

COVID-19 Mitigations in the U.S.

April 1 - 15, 2021





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This report provides highlights of a weekly survey of practices regarding the mitigation of the spread of COVID-19 in the U.S. during the first half of April 2021 along with comparisons to prior half-month time periods. The survey asks about the degree to which the respondents perceive that people in their community are following 21 common mitigation practices. The responses are separated by state and compared to state level statistics regarding the level of COVID-19 infections from the Johns Hopkins COVID database for the same time period.

Executive Summary

After two half month decreases, an increase was observed in community mitigation compliance across the country. In the first half of April average compliance was 62.4% compared to 64.2% in the last half of March, according to observations from 757 individuals from 47 states and the District of Columbia. At the same time, new COVID-19 infections stayed at 1.0 million new cases which is the same as late March. The average infection level for the half month was up 15% from late March, at 280 per 100,000 vs. 242 per 100,000.

Additional findings from the first half of April:

- ❖ Compliance again fell slightly for the top five mitigation practices.
- ❖ Of the twenty-three states where we have significant data from this week, the best three (Massachusetts, Illinois and Minnesota) had average compliance of 70%.
- ❖ Three states among the twenty-three had average mitigation compliance under 55% - Iowa, Tennessee and Louisiana. Texas and Florida were the only two states among the ten most populous to have an increase in compliance.
- ❖ Michigan, which has experienced very high increases in infection level over the past 4 weeks reported compliance of “Limit large gatherings” that was 7.5% below the national average.

The full set of mitigations surveyed are included in the appendix to this report.

It is now estimated that immunities from vaccination total 34% of the population, while immunities from people who have been infected and recovered are 9%. But there continues to be a race between the vaccine impact, new strains of COVID and reduced compliance to determine the near-term course of the pandemic and the contestants are running neck and neck for now.

Mitigation Practices - National

Average percentage compliance with 21 COVID-19 mitigation strategies that are surveyed was 62.4% in the first half of April, up from 64.2% in the last half of March. For the half-month, only one of the twenty-one mitigations practices had average compliance above 75%, two had average compliance below 50% and eighteen had average compliance between 50% and 75%.

Nationally the weighted average of compliance with these mitigations has stayed in a very tight range a low of 62.3% in late November to a high of 64.2 for late March. When mitigations are broken out into practices within states and regions of states, there is a far greater variance in mitigations as respondents observe the results of individual states implementing changes in COVID mitigations and Individuals react to their personal perceptions of the level of COVID danger.

Survey Details

Collects information from volunteers on perceptions of community compliance with 21 COVID Mitigation strategies. Participants answer between 0% and 100% that they see the strategy in use in their area. Participants are asked to fill out survey every week.

CHANGING MITIGATIONS

Throughout the past eight weeks, the six mitigations that our observers say have the highest average compliance have remained the same (with “Restaurants to have reduced seating” currently out of the Top 5). Results from the last four periods are presented below:

Top Five Mitigations	Feb 15-28	Mar 1-15	Mar 16 - 31	Apr 1 – 15
Special protection in hospitals areas that treat COVID patients	84%	84%	78%	77%
Hairdresser and barber to be open with restrictions	72%	72%	71%	70%
Wearing a mask in public	72%	71%	74%	70%
Quarantine people with positive tests	71%	69%	70%	70%
Visitors to senior living facilities to be restricted	77%	75%	71%	68%

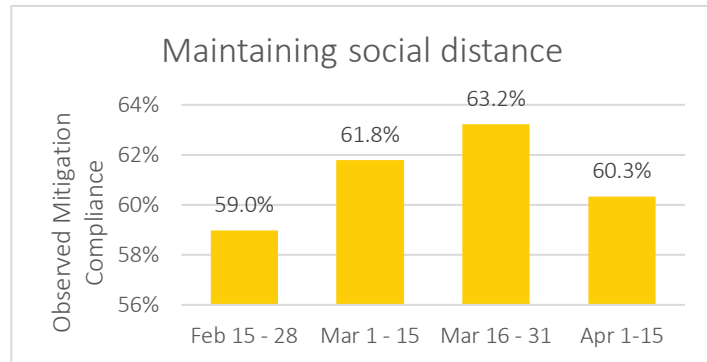
Mask Wearing was up last period, but has gone back down for early April. Restrictions on visitors to senior facilities continues to drift down, which is thought to be an appropriate reaction to the high level of vaccinations among residents. And special protection in hospitals may be down due to lower hospitalizations in some areas. The top mitigants have had an average compliance of 71% for this period, down 4% from late February.

