

Leaf the Viruses at Home: Pediatric Influenza and COVID-19 Vaccination Recommendations

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 Health Care

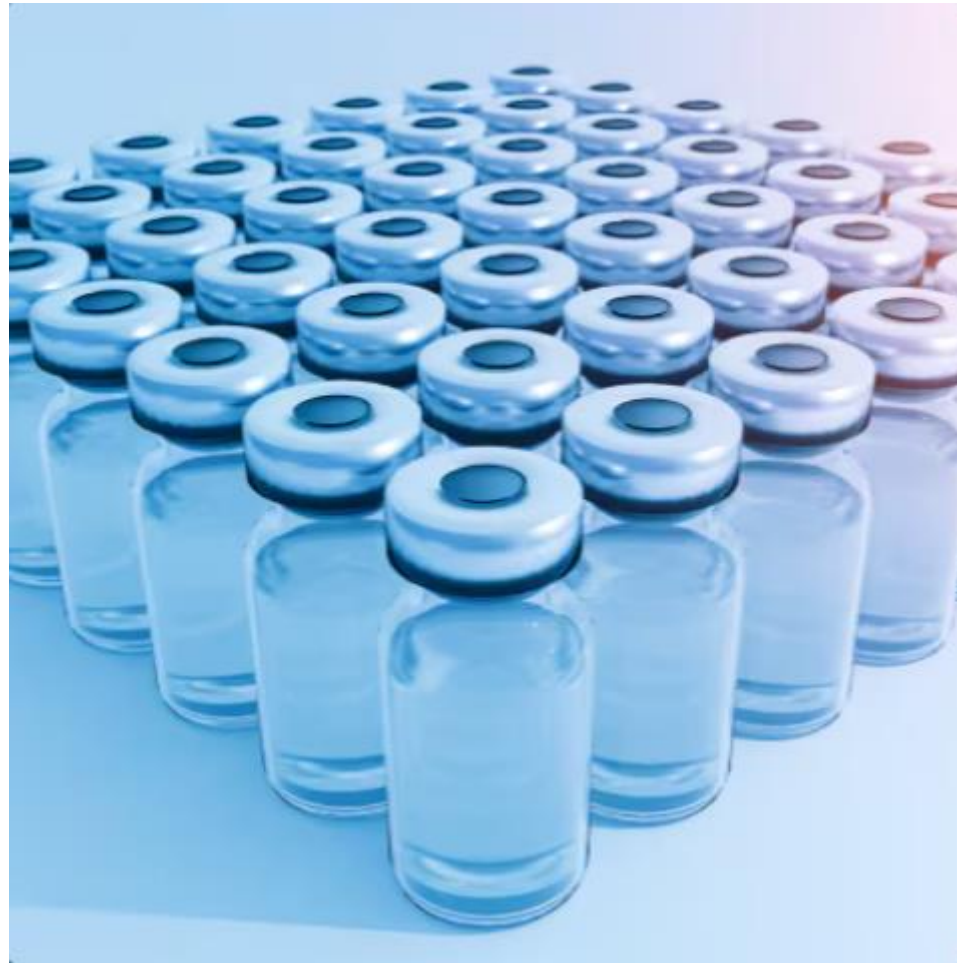
Disclosures

- American Academy of Family Physicians liaison to Advisory Council on Immunization Practices (unpaid)
- American Board of Family Medicine national journal club development team (paid)
- My background:
- 18 years practicing full scope family medicine in Fulton, MO with residency and medical student teaching
- 2018-2019 AAFP Vaccine Science Fellowship
- 2020 MU Health Care Vaccine Committee co-chair

