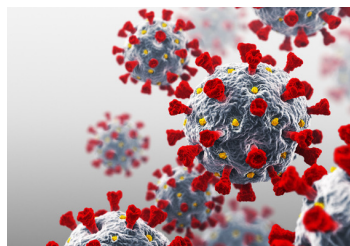


Covid-19 "Vital Signs"

Issue # 336

May 20, 2021



Covid-19 "Vital Signs"

Newly Detected Cases Per Day

In the US, 7-day new case rate declined 21% week-over-week and nearly 50% over yet declined 2% over the past three weeks.

Newly Detected Cases

As of May 19

■ United States ■ Outside the US

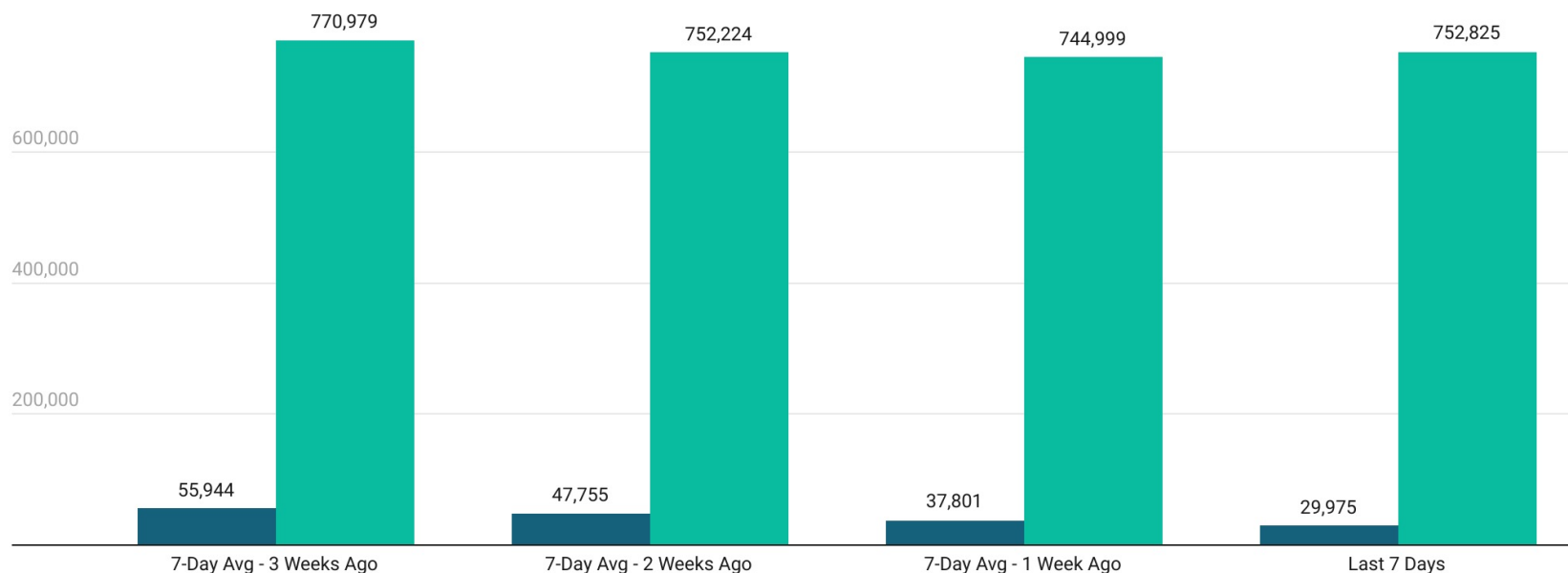


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Week-Over-Week Changes in New Cases

New cases in the U.S. continue to decline each day. Led by the U.S., new cases worldwide have been declining every day in May.

Week-Over-Week Changes in Newly-Detected Cases: USA v. Worldwide

7-Day Moving Average, As of May 19



Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Newly Detected Cases

New cases declined last week, falling to the lowest point since June 21.

Newly-Detected Cases / Million

7-Day Average

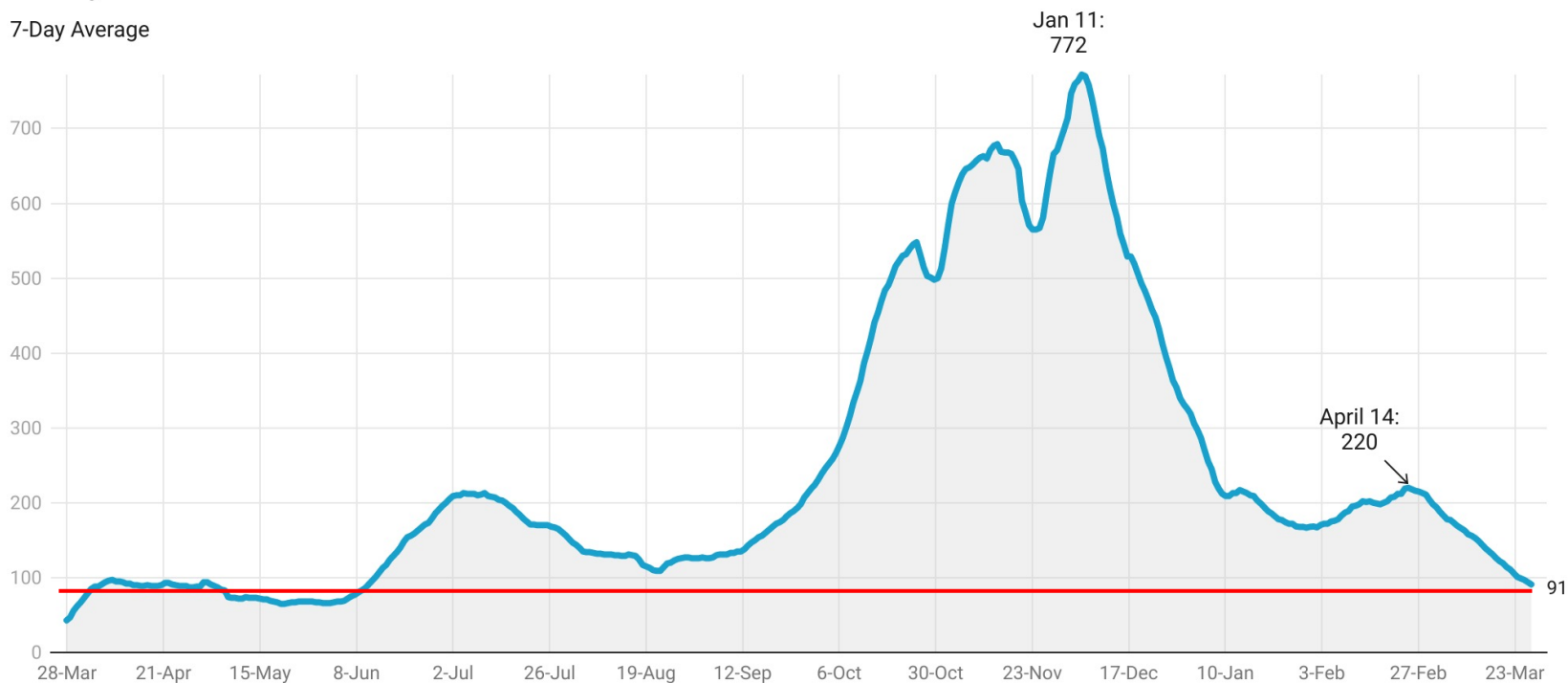


Chart: Health Industry Advisor LLC • Created with Datawrapper

Covid-19 "Vital Signs"

Estimated Daily Infections & New Case Rates

Estimated infections have dropped to the lowest level since last March 13, the very day the national emergency was declared.

