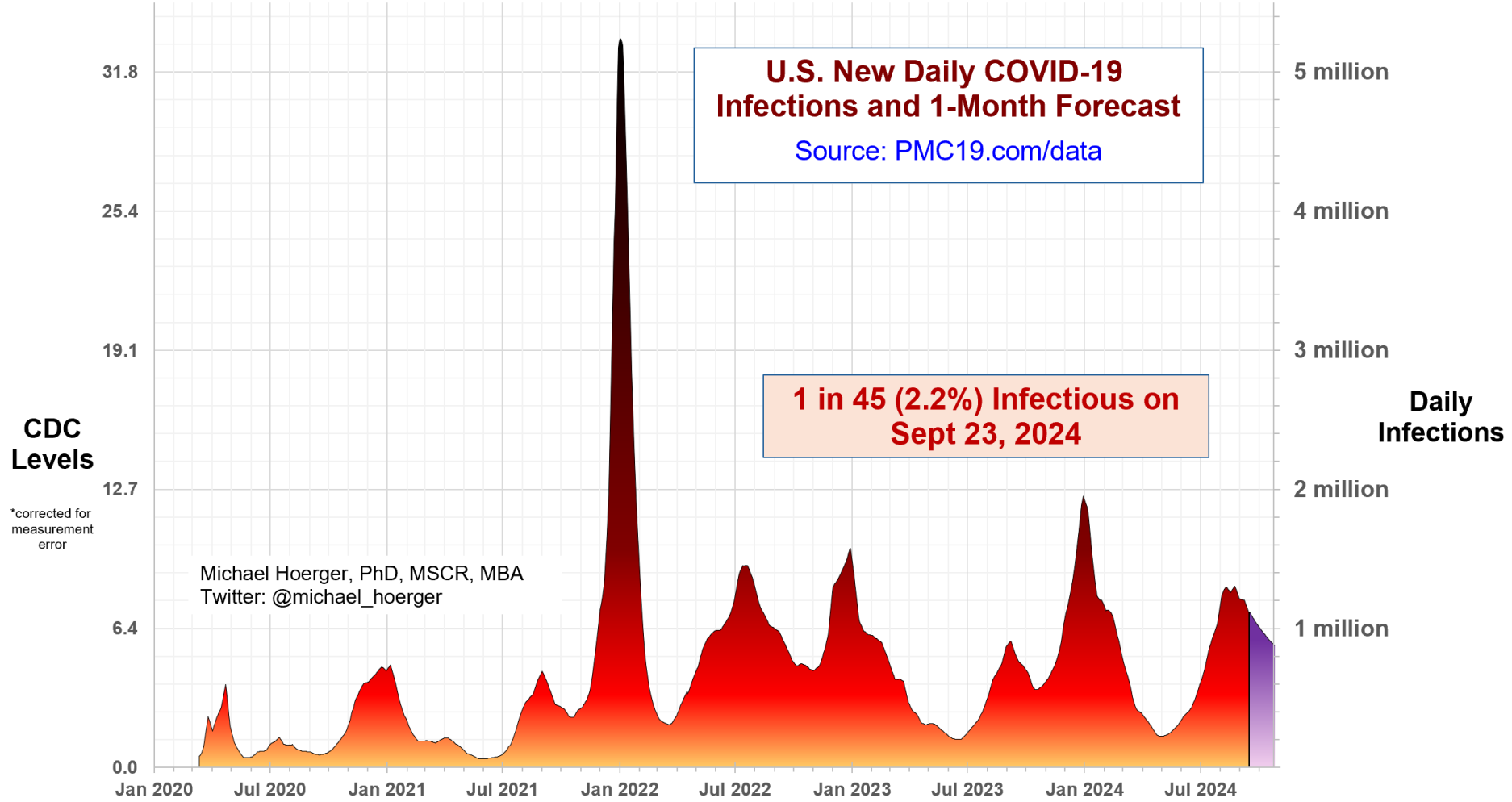
PMC U.S. COVID-19 Case Estimation and Forecasting Model: Report for September 23, 2024, pmc19.com/data

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



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Join the Team!

