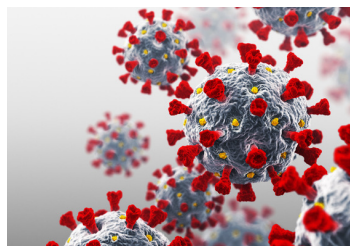


Covid-19 "Vital Signs"

Issue # 311

April 2, 2021



Covid-19 "Vital Signs"

Newly Detected Cases Per Day

In the US, 7-day new case rates increased 13% week-over-week (19% relative to two weeks ago). Outside the U.S., cases increased 11% week-over-week after increasing 14% the week prior and 15% two weeks earlier.

Newly Detected Cases

As of April 1

■ United States ■ Outside the US

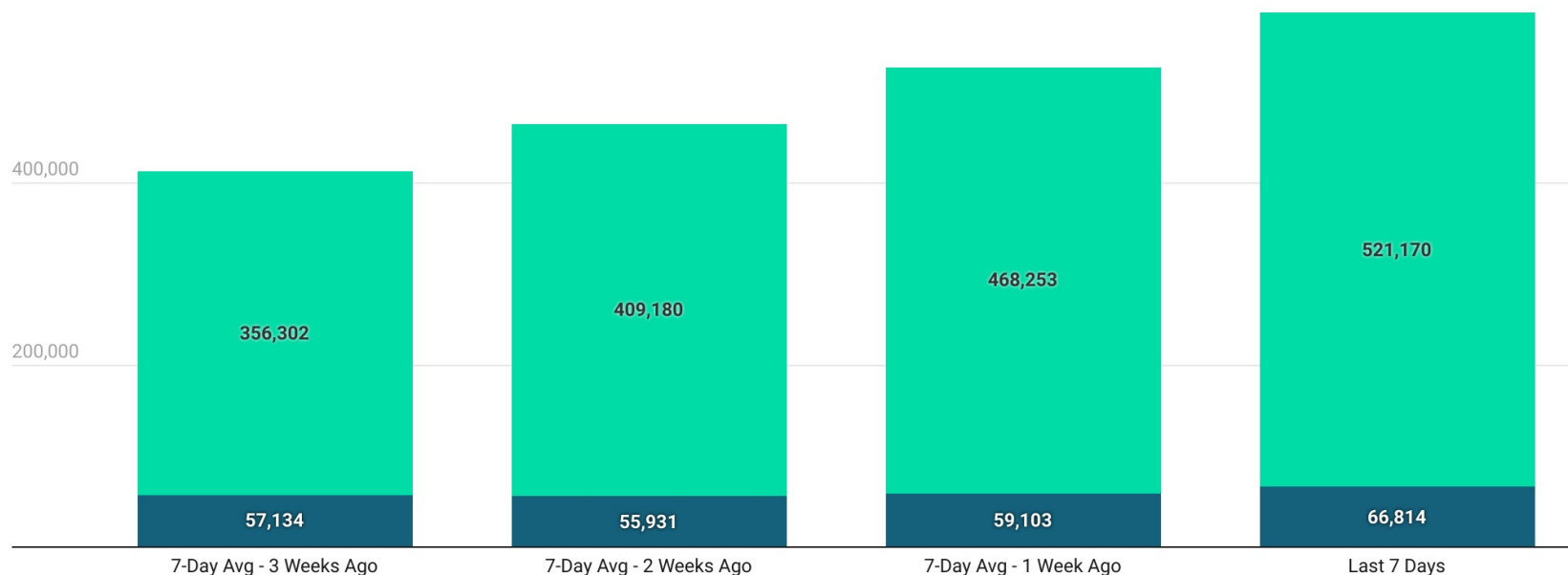


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Newly Detected Cases / Million - US

New case rates in the United States increased the past two weeks and are back to the level recorded at the beginning of March. This rate stands just lower than its late-July peak though far lower than its early-January peak.

Newly-Detected Cases / Million

7-Day Average

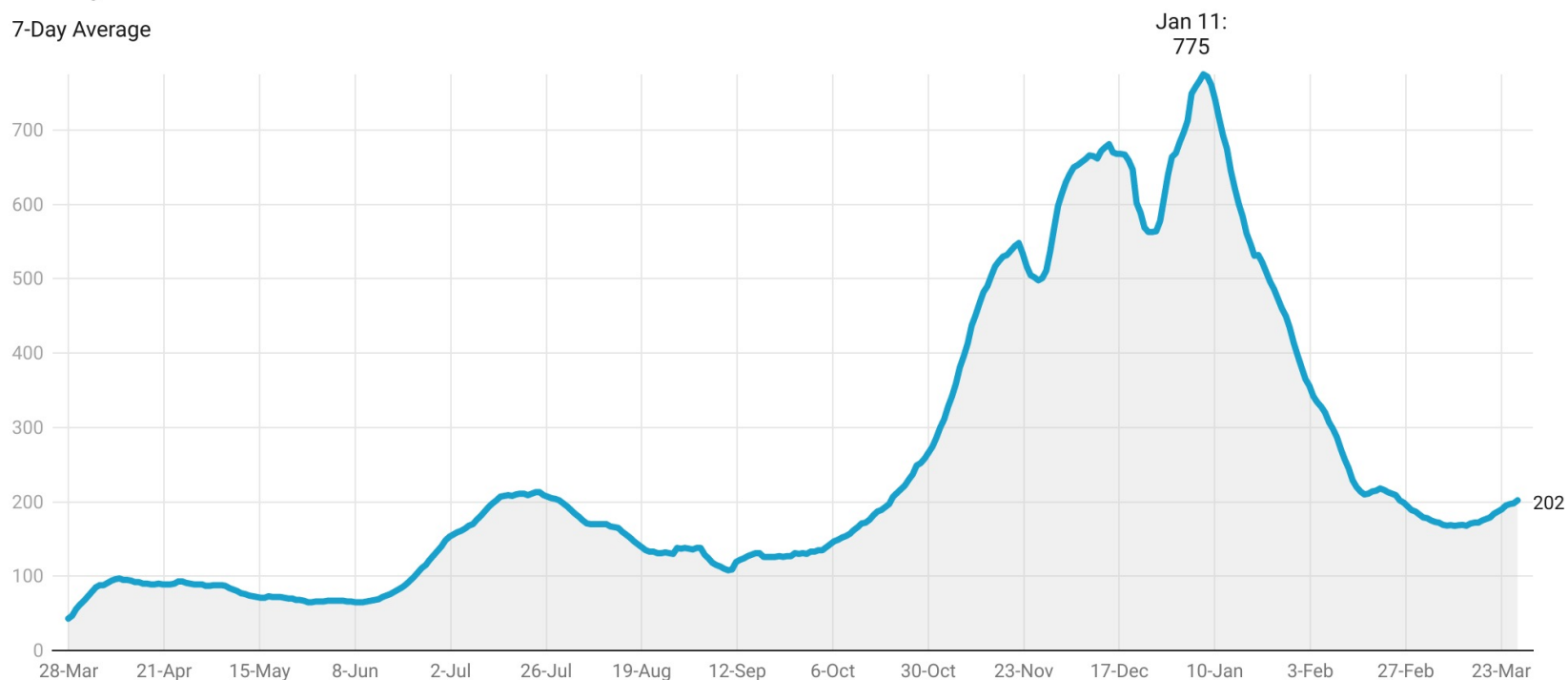
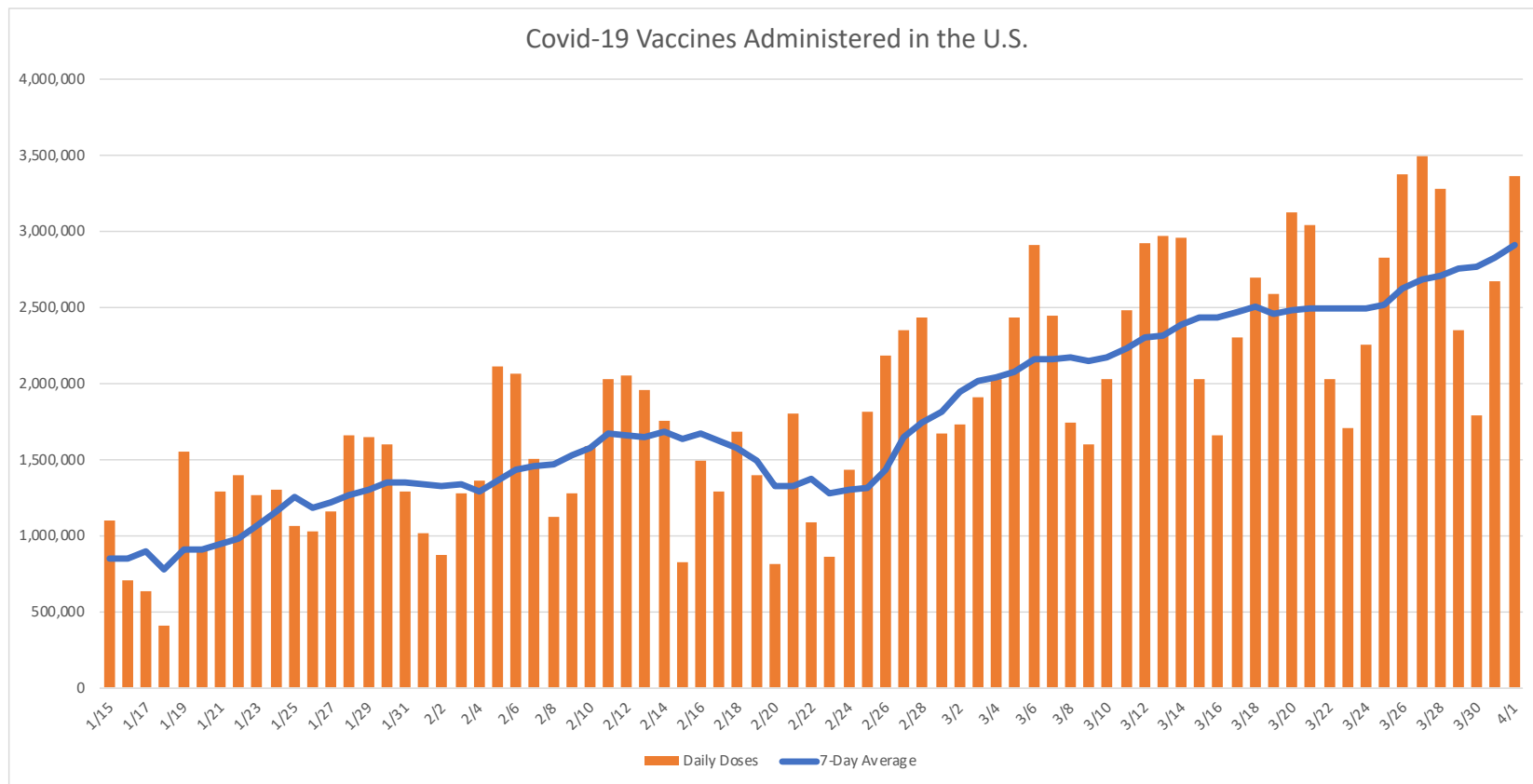


Chart: Health Industry Advisor LLC • Created with Datawrapper

Covid-19 "Vital Signs"

Pace of Vaccinations

The vaccination pace accelerated over the past week. As of yesterday, the U.S. is vaccinating an average of 2.9 million people daily (7-day average). Expect this to continue, as sufficient new doses were distributed this week to vaccinate more than 3.4 million daily.