Estimated Daily Infections v. Detected Cases

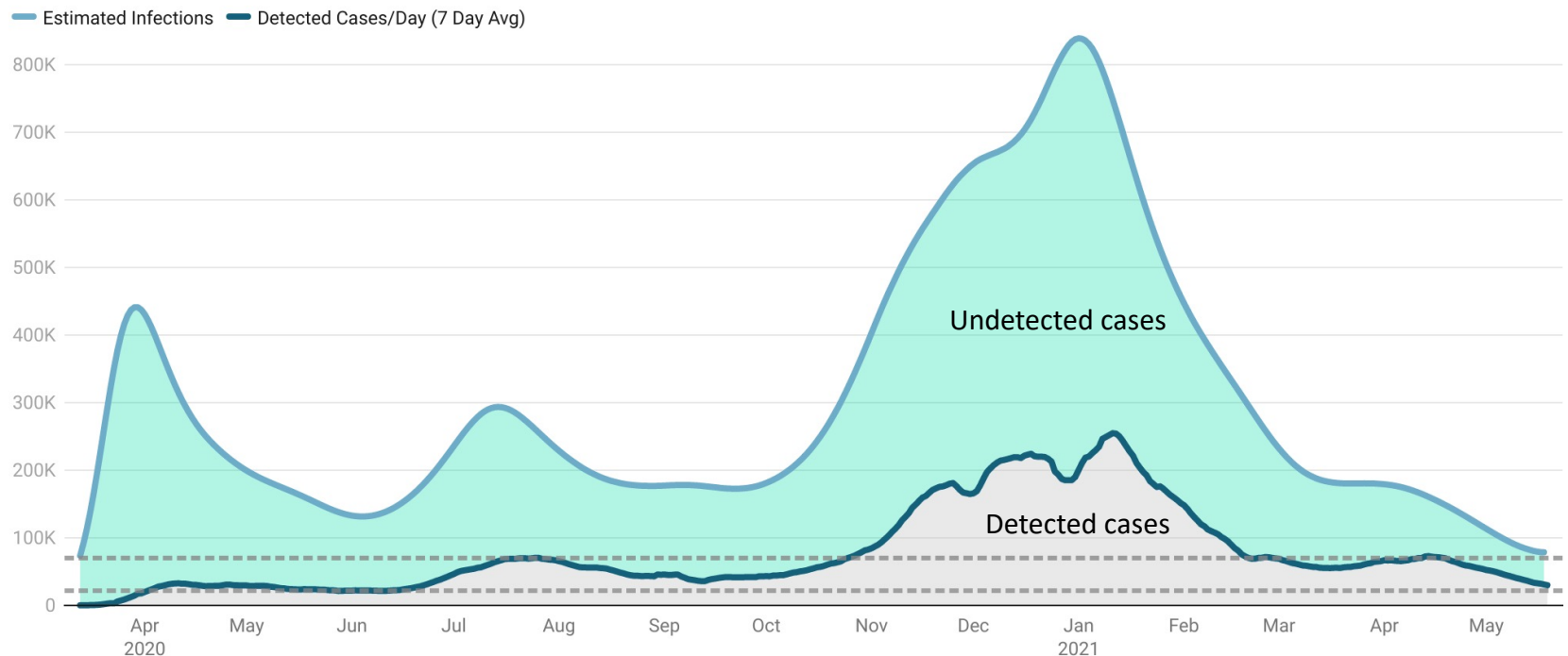
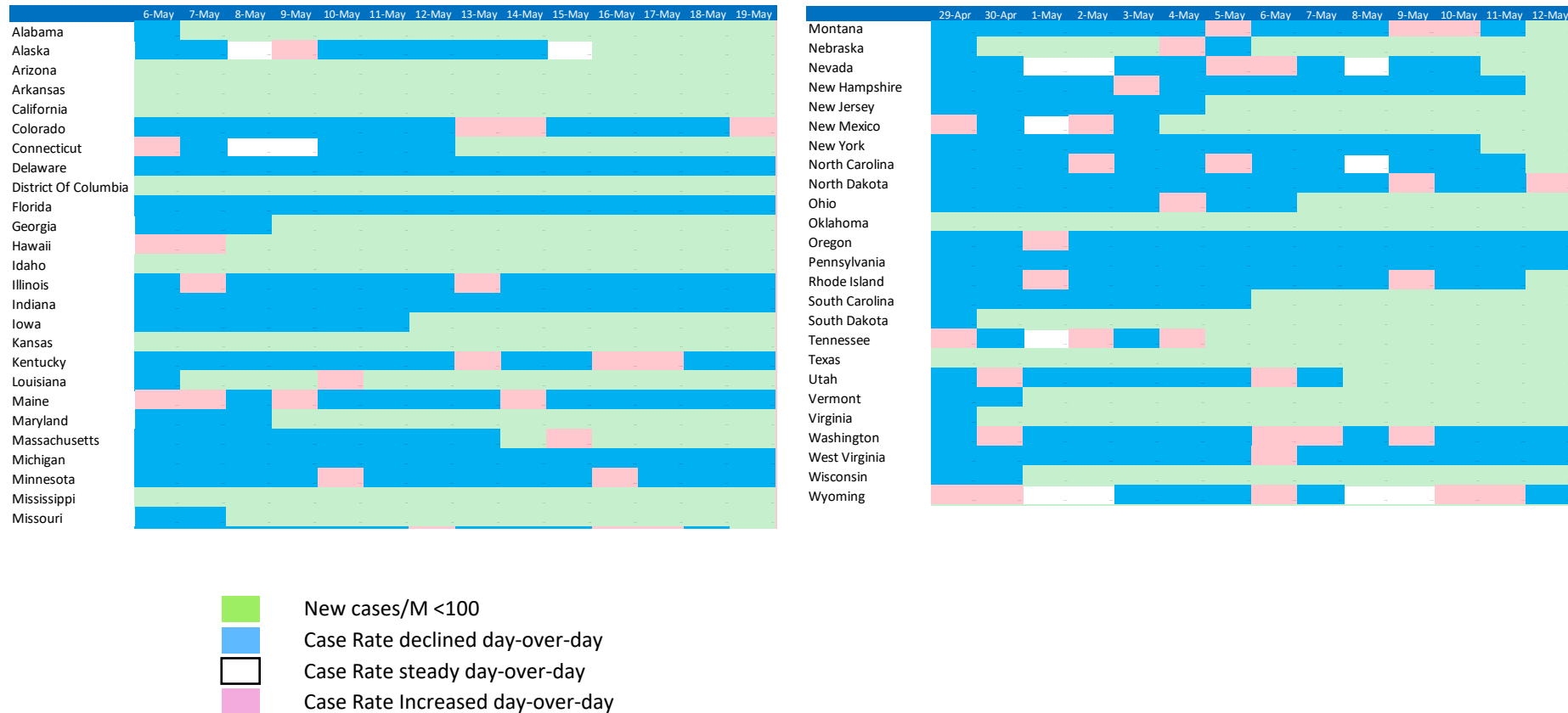


Chart: Health Industry Advisor LLC • Source: Yale School of Public Health • Created with Datawrapper



Trends in New Case Rates

Mississippi is the only state that experienced increasing new case week-over-week. Thirty-fives states have rates <100 per million per day



Covid-19 "Vital Signs"

New Cases / Million

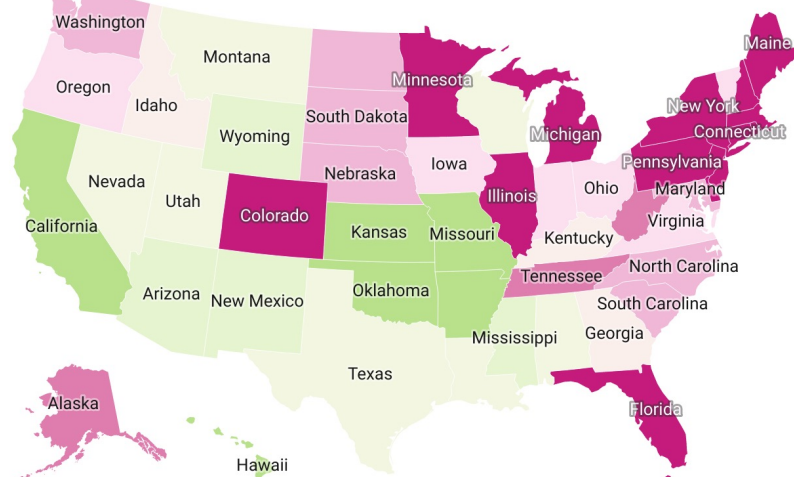
In the past month, new daily case rates have plummeted across the country.

April 21

May 19

New Cases / Million

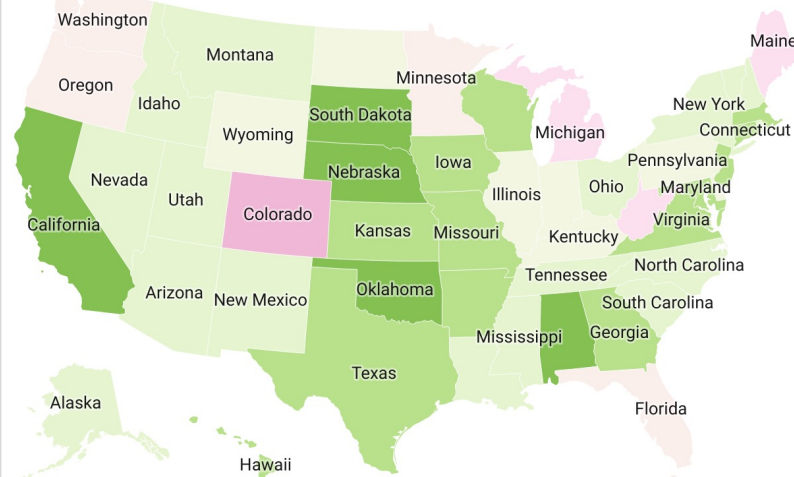
7-Day Moving Average, As of April 21



Map: Health Industry Advisor LLC • Created with Datawrapper

New Cases / Million

7-Day Moving Average, As of May 19



Map: Health Industry Advisor LLC • Created with Datawrapper

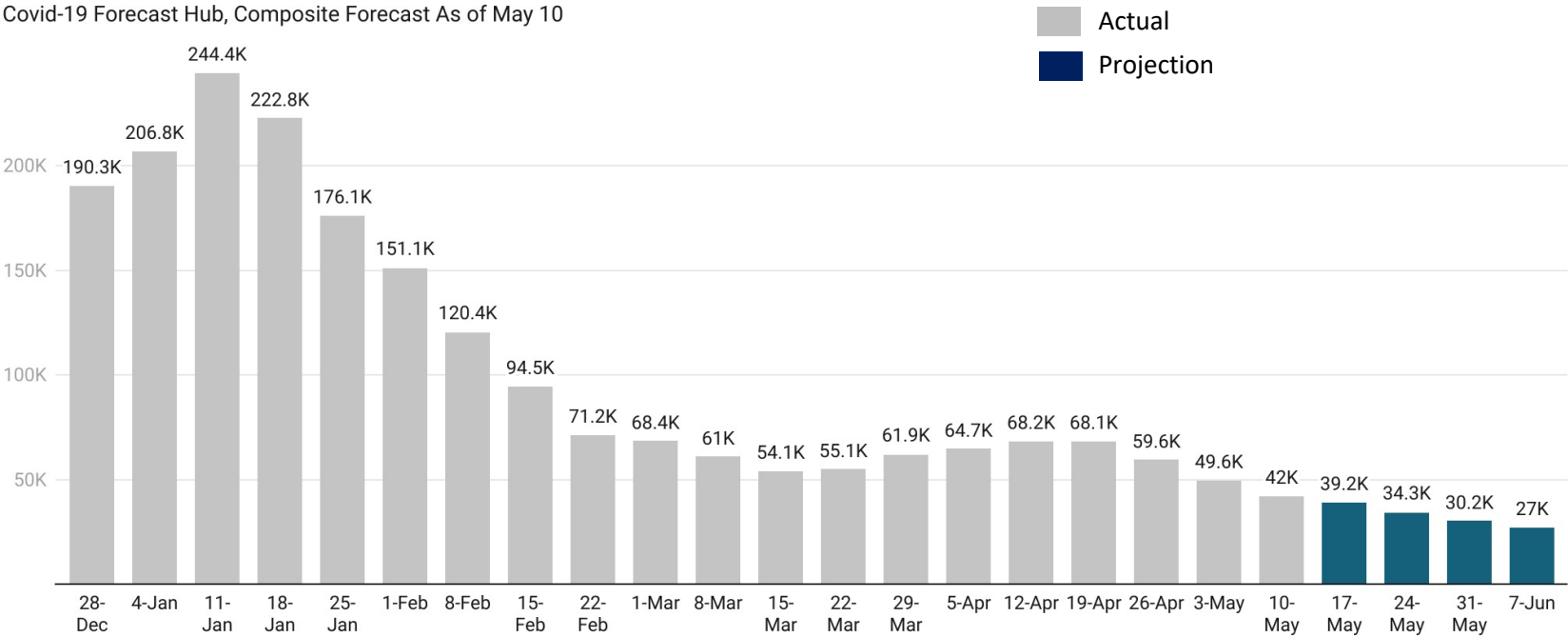


Covid-19 Cases: Ensemble Forecast

The most recent ensemble forecast projects that new daily cases decline 14% per week over the next four weeks.