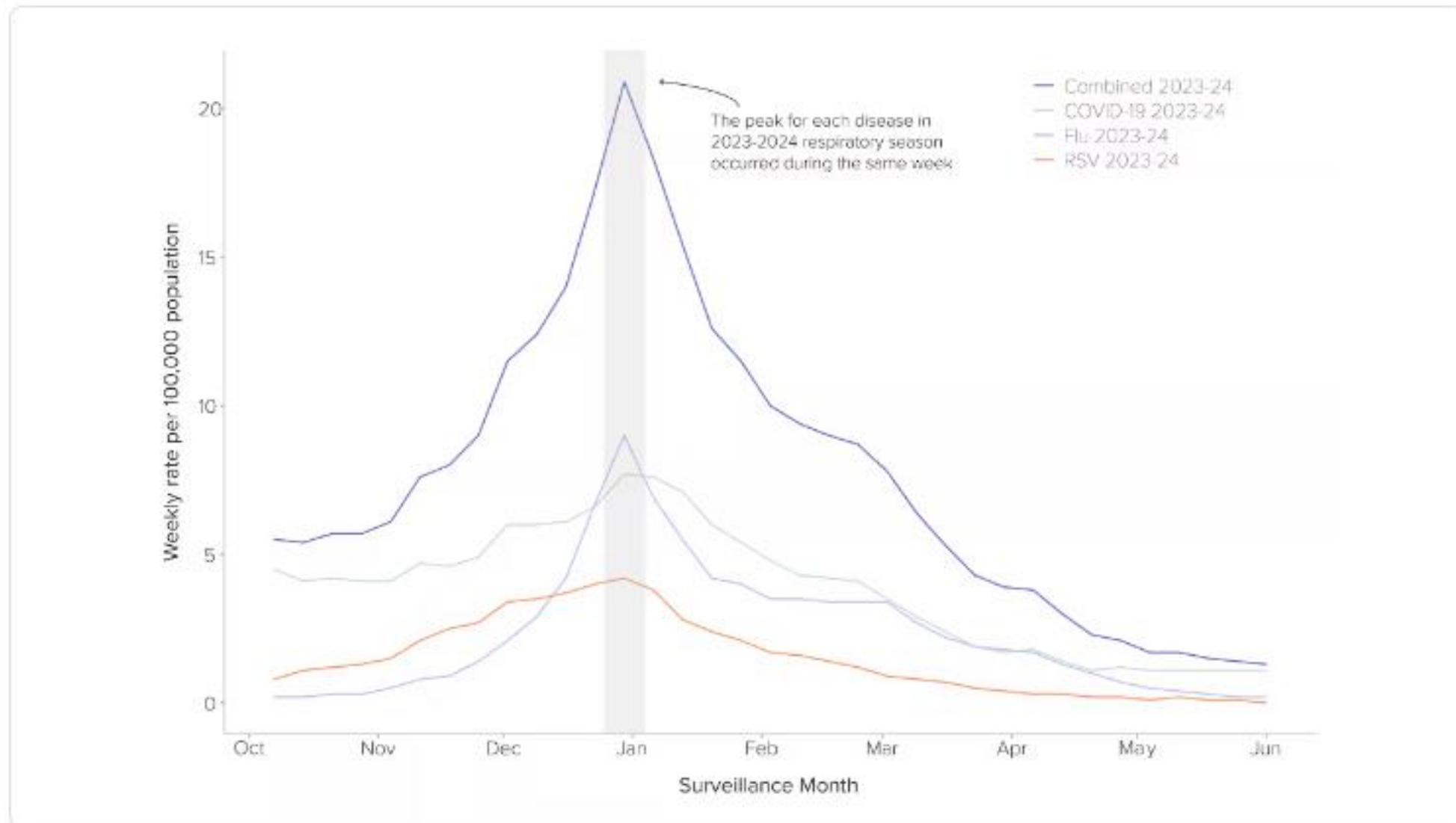
Objectives

- Learner will self-report increased knowledge of:
 - Evidence-based vaccination interventions to increase completion rates among children and adolescents.
 - Communication strategies to improve vaccine confidence.
- Learner will self-report increased confidence:
 - In their ability to deliver effective communication and make strong vaccine recommendations.
 - In telling personal stories about vaccine-preventable diseases.

Are you ready for it?



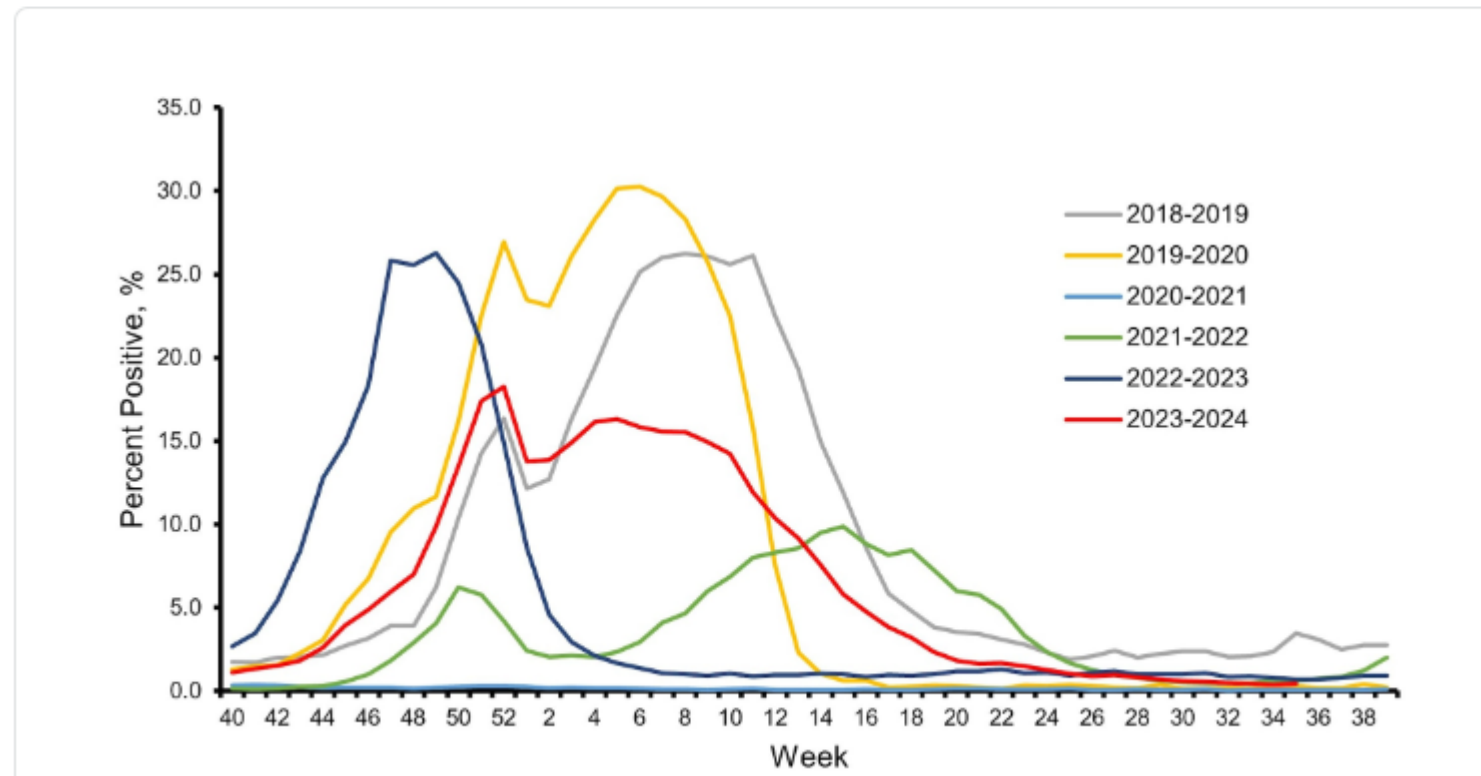
Evaluating the past...