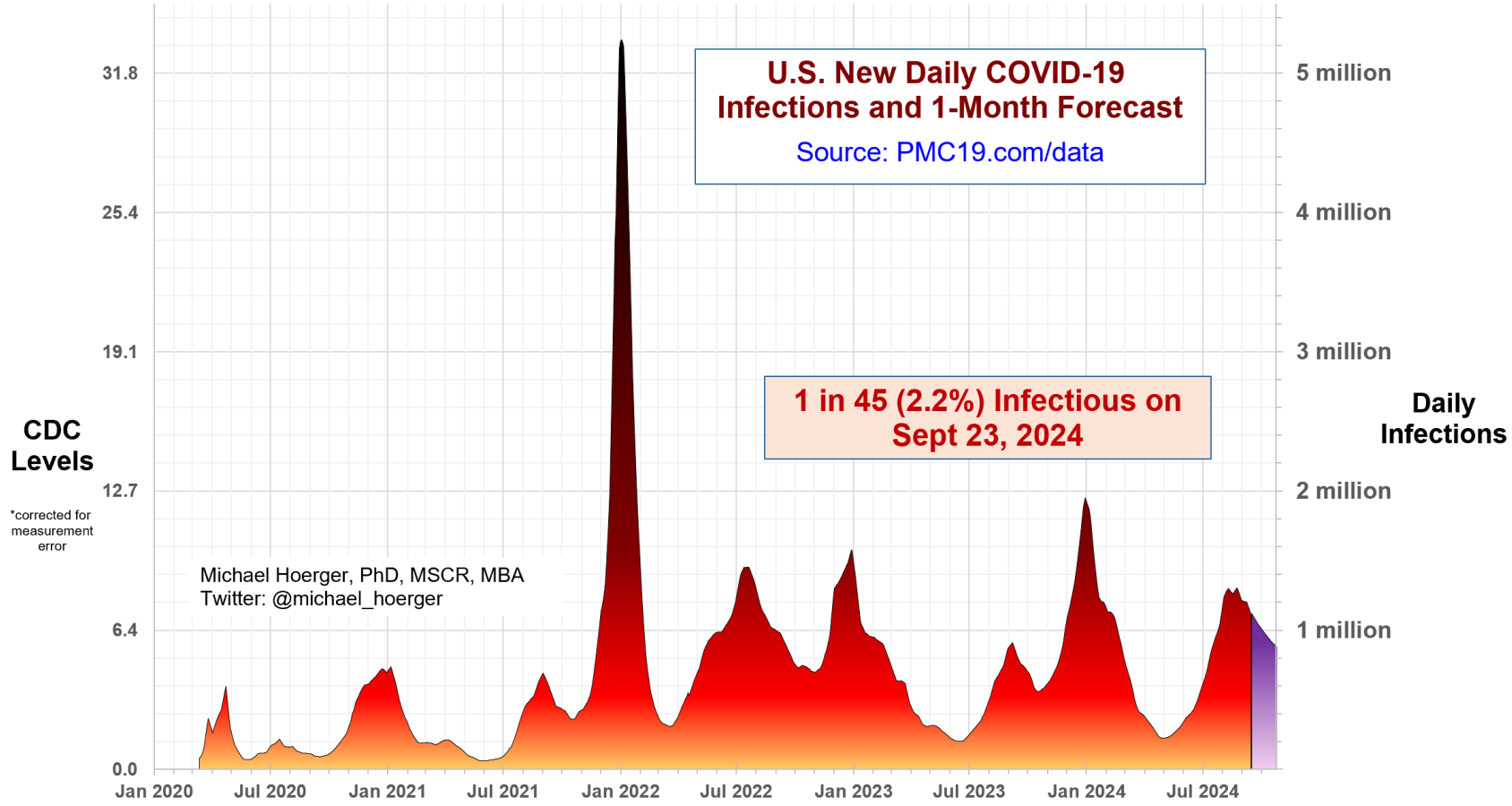
Dr. Hoerger is accepting students for the Health Psychology PhD program at Tulane University. Applications are due November 30. Please share the graphic below on listservs and social media.

