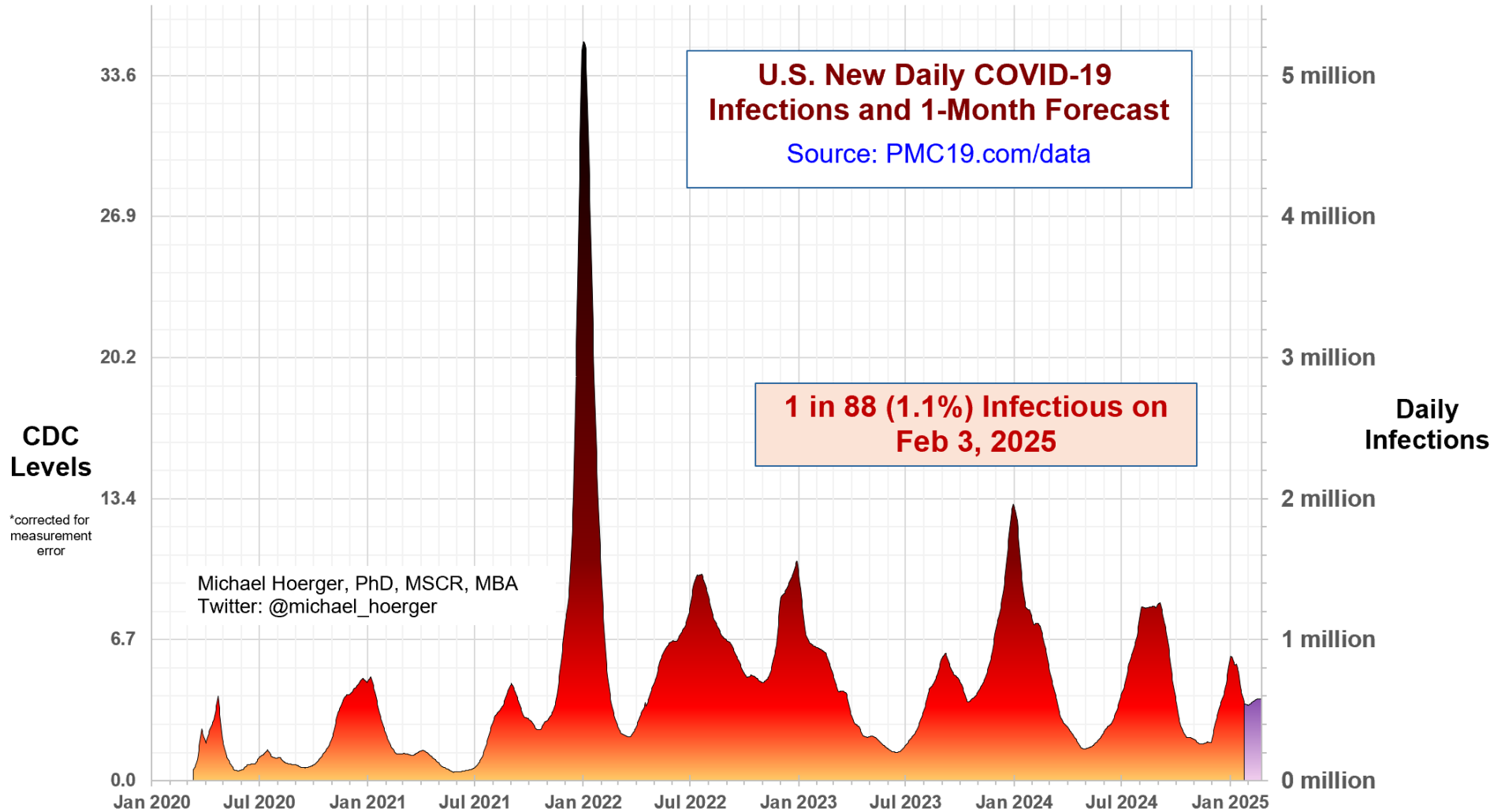


PMC U.S. COVID-19 Case Estimation and Forecasting Model: Report for February 3, 2025, pmc19.com/data

