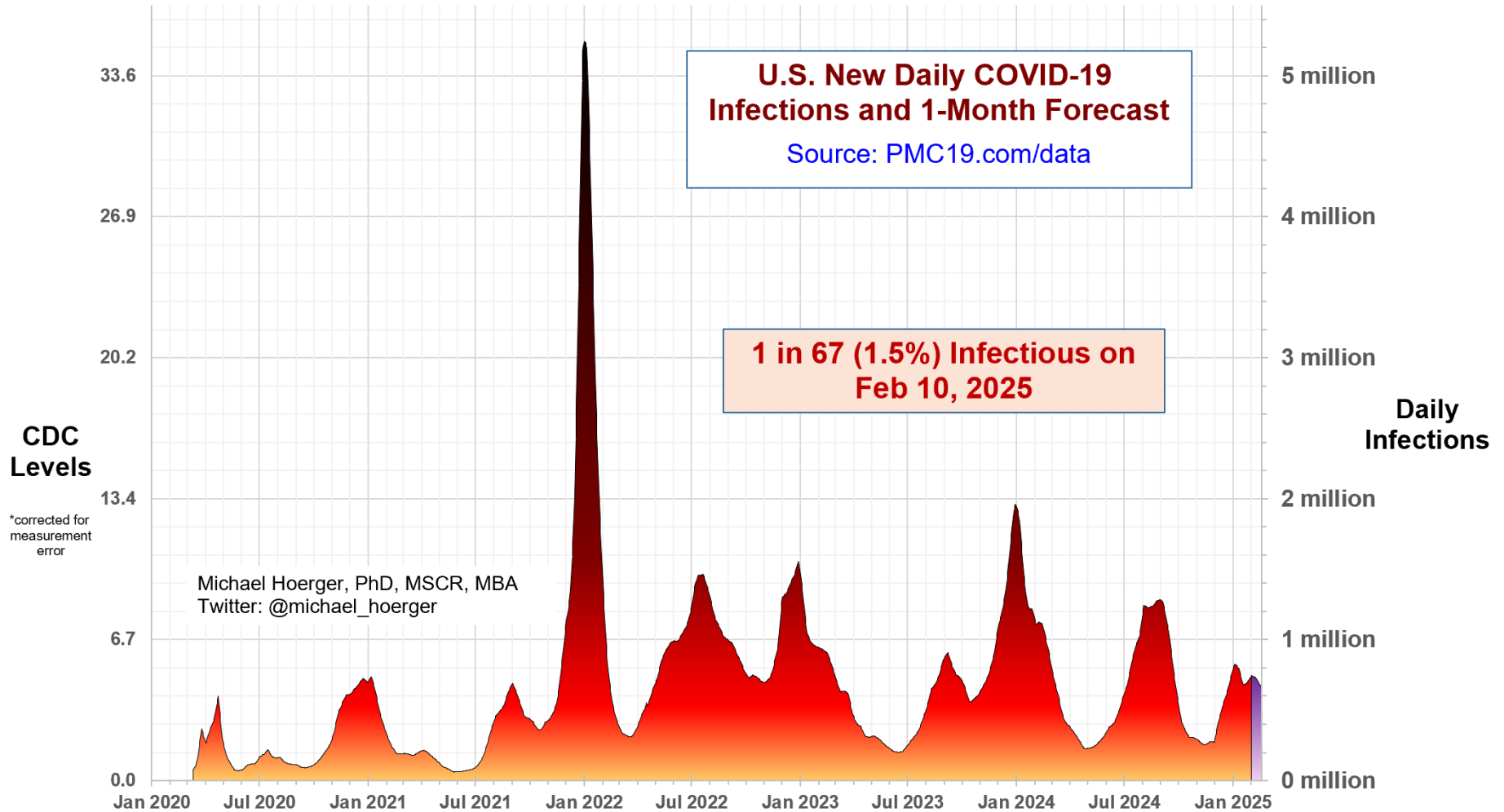


PMC U.S. COVID-19 Case Estimation and Forecasting Model: Report for February 10, 2025, pmc19.com/data