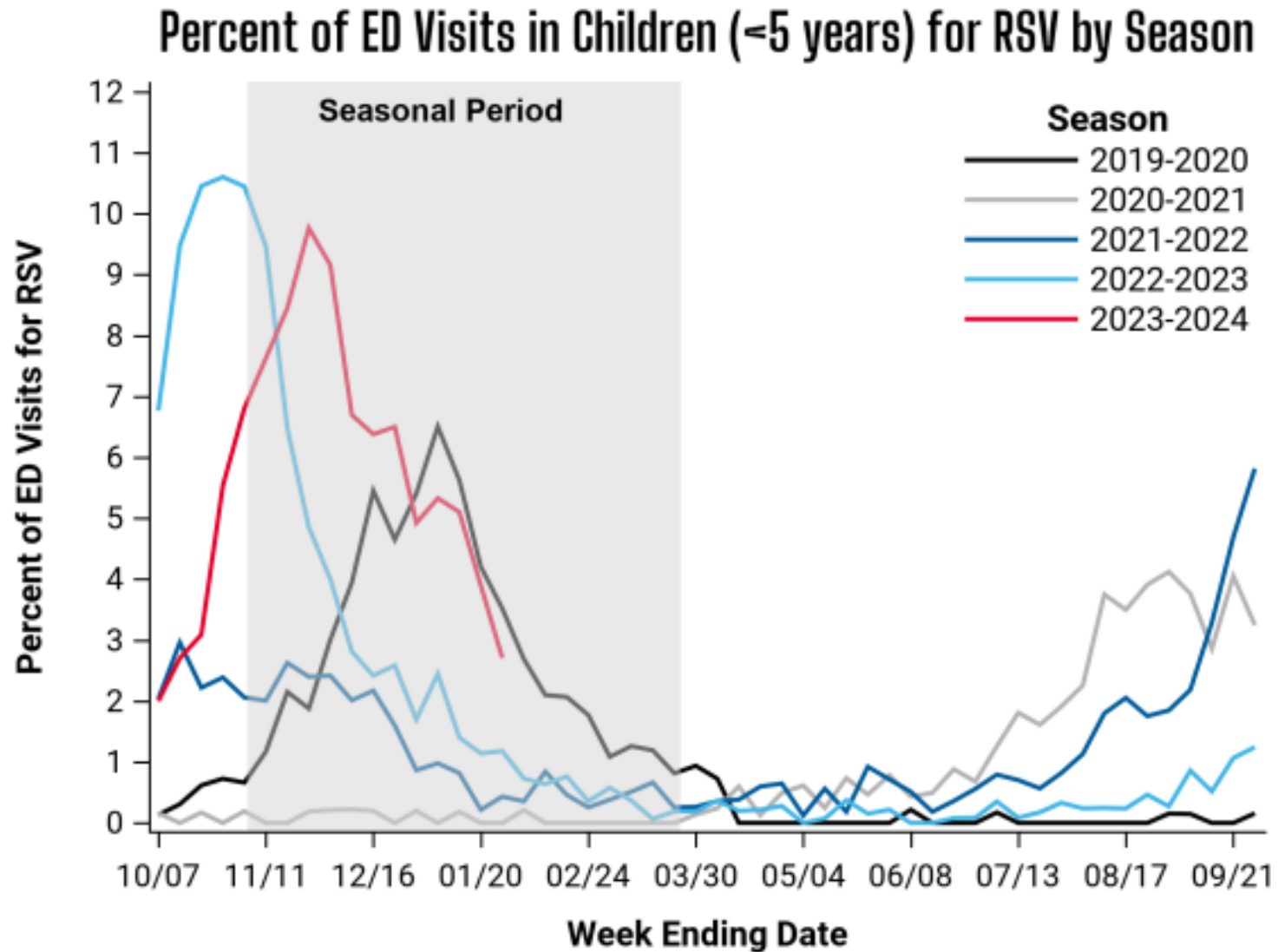
Evaluating the past...

Figure 1. Influenza Positive Test Results Reported by Clinical Laboratories to CDC, National Summary by MMWR week and Influenza Season — United States, 2018–2019 to 2023–2024 Seasons

[View Larger](#)



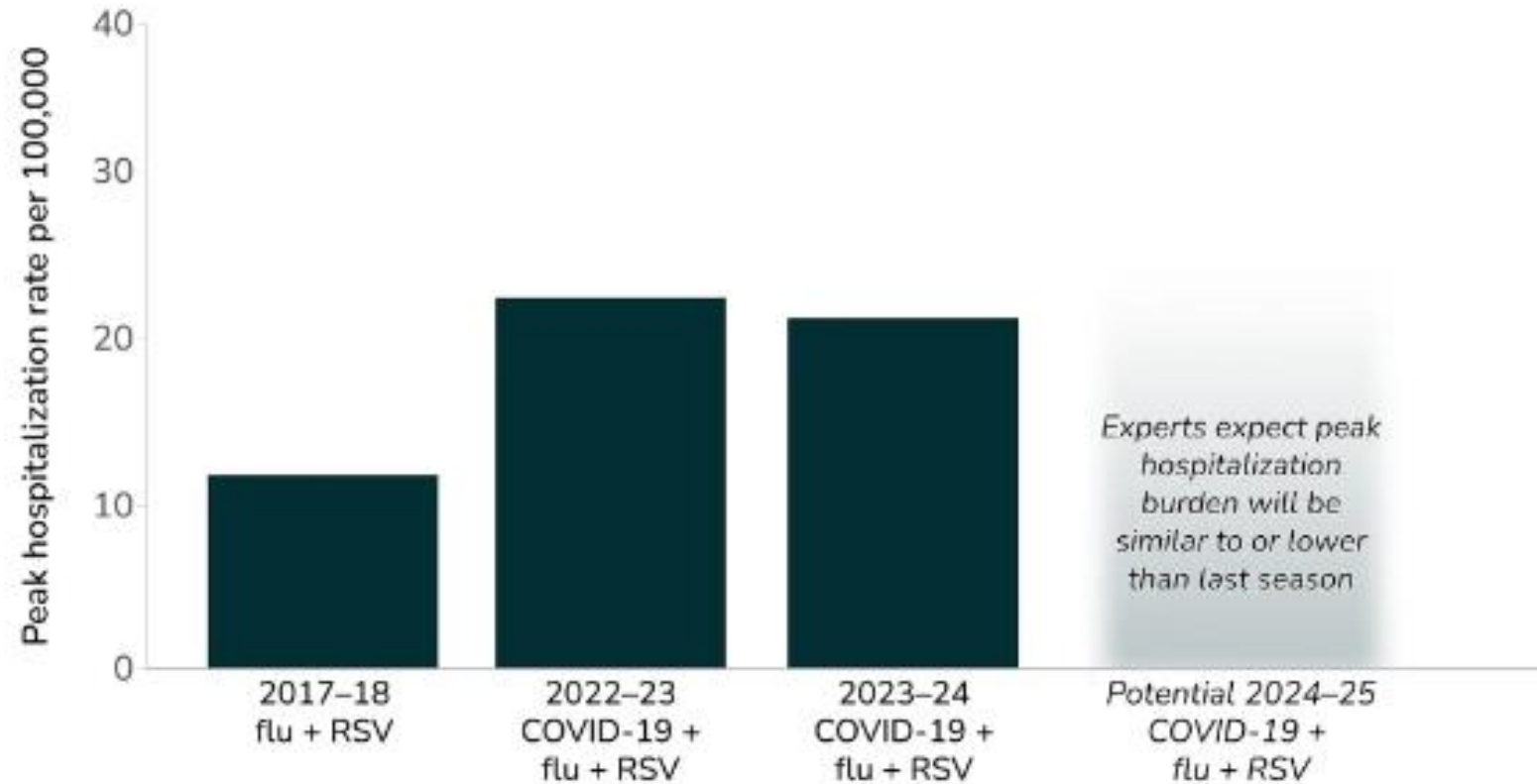
Evaluating the past...



