

Immunizations for a Healthier Winter: RSV, Influenza, and COVID-19

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Content

- Introduction
- COVID-19 Vaccines
- Influenza
- Respiratory Syncytial Virus (RSV)
- Talking with Families about Vaccines
- Questions

Introduction



General Prevention of Respiratory Viruses

Layering prevention strategies can help prevent severe illness and reduce the potential for strain on the healthcare system.

[Winter Virus Tips \(CDPH\)](#)



California Department of Public Health
Immunization Branch

6 Tips for Staying Healthy this Virus Season

Reduce your risk of catching and spreading respiratory viruses like flu, COVID-19 and RSV.

Stay Up to Date on Vaccines

Vaccines are the best protection against severe illness. Visit [MyTurn.ca.gov](https://myturn.ca.gov) to schedule your vaccines or contact your health care provider.

- [Flu and COVID-19 vaccines](#) are available for everyone 6 months and older.
- [RSV immunizations](#) are available for infants and some young children, pregnant people and adults 60 years and older.

Stay Home if You're Sick

Stay home and away from others if you have any symptoms of [flu](#), [COVID-19](#), or [RSV](#).

Test and Treat

[Test for COVID-19](#) and flu if you have symptoms. If you test positive, contact your health care provider and ask about prescription treatments. Act fast, most of these medications must be taken within the first 5 days of symptoms. Learn more about [COVID-19 treatments](#).

Consider Wearing a Mask

Consider [wearing a mask](#) in public indoor or crowded spaces especially if you or your family is at [higher-risk for severe illness](#).

Wash Your Hands

Wash your hands often, with soap and warm water, for at least 20 seconds. If soap and water are not available, use a hand sanitizer with at least 60% alcohol.

Cover Your Cough or Sneeze

Cough or sneeze into your elbow, arm, or a disposable tissue. Make sure to wash your hands or sanitize and dispose of your tissue after.



Scan the QR code to see interactive links on this flyer



A circular inset photograph showing a smiling family of four: a father, a mother, and two young children, all looking towards the camera.



CDPH
Public Health

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Upcoming Fall Respiratory Virus Season

Among children, those under 5 years of age have the highest rates of hospitalization for:

- Influenza,
- COVID-19, and
- Respiratory Syncytial Virus (RSV)

GET THE FACTS
COVID-19, Flu and RSV in Children

In the US, more than **15 million children** have tested positive for COVID-19 since the start of the pandemic. But COVID-19 isn't the only infection we need to look out for.

COVID-19	FLU	RSV
 Caused 22,000 hospitalizations and 800 deaths in children since 2020	 Caused 20,000 hospitalizations and 100 deaths in children last year	 Causes 58,000-80,000 hospitalizations and 100-300 deaths in children each year

FACT: Vaccines can protect children and their families against all of these severe infections.

Protect your home against unwanted 'intruders' this season by getting vaccinated.

Go to vaccines.gov to check your eligibility for vaccines and to find vaccine appointments near you.

For more information on vaccines, visit: COVID19LearningNetwork.org

COVID-19 Real-Time Learning Network
Brought to you by CDC and **IDS**

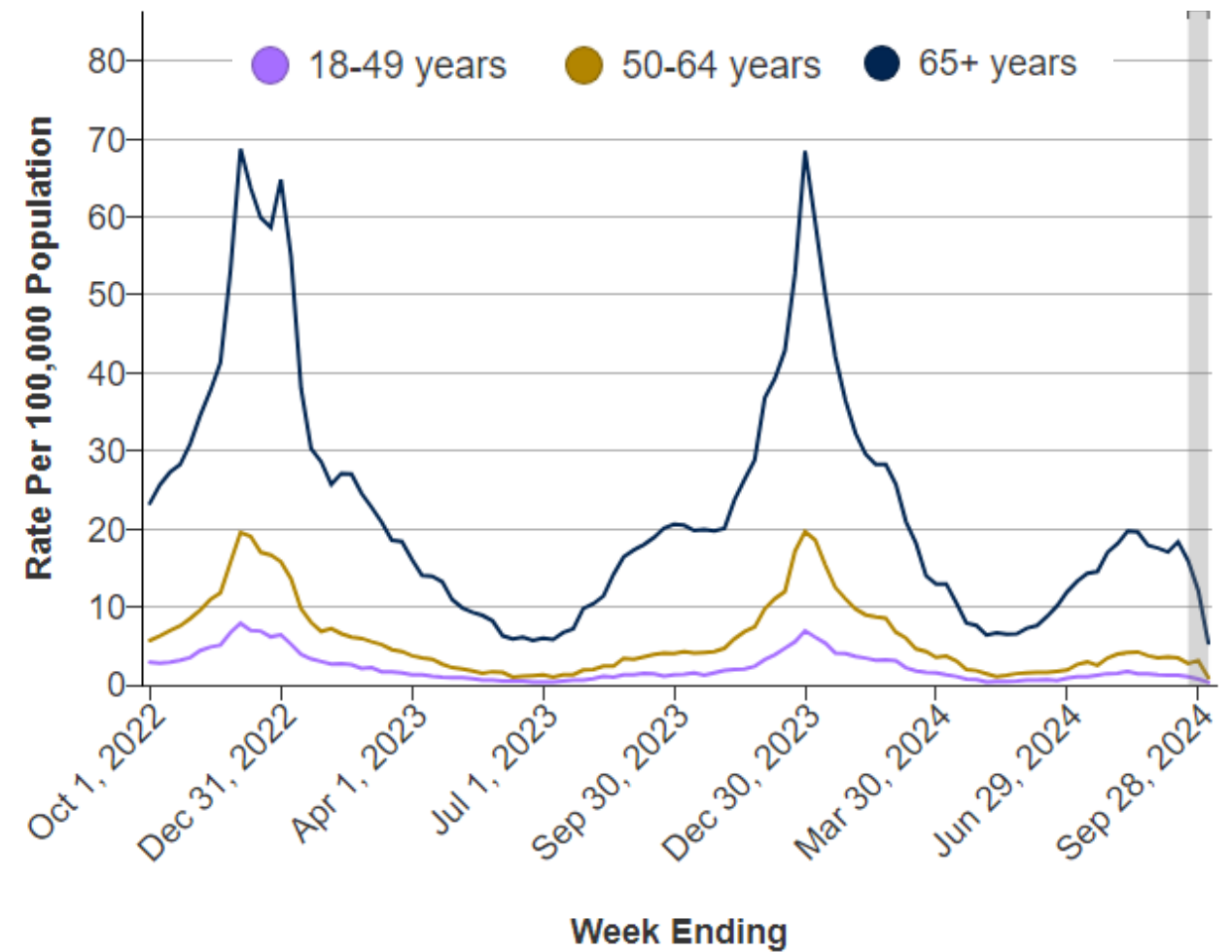
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10/30/2023

Adult Respiratory Disease Burden

- COVID-19, flu, and RSV disease peak during fall & winter months
- Adults 65 yrs and older had the highest rates of hospitalization related to COVID-19, flu, and RSV
- Adults 65+ yrs also had the highest percentage of total deaths

Weekly Rates of Respiratory Virus-Associated Hospitalizations in California



[People Most Impacted by Respiratory Viruses](#), Data as of 9/28/24

Respiratory Viruses at-a-Glance

- *What?* Influenza, RSV and COVID-19
- *Why?* These viruses cause a lot of illness, hospitalization and death, especially in the winter months
- *Who* is most affected and by *how much*?

