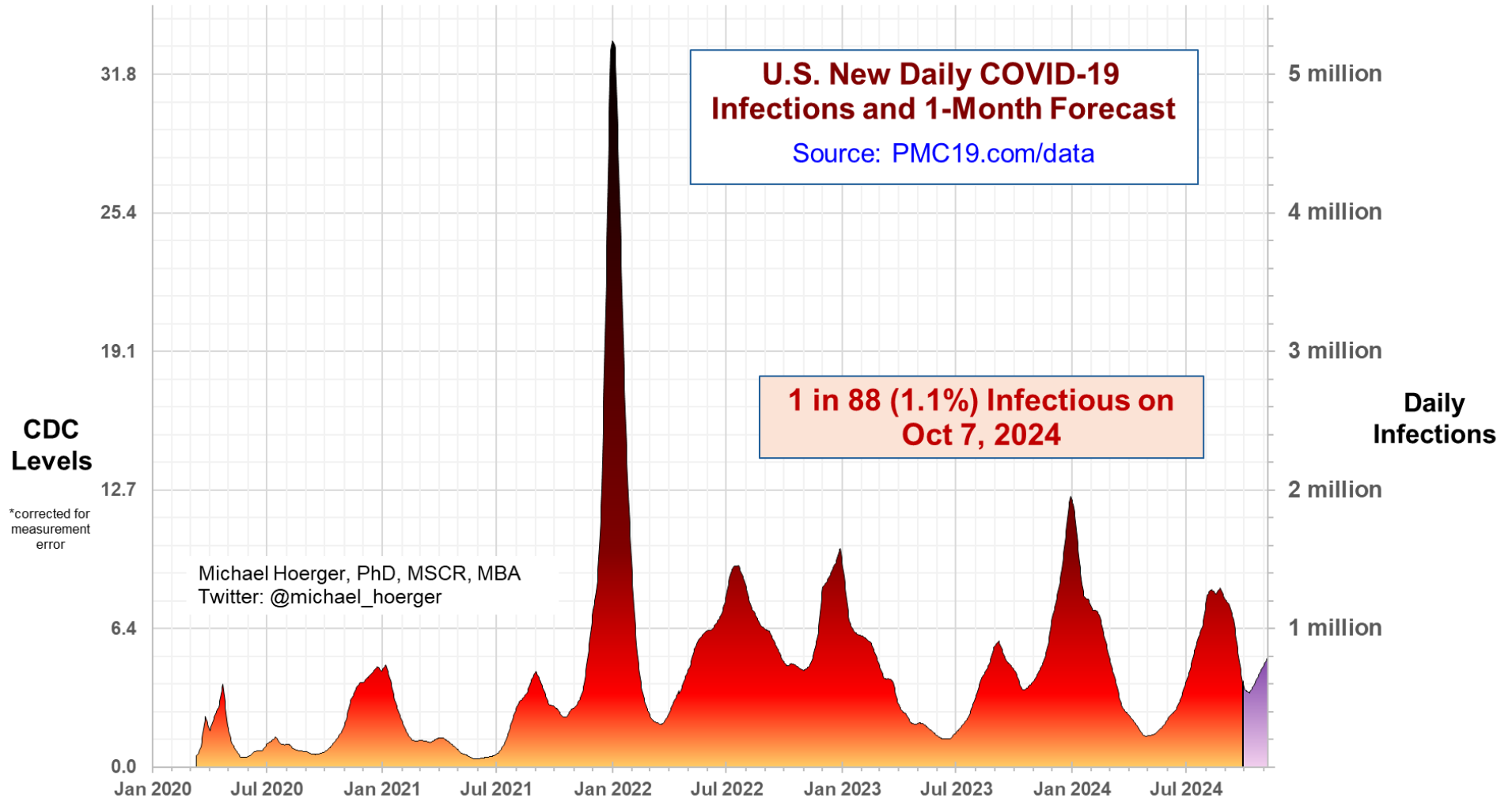


PMC U.S. COVID-19 Case Estimation and Forecasting Model: Report for October 7, 2024, pmc19.com/data

Michael Hoerger, PhD, MSCR, MBA, Pandemic Mitigation Collaborative (PMC)



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Join the Team!

Dr. Hoerger is accepting students for the Health Psychology PhD program at Tulane University. Applications are due November 30. Please share the graphic below on listservs and social media.