Websites of relevance:

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

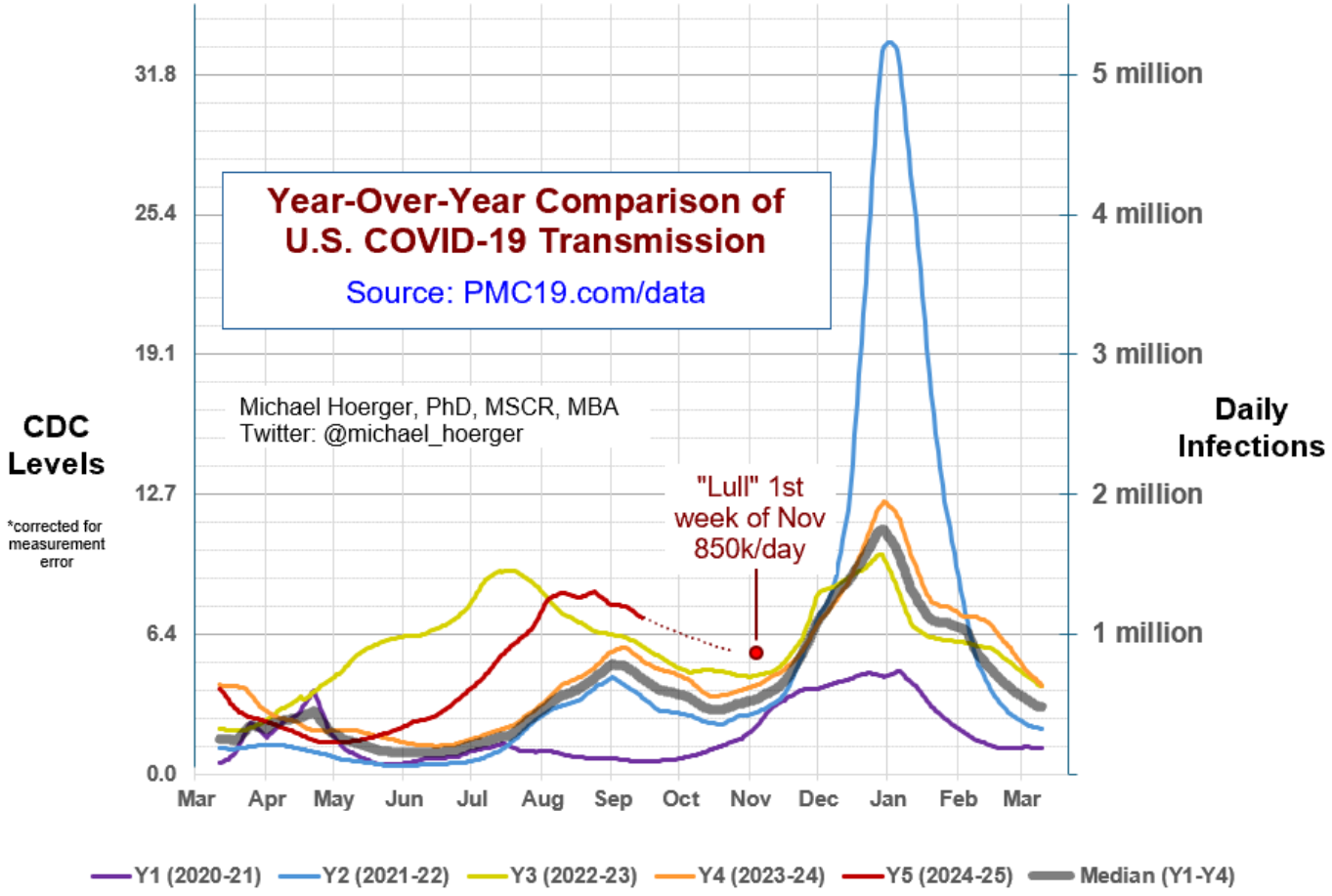
The Big-Picture View of the Pandemic

We are passing through the 9th wave of the pandemic, which peaked at 1.3 million infections per day. Expect to stay over 1 million daily infections for another 10 days. We are still anticipating an extremely high “lull” between the summer and winter waves the first week of November at around 850,000 daily infections. Transmission is higher for this time of year (mid-summer through mid-fall, i.e., August through November) than any prior year. We expect high transmission the remainder of 2024.



