Covid-19 Community Explorer

The best and worst performing counties in the U.S.

Notes on terminology: Throughout this report, counties are divided by deciles. If a county is referred to as "highly vaccinated" or having a low case or death rate, it is considered "well performing" or among the "best performers" nationwide. This means it has a vaccination rate that puts it in the top ten percent of U.S. counties (the highest decile), or a case or death rate that puts it in the bottom ten percent of U.S. counties (the lowest decile). Counties referred to as having a low vaccination rate or a high case or death rate, those deemed "poorly performing" or the "worst performers," are those within the ten percent of U.S. counties with the lowest vaccination rates (lowest decile) or the highest case or death rates (highest deciles). Current figures for the 90^{th} and 10^{th} percentiles along each of these metrics are available in Table 2. State-level analyses provide metrics for a "typical" county in a given state: this metric represents the "numerical average" of that metric by the number of counties in the state. Statewide metrics, by contrast, do not represent an average but instead are calculated using every recorded instance of that metric in the state as a fraction of the entire state population (for incidence rates, this is then multiplied by 100,000). For states with a heavy population concentration in a few counties, the statewide metrics will likely differ from the value for a "typical" county; statewide rates in these instances will be much closer to the rate in highly populous counties than to the mean county rate.

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Key findings for January 2022:

1) Community Profile Perspective

As case rates have increased dramatically across all community profiles, two clusters of community profiles have emerged (Figure 2). The first cluster of profiles with higher case rates includes Profiles Three, Four, Five, and Six[1]. These communities are mostly located in the Midwest and the South and are made up of Black, Hispanic, and rural populations. The average case rate for all counties falling within one of these four profiles is 23,979 cases per 100,000 people.

The growth in cases in Community Profile One[2] was the highest at 45.46% (more than ten percentage points higher than the next highest growth rate of 35.16% in Profile Three; see Figure 1) that its case rate is no longer significantly lower than that of any other profile; now, it clusters with Profiles Two, Seven, and Eight[2] (Figure 2). These communities are located in the Northeast, West, and urban centers across the country. With the exception of Profile One's ethnically diverse urban areas, these communities are largely White and often older. The average county case rate in these four community profiles is 21,236 cases per 100,000 residents.

Table 1. Average Vaccination Rate, Booster Rate, Cases per 100,000, Deaths per 100,000, and Fatality Rate by Community Profile

Profile	Vaccination Rate	Booster Rate	Cases per 100,000	Deaths per 100,000	Fatality Rate
Profile 1	67.27%	28.39%	20,288	205	1.07%
Profile 2	55.17%	22.58%	21,697	231	1.09%
Profile 3	47.47%	15.88%	24,166	397	1.65%
Profile 4	45.90%	18.64%	23,741	367	1.55%
Profile 5	47.61%	21.23%	24,097	342	1.45%
Profile 6	51.03%	18.37%	24,024	398	1.74%
Profile 7	47.67%	18.98%	21,368	384	1.82%
Profile 8	49.70%	23.63%	20,967	289	1.39%
All Counties	49.97%	20.47%	22,716	330	1.47%

[1] *Community Profile Three represents 12 percent of the U.S. population and has the largest Black population, with the lowest income of all the profiles. These counties are primarily concentrated in the Southeast. Community Profile Four represents seven percent of the U.S. population and has the largest White population. This population reports the lowest income of all the profiles. It encompasses mostly rural counties in the East North Central and Northeast regions. Community Profile Five represents six percent of the U.S. population and is comprised of predominantly White counties whose economy depends mostly on manufacturing, located around the Midwest region. Community Profile Six represents five percent of the U.S. population and is the youngest cohort of the profiles, with the largest Hispanic population, the lowest education level, and the least access to healthy food or health insurance. The counties are concentrated in the West and West South-Central regions.*

[2] *Community Profile One represents 38 percent of the U.S. population and is the most ethnically diverse community with the highest income level. It is a highly educated cohort that resides in large metro areas. Community Profile Two represents 25 percent of the US population and consists of highly educated, economically prosperous, mostly White counties in metro areas. Community Profile Seven is the oldest cohort of the profiles and consists of mostly White, elderly retirement communities, making up four percent of the population. Community Profile Eight represents three percent of the U.S. population and is the most rural cohort, consisting of an older White population with the most limited access to healthy food. The counties are mostly in the north part of the West, Midwest, and Northeast regions.*

Figure 1. Increases in Cases versus Deaths per 100,000 (December to January), by Community Profile