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



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Announcements

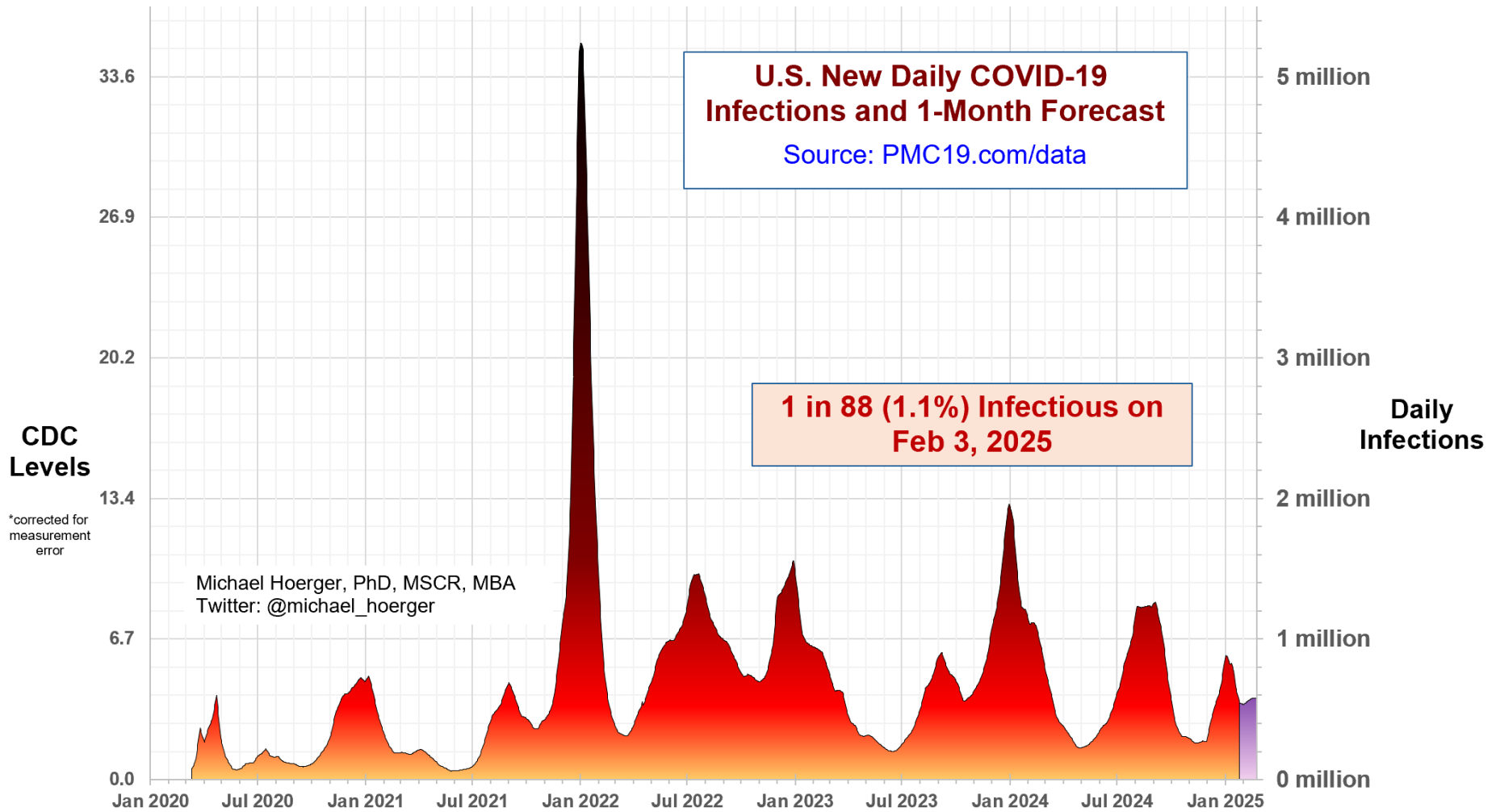
Data Quality Note: Biobot has not reported data for 2025 yet (20% model weight). The CDC (80% model weight) continues to report data, despite a ban on external communication. We have an interim model ready to substitute the usual model next week if the CDC and Biobot do not report, which is a possible scenario. Thus, the PMC Dashboard will maintain continuity.