Predicting the future...

Upcoming 2024–25 respiratory season peak hospitalization burden likely similar to or lower than last year

Combined peak hospitalization burden of COVID-19, influenza, and RSV



Predicting the future...

Possible scenarios for weekly COVID-19 hospitalizations for 2024-2025 respiratory season

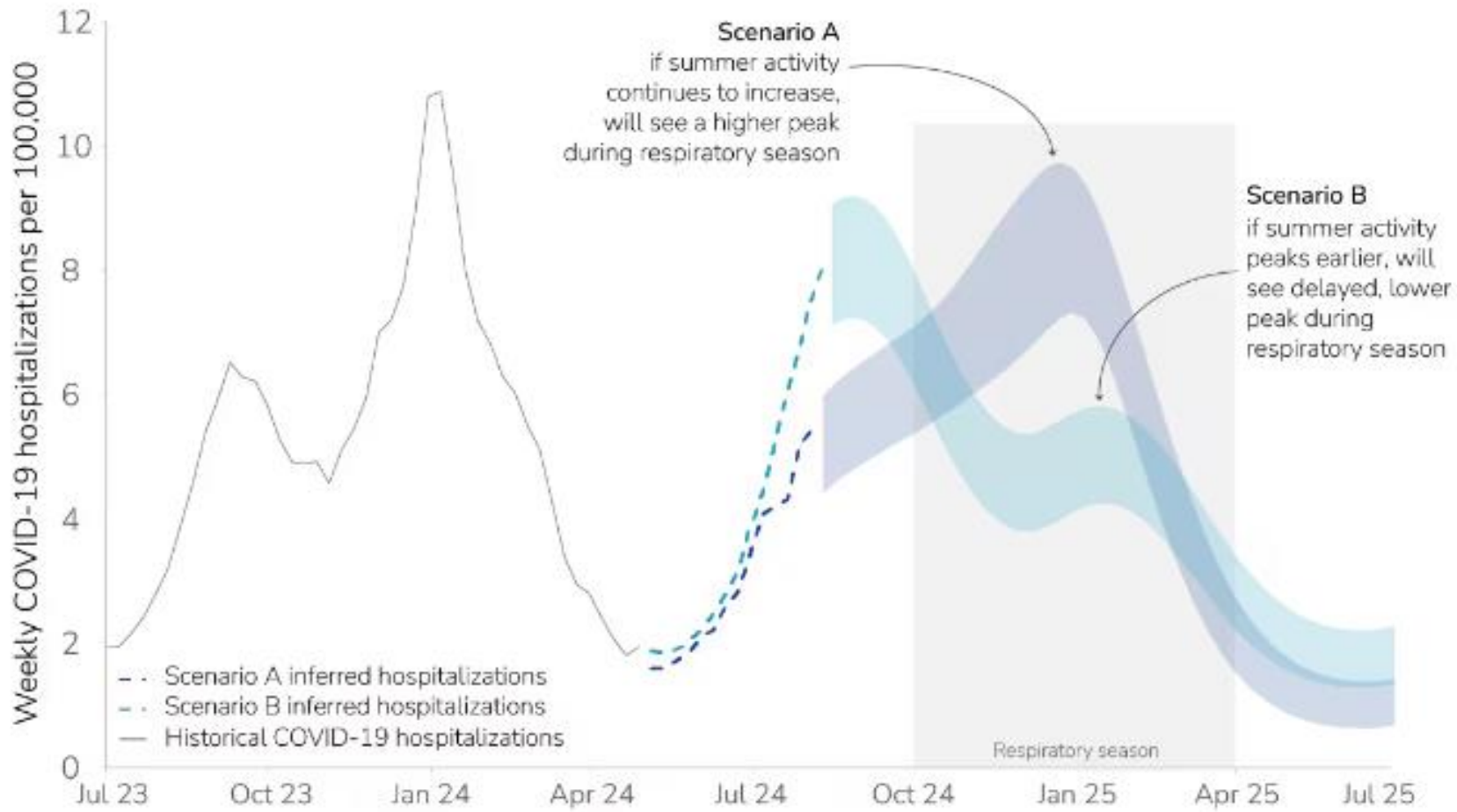


Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

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 and other immunizing agents | 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 | |
|--|--|--------------------------|----------------------|----------------------|---|-------|--------------------------|--|--------|-----------|----------------------|---------|-----------|---|----------------------|----------------------|-----------|--|
| Respiratory syncytial virus (RSV-mAb [Nirsevimab]) | 1 dose depending on maternal RSV vaccination status, See Notes | | | | 1 dose (8 through 19 months), See Notes | | | | | | | | | | | | | |
| 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 (PCV15, PCV20) | | | 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 | | | | | See Notes | | |
| COVID-19 (1vCOV-mRNA, 1vCOV-aPS) | 1 or more doses of updated (2023–2024 Formula) vaccine (See Notes) | | | | | | | | | | | | | | | | | |
| Influenza (IIV4) | Annual vaccination 1 or 2 doses | | | | | | | | | | | | | | | | | |
| Influenza (LAIV4) | Annual vaccination 1 or 2 doses | | | | | | | | | | | | | | | | | |
| Measles, mumps, rubella (MMR) | | | | | See Notes | | ← 1 st dose → | | | | 2 nd dose | | | | | | | |
| 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-CRM ≥2 mos, MenACWY-TT ≥2years) | | | | See Notes | | | | | | | | | | | 1 st dose | 2 nd dose | | |
| Meningococcal B (MenB-4C, MenB-FHbp) | | | | | | | | | | | | | | See Notes | | | | |
| Respiratory syncytial virus vaccine (RSV [Abrysvo]) | | | | | | | | | | | | | | Seasonal administration during pregnancy, See Notes | | | | |
| Dengue (DEN4CYD; 9-16 yrs) | | | | | | | | | | | | | | Seropositive in endemic dengue areas (See Notes) | | | | |
| Mpox | | | | | | | | | | | | | | | | | | |