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



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Announcements

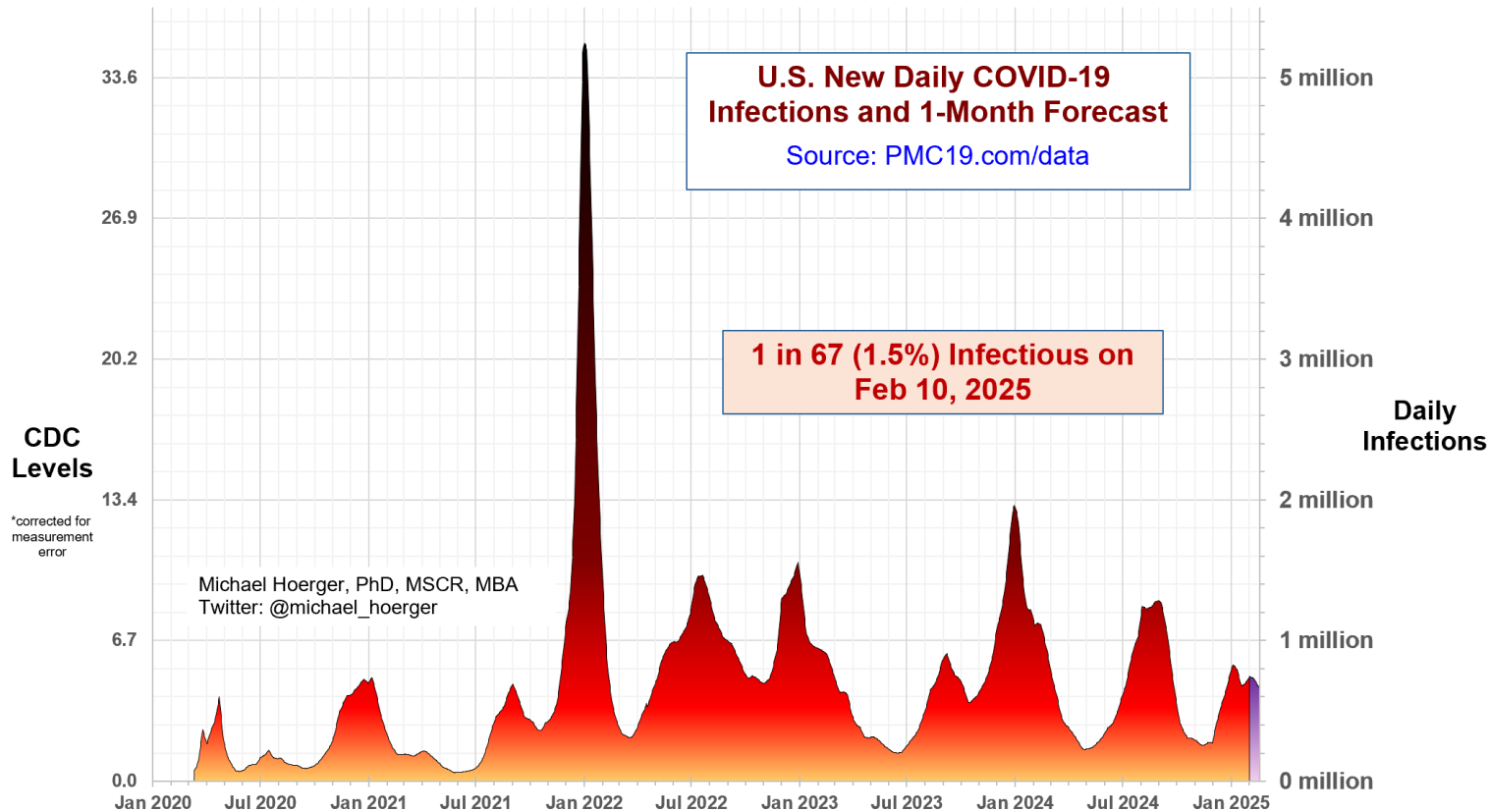
Data Quality Note: Both the CDC (80% model weight) and Biobot (20% model weight) reported this week. Data quality remains moderate, and current transmission patterns are atypical, so monitor closely.