Websites of relevance:

- Hoerger – psychmike.com
- Cancer Research – psych-onc.com
- Pandemic Program – pmc19.com
- Doctoral Program – HealthPsychPhD.com

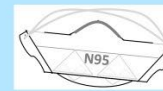
Tulane University - Health Psychology PhD

Seeking applicants to our PhD program who

- 1) Understand and are cautious about COVID,
- 2) Have a background in psychology or a closely-related undergraduate or Master's degree program,
- 3) Plan to pursue a research-intensive career spanning multiple scientific disciplines, and
- 4) Have a desire to help people with serious health conditions like cancer.

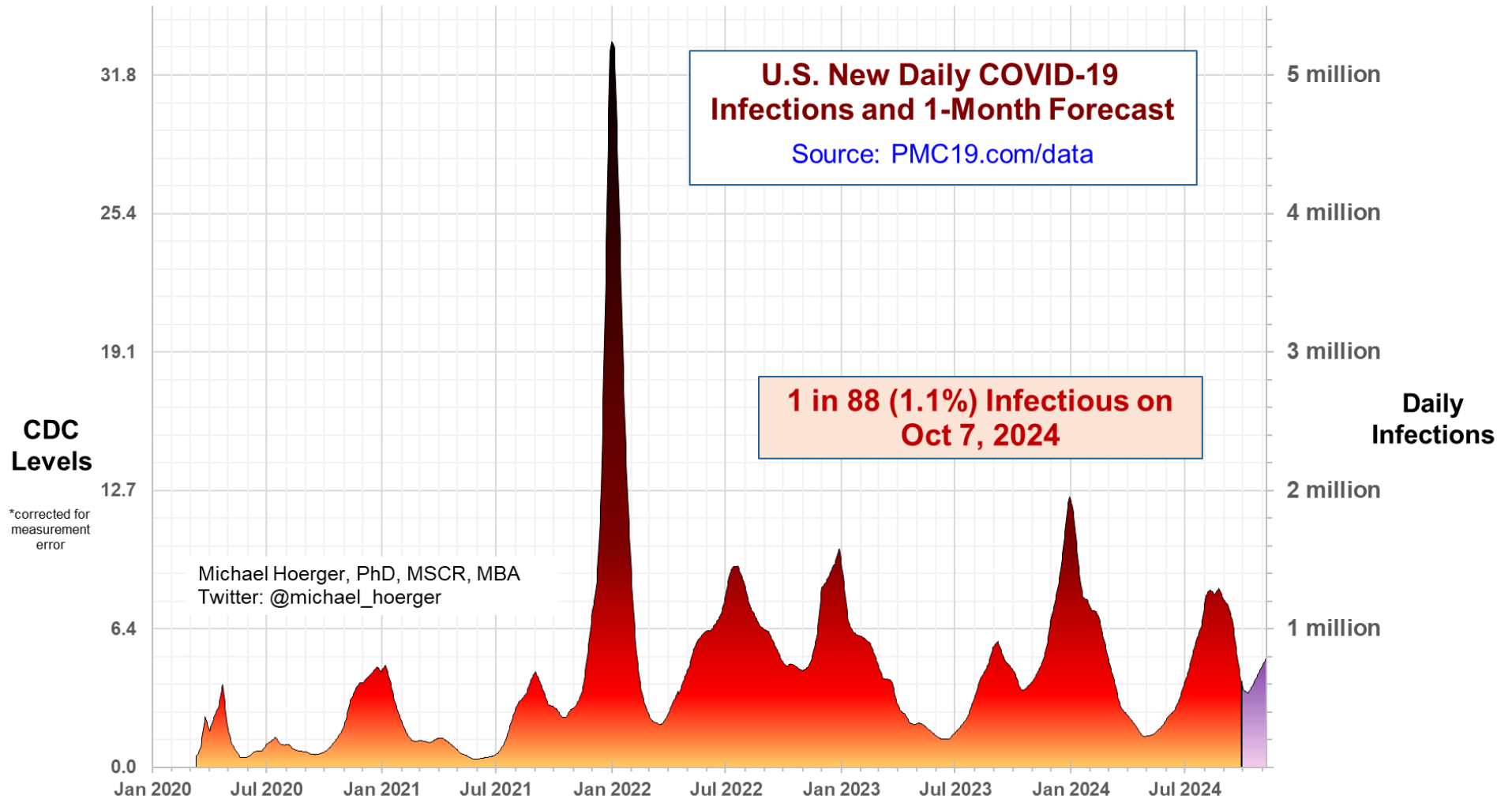


Learn more: HealthPsychPhD.com or mhoerger@tulane.edu



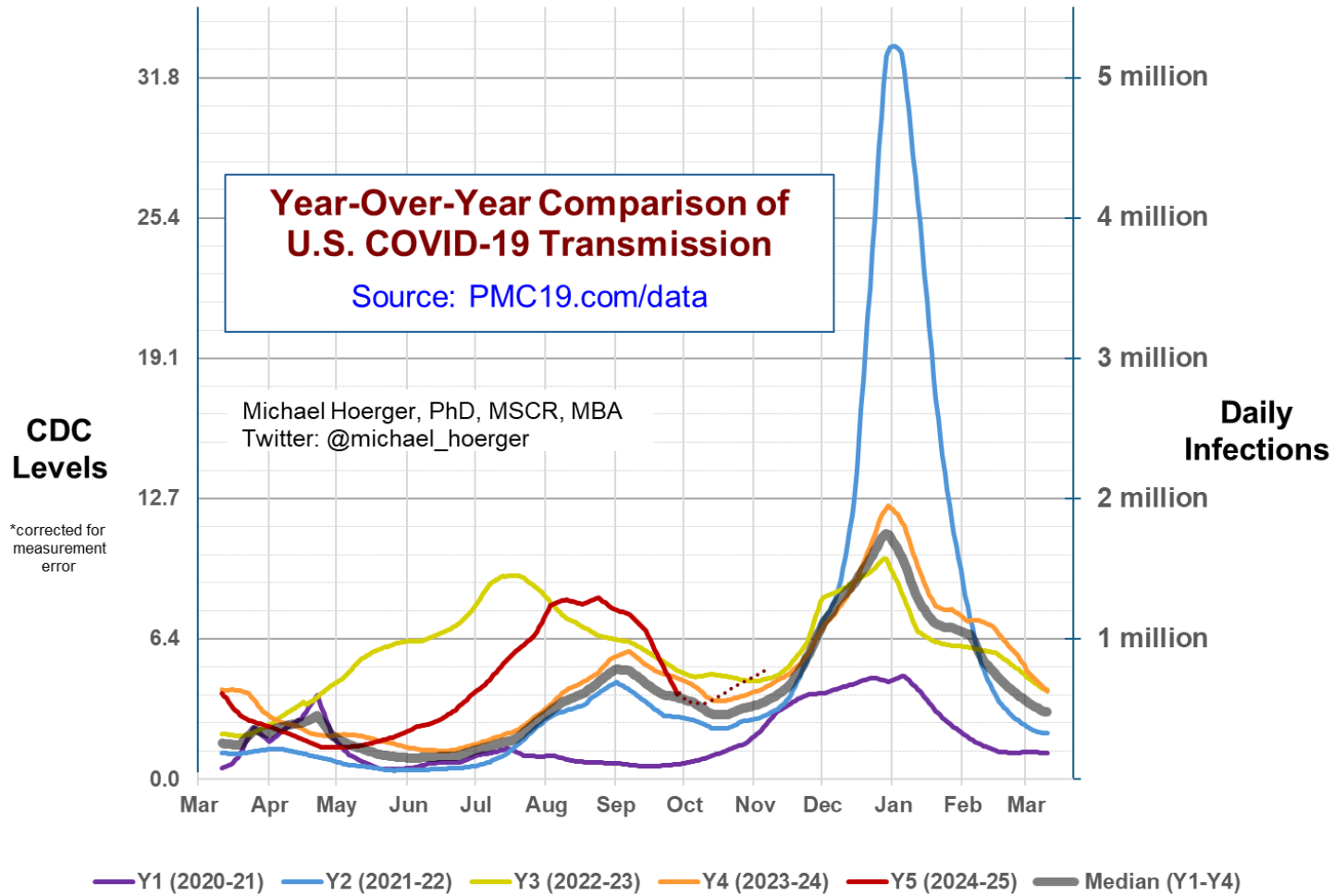
The Big-Picture View of the Pandemic

We are coming down from the 9th wave of the pandemic, which peaked at 1.3 million infections per day, and are heading soon into a 10th wave of COVID. We are presently in a very high between-wave “lull” with 1 in 88 (1.1%) actively infectious. We expect high transmission the remainder of 2024.