Covid-19 “Vital Signs”

Vaccine Tracking

To date, the US has distributed 200 million doses and administered 155 million., 55.5 million people are fully inoculated – nearly 22% of the adult population. Another 43 million people have received the first of two required doses.

Vaccination Progress

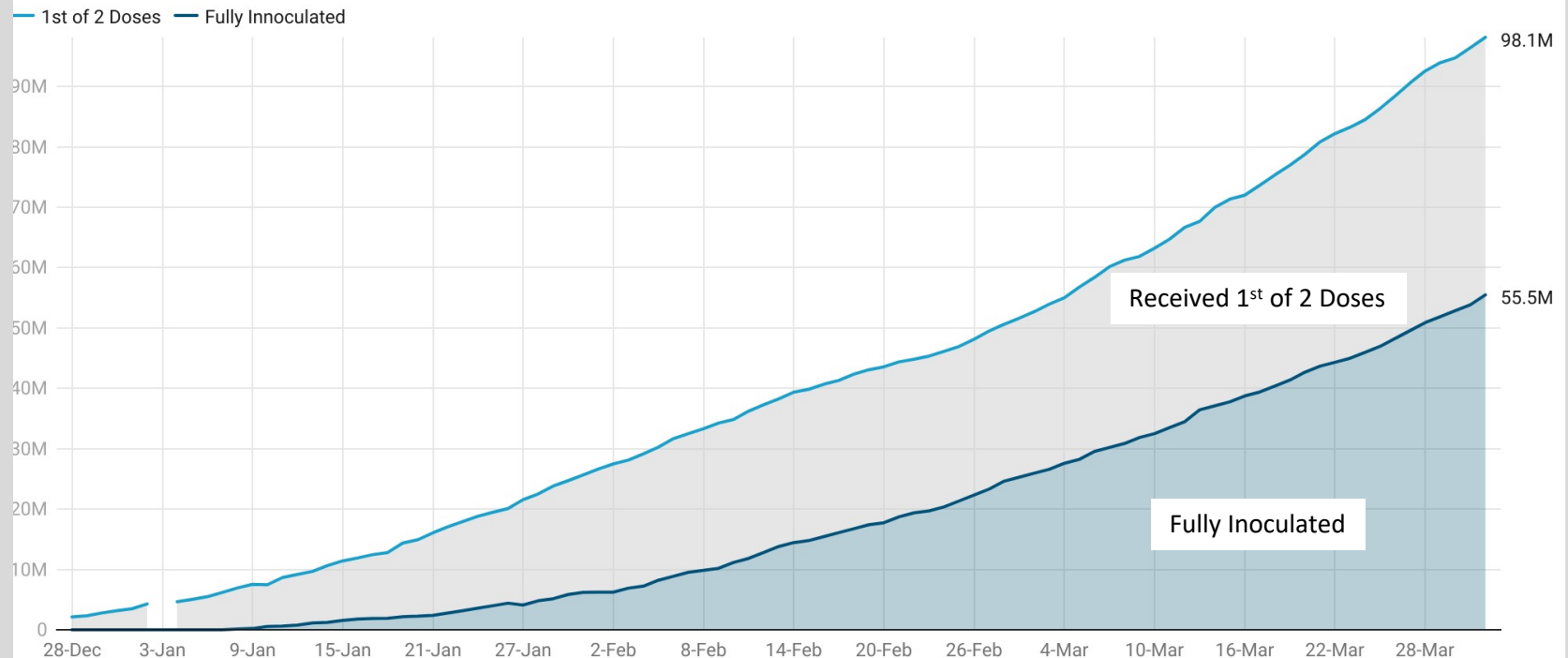


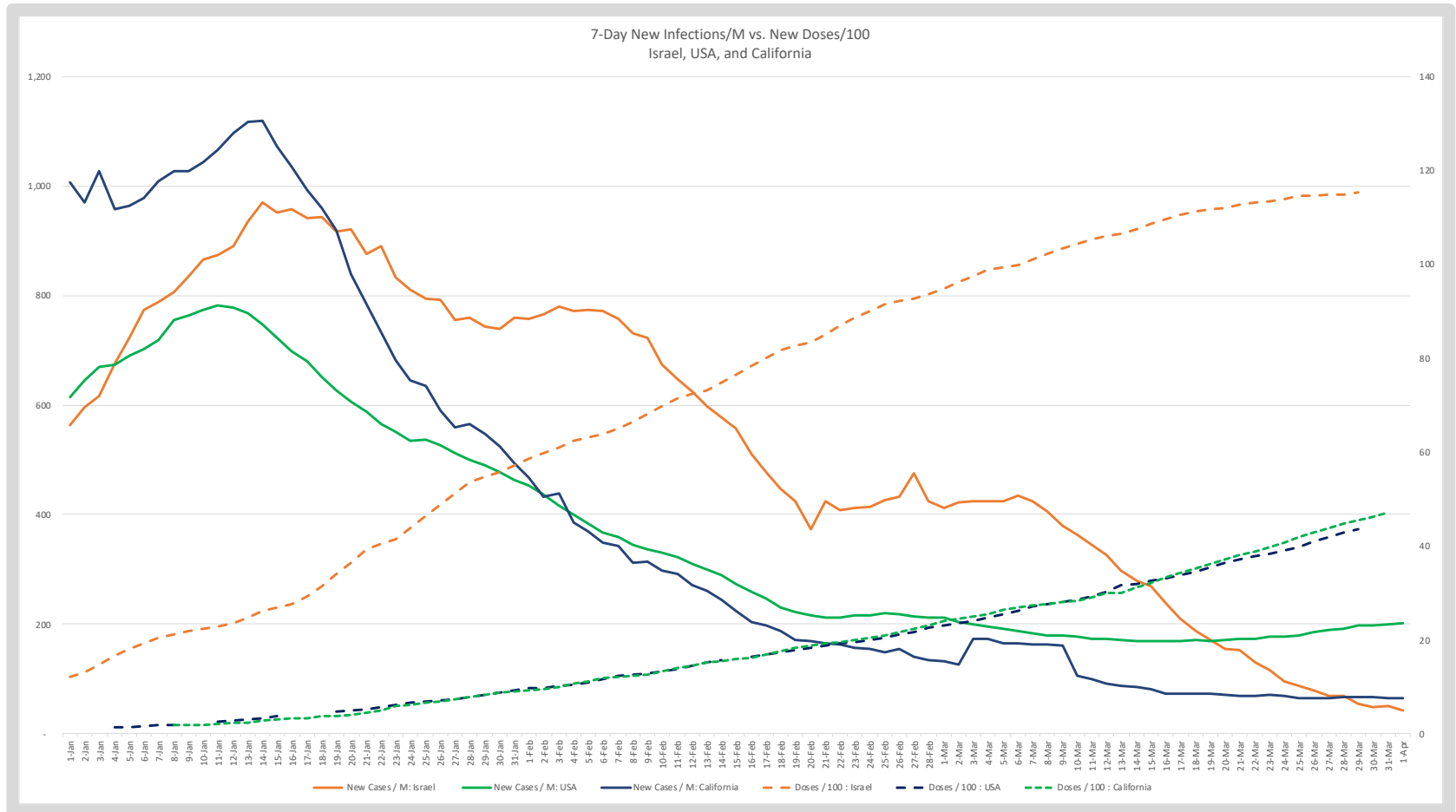
Chart: Health Industry Advisor LLC • Source: CDC, Bloomberg • Created with Datawrapper

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

Covid-19 "Vital Signs"

Impact of Vaccine Rates & Earlier Case Surges?