Newly-Detected Cases Per Day

Covid-19 Forecast Hub, Composite Forecast As of May 10



For the week ending on the date shown

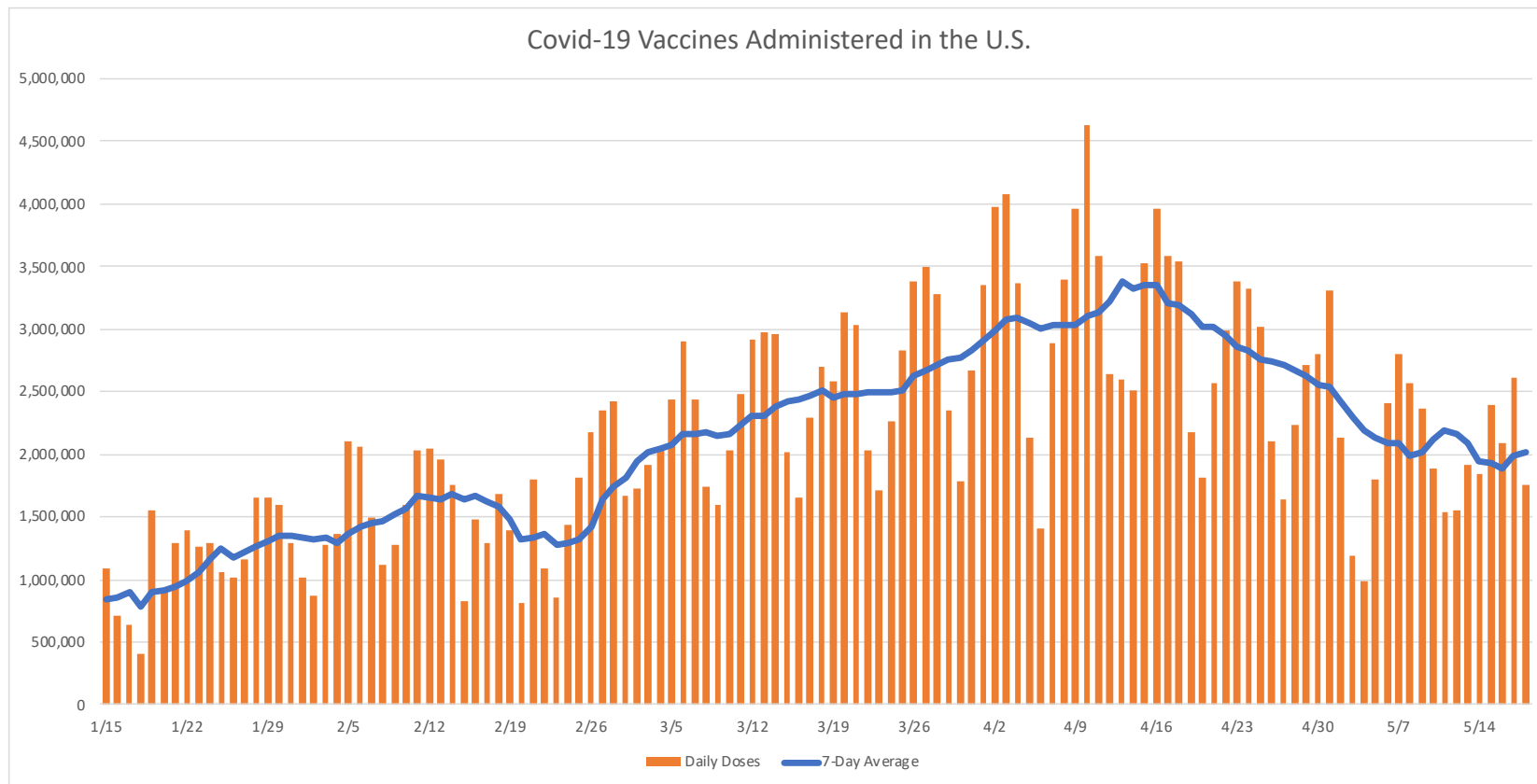
Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

<https://viz.covid19forecasthub.org>

Covid-19 "Vital Signs"

Pace of Vaccinations

The 7-day average vaccination rate rose each of the past three days, as 12-to-16-year-olds have joined the effort. The current rate is 2.0 million doses per day.



Covid-19 "Vital Signs"

Vaccine Tracking

To date, the US has distributed 349 million doses - more than one dose per resident. We have administered 277 million doses. 124 million people are fully inoculated.

Vaccination Progress

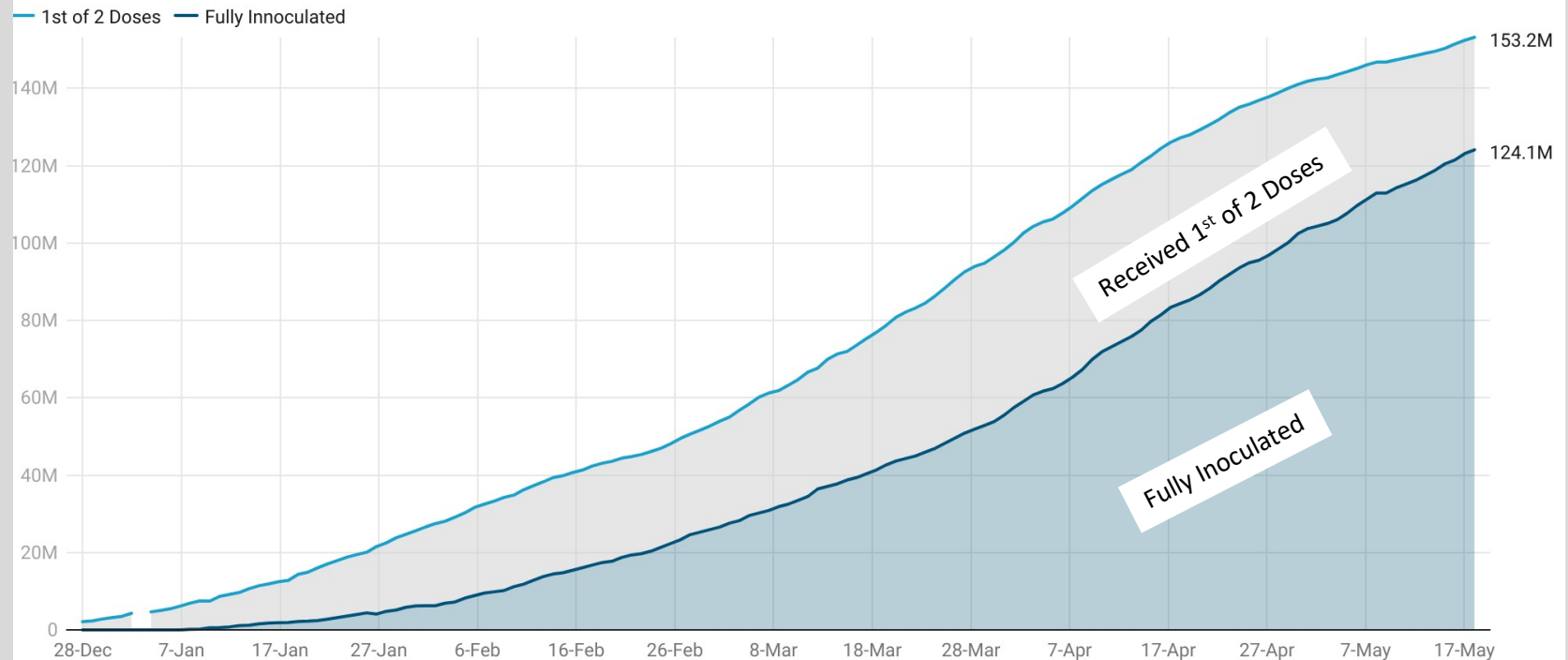


Chart: Health Industry Advisor LLC • Source: CDC, Bloomberg • Created with Datawrapper

Vaccine data from: [Centers for Disease Control and Prevention](#) and [Bloomberg Vaccine Tracker](#)

Vaccination Status By Age

85% of seniors are participating in the vaccination process; 73% are fully vaccinated. 54% of younger adults have received at least one shot; 41% are fully vaccinated. 54% of younger adults have received at least one shot; 41% are fully vaccinated. Seven percent of 12-to-17-year-olds have started vaccinations.

