I-VAC Adult Learning Collaborative for COVID-19 Vaccination

Please use your first name and health center name when you join the session

Use the **“chat”** feature to let us know if you have a question

Please remember to **mute your microphone** unless speaking

If you can’t connect audio via computer or lose computer audio at anytime, you can call in to session at **(669) 900-6833, Meeting ID 812-8864-4528##**

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Disclosures

- No one in a position to control the education content of the activity has any relevant financial disclosures with ineligible companies to disclose
- What gets said here today may change based on new data and recommendations
  - Knowledge is shared more rapidly through ECHO

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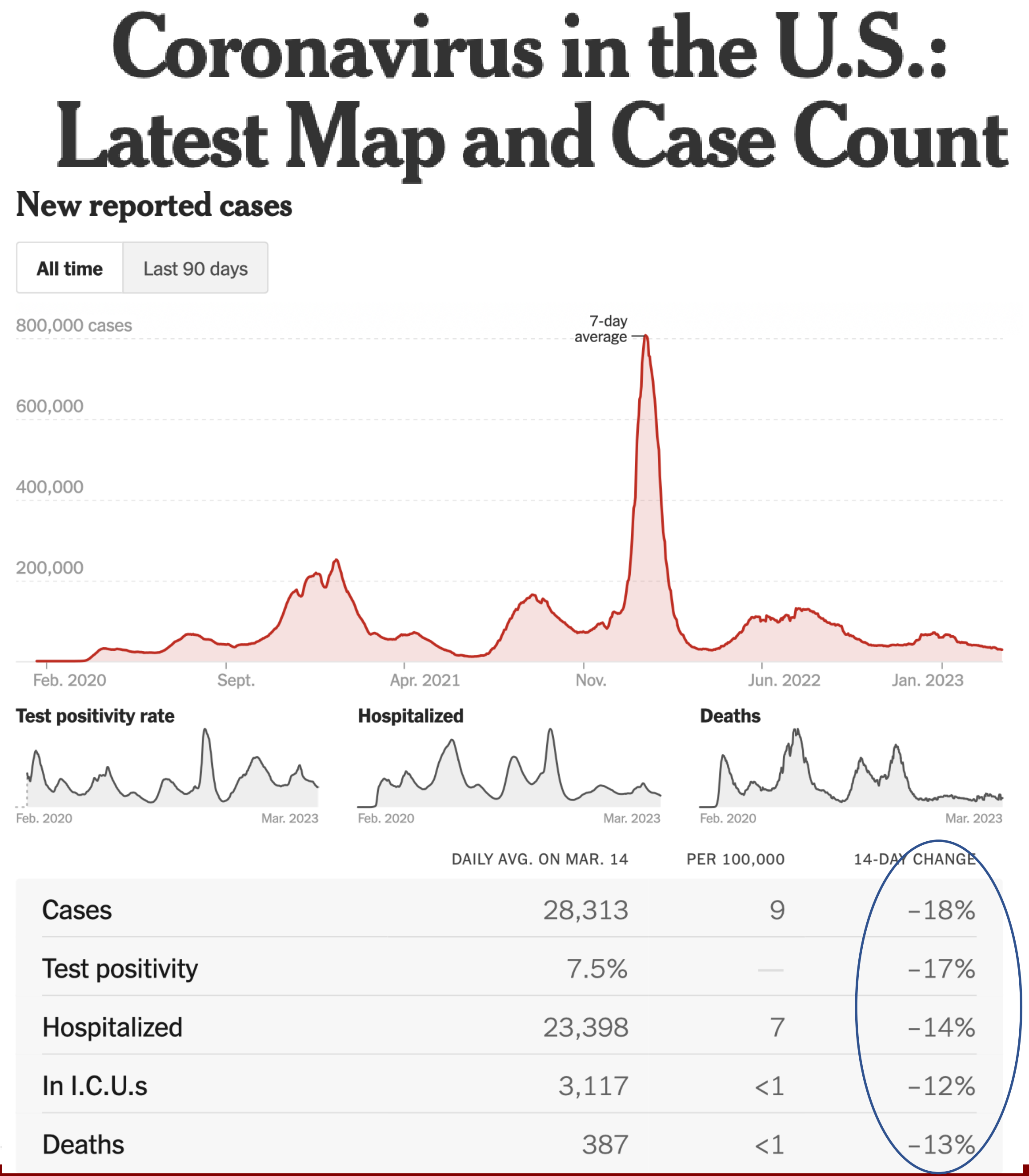
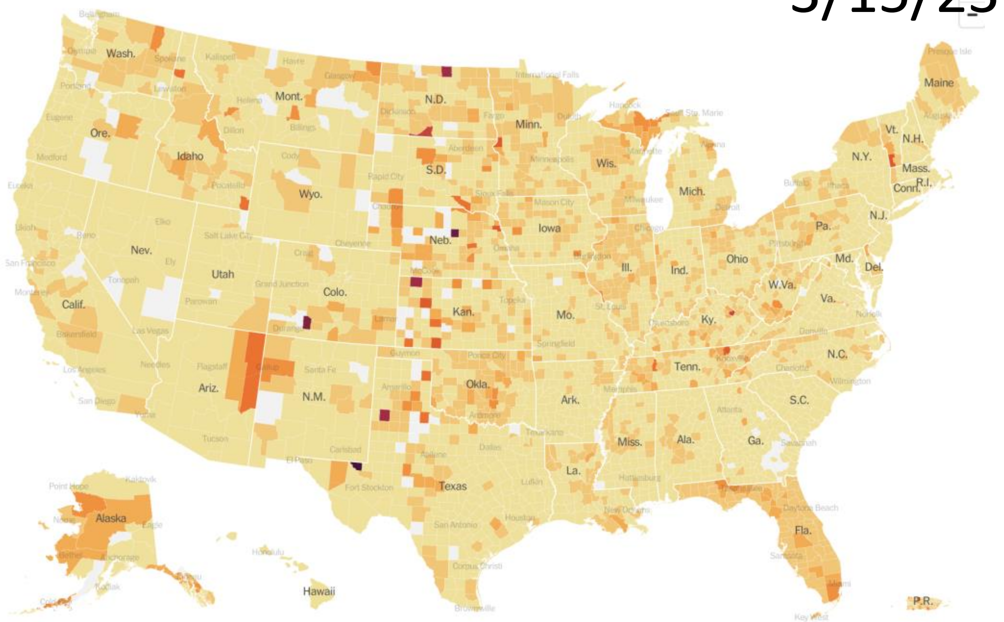


