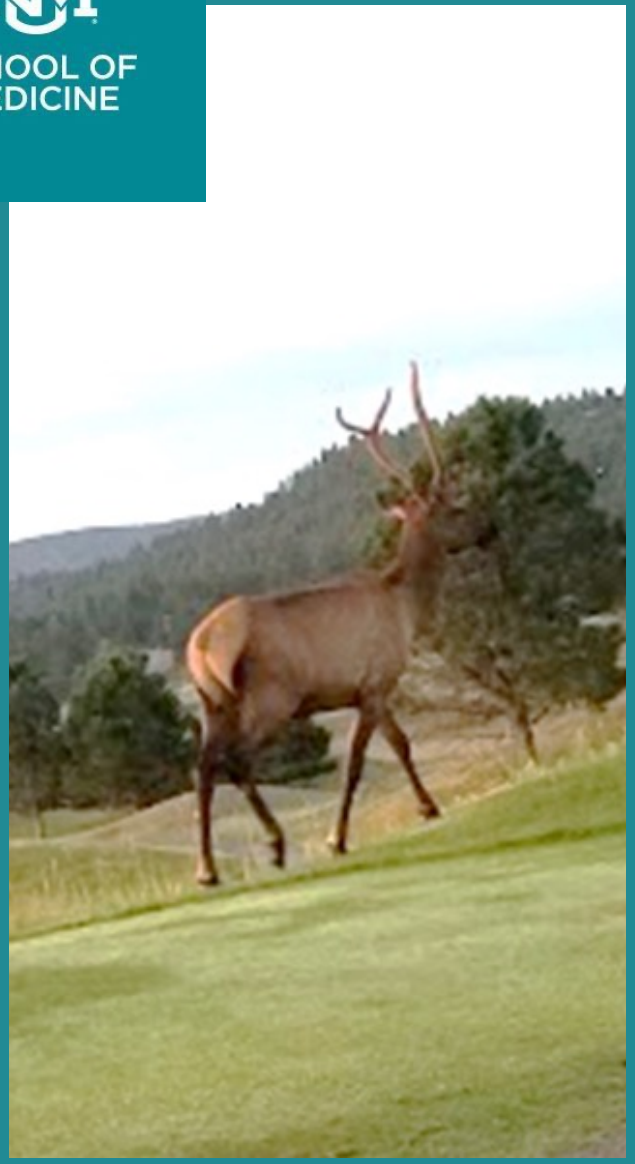
SCHOOL OF MEDICINE



Vaccine Information to Share New Mexico Family Physicians February 24, 2024

- Melissa Martinez MD, FAAFP
- Professor Emeritus
- UNM School of Medicine

- Melanie Jun MS 1
- UNM SOM

Conflict of Interest:

Melissa Martinez - Seqirus and Presbyterian Community Service Consultant

Melanie Jun - Nothing to declare

Objectives

- Describe the rationale for recent vaccines recommendations including:

  RSV

  COVID 19

  Influenza

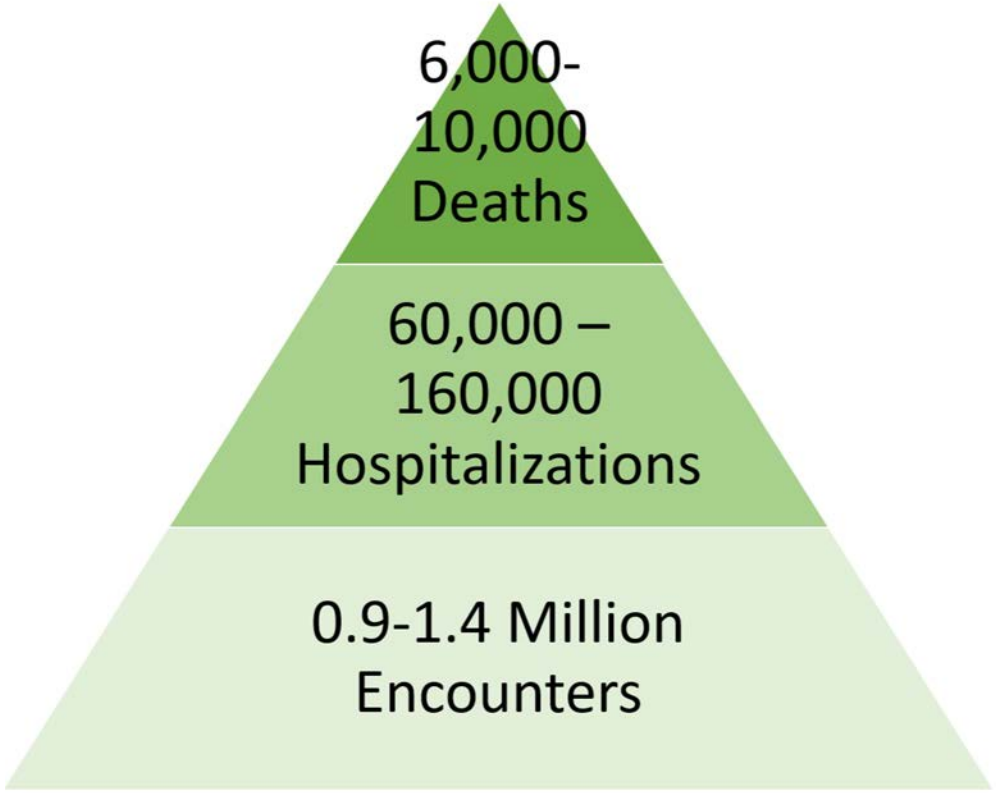
  Pneumococcal

- List 5 things you and your staff can do to promote trust in vaccines.

Image CDC web site

RSV Vaccines

RSV in age 60-year and up



RSV

Higher Risk

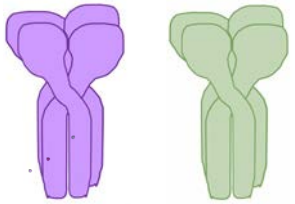
- Older adults, especially those 65 years and older
- Chronic heart or lung disease
- Immunocompromised

MMWR July 2023

RSV Vaccines

Pfizer **RSVpreF ABRYSVO®**

Prefusion F proteins from A and B strains



Age 60 and Up

Pregnant persons

GSK **RSVPreF3 AREXVY®**

Prefusion F proteins

Adjuvant

AS01E=same adjuvant in shingles vaccine

Age 60 and Up

ACIP Oct 2022
Marura Lancet ID 2023
Qiu Growth Factor Reviews 2022

RSV Vaccine Efficacy in age >60 years

- Efficacy for preventing RSV Illness in people 60 and up

  Arexvy® *RSVpreF3* **82.6%** (95% CI 59.7%- 94.1%)

  Abrysvo® *RSVpreF* **88.9%** (95%CI 56.3% -96.7)

- Could not prove that it worked in people 70 and up
- Did not work as well in second season
- Booster did not seem to help improve efficacy in second season
- No data on preventing death and hospitalization?

- Meglar MMWR 2023

RSV Vaccine and Guillain-Barré Syndrome-like

Base line data: About 3 per 100,000 in 6th to 7th decade

- Arexvy: 3 Guillain-Barré syndrome-like Cases in 17,922 participants
- 3/17,922 = 0.00016739 X100,000 = 17 Cases per 100,000

- Abrysvo: 3 Guillain-Barré syndrome-like Cases in 20,225 participants
- 3/20225=0.00014833X100,000= 14 Cases per 100,000

- Meglar MMWR 2023

RSV Vaccine for Age 60+ Shared Decision Making

"RSV vaccination in older adults should be targeted to those who are at highest risk for severe RSV disease and therefore most likely to benefit from vaccination."

ACIP June 2023

Meglar MMWR 2023

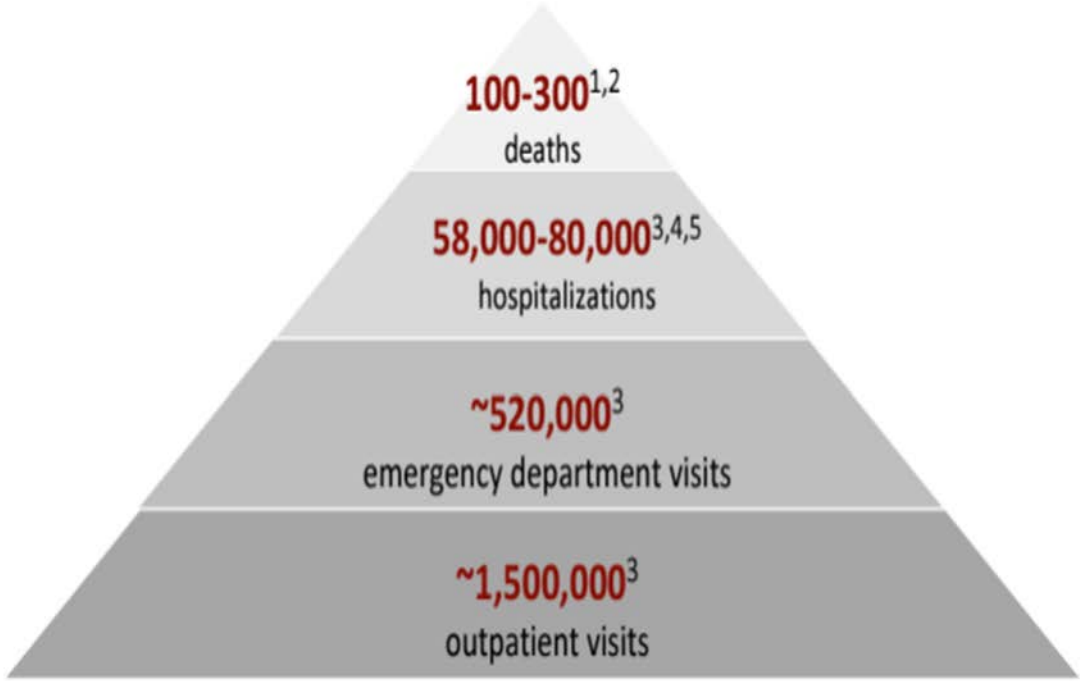
Amy

Today is December 30th, 2023

24-year-old G2 P1 old female at 35 weeks' gestation baby EDC January 30th

“Should I be worried about RSV infection in my baby?”

Each year among US children >5 years, RSV is associated with…



Leading cause of hospitalization among U.S. infants

RSV tends to occur in October through March

Jones MMWR 2023

Amy

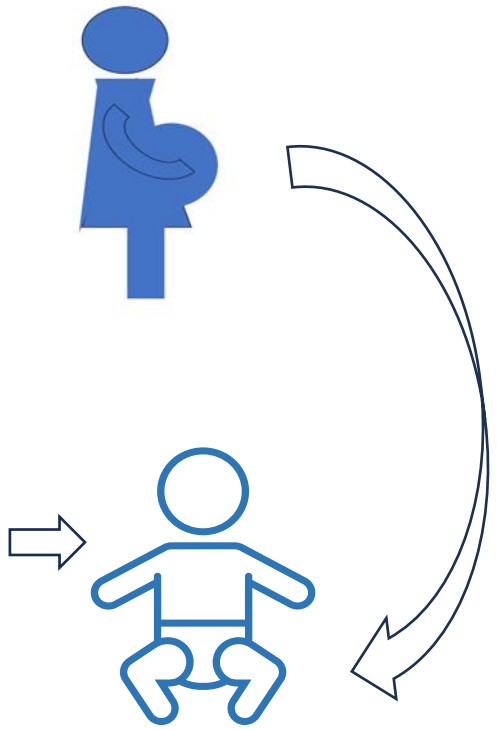
Today is December 30th, 2023

24-year G2 P1 old female
at 35 weeks' gestation baby
EDC January 30th

“How can I protect my baby?”

Preventing RSV in the first 2 to 3 months of life

- RSVpreF Vaccine ABRYSVO® Pfizer
  - Give expectant mother vaccine
- Nirsevimab® Monoclonal Antibodies
  - Give a shot to baby



Need about 14 days for mother to make antibodies that are passed to unborn baby

- MMWR Aug 2023

Amy

“How well does the vaccine work?”

Efficacy of RSVPreF given for 32-36 weeks/0-180 days

Medically attended RSV-associated LRTI in infants	**57.3** (29.8 to 74.7)
Severe medically attended RSV-associated LRTI in infants	**76.5** (41.3 to 92.1)
No statistically significant difference in: Hospitalization for RSV-associated LRTI Intensive care unit admission from RSV hospitalization in infants Mechanical ventilation from RSV hospitalization in infants All-cause medically	

MMWR Aug 2023

Amy

“What are the risks getting the vaccine?"

RSVPreF in pregnancy

Harms (RR)[§§]	Vaccine	Placebo
Serious adverse events in pregnant persons[¶¶]	1.06 (0.95 to 1.17)	1.02 (0.87 to 1.20)
Reactogenicity (grade 3 or higher systemic reactions) in pregnant persons***	0.97 (0.72 to 1.31)	0.98 (0.62 to 1.54)
Serious adverse events in infants[†††]	1.01 (0.91 to 1.11)	1.04 (0.90 to 1.20)
Preterm birth (<37 weeks' gestational age)	1.20 (0.99 to 1.46)	1.15 (0.82 to 1.61)

Fleming-Dutra MMWR 2023

Preeclampsia: Vaccine 1.8% Placebo 1.4%

TABLE 2. Preterm birth (<37 weeks' gestation), low birthweight and neonatal jaundice outcomes in Pfizer RSVpreF vaccine phase 3 trial for the trial dosing interval and the approved dosing interval*

Return

	Group, trial dosing interval (24–36 wks' gestation)†				Group, approved dosing interval (32–36 wks' gestation)§			
	RSVpreF N = 3,568		Placebo N = 3,558		RSVpreF N = 1,628		Placebo N = 1,604	
Outcome	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)
Preterm birth¶	202	5.7 (4.9–6.5)	169	4.7 (4.1–5.5)	68	4.2 (3.3–5.3)	59	3.7 (2.8–4.7)
Low birthweight**	181	5.1 (4.4–5.8)	155	4.4 (3.7–5.1)	67	4.1 (3.2–5.2)	54	3.4 (2.5–4.4)
Neonatal jaundice	257	7.2 (6.4–8.1)	240	6.7 (5.9–7.6)	102	6.3 (5.1–7.6)	107	6.7 (5.5–8.0)

Amy

“I heard that the vaccine could cause Gillian Barre Syndrome?”