Recent News Coverage:

- **CNN:** <https://www.cnn.com/2024/12/31/health/covid-holiday-surge-us/index.html>
- **The Atlantic:** <https://www.theatlantic.com/health/archive/2024/12/covid-christmas-winter-wave/681133/>
- **TODAY:** <https://www.today.com/health/coronavirus/us-silent-covid-surge-holidays-2024-rcna184828>
- **USA Today:** <https://www.usatoday.com/story/news/health/2024/12/24/covid-winter-2024-cdc-data/77199841007/>

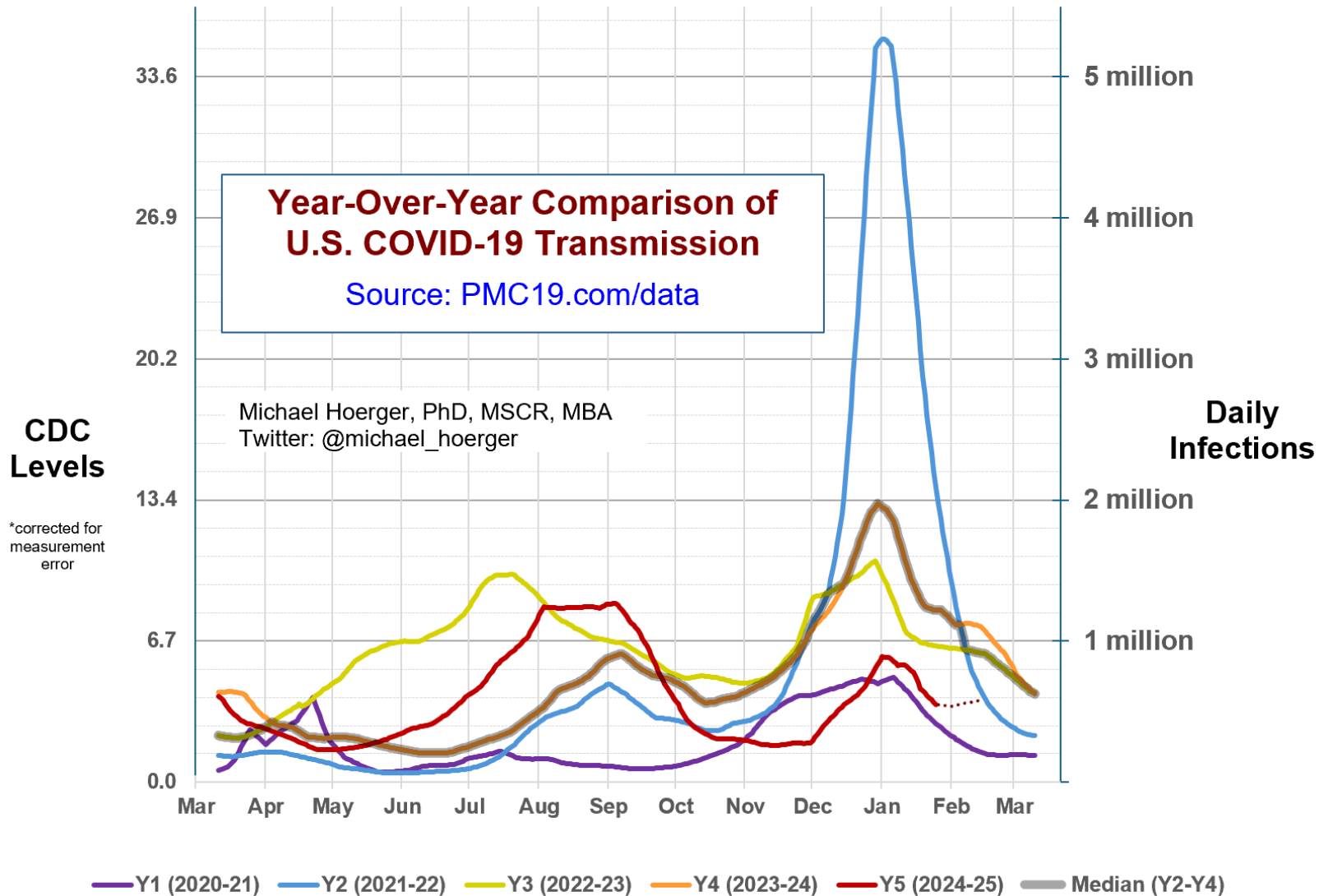
The Big-Picture View of the Pandemic

We have likely passed the peak of the 10th wave in much of the U.S. It is common for 50-60% of transmission to occur on the back end of the wave, so there remains a need for caution over the weeks ahead. An estimated 1 in 88 people in the U.S. are estimated to be actively infectious with COVID-19 on February 3.