Coronavirus in the U.S.: Latest Map and Case Count

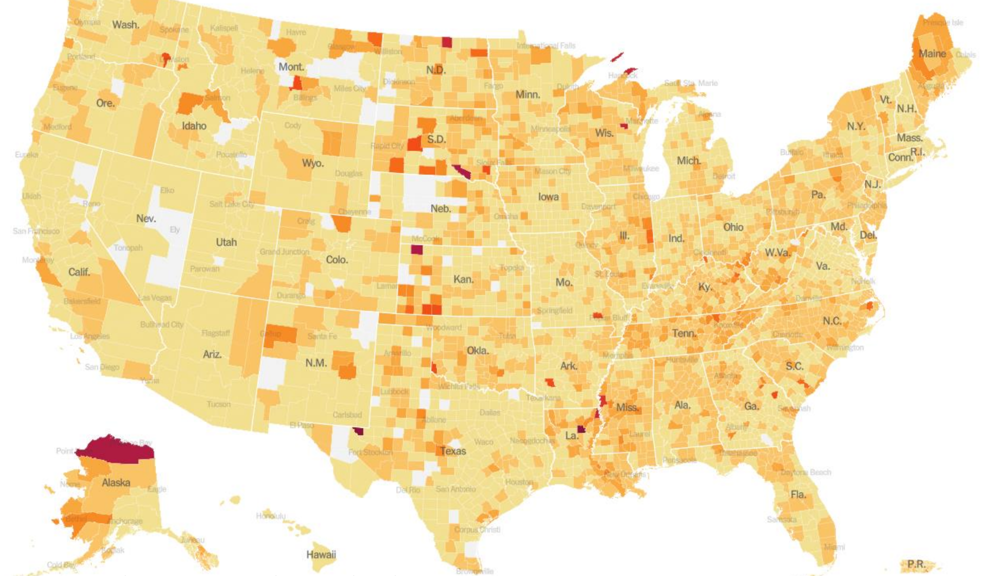
New reported cases

	DAILY AVG. ON MAR. 14	PER 100,000	14-DAY CHANGE
Cases	28,313	9	–18%
Test positivity	7.5%	—	–17%
Hospitalized	23,398	7	–14%
In I.C.U.s	3,117	<1	–12%
Deaths	387	<1	–13%

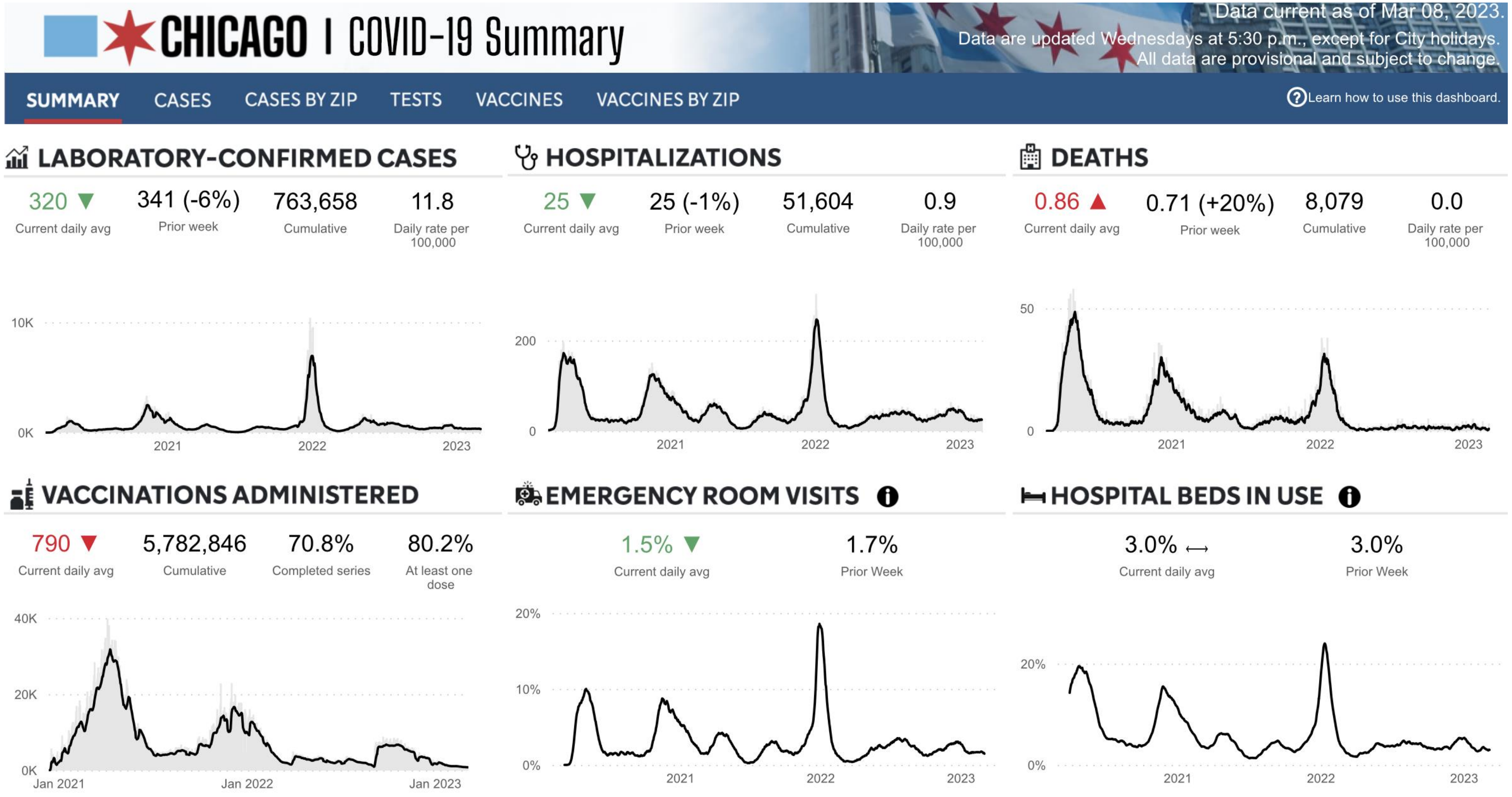
3/15/23



3/01/23



https://www.nytimes.com/interactive/2021/us/coronavirus-us-cases.html



CHICAGO I COVID-19 Summary

Data current as of Mar 08, 2023.
Data are updated Wednesdays at 5:30 p.m., except for City holidays.
All data are provisional and subject to change.