RSVPreF during pregnancy

- 32- 36 weeks
- Seasonal administration (September–January in most of the continental United States)
- Can be given with other vaccines (Tdap, influenza, and COVID-19)
- Additional Vaccine Doses in Subsequent Pregnancies-no data or recommendations yet
- At least 14 days after maternal vaccination for development and transplacental transfer of maternal antibodies

Fleming-Dutra MMWR 2023

Recommendations for Infant's 1st RSV Season

RSV season: October to March

Due Month	Maternal RSV	Nirsevimab to Infant <8m
January	Give Abrysvo at 32-36 weeks	Yes, if no vaccine in pregnancy
February	If due in early February	Perhaps, if no vaccine in pregnancy
March	No RSV vaccine	Perhaps , if no vaccine in pregnancy
April	No RSV vaccine	No
May	No RSV vaccine	No
June	No RSV vaccine	No
July	No RSV vaccine	No
August	No RSV vaccine	No
September	Give Abrysvo at 32-36 weeks	No
October	Give Abrysvo at 32-36 weeks	Yes, if no vaccine in pregnancy
November	Give Abrysvo at 32-36 weeks	Yes, if no vaccine in pregnancy
December	Give Abrysvo at 32-36 weeks	Yes, if no vaccine in pregnancy

Amy

“What about giving the baby a shot to prevent RSV?”

Monoclonal Antibodies

PAST:
Palivizumab SYNAGIS®

- **Monoclonal antibody**
- **High risk infants only**
- **Requires monthly injections**

NEW:
Nirsevimab

- Monoclonal antibody
- Long acting

Qiu Growth Factor Reviews 2022
Mazua Lancet ID 2022
ACIP Oct 2022
Jones MMWR Aug 2023

Nirsevimab Efficacy age ≤8months/1st RSV Season

No Deaths reported

RSV-associated LRTI

79.0% (95% CI = 68.5%–86.1%

Nirsevimab 31/2,579 Placebo 80/1,293

RSV-associated LRTI with hospitalization

80.6% (95% CI = 62.3%–90.1%)

Nirsevimab 12 /2,579 Placebo 33/1,293

RSV-associated LRTI with ICU admission

90.0% (95% CI = 16.4%–98.8%)

Nirsevimab 1/2,579 Placebo 6/1,293

Jones MMWR Aug 2023

Amy

“Which is best for my baby?”

Maternal RSVPreF Vaccine

Protection immediately after birth

Perhaps more resistant to mutations

$295 (per CDC price list)

No VFC Coverage (unless mom <19)

Protection reduced if mom does not make antibodies

Possible increased risk of pre-term birth and hypertension in pregnancy

Nirsevimab to Infant

Antibodies may wane more slowly

Consistency of antibody levels

No risk of adverse pregnancy outcomes

VFC coverage

$495(per CDC price list)

Limited availability

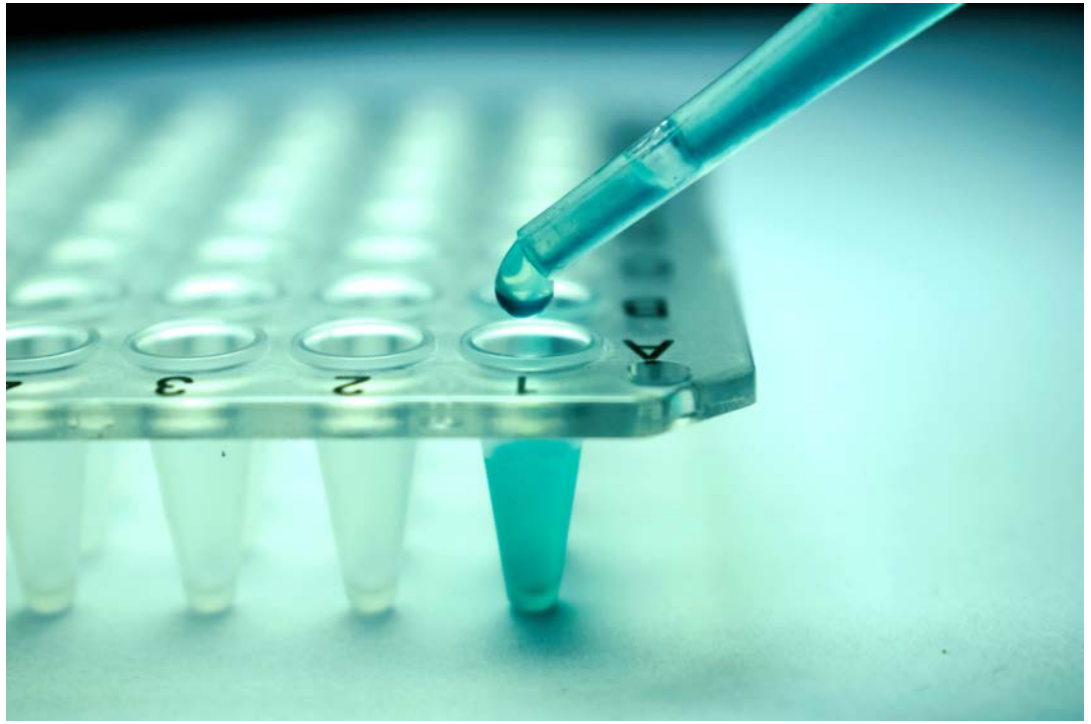
Injection of infant

Fleming-Dutra MMWR 2023

Amy

“My cousin has a 10-month-old child with cystic fibrosis, should my niece get the shot?”

Nirsevimab in high risk 8–19-month-old-children



No randomized controlled trials

Non inferiority trial

Pharmacokinetics of Palivizumab vs Nirsevimab

No serious adverse events, followed up to 510 days

Jones MMWR Aug 2023

Nirsevimab in second season for…

Children 8-19 months recommended to receive Palivizumab

- 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 (4-10X risk)**

Jones MMWR August 2023

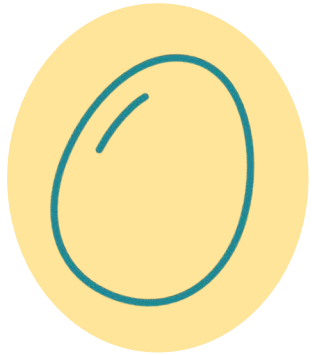
Influenza

Adults aged ≥65 years preference

- No preference for which of the three above.
- If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.

High-dose	Fluzone	Inactivated influenza vaccine	HD4IV
Recombinant	Flublock	Influenza vaccine	RIV4
Adjuvanted	Fluad	Inactivated Influenza vaccine	allV4

Influenza Vaccine



- Persons with egg allergy should receive influenza vaccine unless a contraindication exists.
- **Any influenza vaccine (egg based or non-egg based).**

ACIP June 2023

Intranasal Indications

Use for	Avoid using
• Healthy children • Adults 2-49 years old	• In immunocompromised • During pregnancy

Flu Vaccines since 2012

Influenza A

H1N1

H3N2

Influenza B

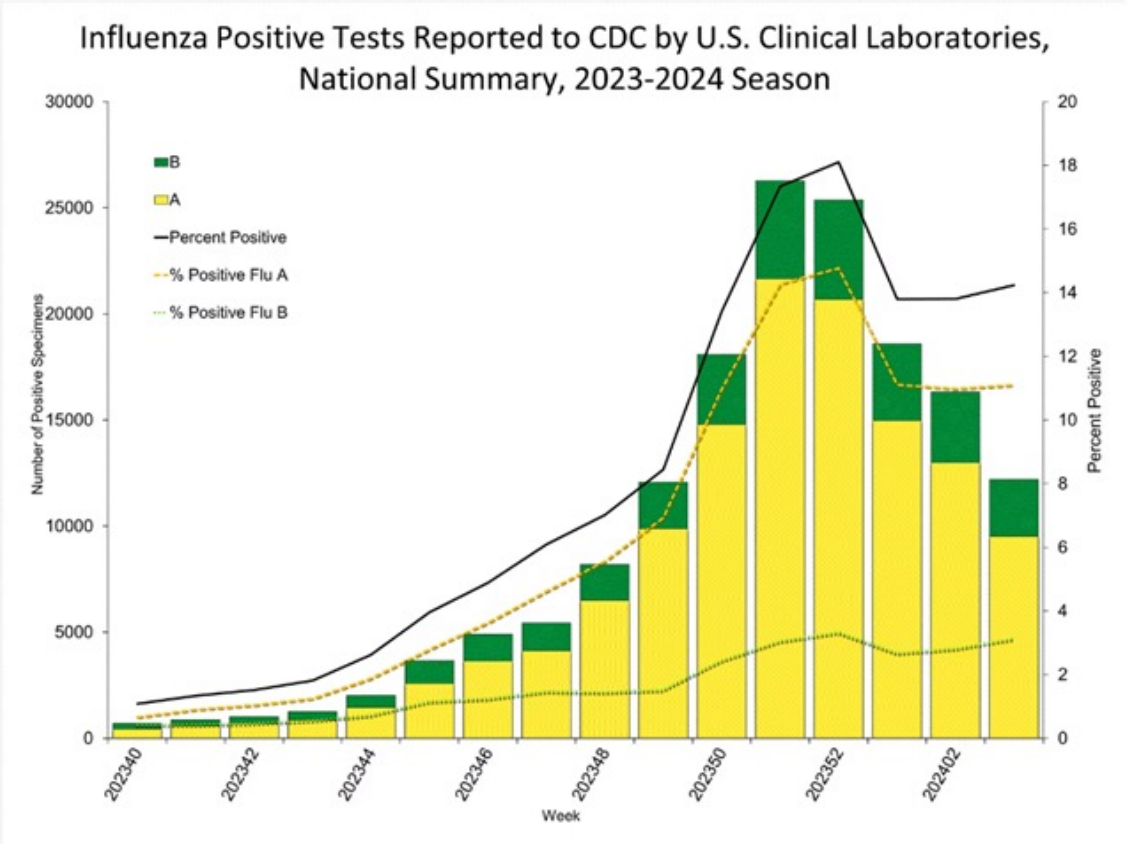
B/Victoria

B/Yamagata

Quadrivalent

No B Yamagata since 2020

World-wide: B Influenza is 5.8% of all cases



https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2023-2024-northern-hemisphere-influenza-season

https://www.cdc.gov/flu/weekly/index.htm

Flu Vaccines Fall 2024

Influenza A

H1N1

H3N2

Influenza B

B/Victoria

~~**B/Yamagata**~~

Trivalent

Pneumococcal in Children

https://www.cdc.gov/pneumococcal/about/symptoms-complications.html

Adults

<u>No Previous Conjugate Vaccine</u>

Age ≥ 65

Age 19-64 with high-risk conditions

Age 19-64 with immunocompromising conditions

PCV20

Or

PCV15 + PPSV23

12 months or if high risk, 8 weeks later

ACIP January 12, 2022

Children 2-23 Months

PCV15 or PCV20

2 Months

4 Months

6 Months

12-18 Months

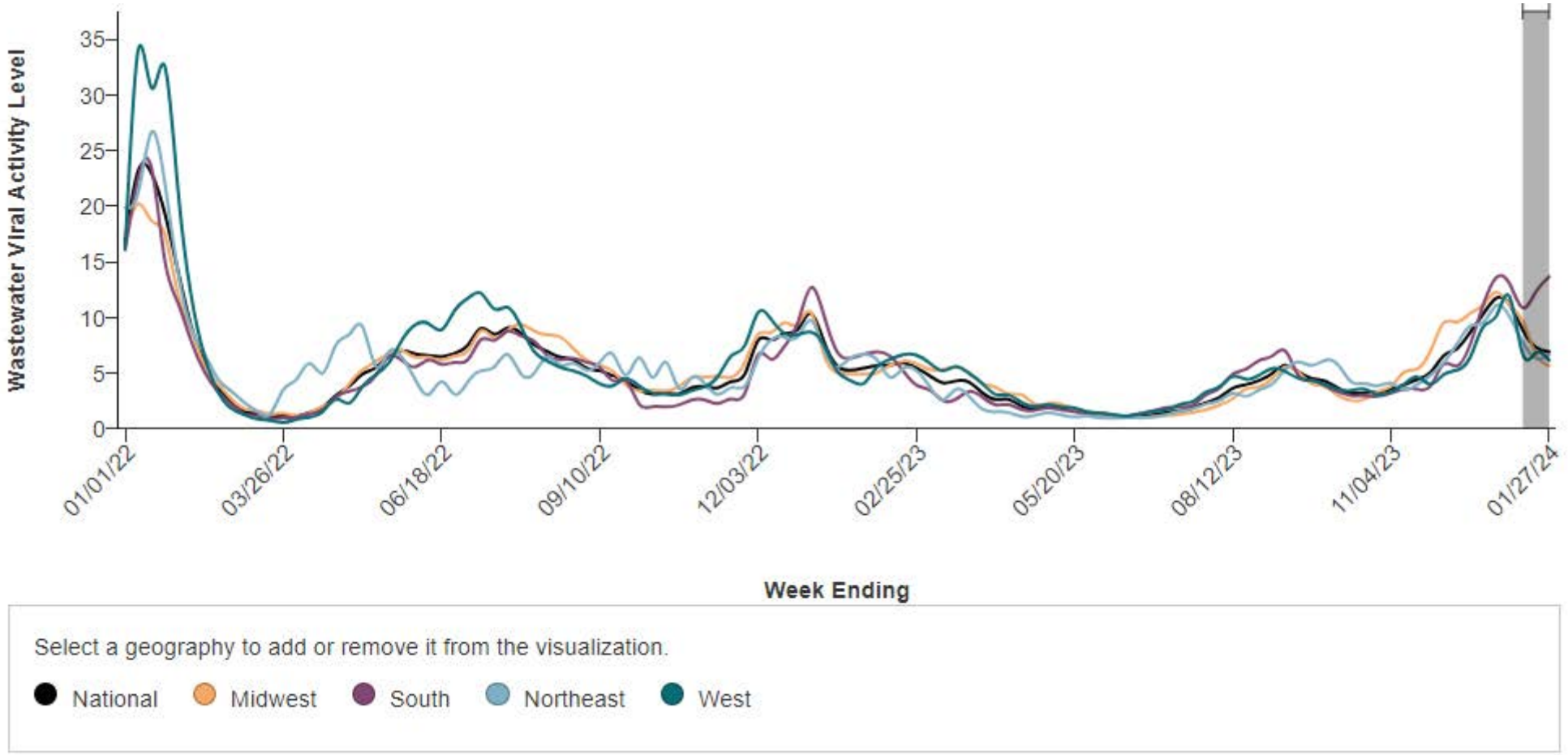
Additional PPSV23 or PCV20 for high-risk age 2-18

https://www.cdc.gov/vaccines/vpd/pneumo/hcp/who-when-to-vaccinate.html#adults-19-64