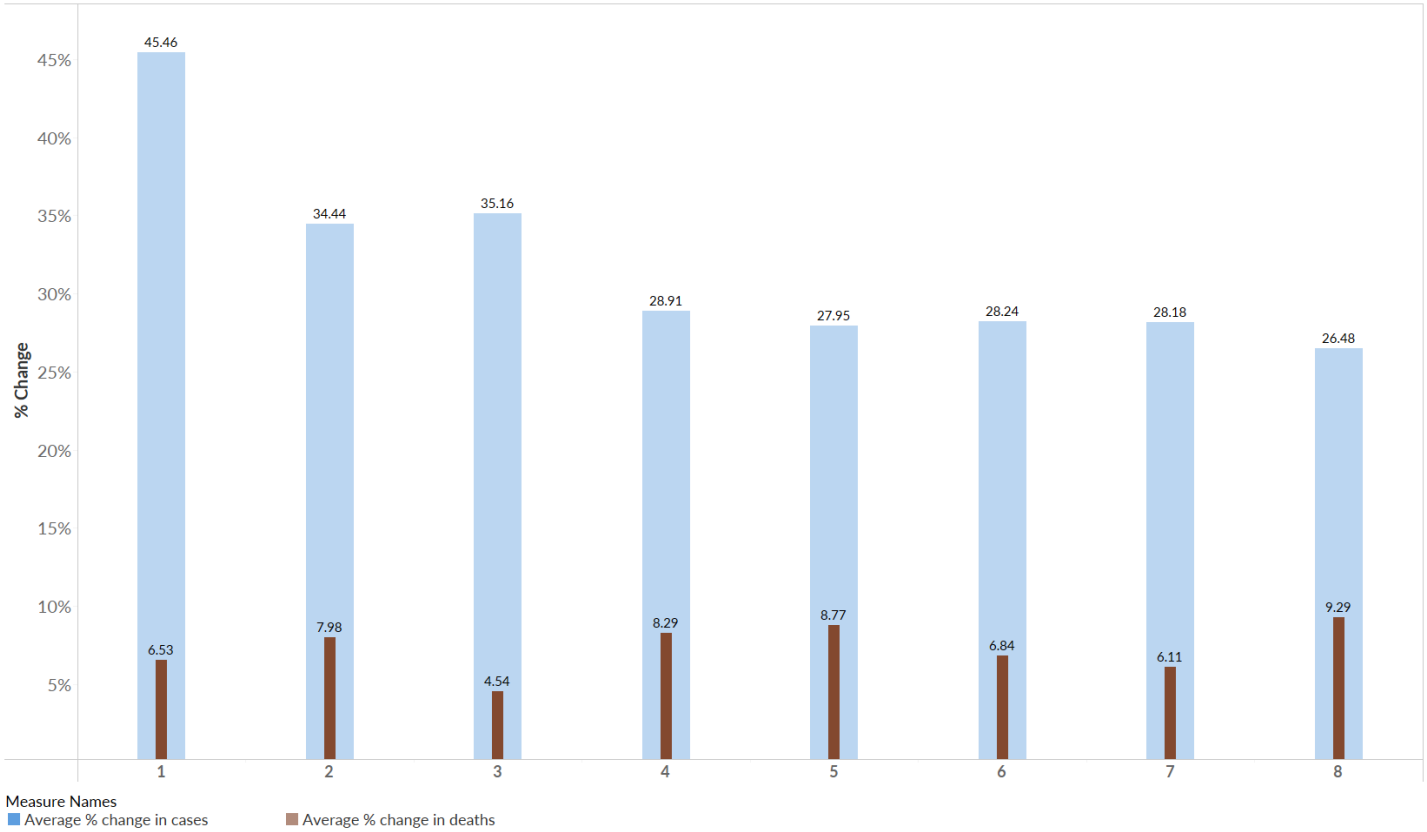