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/>

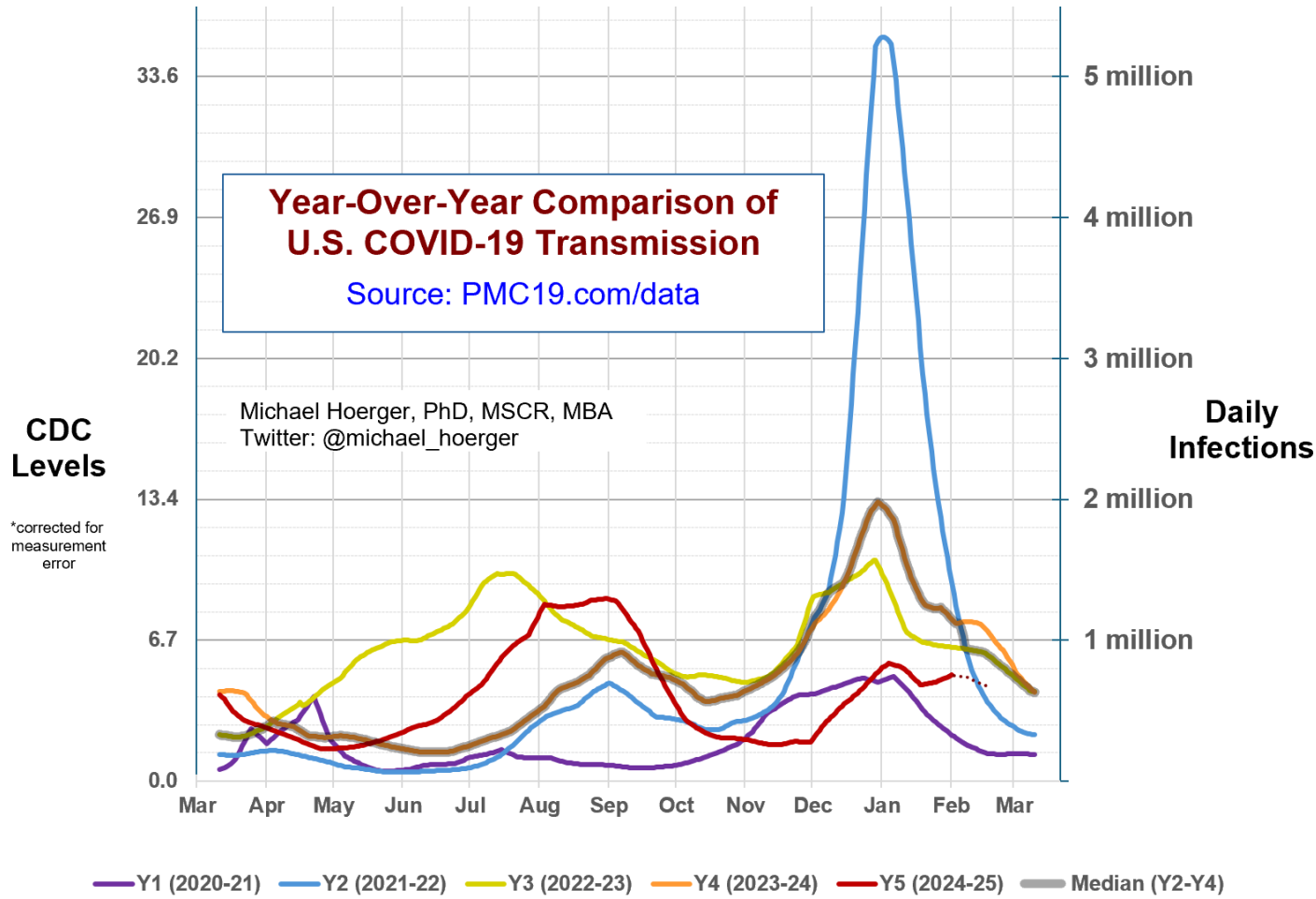
The Big-Picture View of the Pandemic

We have likely passed the peak of the 10th wave in much of the U.S. However, the current national wave may be bimodal, reflecting peaks occurring 4-6 weeks apart across various regions. Note that while the 2nd wave peak appears smaller, transmission during the back-to-school period is an unknown underestimate as wastewater surveillance underestimates child transmission. Parents and teachers should be on high alert. Substantial transmission is occurring after the initial peak, so many people will remain caught off guard when infected – the so-called “silent surge” we began warning of in mid-December. Presently, an estimated 1.5% (1 in 67 people) are actively infectious.