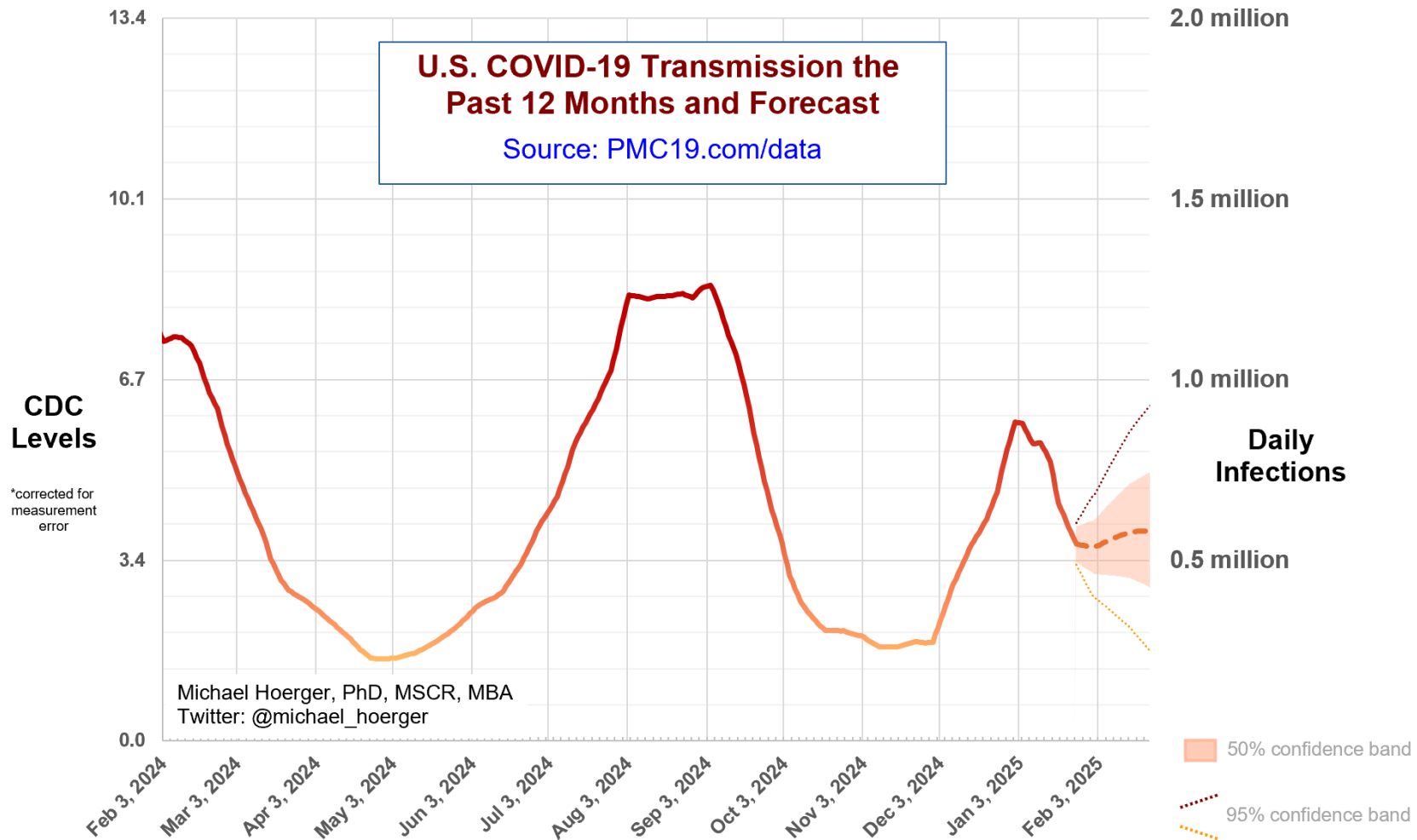
Year-Over-Year Comparisons

The year-over-year graph shows how the current winter wave departs from the pattern of prior years. See the late onset, yet the presumed peak occurring very near the “usual” time point.



Close-up on the Current Forecast

This graph shows the current forecast. Note that values for “today” are a forecast from data 9-12 days old. The average (dashed) line reflects all possible scenarios with an emphasis on stable transmission the next several weeks. A slight uptick (25% chance) or gradual decline (25% chance) are approximately equally likely, with more extreme trajectories noted with the dotted lines.



Supplemental Statistics

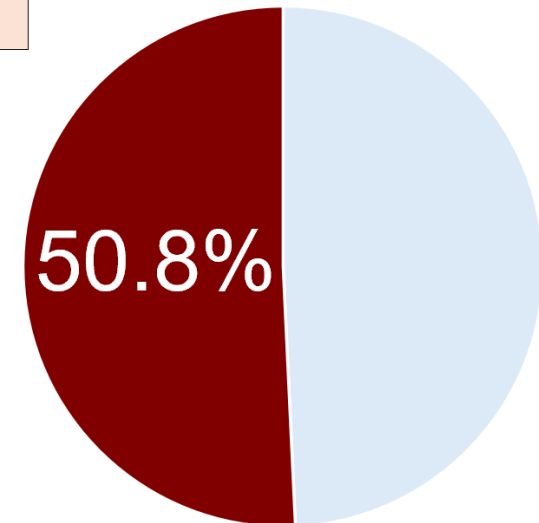
These supplemental statistics may prove useful in conversations about transmission and mitigation. These are not “safe” circumstances but much better than 2-3 weeks ago nationally. In a group of 35 people, there is still a 1-in-3 chance of exposure if average risk and no firm testing/isolation policies.

Current Levels for Feb 3, 2025	
% of the Population Infectious	1.1% (1 in 88)
New Daily Infections	542,000
New Weekly Infections	3,794,000
Resulting Weekly Long COVID Cases	190,000 to 759,000

Monthly Forecast	
Average % of the Population Infectious	1.2% (1 in 84)
Average New Daily Infections	570,133
New Infections During the Next Month	17,104,000
Resulting Monthly Long COVID Cases	855,000 to 3,421,000

Running Totals	
Infections Nationwide in 2025	23,638,000
Average Number of Infections Per Person All-Time, U.S.	3.61

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	29.0%
5	5.5%	35	32.9%
6	6.6%	40	36.6%
7	7.7%	50	43.5%
8	8.7%	75	57.5%
9	9.8%	100	68.0%
10	10.8%	300	96.7%



There is more COVID-19 transmission today than during 50.8% of the pandemic.