LABORATORY-CONFIRMED CASES

320 ▼	341 (-6%)	763,658	11.8
Current daily avg	Prior week	Cumulative	Daily rate per 100,000

HOSPITALIZATIONS

25 ▼	25 (-1%)	51,604	0.9
Current daily avg	Prior week	Cumulative	Daily rate per 100,000

DEATHS

0.86 ▲	0.71 (+20%)	8,079	0.0
Current daily avg	Prior week	Cumulative	Daily rate per 100,000

VACCINATIONS ADMINISTERED

790 ▼	5,782,846	70.8%	80.2%
Current daily avg	Cumulative	Completed series	At least one dose

EMERGENCY ROOM VISITS

1.5% ▼	1.7%
Current daily avg	Prior Week

HOSPITAL BEDS IN USE

3.0% ⟷	3.0%
Current daily avg	Prior Week

Chicago's COVID-19 Risk Level is LOW

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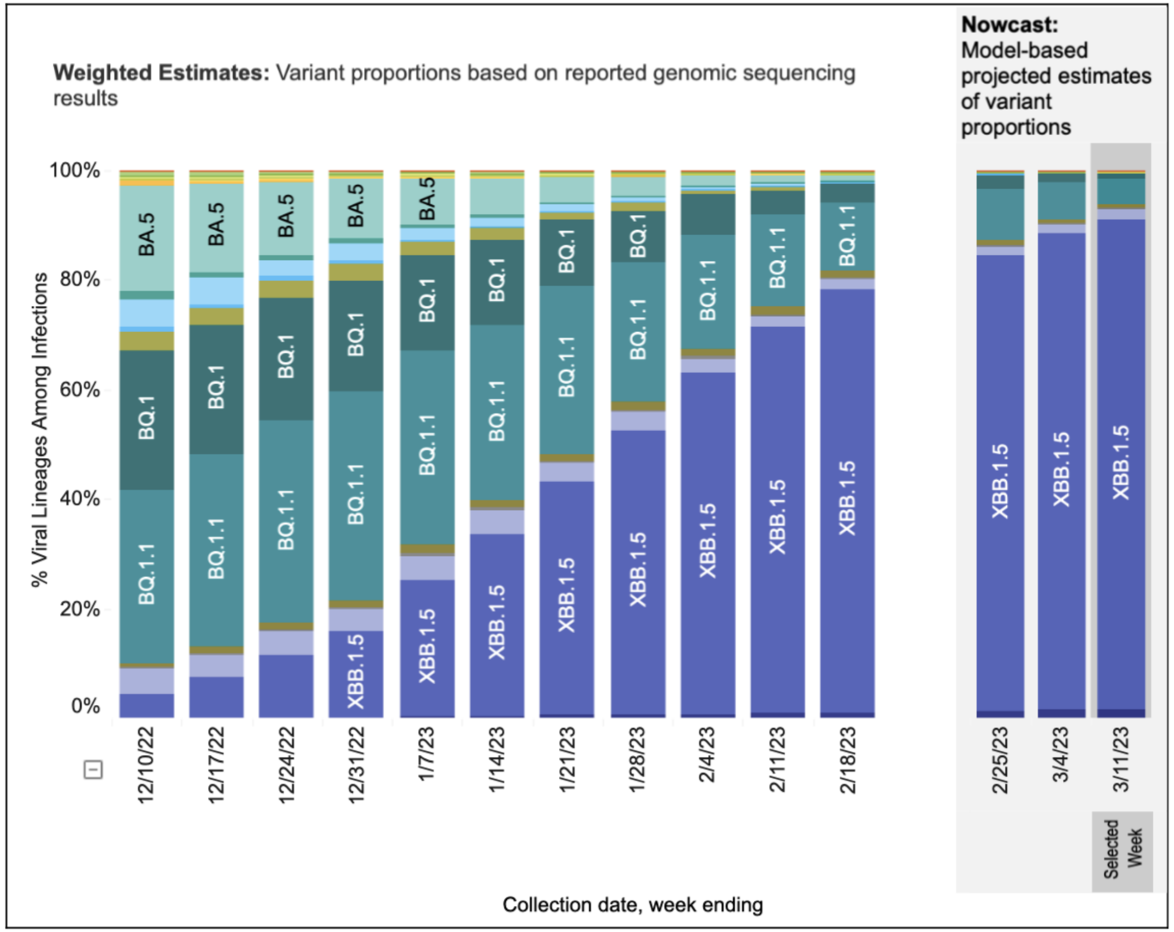
Weighted and Nowcast Estimates in United States for Weeks of 12/4/2022 – 3/11/2023

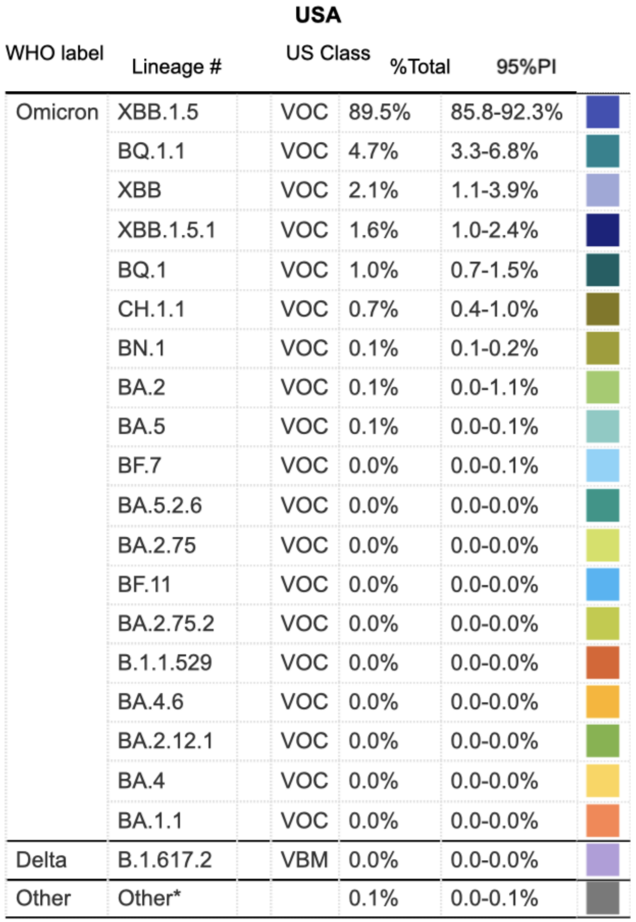
Hover over (or tap in mobile) any lineage of interest to see the amount of uncertainty in that lineage's estimate.