Mitigation practices with the largest change are compared below.

Mitigations with Largest Change	Mar 16 - 31	Apr 1-15	Change
Wearing a mask in public	74%	70%	-5%
Colleges are closed or holding only remote classes	60%	55%	-5%
Visitors to senior living facilities to be restricted	71%	68%	-3%
Maintaining social distance	63%	60%	-3%
Restaurants to have reduced seating	70%	68%	-2%

Large decreases are again being reported for mitigations that have been highly promoted as important to containing COVID spread (Mask wearing, Social distancing and Restaurant seating). The decrease in restrictions at senior living facilities is the direct consequence of the success of the early efforts to bring vaccinations to those residents. These significant changes are evidence that the widespread relaxation of restrictions is now driving a decrease in voluntary compliance.

Compliance with Maintaining Social Distancing had been increasing throughout February and March. While compliance is now reported lower, it still stands at 60% which means that many more people are wearing masks than not.

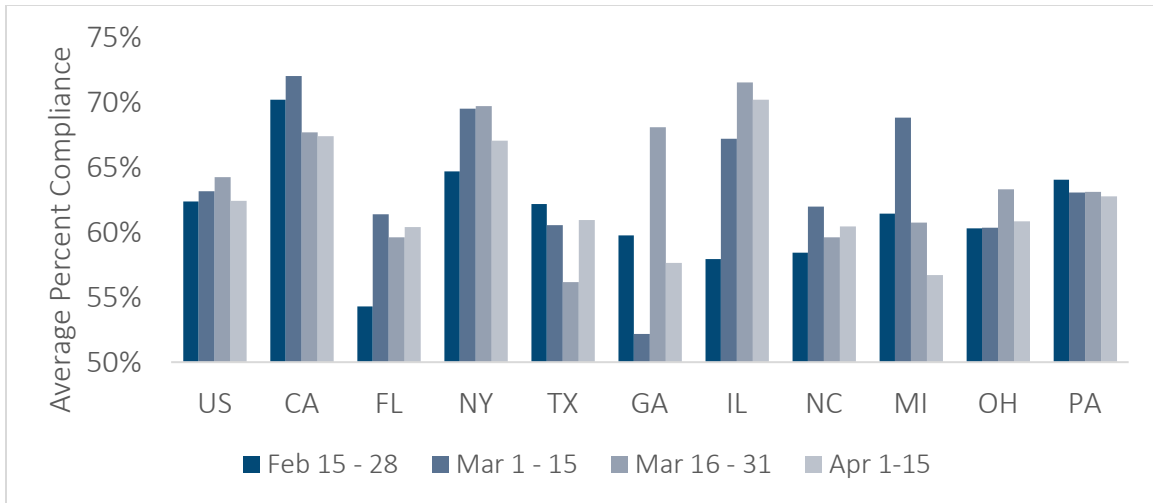


Mitigation Practices – State Level

Weighting Basis
 Weighting is based on average compliance in states where COVID was under control during September.

For the first half of April, the survey had a credible number of responses from 23 states. The states from that group with the highest compliance were Massachusetts (71%), Illinois (70%), and Minnesota (69%). The states with the lowest compliance were Iowa (43%), Tennessee (51%) and Louisiana (54%). Interesting to note that 22 of 23 states have average compliance above 50%.

Focusing in on the ten most populous states, (which are all among the 23 states with credible number of responses) there is quite a bit of variability of compliance over the past four months.