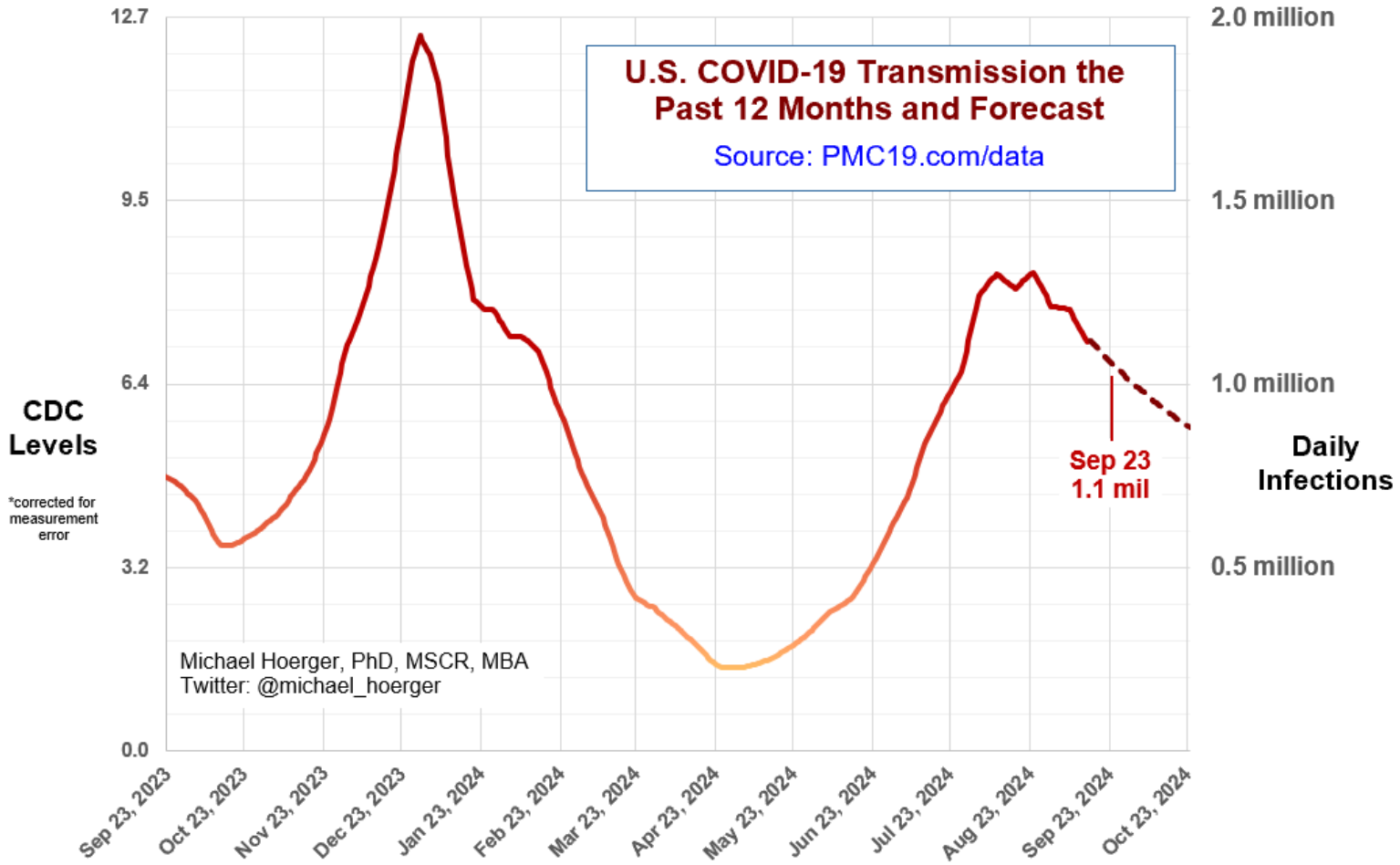
Year-Over-Year Comparisons

The year-over-year comparisons suggest that we are experiencing the highest-level of transmission all-time during this time of year. The surge is both high and wide, meaning sustained high levels of transmission. Notice the graph suggests the worst all-time COVID transmission for August, September, October, and likely November. Schools and businesses that lack multilayered mitigation (vaccines, masking, excellent indoor air quality, better-than-CDC isolation guidance, testing) should expect illness and absences.



Close-up on the Current Forecast

The 9th wave peaked at 1.3 million daily infections on both August 10th and 24th (5,000 more infections on the latter date). Remember that 50-60% of transmission often occurs on the back end of a wave, which is why ongoing mitigation remains important. Expect >1 million new infections per day for another 10 days and most of the remaining year.