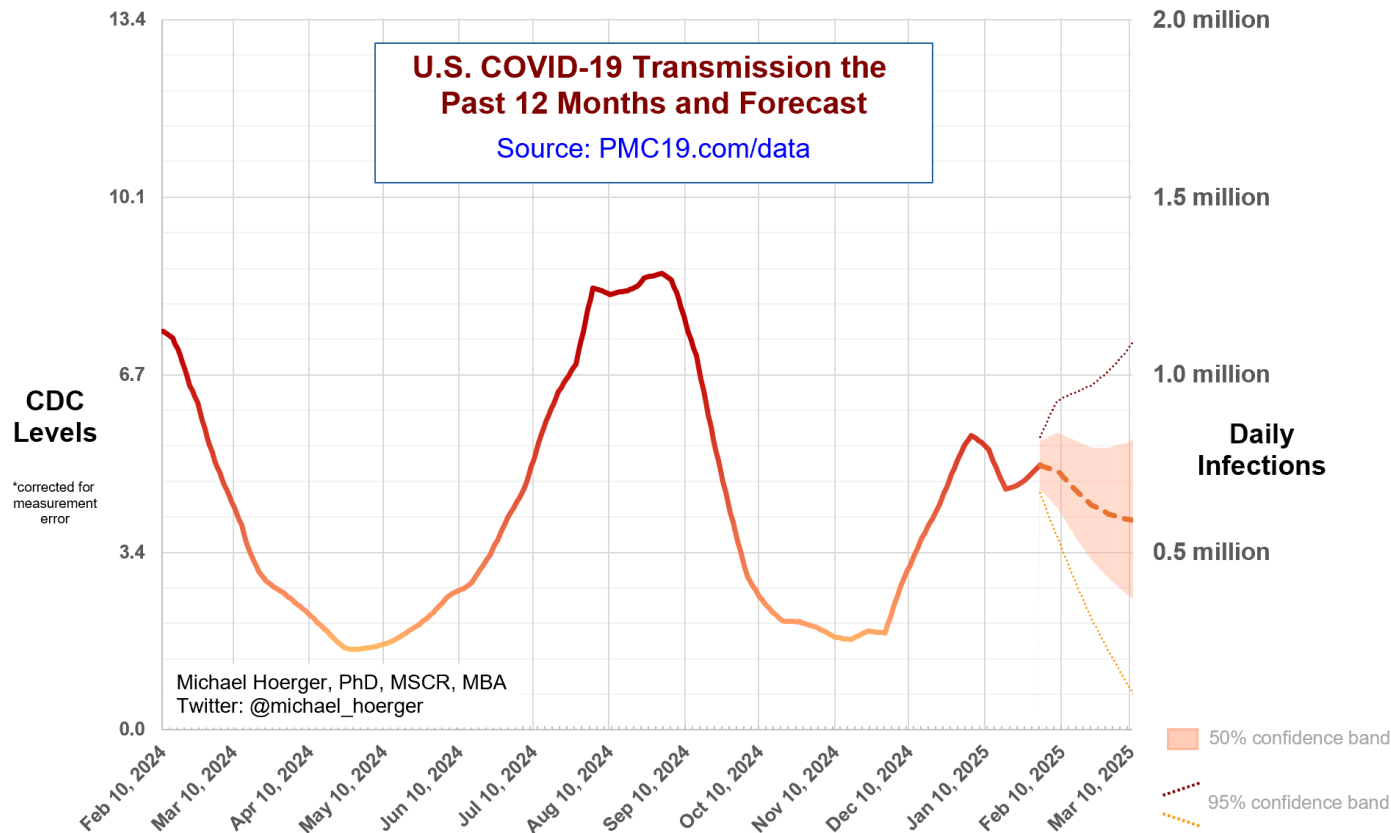
Year-Over-Year Comparisons

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. The wave is unique with a secondary peak, and this is the first time we have had a national uptick in the start of February, discounting of course the days leading into the pandemic declaration.