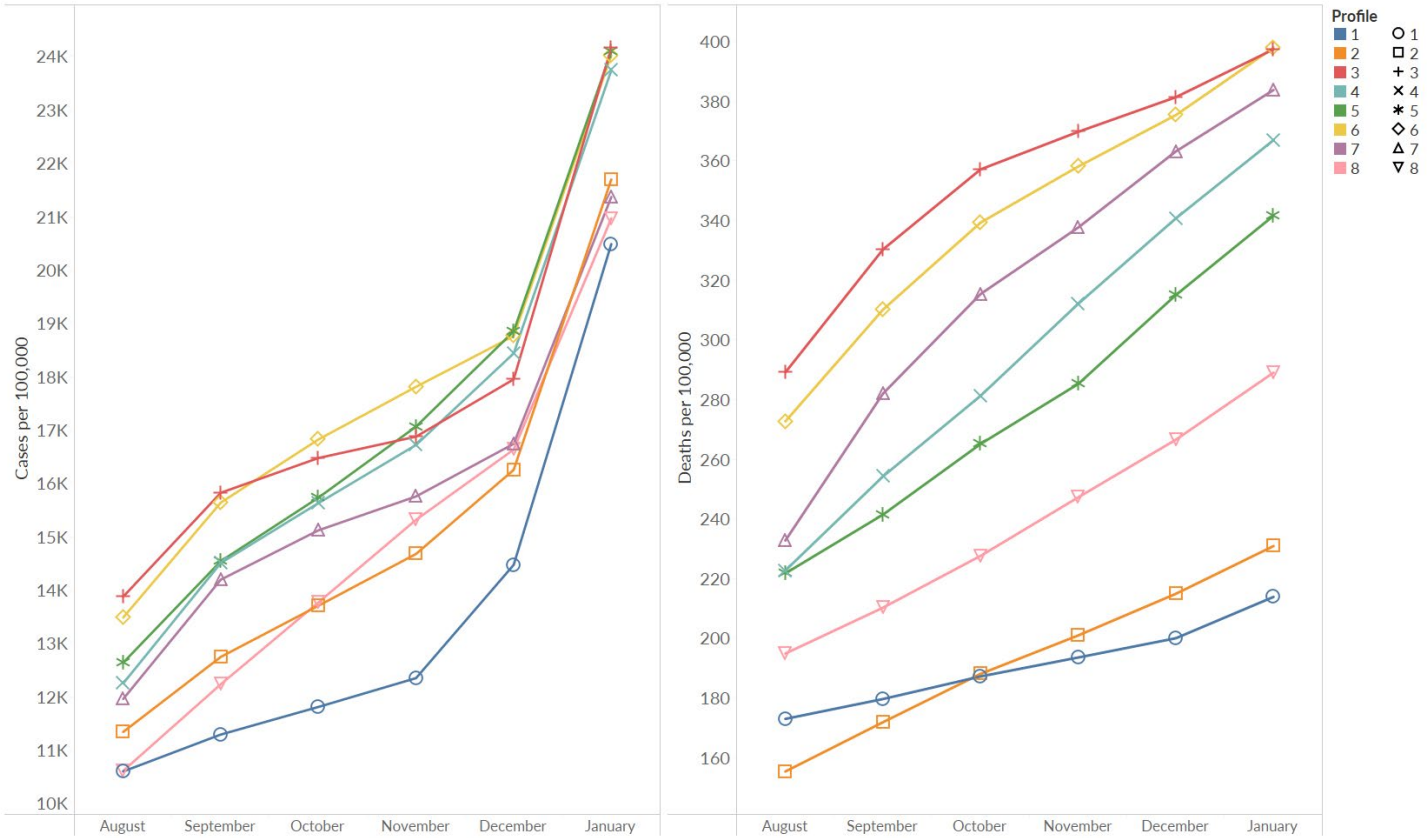


