COVID-19 Series for Free & Charitable Clinics

September 14, 2023

ECHO CHICAGO

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AT THE FOREFRONT UChicago Medicine

Vaccinate with Confidence

A National Strategy to Reinforce Confidence in COVID-19 Vaccines

CDC's Strategy: **Empower Healthcare Personnel**: Promote confidence among healthcare personnel in their decisions to get vaccinated and recommend the vaccination to their patients.

Project Goal: Build and reinforce COVID-19 vaccine confidence among healthcare personnel in the safety net sector and, in turn, the patients they serve.

Partnerships: **The National Association of Free and Charitable Clinics** and **6 State Associations**: to consult directly with clinic personnel in highly vulnerable areas with low vaccination rates.

How: Provide tailored COVID-19 vaccine information to the free and charitable clinic sector through various channels and **give the FCC sector a direct line of communication to CDC**.

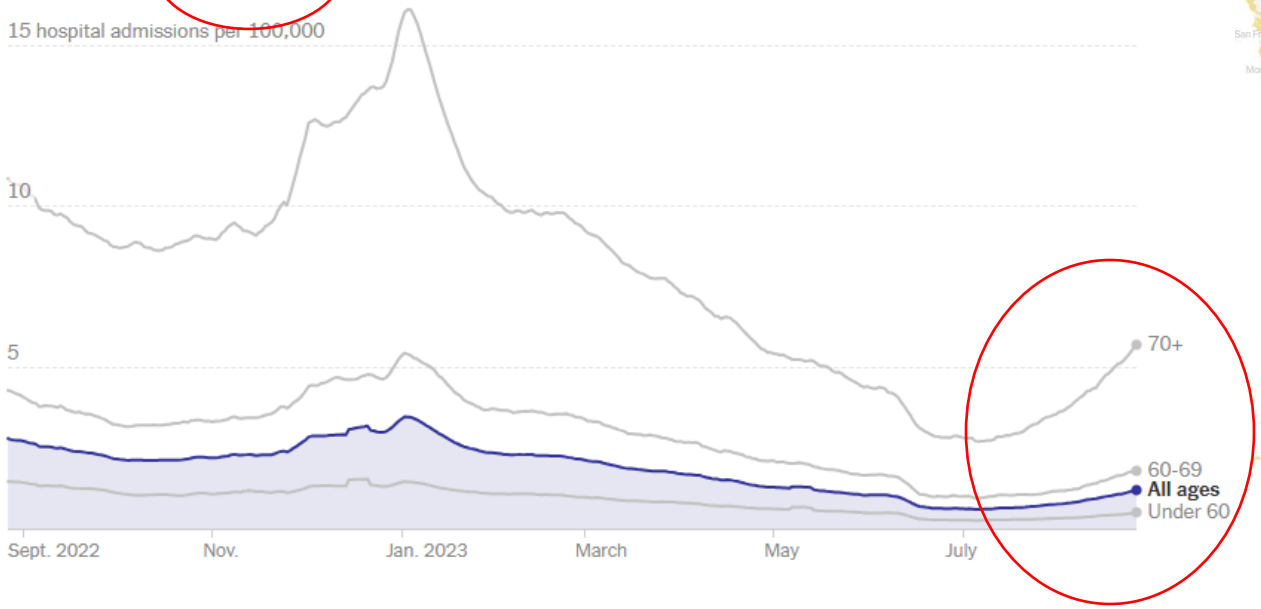
Track Covid-19 in the U.S.