Weighted Estimates: Variant proportions based on reported genomic sequencing results

Nowcast: Model-based projected estimates of variant proportions

Nowcast Estimates in United States for 3/5/2023 – 3/11/2023



USA					
WHO label	Lineage #	US Class	%Total	95%PI	
Omicron	XBB.1.5	VOC	89.5%	85.8-92.3%	■
	BQ.1.1	VOC	4.7%	3.3-6.8%	■
	XBB	VOC	2.1%	1.1-3.9%	■
	XBB.1.5.1	VOC	1.6%	1.0-2.4%	■
	BQ.1	VOC	1.0%	0.7-1.5%	■
	CH.1.1	VOC	0.7%	0.4-1.0%	■
	BN.1	VOC	0.1%	0.1-0.2%	■
	BA.2	VOC	0.1%	0.0-1.1%	■
	BA.5	VOC	0.1%	0.0-0.1%	■
	BF.7	VOC	0.0%	0.0-0.1%	■
	BA.5.2.6	VOC	0.0%	0.0-0.0%	■
	BA.2.75	VOC	0.0%	0.0-0.0%	■
	BF.11	VOC	0.0%	0.0-0.0%	■
	BA.2.75.2	VOC	0.0%	0.0-0.0%	■
	B.1.1.529	VOC	0.0%	0.0-0.0%	■
	BA.4.6	VOC	0.0%	0.0-0.0%	■
	BA.2.12.1	VOC	0.0%	0.0-0.0%	■
	BA.4	VOC	0.0%	0.0-0.0%	■
	BA.1.1	VOC	0.0%	0.0-0.0%	■
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%	■
Other	Other*		0.1%	0.0-0.1%	■

United States

At a Glance

Cases Total **103,672,529**

Case Trends

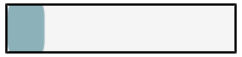
Deaths Total **1,119,762**

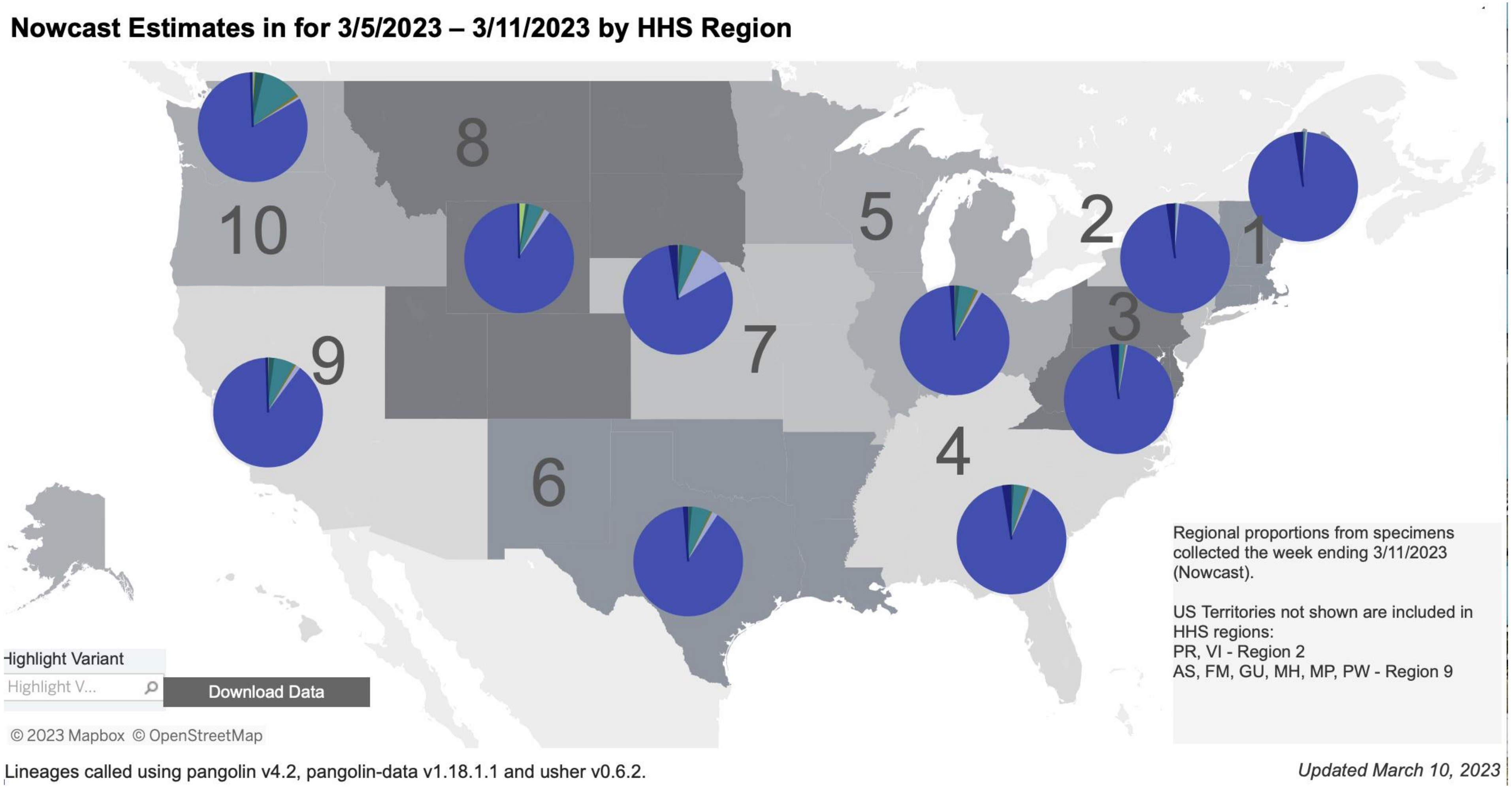
Death Trends

Current **Hosp.** **16,354**

Admission Trends

16.3% of People with Updated Booster Dose





Nowcast Estimates in for 3/5/2023 – 3/11/2023 by HHS Region

© 2023 Mapbox © OpenStreetMap

Regional proportions from specimens collected the week ending 3/11/2023 (Nowcast).

US Territories not shown are included in HHS regions:
PR, VI - Region 2
AS, FM, GU, MH, MP, PW - Region 9

Lineages called using pangolin v4.2, pangolin-data v1.18.1.1 and usher v0.6.2.

Updated March 10, 2023

XBB 1.5 or “The Kraken”

- **Most Transmissible Omicron Variant Yet** -- XBB.1.5 currently has a reproduction number of around 1.6, meaning that every person infected by this subvariant will, on average, go on to infect about 1.6 other people.
- XBB.1.5’s defining feature and its main difference from XBB is a spike protein mutation known as F486P. This mutation gives XBB.1.5 a significant advantage, boosting infectivity while retaining XBB’s ability to sneak past human defenses.
- The mechanism behind XBB.1.5’s increased transmissibility isn’t known for sure.

But the subvariant’s F486P mutation allows the virus to more effectively latch onto ACE2 receptors in the body—“the doorway through which the virus gets into cells in our noses, throats and lungs,”

- “It’s relatively easy for a virus to mutate to escape antibodies because they are limited to a certain area of the virus’s spike protein. But what about cellular immunity? The mechanism by which T cells recognize the virus is completely different.”