Figure 2. 6-Month Trends in Cases and Deaths per 100,000, by Community Profile



2) State and County-specific Perspective

Best performing counties -Top 10% (Figure 3):

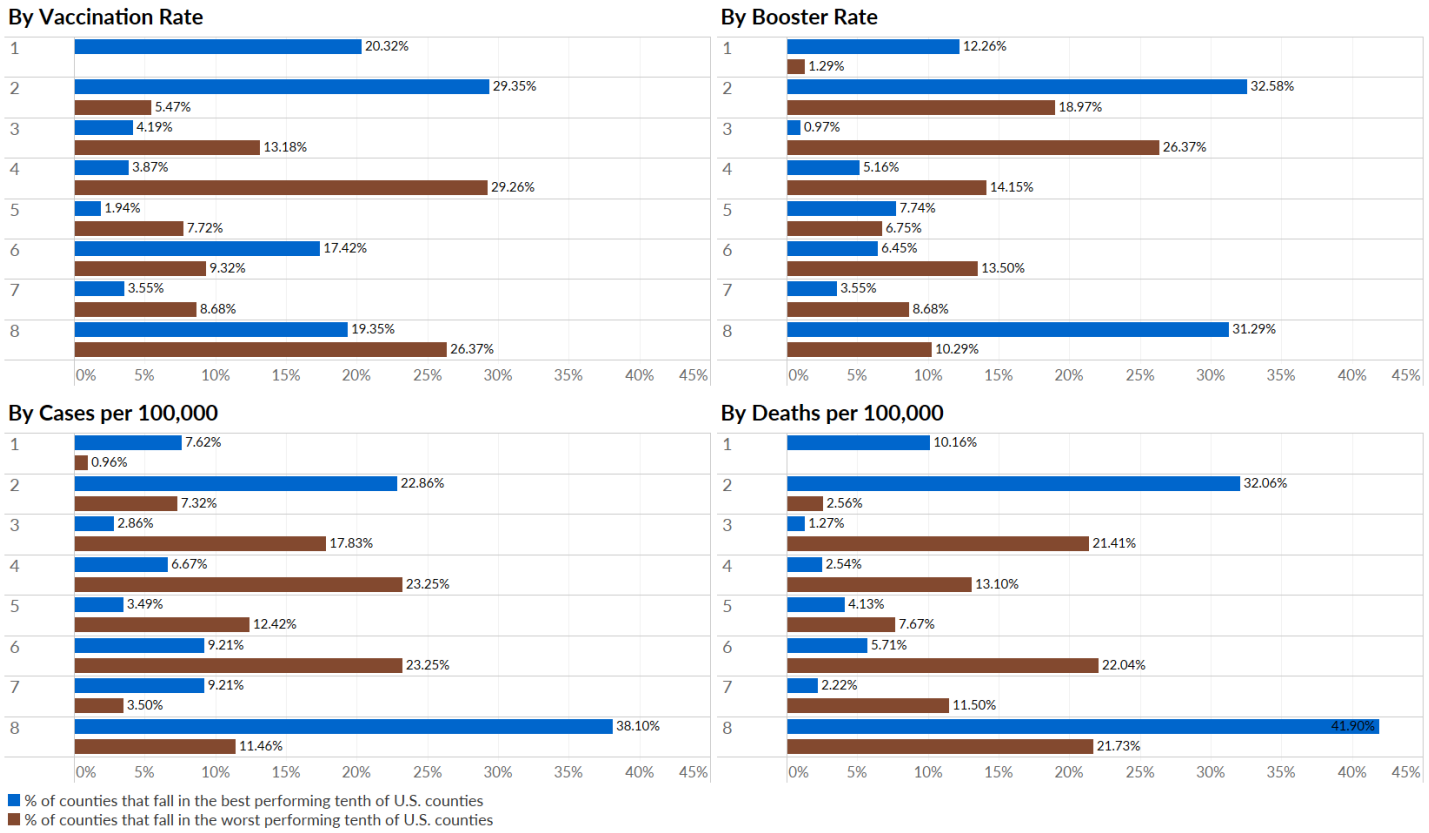
- **Vaccination rate**: Four community profiles (One, Two, Six, and Eight) make up 86% of the best performing 10% of U.S. counties.
    - In Community Profile One, over 60% of counties fall in the top tenth.
    - In both Hawaii[3] and Rhode Island, every county falls in the "most vaccinated" tenth of U.S. counties.
    - Connecticut has the next highest percentage of its counties falling in the top tenth nationwide (7 of 8 counties, or 87.5%). The average vaccination rate for those 7 counties is 74.24%, while a typical county in CT would have a vaccination rate of approximately 72.76%. Statewide, the vaccination rate is 75.74%.
    - Vermont has the highest statewide vaccination rate at 77.04%.
- **Number of cases per 100,000**: Counties in Profile Eight (38%) and Two (23%) comprise over 60% of the 315 counties with the fewest number of cases per 100,000
    - In Maine, every county falls in the best performing tenth of U.S. counties.
    - Maine also has the lowest state case rate, with 12,788 cases per 100,000 statewide; a typical county in ME would have a case rate of 12,434 per 100,000.
    - Hawaii has the next highest proportion of its counties (80%, or 4 of 5) falling in the best performing tenth of counties by case rate. The average rate in those counties is 10,356 per 100,000, and a typical county in HI would have a case rate of 11,612 per 100,000. Statewide, the case rate is 14,722 per 100,000.
- **Number of deaths per 100,000**: 22 counties have no recorded deaths from Covid-19; most of them (19) fall within Profile Eight.
    - Nebraska contains five of the counties with no reported deaths (30 of its 93 counties also fall in the best performing tenth of counties). It is followed by Utah and Colorado, with 3 counties each with no deaths.
    - Of the 315 counties with low death rates, almost three-quarters fall within Profile Two (32%) and Profile Eight (42%).
    - All five counties in Hawaii fall in the best performing tenth of U.S. counties. Statewide, its death rate is the lowest at 81 per 100,000. A typical county in HI could expect a rate of 53 deaths per 100,000.
- **676** counties fall in the best performing decile for **at least one of the three Covid-19 metrics** (Figure 4-1)
- **90% of the best performing 52 counties on all three Covid-19 metrics are split between Profiles One (35%), Two (27%), and Eight (29%)** (Figure 4-2)**.**
    - Every county in Hawaii[1], Maine, and Rhode Island is among the best performing 10% of counties on at least one of the three Covid-19 metrics.
    - Nine of Washington's 24 counties (23%) are among the best performing tenth along all three Covid-19 metrics.