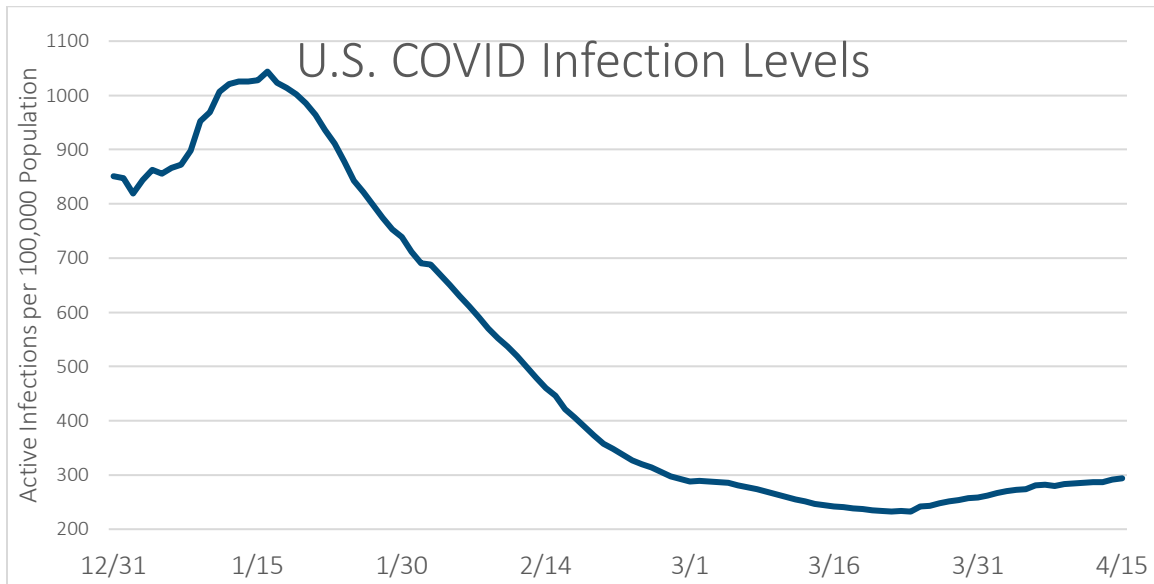
Compliance showed minimal change in four states. Georgia displays an unusually large change in compliance for the third consecutive period. Texas was the only state reporting a significant increase in compliance.

Variability of Changes in Mitigation Compliance by State

Mitigations with Largest Change	Change In U.S. Average	Number of States with Increases	Number of States with Decreases	Largest Increase	Largest Decrease
Wearing a mask in public	-5%	7	16	9%	-18%
Colleges are closed or holding only remote classes	-5%	6	17	11%	-23%
Visitors to senior living facilities to be restricted	-3%	7	16	18%	-27%
Maintaining social distance	-3%	9	14	7%	-20%
Restaurants to have reduced seating	-2%	5	18	7%	-17%

In general, the table above shows that changes in the national averages are driven by the balance of states that are either increasing or decreasing their compliance. This table reflects only the 23 states where we have credible observations. The national average includes the responses from the other 27 states which make up less than 15% of total observations.

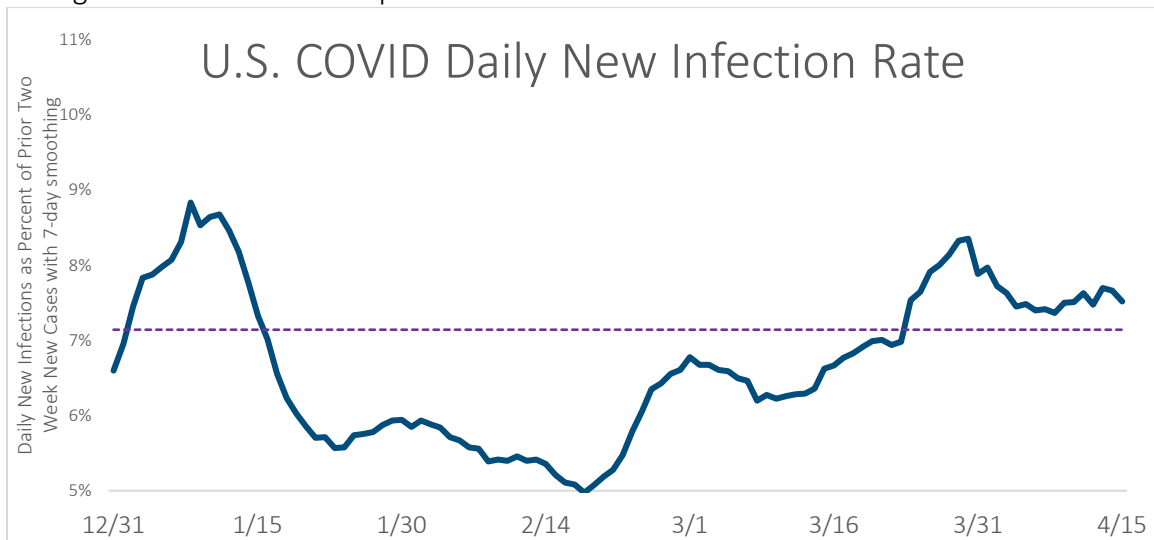
COVID-19 Spread of Infections – National



There were about 1,033,000 new cases of COVID-19 reported in the first half of April. This is up from 966,000 reported in the second half of March but still down substantially from the 2.6 million reported in the late January. The reported infection level is now fluctuating in the same range as experienced in the month of October.