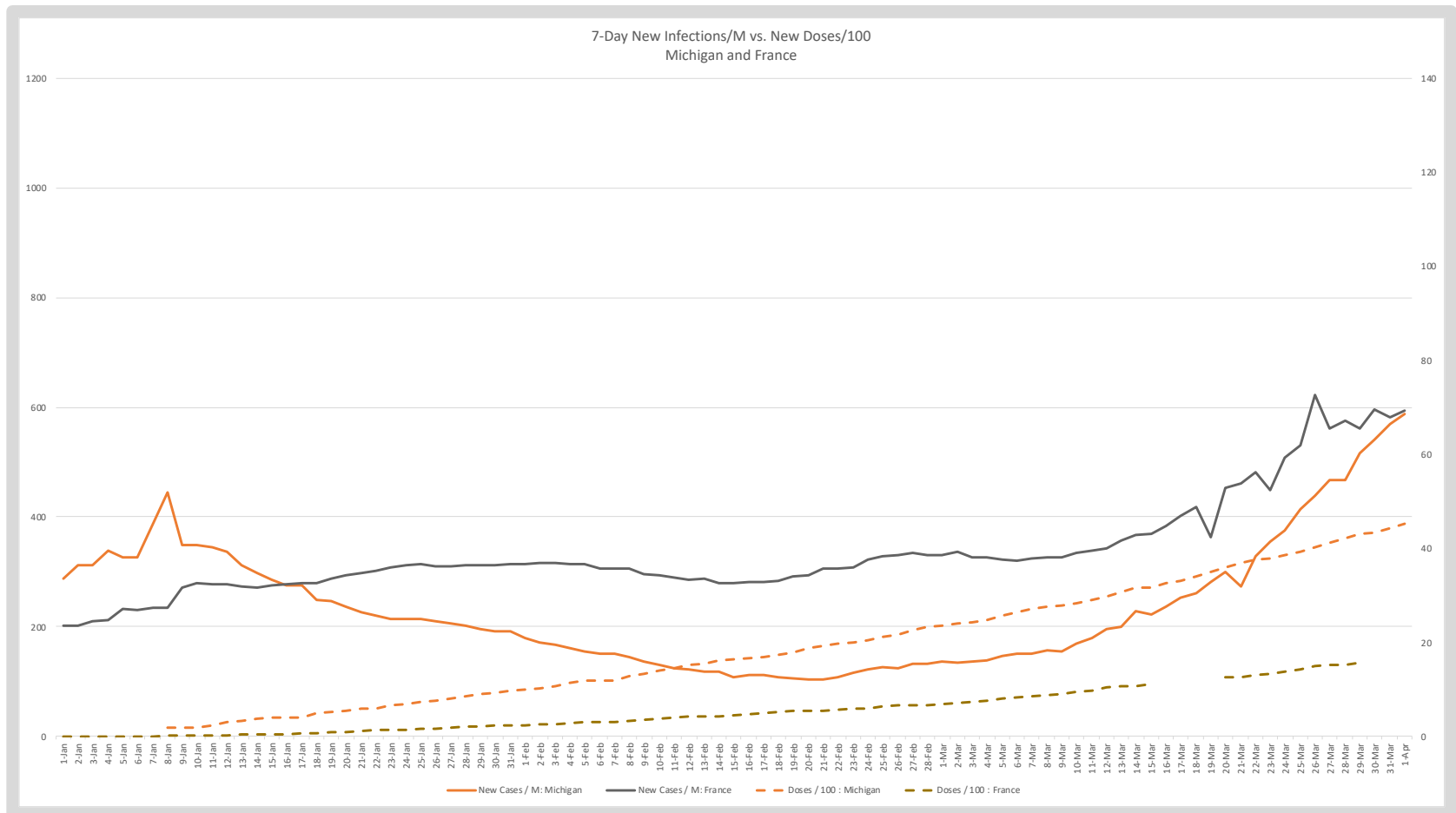
Israel, the United States and California each experienced significant case surges early in the year, with dramatic improvement thereafter. Israel, with the highest vaccination rate, has experienced the most dramatic improvement in case rates.



Covid-19 "Vital Signs"

Impact of Vaccine Rates & Earlier Case Surges?

Contrast the experiences of Israel, the US and California with those of France and Michigan. France and Michigan did not experience the significant case surge earlier this year but, are doing so now. What is surprising is that Michigan has a better vaccination rate than France yet, is experiencing a steeper increase in cases.



Covid-19 "Vital Signs"

Test-Positivity Rate

The test-positivity rate increased last week yet remains below the suggested WHO target.

Test-Positivity Rate

As of March 30

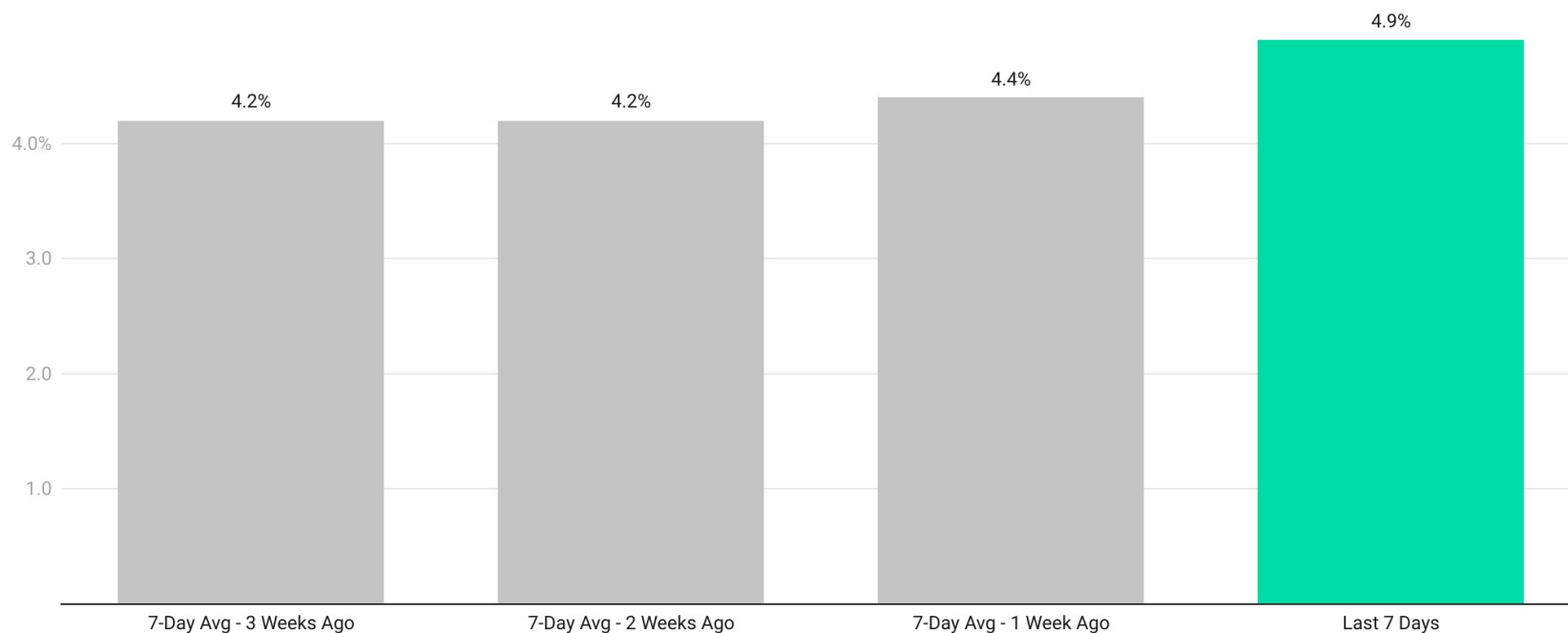


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 Inpatient Census

Covid-19 inpatient census was relatively stable over the past two weeks, despite the increase in new cases.

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks

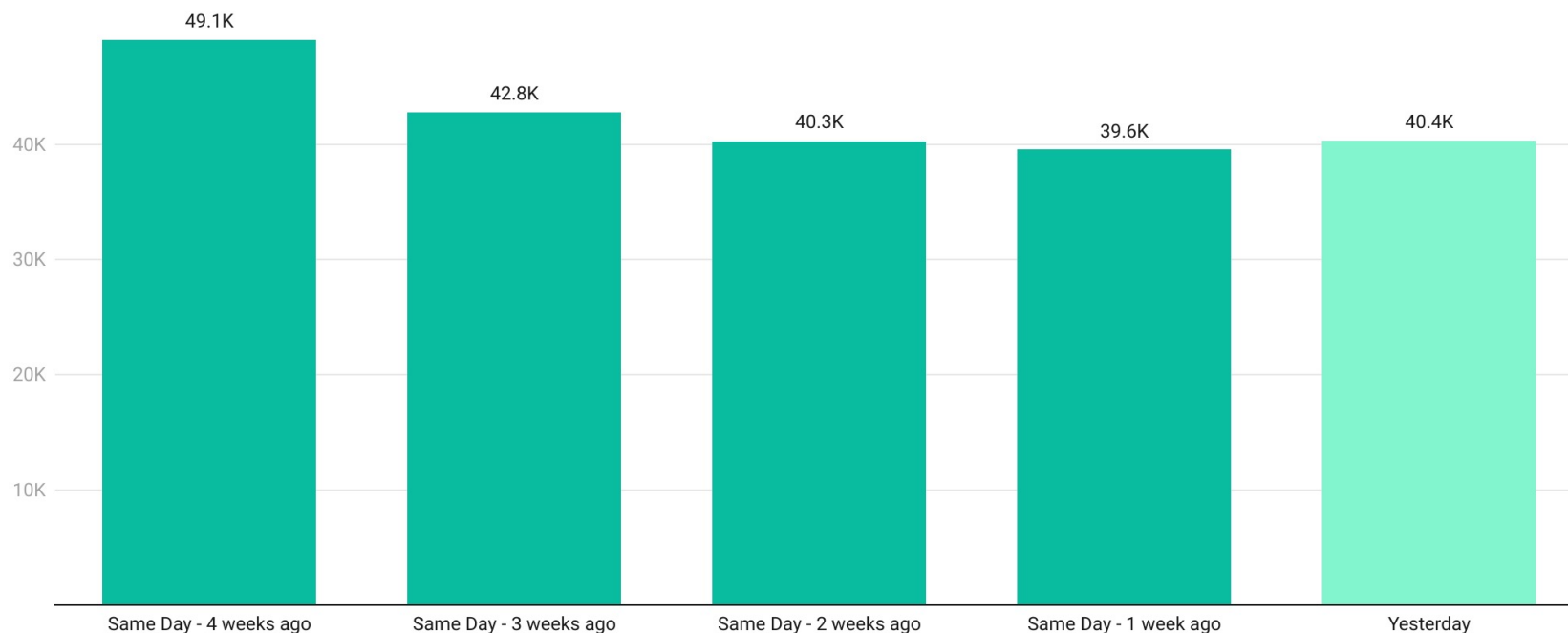


Chart: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Covid-19 "Vital Signs"

Deaths Reported With Coronavirus

The 7-day average death rate fell below 1,00 for the first time in five months. Deaths declined more than 5% from last week and 32% in three weeks.