Virus	Groups who have higher risk for serious illness and death	Annual US Hospitalizations	Annual US Deaths
COVID-19	People over 50, especially over 65 People with medical conditions and certain characteristics Children under 1 year of age	2022: 2 million 2023: 1 million	2022: 250,000 2023: 75,000
Influenza*		270,000-570,000	21,000-51,000
RSV*	Infants and older adults especially	118,000-240,000	6,000-10,000

*Ranges during recent, average years, varies annually, can be higher or lower.
Most deaths for ALL categories occur in people >65.

Timing and Administration of COVID-19, Influenza and RSV Immunizations

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
COVID-19	Administer as soon as available	However, can be given any time of the year to people eligible for vaccination										
Flu		Ideally administer early fall ¹										
Older adults RSV vaccine		Ideally administer late summer/ early fall										
Maternal RSV vaccine		Administer September through January in most of the continental U.S. ²										
OR												
Infant RSV immunization, nirsevimab			Ideally administer October through March in most of the continental U.S. ²									

¹ Children who need 2 doses should receive their first dose as soon as possible (including during July and August). One dose of flu vaccine can be considered for pregnant people in their third trimester during July and August.

² In jurisdictions with RSV seasonality that differs from most of the continental United States, including Alaska, southern Florida, Guam, Hawaii, Puerto Rico, U.S.-affiliated Pacific Islands, and U.S. Virgin Islands, providers should follow state, local, or territorial guidance. However, nirsevimab may be administered outside of routine seasonal administration (ie., October through March) based on local RSV activity and other special circumstances.

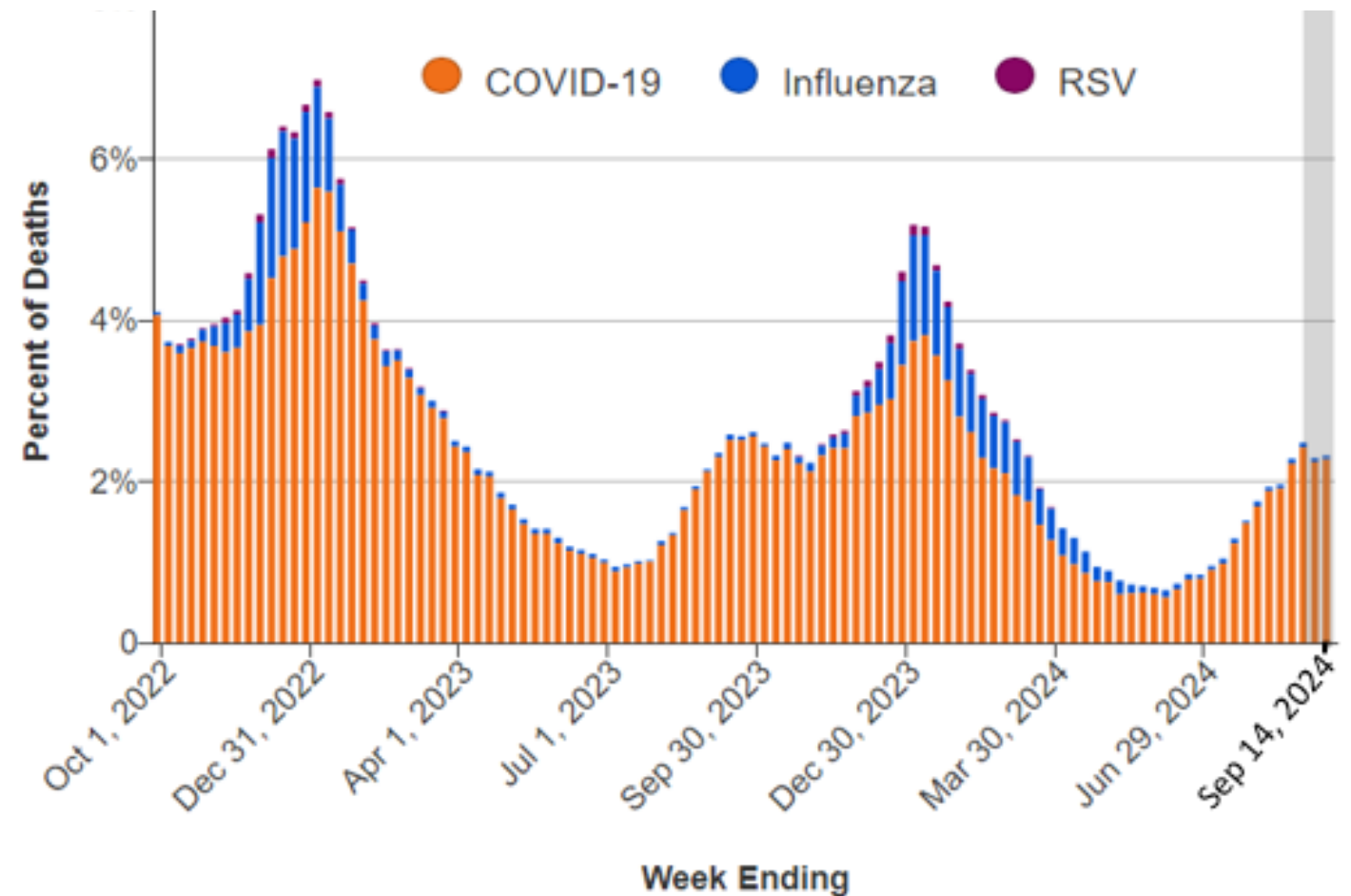
COVID-19



Trends in Viral Respiratory Deaths in the United States

- COVID-19 still causes many deaths, although decreased from prior years
- COVID-19 still causes more deaths than influenza or RSV

Weekly Percent of Total Deaths Associated with
COVID-19, influenza, and RSV





Updated! 2024 – 2025 COVID-19 Vaccine Recommendations: **Routine Schedule**

Age 6 months – 4 years:

- 2 (Moderna)- or 3 (Pfizer)-dose initial series. If had prior doses, 1-2 updated doses as needed.
- Doses should be from the same manufacturer (see [CDC interchangeability guidance](#) for more.)