Assumes no testing/isolation protocols (U.S. only)
 pmc19.com/data

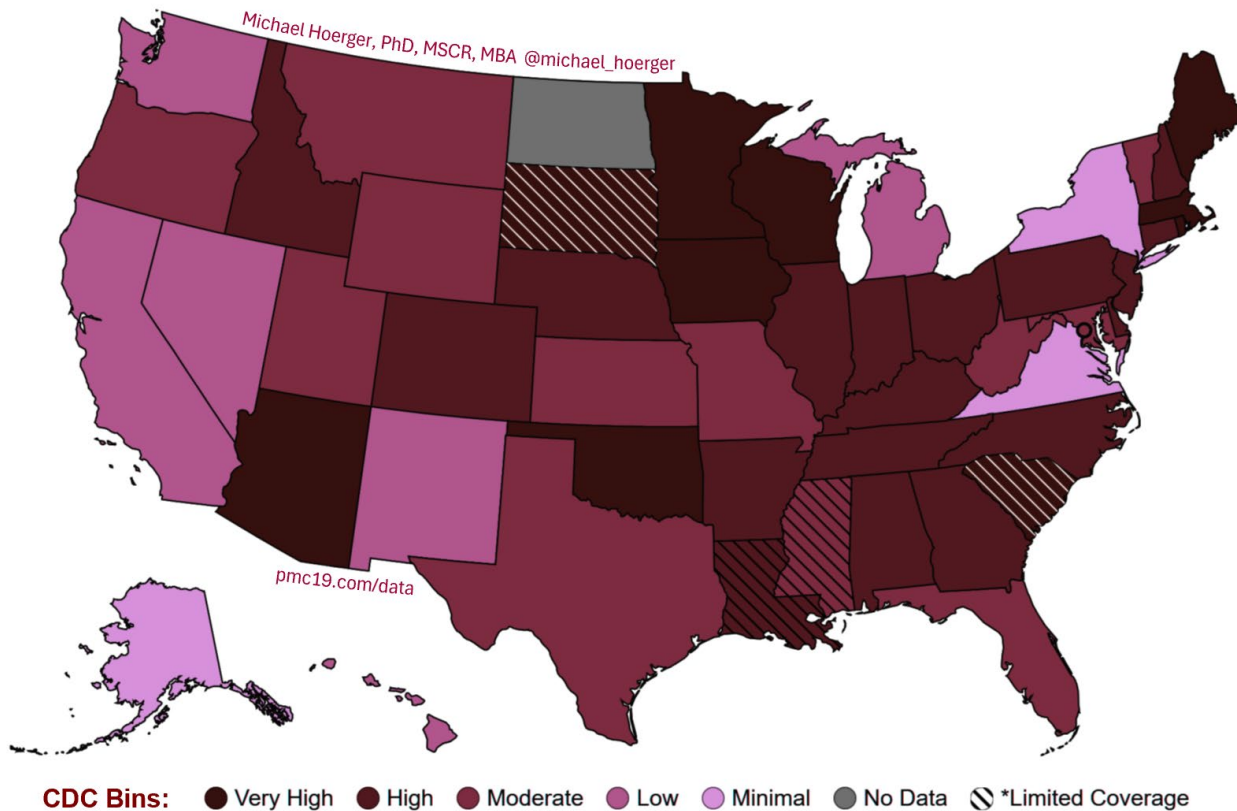
Michael Hoerger, PhD, MSCR, MBA
 Twitter: @michael_hoerger

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. Blue tends to confuse people into thinking transmission is “cool” or low, so we and various popular media outlets (e.g., Newsweek) tend to recolor. The dashed lines indicate atypically low representation from the wastewater sites within a state.