Daily Deaths Reported With Coronavirus

As of April 1

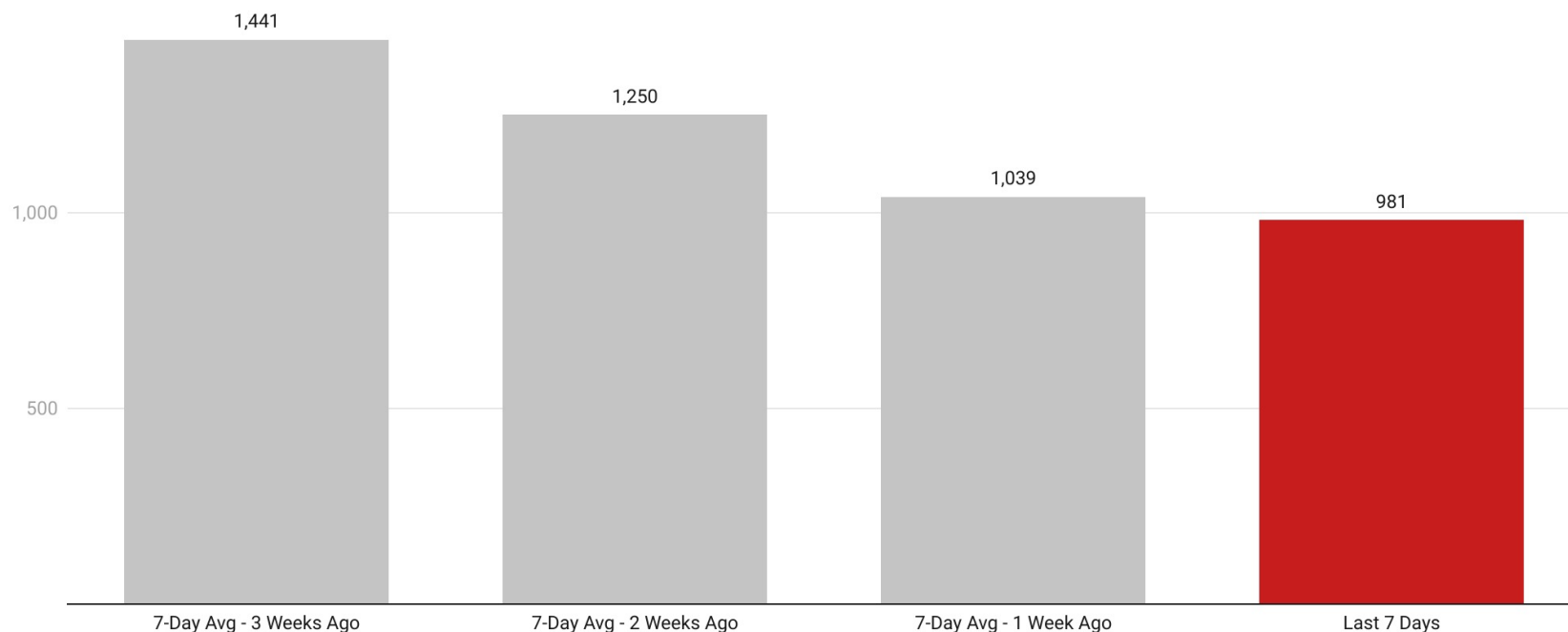


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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 "cautious" to "good" across many parts of the country, with Connecticut, Delaware, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont being the outliers.

State	7-Day New Infections per Capita	Week-over-Week Change in New Cases	7-Day Tests per New Case	7-Day CV-19 Census as % of all Inpatient Beds	7-Day Deaths per 1000 New Cases (14-day lag)
Alabama	Green	Blue	Orange	Blue	Yellow
Alaska	Yellow	Red	Yellow	Blue	Red
Arizona	Green	Blue	Yellow	Blue	Red
Arkansas	Green	Blue	Yellow	Blue	Red
California	Green	Yellow	Green	Blue	Black
Colorado	Yellow	Yellow	Orange	Orange	Green
Connecticut	Red	Orange	Orange	Orange	Green
Delaware	Orange	Black	Orange	Green	Yellow
District Of Columbia	Yellow	Red	Yellow	Green	Orange
Florida	Green	Green	Orange	Green	Black
Georgia	Green	Red	Yellow	Blue	Yellow
Hawaii	Yellow	Black	Orange	Green	Blue
Idaho	Yellow	Black	Orange	Blue	Yellow
Illinois	Green	Orange	Orange	Blue	Yellow
Indiana	Green	Orange	Orange	Blue	Yellow
Iowa	Yellow	Black	Orange	Blue	Red
Kansas	Green	Black	Orange	Blue	Red
Kentucky	Green	Yellow	Orange	Blue	Red
Louisiana	Yellow	Green	Orange	Blue	Red
Maine	Yellow	Red	Orange	Orange	Green
Maryland	Yellow	Red	Orange	Orange	Yellow
Massachusetts	Orange	Orange	Yellow	Green	Orange
Michigan	Black	Orange	Red	Yellow	Green
Minnesota	Orange	Red	Red	Yellow	Green
Mississippi	Green	Blue	Red	Blue	Red
Missouri	Green	Green	Orange	Blue	Black

State	7-Day New Infections per Capita	Week-over-Week Change in New Cases	7-Day Tests per New Case	7-Day CV-19 Census as % of all Inpatient Beds	7-Day Deaths per 1000 New Cases (14-day lag)
Montana	Green	Blue	Orange	Blue	Blue
Nebraska	Yellow	Black	Orange	Blue	Yellow
Nevada	Green	Orange	Orange	Green	Orange
New Hampshire	Orange	Yellow	Orange	Green	Green
New Jersey	Black	Orange	Red	Yellow	Green
New Mexico	Green	Yellow	Orange	Orange	Orange
New York	Red	Yellow	Orange	Red	Yellow
North Carolina	Yellow	Yellow	Orange	Green	Yellow
North Dakota	Yellow	Black	Orange	Blue	Blue
Ohio	Green	Black	Orange	Blue	Red
Oklahoma	Green	Green	Orange	Blue	Black
Oregon	Green	Red	Yellow	Green	Green
Pennsylvania	Orange	Red	Orange	Green	Yellow
Rhode Island	Orange	Green	Yellow	Green	Green
South Carolina	Yellow	Green	Orange	Green	Yellow
South Dakota	Yellow	Blue	Red	Blue	Yellow
Tennessee	Yellow	Blue	Red	Green	Yellow
Texas	Green	Yellow	Orange	Green	Red
Utah	Green	Green	Orange	Blue	Yellow
Vermont	Orange	Black	Yellow	Blue	Green
Virginia	Yellow	Yellow	Orange	Green	Yellow
Washington	Green	Red	Orange	Blue	Green
West Virginia	Yellow	Yellow	Orange	Blue	Black
Wisconsin	Green	Yellow	Orange	Blue	Green
Wyoming	Green	Yellow	Orange	Blue	Yellow

Covid-19 "Vital Signs"

New Cases / Million

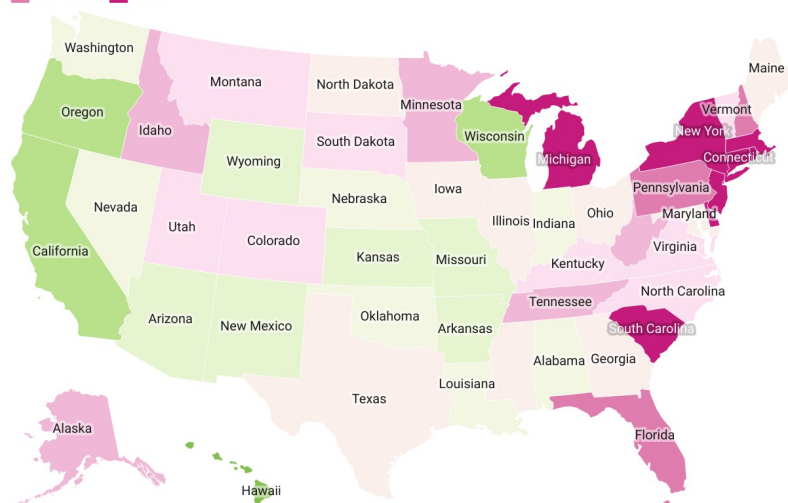
In the past two weeks, new daily case rates increased in the Upper Midwest and the Northeast.

March 18

April 1

New Cases / Million

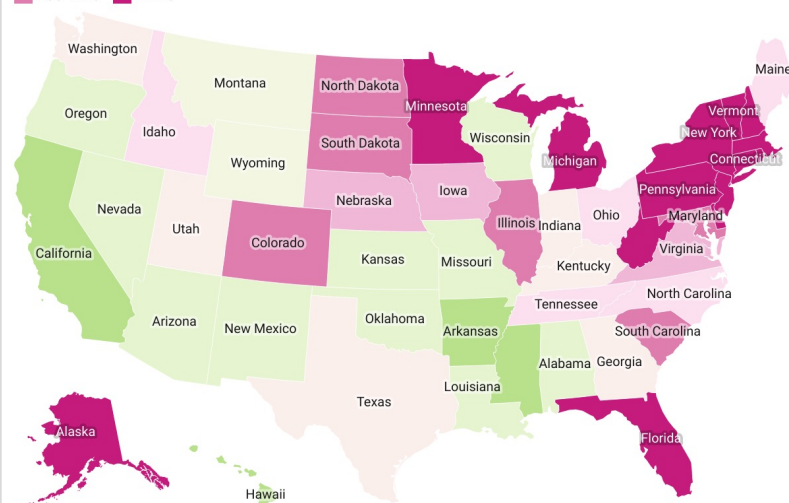
7-Day Moving Average, As of March 18



Map: Health Industry Advisor LLC • Created with Datawrapper

New Cases / Million

7-Day Moving Average, As of April 1



Map: Health Industry Advisor LLC • Created with Datawrapper

Note: With the recent decline in case detection rates, we have lowered the scale used for these charts.

Covid-19 "Vital Signs"

Covid-19 Hospitalizations

Covid-19 hospital census is about the same or lower in most states as it was two weeks ago. Georgia and Michigan have seen increased census, yet this census remains low compared with historical levels.