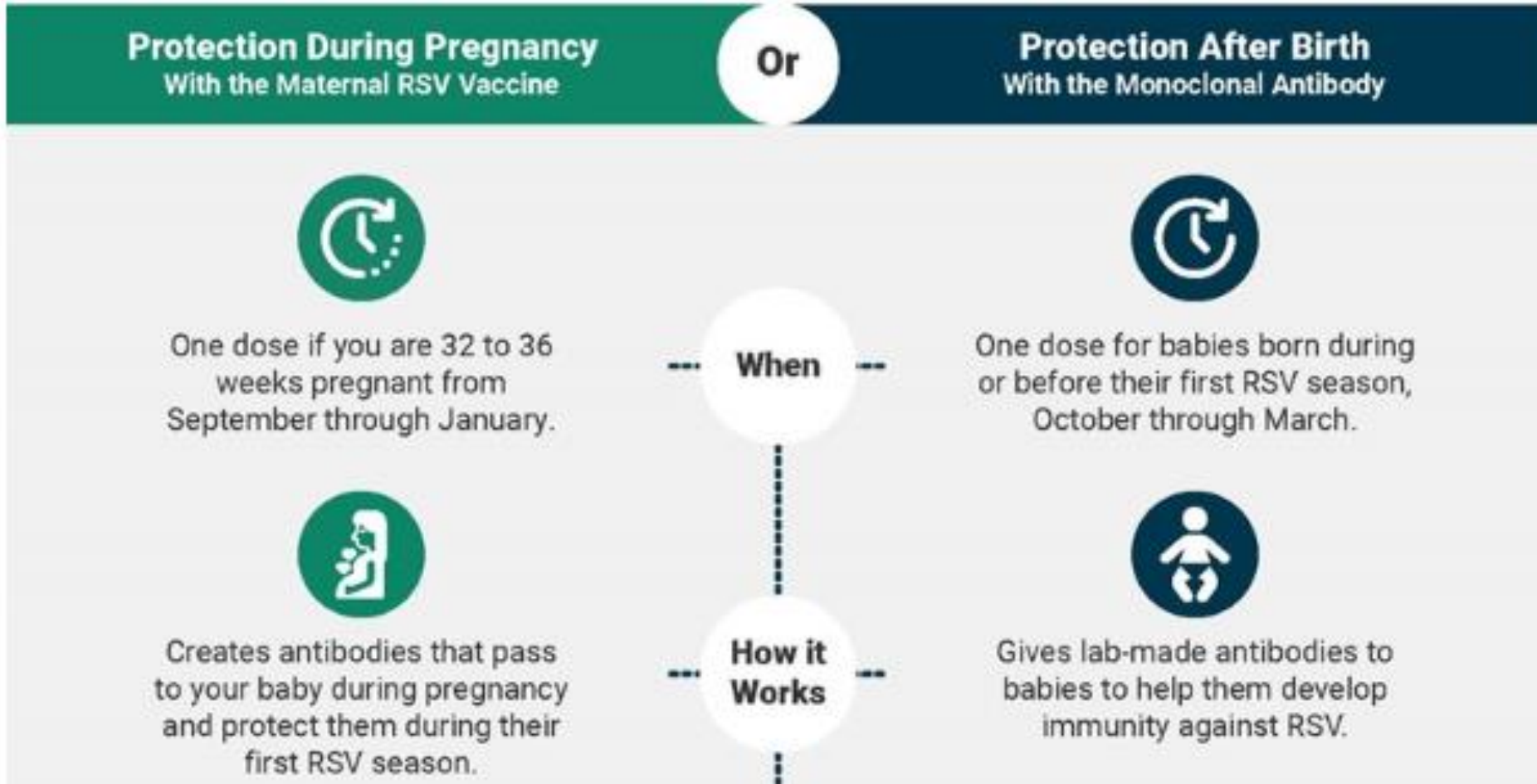
 Range of recommended ages for all children
 Range of recommended ages for catch-up vaccination
 Range of recommended ages for certain high-risk groups
 Recommended vaccination can begin in this age group
 Recommended vaccination based on shared clinical decision-making
 No recommendation/ not applicable

Simple, right?

Focus on respiratory viruses

- Newborns and children <9 months of age
 - RSV antibody immunization for all babies whose mother did NOT receive a vaccine at least 2 weeks prior to delivery
 - Given October through March
 - Some children are eligible in their second RSV season if high risk
 - Premature birth and have chronic lung disease
 - Severe immunocompromise
 - Severe cystic fibrosis
 - American Indian and Alaska Native children

Protecting Your Baby from RSV



RSV



- Provides immediate protection for your baby after birth during their first RSV season when the risk of severe illness is highest.
- 7 in 10 babies are protected from serious RSV illness.
- About 6 in 10 babies are protected from needing a hospital stay in their first 6 months.
- Can be given at the same time as other recommended vaccines during pregnancy.
- One less shot for baby after birth.

--- Benefits ---



- May provide longer-lasting protection than the maternal vaccine, and your baby gets antibodies directly.
- About 8 in 10 babies are less likely to visit their doctor for an RSV-related illness.
- 8 in 10 babies are less likely to need a hospital stay during RSV season.
- Protects your baby during their first RSV season when the risk of severe illness is highest.

The American College of Obstetricians and Gynecologists (ACOG) recommends you receive a single dose of Pfizer's maternal RSV vaccine (Abrysvo) during pregnancy.