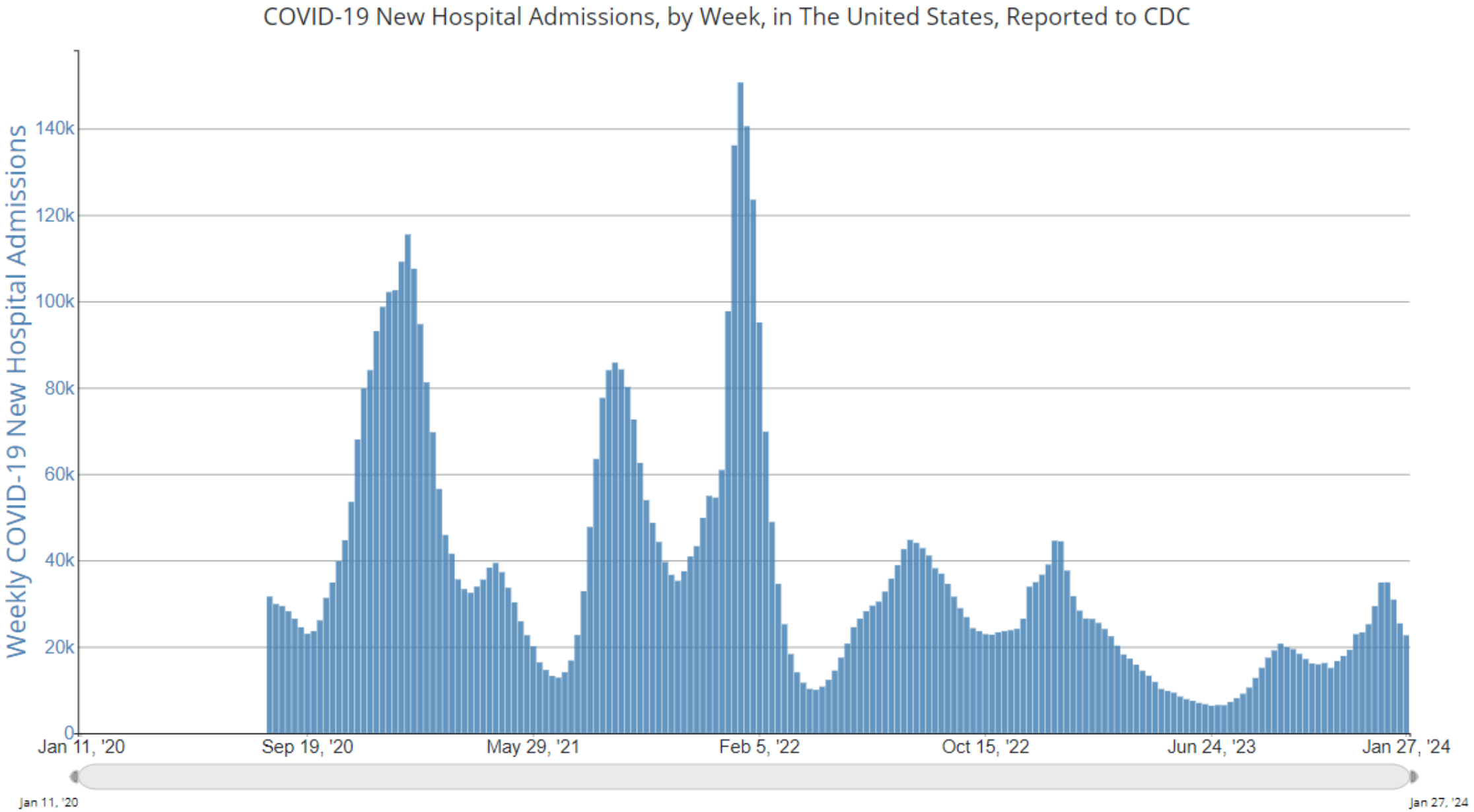
ACIP June 2023

COVID Vaccines

Wastewater COVID Tracking



https://www.cdc.gov/nwss/rv/COVID19-nationaltrend.html



- https://covid.cdc.gov/covid-data-tracker/#trends_weeklyhospitaladmissions_select_00

Stay Tuned

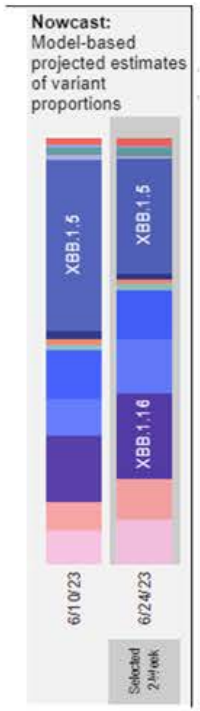
Summer 2023

XBB sublineages of Omicron

> 95% of the circulating virus variants in the U.S. as of early June 2023

XBB.1.5 declining

XBB.1.16 is on the rise, likely to be dominate in Fall

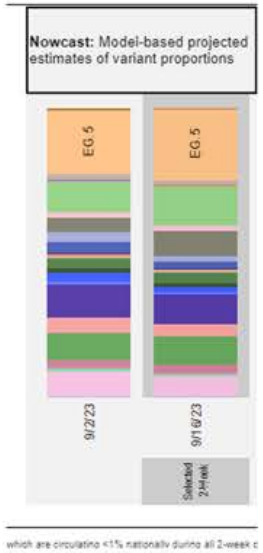


Fall 2023

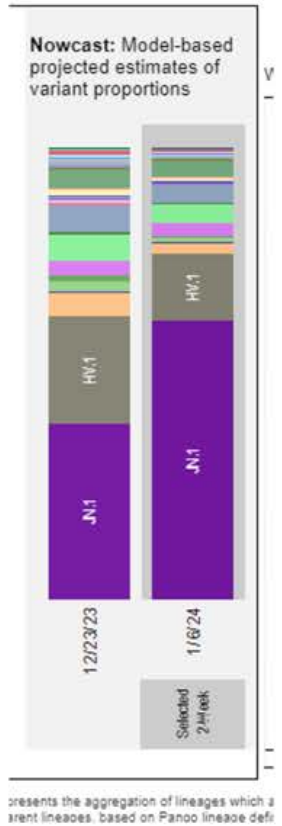
EG.5 Vaccine protection likely

BA.2.86

- XBB antibodies still offer some protection



January 2024



JN-1

COVID-19 Vaccines 2023-2024 Formulations

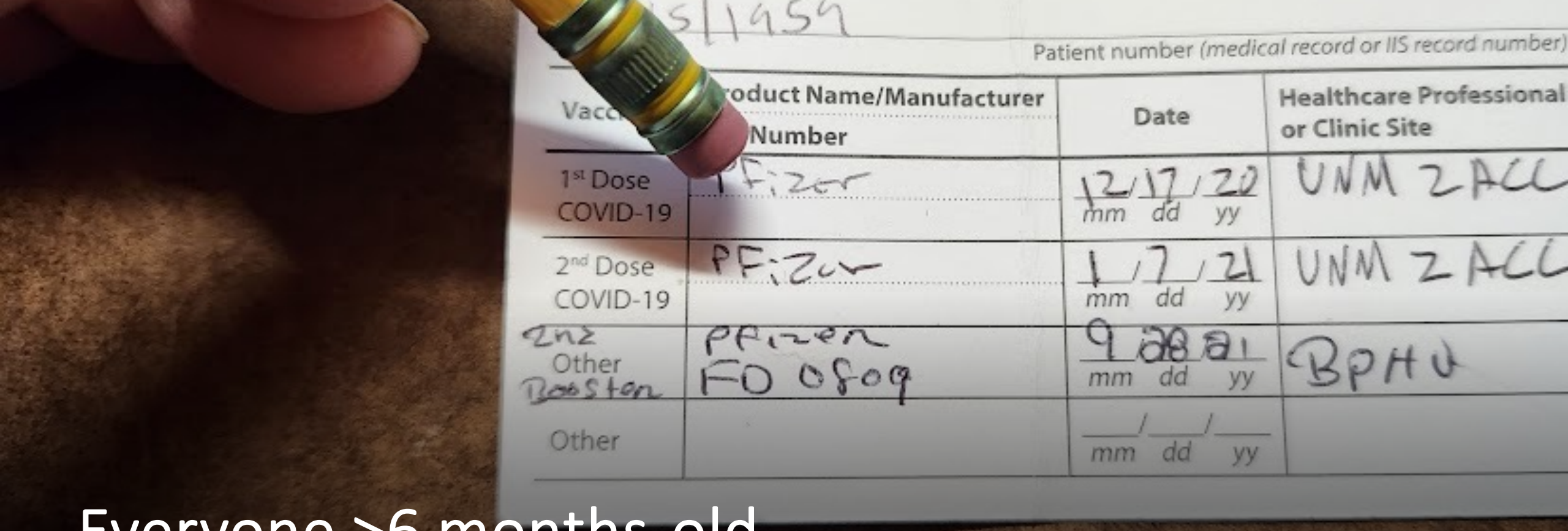
6 months to 11 years

- Moderna COVID-19 mRNA vaccine (EUA)
- Pfizer-BioNTech COVID-19 mRNA vaccine (EUA)

12 years and older

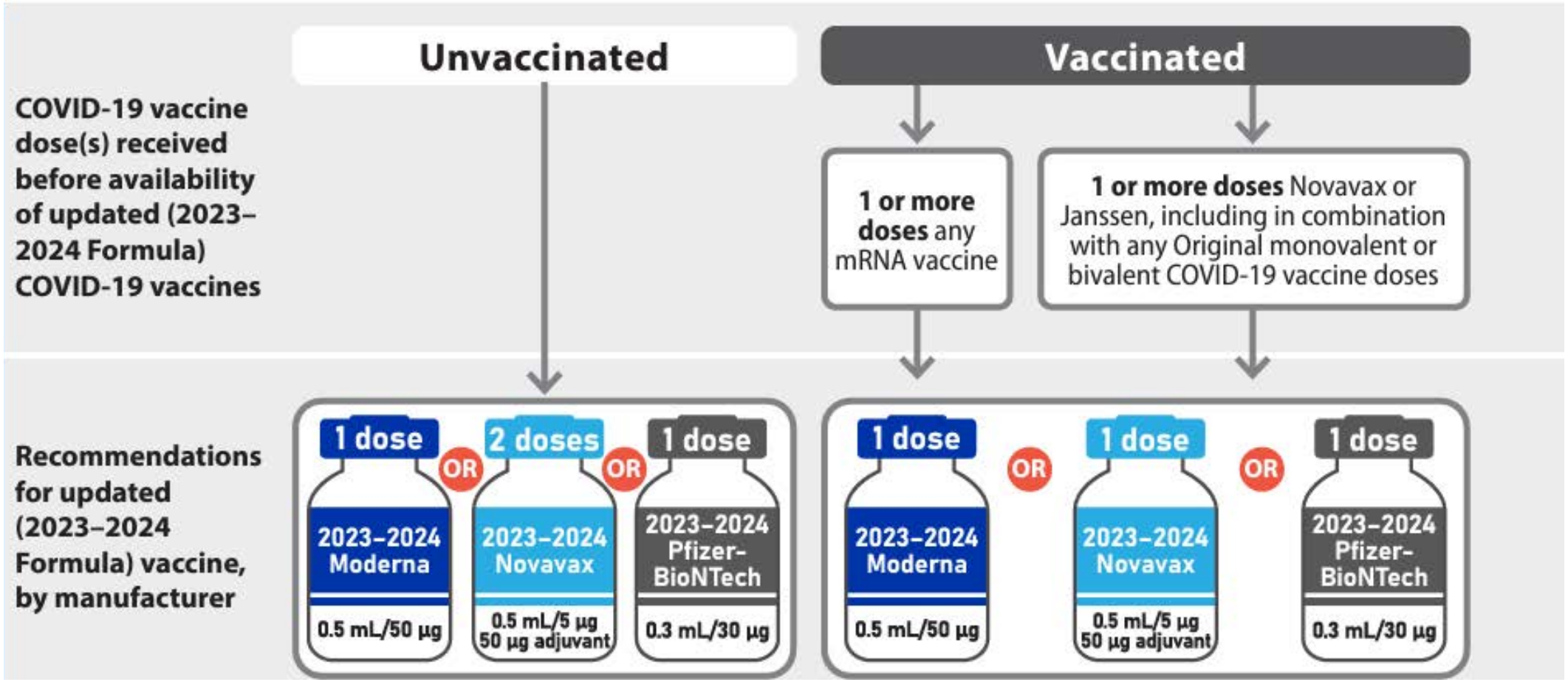
- Spikevax® Moderna mRNA COVID-19 vaccine
- COMIRNATY® Pfizer BioTech mRNA COVID-19 vaccine
- Novavax adjuvanted COVID-19 vaccine (EUA)