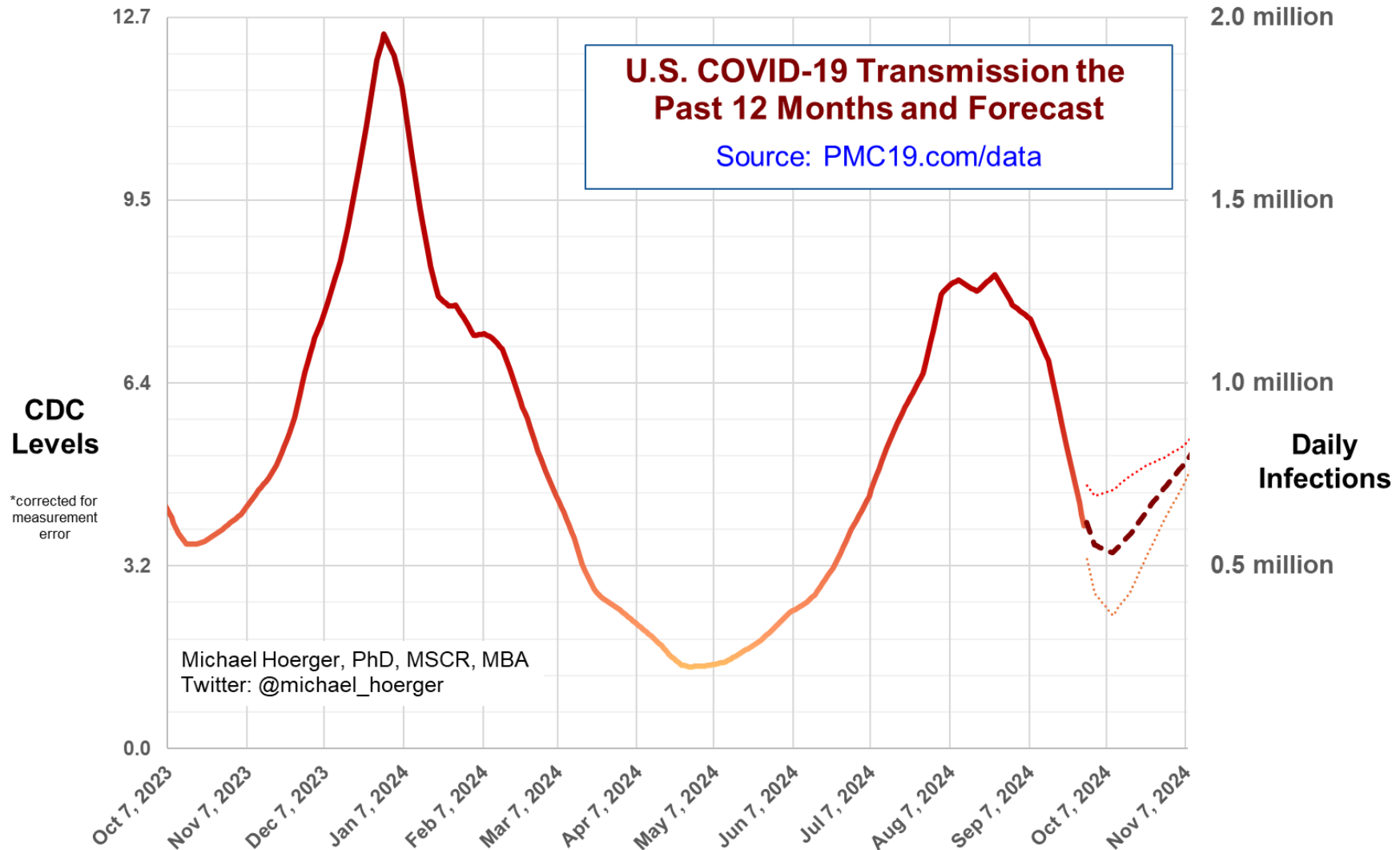
Year-Over-Year Comparisons

The year-over-year comparisons show that we have experienced an unprecedented decline in transmission for the back end of summer/fall wave. The start of October now looks similar to the historical median. Transmission is anticipated to be similar from late September through early November, before picking up quickly.



Close-up on the Current Forecast

The forecasted trajectory of transmission is largely the same as that of last week. The low-point for the remainder of 2024 could occur between now and mid-to-late October, with negligible differences in transmission during these weeks. We're at about 40-60% of the summer wave's peak over the next month.