[3] Vaccination data is not available for Kalawao County, which is the smallest of HI's counties, but its case rate and death rate are within the best performing 10% of counties nationwide.

Worst performing counties – Bottom 10% (Figure 3):

- **Vaccination rate**: Over half of the worst performing tenth of counties fall in Profiles Four (29%) and Eight (26%), largely rural counties with a large White and Black population with the lowest income level of all the profiles.
    - Nebraska is the state with the highest proportion of poorly performing counties at 34% (32 of its 93 counties). The average vaccination rate is 30.62% within those 32 counties. A typical county in NE would have a vaccination rate of 40.92%, but the statewide vaccination rate is much higher at 60.62%.
- **Number of cases per 100,000**: Over 40% of the 314 worst performing counties in terms of cases per 100,00 falls in Profiles Four (23.25%) or Six (23.25%).
    - Arizona has the highest proportion of counties with case rates in the top tenth, seven out of 15 counties. In those seven counties, the average case rate is 30,463 per 100,000 people, while a typical AZ county would have a rate of 27,138 cases per 100,000. Statewide, Arizona's case rate is 26,157 per 100,000.
    - Only three of the worst-performing counties by case rate fall in Profile One. Anchorage Municipality, AK has a case rate of 31,752, Broward County, FL has a case rate of 29,486 per 100,000 and Miami-Dade County, FL has a rate of 41,509. Miami-Dade has the tenth-worst case rate of all counties nationwide.
- **Number of deaths per 100,000**: 65% of the worst performing counties in terms of deaths per 100,000 are in Profiles Three (21%), Six (22%), and Eight (22%).
    - 36% of the worst-performing counties by death rate fall in just two states: Texas (20% or 63 counties) and Georgia (16% or 49 counties).
    - Arizona is state with the highest percentage of its counties falling in the worst tenth by death rate with one-third of its 15 counties among the worst performing. In these five counties, the death rate is 712 per 100,000 people, and a typical county in AZ would have a rate of 495 per 100,000. Statewide, the rate is 366 deaths per 100,000 people, second only to Mississippi (369 deaths per 100,000).
- **794** counties fall within the worst performing decile for **at least one of the three Covid-19 metrics** (Figure 4-3).
- **Only seven** counties can be considered among the worst performing **by vaccination, case, *and* death rates**: three in Profile Three, two in Profile Six, and one each in Profiles Five and Eight (Figure 4-4).

Figure 3. Distribution of Best and Worst Performing Counties by Community Profile



Where are the best performing counties?

Figure 4-1. The best performing tenth of counties along at least one of the three[4] Covid-19 metrics