Updated Sept. 11, 2023

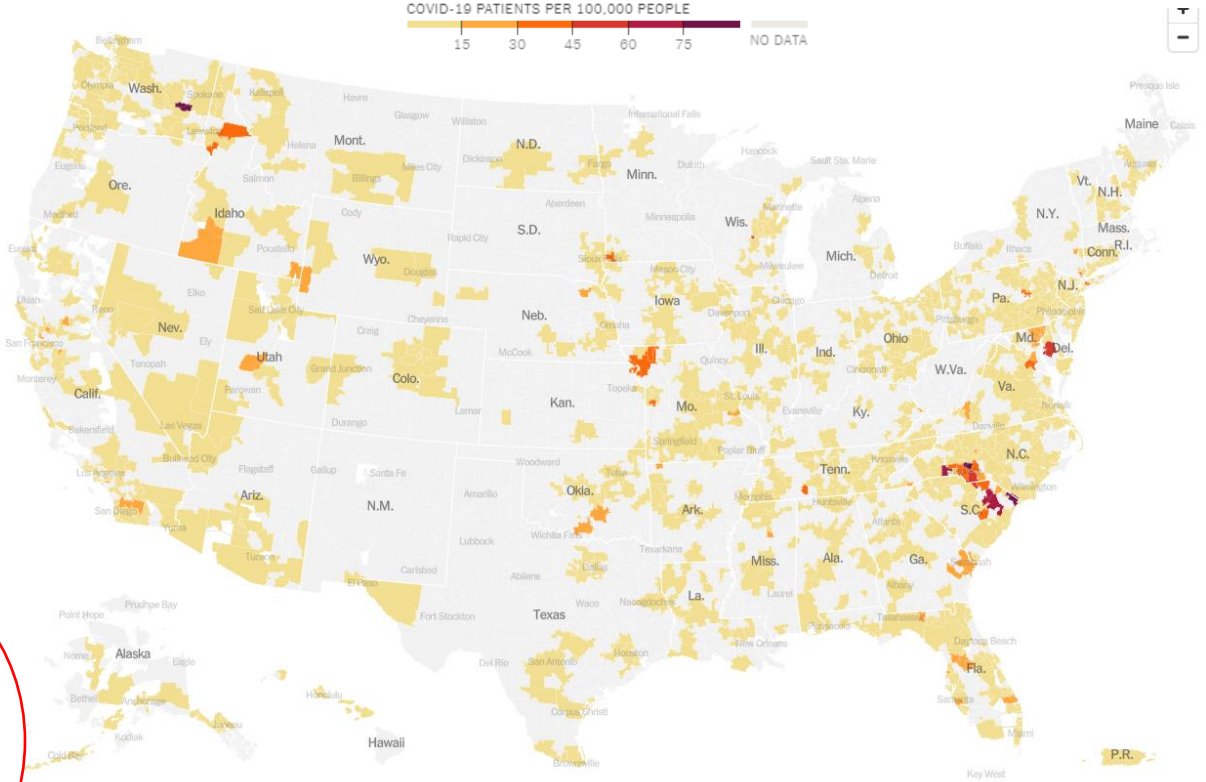
Daily Covid hospital admissions

Avg. on Aug. 26: 3,954

14-day change: +29%



Current hospitalizations



Primary series vaccination rate

69% Total population

94% Ages 65 and up

Bivalent booster rate

17% Total population

43% Ages 65 and up

COVID Continues to Rise, but Experts Remain Optimistic

- A steady uptick in cases since July and reports of worrisome new variants have fueled concern that the virus is poised to make a comeback this fall and winter
- There is no evidence that any of the variants in circulation cause more severe disease or evade immunity adroitly enough to render vaccines ineffective
- Hospital admissions for Covid increased by about 16 percent in the week ending Aug. 26, compared with the previous week. But the 17,400 new admissions were less than half the number in the same period last year, and about one-fifth the number in 2021

https://www.nytimes.com/2023/09/07/health/covid-deaths-hospitalizations-vaccines.html?smid=url-share

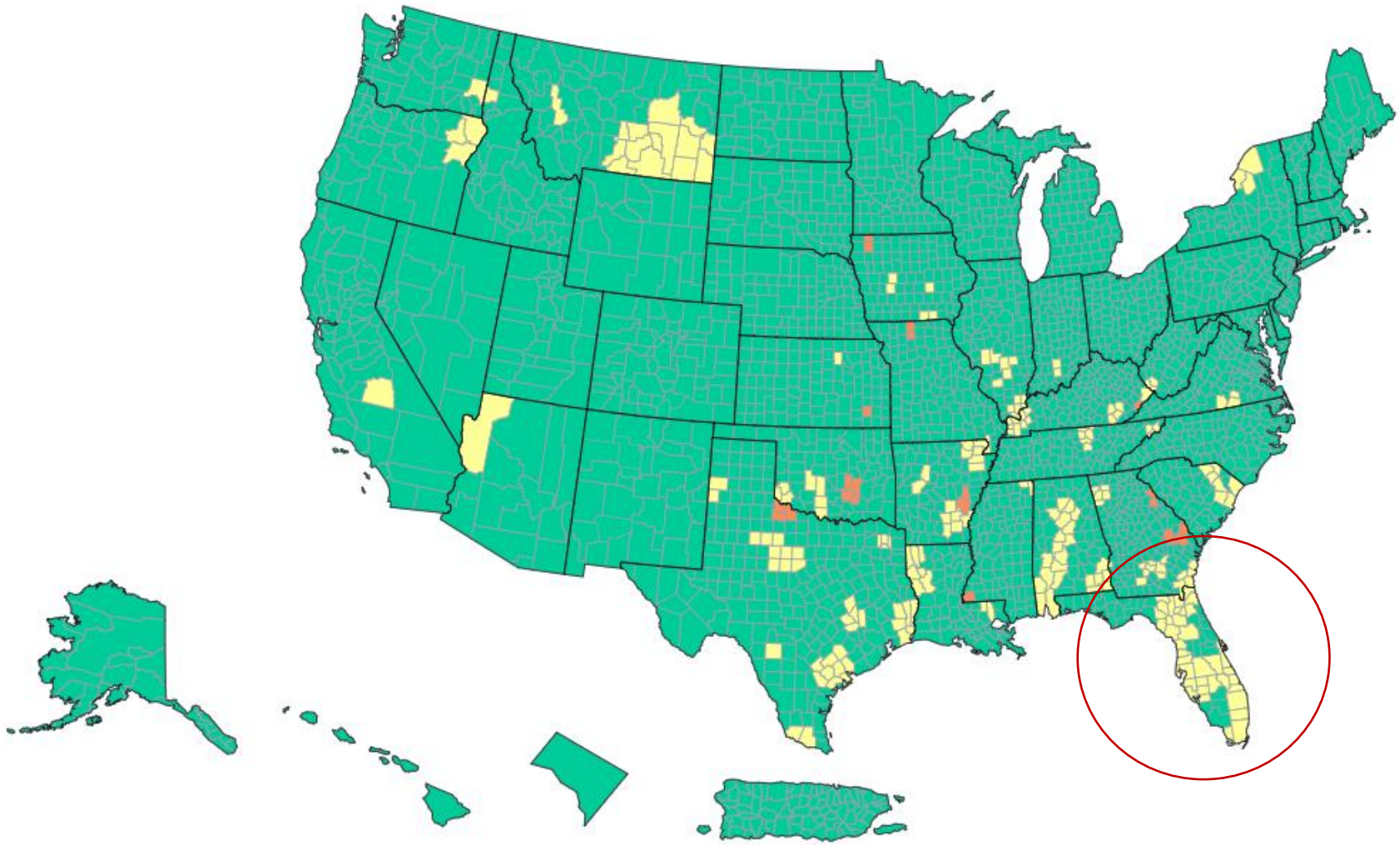
COVID-19 hospital admissions levels in U.S. by county