He adds that while certain SARS-CoV-2 variants can escape antibodies to varying degrees, T cells retain about 85 percent of their ability to fight against the virus at the population level.

Pango lineage	Nickname
BA.2.3.20	Basilisk
BA.2.75	Centaurus
BA.2.75.2	Chiron
BA.2.75.6	Dictys
BA.4.1.9	Cetus
BA.4.6	Aeterna
BA.5.1	Sphinx
BA.5.2	Triton
BF.11	Python
BF.7	Minotaur
BJ.1	Argus
BM.1.1.1	Mimas
BN.1	Hydra
BQ.1	Typhon
BQ.1.1	Cerberus
CH.1.1	Orthrus
XBB	Gryphon
XBB.1	Hippogryph
XBB.1.5	Kraken

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https://www.scientificamerican.com/article/why-covids-xbb-1-5-kraken-variant-is-so-contagious/

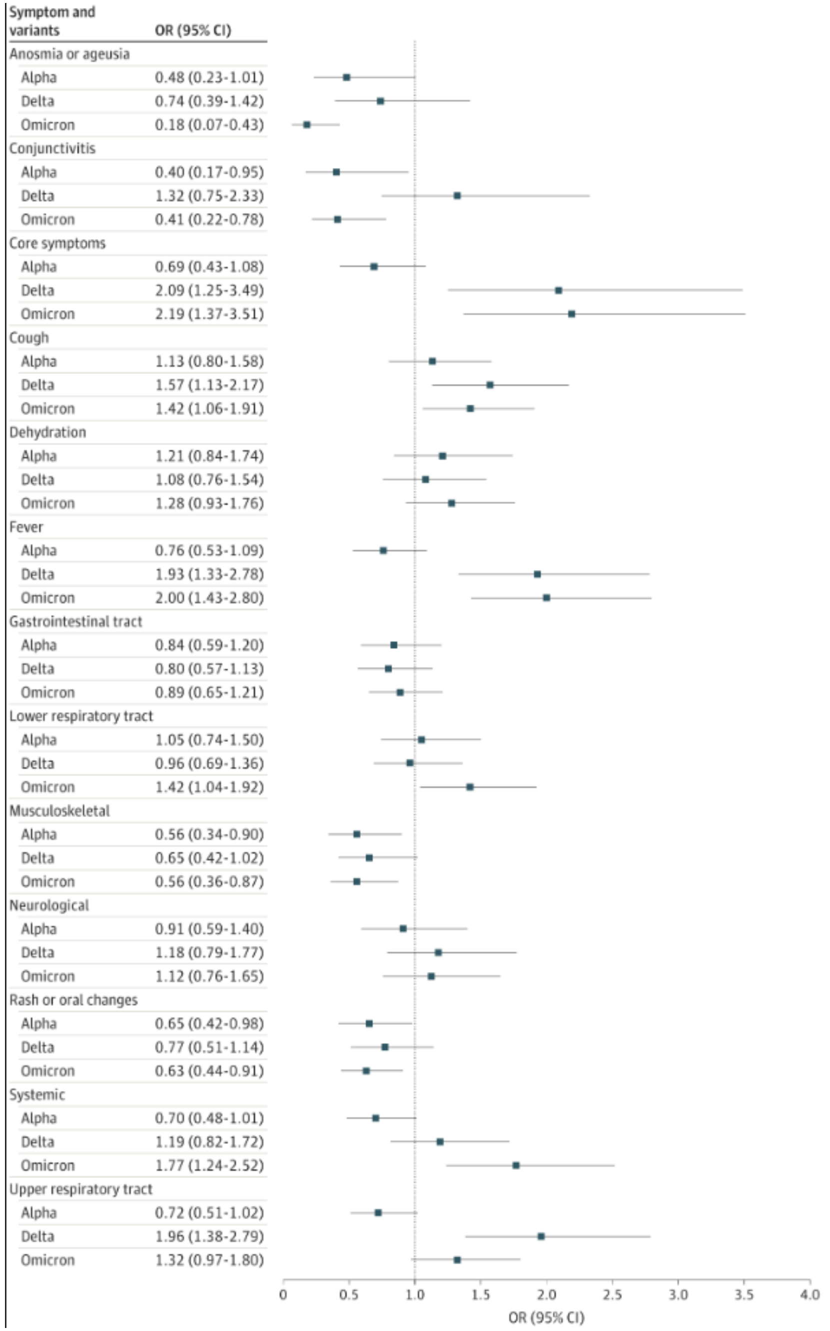
Symptoms of XBB 1.5

- People are predominantly reporting having “cold-like symptoms”, which typically includes a runny nose, sore throat, a cough and congestion
- Flu-like symptoms, such as a high fever and feeling sick, are much less common by comparison

Are the relatively mild symptoms due to the changes in the virus or due to increased immunity in the population that minimizes severe disease?

Comparison of Symptoms Associated With SARS-CoV-2 Variants Among Children in Canada

- The findings of this cohort study of SARS-CoV-2 variants suggest that the Omicron and Delta variants were more strongly associated with fever and cough than the original-type virus and the Alpha variant. Children with Omicron variant infection were more likely to report lower respiratory tract symptoms and systemic manifestations, undergo chest radiography, and receive interventions. No differences were found in undesirable outcomes (ie, hospitalization, intensive care unit admission) across variants.



Symptom and variants	OR (95% CI)
Anosmia or ageusia	
Alpha	0.48 (0.23-1.01)
Delta	0.74 (0.39-1.42)
Omicron	0.18 (0.07-0.43)
Conjunctivitis	
Alpha	0.40 (0.17-0.95)
Delta	1.32 (0.75-2.33)
Omicron	0.41 (0.22-0.78)
Core symptoms	
Alpha	0.69 (0.43-1.08)
Delta	2.09 (1.25-3.49)
Omicron	2.19 (1.37-3.51)
Cough	
Alpha	1.13 (0.80-1.58)
Delta	1.57 (1.13-2.17)
Omicron	1.42 (1.06-1.91)
Dehydration	
Alpha	1.21 (0.84-1.74)
Delta	1.08 (0.76-1.54)
Omicron	1.28 (0.93-1.76)
Fever	
Alpha	0.76 (0.53-1.09)
Delta	1.93 (1.33-2.78)
Omicron	2.00 (1.43-2.80)
Gastrointestinal tract	
Alpha	0.84 (0.59-1.20)
Delta	0.80 (0.57-1.13)
Omicron	0.89 (0.65-1.21)
Lower respiratory tract	
Alpha	1.05 (0.74-1.50)
Delta	0.96 (0.69-1.36)
Omicron	1.42 (1.04-1.92)
Musculoskeletal	
Alpha	0.56 (0.34-0.90)
Delta	0.65 (0.42-1.02)
Omicron	0.56 (0.36-0.87)
Neurological	
Alpha	0.91 (0.59-1.40)
Delta	1.18 (0.79-1.77)
Omicron	1.12 (0.76-1.65)
Rash or oral changes	
Alpha	0.65 (0.42-0.98)
Delta	0.77 (0.51-1.14)
Omicron	0.63 (0.44-0.91)
Systemic	
Alpha	0.70 (0.48-1.01)
Delta	1.19 (0.82-1.72)
Omicron	1.77 (1.24-2.52)
Upper respiratory tract	
Alpha	0.72 (0.51-1.02)
Delta	1.96 (1.38-2.79)
Omicron	1.32 (0.97-1.80)

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JAMA Netw Open. 2023;6(3):e232328. doi:10.1001/jamanetworkopen.2023.2328

Does the Vaccine Work Against XBB 1.5?