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 lightly declining transmission the next several weeks. Realistic scenarios include stable transmission (25% chance), an uptick (25%), a quicker decline (25%), and a very quick decline (25%). This is a highly uncertain time because the trajectories after a (presumed initial) peak are highly variable, the timing of the slight uptick in transmission is atypical relative to prior years, and there are lags in reporting on viral evolution. This would be an excellent time to get vaccinated against COVID and influenza for those who have not yet had a chance to do so this winter.



Supplemental Statistics

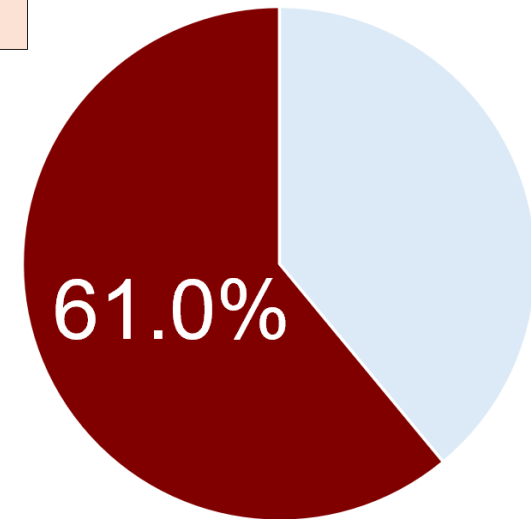
These supplemental statistics may prove useful in conversations about transmission and mitigation. In a group of 25-30 people, there is a 1-in-3 chance of exposure if average risk and no firm testing/isolation policies. Gatherings to watch the football game may lead to “surprise” infections.

Current Levels for Feb 10, 2025	
% of the Population Infectious	1.5% (1 in 67)
New Daily Infections	716,000
New Weekly Infections	5,012,000
Resulting Weekly Long COVID Cases	251,000 to 1,002,000

Monthly Forecast	
Average % of the Population Infectious	1.3% (1 in 75)
Average New Daily Infections	635,167
New Infections During the Next Month	19,055,000
Resulting Monthly Long COVID Cases	953,000 to 3,811,000

Running Totals	
Infections Nationwide in 2025	30,471,000
Average Number of Infections Per Person All-Time, U.S.	3.63

How Does Risk Increase with More Social Contacts?			
Number of People	Chances Anyone Is Infectious	Number of People	Chances Anyone Is Infectious
1	1.5%	15	20.3%
2	3.0%	20	26.1%
3	4.4%	25	31.4%
4	5.9%	30	36.4%
5	7.3%	35	41.0%
6	8.7%	40	45.3%
7	10.0%	50	53.0%
8	11.4%	75	67.8%
9	12.7%	100	77.9%
10	14.0%	300	98.9%



There is more COVID-19 transmission today than during 61% of the pandemic.