Based on new COVID-19 hospital admissions per 100,000 population

	Total	Percent	% Change
≥ 20.0	22	0.68%	0.22%
10.0 - 19.9	230	7.14%	0.4%
<10.0	2970	92.18%	-0.56%

Time Period: New COVID-19 hospital admissions per 100,000 population (7-day total) are calculated using data from the MMWR week (Sun-Sat) ending September 2, 2023.

Reported COVID-19 New Hospital Admissions Rate per 100,000 Population in the Past Week, by County – United States



Chicago's COVID-19 Risk Level is LOW

CHICAGO | COVID-19 Summary

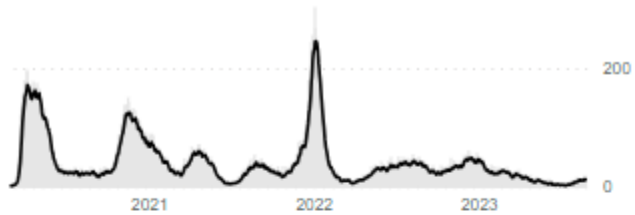
Data current as of Sep 07, 2023.
Data are updated Wednesdays at 5:30 p.m., except for City holidays.
All data are provisional and subject to change.

SUMMARY | CASES | CASES BY ZIP | TESTS

Learn how to use this dashboard.

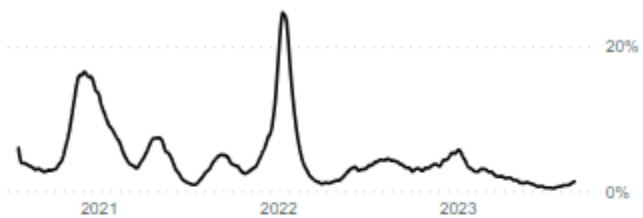
HOSPITALIZATIONS

13 ▲	11 (+13%)	53,520	0.47
Current daily avg	Prior week	Cumulative	Daily rate per 100,000



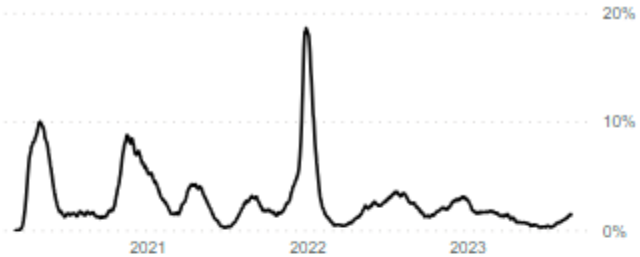
HOSPITAL BEDS IN USE

1.3% ▲	1.0%
Current daily avg	Prior Week



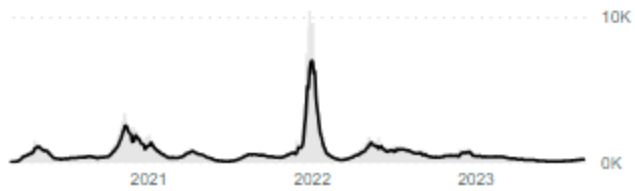
EMERGENCY ROOM VISITS

1.4% ▲	1.3%
Current daily avg	Prior Week



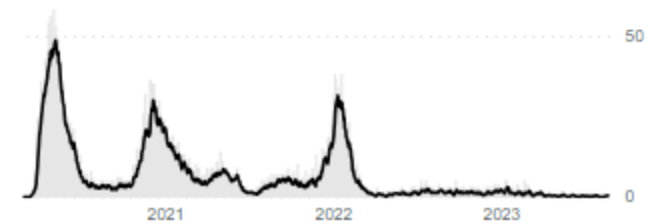
LABORATORY-CONFIRMED CASES

158 ▲	154 (+3%)	784,175	5.73
Current daily avg	Prior week	Cumulative	Daily rate per 100,000