- Lab studies suggest that the bivalent vaccine is still effective in protecting against severe disease, though perhaps not as much against infection.
- XBB.1.5 is derived from the omicron variant BA.2, and while the current bivalent vaccine was developed for the BA.5 variant, it has been shown to generate antibodies that recognize BA.2.
- Recent Op-Ed in NEJM by Paul Offit:
  - *Why did the strategy for significantly increasing BA.4 and BA.5 neutralizing antibodies using a bivalent vaccine fail?* ***The most likely explanation is imprinting.*** *The immune systems of people immunized with the bivalent vaccine, all of whom had previously been vaccinated, were primed to respond to the ancestral strain of SARS-CoV-2. They therefore probably responded to epitopes shared by BA.4 and BA.5 and the ancestral strain, rather than to new epitopes on BA.4 and BA.5…Although boosting with a bivalent vaccine is likely to have a similar effect as boosting with a monovalent vaccine, booster dosing is probably best reserved for the people most likely to need protection against severe disease…stop trying to prevent all symptomatic infections in healthy, young people.*

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https://www.nejm.org/doi/full/10.1056/NEJMp2215780

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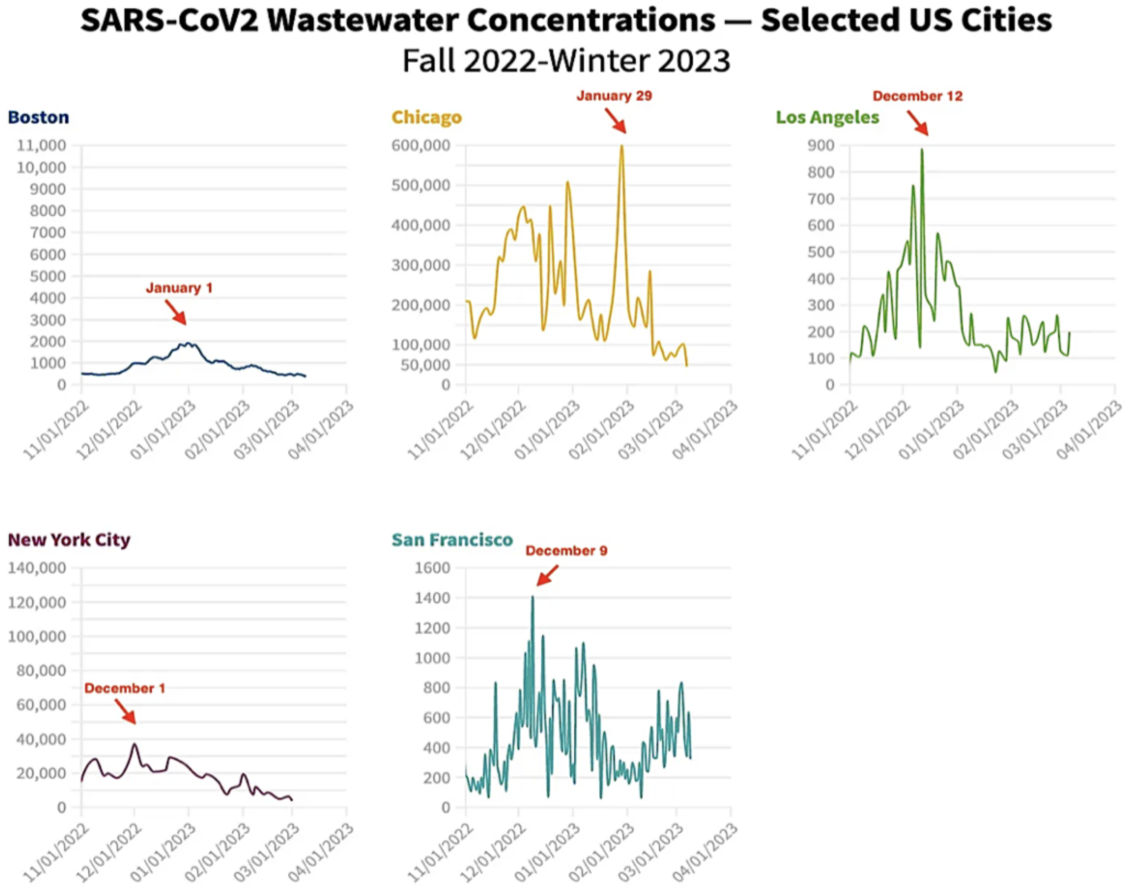
Is COVID Becoming Seasonal?

- The question—now that most people's immune systems have seen the spike protein of SARS-CoV-2—is whether we can we expect a more predictable seasonal pattern?
- Seems we have emerged from the third winter in the US?
- Wastewater data certainly suggest that winter waves have crested and receded in 3 successive years