COVID-19 Vaccine Timing 2024-25 –Routine Schedule			
Age*	Vaccine	If unvaccinated:	If had any prior doses, give 2024-25 doses:
6 months–4 years†	Pfizer–Infant/Toddler	1st Dose → 3-8 weeks** → 2nd Dose → ≥8 weeks → 3rd Dose	If 1 prior dose, then: 3-8** weeks 1 ≥8 weeks 2 If ≥2 prior doses, then: ≥8 weeks 1
	Moderna–Pediatric‡	1st Dose → 4-8 weeks** → 2nd Dose	If 1 prior dose, then: 4-8 weeks 1 If ≥2 prior doses then: ≥8 weeks 1

COVID-19 Vaccine Timing Guide: [English](#), [Spanish](#)



Updated! 2024 – 2025 COVID-19 Vaccine Recommendations: Routine Schedule

Everyone 5 years and older should receive 1 updated dose, at least 2 months after their last dose.

COVID-19 Vaccine Timing 2024-25 –Routine Schedule

Age*	Vaccine	If unvaccinated:	If had any prior doses, give 2024-25 doses:
6 months–4 years†	Pfizer–Infant/Toddler	1st Dose → 3-8 weeks** → 2nd Dose → ≥8 weeks → 3rd Dose	If 1 prior dose, then: 3-8** weeks 1 ≥8 weeks 2 If ≥2 prior doses, then: ≥8 weeks 1
	Moderna–Pediatric	1st Dose → 4-8 weeks** → 2nd Dose	If 1 prior dose, then: 4-8 weeks 1 If ≥2 prior doses then: ≥8 weeks 1
5–11 years	Moderna–Pediatric	1 Dose	If 1 or more prior doses (of any of the brands), then^: ≥2 months 2024-25 Formulation: Moderna/Pfizer
	Pfizer–Pediatric	1 Dose	
12+ years	Pfizer–Adol/Adult (Comirnaty)	1 Dose	If 1 or more prior doses (of any of the brands), then^: ≥2 months 2024-25 Formulation: Moderna/Pfizer/Novavax
	Moderna–Adol/Adult (Spikevax)	1 Dose	
	Novavax	1st Dose → 3-8 weeks** → 2nd Dose	

* See [CDC recommendations](#) for children transitioning from a younger to older age group
† Children 6 months – 4 years should receive the same brand of the updated vaccine as the prior doses they received.
** An 8-week interval may be preferable for some people, especially for males 12-39 years.
≠ All Moderna doses 6 months – 11 years are 0.25 mL (25 mcg).
^ Janssen (J & J) vaccine has been deauthorized. Follow schedule for 12+ years for any prior doses.

View [Interim Clinical Considerations for Use of COVID-19 Vaccines](#) for details. Schedule is subject to change.



COVID-19 Vaccine Timing Guide: [English](#), [Spanish](#)



COVID-19 Vaccine Clinical Guidance Reminders

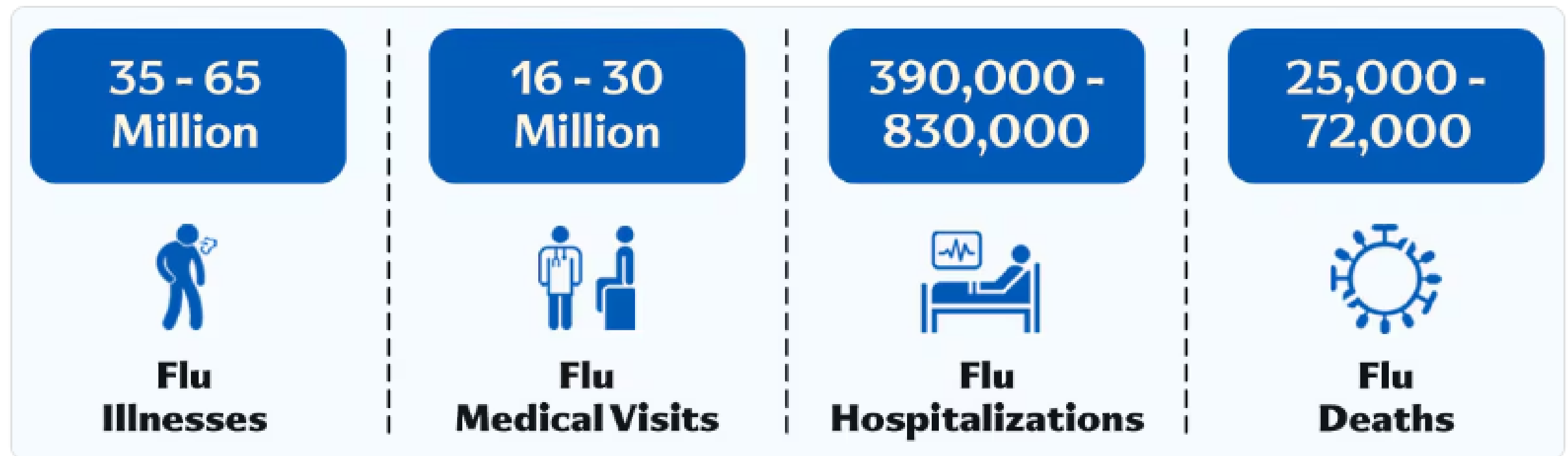
- [History of prior SARS-CoV-2 infection](#): May consider delaying a COVID-19 vaccine dose by 3 months from symptom onset or positive test (if infection was asymptomatic).
- [Transitioning from a younger to older age group](#): CDC recommends that people receive the age-appropriate vaccine product and dosage based on their age on the day of vaccination.

Influenza



Preliminary 2023–2024 U.S. Flu In-Season Disease Burden Estimates

CDC estimates* that, from October 1, 2023, through June 15, 2024, there have been:



*Based on data from October 1, 2023, through June 15, 2024.

2024 – 2025 Seasonal Influenza Recommendations



Morbidity and Mortality Weekly Report (*MMWR*)

[Search](#)

Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2024–25 Influenza Season

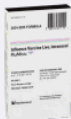
Recommendations and Reports / August 29, 2024 / 73(5);1–25

[Print](#)

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Influenza Vaccine Recommendations, 2024 – 2025

- **Age ≥6 months:** routine annual vaccination
- **Trivalent** 2024 – 2025 Influenza Vaccine Composition
 - Influenza B/Yamagata viruses not detected globally since March 2020. Experts recommended removal of this strain.
 - Flu vaccines now contain A(H1N1), A(H3N2), and B(Victoria) influenza strains.
- Vaccinate in **September and October**.