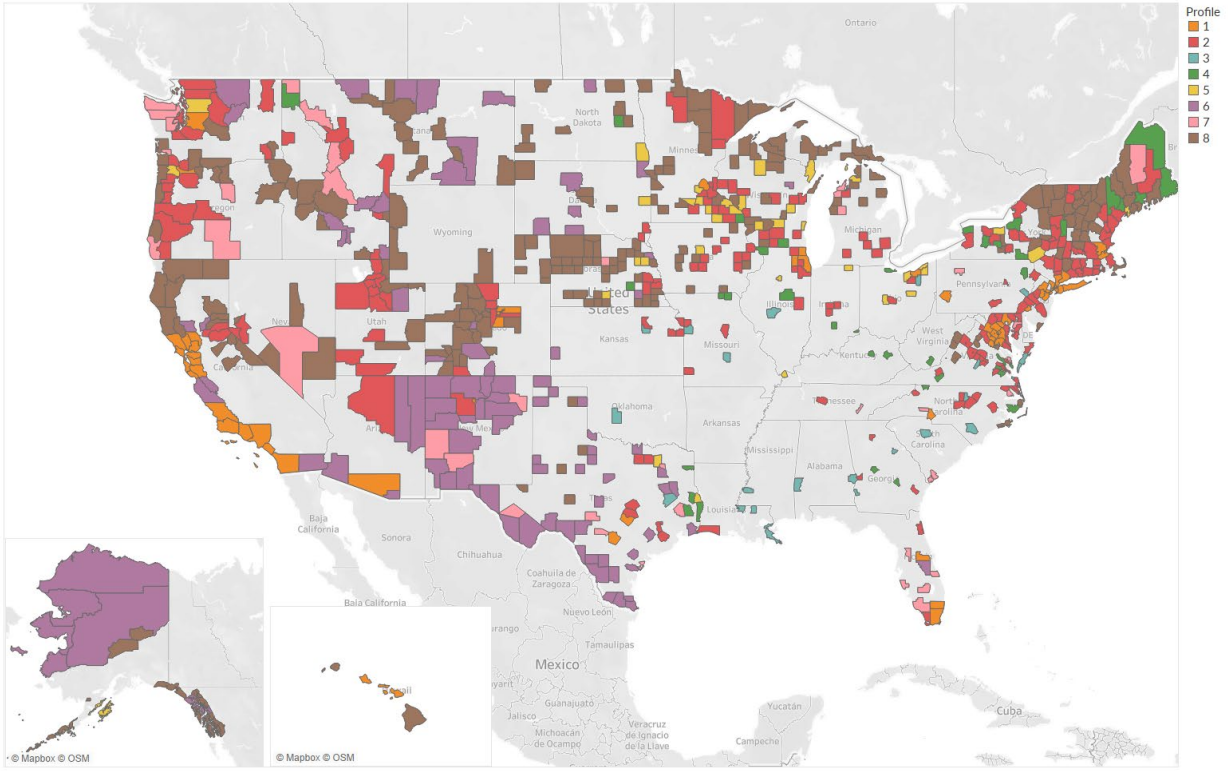
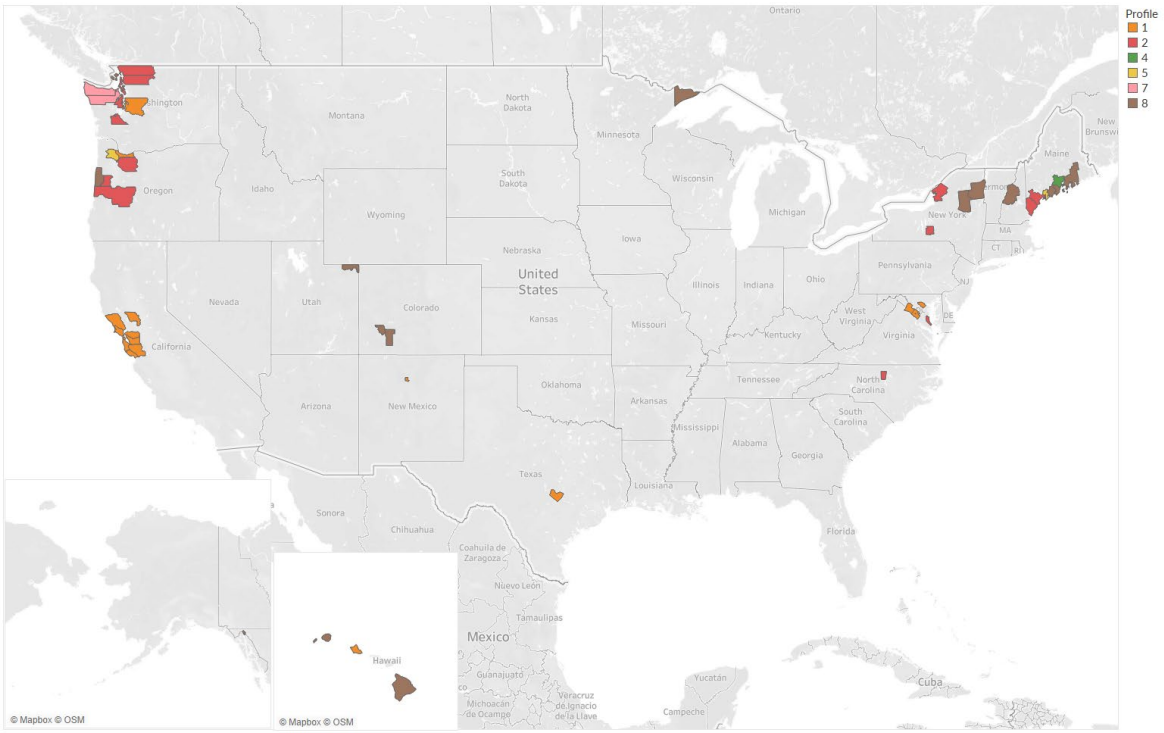


Figure 4-2. The best performing tenth of counties along all three Covid-19 metrics



[4] Booster rates are not included among these metrics because it is such a recent development.