- https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines



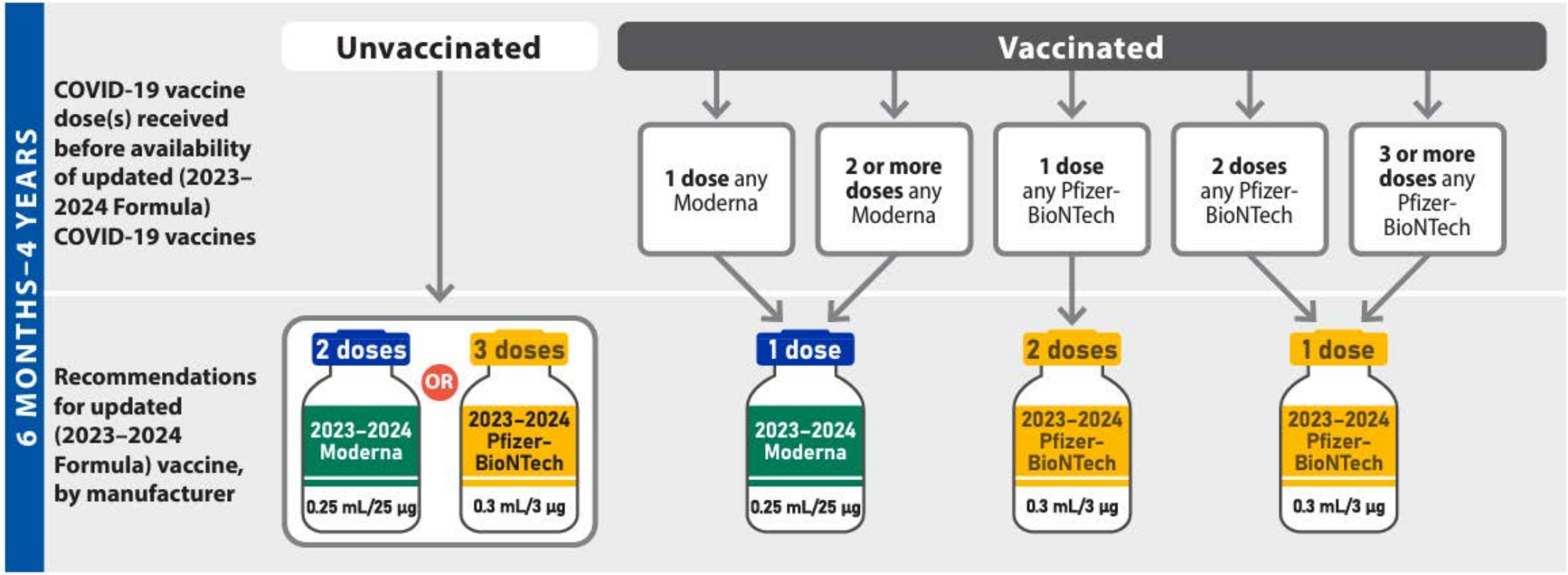
Everyone ≥6 months-old
At least one dose
23/24 Season COVID Vaccine
Released September 2023

Ages 12 and up



- www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-immunocompromised.pdf

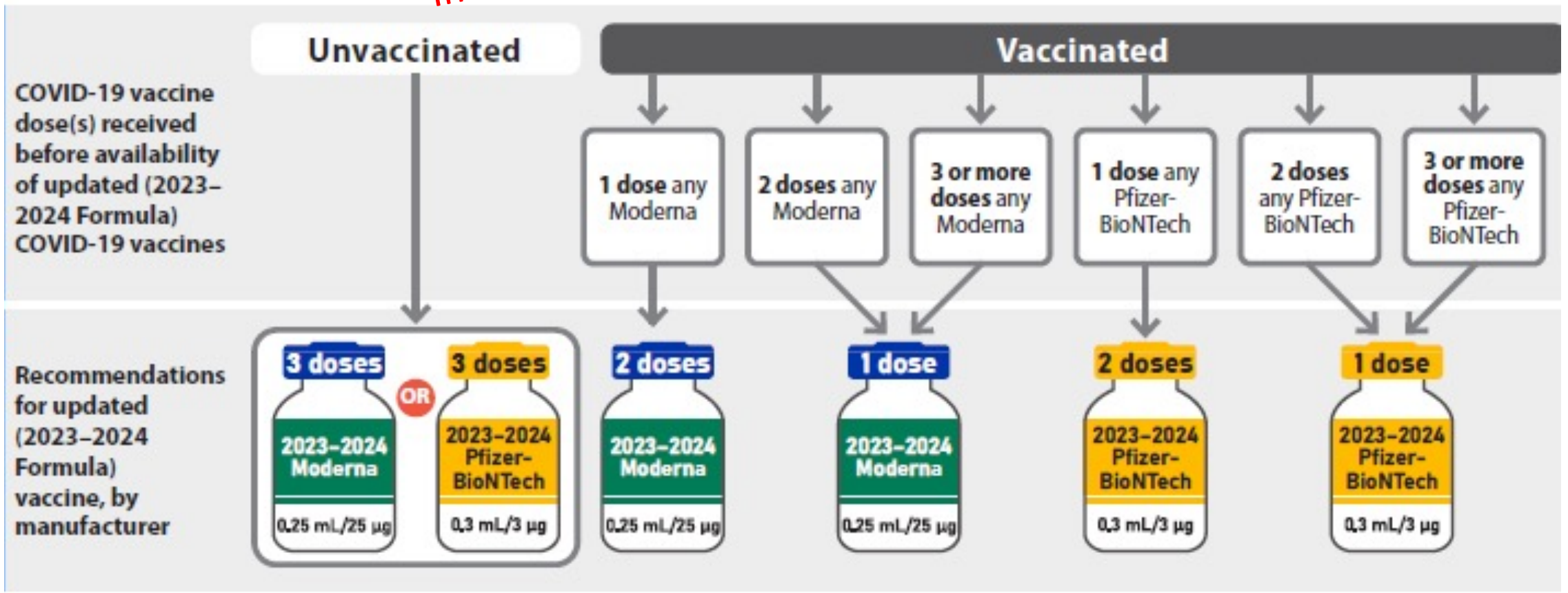
Six months to 4 years



www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-immunocompromised.pdf

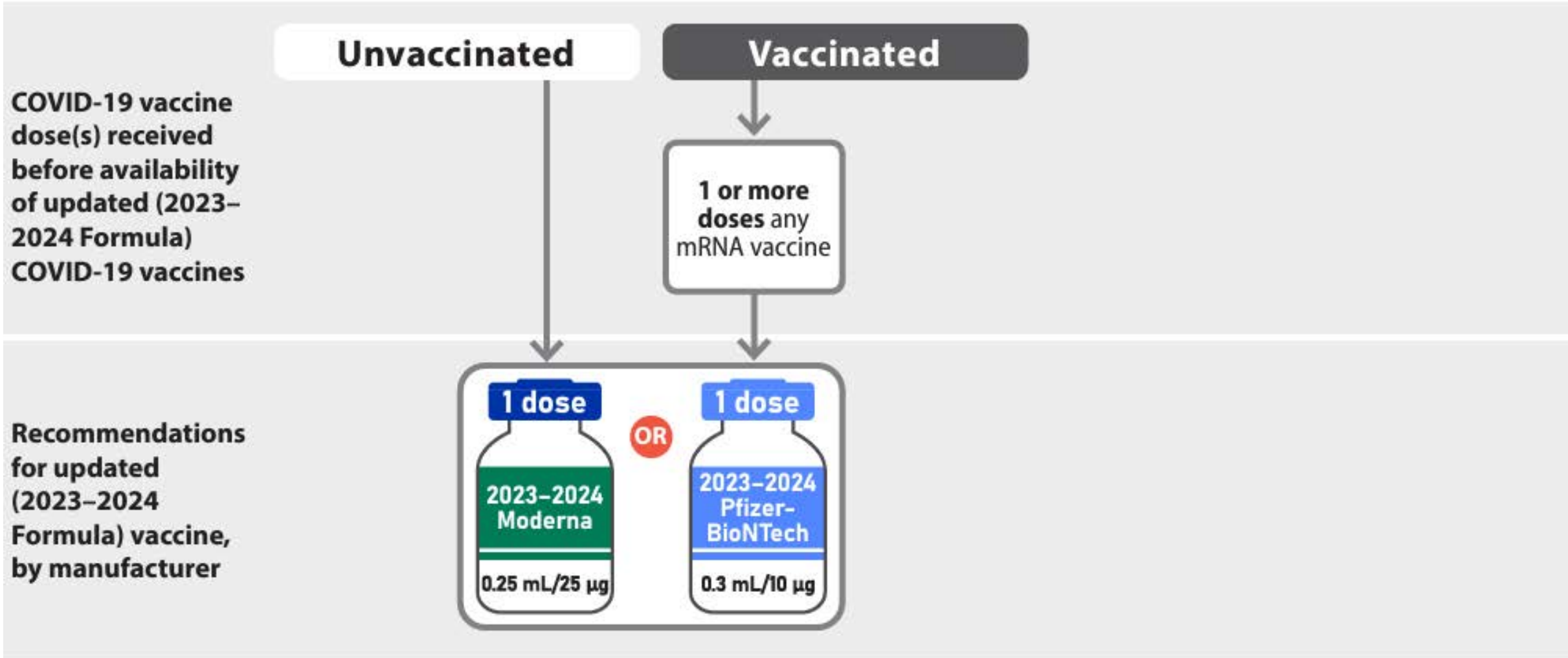
Six Months to 4 years (same brand for all does)

Immunocompromised



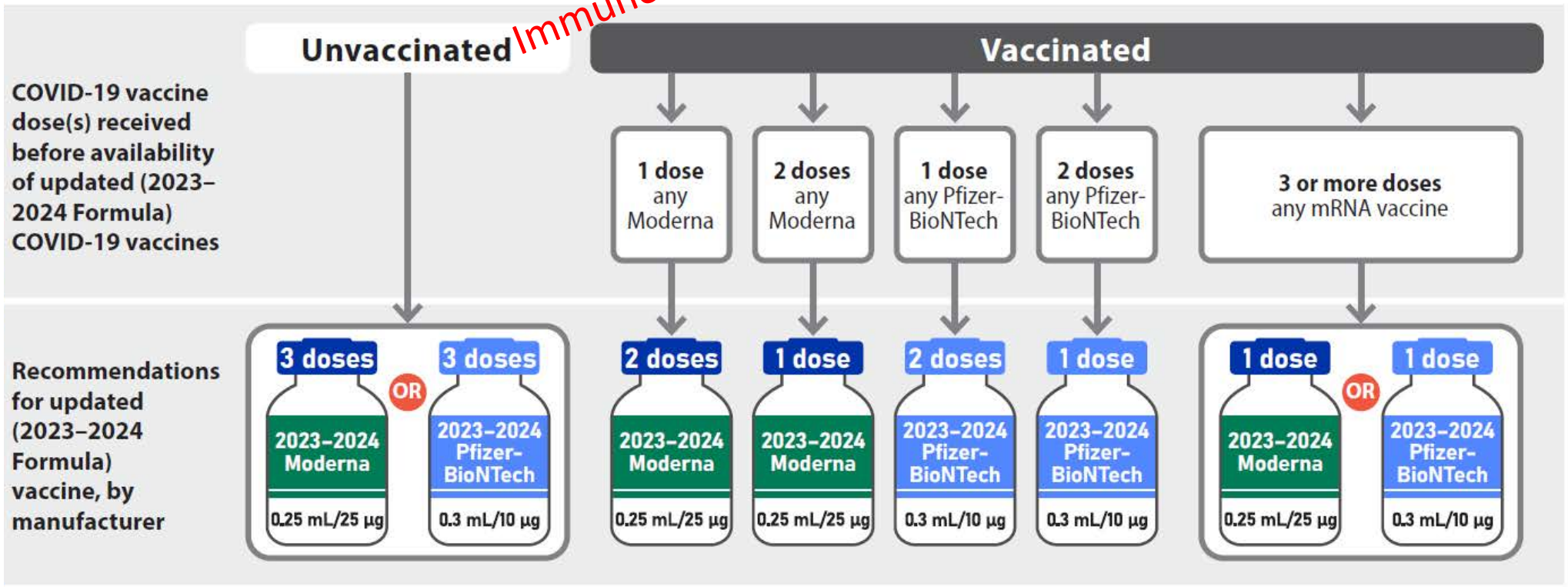
www.cdc.gov/vaccines/covid-19/downloads/COVID19-vaccination-recommendations-immunocompromised.pdf