Keep it simple!

Focus on respiratory viruses

- COVID-19 vaccine for 6 months +
 - Not quite as simple but it has been simplified!
 - Updated formulation across all products
 - mRNA for 6 mos-11 yrs
- Influenza vaccine for 6 months +
 - Updated formulation across all products—trivalent
 - Live attenuated nasal spray available for 2+ but must NOT have asthma or immunocompromise



Health

Life, But Better

Fitness

Food

Sleep

Mindfulness

Relationships

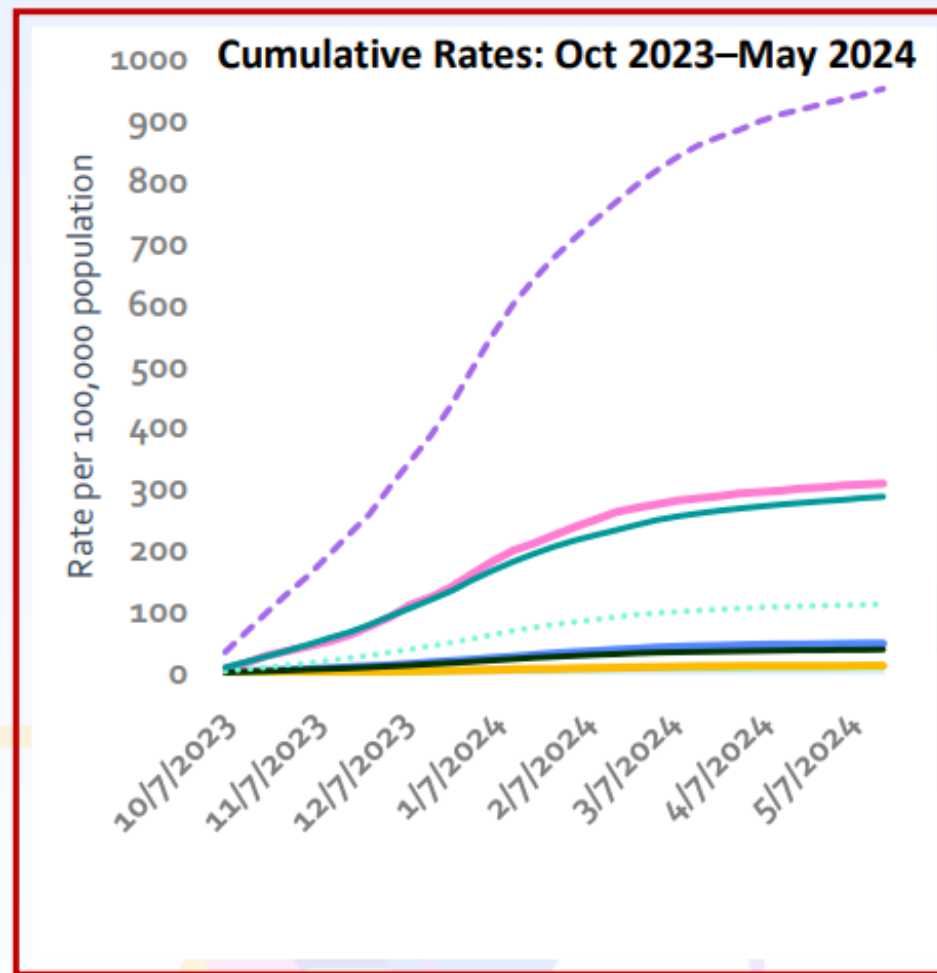
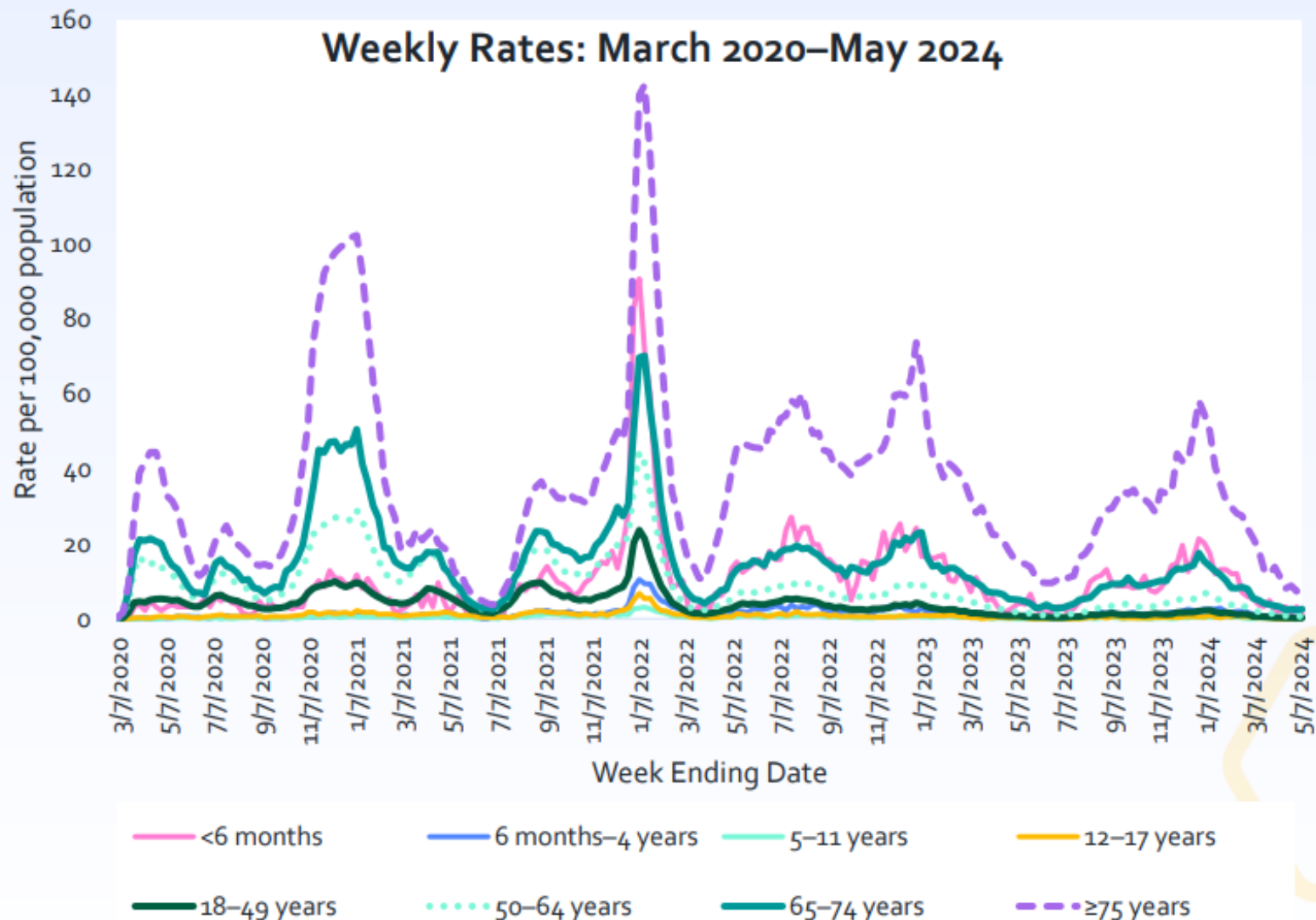
CDC recommends updated Covid-19 vaccines for everyone 6 months and older