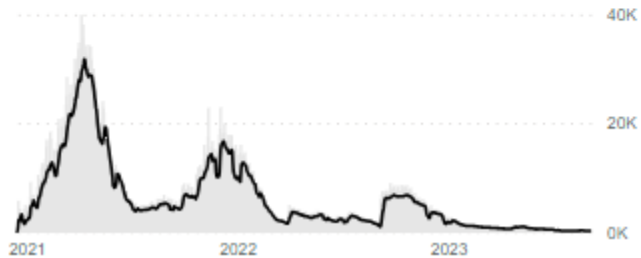
DEATHS

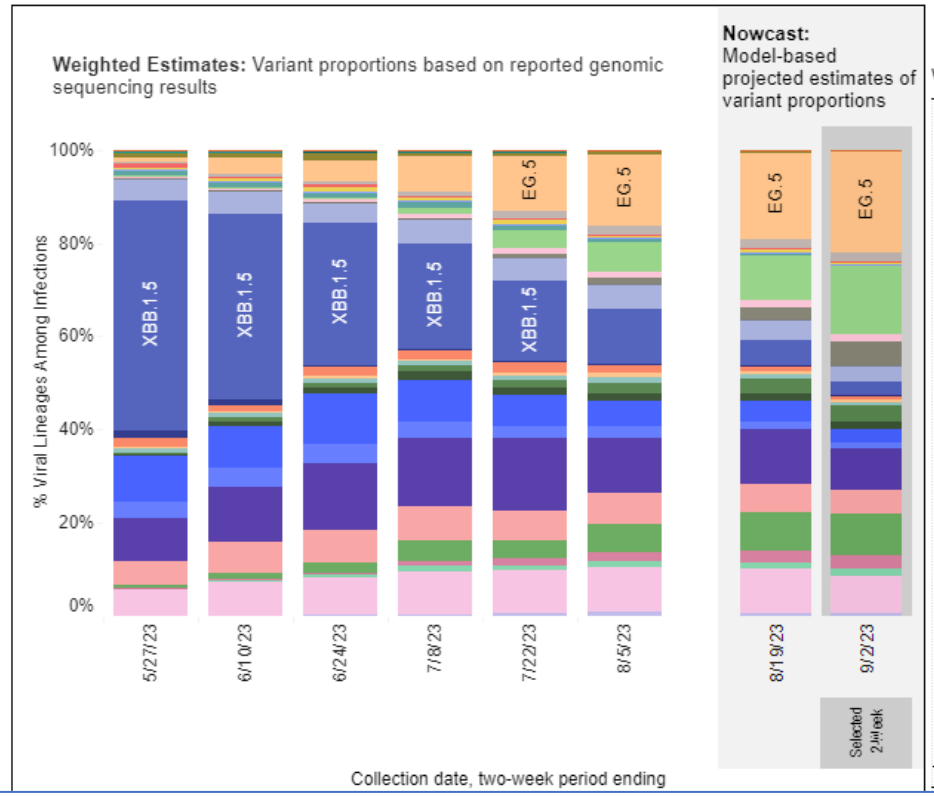
0.43 ▲	0.14 (+200%)	8,166	0.02
Current daily avg	Prior week	Cumulative	Daily rate per 100,000



VACCINATIONS ADMINISTERED

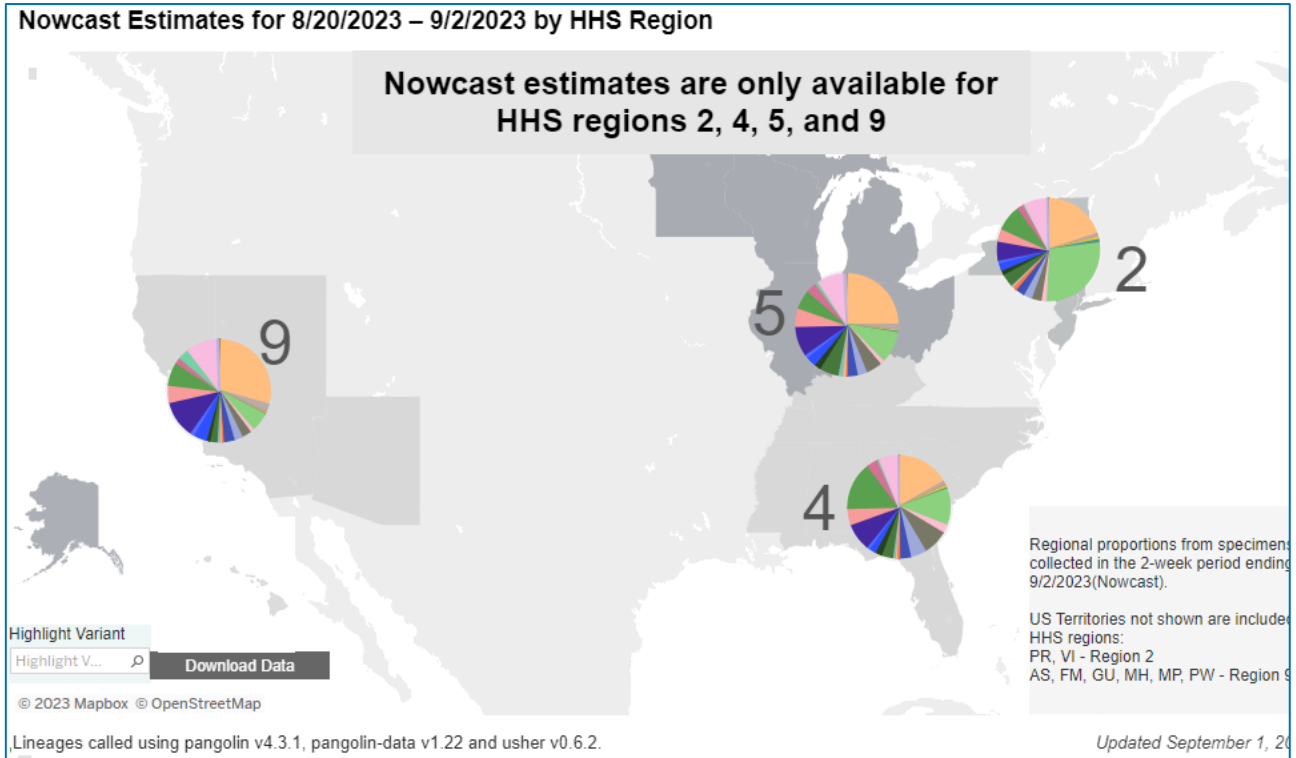
151 ▼	5,866,486	23.8%
Current daily avg	Cumulative	People with updated booster