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

COVID-19 Heat Map, CDC Data & Risk Levels, Higher Transmission in Deeper Red



Regional Case Estimation

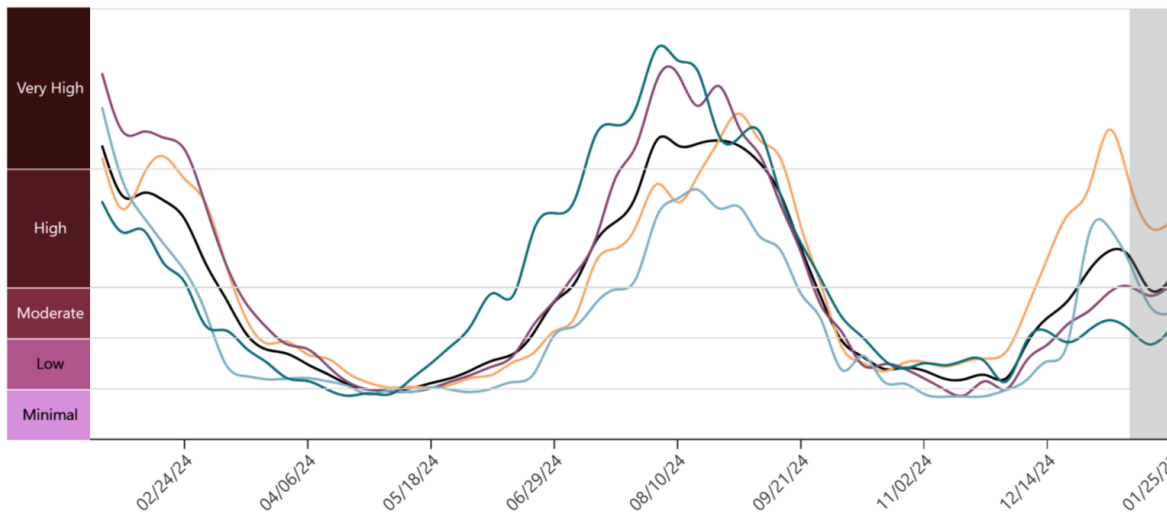
This graph from the CDC shows regional variation in transmission. You can use the “PMC Regional Multiplier” to get a ballpark estimate the proportion of a given region actively infectious with COVID-19 (see Technical Appendix document on the dashboard page). Note the persistent high to very high transmission in the Midwest and South.

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)	1.5% (1 in 68)
	Northeast	0.9% (1 in 112)	1.2% (1 in 87)
	Midwest	1.5% (1 in 65)	2.0% (1 in 50)
	South	1.1% (1 in 92)	1.4% (1 in 71)
	West	0.8% (1 in 128)	1.0% (1 in 99)

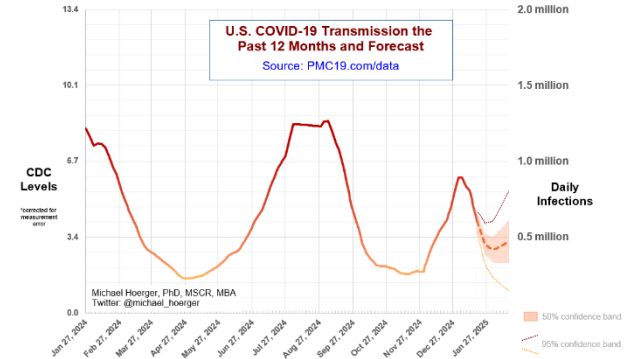
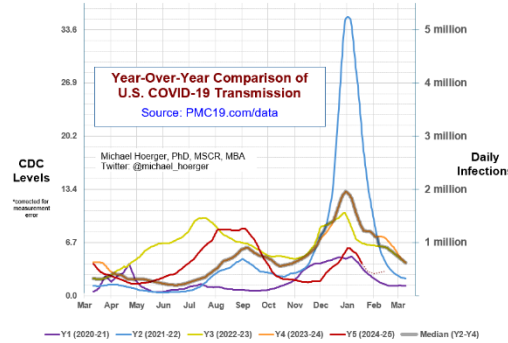
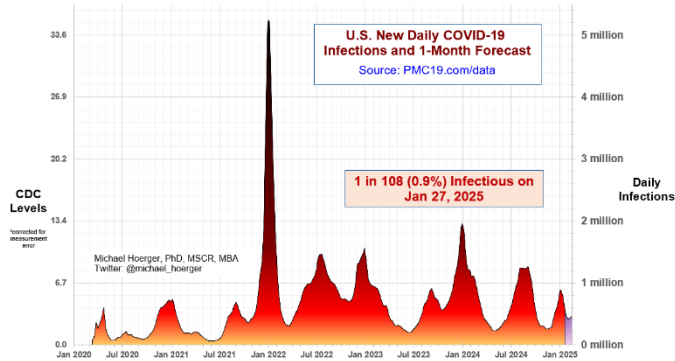
PMC Regional Multiplier*
0.310