5 to 11-year-olds



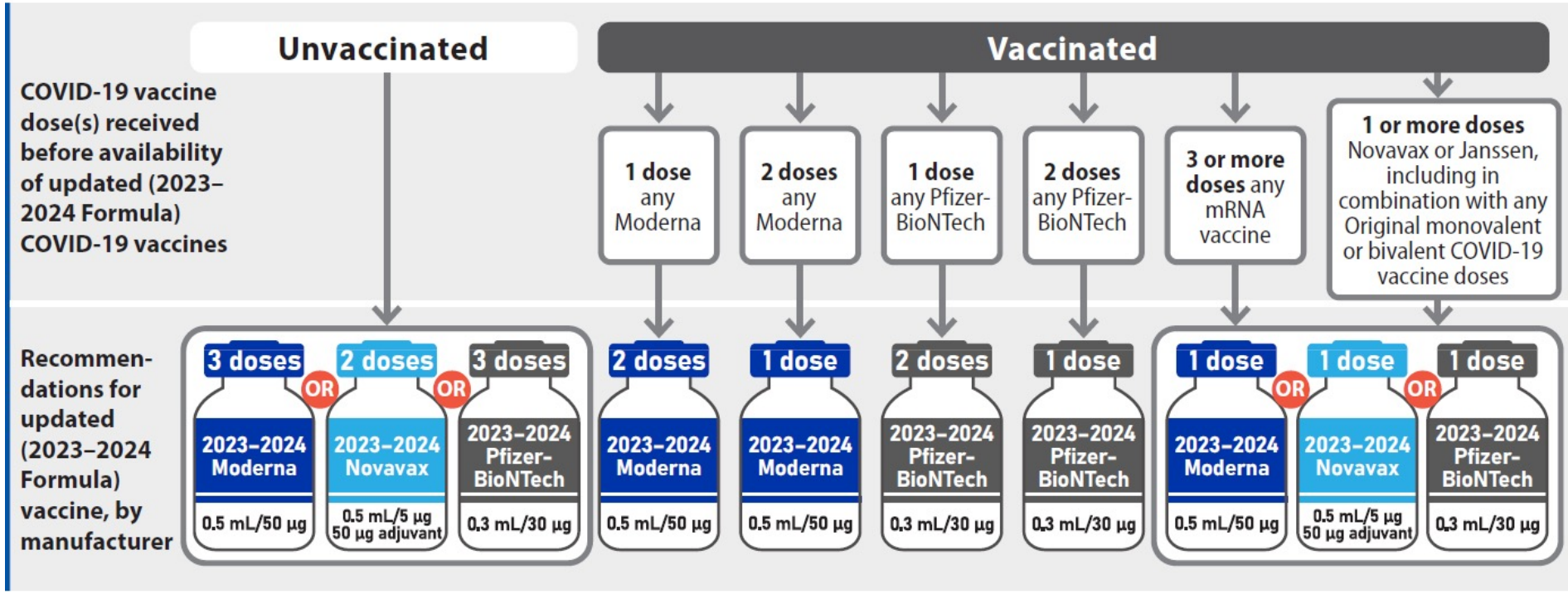
5 to 11-year-olds

Immunocompromised



Ages 12 and up

Immunocompromised

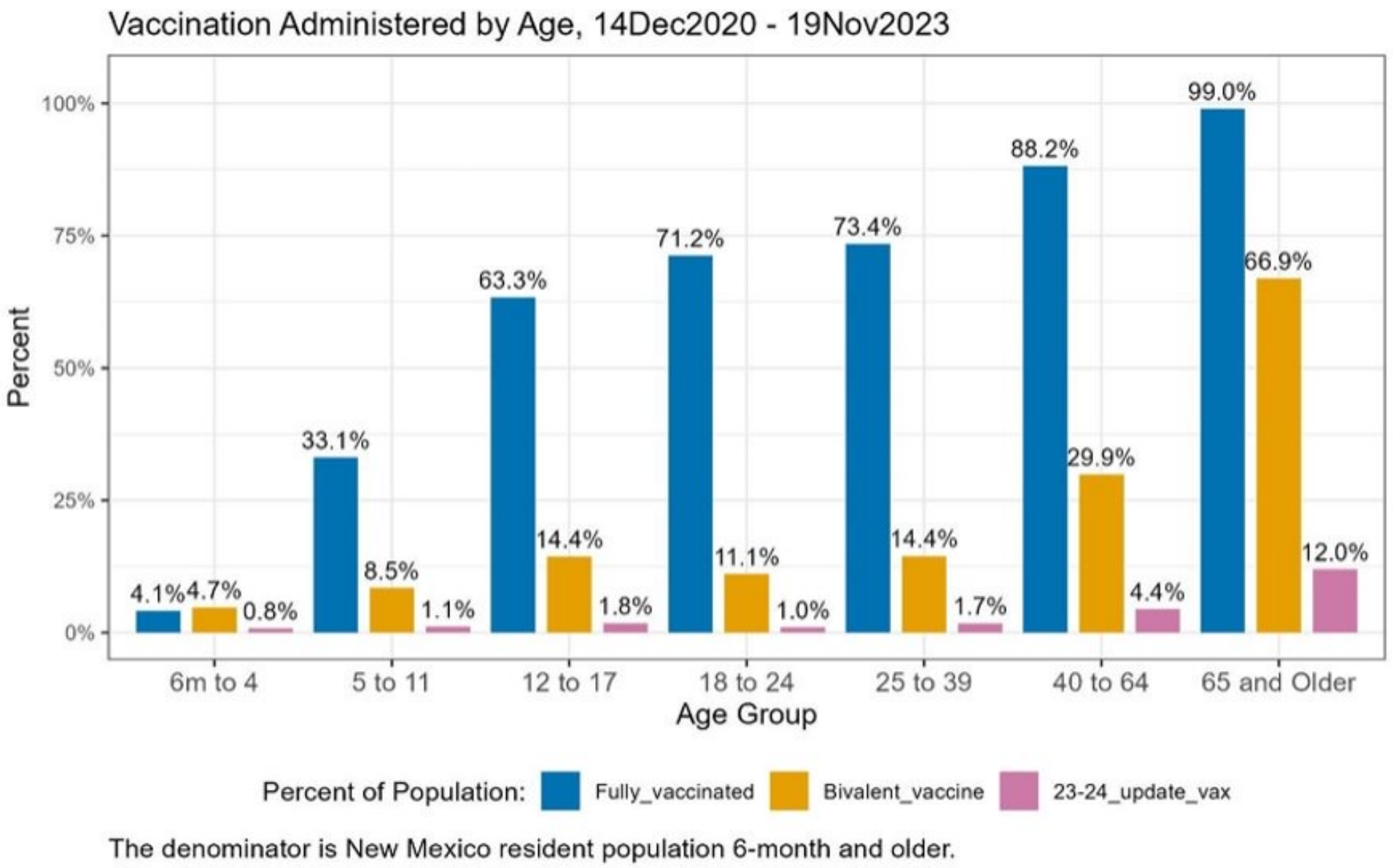


Amy and Samantha

We are seeing Amy's 5 year-old-daughter for a well-check

Samantha is a beautiful and healthy child. Her exam today is normal including her height, weight and developmental skill. She is up-to-date on all vaccines except COVID. We can take care of that today.

As you know, I was happy to get the COVID vaccine for myself, but I am not sure I want it for Samantha



https://cv.nmhealth.org/wp-content/uploads/2023/11/New-Mexico-COVID-19-Vaccination-Report_21Nov2023.pdf

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted 
2. Motivational Interviewing (OARS) 
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize
3. Ask-Tell-Ask
4. Maintain Relationship

Amy and Samantha

As you know, I was happy to get the COVID vaccine for myself, but I am not sure I want it for Samantha

Would you be willing to share with me why you are not sure about giving Samantha a COVID Vaccine?

Amy

I don’t think COVID very dangerous for children

I have heard bad things about the vaccine in children

Actually, a longer conversations with lots of why and what questions giving Amy a chance to talk.

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted
2. Motivational Interviewing (OARS)
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize
3. Ask-Tell-Ask
4. Maintain Relationship

We will come back to summarize.

More Questions with Affirmations and Reflection

Affirmations

You have thought about this, and you want to do the right thing for Samantha.

Reflections
(one at a time allows for elaborations)

You think COVID may not be harmful for Samantha

Can you tell me what you mean by this?

Yes, it seems like children are less likely to get COVID and when they do, they are not as sick. That is what happened with my friend's children.

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted
2. Motivational Interviewing (OARS)
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize
3. Ask-Tell-Ask 
4. Maintain Relationship

Ask…… permission

Can I share what I understand about COVID and Children?

Yes, I’d like to know your thoughts, but I may not change my mind

Ask tell….

Can I tell you what I understand about COVID and Children?

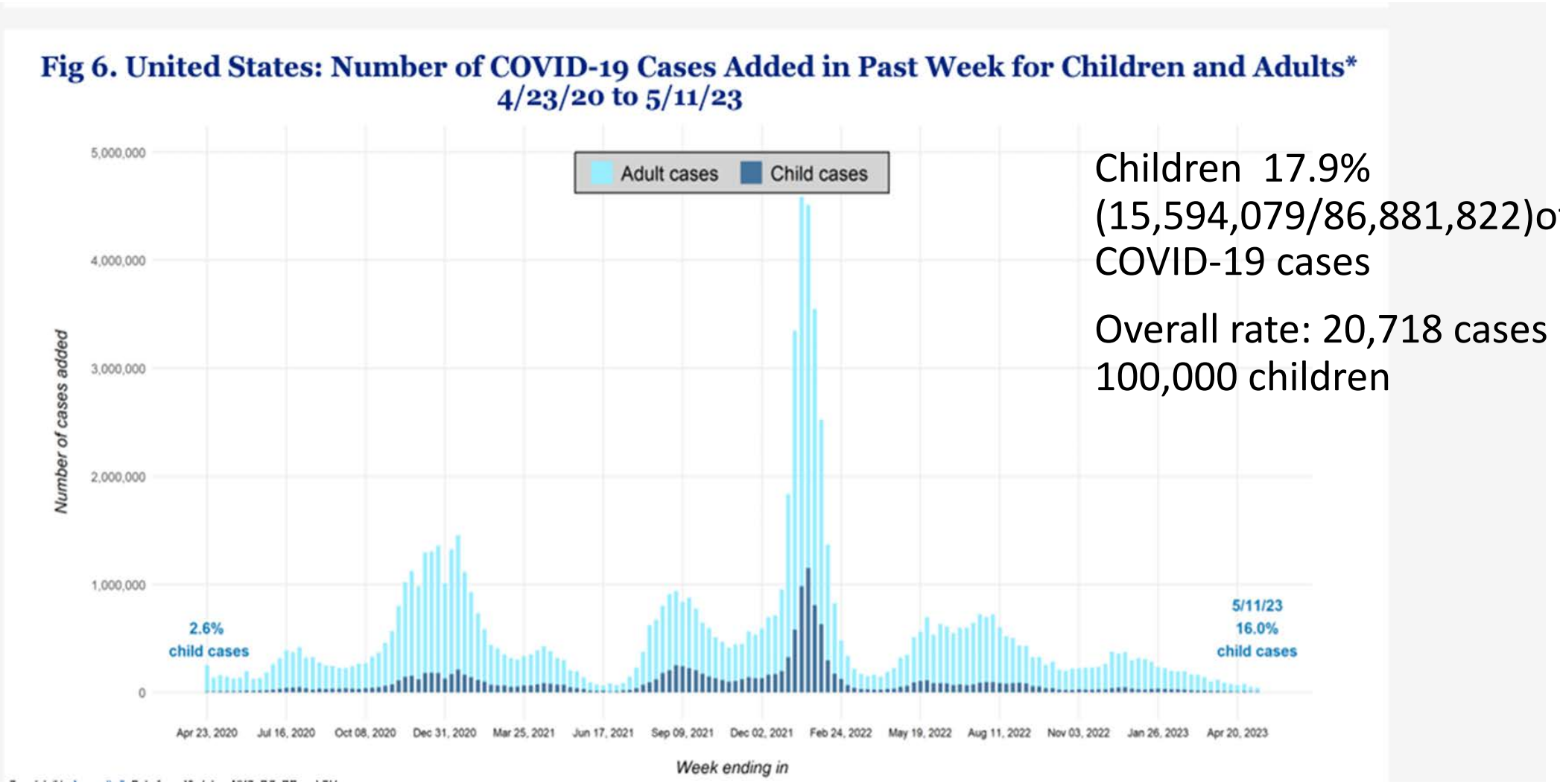
- Information
- Stories
- Analogies

COVID and Children Information

- More common than we first thought
- Risk of MIS-C
- Risk of Long COVID
- Can spread COVID

- Still learning

Since the onset of the pandemic:

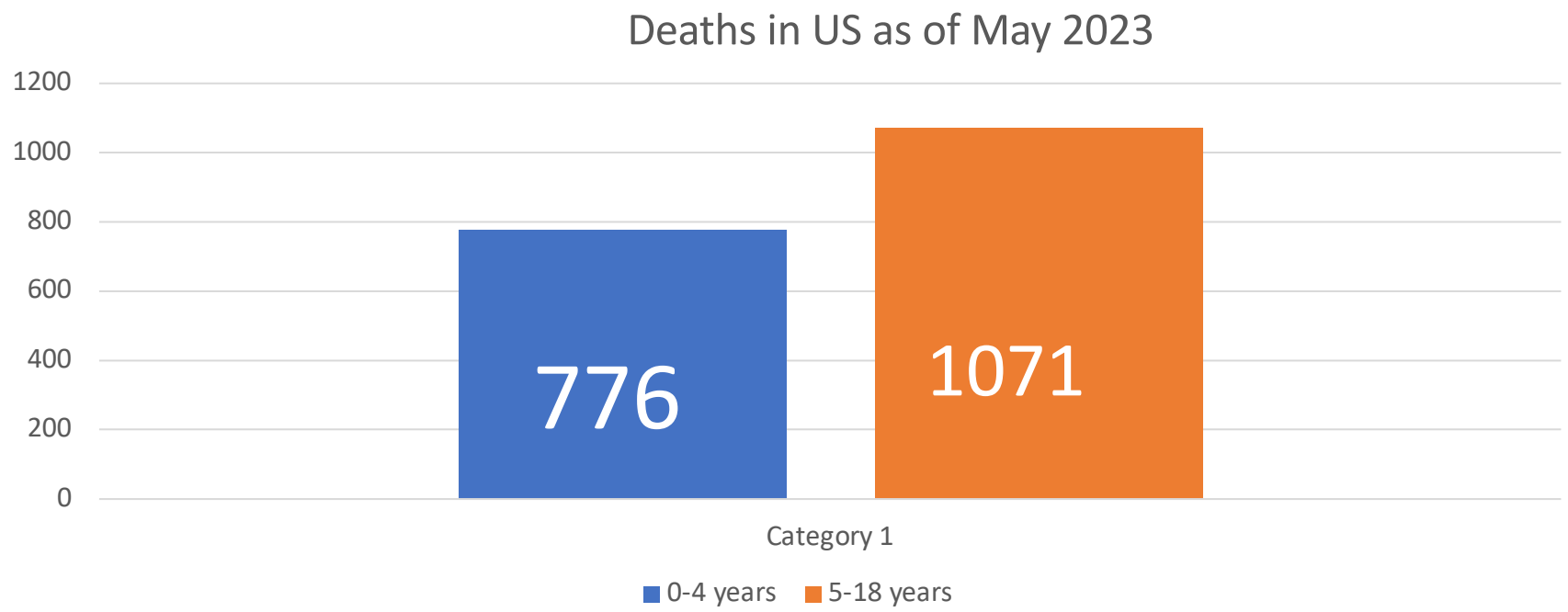


Children 17.9% (15,594,079/86,881,822)of all COVID-19 cases

Overall rate: 20,718 cases per 100,000 children

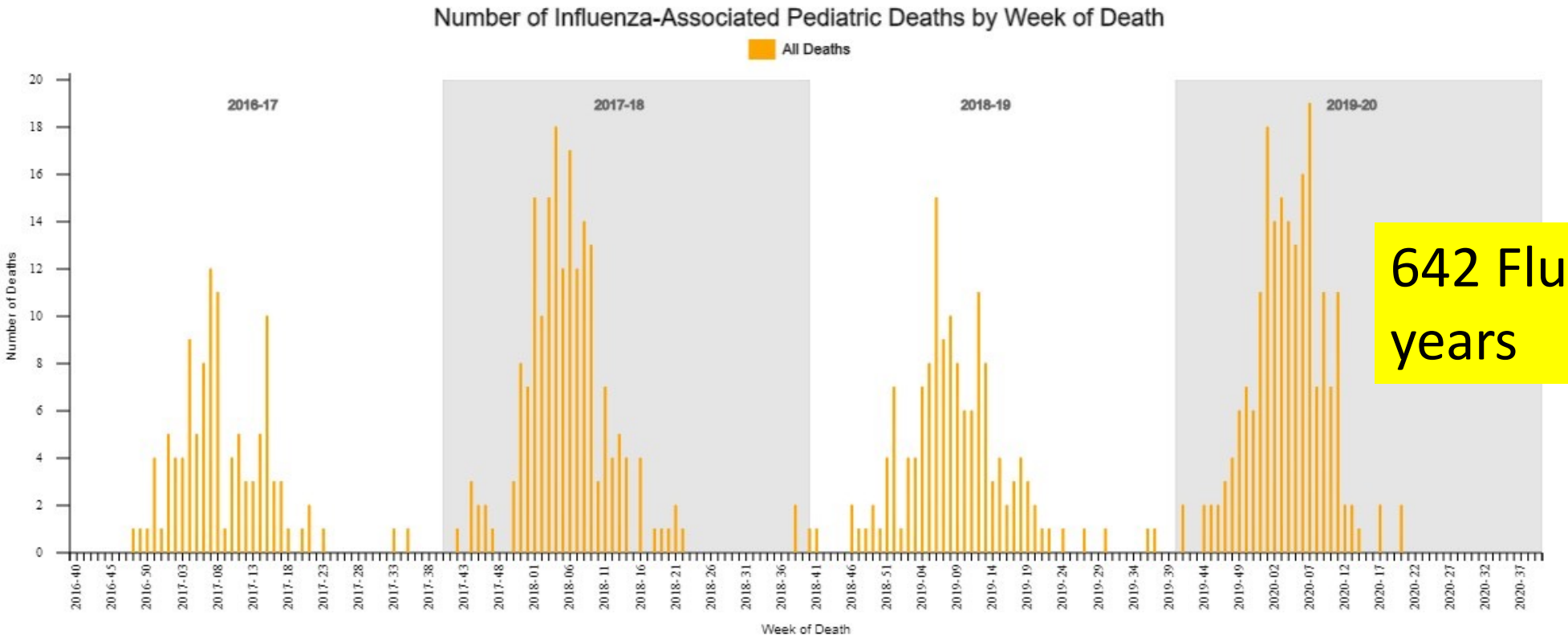
https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/

COVID Deaths in US Children



https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/

FLUVIEW interactive

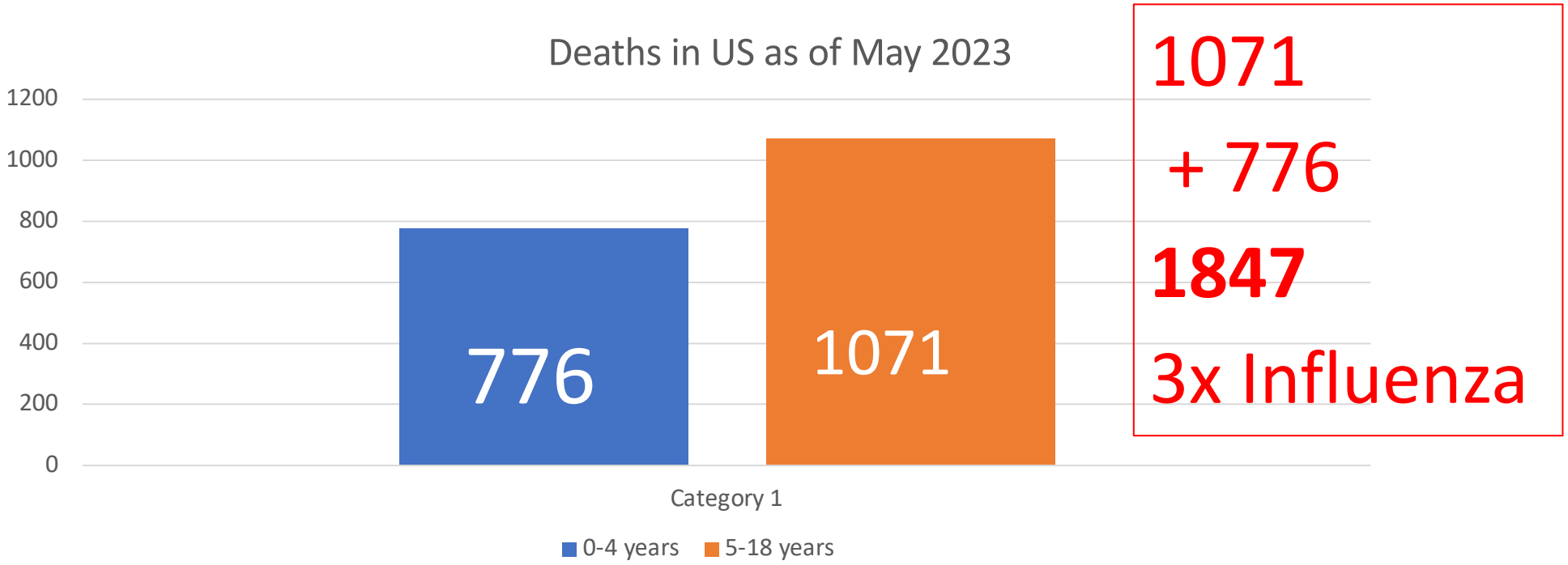


642 Flu deaths in 4 years

Seasons	Total Deaths
2016-17	110
2017-18	188
2018-19	145
2019-20	199

https://gis.cdc.gov/GRASP/Fluview/PedFluDeath.html

COVID Deaths in US Children



https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/

Multisystem Inflammatory Syndrome in Children
MIS-C

- COVID 19 (mostly asymptomatic or mild)
- 2-6 weeks later
- High fever
- Severe illness involving many systems

Cardiac
Left ventricular ejection fraction <55%
Or
Coronary artery dilatation, aneurysm, or ectasia or
Elevated Troponin

Gastrointestinal
Abdominal pain or
Vomiting or Diarrhea
Mucocutaneous
Rash
Or
Inflammation of the oral mucosa (e.g., mucosal erythema or swelling, drying or fissuring of the lips, strawberry tongue)
Or
Conjunctivitis or conjunctival injection (redness of the eyes)
Or
Extremity findings (e.g., erythema [redness] or edema [swelling] of the hands or feet)

Shock

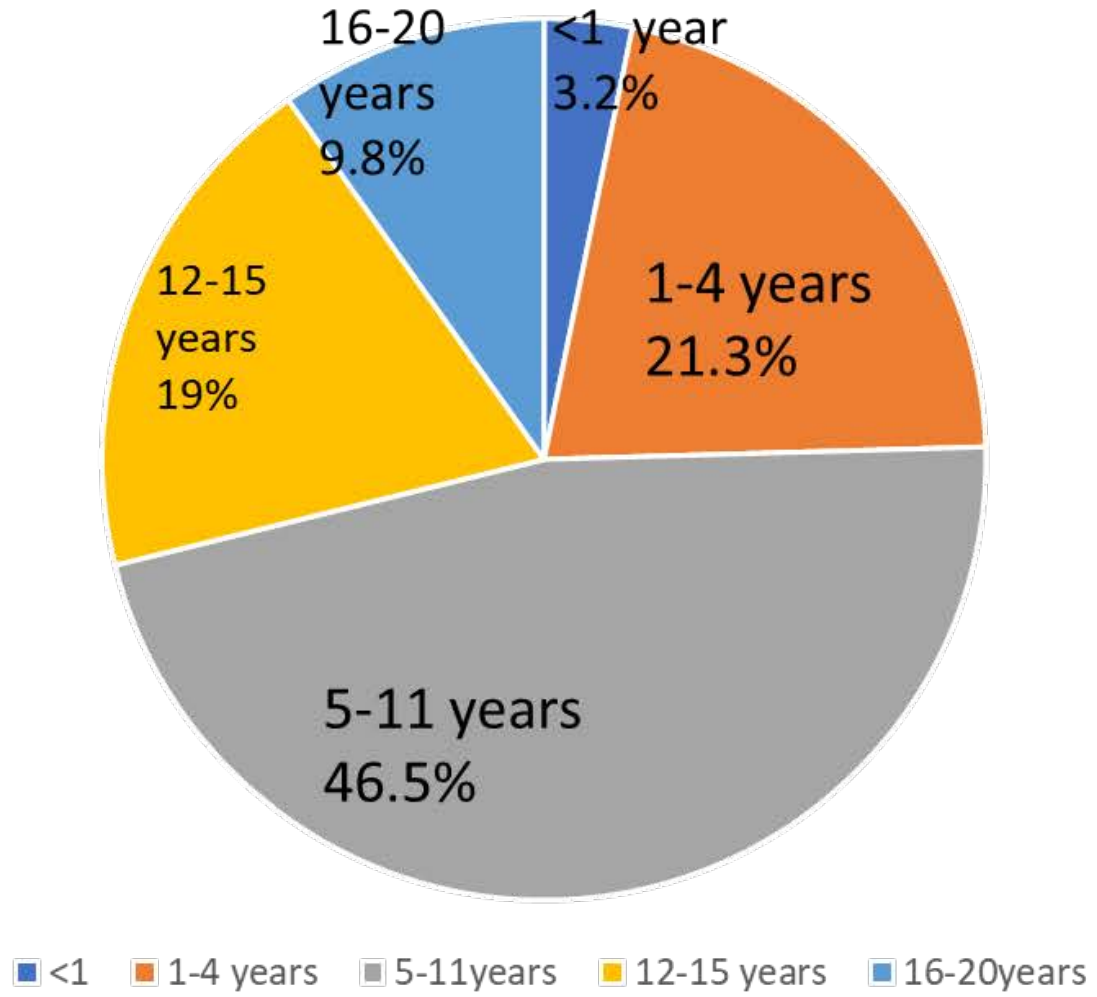
Review of 6,158 cases

Median 5 days in Hospital

ICU admission 61.7%

Median 3 days ICU

Deaths 0.8%



Meglar MMWR 2022

Persistent Symptoms after COVID (Long COVID)

- World Health Organization consensus definition for long COVID:
- 3 months from the onset of COVID, with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis

Soriano JB, Murthy S, Marshall JC, Relan P, Diaz JV. A clinical case definition of post-COVID-19 condition by a Delphi consensus. Lancet Infect Dis 2022;22(4):e102–7.

Meta Analysis of COVID+ <age-18-years

Pooled data 12,424 (40 studies)

Incidence of Long COVID

23.36 % ([95 % CI 15.27–32.53]).

Generalized symptom (19.57 %, [95 % CI 9.85–31.52]) Respiratory (14.76 %, [95 % CI 7.22–24.27])

Neurologic (13.51 %, [95 % CI 6.52–22.40])

Psychiatric (12.30 %, [95% CI 5.38–21.37])

Dyspnea (22.75 %, [95% CI 9.38–39.54])

Fatigue (20.22 %, [95% CI 9.19–34.09])

Headache (15.88 %, [95 % CI 6.85–27.57])

Zheng 2023 *J Infect and Public Health*

Duration of Long COVID in Children

Duration of Symptoms	Prevalence %(95%CI)
3-6 Months	26.41%(14.33-40.95)
6-12 Months	20.64% (17.06-24.46)
>12 Months	14.89% (6.09-26.520

Zheng J 2023 of Infect and Public Health

Prevalence of long COVID Adults ≥18

- June 1–13, 2022: 7.5% (95% CI = 7.1–7.9)
- June 7–19, 2023: 6.0% (95% CI = 5.7–6.3)

- Increased immunity to SARS-CoV-2
- Milder variants
- Improved treatments.

Ford MMWR 2023

Do children transmit COVID 19?

Subgroup analyses of household SAR comparison between child and adult contacts.