USA

WHO label	Lineage #	%Total	95%PI
Omicron	EG.5	21.5%	19.0-24.3%
	FL.1.5.1	14.5%	10.5-19.6%
	XBB.1.16.6	9.2%	7.6-11.0%
	XBB.1.16	8.9%	7.8-10.3%
	XBB.2.3	8.1%	7.0-9.2%
	HV.1	5.1%	3.3-7.9%
	XBB.1.16.1	5.0%	4.2-6.0%
	XBB.1.5.70	3.5%	2.6-4.7%
	XBB	3.3%	2.7-4.1%
	XBB.1.5	3.1%	2.6-3.7%
	XBB.1.9.1	3.0%	2.5-3.5%
	XBB.1.16.11	2.8%	1.8-4.5%
	EG.6.1	1.8%	1.2-2.7%
	GE.1	1.6%	1.1-2.4%
	XBB.1.5.72	1.6%	1.2-2.1%
	XBB.1.42.2	1.3%	0.7-2.3%
	XBB.1.9.2	1.1%	0.9-1.3%
	XBB.1.5.10	0.9%	0.7-1.2%
	XBB.1.5.68	0.8%	0.5-1.1%
	XBB.2.3.8	0.7%	0.4-1.2%
	FD.1.1	0.6%	0.4-0.8%
	FE.1.1	0.5%	0.3-0.8%
	XBB.1.5.59	0.4%	0.3-0.6%
	CH.1.1	0.4%	0.3-0.6%
	FU.1.1	0.1%	0.1-0.2%
Other			



Notice the overall heterogeneity in variants and the geographic differences:

- FL 1.5.1 is much greater in the NE

What about the New Variant – BA.2.86?

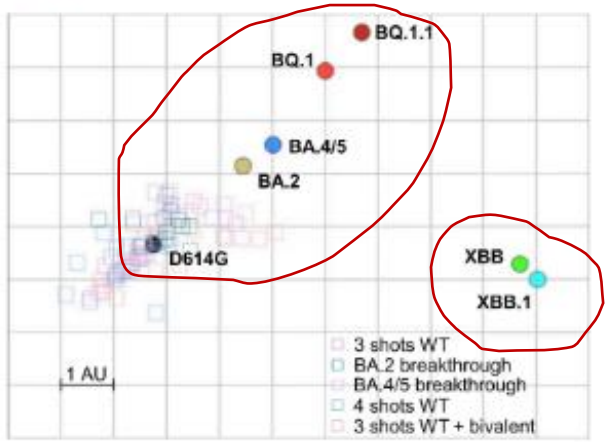
- BA.2.86, nicknamed Pirola, is a highly mutated new omicron variant that was first detected in Denmark in July 2023. The World Health Organization announced that, as of Sept. 6, 2023, BA.2.86 has been detected in 11 countries. It's an offshoot of earlier BA 2 strain, not XBB
- A preliminary study reported that BA.2.86 features 33 distinct spike mutations when compared to its precursor, BA.2, 14 of which are in the RBD (receptor binding domain) suggesting possible increased infectivity
- Researchers do not fully understand all these mutations yet:
  - A preliminary study found that BA.2.86 can escape the protective defenses of antibodies against the recent XBB sublineages. However, in contrast, another new study that has not yet been published found that neutralizing antibody responses against BA.2.86 were comparable to or slightly higher against the recent XBB sublineages.
- Has been discovered in 9 states as of September 8
- Moderna trial data confirmed updated vaccine generates a strong immune response against BA.2.86
  - generates an **8.7-fold increase** in neutralizing antibodies in humans against BA.2.86 (Pirola)
  - previously communicated results showing a similarly effective response against EG.5 and FL.1.5.1 variants

https://theconversation.com/how-evasive-and-transmissible-is-the-newest-omicron-offshoot-ba-2-86-that-causes-covid-19-4-questions-answered-212453
doi: https://doi.org/10.1101/2023.09.01.555815
doi: https://doi.org/10.1101/2023.09.04.556272
https://investors.modernatx.com/news/news-details/2023/Moderna-Clinical-Trial-Data-Confirm-Its-Updated-Covid-19-Vaccine-Generates-Strong-Immune-Response-in-Humans-Against-BA.2.86/default.aspx

Why Update the COVID-19 Vaccine at all?

- SARS-CoV-2 continues to mutate quickly—about 2 times faster than the flu. It's normal to update vaccines when the virus mutates quickly. For example, we update vaccines for flu (which changes annually) and we don't update vaccines for measles (which hasn't mutated in a meaningful way for decades).
- The current Omicron variant (XBB) circulating is meaningfully different than other Omicron variants. The map below shows the differences, with XBB pretty distant. This suggests an updated vaccine with XBB would help our immune systems recognize the change.
- COVID-19 vaccines are waning in protection against hospitalization (62% effectiveness → 24%) and ICU admission, albeit with a smaller decline (69% → 52%). This is happening faster when exposed to XBB virus compared to other Omicron variants. Even though vaccine effectiveness is waning, the hospitals aren't filling up. This is because vaccine effectiveness now represents the incremental benefit above and beyond the baseline protection in the general population. This is different than when we first introduced vaccines and the general population had a very low immunity wall.
- B-cell data showed that our antibody factories are able to adapt and pump out updated antibodies. In other words, there is imprinting from initial exposure (as expected) but our system is still adaptable. This is good news because it means that updated vaccine formulas expand our protection. It's not all for nothing.
- T-cell data also showed clear 2-fold increases after an updated booster. This was the case regardless of prior infection.