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

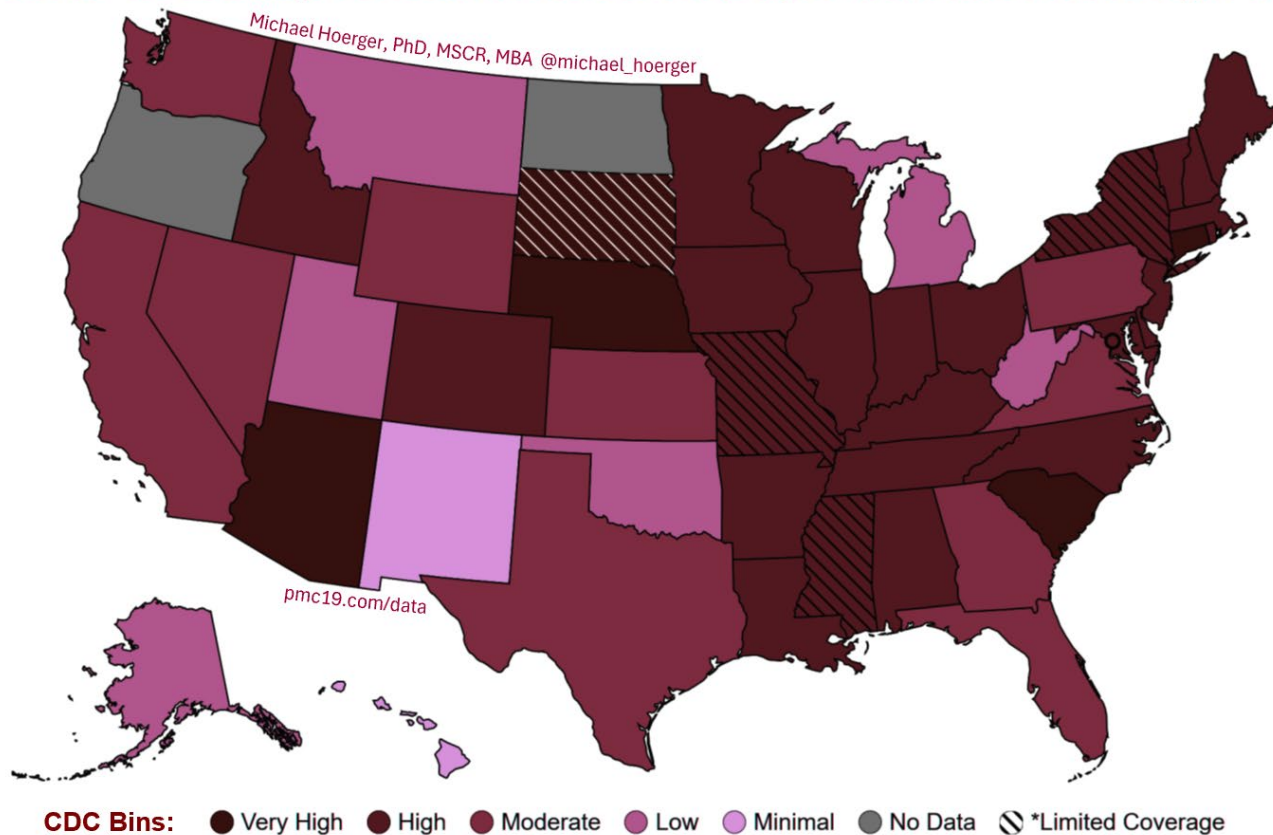
Michael Hoerger, PhD, MSCR, MBA
 Twitter: @michael_hoerger

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

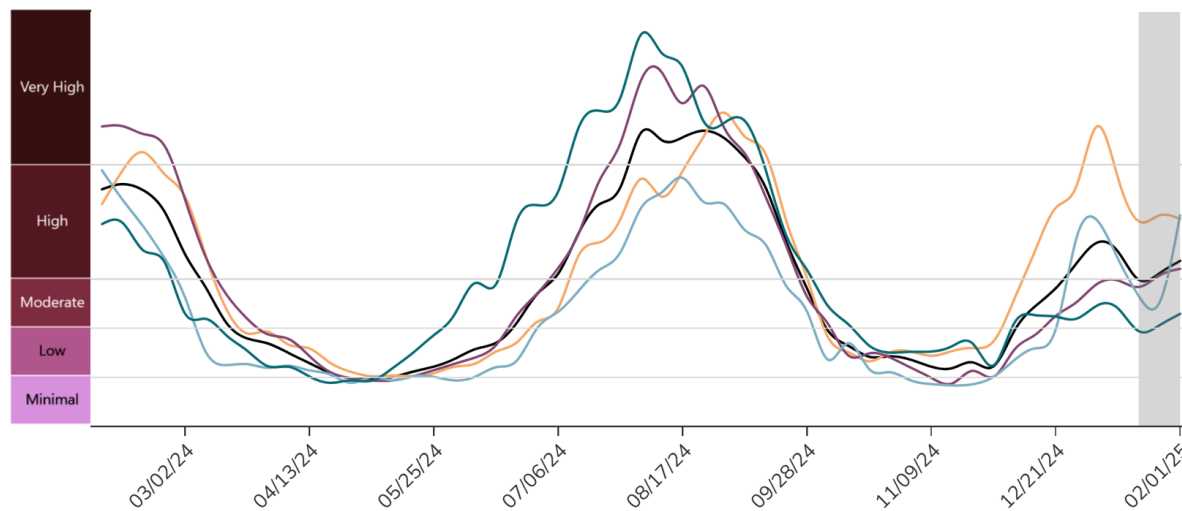
This graph from the CDC shows regional variation in transmission. You can use the “PMC Regional Multiplier” to get a ballpark estimate the proportion of a given region actively infectious with COVID-19 (see Technical Appendix document on the dashboard page). Note the persistent high to very high transmission 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 1.5% (1 in 67)	1.6% (1 in 64)
	Northeast 1.9% (1 in 52)	2.0% (1 in 50)
	Midwest 1.9% (1 in 53)	2.0% (1 in 51)
	South 1.4% (1 in 70)	1.5% (1 in 67)
	West 1.0% (1 in 98)	1.1% (1 in 94)