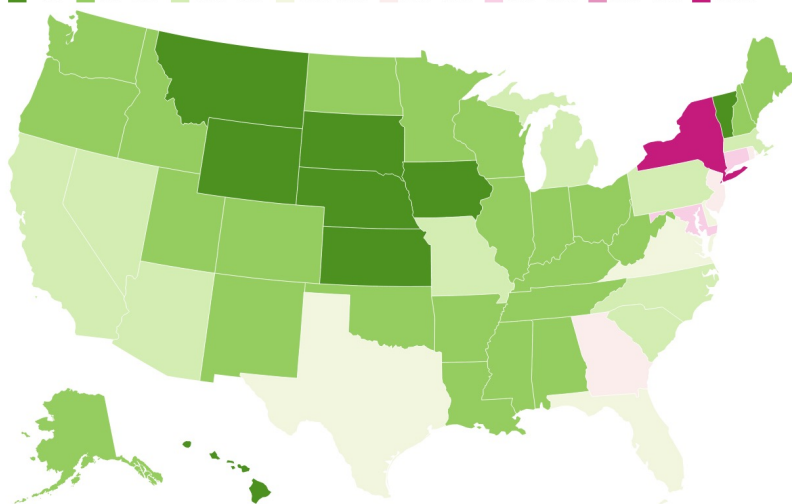
March 16

March 30

Covid-19 Patients As % of All Inpatient Beds

As of March 16

■ < 5%
 ■ 5%–10%
 ■ 10%–15%
 ■ 15%–20%
 ■ 20%–25%
 ■ 25%–30%
 ■ 30%–35%
 ■ ≥ 35%

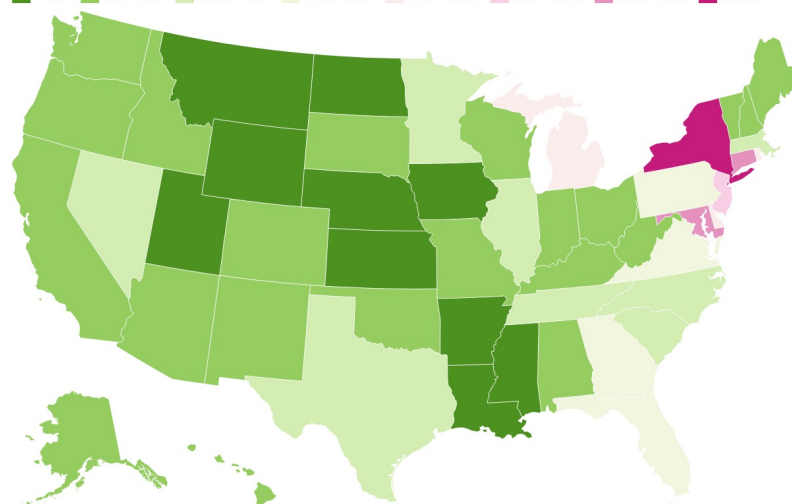


Map: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Covid-19 Patients As % of All Inpatient Beds

As of March 30

■ < 5%
 ■ 5%–10%
 ■ 10%–15%
 ■ 15%–20%
 ■ 20%–25%
 ■ 25%–30%
 ■ 30%–35%
 ■ ≥ 35%



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

Covid-19 "Vital Signs"

Projected Covid-19 Admission Trends

Projected Covid-19 hospital admissions increase materially in Hawaii, Maryland, Michigan, and Minnesota over the next three weeks. For the U.S. overall, projected Covid-19 admissions increase 12% in this time.

% Change in Hospital Admissions

Week Ending April 19 v. Week Ending March 29

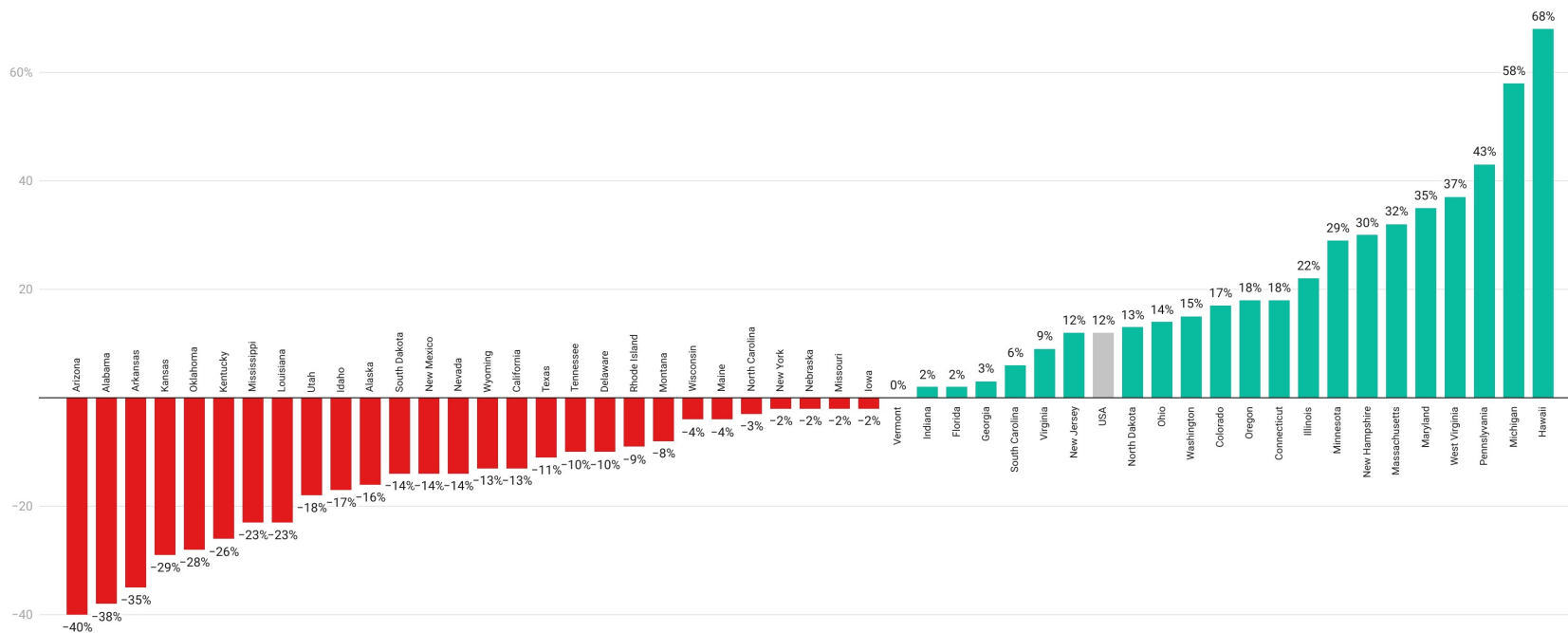
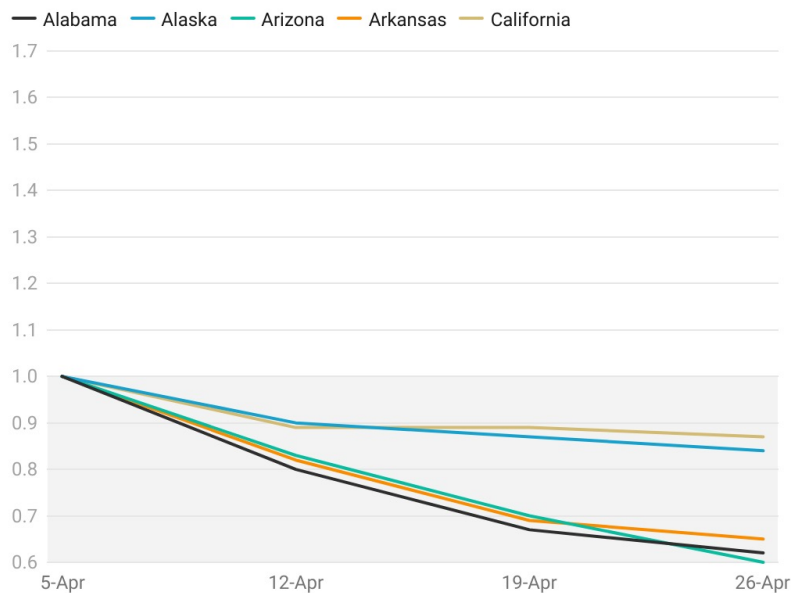


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Projections of Hospital Admissions (US) – 1 of 5