Where are the worst performing Counties?

Figure 4-3. The worst performing tenth of counties along at least one of the three Covid-19 metrics

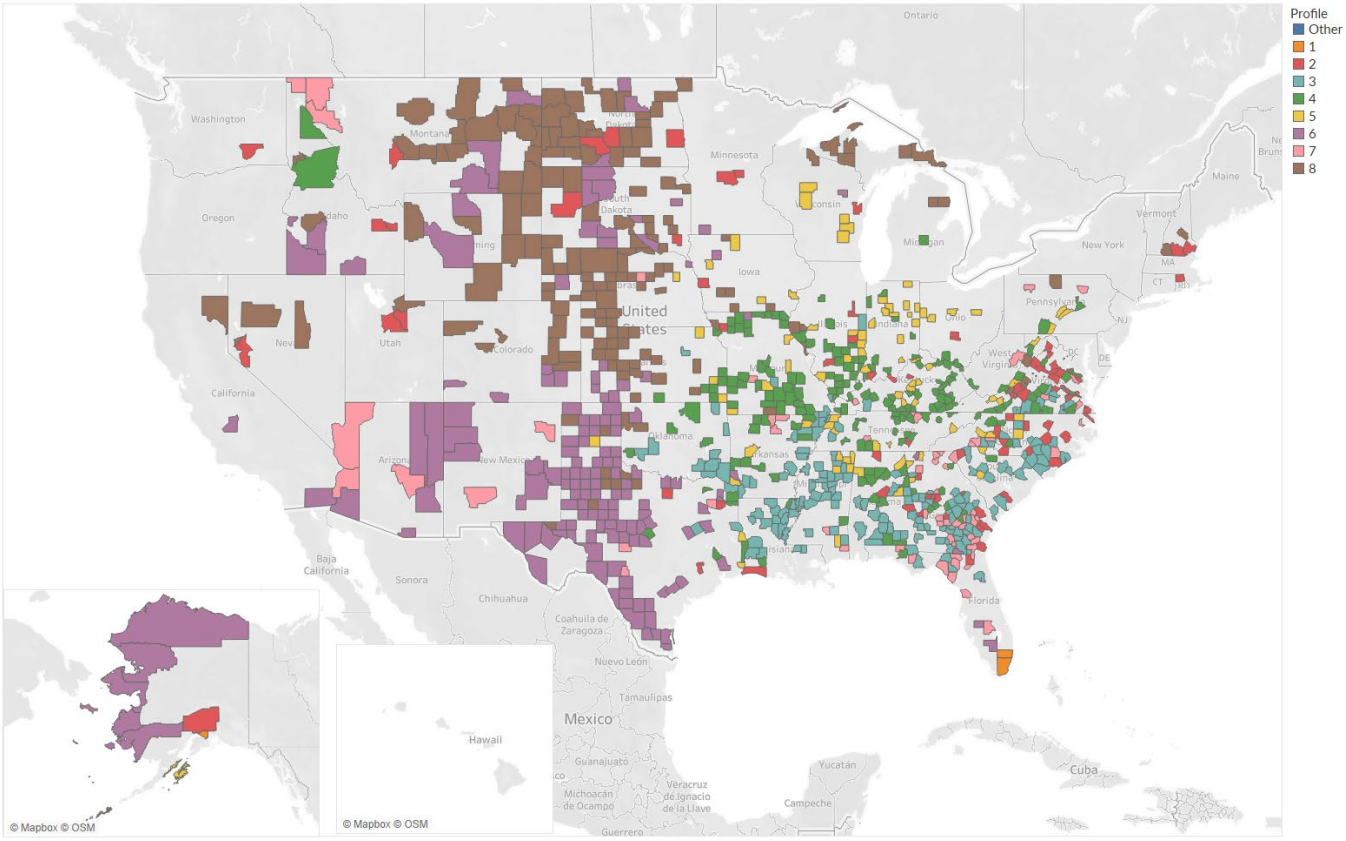


Figure 4-4. The worst performing tenth of counties along all three Covid-19 metrics