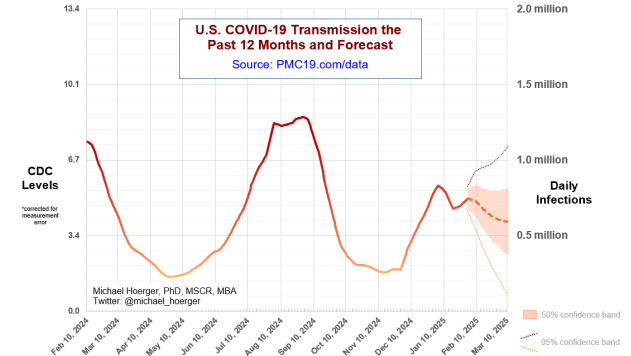
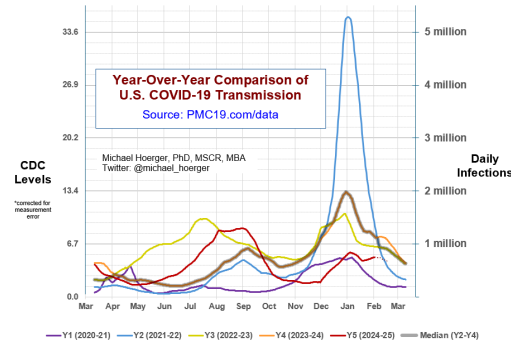
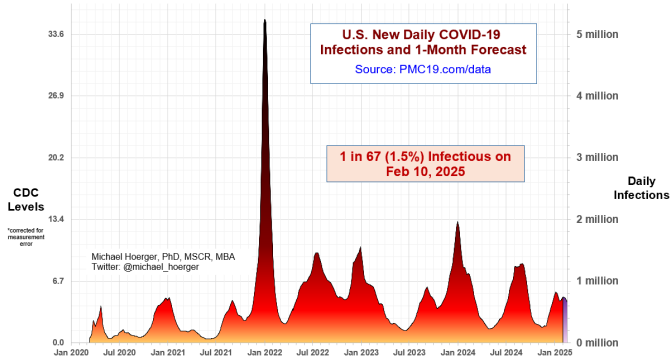
PMC Regional Multiplier*
0.309

* 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



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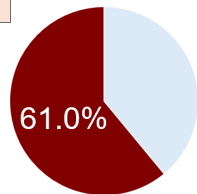
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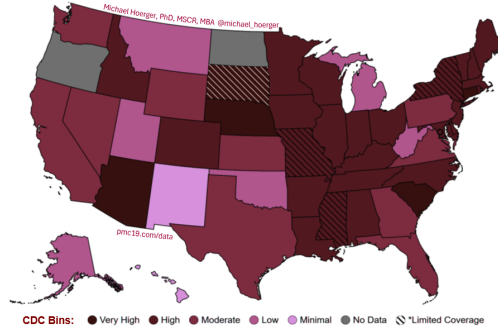
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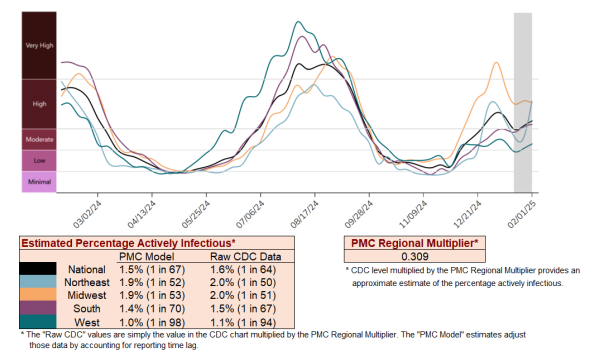


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CDC Regional Levels with PMC Estimates of the Percentage Actively Infectious



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