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

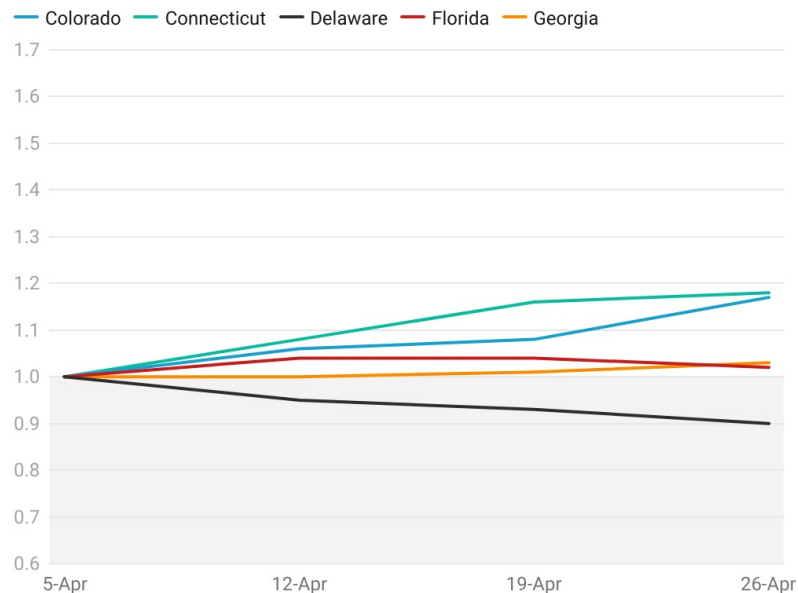


Updated March 31

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



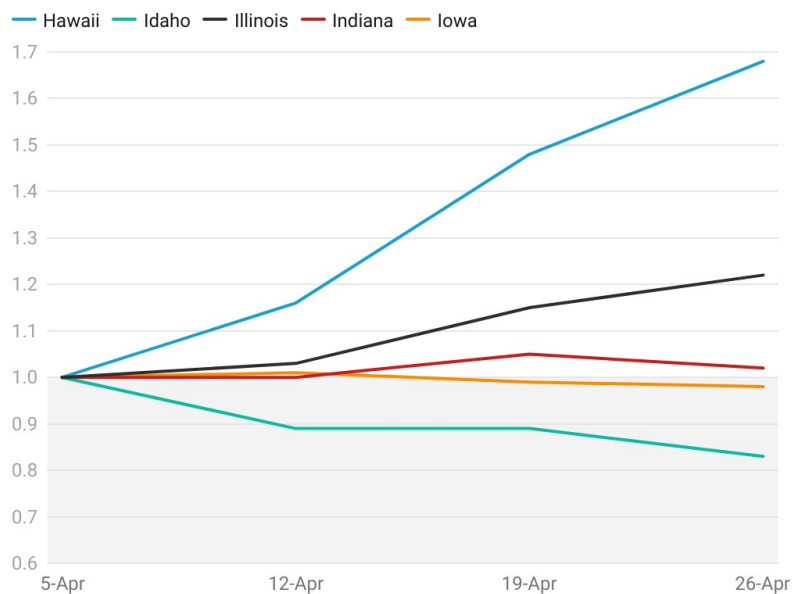
Updated March 31

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

Projections of Hospital Admissions (US) – 2 of 5

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

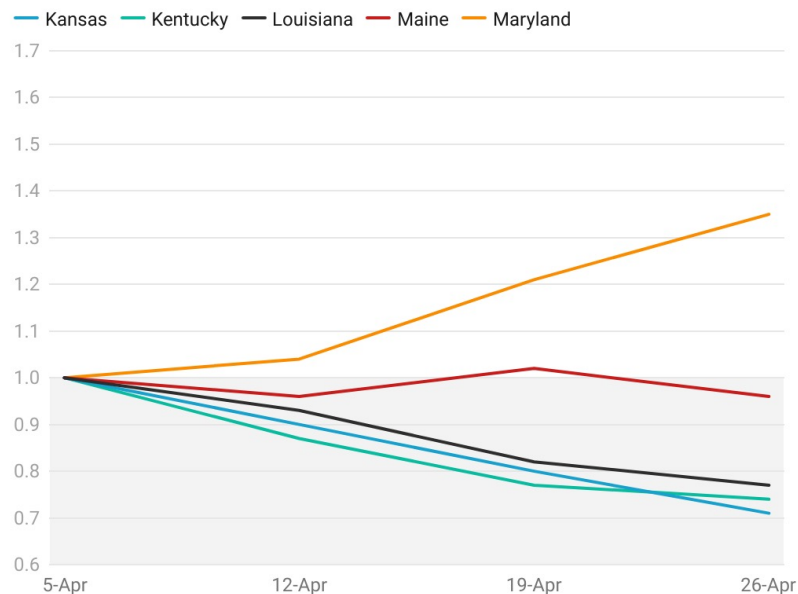


Updated March 31

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



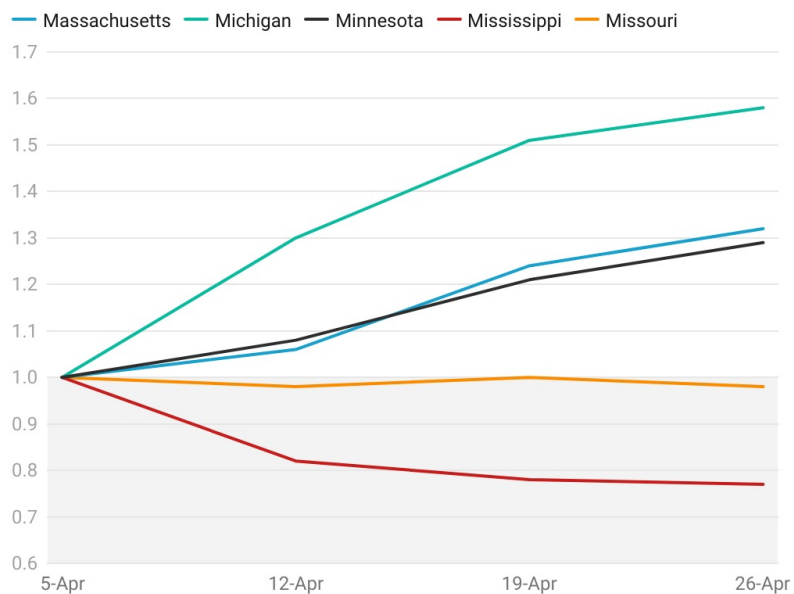
Updated March 31

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

Projections of Hospital Admissions (US) – 3 of 5

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

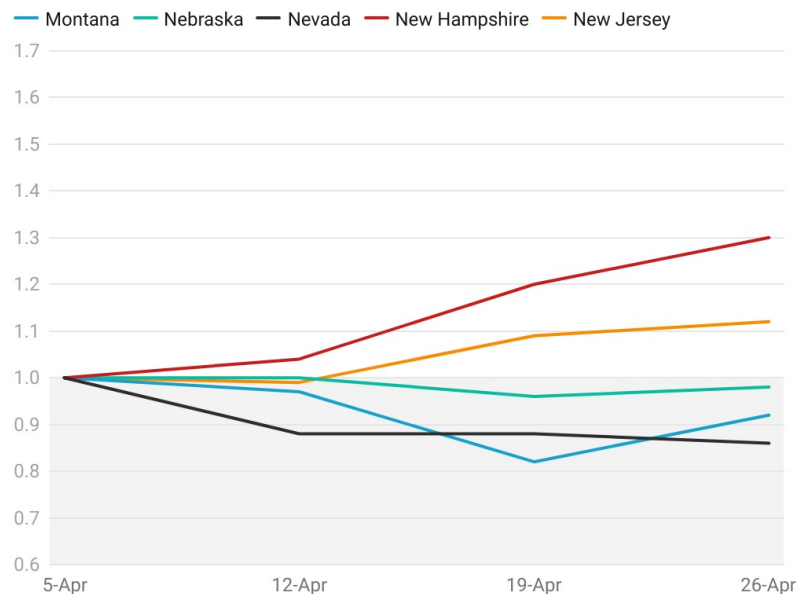


Updated March 31

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



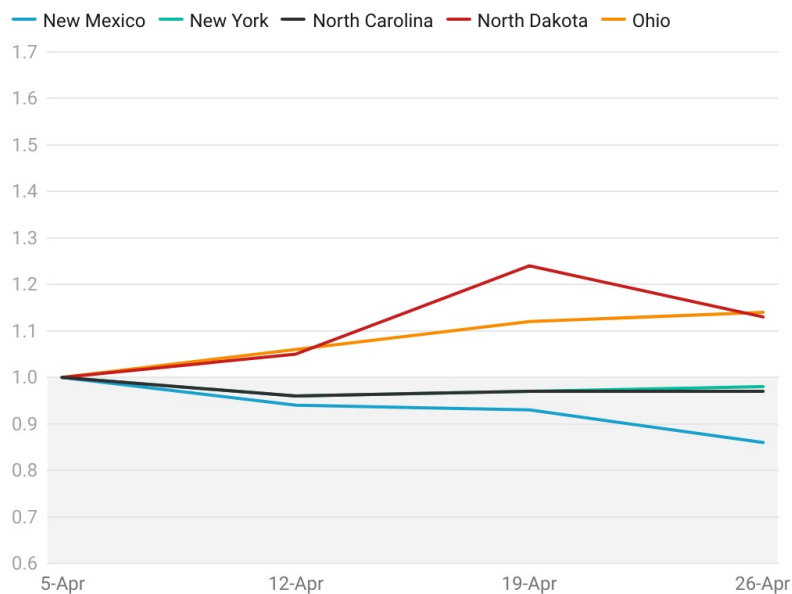
Updated March 31

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

Projections of Hospital Admissions (US) - 4 of 5

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

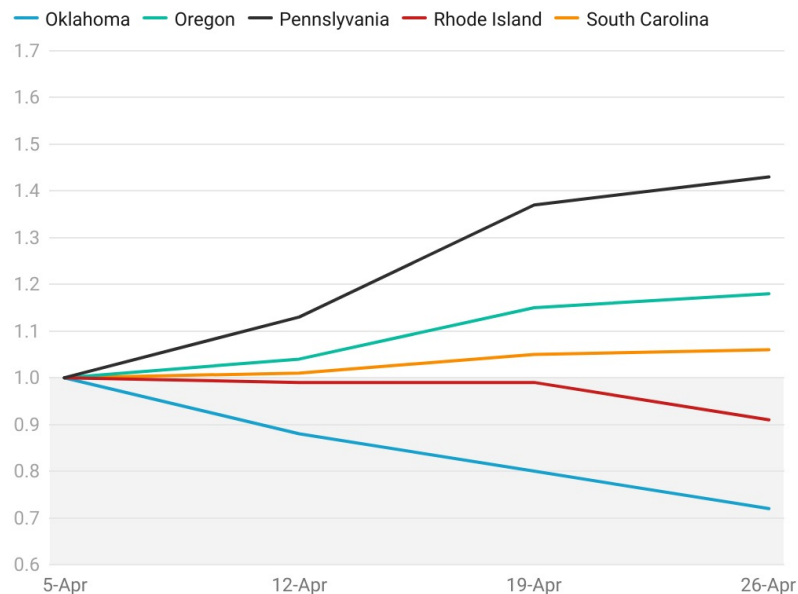


Updated March 31

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



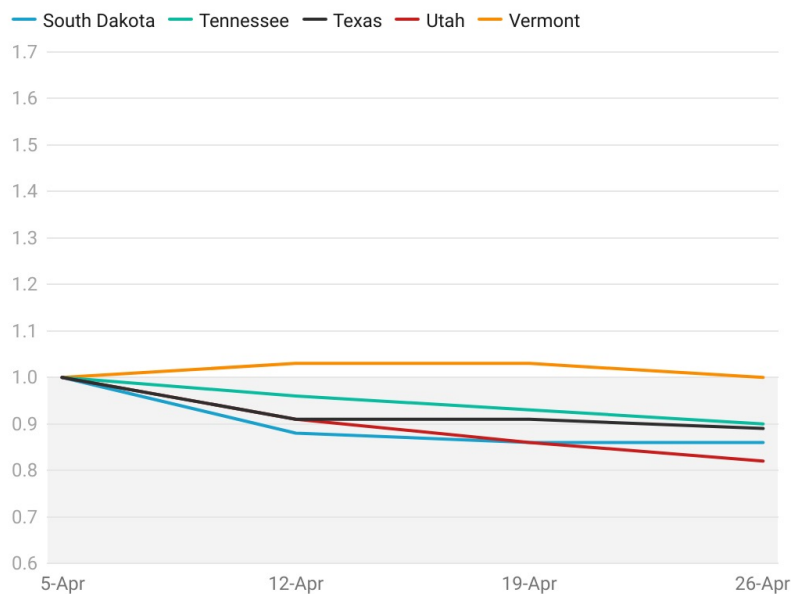
Updated March 31

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

Projections of Hospital Admissions (US) – 5 of 5

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

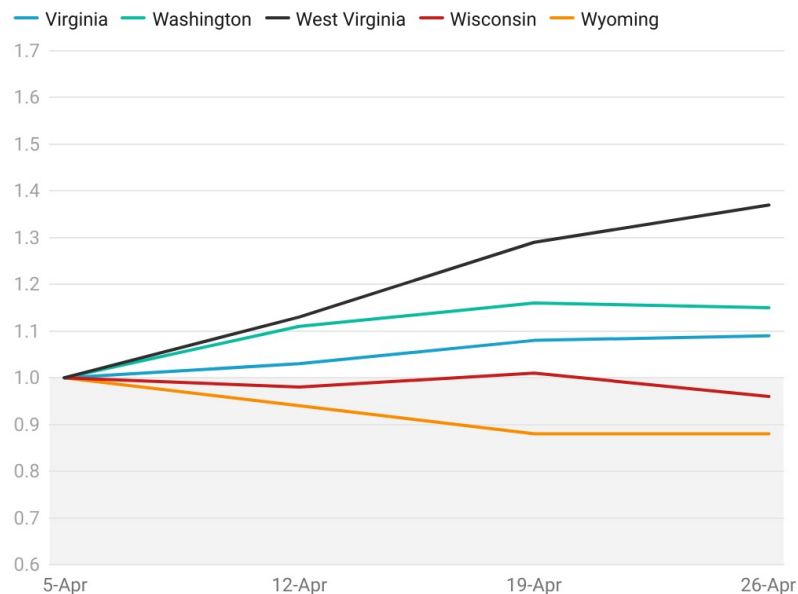


Updated March 31

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 31

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

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	10.5%	2,152	1,378	5.5%	79	17	8%	13
Alaska	8.3%	422	8,638	3.1%	233	37	5%	-
Arizona	11.6%	2,332	2,245	3.8%	83	27	9%	25
Arkansas	11.0%	1,868	1,443	2.0%	52	28	4%	32
California	9.3%	1,503	3,413	1.7%	66	52	10%	67
Colorado	8.1%	1,085	3,582	4.1%	218	16	9%	9
Connecticut	8.8%	2,216	7,549	4.0%	359	21	34%	6
Delaware	9.8%	1,601	5,872	4.7%	315	19	20%	13
District Of Columbia	6.3%	1,510	8,233	2.8%	200	41	17%	17
Florida	9.6%	1,561	3,444	7.5%	247	14	16%	17
Georgia	10.0%	1,801	1,599	5.3%	129	12	16%	34
Hawaii	2.1%	327	3,592	1.9%	73	49	5%	12
Idaho	10.1%	1,095	1,870	5.2%	160	12	9%	4
