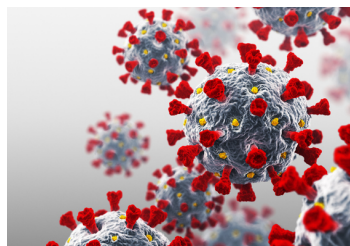


Covid-19 "Vital Signs"

Issue # 303

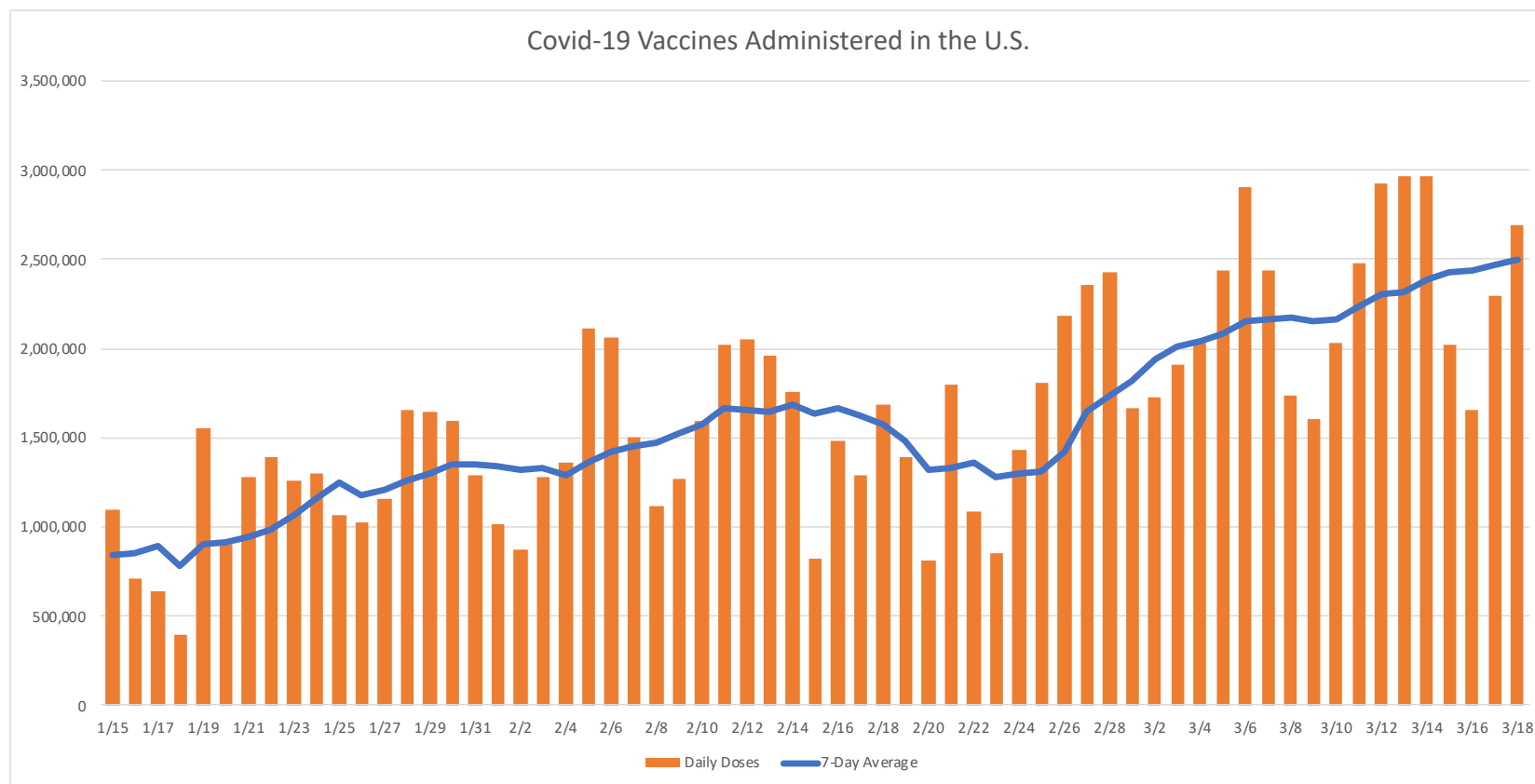
March 19, 2021



Covid-19 "Vital Signs"

Pace of Vaccinations

An average of 2.5 million people were vaccinated over the past seven days, an increase of more than 13% from one week earlier and 23% from two weeks earlier.



Covid-19 “Vital Signs”

Vaccine Tracking

To date, the US has administered 115.7 million doses, with 40.4 million people fully inoculated. As of yesterday, 29.5% of U.S. adults have received at least one dose; 15.8% are fully inoculated.

Vaccination Progress

Most Recent Two Weeks

First Doses Fully Inoculated

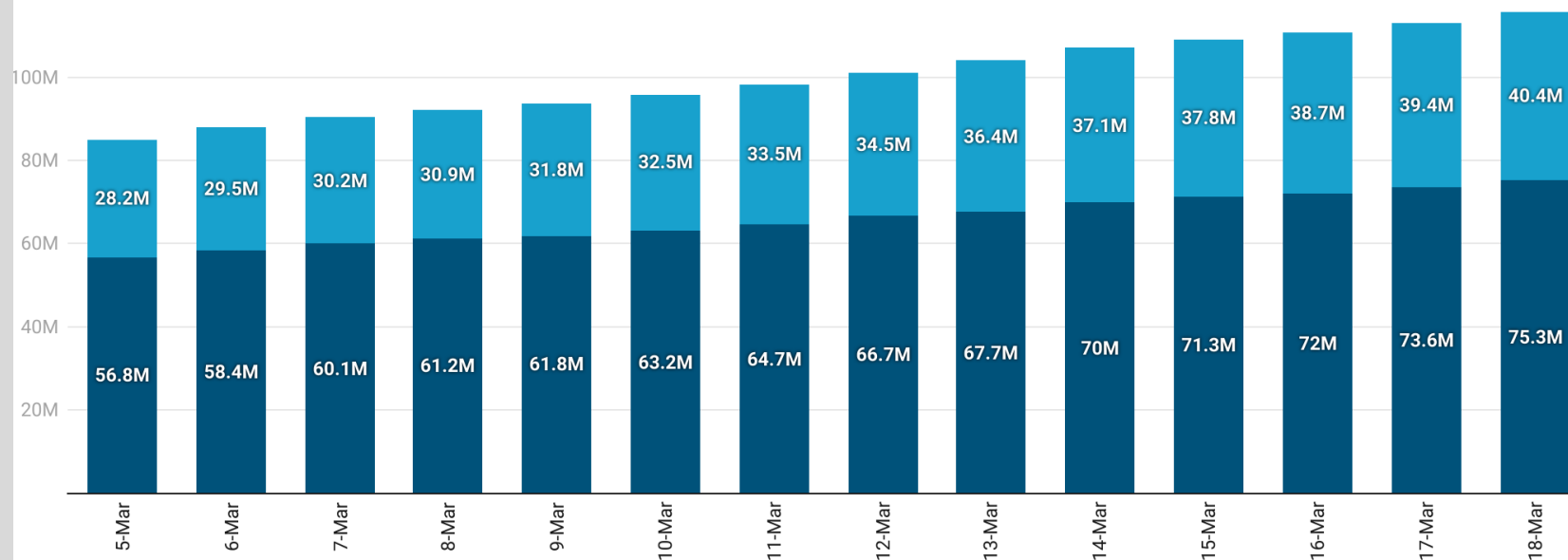


Chart: Health Industry Advisor LLC • Source: CDC, Bloomberg • Created with Datawrapper

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

Covid-19 "Vital Signs"

Immunity: Projected v. Estimated

Estimated immunity is 40% to 46%, based on vaccination and estimated infection rates, vaccine efficacy and a presumed two-week lag from infection or vaccination to immunity.