Vaccination Status By Age

As of May 17

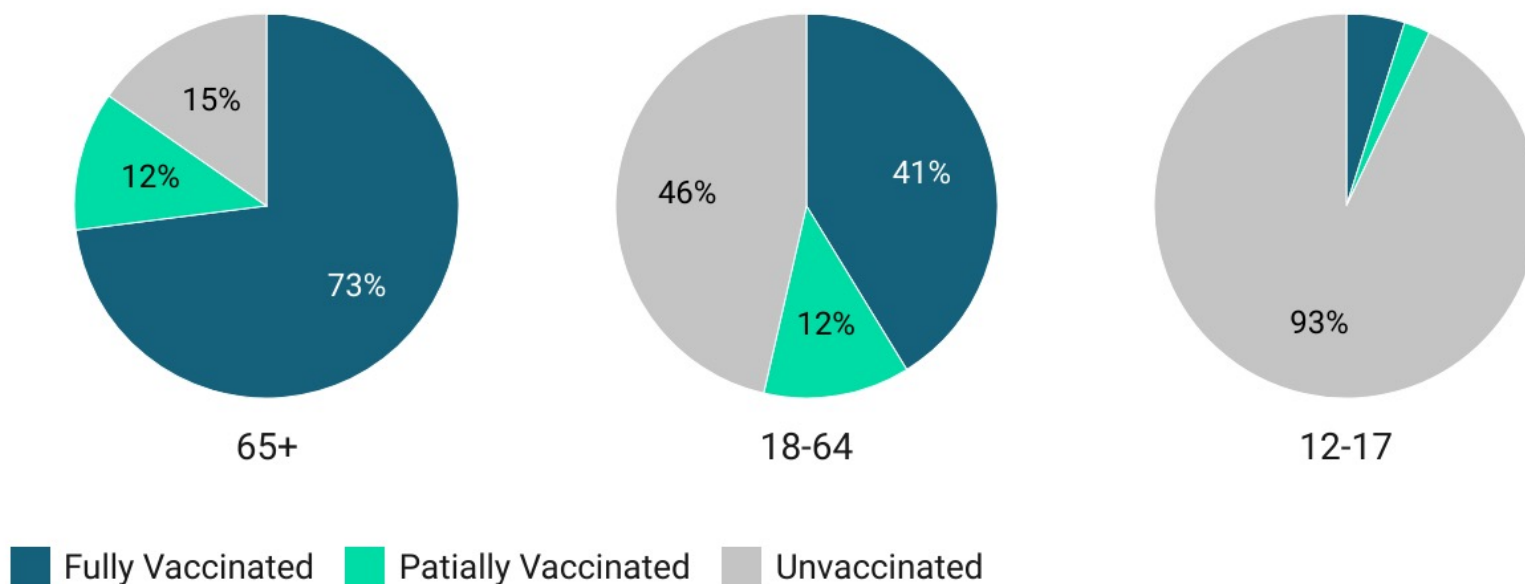


Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

Estimated Immunity By State

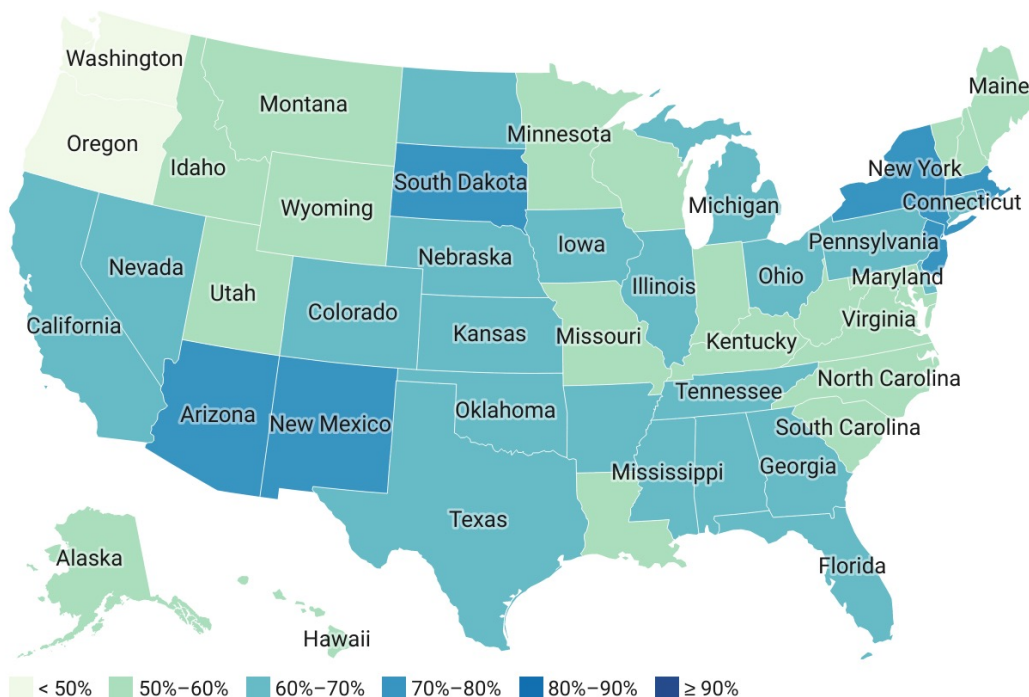
Estimated immunity is highest in Arizona, Connecticut, Massachusetts, New Jersey, New Mexico, New York, Rhode Island, and South Dakota.

- Public health experts have suggested that 60-80% of the population would need immunity, for herd immunity to be reached
- Immunity could result from an infection or via vaccination
- It is not established how long immunity, from either infection or vaccination, will last
- For purposes of this illustration, we use both reported vaccination rates and the Yale/Harvard* mean estimates of true infections

* <https://covidestim.org>

Estimated Immunity Prevalence, As of May 18

Based on Vaccinations To-Date & Harvard/Yale Estimated Infection Model



Presumed 14-day lag for immunity.

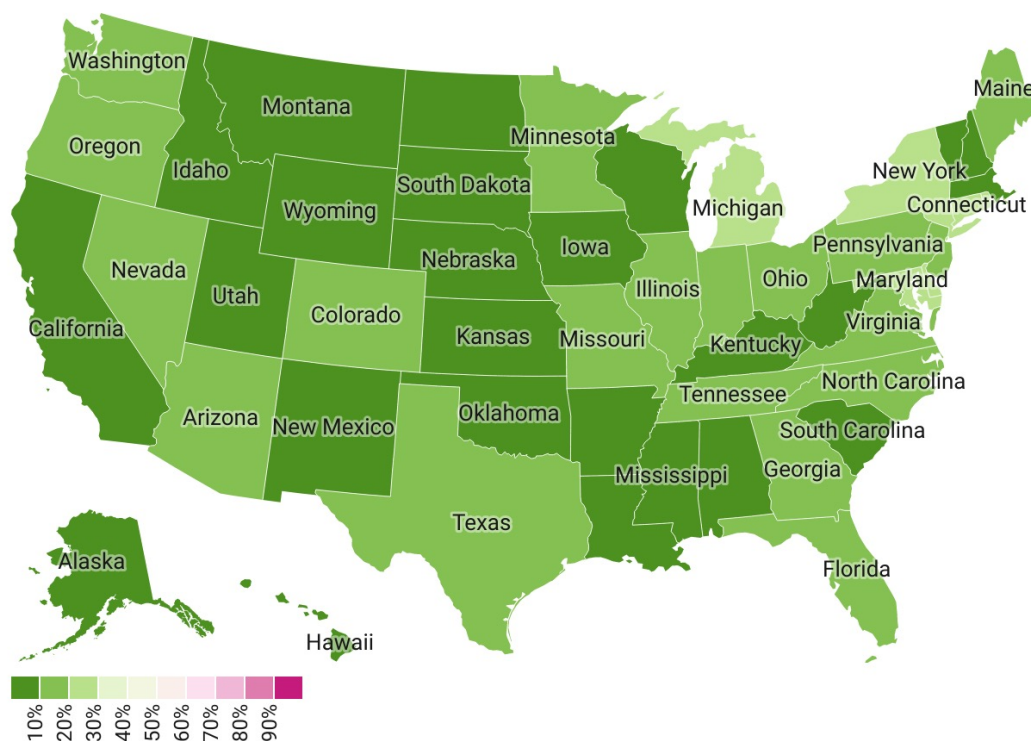
Map: Health Industry Advisor LLC • Source: Harvard/Yale Schools of Public Health • Created with Datawrapper

Covid-19 Hospitalizations

Covid-19 patients now occupy only one of every eight inpatient beds in the U.S. – versus four in ten beds in January. Maryland and Michigan report the highest rates - three in ten beds.

Covid-19 Patients As % of All Inpatient Beds

As of May 17



Map: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Covid-19 Inpatient Census

Covid-19 inpatient census has declined 12% in the last week and 33% in the last four weeks.