Subgroups	No. of studies	RR (95% CI)	I^2	*P*-value
Research period				<0.01
2019–June, 2020	27	0.62 (0.52–0.75)	95%	<0.01
February–November, 2021	9	0.98 (0.86–1.12)	80%	>0.05
November, 2021–2022	2	1.09 (0.89–1.34)	73%	>0.05
SARS-CoV-2 variant				<0.01
Wild type	29	0.65 (0.55–0.77)	95%	<0.01
Alpha	3	1.04 (0.76–1.42)	76%	>0.05
Delta	5	0.99 (0.82–1.19)	88%	>0.05
Omicron	2	1.09 (0.88–1.35)	74%	>0.05

CI, confidence interval; RR, relative risk; SAR, secondary attack rate; SARS-CoV-2, severe acute respir

- Chen 2022 *Int J Infect Dis*

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted
2. Motivational Interviewing (OARS)
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize
3. Ask-Tell-Ask 
4. Maintain Relationship

Ask tell…..
Stories

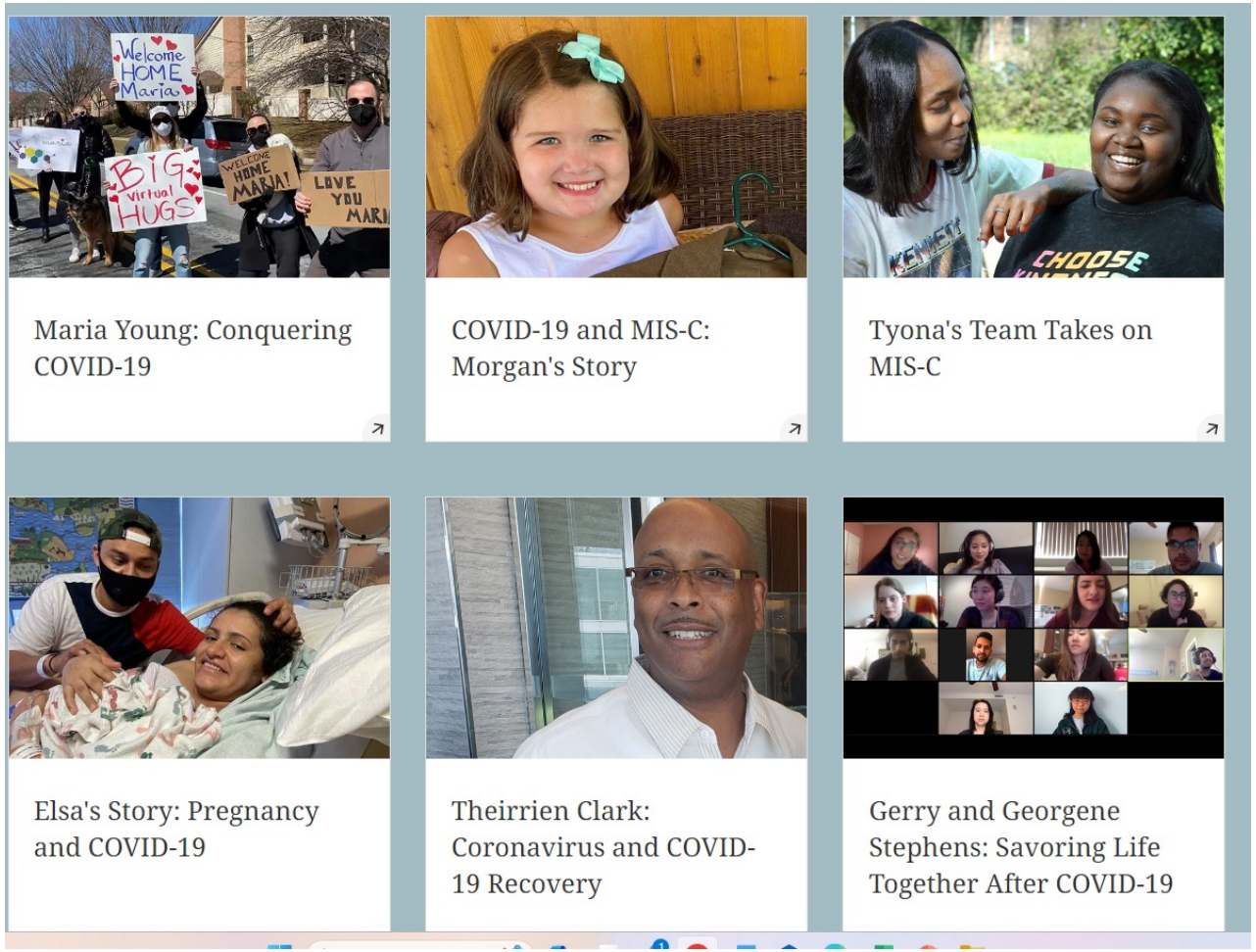
Use real stories.

“This week I have seen several cases of COVID in both adults and children”

“Can I tell you about my niece, who got COVID and ended up in the hospital?”

Videos:

https://www.hopkinsmedicine.org/coronavirus/patient-stories



Ask tell….
Analogies

We don’t hear about every traffic accident, but we know we should wear seatbelts to be safe in case we get in one.

News about COVID has decreased but we know it’s still out there and the vaccine is like a seat belt----just in case.

.....ASK

I have shared a lot of information with you. What are your thoughts?

I am not sure. I did have a friend get COVID recently. I know there is some risk Samantha, but my nephew got a heart problem from the COVID vaccine. He is okay now and back to soccer, but I don't want to take that chance with Samantha.

You must have been very worried when your nephew developed heart problems after COVID vaccine. Can I tell you what I have learned about the vaccine and heart problems in kids?

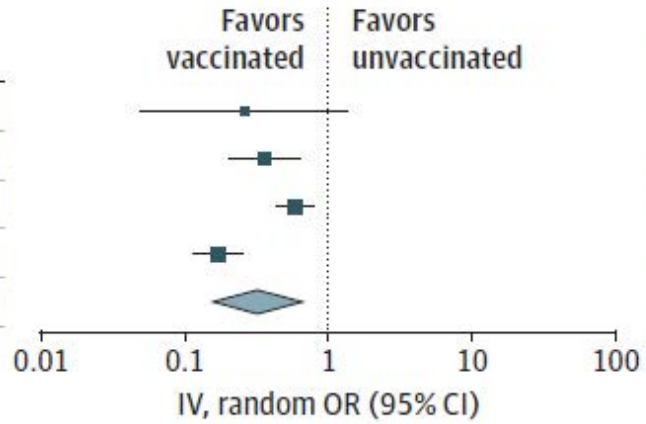
Affirm and ask

Assessment of Efficacy and Safety of mRNA COVID-19 Vaccines in Children Aged 5 to 11 Years

C Hospitalizations due to COVID-19-related illnesses

Study or subgroup	log OR	SE	IV, random OR (95% CI)
Klein et al,[20] 2022	-1.35	0.84	0.26 (0.05-1.35)
Price et al,[14] 2022	-1.02	0.28	0.36 (0.21-0.62)
Sacco et al,[35] 2022	-0.53	0.14	0.59 (0.45-0.78)
Tan et al,[34] 2022	-1.77	0.20	0.17 (0.12-0.25)
Total (95% CI)			**0.32 (0.15-0.68)**

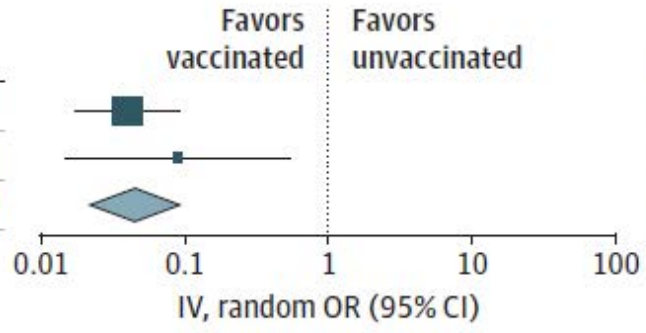
Heterogeneity: $\tau^2 = 0.44$; $\chi^2 = 26.50$; $df = 3$ ($P < .001$); $I^2 = 89\%$
Test for overall effect: $z = 3.00$ ($P = .003$)



D Multisystem inflammatory syndrome in children

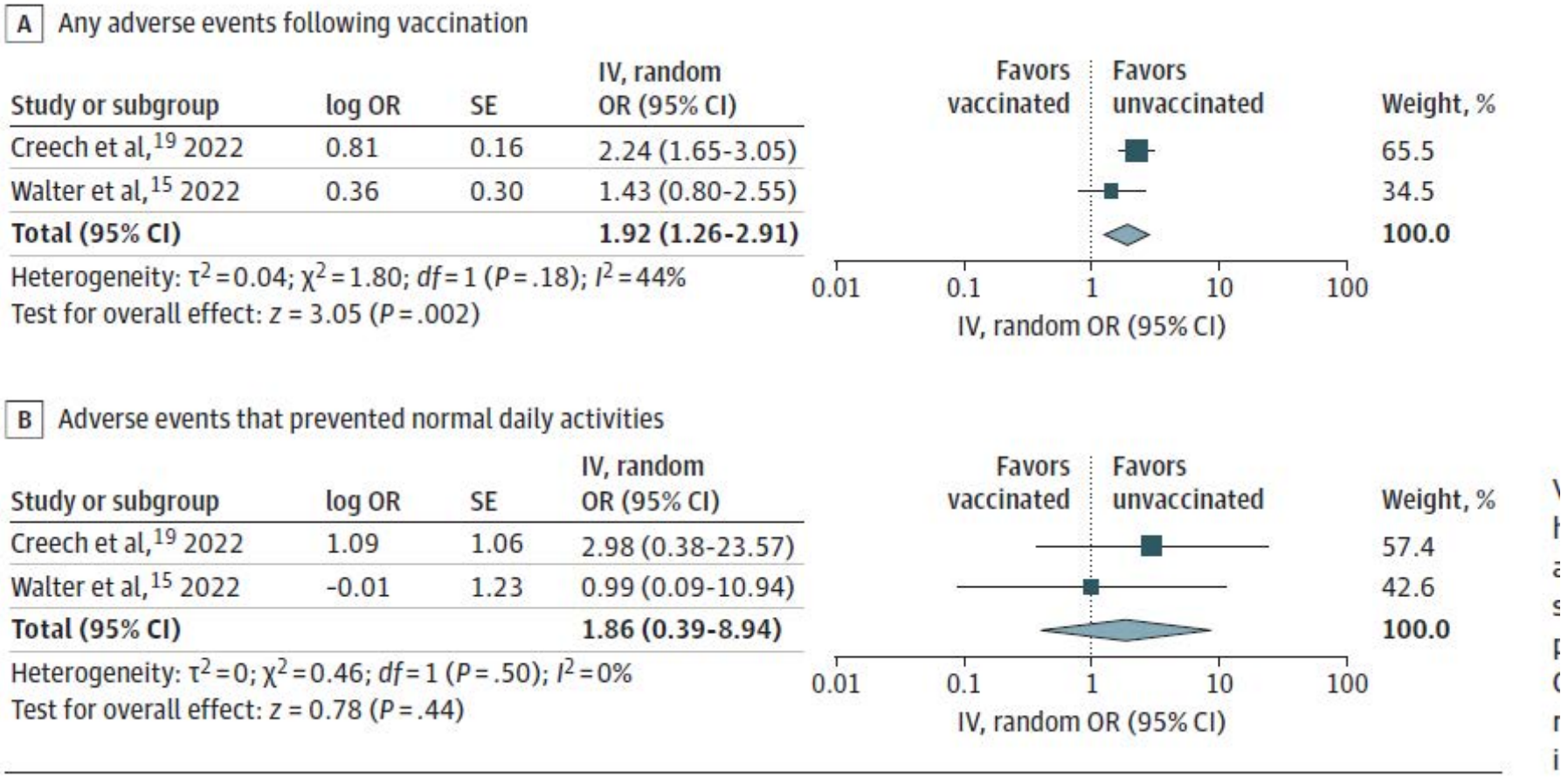
Study or subgroup	log OR	SE	IV, random OR (95% CI)
Block et al,[38] 2022	-3.22	0.41	0.04 (0.02-0.09)
Zambrano et al,[12] 2022	-2.41	0.91	0.09 (0.02-0.54)
Total (95% CI)			**0.05 (0.02-0.10)**

Heterogeneity: $\tau^2 = 0$; $\chi^2 = 0.65$; $df = 1$ ($P = .42$); $I^2 = 0\%$
Test for overall effect: $z = 8.17$ ($P < .001$)



Watanabe JAMA Peds 2023

Assessment of Efficacy and Safety of mRNA COVID-19 Vaccines in Children Aged 5 to 11 Years



Watanabe 2023 *JAMA Ped*

Adverse Events with mRNA COVID Vaccines Ages 5-11 years

- Local
  - Pain, swelling and redness at injection site
- Systemic
  - Fatigue 33.1%
  - Fever 15.2%
  - Headache 25.3%
  - Chills 8.8%
  - Myalgia 10.5%
- Preventing normal activities 8.8%
- Hospitalization 0.19%
- Myocarditis

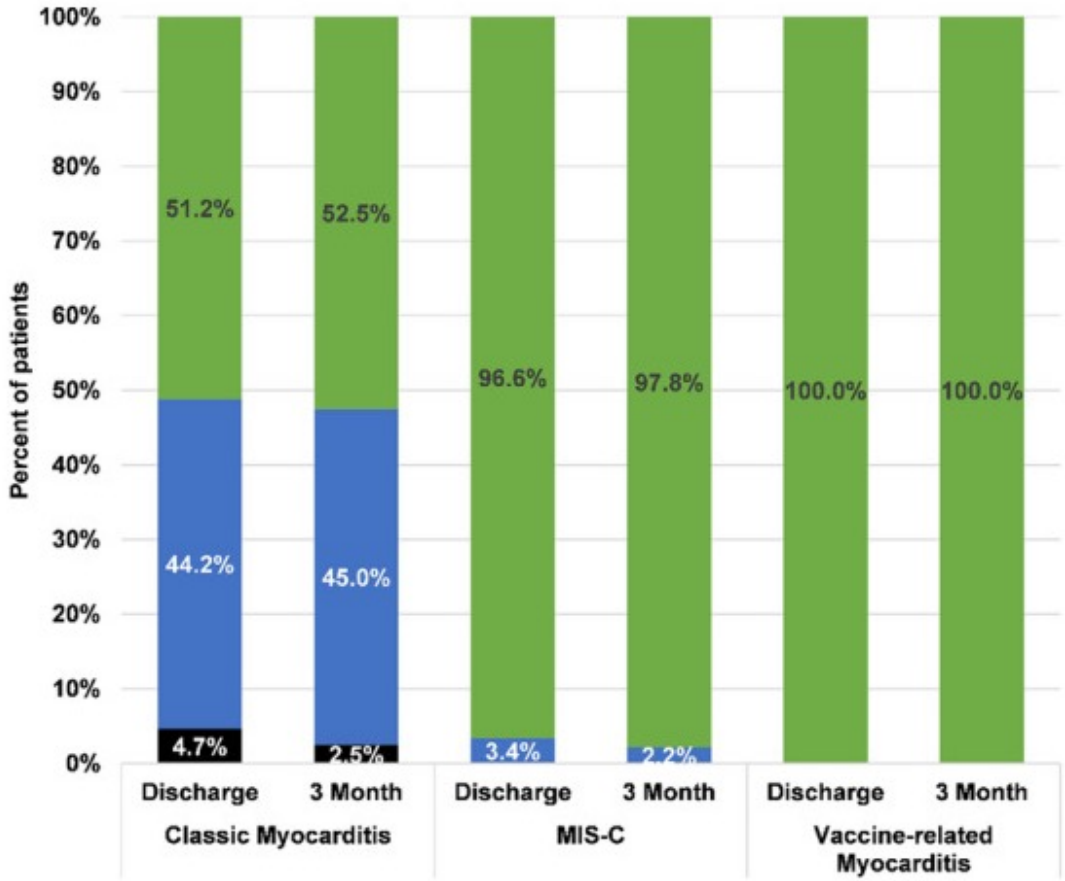
Watanabe 2023 *JAMA Ped*

Myocarditis with mRNA COVID Vaccines 5-11-Year-olds

1st Dose	2nd Dose
1.3 cases/million doses	1.8 cases/Million doses

Watanabe 2023 *JAMA Ped*

Myocarditis Children's Hospital Atlanta



One Death and one Transplant in Classic myocarditis

Patel JAHA 2022

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted
2. Motivational Interviewing (OARS)
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize 
3. Ask-Tell-Ask
4. Maintain Relationship