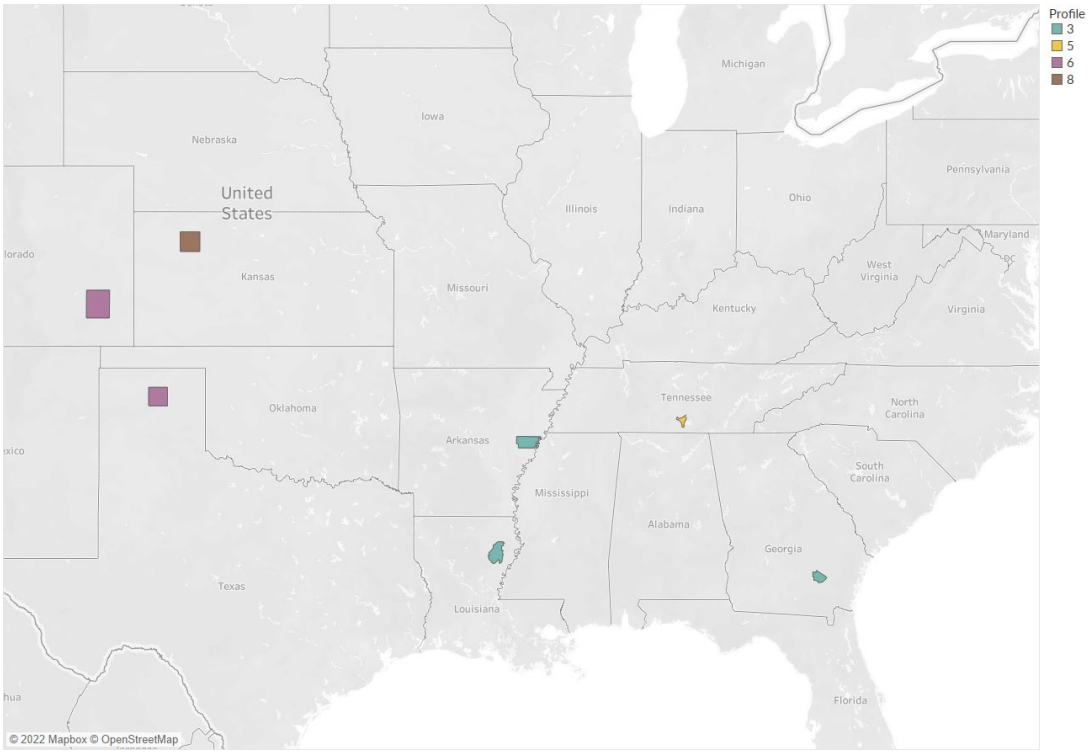


Table 2. Cutoff Points for Best and Worst Performing Deciles

		Vaccination Rate	Booster Rate	Cases per 100,000	Deaths per 100,000	Fatality Rate
Best Performing Decile	Maximum	95%[5]	52.91%	16,602	143	0.72%
	Minimum	65.00%	31.05%	1,220	0	0%
	Average	**72.96%**	**35.85%**	**14,073**	**95**	**0.50%**
Worst Performing Decile	Maximum	36.68%	11.99%	61,288[6]	1,333	6.59%
	Minimum	17.67%	0.11%	28,545	518	2.31%
	Average	**32.38%**	**8.94%**	**32,029**	**625**	**2.90%**

Table 3. Best and Worst Individual Performers in the United States

		Vaccination Rate	Booster Rate	Cases per 100,000	Deaths per 100,000	Fatality Rate
Counties	**Best**	N/A[7]	San Francisco County, CA	Kalawao County, HI	N/A[8]	N/A[6]
	Profile		1	7		
	Worst	Slope County, ND	Danville City, VA[9]	Dimmit County, TX[6]	McMullen County, TX	Sabine County, TX
	Profile	8	3	6	6	5
States	**Best**	Vermont[10]	Vermont[10]	Maine	Hawaii	Utah
	Value	77.04%	43.93%	12,788	81	0.46%
	Worst	Alabama	New Hampshire	Rhode Island	Mississippi	Pennsylvania
	Value	48.27%	13.14%	31,327	369	1.52%

[5] CDC caps their own estimates of county vaccination rates at 95%; five counties have CDC estimated vaccination rates of 95% and eight counties have vaccination rates higher than 95% when estimated using Census 2020 figures.
[6] Two counties have higher reported case rates, but one (Loving, TX) has more reported cases than residents and the other (Chattahoochee, GA) has a population that does not account for a large military population (Ft. Benning).
[7] Five of the eight counties with vaccination rates above 95% fall in profile 6; two in profile 8, and one in profile 2.
[8] More than one county has recorded no deaths; see p. 4.
[9] Many county-equivalents in VA have rates lower than those estimated by the state, whose data was used for December, which is why Danville City's booster rate for January now appears lower than for December.
[10] While VT is not included in county vaccination data due to the relative incompleteness of its records, statewide totals for vaccinations are reliable.