Estimated Immunity

Current Estimates v. HIA Projection

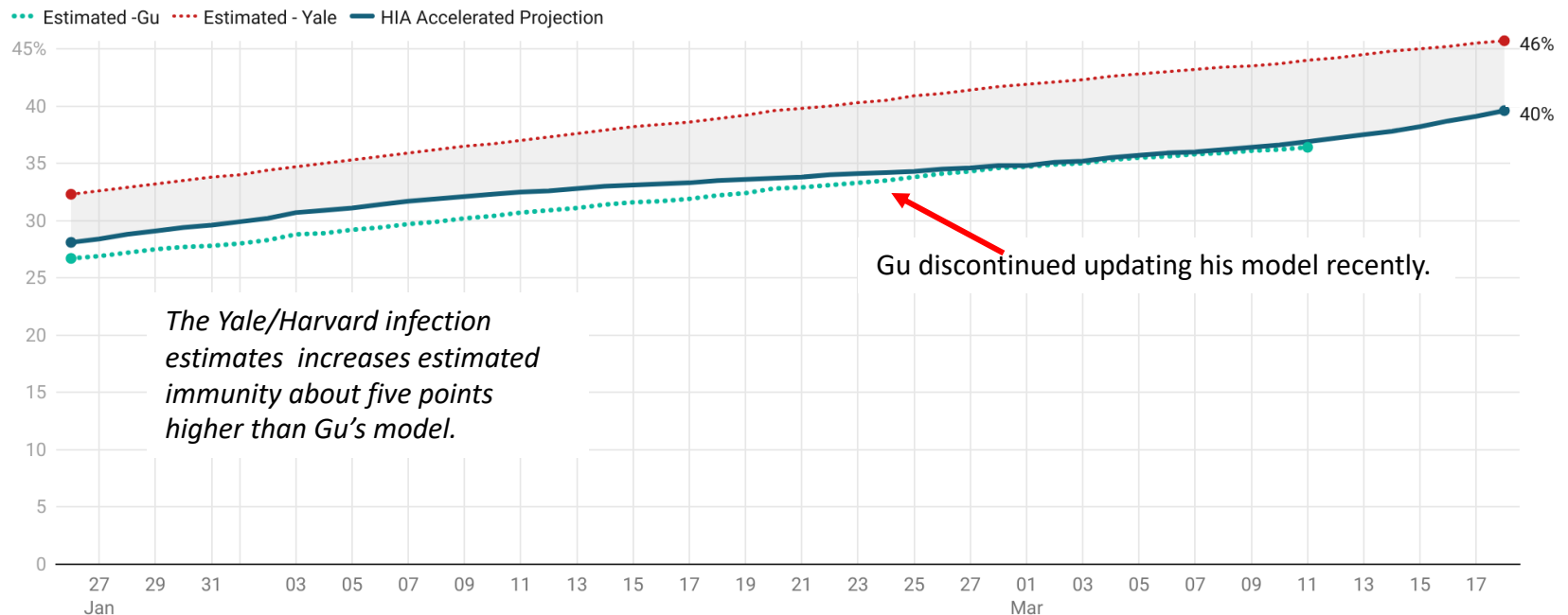


Chart: Health Industry Advisor LLC • Created with Datawrapper

Test-Positivity Rate

The 7-day test-positivity rate remains at its lowest point since the pandemic began.

Test-Positivity Rate

7-Day Average, Through March 18

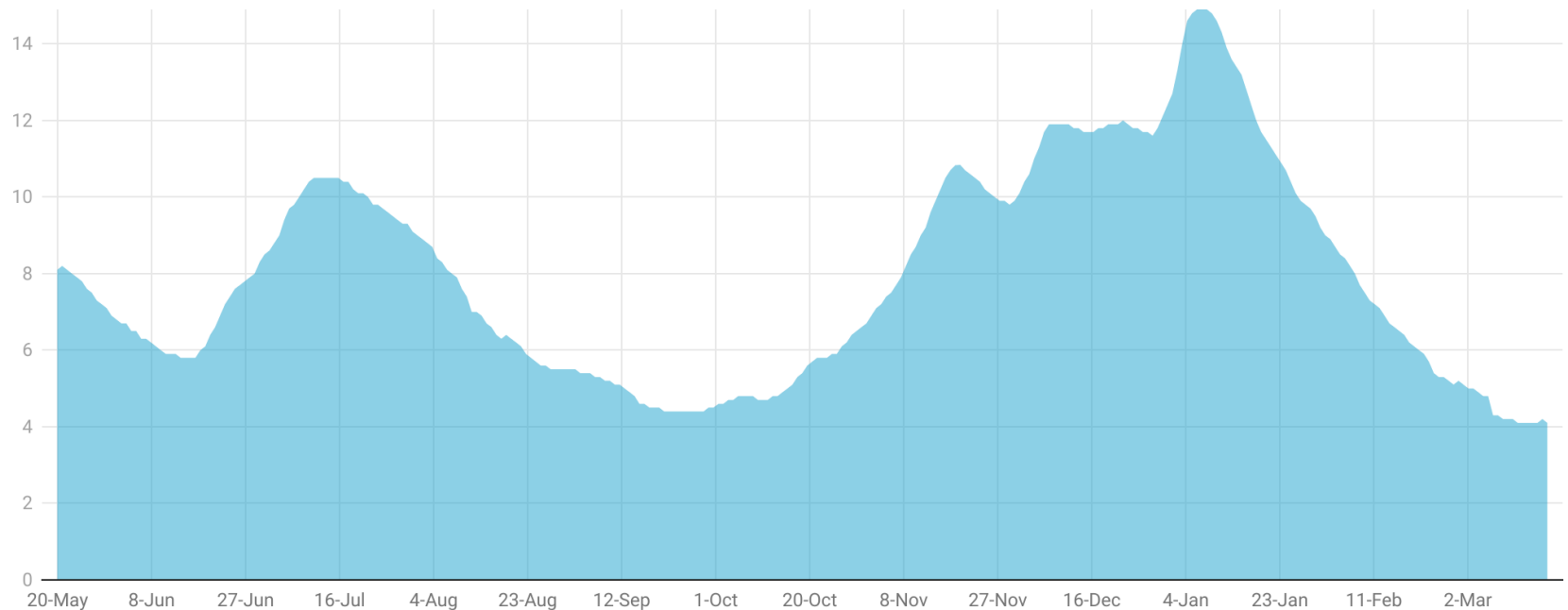


Chart: Health Industry advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Test-Positivity Rate

The test-positivity rate fell slightly week-over-week, after dropping sharply each of the prior two weeks.

Test-Positivity Rate

As of March 18

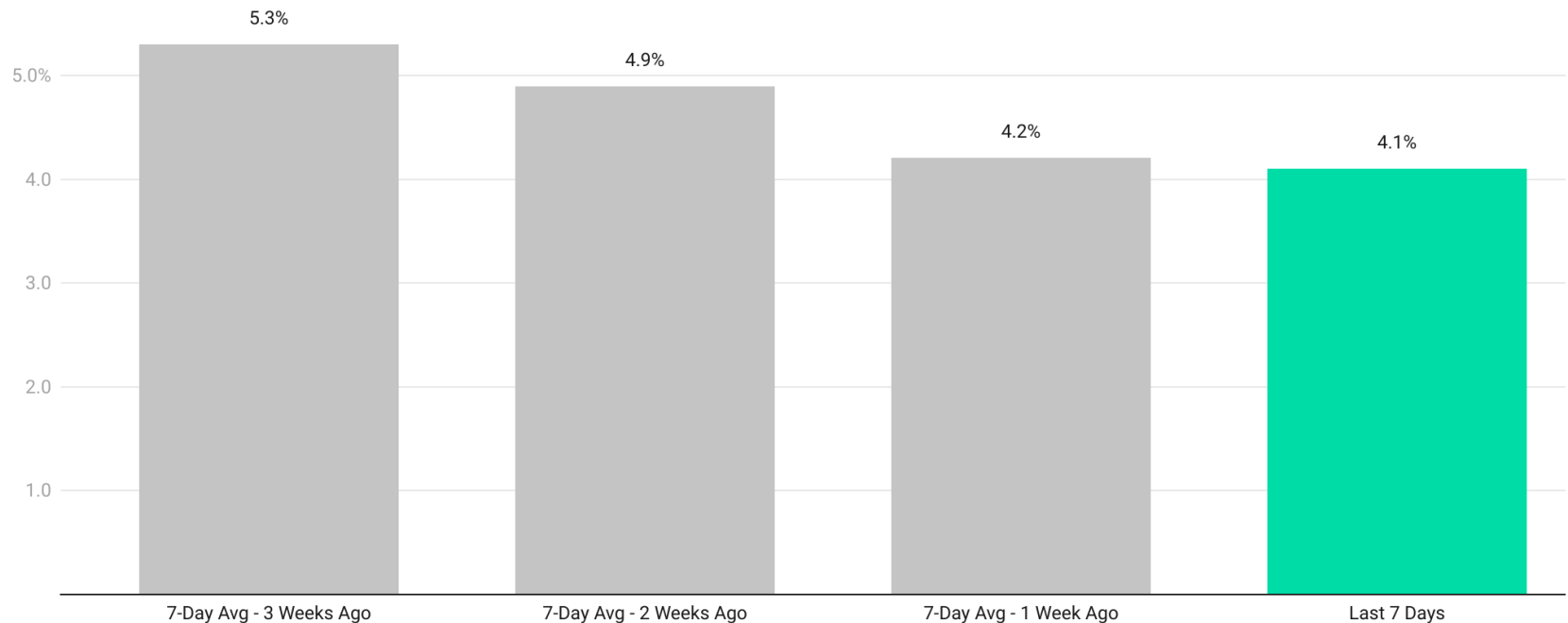


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Newly Detected Cases / Million - US

Newly detected cases (7-day average) held steady over the past five days, breaking the two-month-long trend of declining rates.