Supplemental Statistics

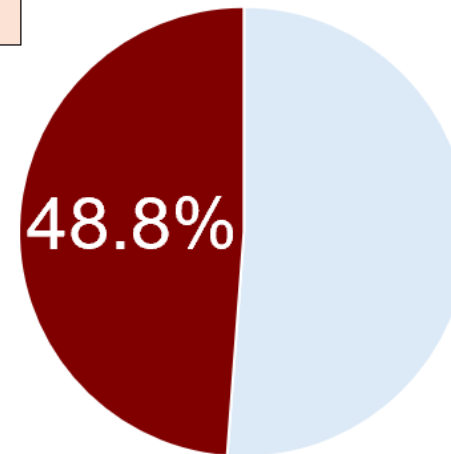
These supplemental statistics may prove useful in conversations about transmission and mitigation. The numbers are slightly lower than those of last week. We see that 1 in 88 are actively infectious. Over the next month, expect 600-700,000 infections/day on average, if the numbers hold. In a university classroom of 50-75 people, it should be assumed that someone (about a 50% chance) has infectious COVID. It's a coin toss whether any particular day of the pandemic has had higher or lower transmission than today. The impact on potential Long COVID cases the next month will be staggering, and expect high transmission throughout the remainder of 2024.

Current Levels for Oct 7, 2024	
% of the Population Infectious	1.1% (1 in 88)
New Daily Infections	541,000
New Weekly Infections	3,787,000
Resulting Weekly Long COVID Cases	189,000 to 757,000

Monthly Forecast	
Average % of the Population Infectious	1.3% (1 in 74)
Average New Daily Infections	643,433
New Infections During the Next Month	19,303,000
Resulting Monthly Long COVID Cases	965,000 to 3,861,000

Running Totals	
Infections Nationwide in 2024	220,311,000
Average Number of Infections Per Person All-Time, U.S.	3.44

How Does Risk Increase with More Social Contacts?			
Number of People	Chances Anyone Is Infectious	Number of People	Chances Anyone Is Infectious
1	1.1%	15	15.7%
2	2.3%	20	20.4%
3	3.4%	25	24.8%
4	4.5%	30	28.9%
5	5.5%	35	32.9%
6	6.6%	40	36.6%
7	7.7%	50	43.4%
8	8.7%	75	57.4%
9	9.7%	100	68.0%
10	10.8%	300	96.7%



There is more COVID-19 transmission today than during 48.8% of the pandemic.