By Brenda Goodman, CNN

🕒 5 minute read · Updated 5:55 PM EDT, Tue September 12, 2023



Population-Based Rates of COVID-19-Associated Hospitalizations — COVID-NET, March 2020–May 2024



Rates highest in ≥75 years, followed by infants <6 months and adults 65–74 years

Summary – Infants, Children, and Adolescents

- Rates of COVID-19-associated hospitalizations highest among those ≤ 4 years
- Rates highest among infants ages < 6 months who are not vaccine eligible and require a different approach for prevention (e.g., maternal vaccination)
- 50% have no underlying medical conditions
 - Among children with no underlying medical conditions, 18% were admitted to the ICU
- October 2023–March 2024: 5% of hospitalized children 6 months – ≤ 17 years had received a 2023–2024 vaccine prior to admission

6mo-4yr

| COVID-19 vaccination history | 2024–2025 vaccine | Number of 2024–2025 vaccine doses indicated | Dosage (mL/ug) | Interval between doses |
|--|----------------------------|---|----------------|--|
| Unvaccinated | Moderna | 2 | 0.25 mL/25 ug | Dose 1: Day 0 Dose 2: 4–8 weeks after Dose 1* |
| | OR | | | |
| | Pfizer-BioNTech | 3 | 0.3 mL/3 ug | Dose 1: Day 0 Dose 2: 3–8 weeks after Dose 1* Dose 3: At least 8 weeks after Dose 2 |
| 1 dose any Moderna | Moderna | 1 | 0.25 mL/25 ug | Dose 2: 4–8 weeks after Dose 1* |
| 2 or more doses any Moderna, NOT including at least 1 dose 2024–2025 Moderna | Moderna | 1 | 0.25 mL/25 ug | At least 8 weeks after last dose |
| 2 or more doses any Moderna, INCLUDING at least 1 dose 2024–2025 Moderna | No further doses indicated | | | |
| 1 dose any Pfizer-BioNTech | Pfizer-BioNTech | 2 | 0.3 mL/3 ug | Dose 2: 3–8 weeks after Dose 1* Dose 3: At least 8 weeks after Dose 2 |
| 2 doses any Pfizer-BioNTech | Pfizer-BioNTech | 1 | 0.3 mL/3 ug | Dose 3: At least 8 weeks after Dose 2 |
| 3 or more doses any Pfizer-BioNTech, NOT including at least 1 dose 2024–2025 Pfizer-BioNTech | Pfizer-BioNTech | 1 | 0.3 mL/3 ug | At least 8 weeks after last dose |
| 3 or more doses any Pfizer-BioNTech, INCLUDING at least 1 dose 2024–2025 Pfizer-BioNTech | No further doses indicated | | | |

COVID-19 for 5-11yr

| COVID-19 vaccination history | 2024–2025 vaccine | Number of 2024–2025 doses indicated | Dosage (mL/ug) | Interval between doses |
|---|----------------------------|-------------------------------------|----------------|----------------------------------|
| Unvaccinated | Moderna | 1 | 0.25 mL/25 ug | — |
| | OR | | | |
| | Pfizer-BioNTech | 1 | 0.3 mL/10 ug | — |
| 1 or more doses any mRNA, NOT including 1 dose any 2024–2025 mRNA vaccine | Moderna | 1 | 0.25 mL/25 ug | At least 8 weeks after last dose |
| | OR | | | |
| | Pfizer-BioNTech | 1 | 0.3 mL/10 ug | At least 8 weeks after last dose |
| 1 or more doses any mRNA, INCLUDING 1 dose any 2024–2025 mRNA vaccine | No further doses indicated | | | |

COVID-19 for 12+

Get an updated shot.

2024 COVID-19 Update—Pediatrics



UNVACCINATED

6 MONTHS - 4 YEARS

2 doses of Moderna

OR

3 doses of Pfizer-BioNTech

AGES ≥ 5 YEARS

1 dose of Moderna

OR

1 dose of Pfizer-BioNTech



PREVIOUSLY VACCINATED

AGES ≥ 6 MONTHS

1 dose of Moderna

OR

1 dose of Pfizer-BioNTech

2024 Influenza Update

Hot off the press!

But kind of a snooze...

2 actual changes:

- All manufacturer formulations will be trivalent this year, dropping one of the Influenza B strains (not clinically relevant since 2020)
- Patients age 19-64 who are immunosuppressed solid organ transplant recipients may receive an adjuvanted or high dose vaccine
- LAIV to go OTC next season

CHILDREN

who got a flu vaccine were about

50% LESS LIKELY

to have a flu-related **emergency department visit** and about

70% LESS LIKELY

to be **hospitalized** with flu illness or related complications compared to children who had not been vaccinated.