Newly-Detected Cases / Million

7-Day Average

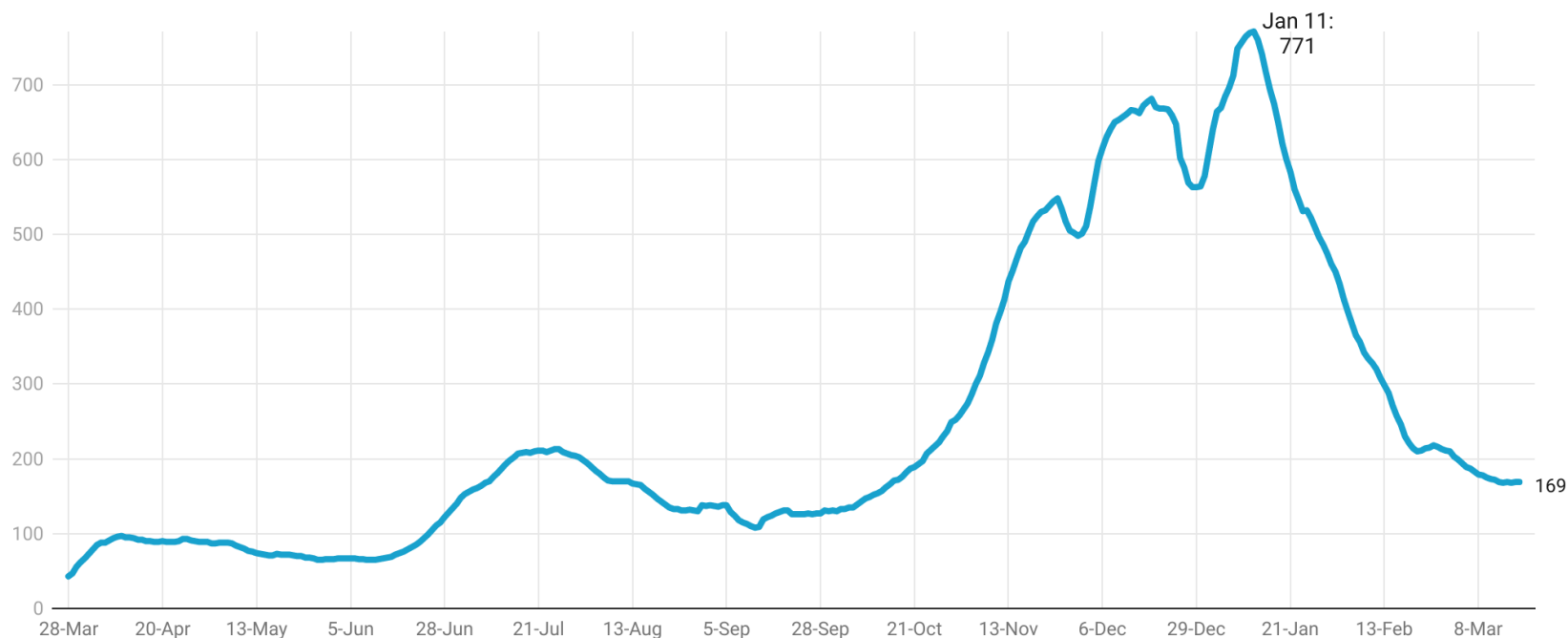


Chart: Health Industry Advisor LLC • Created with Datawrapper

Estimated Daily Infections & New Case Rates

Covid-19 “Vital Signs”

Despite the pause in declining new cases, estimated new infections continued falling in the U.S.. The Yale/Harvard model suggests that infections have plummeted more than 80% since the beginning of the year..

Estimated Daily Infections v. Detected Cases

Yale/Harvard Schools of Public Health Model

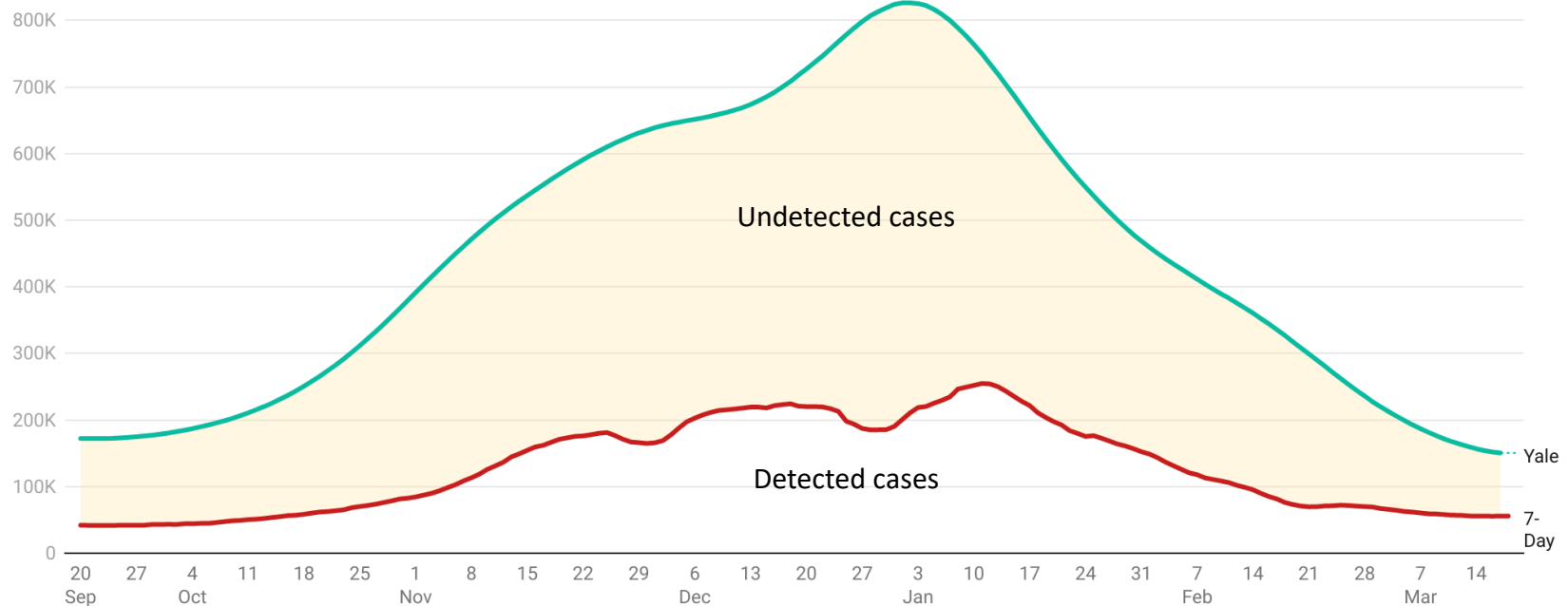


Chart: Health Industry Advisor LLC • Source: Youyang Gu, Yale School of Public Health • Created with Datawrapper

Covid-19 "Vital Signs"

Newly Detected Cases Per Day

In the US, 7-day new case rates dropped only 2.4% week-over-week after dropping 11% to 12% each of the prior two weeks.