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks

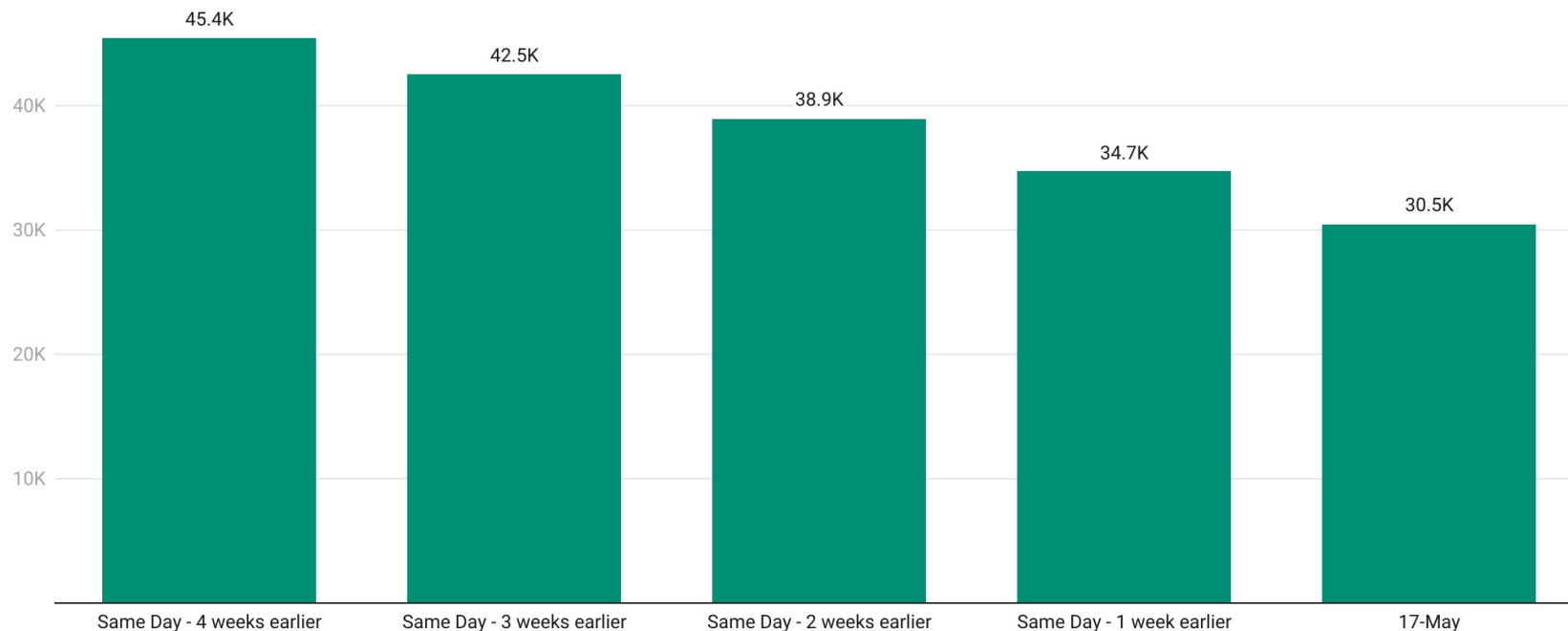


Chart: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Covid-19 Inpatient Census

Covid-19 inpatient census has dropped to levels unseen since early October.

Covid-19 Inpatient Census

Through May 14

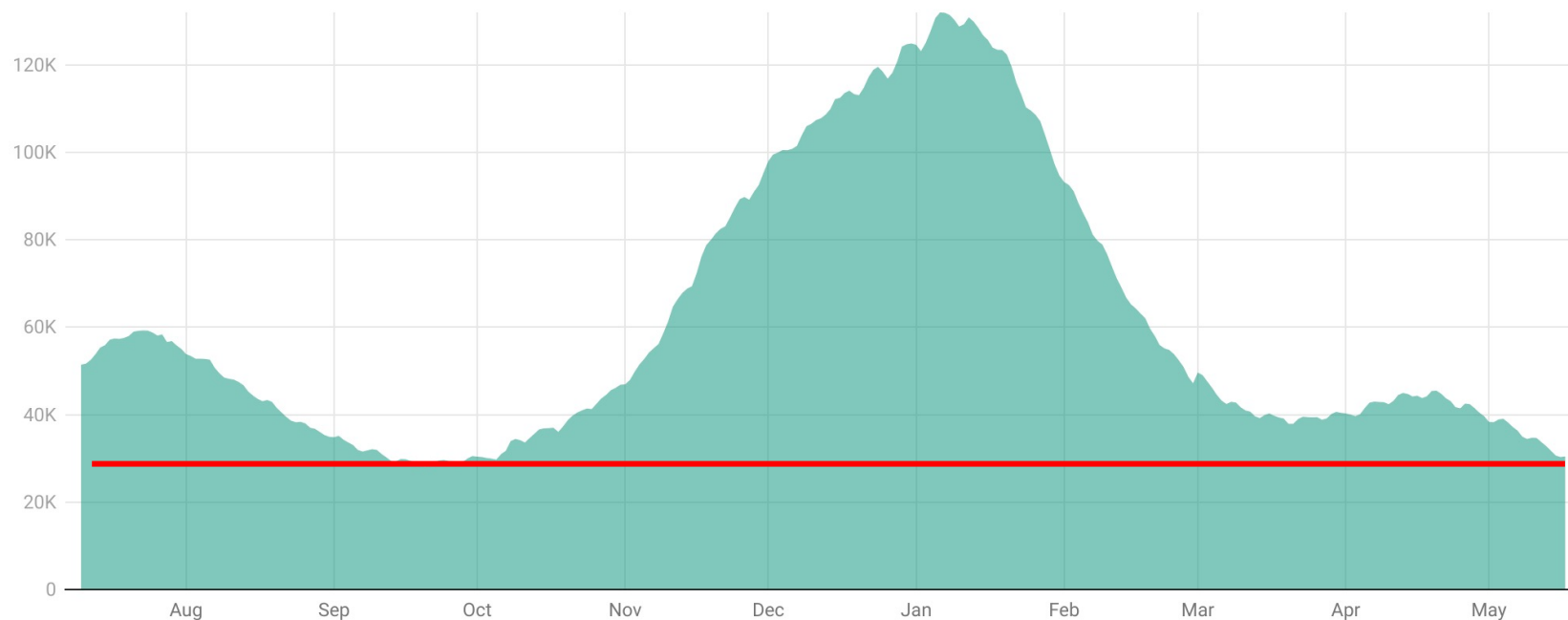


Chart: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Covid-19 "Vital Signs"

Projected Covid-19 Admission Trends

For the U.S. overall, projected Covid-19 admissions drop 43% in the next three weeks. Several states – Alaska, Connecticut, Massachusetts, Michigan, New Jersey, Rhode Island, and South Dakota – are expected to see 60+% declines.

% Change in Hospital Admissions

Week Ending June 14 v. Week Ending May 24

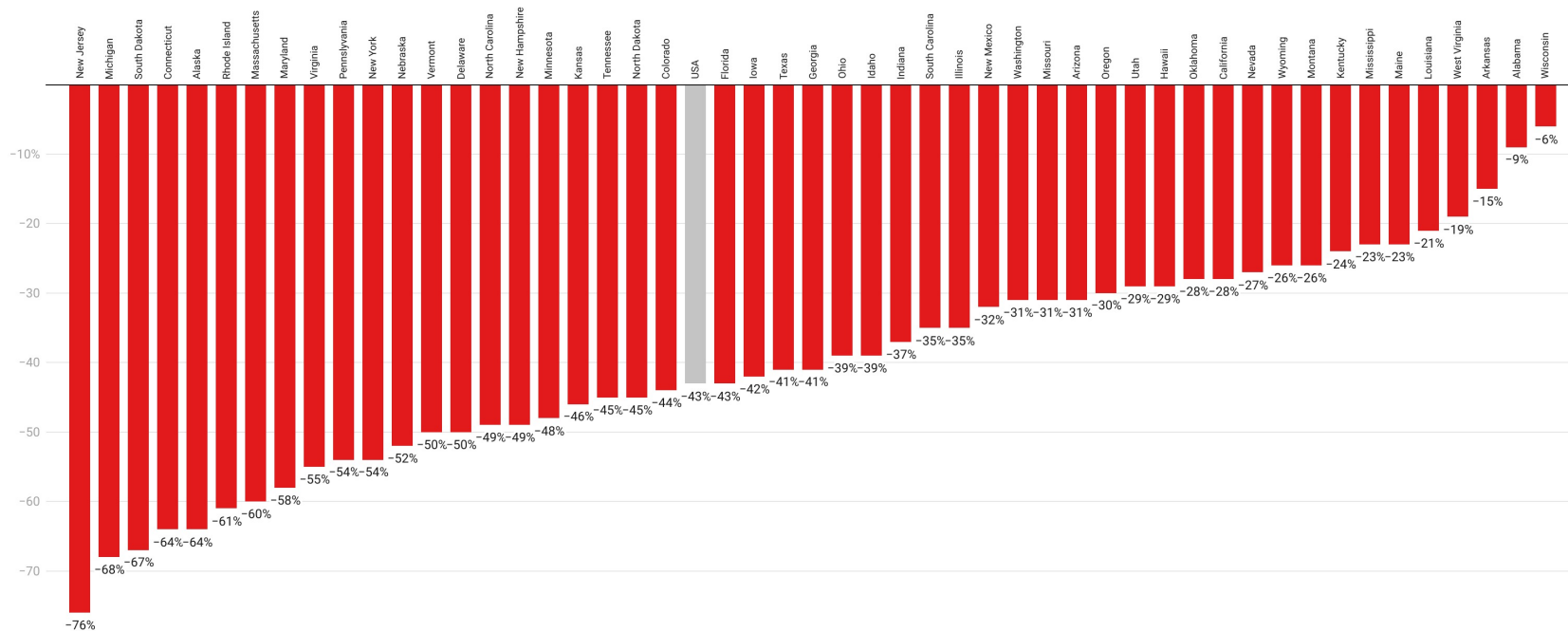


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Deaths Reported With Coronavirus

The 7-day death rate declined 10% week-over-week and 17% in the last three weeks.