INFLUENZA VACCINE PRODUCT GUIDE			2024-2025
6 MONTHS & OLDER	 Fluarix® Trivalent GlaxoSmithKline Biologicals 0.5 mL single-dose syringe	 FluLaval® Trivalent GlaxoSmithKline Biologicals 0.5 mL single-dose syringe	
	 Flucelvax® Trivalent Seqirus 0.5 mL single-dose syringe		
	 Afluria® Trivalent Seqirus 0.5 mL single-dose syringe		 Fluzone® Trivalent Sanofi Pasteur, Inc. 0.5 mL single-dose
3 YEARS & OLDER	 Afluria® Trivalent Seqirus 5.0 mL multi-dose vial*	 Fluzone® Trivalent Sanofi Pasteur, Inc. 5.0 mL multi-dose vial*	
	 Flucelvax® Trivalent Seqirus 5.0 mL multi-dose vial*		
2-49 YEARS OLD & HEALTHY	 FluMist® Trivalent Astrazeneca 0.2 mL single-dose nasal sprayer	 FLUAD® Adjuvanted Trivalent Seqirus 0.5 mL single-dose syringe	
18 YEARS & OLDER	 FluBlok® Trivalent Sanofi Pasteur, Inc. 0.5 mL single-dose syringe	 Fluzone® High-Dose Trivalent Sanofi Pasteur, Inc. 0.7 mL single-dose syringe	

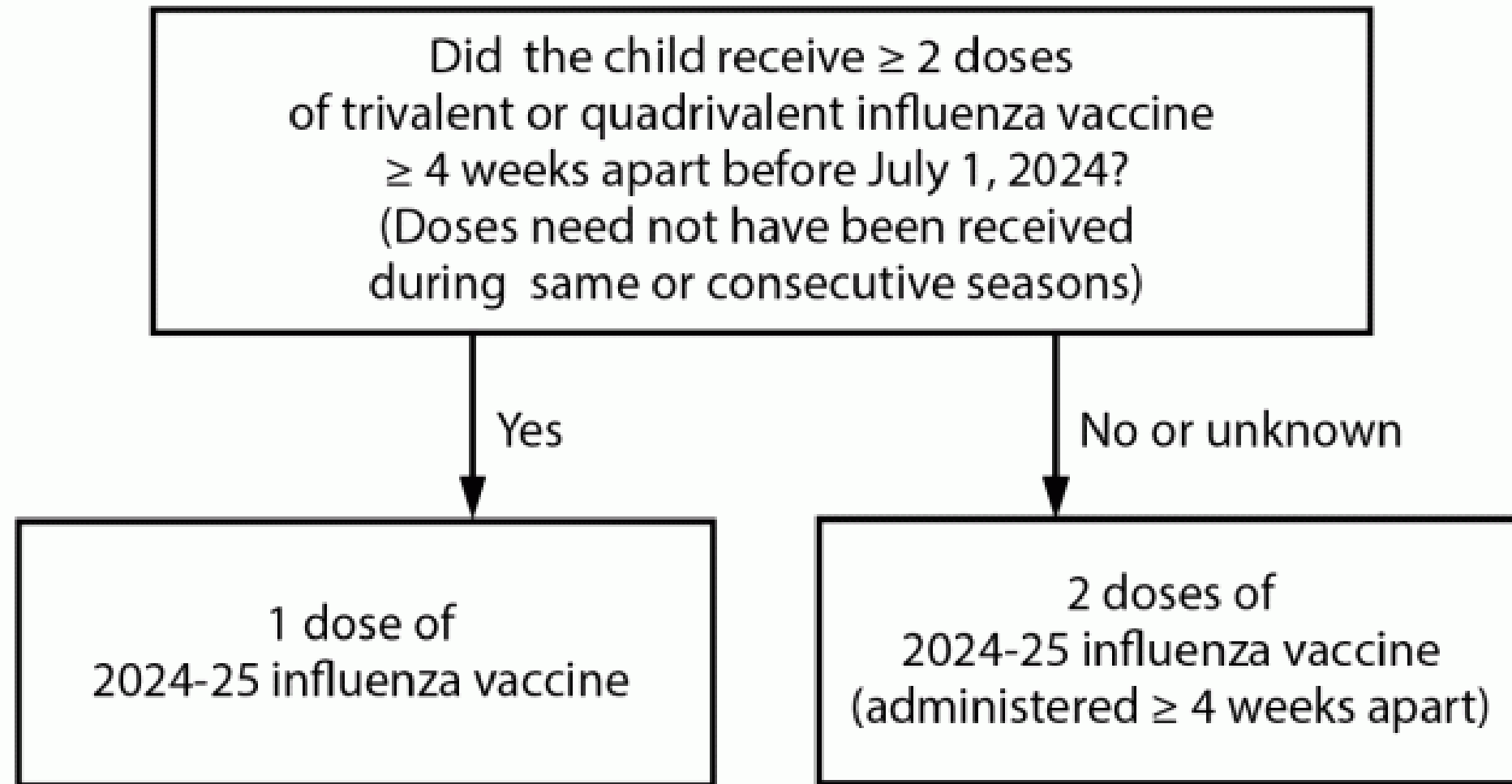
[Influenza Product Guide](#)

Influenza Vaccine Recommendations, cont'd

- **Children 6 months through 8 years** who did not receive ≥ 2 doses of flu vaccine before July 1, 2024: 2 doses of flu vaccine, ≥ 4 weeks apart
- **Age 65 years and older:** Preferentially recommended to receive any enhanced vaccine
- **Solid organ transplant recipients 18-64 years on immunosuppressants:** Any age-appropriate inactivated (not live) vaccine, including all enhanced options

Table of Enhanced Flu Vaccine Options

Type	Description	Brand Name
Adjuvanted	Contains MF59 adjuvant	FLUAD Adjuvanted
High-dose	Contains 4x hemagglutinin vs standard dose vaccines	Fluzone High-Dose
Recombinant	Contains 3x hemagglutinin vs standard dose vaccines	FluBlok