Newly Detected Cases

As of March 18

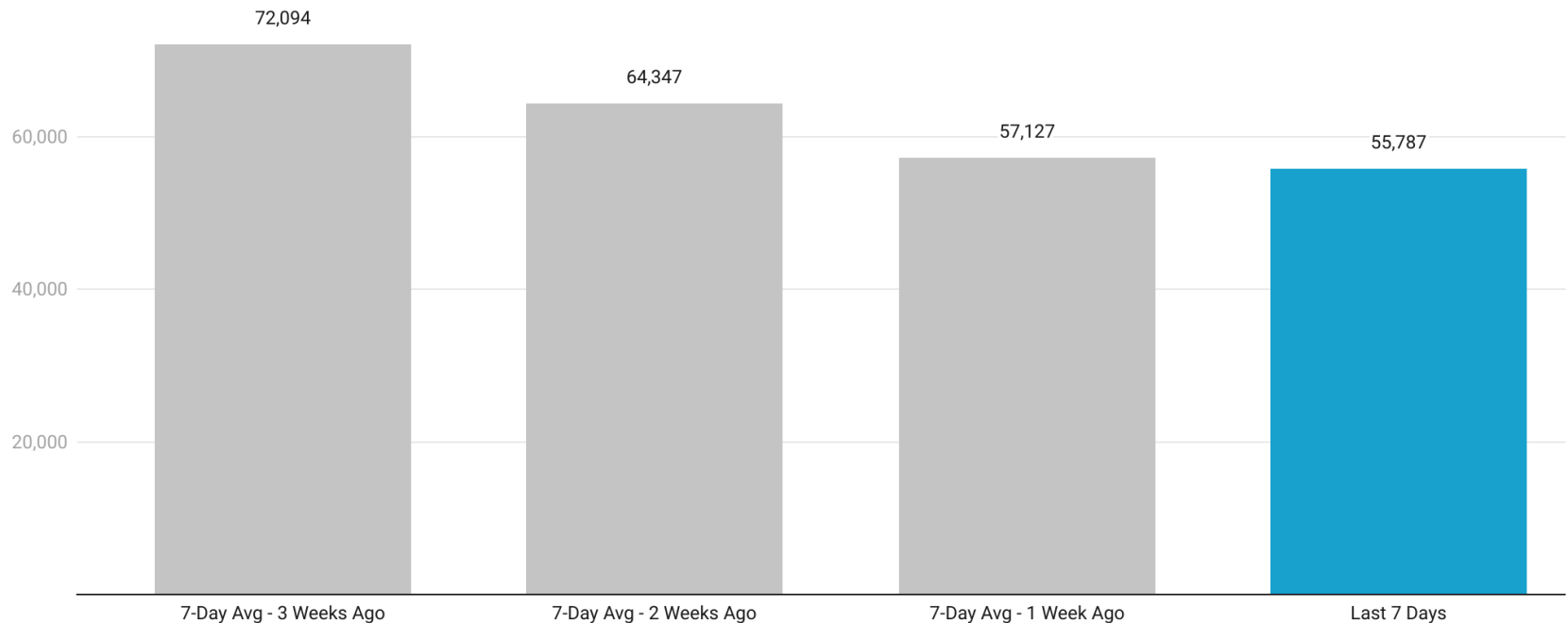


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper



Covid-19 Inpatient Census

Covid-19 inpatient census declined only 2.4% week-over-week after declining 11% each of the prior two weeks.

Newly Detected Cases

As of March 18

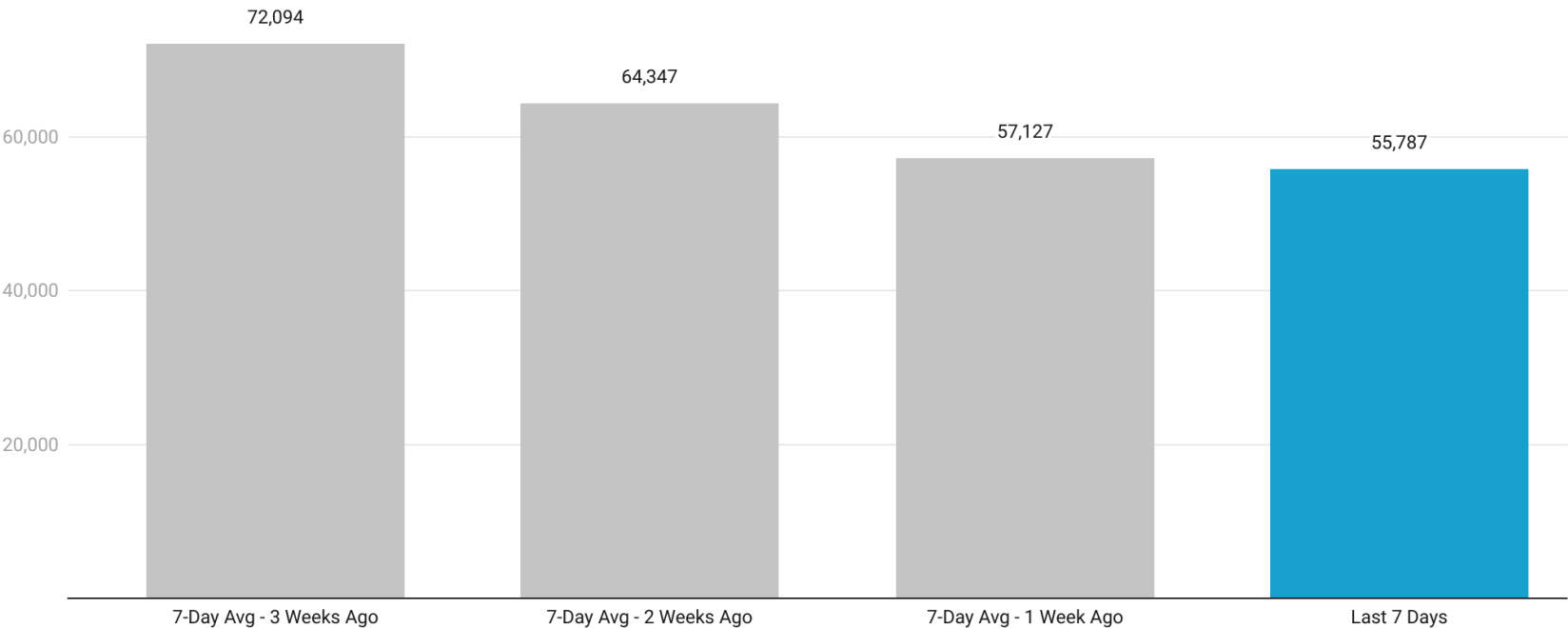


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper



Covid-19 Inpatient Census

Covid-19 inpatient census fell 7.5% yesterday from last Thursday's level and more than 40% in the past four weeks.

