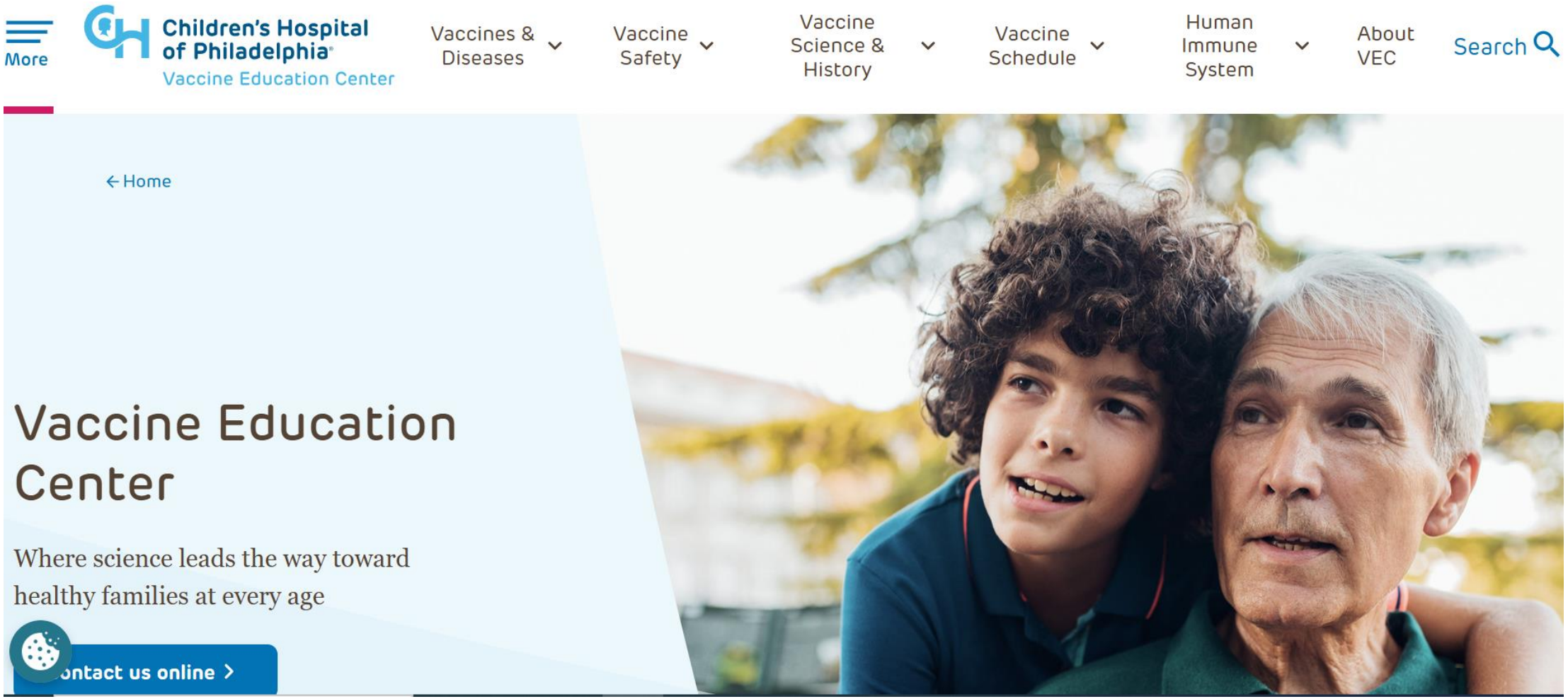
Laminated Immunization Schedules Available
New
Laminated copies of the 2025 U.S. child and adolescent immunization schedule and the 2025 U.S. adult immunization schedule are available to order now in the Immunize.org shop. The laminated schedules are shipping now.
WEBINARS & VIDEOS
Immunize.org Office Hours
March 12, 2025
Updated
Learn simple tips and tricks to use our website efficiently. March's webinars will navigate Image Libraries, Webinars, Videos, and our resources on popular social media platforms.
Register for the live webinar held on March 12, 2025, at 4:00 p.m. (ET) or March 13, 2025, at noon (ET).
Refer to the Calendar of Events for additional topics and dates.
CLINICAL RESOURCE
QR Code Links to All Vaccine Information Statements (VISs)
New
Our newest resources allow reliable access to current VISs or VIS translations on a smartphone with our new QR code documents. Visit our Clinical Resources section for all VIS-Related Resources.
Language: English
Updated on: October 8, 2024
Created on: October 8, 2024

Resources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Measles Update

- As of February 27, 2025, a total of 164 measles cases were reported by 9 jurisdictions: Alaska, California, Georgia, Kentucky, New Jersey, New Mexico, New York City, Rhode Island, and Texas.
- West Texas large outbreak among tight knit, undervaccinated community – 146 cases as if Feb 27, 2025 with one death of an unvaccinated child.
- No recent measles cases/outbreaks in MA

Measles Update

- There has been no new update to measles vaccine guidance
- The goal is to have all MA communities with MMR vaccination rate above 95%
- The majority of measles cases imported into the United States occur in unvaccinated US residents who become infected during international travel.
- All international travelers should be fully vaccinated against measles with the measles-mumps-rubella (MMR) vaccine, including an early dose for infants 6–11 months. Infants who had one dose of MMR vaccine before their first birthday should follow the recommended schedule and get another dose at 12–15 months and a final dose at 4–6 years.
- For international travelers 12 months or older, 2 doses at least 28 days apart are recommended.

Measles Update

Measles (Rubeola)

EXPLORE TOPICS

SEARCH

FEBRUARY 28, 2025 ESPAÑOL

Measles Cases and Outbreaks

WHAT TO KNOW

- Updated on February 28, 2025. The data on this page reflects measles cases reported to CDC as of noon on Thursdays.
- Starting 2/21/25, CDC will update this page every Friday.

https://www.cdc.gov/measles/data-research/index.html

Thank you!

Questions

My email: angela.g.fowler@mass.gov

24/7 Question/disease reporting line 617-983-6800