* 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 Jan 27, 2025

% of the Population Infectious	0.9% (1 in 108)
New Daily Infections	443,000
New Weekly Infections	3,101,000
Resulting Weekly Long COVID Cases	155,000 to 620,000

Monthly Forecast

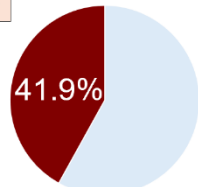
Average % of the Population Infectious	0.9% (1 in 108)
Average New Daily Infections	452,933
New Infections During the Next Month	13,588,000
Resulting Monthly Long COVID Cases	679,000 to 2,718,000

Running Totals

Infections Nationwide in 2025	18,779,000
Average Number of Infections Per Person All-Time, U.S.	3.60

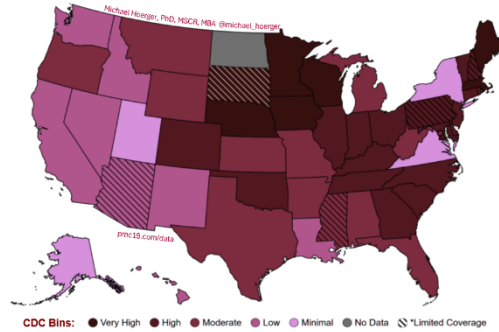
How Does Risk Increase with More Social Contacts?

Number of People	Chances Anyone Is Infectious	Number of People	Chances Anyone Is Infectious
1	0.9%	15	13.0%
2	1.8%	20	17.0%
3	2.8%	25	20.8%
4	3.7%	30	24.4%
5	4.5%	35	27.8%
6	5.4%	40	31.1%
7	6.3%	50	37.2%
8	7.2%	75	50.3%
9	8.0%	100	60.6%
10	8.9%	300	93.9%

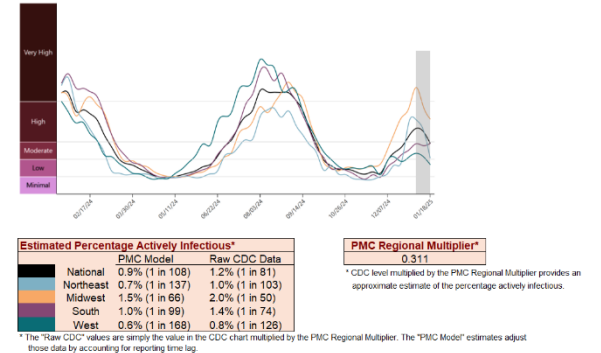


There is more COVID-19 transmission today than during 41.9% of the pandemic.

COVID-19 Heat Map, CDC Data & Risk Levels, Higher Transmission in Deeper Red



CDC Regional Levels with PMC Estimates of the Percentage Actively Infectious



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