Illinois	9.8%	1,862	4,400	3.4%	205	21	10%	14
Indiana	10.2%	1,938	2,280	4.1%	142	16	8%	12
Iowa	12.1%	1,823	2,239	6.4%	190	12	5%	14
Kansas	10.4%	1,686	1,716	3.3%	91	19	4%	21

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	Week-Over-Week Change in New Cases	7-Day Deaths /1000 New Cases , 14-Day Lag
Kentucky	9.6%	1,367	2,482	3.7%	142		18	7%	28
Louisiana	9.6%	2,186	1,852	3.0%	88		21	4%	24
Maine	3.8%	553	2,870	3.2%	170		17	9%	9
Maryland	6.8%	1,373	5,038	5.7%	211		24	32%	14
Massachusetts	9.2%	2,477	12,265	2.5%	331		37	13%	18
Michigan	7.5%	1,720	3,605	11.2%	587		6	24%	9
Minnesota	9.3%	1,228	6,670	5.3%	285		23	10%	6
Mississippi	10.3%	2,368	579	4.0%	71		8	5%	22
Missouri	9.4%	1,480	1,749	4.4%	98		18	10%	29
Montana	9.8%	1,345	2,477	3.7%	120		21	3%	3
Nebraska	10.9%	1,127	2,018	7.6%	197		10	4%	13
Nevada	9.9%	1,706	2,192	5.3%	90		24	12%	15
New Hampshire	6.2%	916	4,944	3.6%	263		19	8%	8
New Jersey	10.3%	2,769	5,152	9.9%	523		10	30%	10
New Mexico	9.2%	1,880	1,699	2.1%	99		17	6%	18
New York	9.9%	2,605	7,585	5.4%	432		18	42%	11
North Carolina	8.7%	1,157	2,755	5.0%	174		16	13%	13

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	Week-Over-Week Change in New Cases	7-Day Deaths /1000 New Cases , 14-Day Lag
North Dakota	13.6%	1,924	2,845	3.7%	206	14	4%	1	
Ohio	8.7%	1,592	2,603	3.7%	170	15	10%	21	
Oklahoma	11.1%	1,252	873	4.4%	82	11	6%	33	
Oregon	3.9%	565	2,638	5.7%	92	29	8%	8	
Pennsylvania	8.1%	1,972	3,264	8.0%	322	10	17%	11	
Rhode Island	13.0%	2,477	12,018	2.3%	345	35	22%	7	
South Carolina	10.7%	1,782	2,115	7.0%	206	10	11%	11	
South Dakota	13.3%	2,191	1,425	10.8%	220	6	5%	11	
Tennessee	11.9%	1,744	1,407	7.1%	159	9	11%	14	
Texas	9.7%	1,680	1,743	5.3%	126	14	12%	22	
Utah	12.0%	663	2,890	3.9%	128	23	5%	11	
Vermont	3.1%	364	14,311	2.5%	299	48	5%	5	
Virginia	7.3%	1,203	2,204	6.3%	176	12	15%	12	
Washington	4.8%	697	1,806	5.4%	127	14	9%	8	
West Virginia	8.0%	1,501	3,291	5.8%	238	14	8%	27	
Wisconsin	9.9%	1,138	3,597	2.9%	80	45	6%	9	
Wyoming	9.7%	1,209	2,629	3.3%	116	23	2%	14	

Table: Health Industry Advisor LLC • Created with Datawrapper

Covid-19 "Vital Signs"

Metro Areas in the US

New case rates increased in Michigan, Minnesota and the Northeast over the past two weeks.