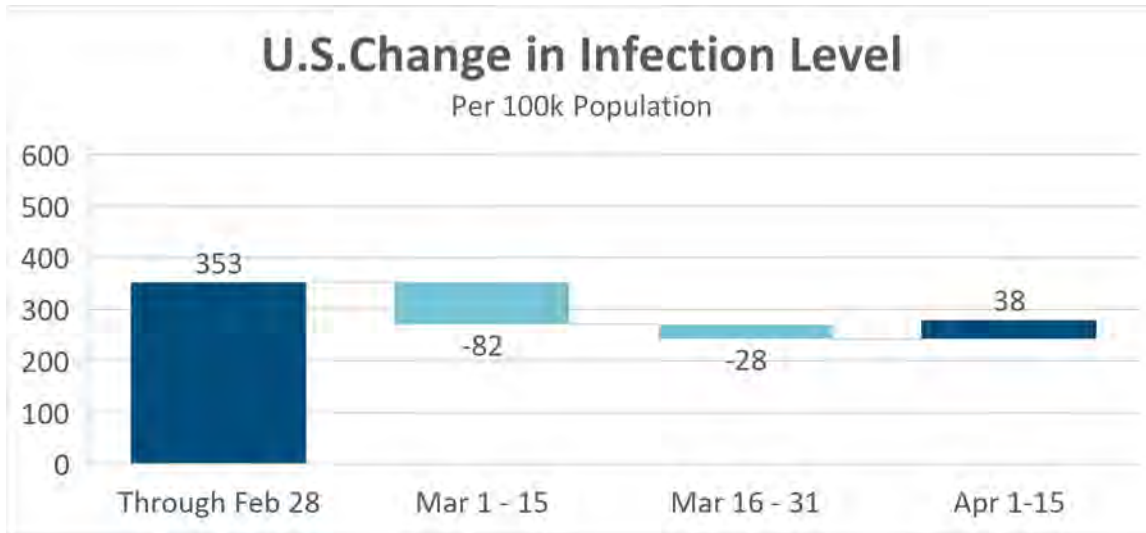
Infection Level
is the number of active infections per 100,000

Vaccinations are having a favorable effect – but not favorable enough to further shrink the pandemic in the U.S.



The rate of new infections flattened in the past two weeks at a level just above the No Growth level of 7.14%. This means a continuation of slow but steady daily growth in the number of new infections. The New Infection rate is being pulled upwards by the new,