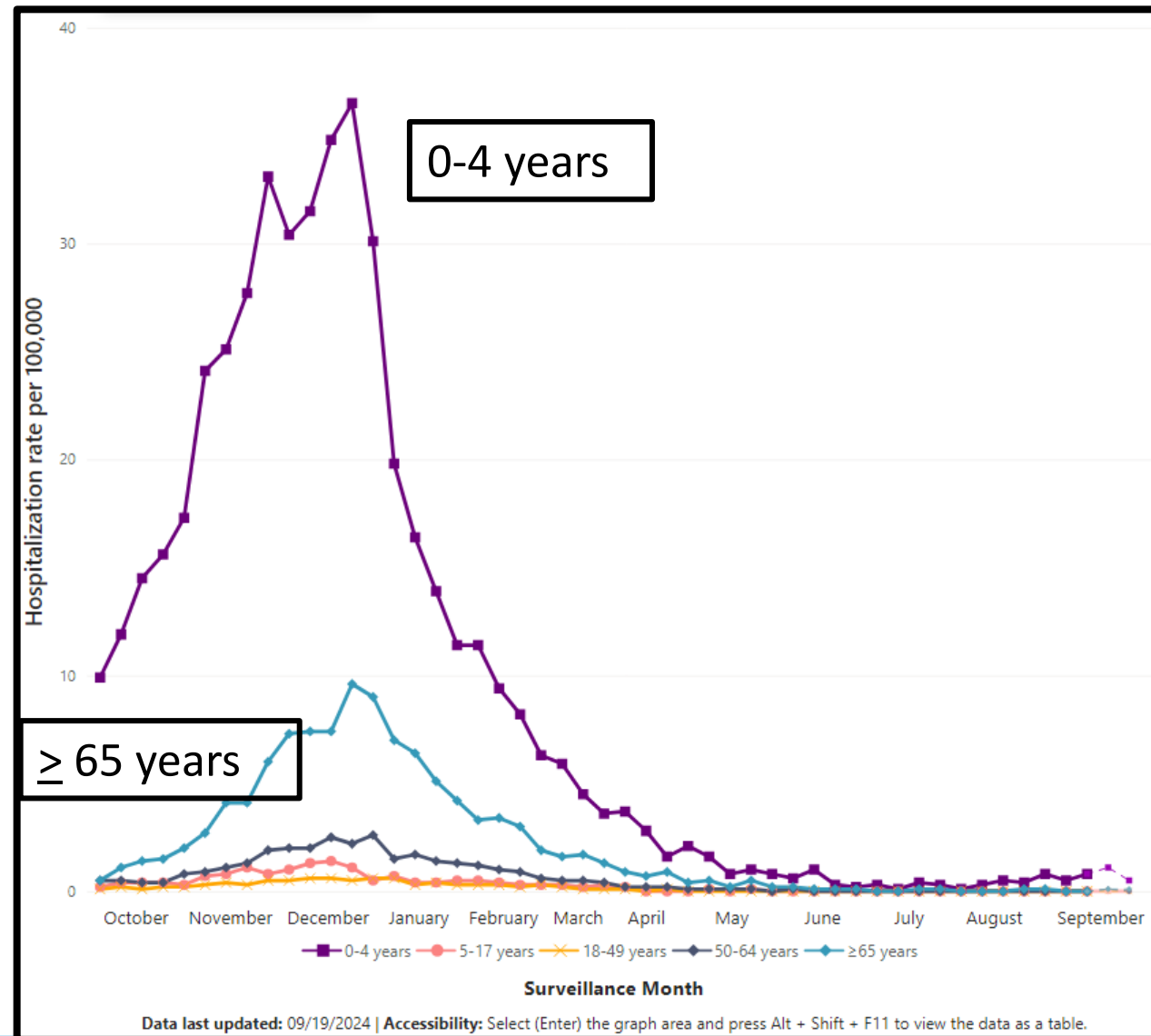


Children aged **6 months through 8 years** who require 2 doses of influenza vaccine should receive their **first dose as soon as possible** (including during July and August, if vaccine is available) to allow the second dose (which must be administered ≥ 4 weeks later) to be received, ideally, by the end of October. For children aged 8 years who require 2 doses of vaccine, both doses should be administered even if the child turns age 9 years between receipt of dose 1 and dose 2.

Respiratory Syncytial Virus (RSV)

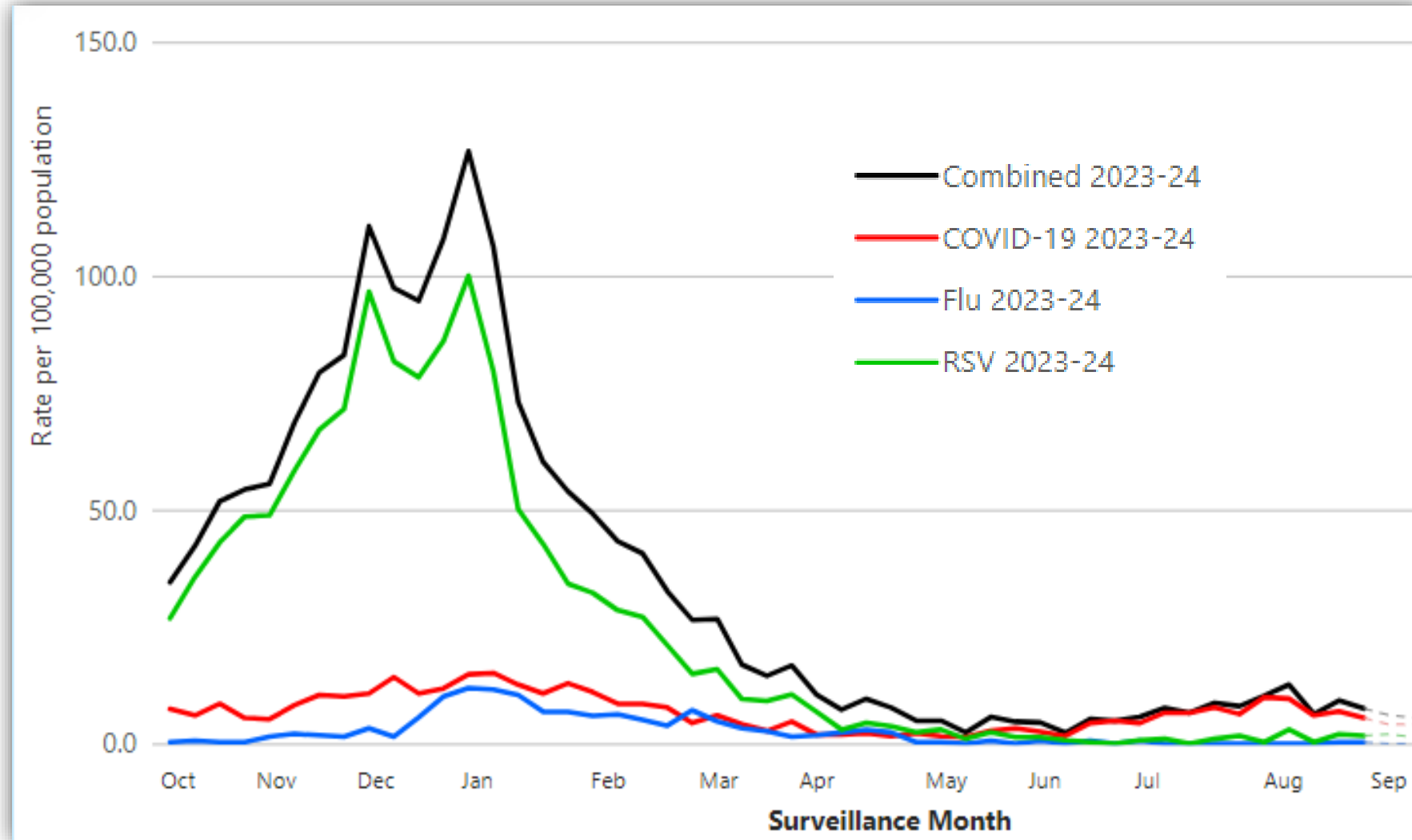


RSV-Associated Hospitalizations, 2023 – 2024



In the 2023-24 season, the overall rate of RSV-associated hospitalizations was 54.9 per 100,000 people