Supplemental Statistics

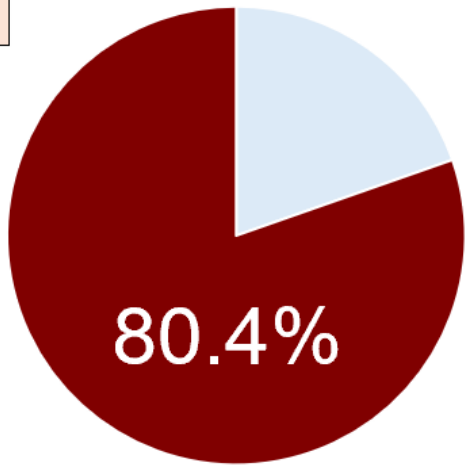
These supplemental statistics may prove useful in conversations about transmission and mitigation. The numbers are marginally lower than last week. We see that 1 in 45 are actively infectious. Over the next month, expect about 1 million infections/day on average. In a school classroom of 30 people, it should be assumed that someone (about a 50% chance) has infectious COVID. Transmission is higher than during 80% of the pandemic, lower than just 20% of pandemic days. 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 Sep 23, 2024
% of the Population Infectious
2.2% (1 in 45)
New Daily Infections
1,059,000
New Weekly Infections
7,413,000
Resulting Weekly Long COVID Cases
371,000 to 1,483,000

Monthly Forecast
Average % of the Population Infectious
2.0% (1 in 49)
Average New Daily Infections
969,467
New Infections During the Next Month
29,084,000
Resulting Monthly Long COVID Cases
1,454,000 to 5,817,000

Running Totals
Infections Nationwide in 2024
214,525,000
Average Number of Infections Per Person All-Time, U.S.
3.42

How Does Risk Increase with More Social Contacts?			
Number of People	Chances Anyone Is Infectious	Number of People	Chances Anyone Is Infectious
1	2.2%	15	28.5%
2	4.4%	20	36.1%
3	6.5%	25	42.9%
4	8.6%	30	48.9%
5	10.6%	35	54.4%
6	12.6%	40	59.2%
7	14.5%	50	67.4%
8	16.4%	75	81.4%
9	18.3%	100	89.4%
10	20.1%	300	99.9%



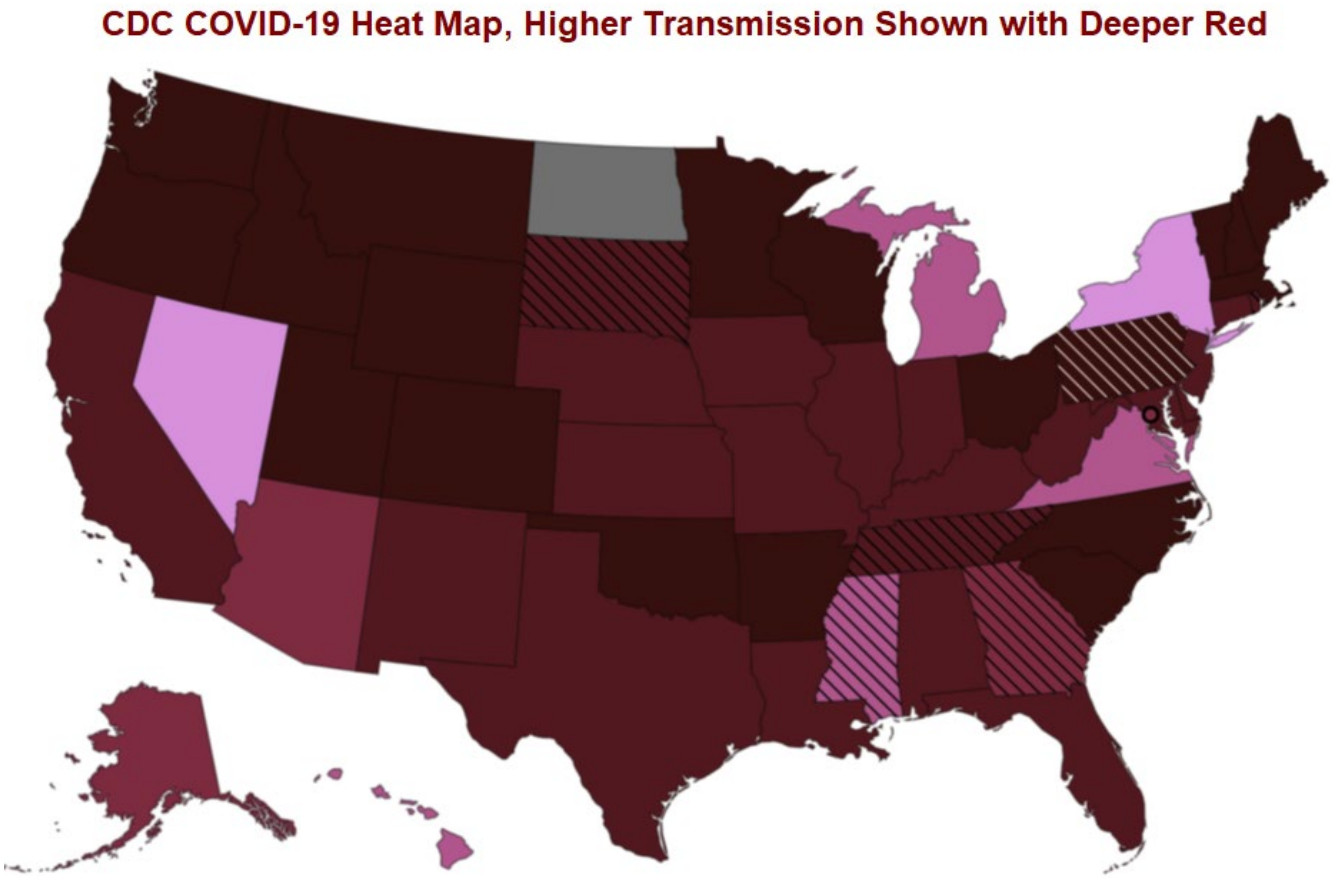
There is more COVID-19 transmission today than during 80.4% of the pandemic.