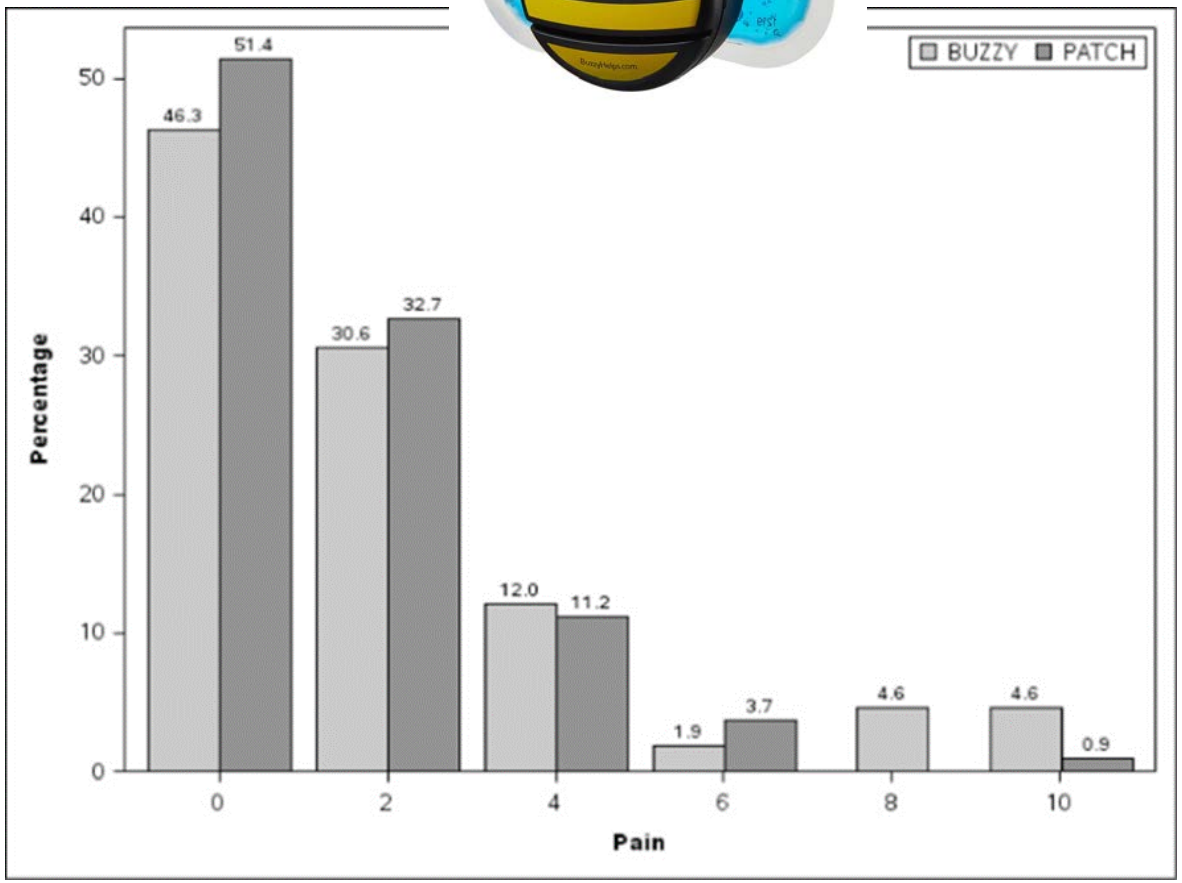
Summarize

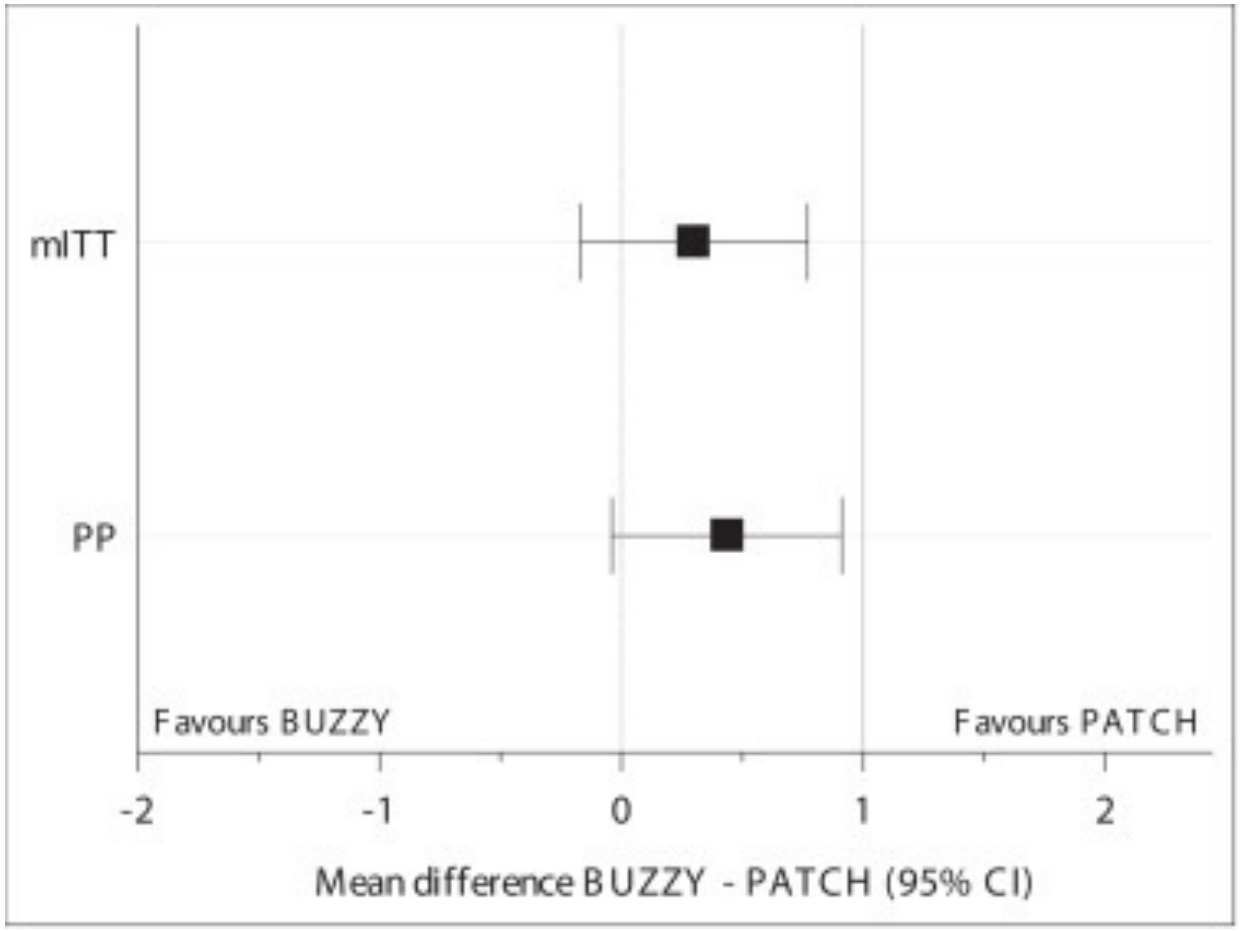
On the one hand you would like to protect Samantha from COVID on the other hand you still have some concerns about the vaccine. What are the next steps?

Let me think about what you have told me and get back to you.

I do wish the shot was not so painful.

Buzzy Bee





- Lescop *Int J Nurs Stud* 2021

Addressing Vaccine Hesitancy

1. Assume the recommended vaccine is wanted
2. Motivational Interviewing (OARS)
   - Open ended Questions
   - Affirmations
   - Reflections
   - Summarize
3. Ask-Tell-Ask
4. Maintain Relationship
5. Use Buzzy bee or other distractions
6. Give Vaccines in Clinic 

VFC

New Mexico
Vaccines for Children

Join the New Mexico
Vaccines for Children Program!

https://nmhealth.org/about/phd/idb/imp/vfc/

Information for Providers

Summary

RSV vaccine in high-risk adults ≥60
RSV vaccine in pregnancy or Nirsevamab in neonates
Enhanced influenza vaccines for adults ≥65 (if available)
Egg allergies no longer a contraindication to Flu Vaccine
Intranasal influenzas okay to use in 2–49-year-olds
New COVID vaccine for everyone
Use Motivational Interviewing to improve vaccine decision making

Questions

MLMartinez@salud.unm.edu

Mjun@salud.unm.edu

References

- Surie D, Yuengling KA, DeCuir J, et al. Disease Severity of Respiratory Syncytial Virus Compared with COVID-19 and Influenza Among Hospitalized Adults Aged ≥60 Years — IVY Network, 20 U.S. States, February 2022–May 2023. MMWR Morb Mortal Wkly Rep 2023;72:1083–1088. DOI: http://dx.doi.org/10.15585/mmwr.mm7240a2
- Walsh EE, Pérez Marc G, Zareba AM, et al. Efficacy and Safety of a Bivalent RSV Prefusion F Vaccine in Older Adults. *N Engl J Med*. 2023;388(16):1465-1477. doi:10.1056/NEJMoa2213836
- Melgar M, Britton A, Roper LE, et al. Use of Respiratory Syncytial Virus Vaccines in Older Adults: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:793–801. DOI: http://dx.doi.org/10.15585/mmwr.mm7229a4
- Kampmann B, Madhi SA, Munjal I, et al. Bivalent Prefusion F Vaccine in Pregnancy to Prevent RSV Illness in Infants. *N Engl J Med*. 2023;388(16):1451-1464. doi:10.1056/NEJMoa2216480
- Fleming-Dutra KE, Jones JM, Roper LE, et al. Use of the Pfizer Respiratory Syncytial Virus Vaccine During Pregnancy for the Prevention of Respiratory Syncytial Virus–Associated Lower Respiratory Tract Disease in Infants: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:1115–1122. DOI: http://dx.doi.org/10.15585/mmwr.mm7241e1
- Jones JM, Fleming-Dutra KE, Prill MM, et al. Use of Nirsevimab for the Prevention of Respiratory Syncytial Virus Disease Among Infants and Young Children: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:920–925. DOI: http://dx.doi.org/10.15585/mmwr.mm7234a4
- Zheng Y, Zeng N, Yuan K, Tian s, Yang Y, Gao N, Chen X, Zhang X, Kondratiuk A, Shi P, Zhang F, Sun J, Yue J, Lin X, Shi L, Lalvani A, Shi J, Bao Y, Lu (2023) Prevalence and risk factor for long COVID in children and adolescents: A meta-analysis and systematic review, Journal of Infection and Public Health,16 660-672, ISSN 1876-0341

Continued

- Ford ND, Slaughter D, Edwards D, et al. Long COVID and Significant Activity Limitation Among Adults, by Age — United States, June 1–13, 2022, to June 7–19, 2023. MMWR Morb Mortal Wkly Rep 2023;72:866–870. DOI: http://dx.doi.org/10.15585/mmwr.mm7232a3.

- Watanabe A, Kani R, Iwagami M, Takagi H, Yasuhara J, Kuno T. Assessment of Efficacy and Safety of mRNA COVID-19 Vaccines in Children Aged 5 to 11 Years: A Systematic Review and Meta-analysis. JAMA Pediatr. 2023 Apr 1;177(4):384-394

- Patel T, Kelleman M, West Z, et al. Comparison of Multisystem Inflammatory Syndrome in Children-Related Myocarditis, Classic Viral Myocarditis, and COVID-19 Vaccine-Related Myocarditis in Children. *J Am Heart Assoc*. 2022;11(9):e024393. doi:10.1161/JAHA.121.024393

- Lescop K, Joret I, Delbos P, et al. The effectiveness of the Buzzy® device to reduce or prevent pain in children undergoing needle-related procedures: The results from a prospective, open-label, randomised, non-inferiority study. *Int J Nurs Stud*. 2021;113:103803. doi:10.1016/j.ijnurstu.2020.103803

- Fleming-Dutra KE, Jones JM, Roper LE, et al. Use of the Pfizer Respiratory Syncytial Virus Vaccine During Pregnancy for the Prevention of Respiratory Syncytial Virus–Associated Lower Respiratory Tract Disease in Infants: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:1115–1122. DOI: http://dx.doi.org/10.15585/mmwr.mm7241e1

- Melgar M, Britton A, Roper LE, et al. Use of Respiratory Syncytial Virus Vaccines in Older Adults: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:793–801. DOI: http://dx.doi.org/10.15585/mmwr.mm7229a4