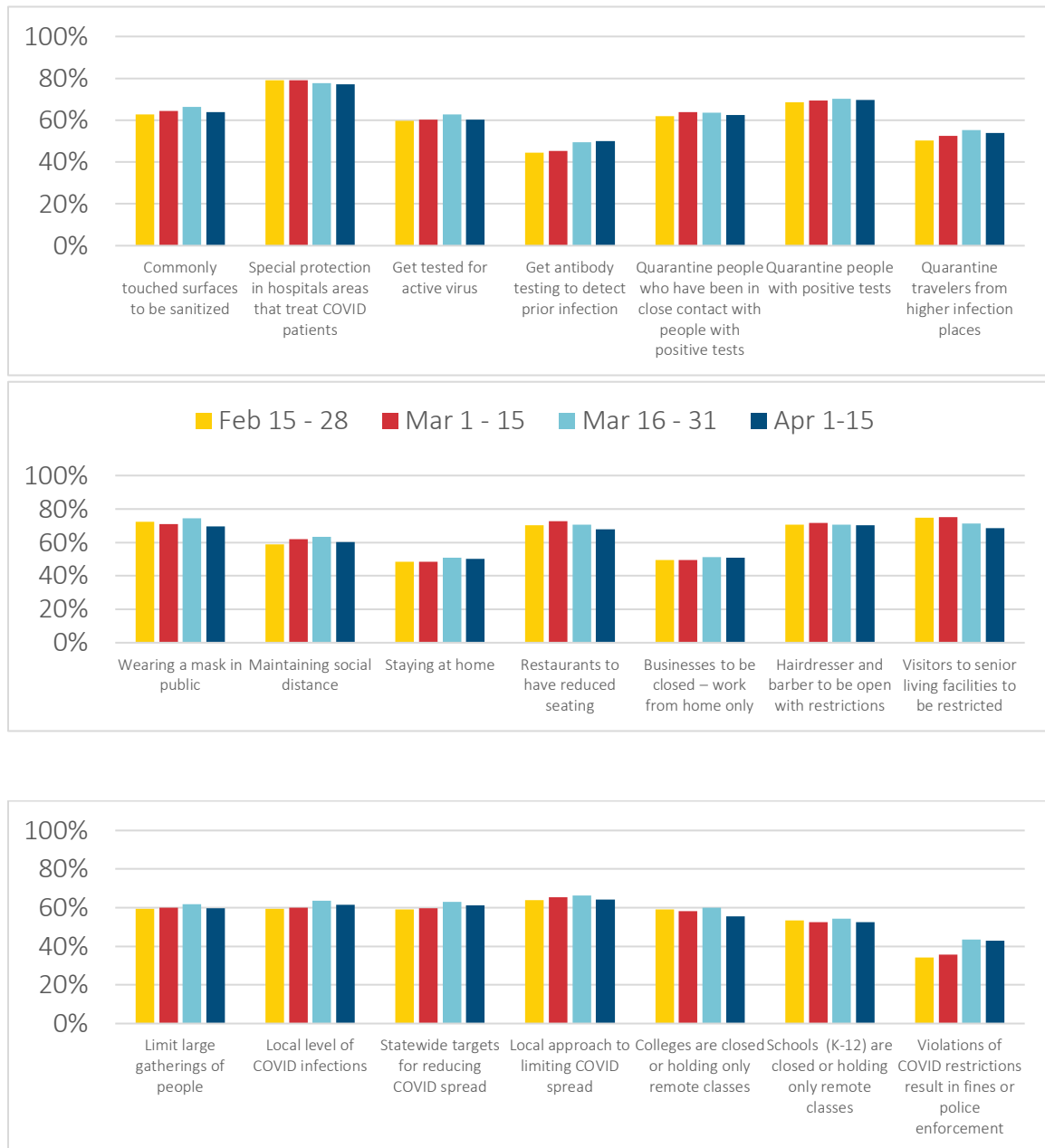
more infectious strains of COVID, downwards by the vaccinations and downwards by the average increasing mitigation compliance noted above.



The plot above clearly shows the monthly decreases in Infection Level getting smaller each month with a near zero change in the two most recent periods.

Mitigations Levels over Time

The following charts provide a perspective on the relative compliance levels of all 21 mitigations with each other as well as the trends over the past two months.



Impact of Immunities

The vaccination programs are moving forward very rapidly. An estimate of the potential impact of immunity gained from vaccinations and from recoveries from COVID infections shows that at this time, the impact of immunities on the spread of COVID has reached a significant level.

	3/31/21	4/15/21	Increase
Reported Recovered Immune	28.7 M	30.0 M	+1.3 M
Vaccinated Immune	77.0 M	111.6 M	+34.6 M
Total Immune	105.7 M	141.6 M	+35.9 M
Pct of Population	32.4%	43.4%	+11.0%
Est. Impact on NIR	-3.8%	-5.5%	-1.7%

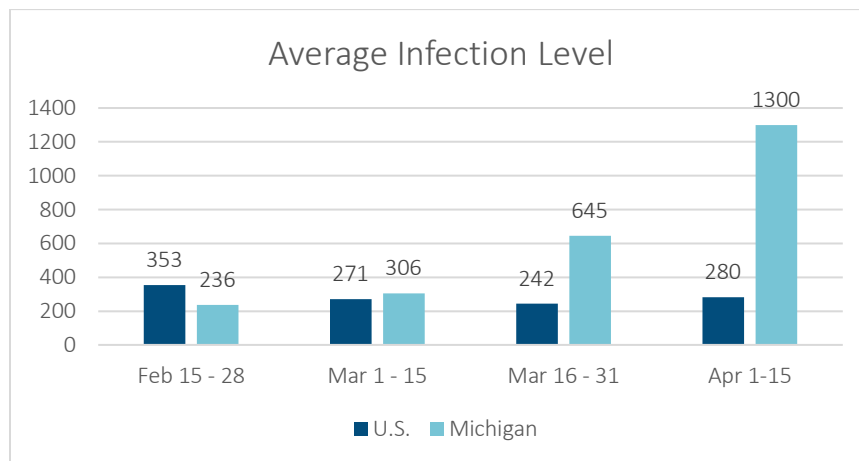
While the national average total percent immune is shown above to be 43.4%, at the state level, immune percentage ranges from a high of 59% in Michigan to a low of 36% in Mississippi. These differences are primarily driven by the different levels of recovered immune people in the states with a smaller range of vaccinated immune.