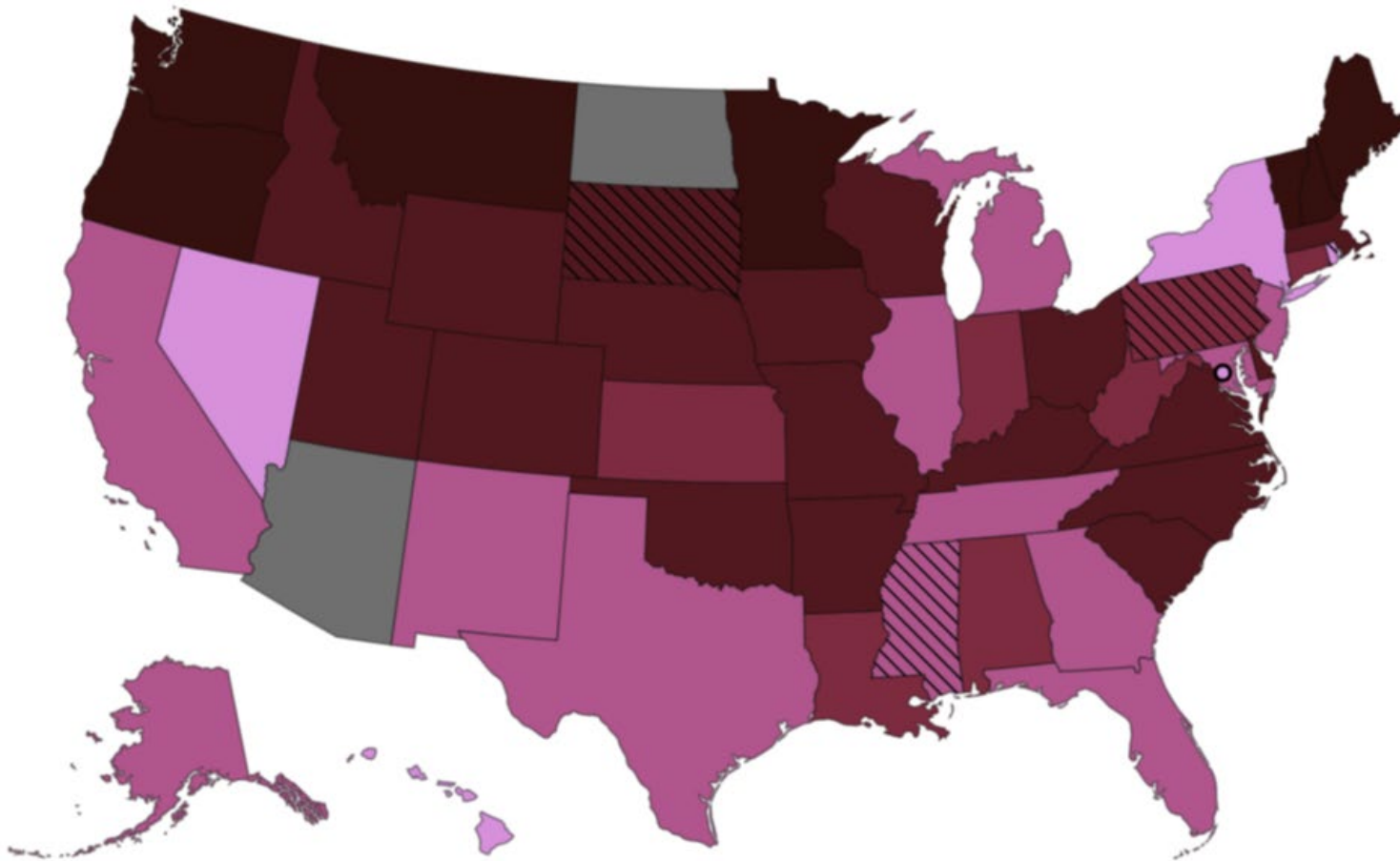
pmc19.com/data

Michael Hoerger, PhD, MSCR, MBA
Twitter: @michael_hoerger

CDC COVID-19 Heat Map

This map uses the CDC state-by-state data to show areas with higher transmission in deeper red. Notice the considerable geographic variation. The CDC version of the map, colored in cool blue is available online. They recently switched from an 11-shade to 6-shade map, both blue, which tends confused people into thinking transmission is “cool” or low: <https://www.cdc.gov/nwss/rv/COVID19-currentlevels.html>

CDC COVID-19 Heat Map, Higher Transmission Shown with Deeper Red



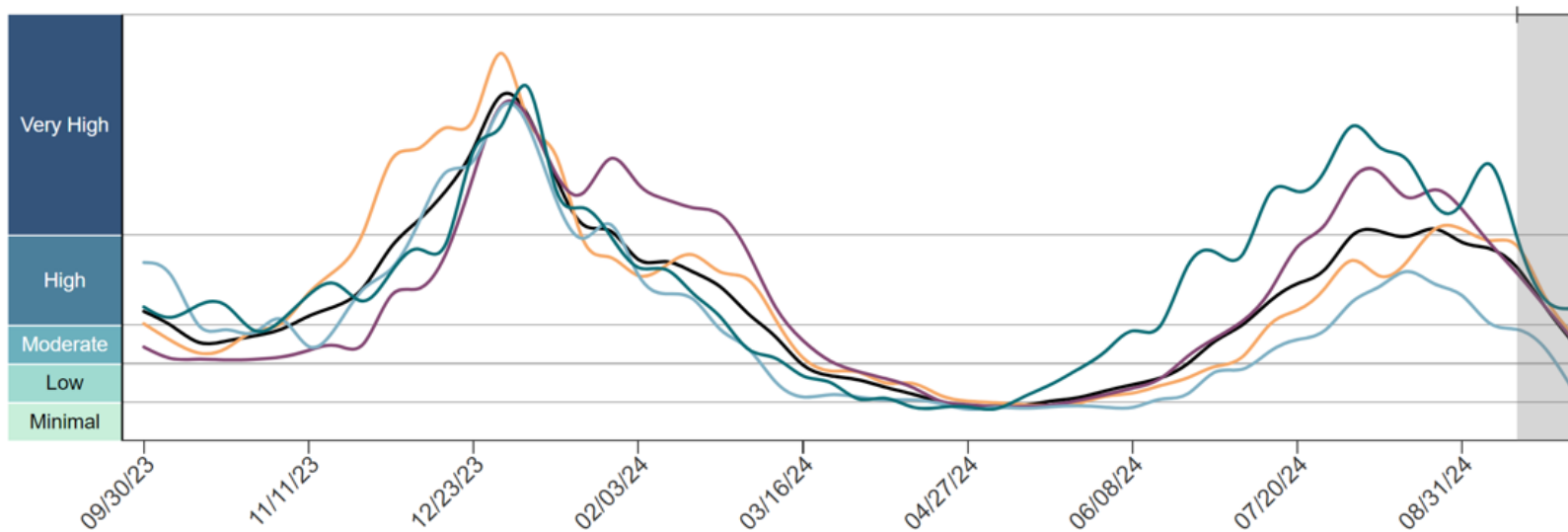
Regional Case Estimation

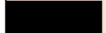




This graph from the CDC shows regional variation in transmission. You can use the “PMC Regional Multiplier” to get a ballpark estimate the proportion of a given region actively infectious with COVID-19 (see Technical Appendix document on the dashboard page). The CDC regional data are available online:

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

State-level data are also available: <https://www.cdc.gov/nwss/rv/COVID19-statetrend.html>

CDC Regional Levels with PMC Estimates of the Percentage Actively Infectious



Estimated Percentage Actively Infectious*			
		PMC Model	Raw CDC Data
	National	1.1% (1 in 88)	1.3% (1 in 79)
	Northeast	0.6% (1 in 168)	0.7% (1 in 149)
	Midwest	1.2% (1 in 82)	1.4% (1 in 73)
	South	1.2% (1 in 86)	1.3% (1 in 77)
	West	1.5% (1 in 67)	1.7% (1 in 59)

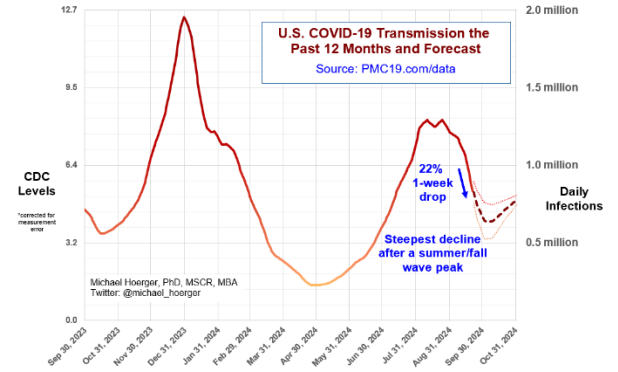
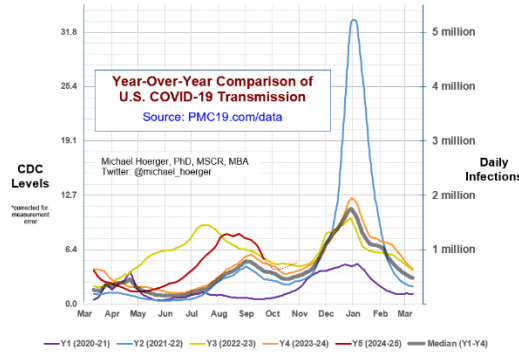
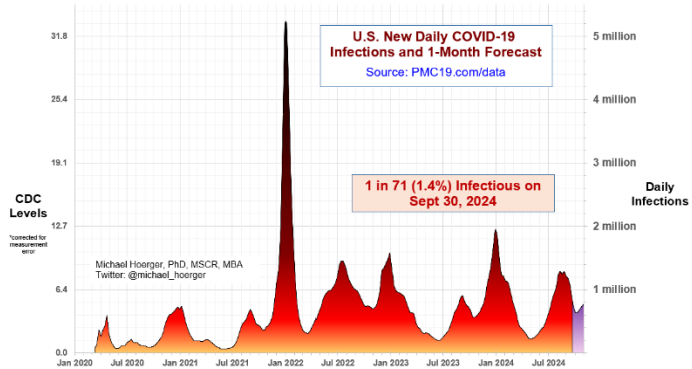
PMC Regional Multiplier*
0.330

* CDC level multiplied by the PMC Regional Multiplier provides an approximate estimate of the percentage actively infectious.

* The "Raw CDC" values are simply the value in the CDC chart multiplied by the PMC Regional Multiplier. The "PMC Model" estimates adjust those data by accounting for reporting time lag

PMC COVID-19 Dashboard

Here is the complete PMC COVID-19 Dashboard. Please share the images across social media and other websites. Michael Hoerger, PhD, MSCR, MBA | Pandemic Mitigation Collaborative | pmc19.com/data



Current Levels for Sep 30, 2024

% of the Population Infectious	1.4% (1 in 71)
New Daily Infections	669,000
New Weekly Infections	4,683,000
Resulting Weekly Long COVID Cases	234,000 to 937,000