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of March 18

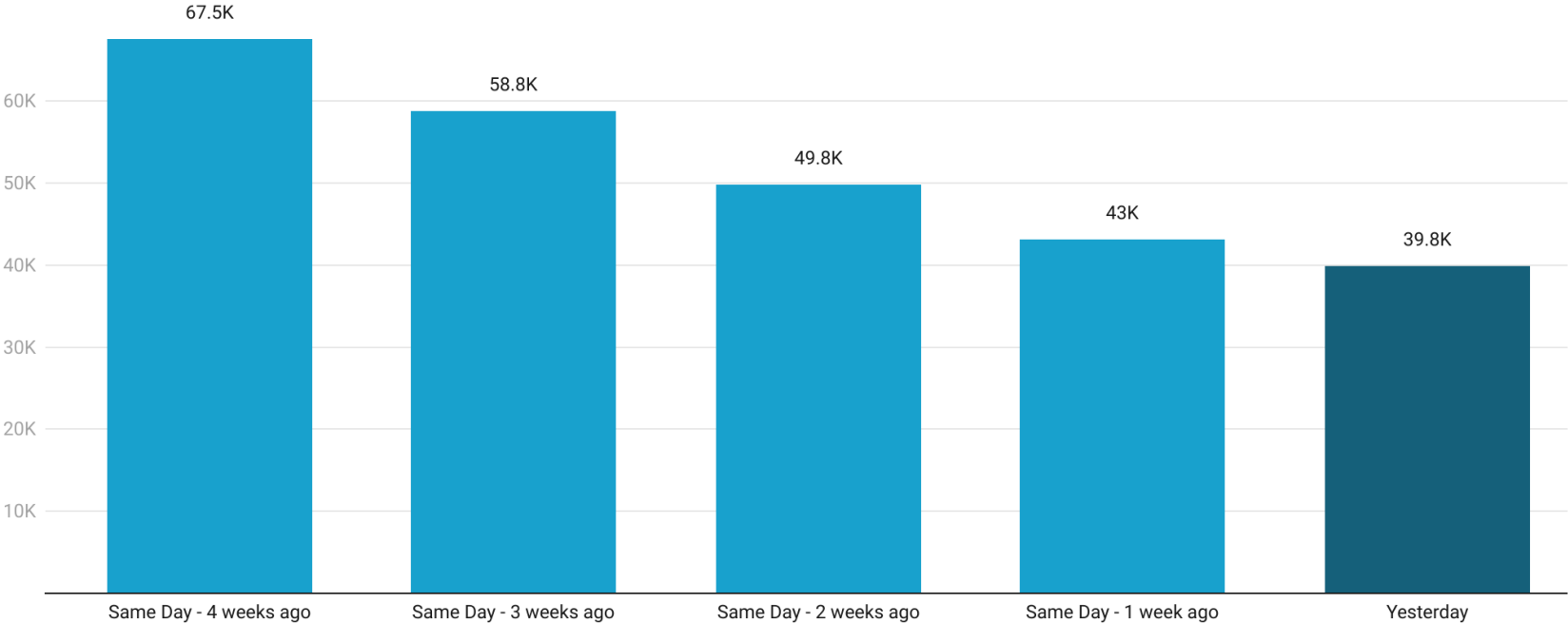


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 “Vital Signs”

Deaths With Coronavirus

Deaths with coronavirus (7-day average) have declined by 64% since a peak in late January. This rate is lower than at any time in the last four months.

Deaths With Coronavirus

7-Day Average, Through March 18



Chart: Health Industry Advisor LLC • Created with Datawrapper



Deaths Reported With Coronavirus

The 7-day average death rate fell 13% from last week and 40% in three weeks.

Daily Deaths Reported With Coronavirus

As of March 18

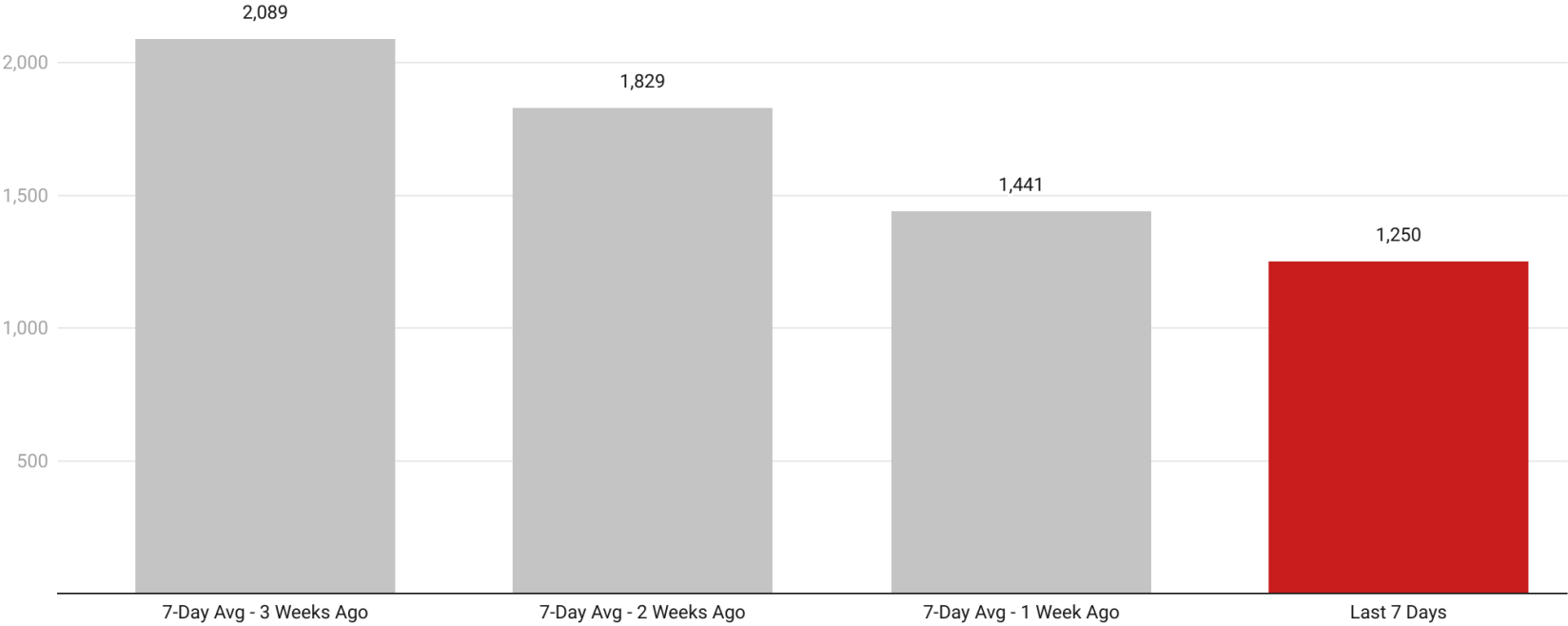


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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; and the week-over-week changes in new cases are mostly encouraging. The hospital crisis eased for most of the country.

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	Green	Orange	Blue	Yellow
Alaska	Yellow	Green	Yellow	Blue	Green
Arizona	Green	Blue	Orange	Green	Red
Arkansas	Green	Blue	Orange	Blue	Orange
California	Green	Blue	Yellow	Green	Black
Colorado	Yellow	Red	Yellow	Blue	Yellow
Connecticut	Orange	Blue	Orange	Green	Yellow
Delaware	Yellow	Blue	Orange	Green	Yellow
District Of Columbia	Yellow	Blue	Green	Yellow	Yellow
Florida	Yellow	Blue	Orange	Blue	Yellow
Georgia	Green	Blue	Orange	Yellow	Orange
Hawaii	Blue	Orange	Yellow	Blue	Green
Idaho	Green	Yellow	Orange	Blue	Orange
Illinois	Yellow	Yellow	Yellow	Blue	Yellow
Indiana	Green	Green	Orange	Blue	Orange
Iowa	Green	Blue	Orange	Blue	Yellow
Kansas	Yellow	Blue	Orange	Blue	Blue
Kentucky	Yellow	Blue	Orange	Blue	Black
Louisiana	Green	Orange	Yellow	Blue	Black
Maine	Green	Orange	Yellow	Blue	Orange
Maryland	Green	Yellow	Yellow	Yellow	Orange
Massachusetts	Yellow	Green	Green	Green	Red
Michigan	Orange	Black	Orange	Green	Yellow
Minnesota	Yellow	Yellow	Yellow	Blue	Green
Mississippi	Green	Green	Red	Blue	Red
Missouri	Green	Blue	Orange	Green	Blue

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	Yellow	Black	Orange	Blue	Yellow
Nebraska	Green	Blue	Orange	Blue	Blue
Nevada	Green	Green	Yellow	Green	Black
New Hampshire	Yellow	Red	Yellow	Blue	Green
New Jersey	Red	Orange	Orange	Yellow	Yellow
New Mexico	Green	Yellow	Yellow	Red	Orange
New York	Red	Yellow	Orange	Blue	Yellow
North Carolina	Yellow	Green	Orange	Green	Yellow
North Dakota	Green	Red	Yellow	Blue	Green
Ohio	Green	Yellow	Orange	Blue	Black
Oklahoma	Yellow	Blue	Red	Blue	Orange
Oregon	Green	Yellow	Yellow	Green	Orange
Pennsylvania	Orange	Green	Orange	Yellow	Yellow
Rhode Island	Orange	Green	Yellow	Yellow	Yellow
South Carolina	Yellow	Yellow	Red	Green	Yellow
South Dakota	Yellow	Green	Red	Blue	Green
Tennessee	Yellow	Green	Red	Blue	Green
Texas	Green	Blue	Orange	Green	Red
Utah	Yellow	Green	Orange	Blue	Green
Vermont	Yellow	Yellow	Blue	Blue	Green
Virginia	Yellow	Yellow	Orange	Green	Black
Washington	Green	Red	Orange	Blue	Yellow
West Virginia	Yellow	Orange	Green	Blue	Black
Wisconsin	Green	Orange	Green	Blue	Green
Wyoming	Green	Blue	Yellow	Blue	Green