pmc19.com/data

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

CDC COVID-19 Heat Map

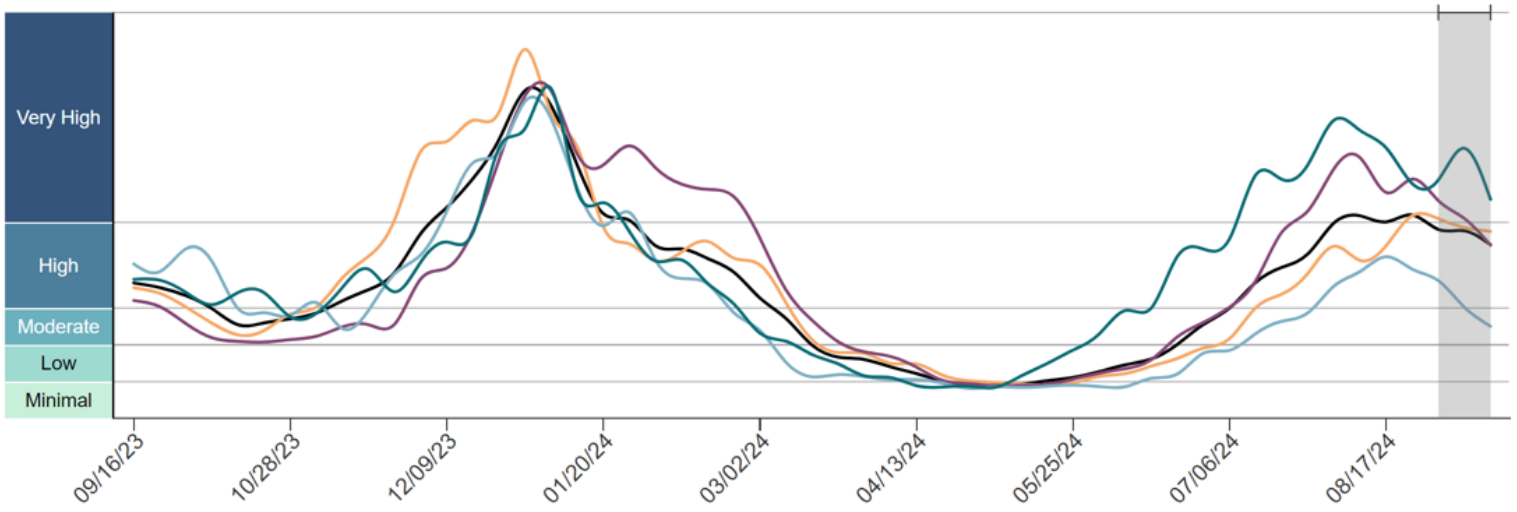
This map uses the CDC state-by-state data to show areas with higher transmission in deeper red. Notice the considerable geographic variation. The CDC version of the map, colored in cool blue is available online. They recently switched from an 11-shade to 6-shade map, both blue, which tends confused people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



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	2.2% (1 in 45)	2.3% (1 in 43)
	Northeast	1.2% (1 in 85)	1.2% (1 in 81)
	Midwest	2.4% (1 in 42)	2.5% (1 in 40)
	South	2.2% (1 in 45)	2.3% (1 in 43)
	West	2.8% (1 in 36)	2.9% (1 in 34)