XBB Viruses Cluster Together Using Antigenic Cartography

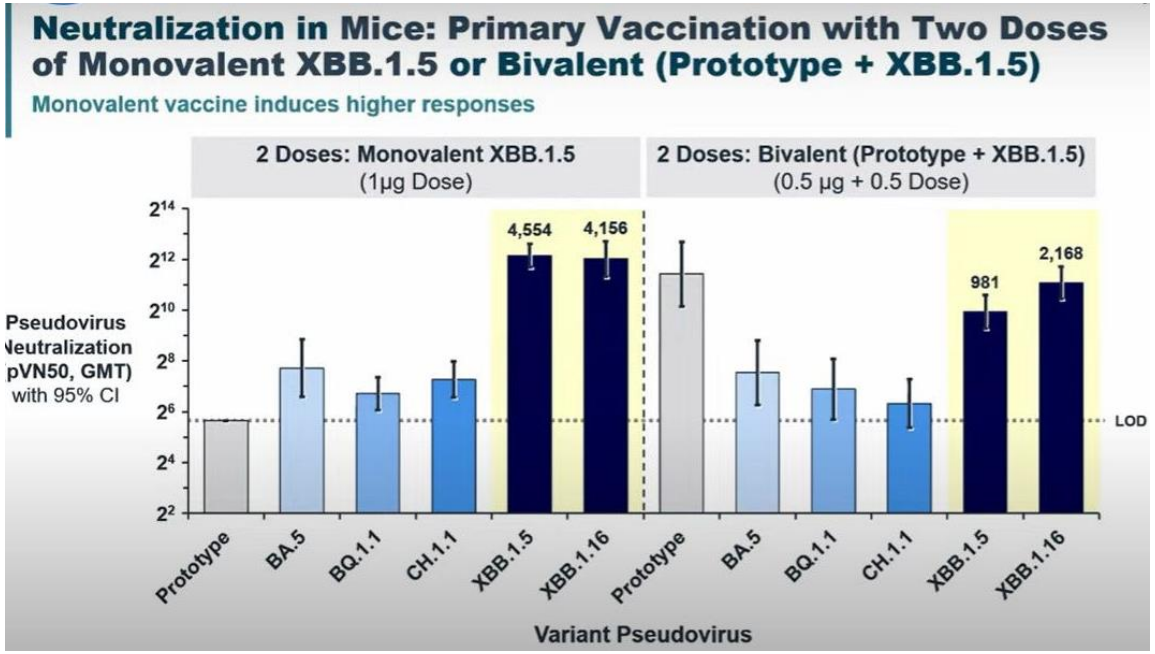


Wang et al 2023
https://doi.org/10.1016/j.cell.2022.12.018

https://yourlocalepidemiologist.substack.com/p/fdas-fall-2023-vaccine-plan?utm_source=substack&utm_medium=email

Why Monovalent and no Bivalent?

- Wasn't Bivalent better last year?
- WHO is not seeing any evidence that the earliest variant is still circulating.
- Including it could hurt as we keep teaching our immune system to recognize the old version of the virus rather than the new one.
- There really isn't anything else popping up except XBB variants.
- Novavax found that a monovalent vaccine may be more advantageous to mice's immune systems than a bivalent vaccine. Moderna found the same thing.



https://yourlocalepidemiologist.substack.com/p/fdas-fall-2023-vaccine-plan?utm_source=substack&utm_medium=email

FDA Approves New Monovalent Booster

- The fall Covid-19 vaccine has an updated formula targeting XBB.1.5, which should be a good match to the currently circulating Omicron subvariant. Moderna, Pfizer, and ~~Novavax~~ all will have these available this week
- Plan is for one shot now for primary or booster dose:
  - Moderna: 6 months and older
  - Pfizer: 6 months and older
  - Novavax: 18 years and older (likely coming soon)