Covid-19 "Vital Signs"

New Cases / Million

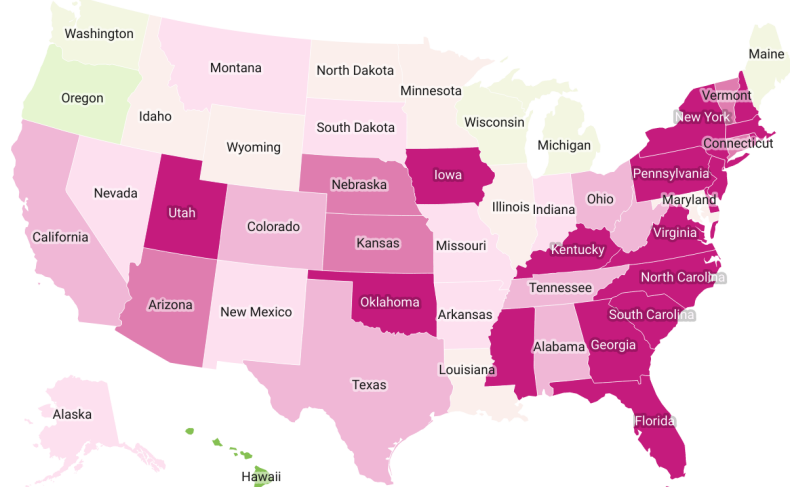
New daily case rates are marching toward relatively low levels in many states. States experiencing relatively high levels include Connecticut, Delaware, Florida, Massachusetts, Michigan, New Jersey, New York, Rhode Island, and South Carolina.

February 18

March 18

New Cases / Million

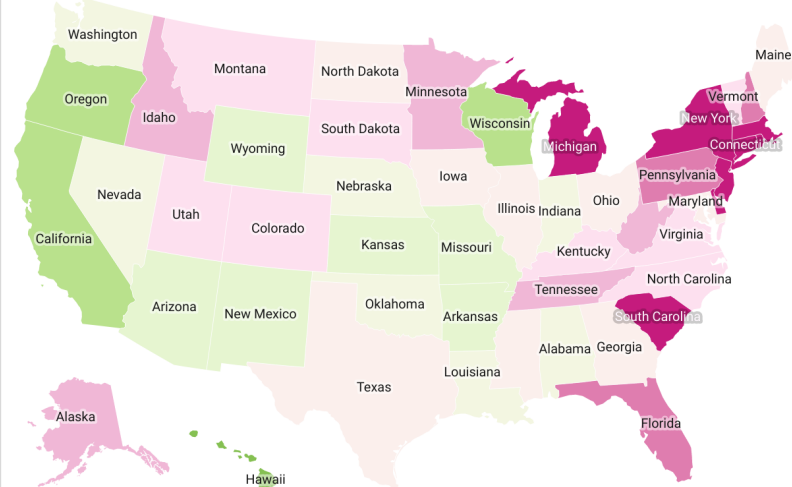
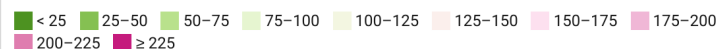
7-Day Moving Average, As of February 18



Map: Health Industry Advisor LLC • Created with Datawrapper

New Cases / Million

7-Day Moving Average, As of March 18



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 dropped further in the past two weeks. New York remains of most concern among all states. Covid-19 patients occupied fewer than 13% of US beds yesterday versus its peak of 42% six weeks ago.

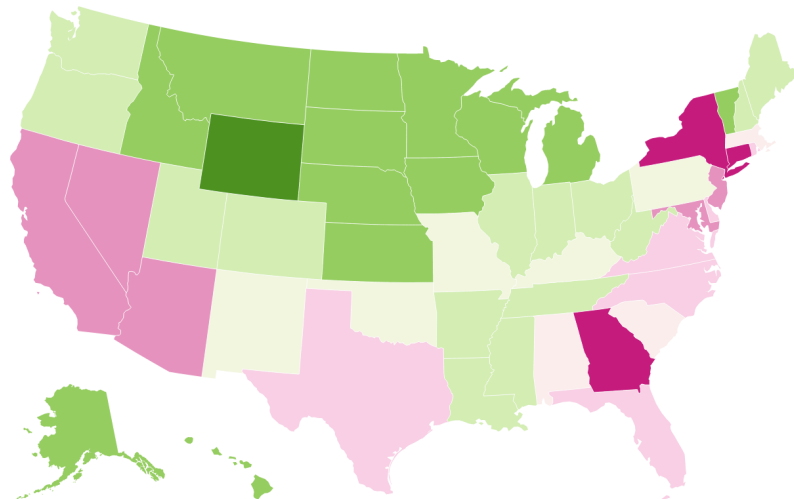
February 25

March 18

Covid-19 Patients As % of All Inpatient Beds

As of February 18

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

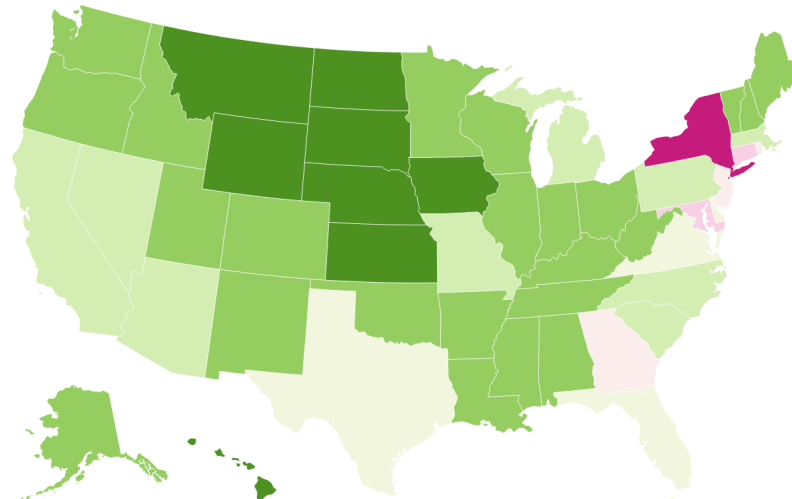


Map: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Covid-19 Patients As % of All Inpatient Beds

As of March 18

■ < 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

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



Projected Covid-19 Admission Trends

Projected Covid-19 hospital admissions decline an average of 1.0% daily over the next four weeks