Daily Deaths Reported With Coronavirus

As of May 19

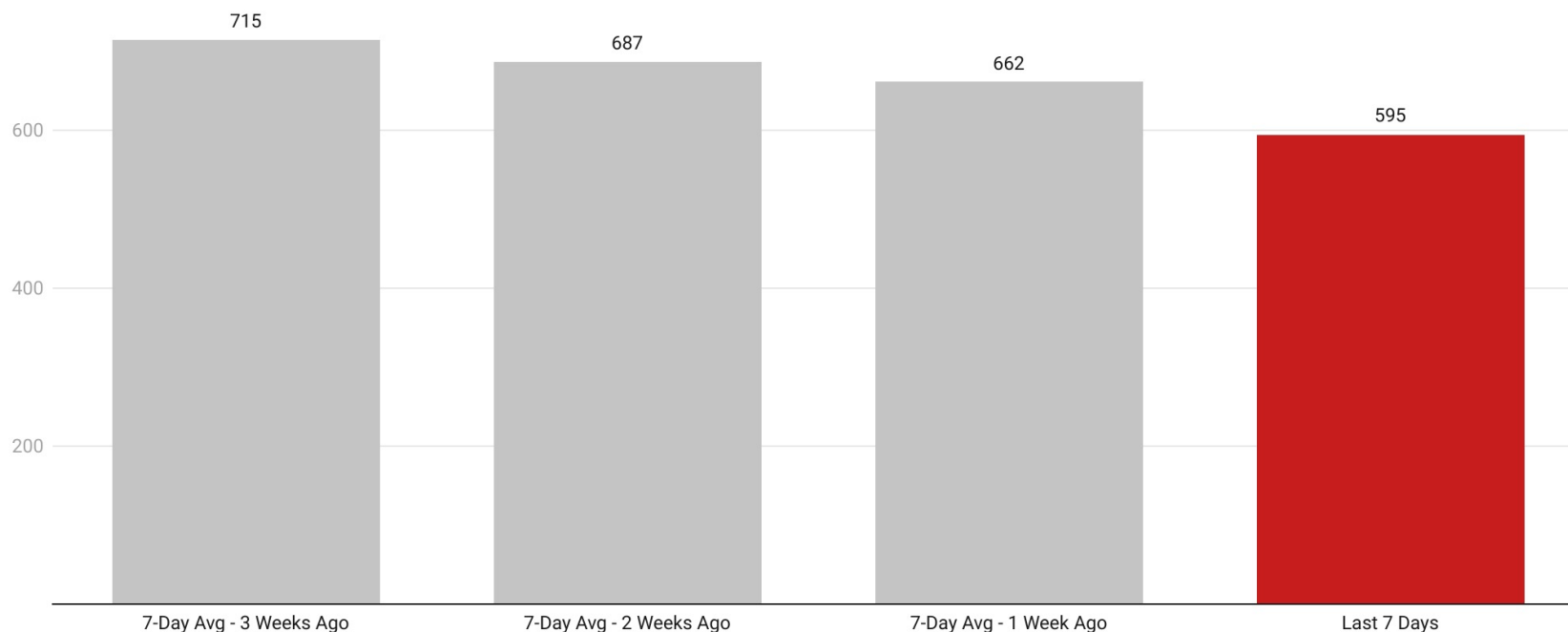


Chart: Health Industry Advisor LLC • Source: worldometer.info • Created with Datawrapper

Covid-19 “Vital Signs”

Deaths With Coronavirus

Deaths with coronavirus (7-day average) fell below 600. Since March 2020, this rate been below 600 on eight other days (June 30 – July 7)

Deaths With Coronavirus

7-Day Average, Through May 17

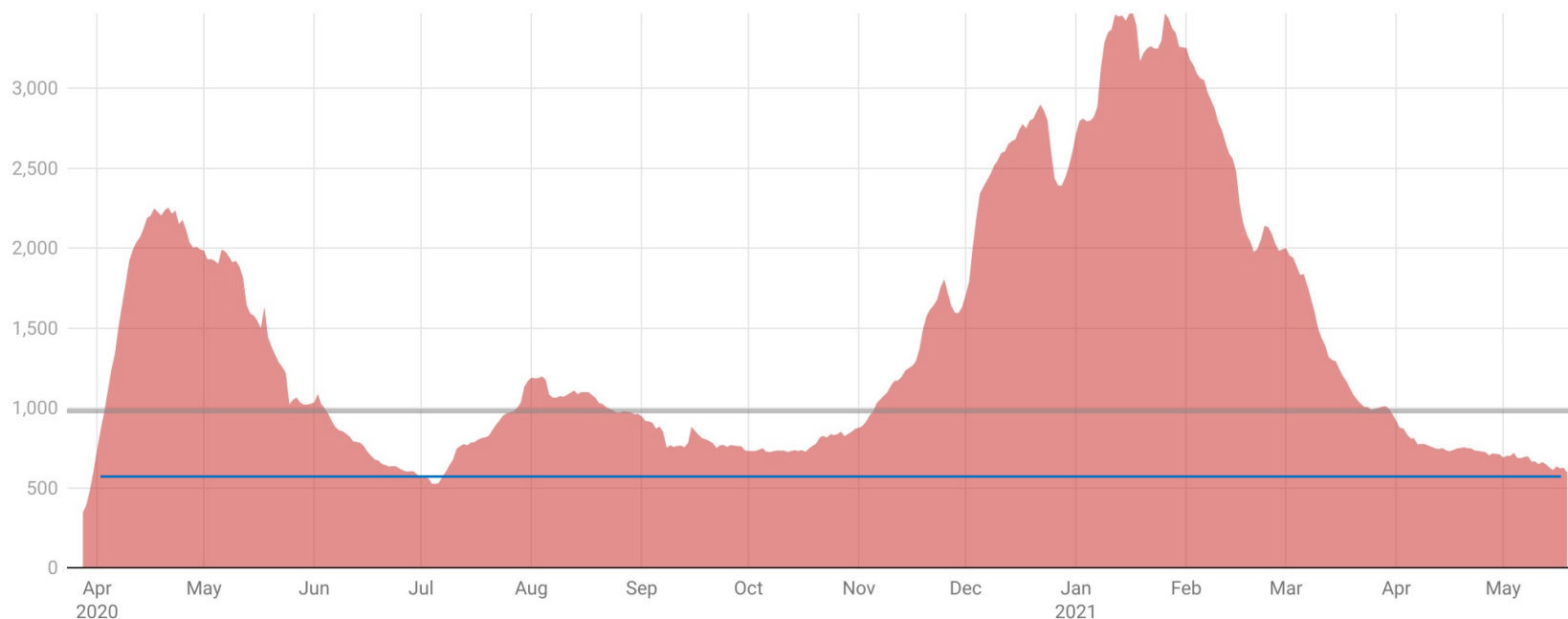


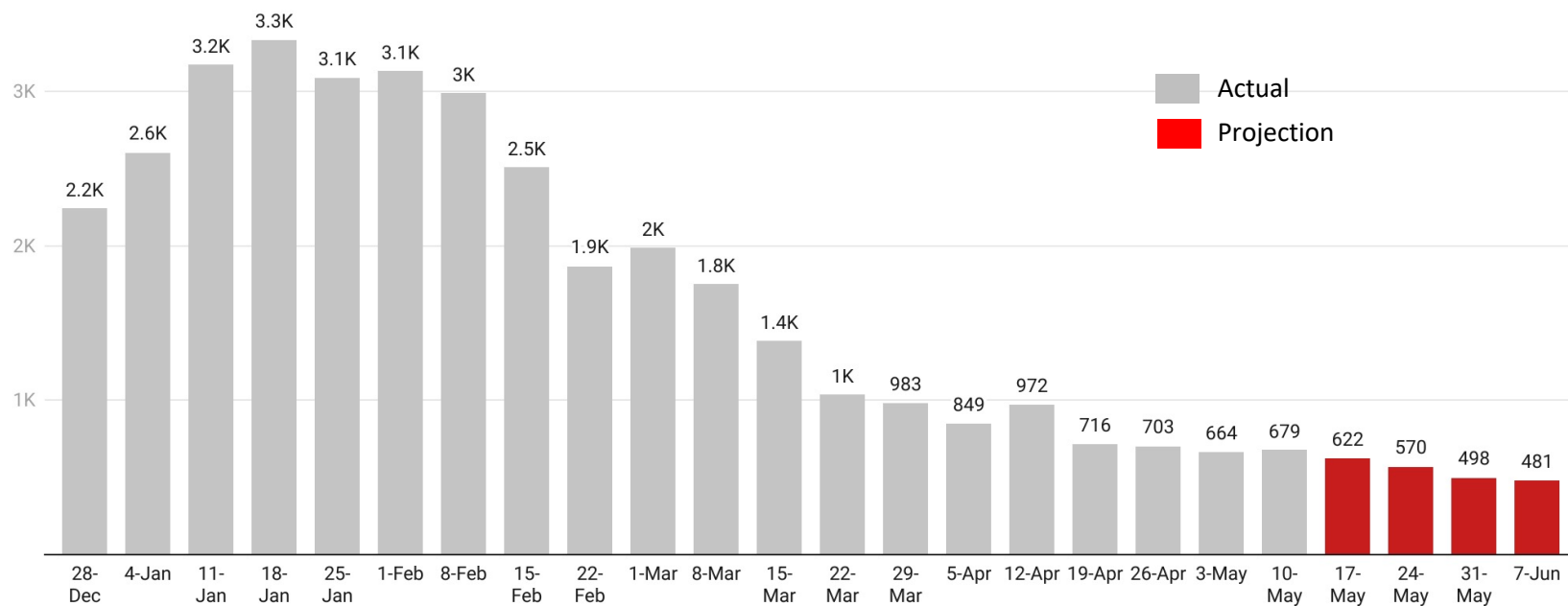
Chart: Health Industry Advisor LLC • Created with Datawrapper

Death Projections – Ensemble Forecast

The most recent ensemble forecast projects that deaths decline 13% per week over the next four weeks.

Newly-Reported Deaths Per Day

Covid-19 Forecast Hub, Composite Forecast As of May 10



For the week ending on the date shown

Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

<https://viz.covid19forecasthub.org>

Test-Positivity Rate

The test-positivity rate dropped well below the suggested WHO target and continues to trend downward.

Test-Positivity Rate

As of May 10

Note: California's data is several days behind. That state's test volume is typically high and its positivity rate low (2%). As a result, the "Last 7 Day" rate depicted here is likely overstated.