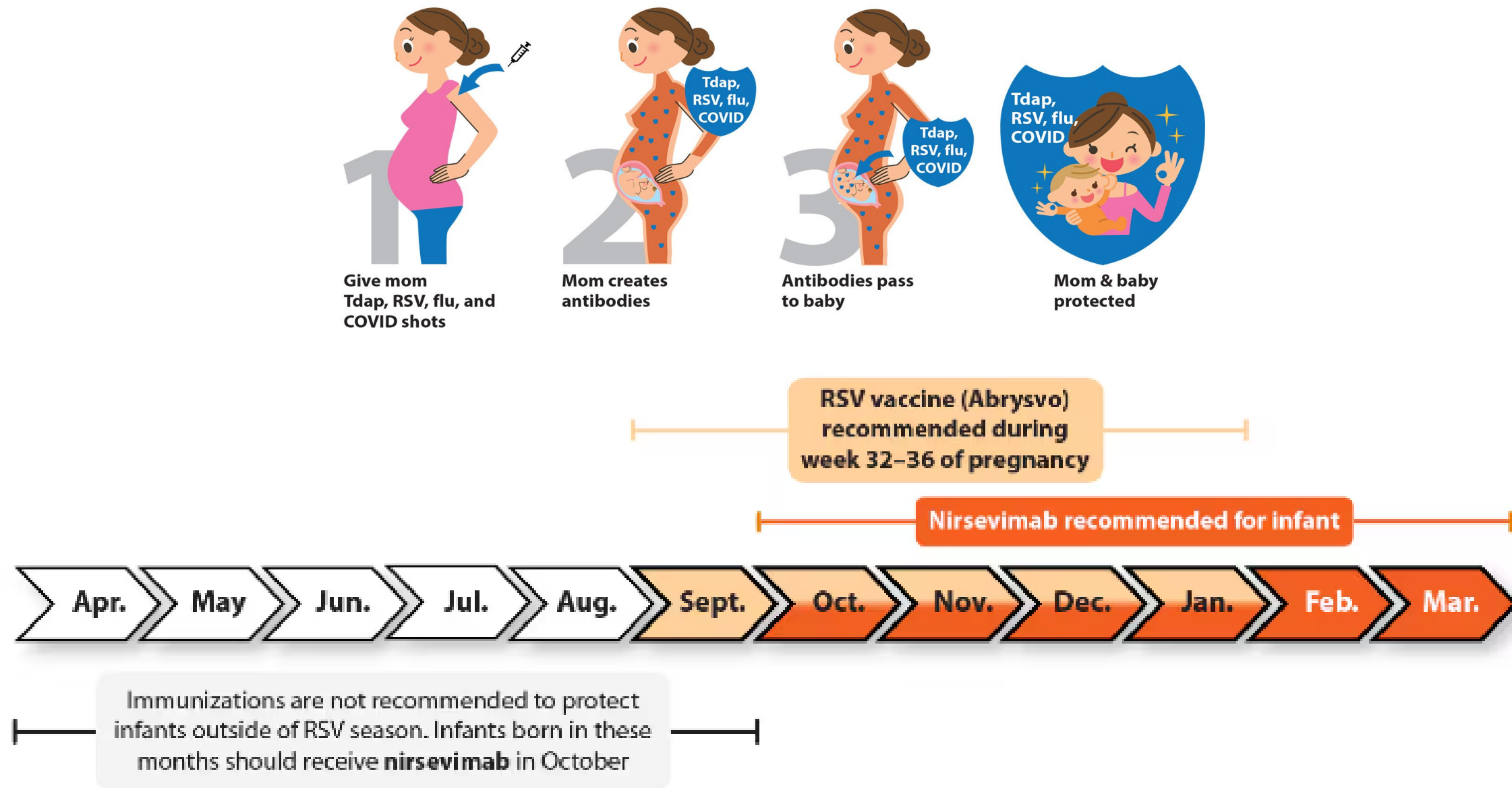
Weekly Rates of Respiratory Virus-Associated Hospitalizations for Infants <1 year old, Oct. 2023-Sept. 2024



At its peak in the 2023 – 2024 season (week ending Dec. 30, 2023), **RSV accounted for nearly 80% of all infant respiratory hospitalizations.**

Data last updated September 27, 2024, [Respiratory Virus Hospitalization Surveillance Network \(RESP-NET\)](#) | [RESP-NET](#) | [CDC](#)

Maternal & Pediatric RSV Immunization Timing



Maternal RSV Vaccination and Receipt of Nirsevimab by Infants Aged <8 Months — United States, April 2024

Survey: Almost half of young infants didn't benefit from RSV immunization last season*



ACIP recommends either:

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

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

bit.ly/mm7338a2

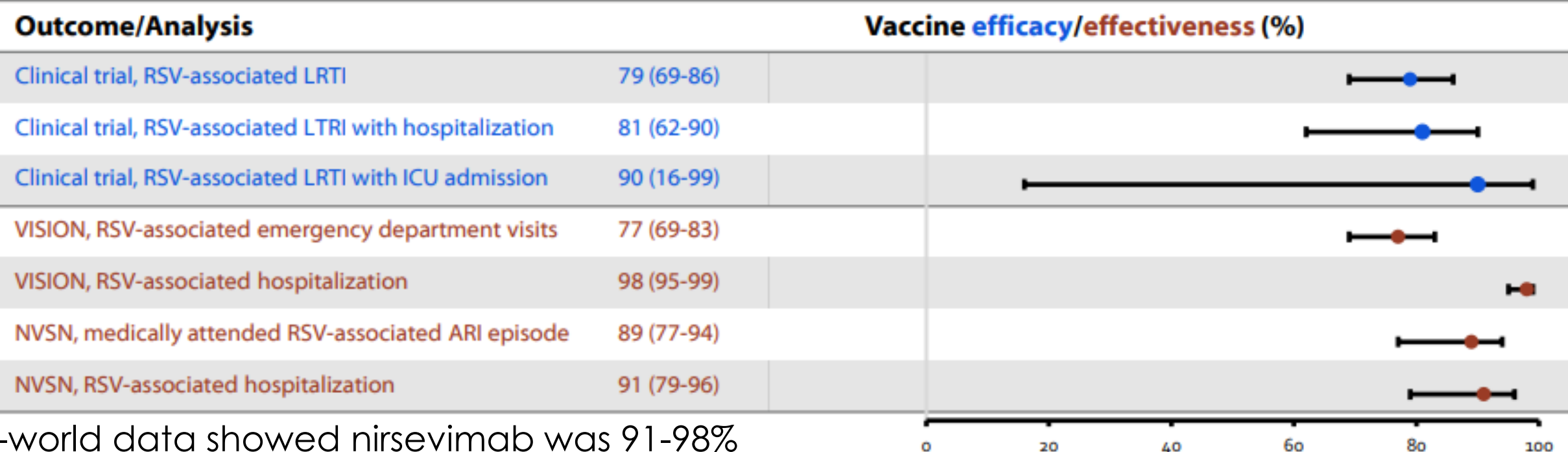
SEPTEMBER 26, 2024

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

MMWR

MMWR: Maternal Respiratory Syncytial Virus Vaccination and Receipt of RSV Antibody (Nirsevimab) by Infants Aged <8 Months

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



Real-world data showed nirsevimab was 91-98% effective against RSV-associated hospitalizations.

Results may not be comparable across studies due to differences in outcome definitions, timing, and other factors.

<https://www.cdc.gov/mmwr/volumes/72/wr/mm7234a4.htm>
RCT = randomized clinical trial | ARI = acute respiratory illness

Nirsevimab for Infants and Toddlers

Nirsevimab (Beyfortus) Guide to Prevent Severe RSV in Infants and Toddlers

Nirsevimab should be given before the start of RSV season (usually October-March). The dosage depends on age, weight, and health condition. View [CDC's RSV page](#) for web version and additional guidance.

All Infants <8 Months Entering 1st RSV Season
without prenatal vaccination during 32-36 weeks gestational age*

If born October-March
1 dose in <1 week of birth

If born April-September
1 dose in October/November

or as soon as possible during the RSV season

Weight <5kg
Nirsevimab 50mg

OR

Weight ≥5kg
Nirsevimab 100mg

High-Risk Children 8-19 Months Entering 2nd RSV Season

200mg dose before RSV season
or as soon as possible during the RSV season

Nirsevimab 100mg** + **Nirsevimab** 100mg**
(Two 100mg syringes, same day, different sites, regardless of weight)

High-risk conditions include:

- **Chronic lung disease of prematurity that required medical support** (chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the RSV season.
- **Cystic fibrosis with either:**
 1. Manifestations of severe lung disease (previous hospitalization for pulmonary exacerbation in the 1st year of life or abnormalities on chest imaging that persist when stable OR
 2. Weight-for-length <10th percentile
- **Severe immunocompromise**
- **American Indian or Alaskan Native children**

* In limited situations, an infant may be recommended to receive RSV immunization after prenatal vaccination.
** If nirsevimab is unavailable and the child is eligible to receive palivizumab, then palivizumab should be administered. If < 5 doses of palivizumab are administered and nirsevimab becomes available, the child should receive 1 dose of nirsevimab.

California Department of Public Health, Immunization Branch [EZIZ.org](#) IMM-1480 (10/2/23)

- Infants born **April 1 – Sept. 30, 2024** and <8 months if maternal vaccination was not given/<14 days before birth
 - Before the start of RSV season, *ideally in October*
- Infants born **Oct. 1, 2024 – March 31, 2025** if maternal vaccination was not given
 - Within the first week of life, *ideally in hospital, or at first outpatient pediatric visit*
- High-risk children 8-19 months old
 - Before the start of RSV season, *ideally in October*



RSV Immunization – Maternal/Pediatric

- Duration of protection of nirsevimab $\geq$ 5 months; studies are ongoing.
- Pregnant people who received RSV vaccine during a prior pregnancy:
 - are **not** recommended to receive additional doses during this pregnancy,
 - their infants should receive nirsevimab.



Updated Older Adult RSV Vaccine Recommendations

- ACIP recommends the following older adults receive a **single dose** of RSV vaccine:
 - Ages 75 yrs. of age and older
 - Ages 60–74 yrs. at [increased risk](#) of severe RSV disease
- Thus far, RSV vaccines appear to provide some protection for at least two RSV seasons.
- May be given year-round but consider giving in late summer and early fall to maximize benefits of RSV vaccination.

Chronic Medical Conditions and Risk Factors Associated with Increased Risk of Severe RSV Disease

- Guidance provides flexibility for clinicians to assess patient risk
- Greatest risk of severe RSV disease in people ages ≥ 75 yrs. and people with ≥ 2 chronic conditions



Lung disease



Cardiovascular disease



Moderate or severe immune compromise



Diabetes Mellitus with end-organ damage



Severe obesity
(body mass index ≥ 40 kg/m²)



Frailty



Neurologic or neuromuscular conditions



Chronic kidney disease, advanced



Liver disorders



Hematologic disorders



Other chronic medical conditions that a healthcare provider determines increases risk of severe disease due to respiratory infection



Residence in a nursing home or other long-term care facility (LTCF)*

Adult RSV Vaccines – No Preferential Recommendation

Brand Name	ABRYOVO®	Arexvy	mRESVIA®
Manufacturer	Pfizer	GSK	Moderna
Composition	RSVpreF (protein)	RSVpreF (protein) + adjuvant	mRNA
Recommended groups	-Older Adults - Pregnant at 32-36 weeks GA, from Sept. 1 to Jan. 31	Older Adults*	Older Adults
Year approved	2023	2023	2024

*AREXVY is FDA approved, but not CDC recommended, for adults 50-59 at increased risk of severe RSV.