Covid-19 Hospital Admissions

Ensemble Forecast

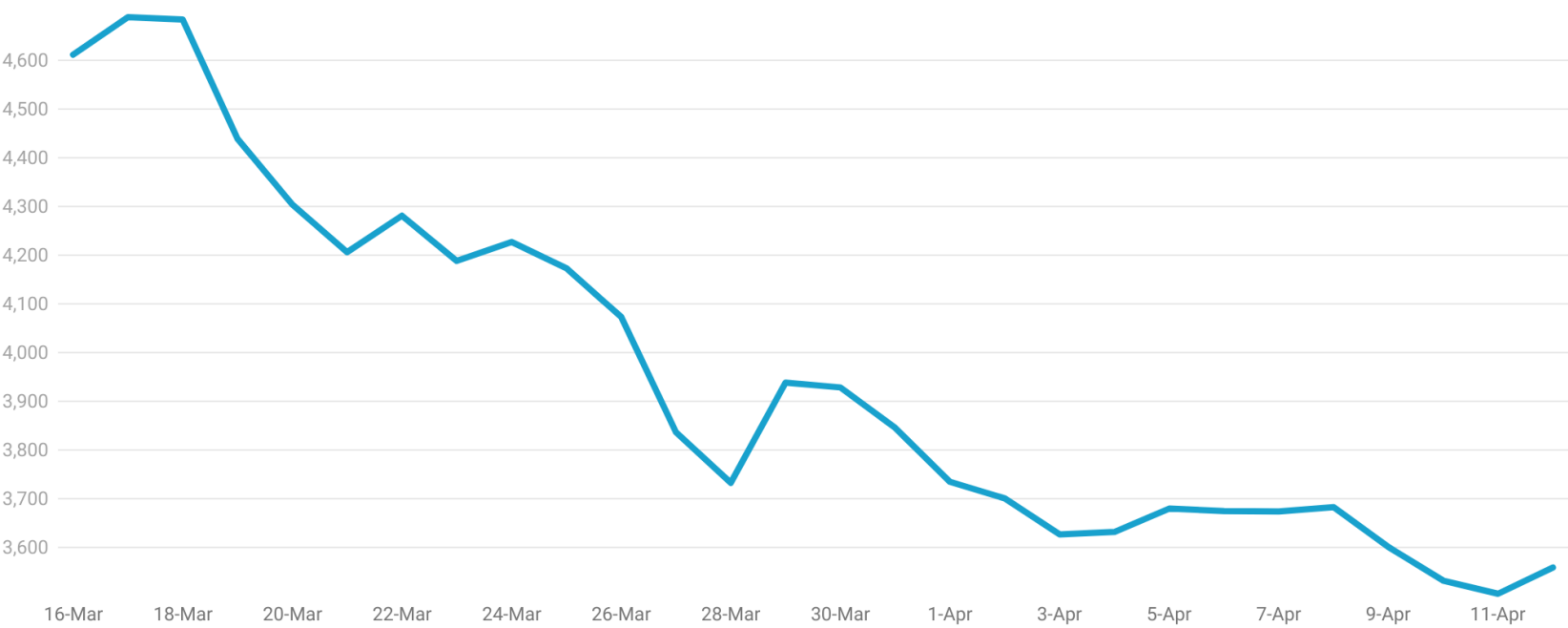


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Covid-19 "Vital Signs"

Projected Covid-19 Admission Trends

Projected Covid-19 hospital admissions increase in several states over the next three weeks, led by Michigan's 34% increase. For the U.S. overall, projected Covid-19 admissions drop 19% in this time.

% Change in Hospital Admissions

Week Ending April 12 v. Week Ending March 22

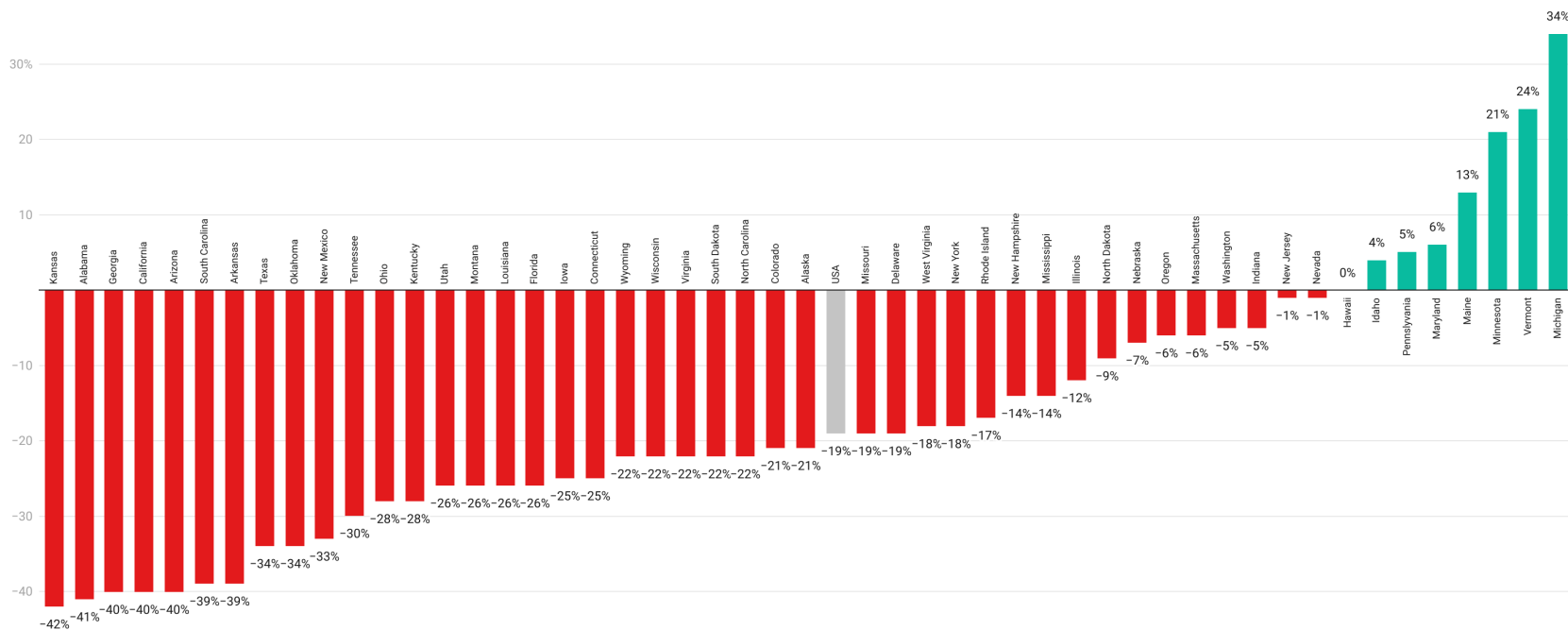


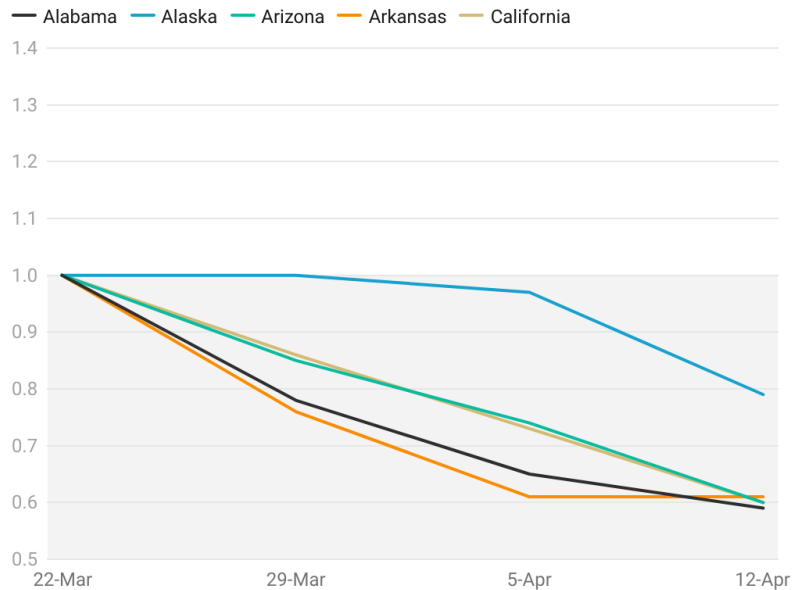
Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Projections of Hospital Admissions (US) – 1 of 5

Projected hospital admissions decline over the next few weeks in most states, with the exceptions including Maine, Michigan, Minnesota, and Vermont.