SARS-CoV2 Wastewater Concentrations — Selected US Cities

Fall 2022-Winter 2023

https://insidemedicine.substack.com/p/data-snapshot-has-winter-past-covid

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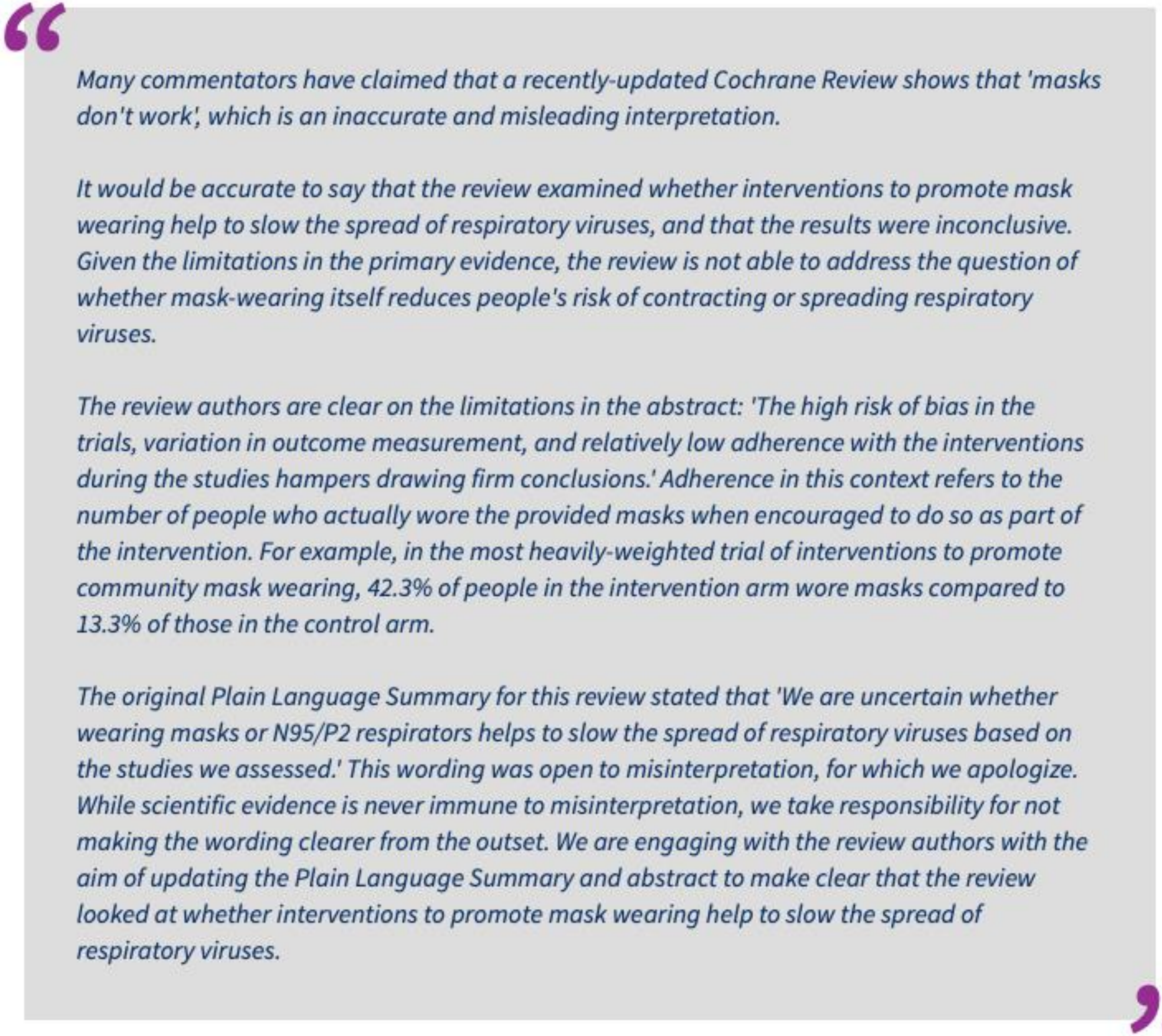
Did I say, “Masks Don’t Work?”

- Karla Soares-Weiser, Editor-in-Chief of the Cochrane Library, has responded on behalf of Cochrane
- The study has been widely misinterpreted.



Many commentators have claimed that a recently-updated Cochrane Review shows that 'masks don't work', which is an inaccurate and misleading interpretation.

It would be accurate to say that the review examined whether interventions to promote mask wearing help to slow the spread of respiratory viruses, and that the results were inconclusive. Given the limitations in the primary evidence, the review is not able to address the question of whether mask-wearing itself reduces people's risk of contracting or spreading respiratory viruses.

The review authors are clear on the limitations in the abstract: 'The high risk of bias in the trials, variation in outcome measurement, and relatively low adherence with the interventions during the studies hampers drawing firm conclusions.' Adherence in this context refers to the number of people who actually wore the provided masks when encouraged to do so as part of the intervention. For example, in the most heavily-weighted trial of interventions to promote community mask wearing, 42.3% of people in the intervention arm wore masks compared to 13.3% of those in the control arm.

The original Plain Language Summary for this review stated that 'We are uncertain whether wearing masks or N95/P2 respirators helps to slow the spread of respiratory viruses based on the studies we assessed.' This wording was open to misinterpretation, for which we apologize. While scientific evidence is never immune to misinterpretation, we take responsibility for not making the wording clearer from the outset. We are engaging with the review authors with the aim of updating the Plain Language Summary and abstract to make clear that the review looked at whether interventions to promote mask wearing help to slow the spread of respiratory viruses.

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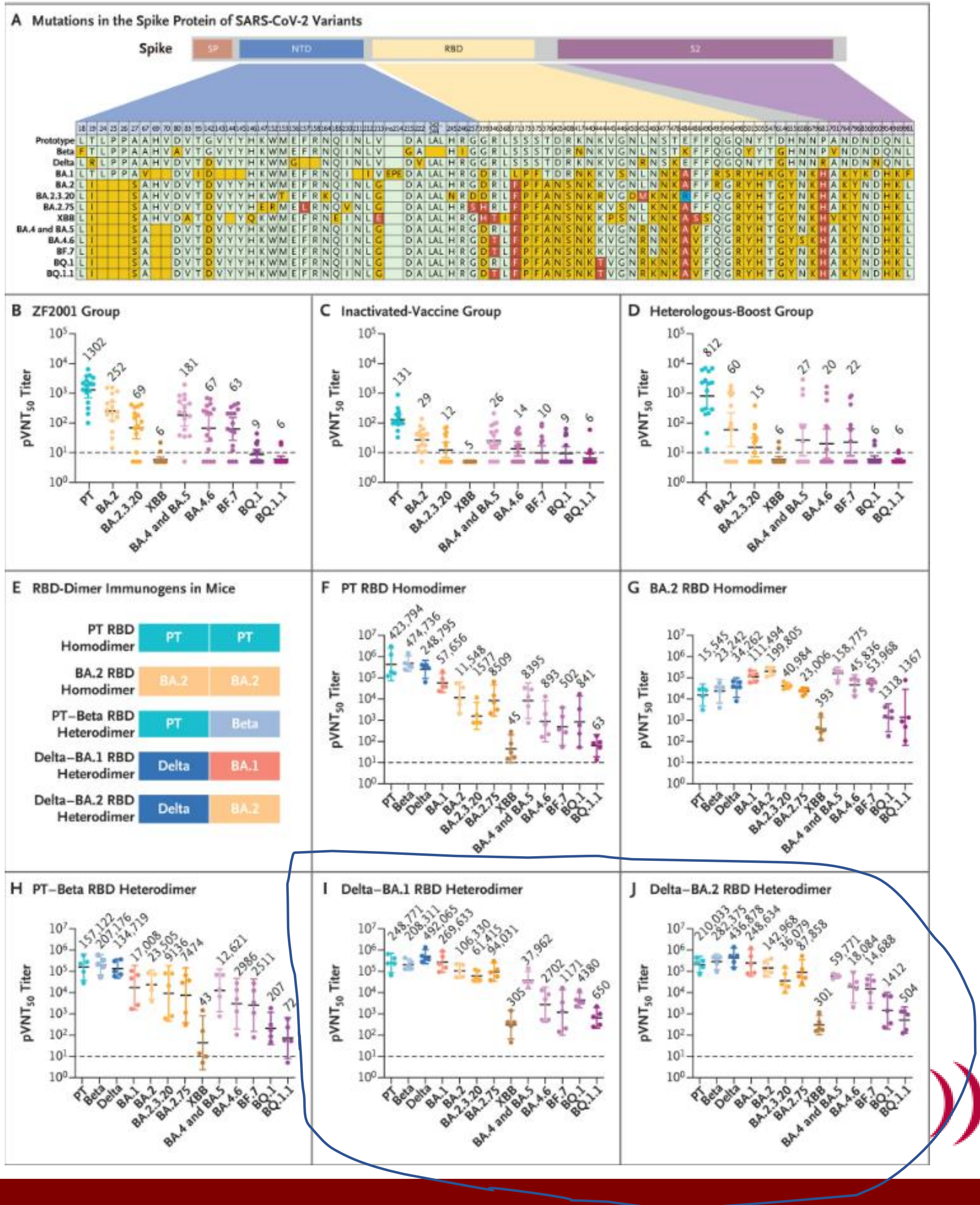
https://www.cochrane.org/news/statement-physical-interventions-interrupt-or-reduce-spread-respiratory-viruses-review