Co-Administration of Flu, COVID-19, & RSV Vaccines

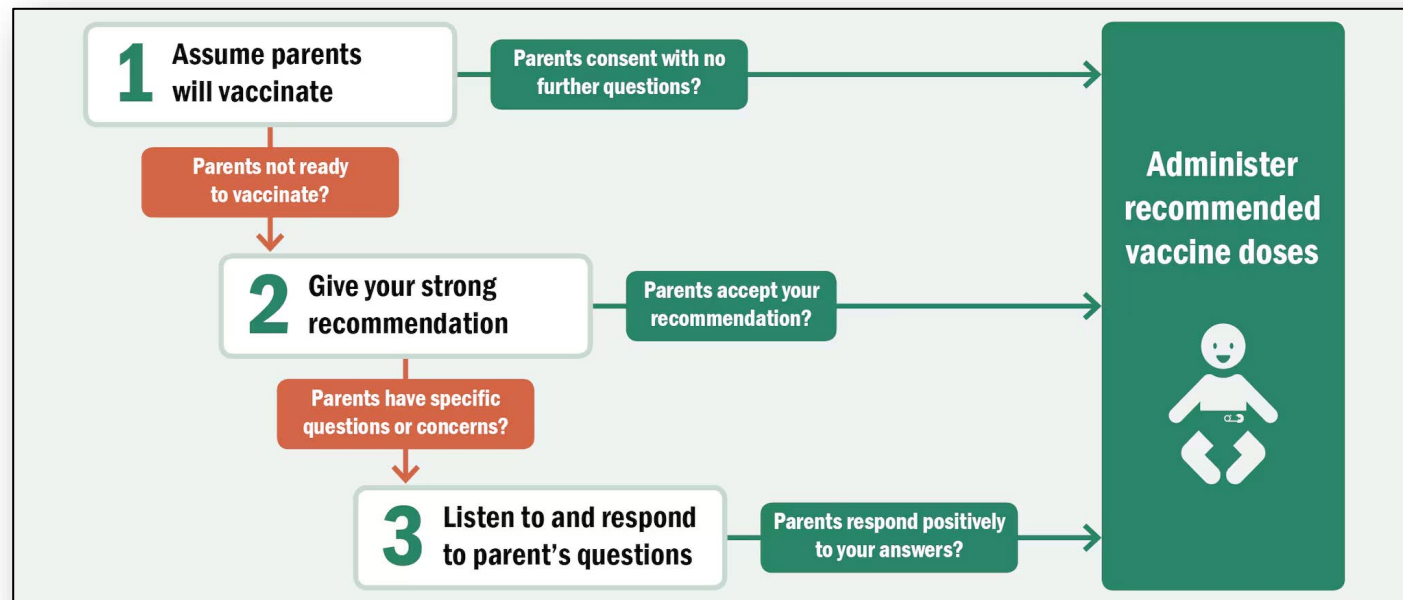
- **May offer all recommended respiratory virus vaccines during one visit.**
- Patients should be aware they **may experience more side effects**, like fever and fatigue; **however, these side effects are generally mild or moderate and only last a day or two.**
- For **patients at high risk** of becoming seriously ill from one of these diseases, the benefits of timely protection from coadministration likely outweigh the possible risks of increased side effects.
- If the provider is confident there will be additional opportunities to vaccinate, and the patient prefers to receive these vaccines during different visits, there is **no minimum wait period between vaccines.**
- **The most important thing is that patients receive all their recommended vaccines in a timely way** to protect against these major respiratory diseases this fall and winter virus season.

Talking with Families About Vaccines



Make a Strong Recommendation

- Start with the **presumptive approach**
 - Assumes the patient will **choose to vaccinate**
 - Your strong recommendation is the **most important part** of the vaccine conversation



Example: “I see you’re due for flu, COVID-19, and RSV vaccines today. As my patient, I strongly recommend these vaccines to protect you and others around you from serious illness. Let’s get this ready for you now.”

Motivational Interviewing



- For patients with vaccine concerns, consider applying **motivational interviewing**.
- There are **four steps** to apply motivational interviewing rapidly:
 1. Be empathetic
 2. Ask permission
 3. Apply interviewing techniques
 4. Respond to questions

[Wolicki, JoEllen. "Talking to Patients about Vaccines" CDC COCA Call. Sept. 19, 2023](#)

[Talking with Patients about COVID-19 Vaccination \(CDC\)](#)

Step 1: Be Empathetic

- Be **compassionate** and show **empathy**; be curious about the reasons they feel the way they do
- Be **sensitive** to culture, family dynamics, and circumstances that may influence how patients view vaccines.
- Do **not** argue or debate.

[Wolicki, JoEllen. “Talking to Patients about Vaccines” CDC COCA Call. Sept. 19, 2023.](#)

Step 2: Ask Permission

- Start by **asking permission** to discuss vaccines.
 - *“If it is okay with you, I would like to spend a few minutes talking about vaccines that are an important part of your care”*
- If the patient says they do **NOT** want to talk about vaccines:
 - Ask **why** they don't want to talk about vaccines:
 - *“Can you tell me more about the reasons you don't want to discuss vaccination today?”*
 - **Respect** the patient's decision
 - Ask if they would be willing to talk about vaccines **at their next visit**

[Wolicki, JoEllen. “Talking to Patients about Vaccines” CDC COCA Call. Sept. 19, 2023.](#)

Step 3: Apply Interviewing Techniques

- **Open** the conversation
 - Use open-ended questions to explore
 - Avoid yes/no questions
- **Affirm** positive behaviors
 - *“That’s great that you’ve gotten your flu vaccine. Now let’s talk about some other vaccines.”*
- **Reflect** what you hear
 - *“It sounds like you have some concerns.”*
- **Summarize** the conversation
 - *“Let me see if I understand what you’ve said so far...”*

[Wolicki, JoEllen. “Talking to Patients about Vaccines” CDC COCA Call. Sept. 19, 2023.](#)

Step 3: Apply Interviewing Techniques

- Example: **Ask the patient a scaled question.**
 - *“On a scale of 1 to 10, how likely are you to get a COVID-19 vaccine?”*
- **Keep exploring and reflectively listen.**
 - *“Why did you choose this number?”*
 - *“Why wasn’t it lower/higher?”*
 - *“What would it take to get to a higher number?”*
- The goal is to help the patient become more open to moving toward high numbers (i.e., to increase readiness to get vaccinated).

[Wolicki, JoEllen. “Talking to Patients about Vaccines” CDC COCA Call. Sept. 19, 2023.](#)

Step 4: Respond to Questions

- If the patient asks a question about vaccine safety, vaccine risks, or their health or mental health, respond within the boundaries of your competence and scope of practice.
- Most data on safety and risk is population based. **Practice reframing safety as individual risk.**
 - *“Based on your health, you are at an increased risk of getting very sick, and in the group the vaccine will most benefit.”*
- If you do not know the answer to a question, discuss how to find a good source of information.

[Wolicki, JoEllen. “Talking to Patients about Vaccines” CDC COCA Call. Sept. 19, 2023.](#)

Resources

Provider Resources

[Talking to Parents about Vaccines Materials | Conversations | CDC](#)

[Vaccine Update for Healthcare Professionals | Children's Hospital of Philadelphia \(chop.edu\)](#)

[Vaccine Confidence & Addressing Concerns | Immunize.org](#)

[How I Recommend Vaccination Video Series | CDC](#)

[Vaccine hesitancy in the refugee, immigrant, and migrant population in the United States | PubMed](#)

Parent Resources

[Vaccines for Your Children | CDC](#)

[Deciding to Vaccinate Your Child: Common Concerns | CDC](#)

[Immunizations - HealthyChildren.org](#)

[Parent Education \(Vaccine Safety\) – California Vaccines for Children \(VFC\) \(eziz.org\)](#)



Questions



Contact Information & Acknowledgements

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