These calculations are estimates based upon average reported efficacy of the vaccines and an assumption that people with immunity would face an average level of exposure to COVID infection. No adjustments were made to these figures to reflect the exact timing of the onset of immunity from vaccinations which varies by type of vaccine or the fact that some recovered immune people are getting vaccinated.

In addition, these calculations are based upon Reported Infections. Because COVID infections result in a very wide range of individual responses from largely symptom free to severe respiratory distress leading to hospitalization and death, there are thought to be many cases that go unreported. The CDC conducted a study of the seroprevalence of COVID antibodies in blood drawn for a variety of medical tests. Results from that study, updated in late February show that unreported infections may be as high as 110% of the reported infections. If that were true, the estimated Total Immune level could be as high as 47% of the U.S. population.

Surge in Michigan

Over the past two months, Michigan infection level has soared as the U.S. in total has experienced relatively small decreases and increases.



Mitigation compliance is lower than the National average in Michigan for 12 practices and higher for 9. Focusing in on specific mitigation practices, the following are the practices where compliance differs the most from the national averages over the same eight-week period:

Compliance in Michigan is less than the U.S. Average	Difference	Compliance in Michigan is more than the U.S. Average	Difference
Limit large gatherings of people	-7.5%	Restaurants to have reduced seating	4.3%
Get tested for active virus	-7.3%	Quarantine travelers from higher infection places	3.4%
Local level of COVID infections is known	-5.1%	Statewide targets for reducing COVID spread	2.9%
Schools (K-12) are closed or holding only remote classes	-4.1%	Hairdresser and barber to be open with restrictions	2.1%
Maintaining social distance	-3.6%	Wearing a mask in public	1.2%

There are other factors, including the prevalence of more transmissible variants and weather, involved in the level of transmission of COVID in Michigan, but the above list does reveal some practices where Michigan could consider strengthening. In particular, the practice with the largest deficit compared to the national average, Limit large gatherings of people, was also found to be the practice that had the largest negative correlation (-75%) with infection level¹.

¹ COVID-19 Mitigations in the U.S. September 2020 – February 2021, <https://www.soa.org/resources/research-reports/2020/covid-19-mitigation/>

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Note on Mitigation Compliance Observations

The COVID mitigation information is collected via Pollfish and SurveyMonkey surveys. In those survey, observers are asked to say what they are seeing in their community regarding the percentage compliance with 21 specific mitigation activities. The observers are volunteers who were either recruited personally by the project team or who responded to a variety of solicitations for observers via Twitter, Facebook, LinkedIn, Pollfish and SurveyMonkey. This data is subject to self-selection and other biases. No adjustments have been made to the data that we have collected in order to respond to possible biases. Observations are aggregated and the average of multiple views are treated as true information about the mitigation activity in a state. The variance of the responses in a state has been examined and targets are set for a higher number of responses in states where there is a higher variance of responses.

Appendix List of Mitigations under Study

- Wearing a mask in public
- Maintaining social distance
- Staying at home
- Restaurants to have reduced seating
- Businesses to be closed – work from home only
- Hairdresser and barber to be open with restrictions
- Visitors to senior living facilities to be restricted
- Commonly touched surfaces to be sanitized
- Special protection in hospitals areas that treat COVID patients
- Get tested for active virus
- Get antibody testing to detect prior infection
- Quarantine people who have been in close contact with people with positive tests
- Quarantine people with positive tests
- Quarantine travelers from higher infection places
- Limit large gatherings of people
- Local level of COVID infections
- Statewide targets for reducing COVID spread
- Local approach to limiting COVID spread
- Colleges are closed or holding only remote classes
- Schools (K-12) are closed or holding only remote classes
- Violations of COVID restrictions result in fines or police enforcement

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