Monthly Forecast

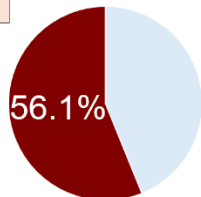
Average % of the Population Infectious	1.4% (1 in 70)
Average New Daily Infections	682,733
New Infections During the Next Month	20,482,000
Resulting Monthly Long COVID Cases	1,024,000 to 4,096,000

Running Totals

Infections Nationwide in 2024	217,437,000
Average Number of Infections Per Person All-Time, U.S.	3.43

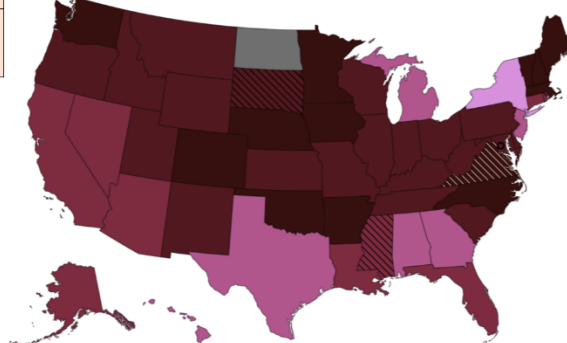
How Does Risk Increase with More Social Contacts?

Number of People	Chances Anyone Is Infectious	Number of People	Chances Anyone Is Infectious
1	1.4%	15	19.1%
2	2.8%	20	24.8%
3	4.1%	25	29.7%
4	5.5%	30	34.5%
5	6.8%	35	38.9%
6	8.1%	40	43.1%
7	9.4%	50	50.6%
8	10.7%	75	65.3%
9	11.9%	100	75.6%
10	13.1%	300	98.5%

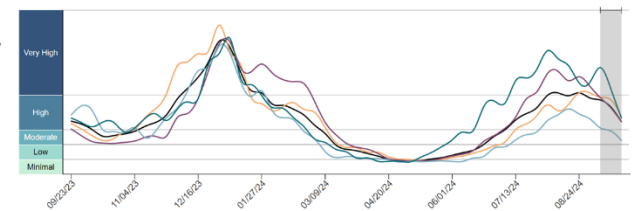


There is more COVID-19 transmission today than during 56.1% of the pandemic.

CDC COVID-19 Heat Map, Higher Transmission Shown with Deeper Red



CDC Regional Levels with PMC Estimates of the Percentage Actively Infectious



Estimated Percentage Actively Infectious*

	PMC Model	Raw CDC Data
National	1.4% (1 in 71)	1.7% (1 in 57)
Northeast	0.9% (1 in 112)	1.1% (1 in 90)
Midwest	1.5% (1 in 65)	1.9% (1 in 52)
South	1.4% (1 in 72)	1.7% (1 in 58)
West	1.5% (1 in 67)	1.9% (1 in 54)

PMC Regional Multiplier*

0.329

* CDC level multiplied by the PMC Regional Multiplier provides an approximate estimate of the percentage actively infectious.

* The "Raw CDC" values are simply the value in the CDC chart multiplied by the PMC Regional Multiplier. The "PMC Model" estimates adjust those data by accounting for reporting time lag.

Announcements

July 11

Recent COVID chat on Twitter had >2,000 listeners:

<https://x.com/AnciraBecky/status/1808429122831401145>

July 24

TODAY covers the PMC Forecast for the summer wave:

<https://www.today.com/health/coronavirus/states-with-highest-covid-rates-2024-rcna163403>

Aug 1

Check out our new empirical article in JAMA-NO framing masking in healthcare as a healthcare quality indicator.

Article: <https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2821699>

Summary: <https://www.msn.com/en-gb/health/other/masking-policies-prevalent-in-top-cancer-centers-amid-winter-covid-wave/ar-BB1qZWnr>

Twitter Spaces Conversation: <https://x.com/i/spaces/1OdKrXllryAJX>

*If new to Twitter, it is not terribly challenging to create an account. Do so, and check in once a month or so.

You may find it more useful than realized. I did.

PPT for the Space: <https://pmc19.com/jama.pdf>

Aug 15

The dashboard and a related pilot project were featured on CBS, NBC, and FOX:

<https://www.wvlv.com/article/news/health/new-orleans-free-home-air-filters-for-cancer-patients-covid-cases-special-kit-safe/289-5d873151-7069-478a-ab03-2260cd08c22a>

Sep 17

Dr. Hoerger joined Dr. Moriarty and COVID-19 Resources Canada. We will post a link when the archived video is available. We received an update that the archived version is in progress.

A separate document called a Technical Appendix appears on the dashboard page and has more methodologic info.