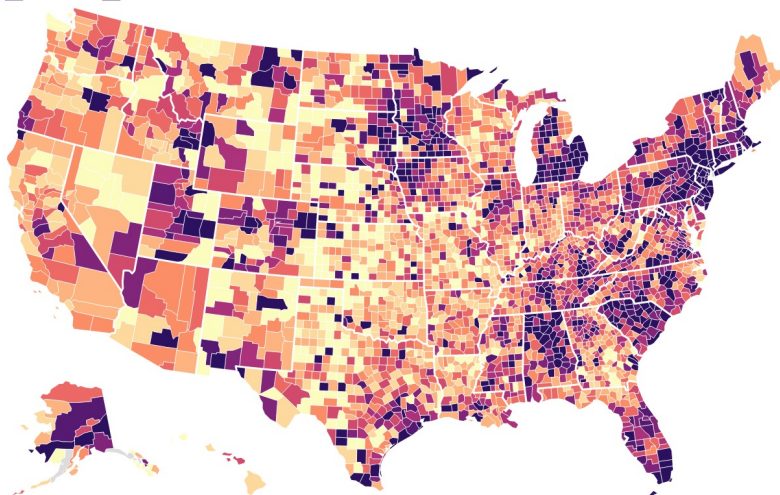
March 18

April 1

New Daily Infections / Million

7-Day Moving Average, As of March 18

< 25 25-50 50-75 75-100 100-125 125-150 150-175 175-200
200-225 ≥ 225

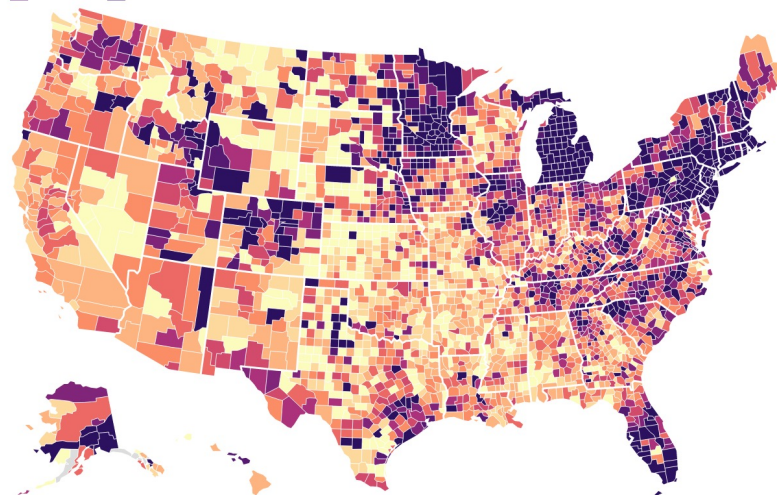


Map: Health Industry Advisor LLC • Created with Datawrapper

New Daily Infections / Million

7-Day Moving Average, As of April 1

< 25 25-50 50-75 75-100 100-125 125-150 150-175 175-200
200-225 ≥ 225



Map: Health Industry Advisor LLC • Created with Datawrapper

Large Central Metro Areas

New Daily Cases / 1M Population: Large Central Metro Areas

7-Day Average, As of April 1

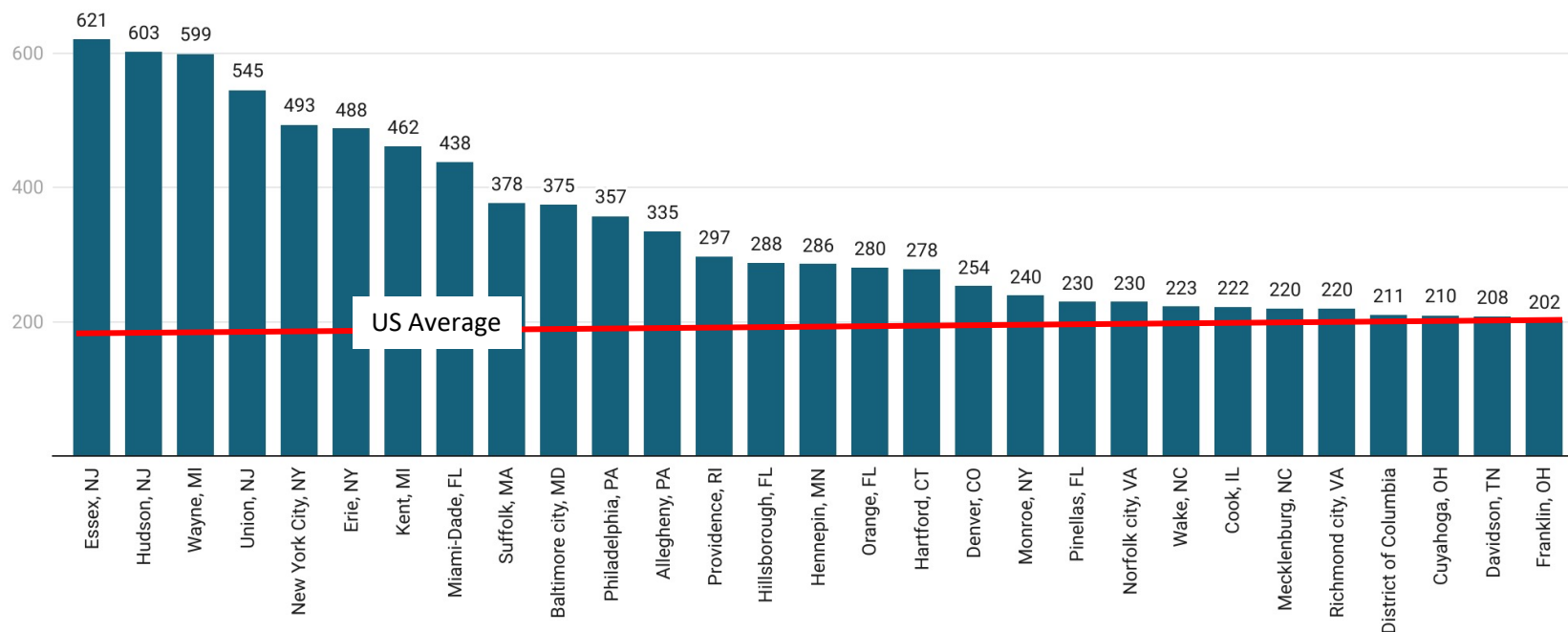


Chart: Health Industry Advisor LLC • Created with Datawrapper

Large Fringe Metro Areas

New Daily Cases / 1M Population: Large Fringe Metro Areas

7-Day Average, As of April 1

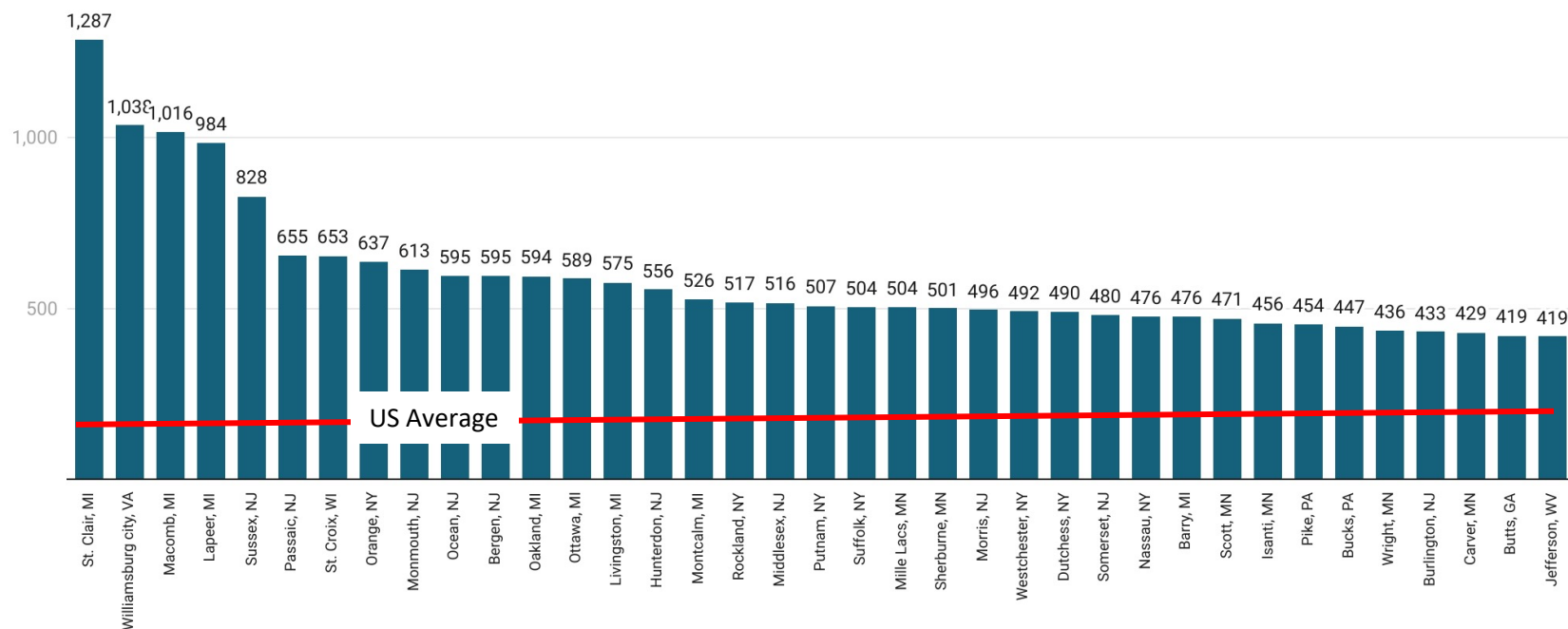


Chart: Health Industry Advisor LLC • Created with Datawrapper

Medium Metro Areas in the US

New Daily Cases / 1M Population: Medium Metro Areas

7-Day Average, As of April 1

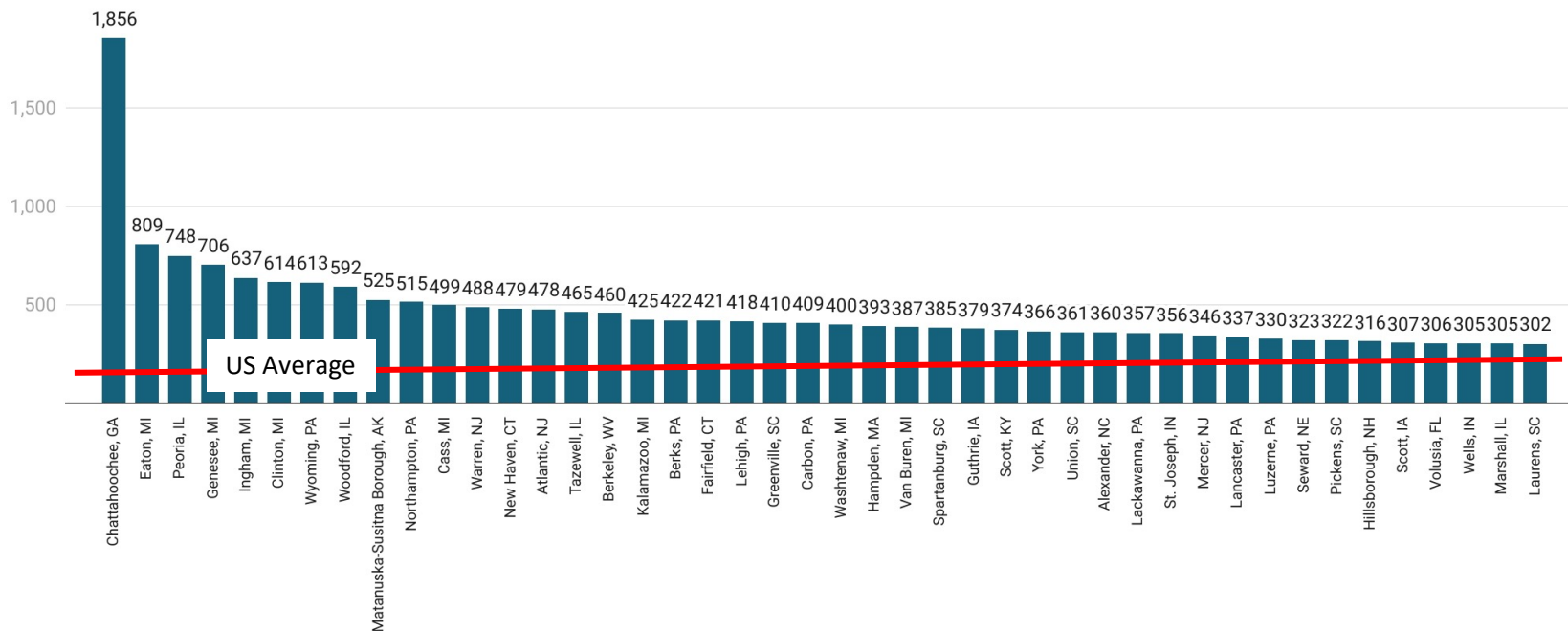


Chart: Health Industry Advisor LLC • Created with Datawrapper

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>
- 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>