CDC ACIP Met Tuesday and…

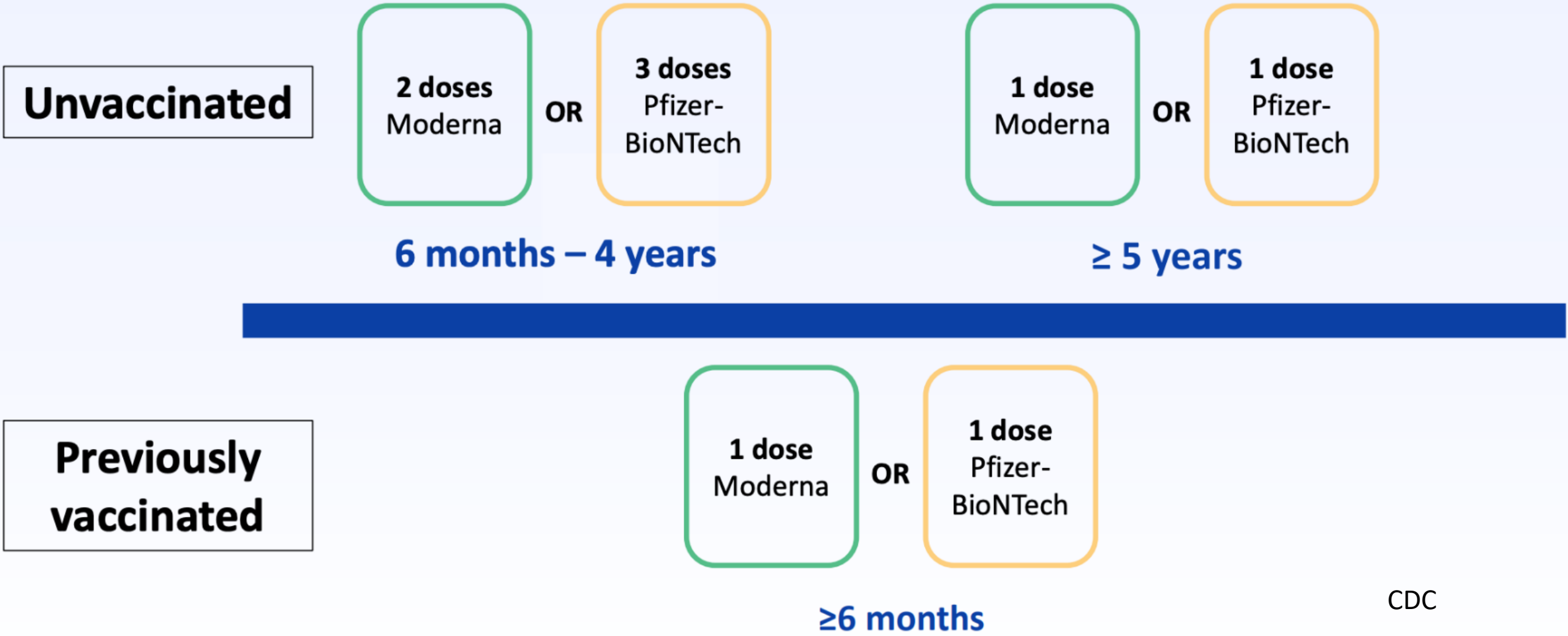
- Voted 13-1 to recommend updated Covid-19 vaccines for all Americans 6 months of age and older
  - There was some pre-meeting debate if the recommendation would be only for those at increased risk of serious disease (the NHS was more selective)
- The endorsement from the committee means the vaccines will be covered by public and private insurance plans.
- Also made recommendations for people who are moderately or severely immunocompromised. To be up-to-date, those with low immune function should have had at least three doses of Covid-19 vaccine, with at least one of those doses being an updated shot. They also have the option to get an additional updated vaccine later in the year.

Further Vaccine Questions…

- **Timing:**
  - *Minimum wait: 2-3 months.* A Covid-19 vaccine doesn't add much benefit within 2-3 months of infection. We don't have to wait 2-3 months after infection—we won't "exhaust" or "overwhelm" our immune system. But waiting will ensure we broaden B cells (our second line of defense; our antibody factory that stores some long-term-memory). With an updated vaccine formula, we want our factory updated.
  - *Maximum wait 8-12 months:* The longer we wait, the more we get out of the vaccine. One study found that waiting 8 months increased neutralizing antibodies 11 times more than waiting 3 months after infection. Another study found a 12-month interval improved vaccine effectiveness against hospitalization.

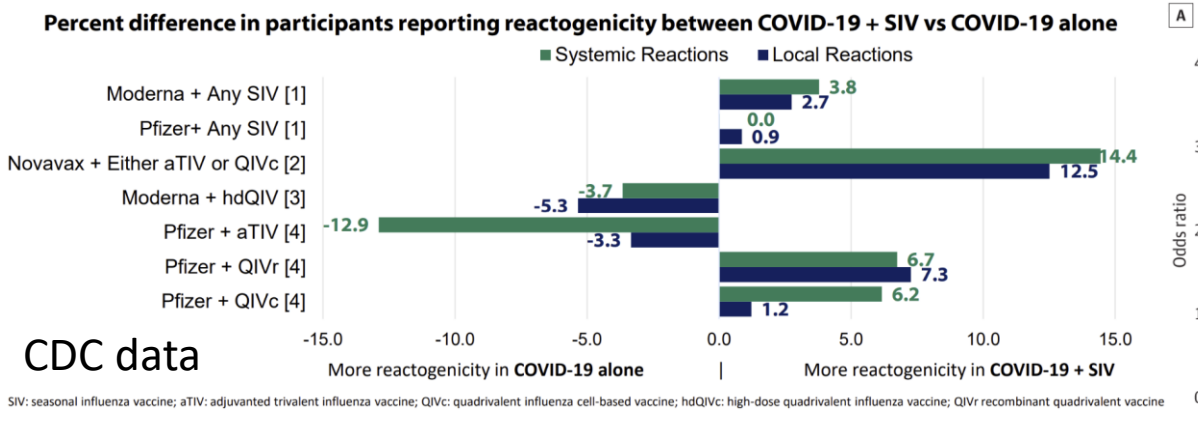
  BUT waiting is a gamble. Even if a vaccine sooner is not as good as it could be, it's better than waiting too long and catching Covid with limited protection, especially for high-risk people.
- **Wait for Novovax?**
  - Some evidence that mixing is better, but is not worth the wait
  - Reasons people may want to wait on Novavax:
    - Side effects. The mRNA vaccines are the most reactogenic vaccines leading to more myalgias, fever, etc.
    - Hesitant about mRNA biotechnology.