Neutralization of BQ.1, BQ.1.1, and XBB with RBD-Dimer Vaccines

- Newer targets are needed to advance vaccines
- The results showed that XBB and BQ.1.1 strongly escape the antibody responses induced by the prototype RBD homodimer
- In comparison, delta–BA.1 and delta–BA.2 RBD heterodimers induced balanced neutralization profiles against the early circulating strains (such as the prototype, beta, and delta) and omicron subvariants



DOI: 10.1056/NEJMc2216233

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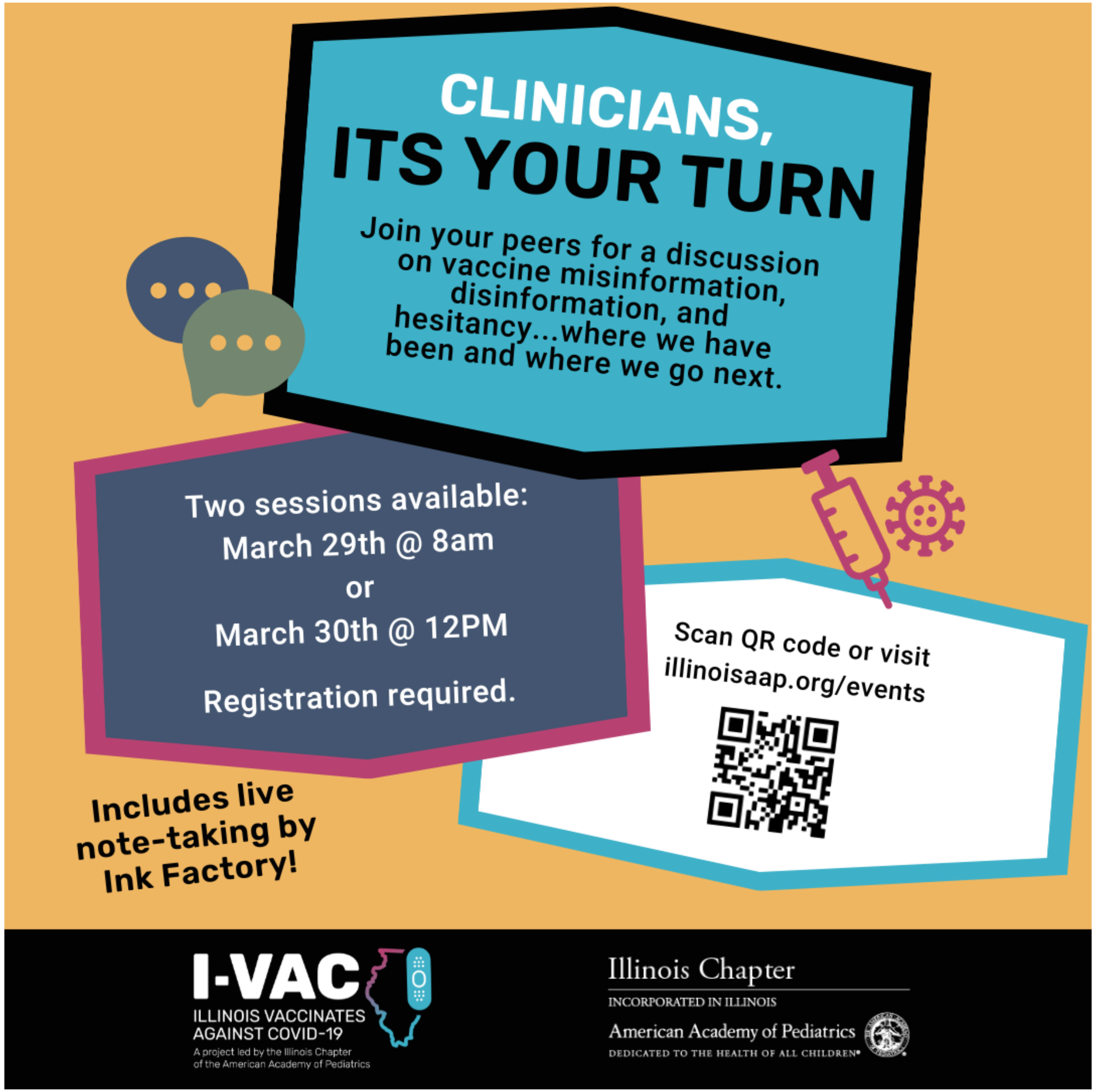

CLINICIANS, ITS YOUR TURN

Join your peers for a discussion on vaccine misinformation, disinformation, and hesitancy...where we have been and where we go next.

Two sessions available:
March 29th @ 8am
or
March 30th @ 12PM

Registration required.

Scan QR code or visit illinoisaap.org/events

Includes live note-taking by Ink Factory!

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A project led by the Illinois Chapter of the American Academy of Pediatrics

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Next Session: Wednesday, March 29th

For any questions, email us at
pgower@bsd.uchicago.edu

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