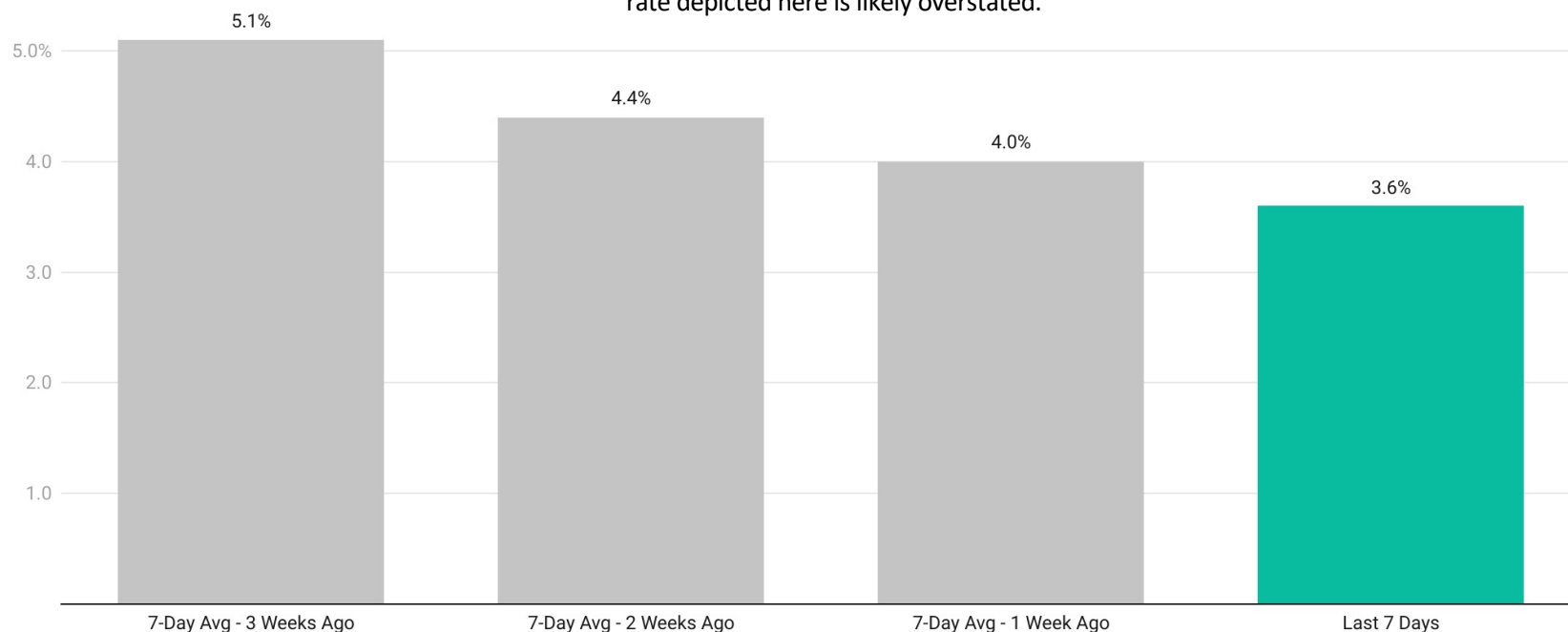


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Test-Positivity Rate

The 7-day test-positivity rate remains below the target set by the World Health Organization.

Test-Positivity Rate

7-Day Average, Through May 10

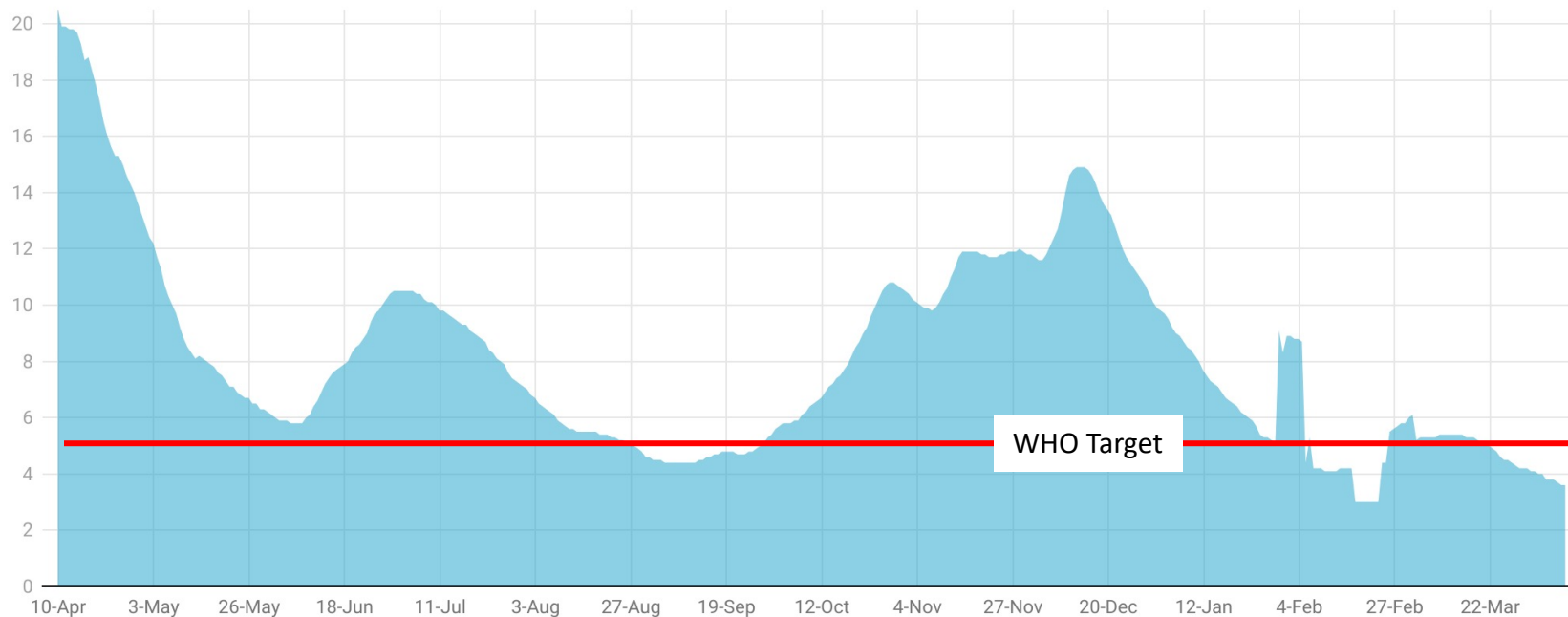


Chart: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

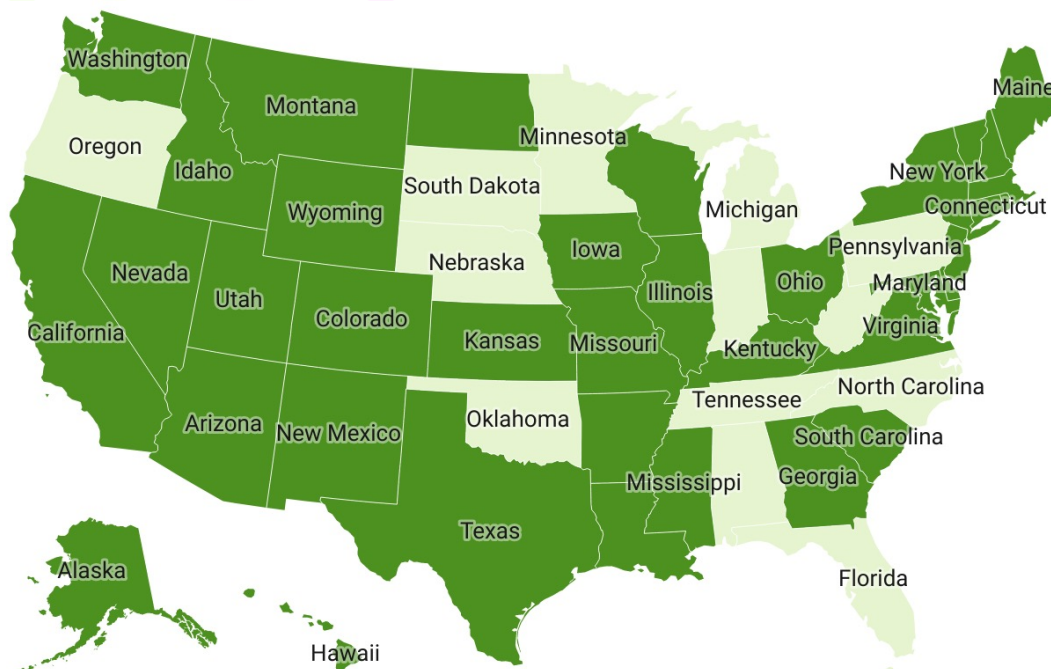
7-Day Average Test-Positivity %

No state reports test-positivity rates > 10%. This rate exceeds 5% in Alabama, Florida, Indiana, Iowa, Michigan, Minnesota, Nebraska, North Carolina, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, and West Virginia.

Test Positivity %

Latest Available Data, As of May 10

■ < 5% ■ 5%–10% ■ 10%–15% ■ ≥ 15%



Map: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Covid-19 "Vital Signs"

State-By-State Scorecard: Scoring Grid

Designed to reflect five critical measures of a state's current experience with Covid-19