Proposed 2023 – 2024 COVID-19 vaccine recommendations for mRNA COVID-19 vaccines

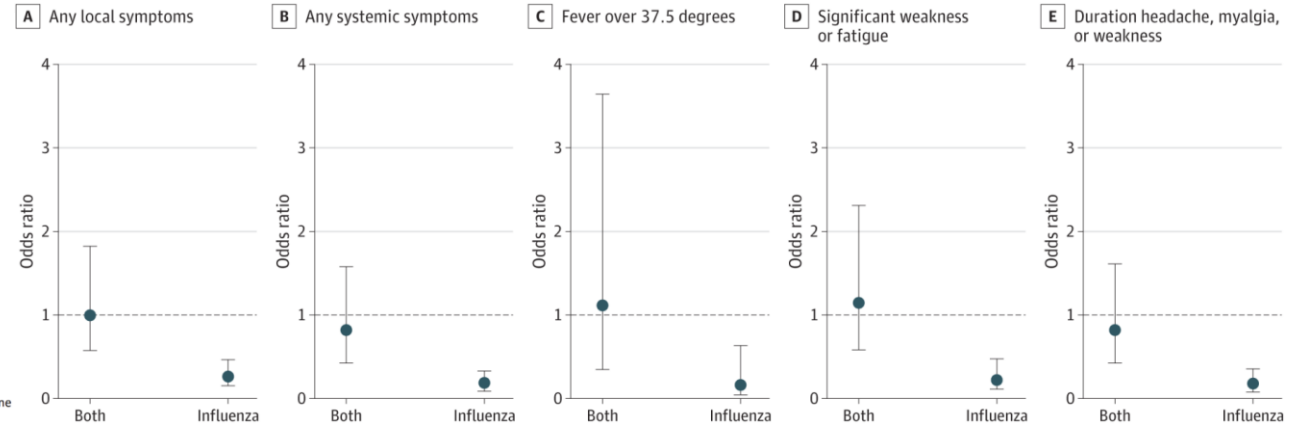


CDC

Should I Get Influenza and COVID Vaccine Together?



CDC data



- Prospective Cohort Study Israeli Health Care workers receiving both Influenza Vaccine and Omicron BA.4/BA.5–adapted bivalent (Pfizer/BioNTech) vaccine
- Coadministration was not associated with substantially inferior immune response or to more frequent adverse events compared with COVID-19 vaccine administration alone, supporting the coadministration of these vaccines.

JAMA Netw Open. 2023;6(9):e2332813. doi:10.1001/jamanetworkopen.2023.32813

Version: Aug 2023

FALL 2023 VACCINES

	What are the options?	Who is eligible?	How well do they work?	When should I get it?
INFLUENZA 	A shot that targets 4 strains of seasonal flu	6 months and older	Typically reduces the risk of going to the doctor by 40- 60%	October is ideal, as vaccine protection wanes over a season
COVID-19 	Updated vaccine formula targeting XBB – an Omicron subvariant Options: Moderna and Pfizer (mRNA) and Novavax (protein)	TBD. CDC will decide in mid-to-late September	Last year, the fall COVID-19 vaccine provided 40-60% additional effectiveness against severe disease	For protection against **severe disease**, get it anytime Protection against **infection**: It's best to get it right before a wave, which can be challenging to time
RSV (OLDER ADULTS) 	2 options: GSK and Pfizer. They are slightly different in design, but only at a microscopic level	60 years and older	82-86% efficacy against severe disease	Protection is durable. Get when it's available; no need to juggle timing
RSV (PREGNANCY) 	Pfizer is actively seeking approval	Pregnant people (then protection will pass to baby for protection in first 6 months of life).	82% efficacy in preventing hospitalization in first 3 months of life. 69% efficacy after 6 months	It's not available yet but once approved, get at 24 to 36 weeks of pregnancy
RSV ANTIBODY 	A new monoclonal antibody by AstraZeneca. This is not a vaccine (doesn't teach the body to make antibodies) but rather a proactive medication (provides antibodies).	**All** infants <8 months. High-risk infants 8-19 months	Reduces risk of hospitalization and healthcare visits by ~80%	Will be available soon. Protection lasts 4-6 months

By: Katelyn Jetelina, MPH PHD and Caitlin Rivers, MPH PHD. For more information go to Your Local Epidemiologist

Pregnancy and the COVID-19 Vaccine

COVID-19 VACCINATIONS:

✓ are **SAFE** in pregnancy and breastfeeding.

✗ **DO NOT** increase the risk of miscarriages, preterm birth, intrauterine growth restriction or infertility.

Among people with symptomatic COVID-19, pregnant people have a:

2.5x higher risk of intubation.

and more than **2x** higher risk of ICU admission than nonpregnant people.

There is a **4x** higher risk of death for pregnant people who give birth within a month of a COVID-19 diagnosis.

THE RISK OF STILLBIRTH AND PRETERM DELIVERY

2x as high for pregnant people with (symptomatic) COVID-19 at the time of delivery than pregnant people without COVID-19.

If you're pregnant or breastfeeding, you have a higher risk of severe disease from COVID-19.

Getting vaccinated against COVID-19 is safe and will protect both you and your baby.

For more information on vaccines, visit:
COVID19LearningNetwork.org

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

AAFP · American College of Emergency Physicians · ACP · ATS · PIDS · SHEA · shm · SIDP · Society of Critical Care Medicine

Thank you!

Resources & recording of the session

https://www.echo-chicago.org/resources/covid19/

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