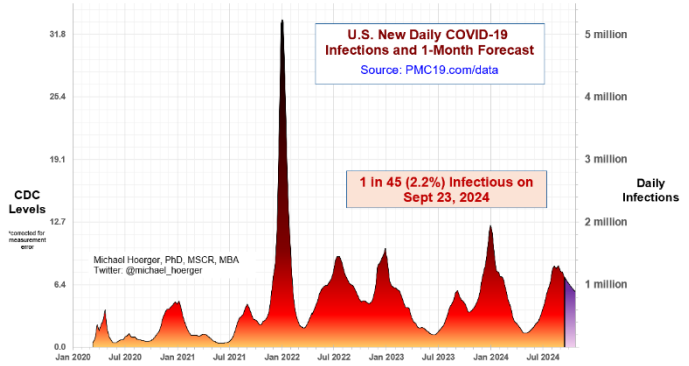
* The "Raw CDC" values are simply the value in the CDC chart multiplied by the PMC Regional Multiplier. The "PMC Model" estimates adjust those data by accounting for reporting time lag.

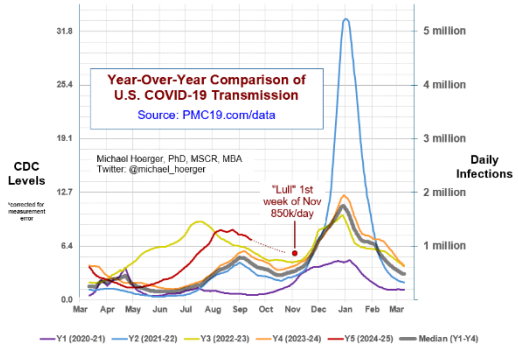
PMC Regional Multiplier*
0.329

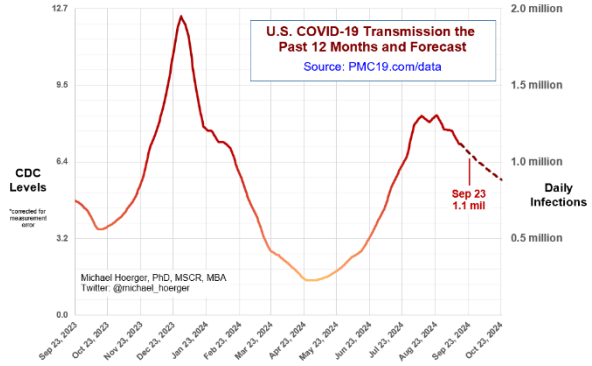
* CDC level multiplied by the PMC Regional Multiplier provides an approximate estimate of the percentage actively infectious.

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







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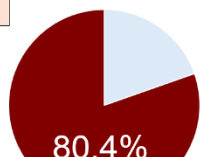
pmc19.com/data Michael Hoerger, PhD, MSCR, MBA Twitter: @michael_hoerger



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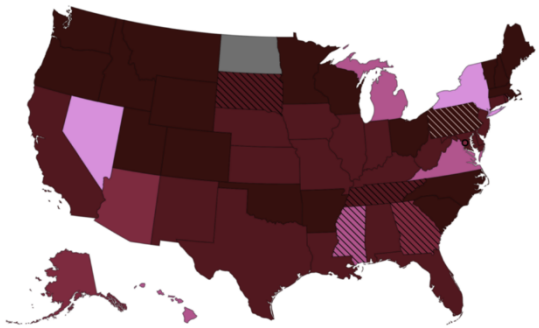
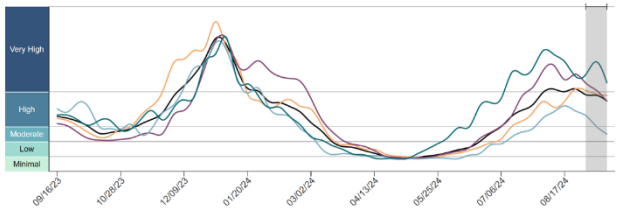
CDC COVID-19 Heat Map, Higher Transmission Shown with Deeper Red



CDC Regional Levels with PMC Estimates of the Percentage Actively Infectious



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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.wwltv.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 joins Dr. Moriarty and COVID-19 Resources Canada. We will post a link when the archived video is available.

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