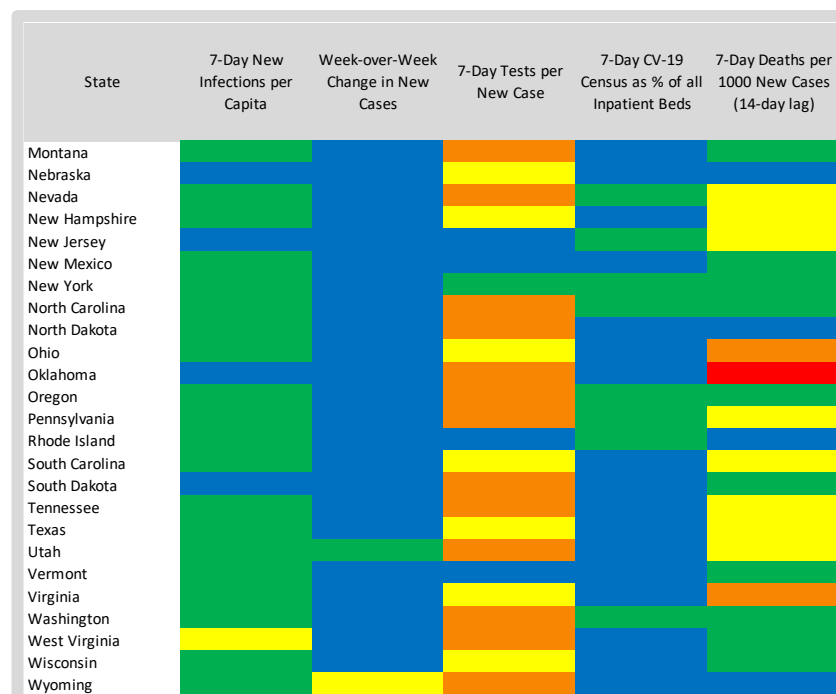
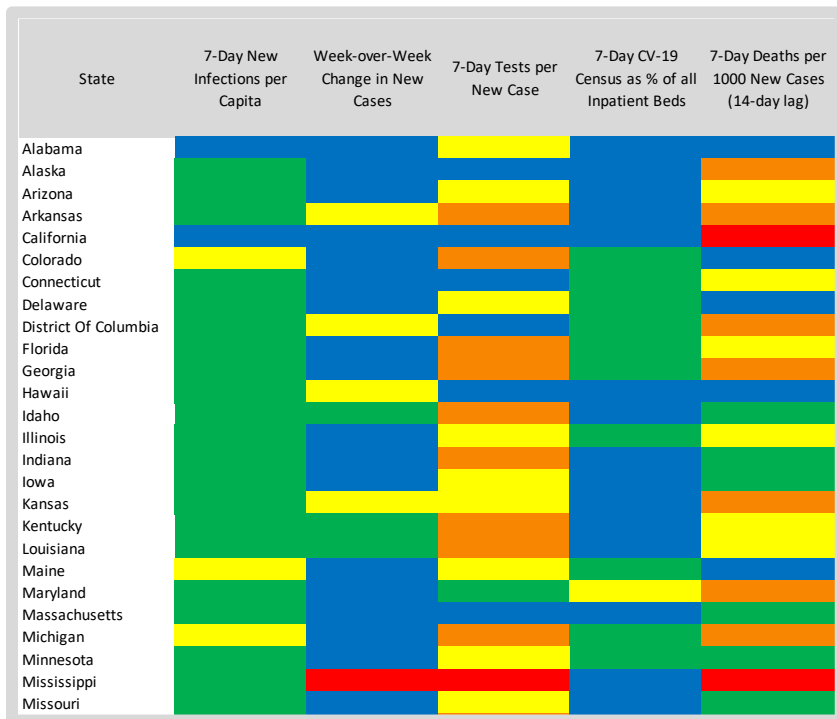


Metric		Black	Red	Orange	Yellow	Green	Blue
7-Day Average New Daily Reported Infections per Capita	Greater than	450	350	250	150	50	0
Week-over-Week Change in Newly Reported Cases	Greater than	30%	20%	10%	0%	-10%	N/A
7-Day Average Viral Tests per 7-Day Average Newly Reported Cases	Less than	5	10	25	50	75	N/A
Covid-19 Inpatient Census as % of All Inpatient Beds	Greater than	50%	40%	30%	20%	10%	0%
7-Day Deaths per 1000 New Cases (14-day lag)	Greater than	25	20	15	10	5	0

Covid-19 "Vital Signs"

State-By-State Scorecard:

New case rates are highest in Colorado, Maine, Michigan, and West Virginia. Yet, rates declined more than 10% week-over-week in each of these states.



State-By-State Data Table (1 of 3)

State-By-State Comparisons

State	Infection Prevalence	Deaths per 1 Million Population	Tests per 1M Population Past 7 days	Test-Positive % (7-Day Moving Average)	New Daily Cases Per 1M Population (7-Day M.A.)	Tests / New Case	Covid-19 Census % of All Beds	7-Day Deaths /1000 New Cases , 14-Day Lag
Alabama	11.0%	2,253	1,235	6.6%	44	28	7%	5
Alaska	9.2%	495	7,579	2.1%	92	82	4%	19
Arizona	12.0%	2,404	1,982	4.8%	78	25	10%	13
Arkansas	11.2%	1,924	797	3.5%	65	12	4%	19
California	9.5%	1,588	3,858	1.1%	33	118	6%	23
Colorado	9.3%	1,145	3,734	5.0%	190	20	13%	4
Connecticut	9.7%	2,301	5,650	1.7%	72	78	13%	12
Delaware	11.1%	1,697	4,738	3.8%	121	39	14%	4
District Of Columbia	6.9%	1,593	6,532	1.6%	60	108	13%	18
Florida	10.7%	1,690	3,137	6.7%	140	22	15%	12
Georgia	10.5%	1,937	1,378	4.6%	70	20	13%	16
Hawaii	2.5%	347	4,818	1.6%	62	78	5%	1
Idaho	10.6%	1,157	1,551	4.2%	90	17	6%	9
Illinois	10.8%	1,962	4,626	3.3%	119	39	11%	12
Indiana	11.0%	2,008	2,292	5.7%	109	21	10%	9
Iowa	12.7%	1,907	1,838	5.2%	71	26	5%	9
Kansas	10.7%	1,734	1,615	3.9%	61	26	3%	19

Covid-19 "Vital Signs"

State-By-State Data Table (2 of 3)

State-By-State Comparisons

State [▲]	Infection Prevalence	Deaths per 1 Million Population	Tests per 1M Population Past 7 days	Test-Positive % (7-Day Moving Average)	New Daily Cases Per 1M Population (7-Day M.A.)	Tests / New Case	Covid-19 Census % of All Beds	7-Day Deaths /1000 New Cases , 14-Day Lag
Kentucky	10.2%	1,495	2,109	4.5%	112	19	7%	11
Louisiana	10.0%	2,261	2,301	3.0%	94	24	4%	13
Maine	4.9%	600	5,390	2.7%	167	32	13%	4
Maryland	7.6%	1,482	4,354	4.1%	59	74	21%	15
Massachusetts	10.1%	2,558	9,454	1.5%	74	128	6%	9
Michigan	9.8%	1,996	3,305	8.6%	172	19	18%	17
Minnesota	10.6%	1,313	6,026	5.6%	146	41	10%	7
Mississippi	10.6%	2,442	520	4.1%	84	6	4%	21
Missouri	9.7%	1,550	1,703	4.5%	67	25	8%	9
Montana	10.4%	1,499	1,689	4.9%	90	19	4%	7
Nebraska	11.5%	1,160	1,619	7.0%	43	37	4%	(9)
Nevada	10.4%	1,800	1,679	5.4%	93	18	14%	11
New Hampshire	7.2%	986	4,104	3.0%	93	44	6%	12
New Jersey	11.4%	2,931	3,986	4.0%	50	80	10%	13
New Mexico	9.6%	1,966	85,204	4.5%	86	995	9%	7
New York	11.0%	2,742	6,744	2.3%	96	70	16%	9
North Carolina	9.5%	1,234	2,050	5.4%	97	21	12%	10

Covid-19 "Vital Signs"

State-By-State Data Table (3 of 3)

State-By-State Comparisons

State	Infection Prevalence	Deaths per 1 Million Population	Tests per 1M Population Past 7 days	Test-Positive % (7-Day Moving Average)	New Daily Cases Per 1M Population (7-Day M.A.)	Tests / New Case	Covid-19 Census % of All Beds	7-Day Deaths / 1000 New Cases, 14-Day Lag
North Dakota	14.4%	1,976	2,478	2.7%	112	22	6%	4
Ohio	9.4%	1,679	2,417	3.8%	78	31	9%	19
Oklahoma	11.4%	1,748	728	6.2%	34	22	4%	25
Oregon	4.7%	617	2,695	5.5%	128	21	15%	8
Pennsylvania	9.3%	2,112	2,920	5.9%	122	24	12%	13
Rhode Island	14.2%	2,552	9,216	1.5%	88	104	14%	4
South Carolina	11.4%	1,878	2,091	4.2%	80	26	6%	10
South Dakota	14.0%	2,254	1,187	8.5%	49	24	3%	9
Tennessee	12.6%	1,808	840	6.0%	77	11	9%	10
Texas	10.1%	1,769	1,648	4.3%	51	32	9%	14
Utah	12.6%	710	2,053	4.2%	97	21	5%	11
Vermont	3.8%	409	9,393	1.6%	77	122	2%	6
Virginia	7.9%	1,294	1,657	4.5%	53	31	9%	18
Washington	5.6%	753	2,902	4.5%	131	22	15%	7
West Virginia	8.9%	1,548	2,778	6.9%	155	18	7%	7
Wisconsin	10.4%	1,198	2,940	3.5%	68	43	7%	9
Wyoming	10.3%	1,232	1,938	3.9%	119	16	3%	2

Table: Health Industry Advisor LLC • Created with Datawrapper

Sources

The following data sources are accessed on a daily or weekly basis

- U.S. Department of Health & Human Services: <https://healthdata.gov/dataset/covid-19-estimated-patient-impact-and-hospital-capacity-state>
- U.S. Department of Health & Human Services <https://beta.healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb>
- Worldometers.info: <https://www.worldometers.info/coronavirus/>
- Centers for Disease Control and Prevention, National, Regional, and State Level Outpatient Illness and Viral Surveillance <https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>
- Centers for Disease Control and Prevention, COVID-19 Laboratory-Confirmed Hospitalizations https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control and Prevention, COVID Data Tracker <https://www.cdc.gov/covid-data-tracker/index.html#mobility>
- Centers for Disease Control and Prevention, Vaccines, <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>
- Institute for Health Metrics and Evaluation, COVID-19 estimate downloads <http://www.healthdata.org/covid/data-downloads>
- New York Times, Covid-19 data <https://github.com/nytimes/covid-19-data>
- COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University <https://github.com/CSSEGISandData/COVID-19>
- COVID-19 Projections Using Machine Learning, <https://covid19-projections.com>
- Our World In Data, <https://ourworldindata.org/covid-vaccinations>
- Covid-19 Forecast Hub, <https://viz.covid19forecasthub.org>
- Yale School of Public Health & Harvard TH Chan School of Public Health, <https://covidestim.org>
- Bloomberg Vaccine Trackers, <https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?sref=Z0b6TmH>