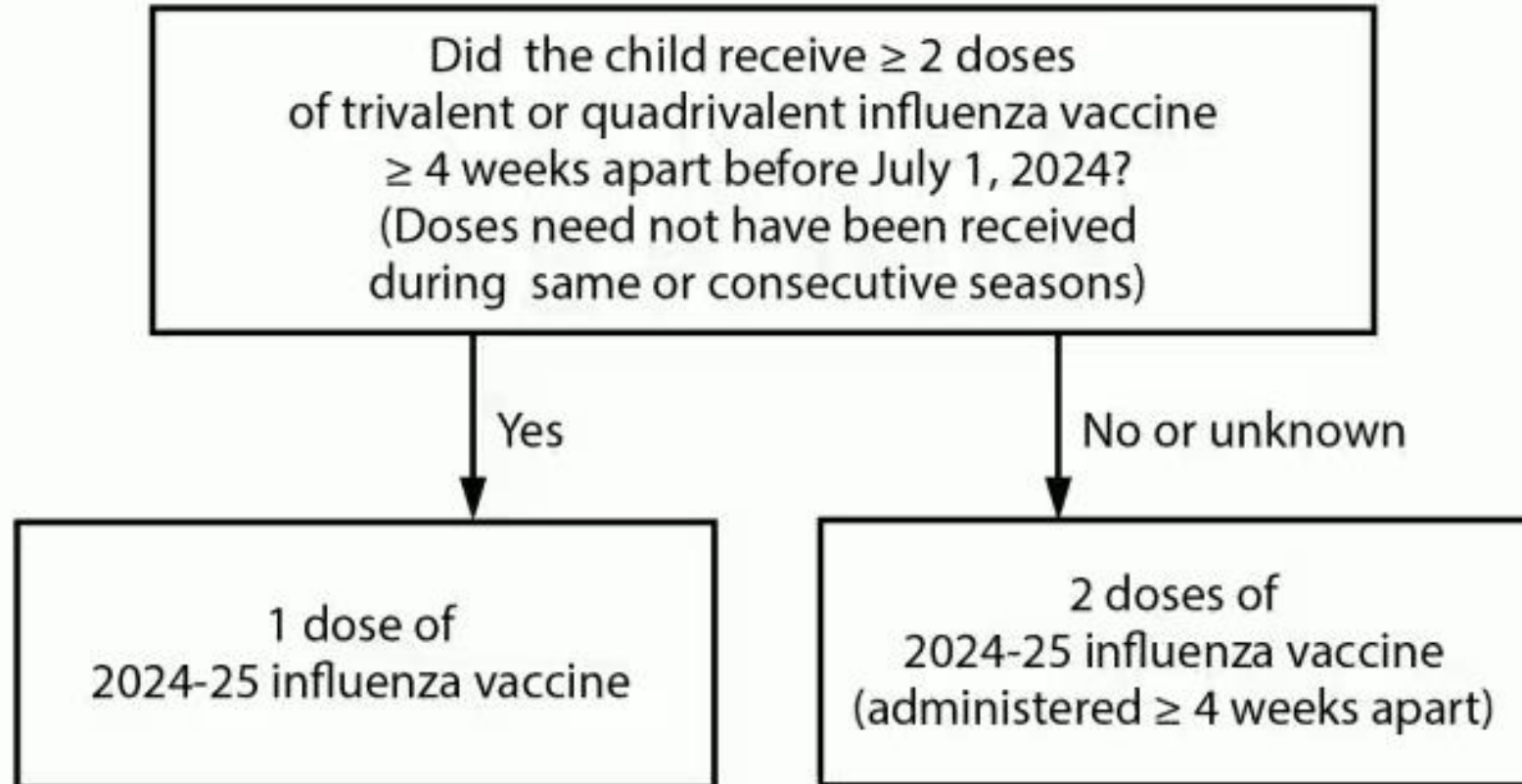
According to CDC data from the NVSN network through February 22, 2023, during the 2022-2023 season.

FLU VACCINES PROTECT.



CS338876-A

Reminder about 2 doses of influenza



Vaccines during pregnancy

COVID-19 | VACCINES

ACOG and SMFM are recommending vaccination of pregnant individuals because:

- Vaccination is safe and effective for pregnant people
- COVID-19 infections put pregnant people at increased risk of severe complications
- A strong recommendation from a clinician can make a meaningful difference in the decision to vaccinate



Vaccinations and Pregnancy

Vaccinations help protect you and your child from harmful infections. Here is a short list of vaccinations you can receive during the 1st, 2nd, or 3rd trimesters.



| VACCINATIONS | 1st TRIMESTER | 2nd TRIMESTER | 3rd TRIMESTER |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| COVID-19 <small>(Can be taken at any point in pregnancy)</small> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Tdap (Tetanus, Diphtheria, and Pertussis) | | | <input checked="" type="checkbox"/> |
| Flu (Influenza) <small>Seasonal (Fall and Winter)</small> <small>(Can be taken at any point in pregnancy)</small> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| RSV (Respiratory Syncytial Virus) <small>Seasonal (Fall and Winter)</small> | | | <input checked="" type="checkbox"/> |

Immunization resources

<https://www.immunize.org/official-guidance/cdc/acip-recs/vaccines/>



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ACIP Vaccine Recommendations

Advisory Committee on Immunization Practices (ACIP) from CDC

The Advisory Committee on Immunization Practices (ACIP) develops recommendations on how to use vaccines and passive immunizations to control diseases in the United States. [Learn more about ACIP.](#)

Comprehensive Recommendations

Vaccine-Specific Recommendations

Filter by

Vaccine or Disease Name

Status

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INFLUENZA

Current

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

MMWR: August 29, 2024;73(No. RR-5):1–25

Questions?

Answers!



Healthy
for the
Holidays

Get your flu vaccine this fall!

hhs.gov/immunization

References

- <https://cdn.factcheck.org/UploadedFiles/amended-fda-vaccine-approval5.png>
- <https://www.cdc.gov/rsv/vaccines/protect-infants.html>
- <https://www.cdc.gov/flu/weekly/index.htm>
- <https://www.cdc.gov/mmwr/volumes/73/rr/pdfs/rr7305a1-H.pdf>
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- <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>
- <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2024-06-26-28/02-COVID-Havers-508.pdf>.
- <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2024-06-26-28/01-Pneumococcal-Loehr-508.pdf>
- <https://vaccinateyourfamily.org/which-vaccines-does-my-family-need/pregnancy/>