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

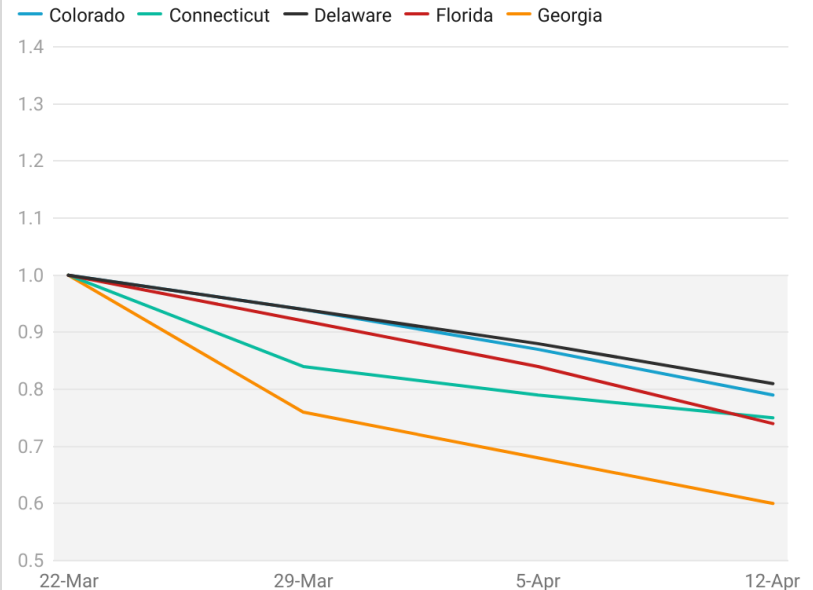


Updated March 17

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 17

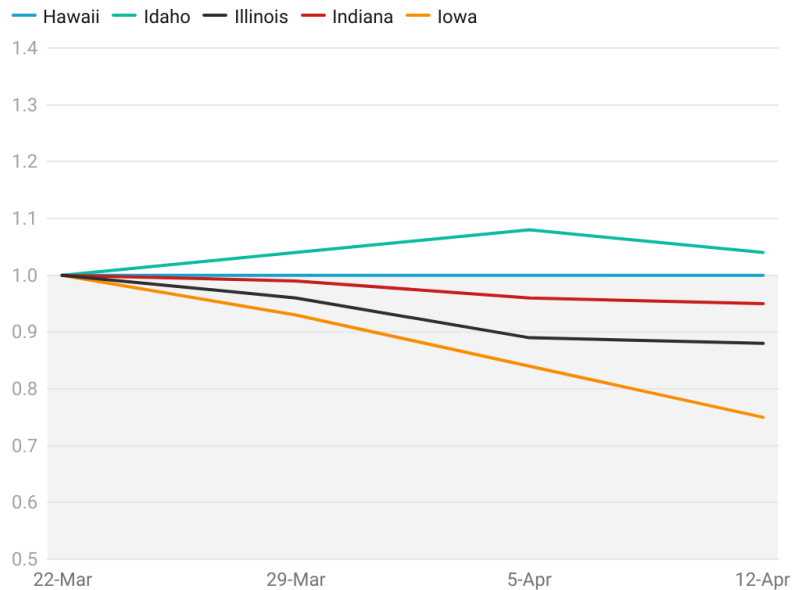
Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

Projections of Hospital Admissions (US) – 2 of 5

Projected hospital admissions decline over the next few weeks in most states, with the exceptions including Maine, Michigan, Minnesota, and Vermont.

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

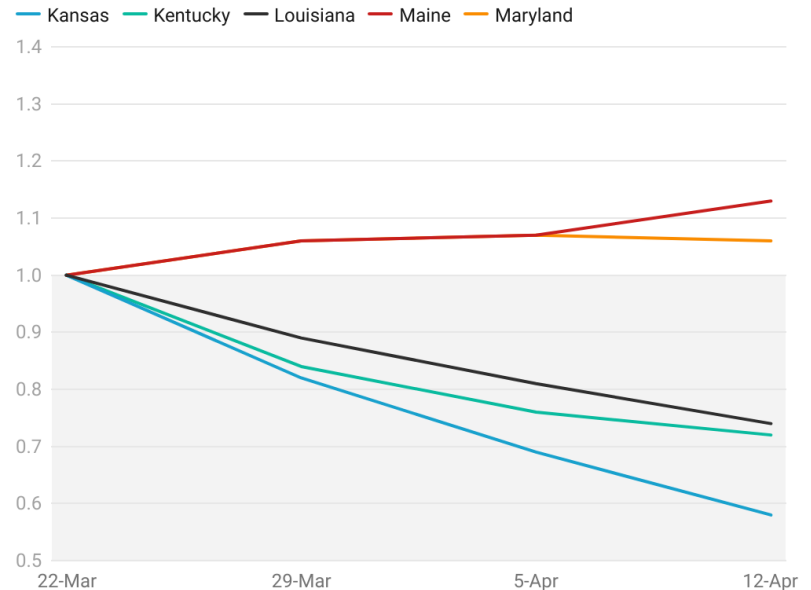


Updated March 17

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 17

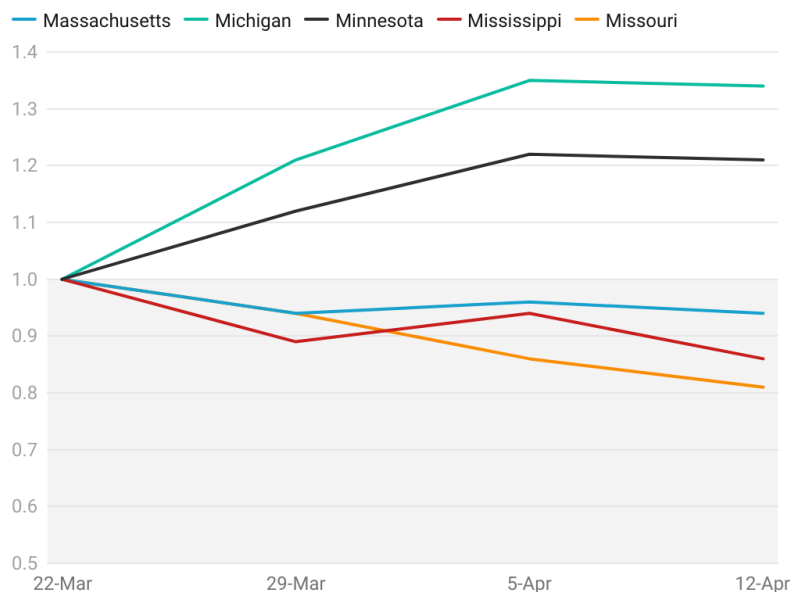
Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

Projections of Hospital Admissions (US) – 3 of 5

Projected hospital admissions decline over the next few weeks in most states, with the exceptions including Maine, Michigan, Minnesota, and Vermont.

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

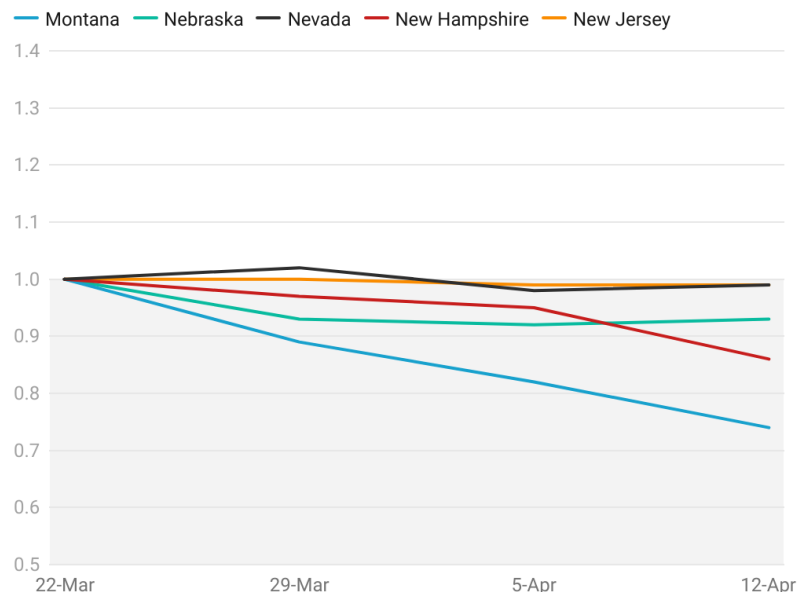


Updated March 17

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 17

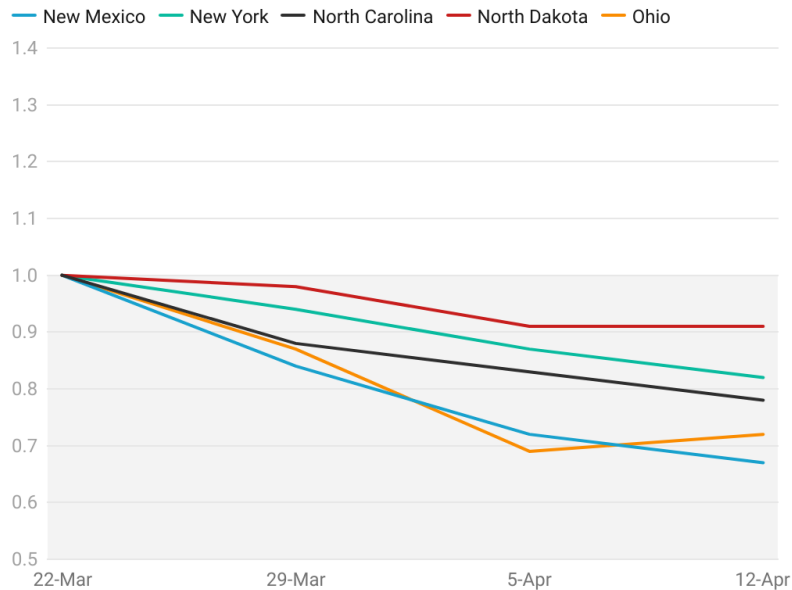
Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

Projections of Hospital Admissions (US) - 4 of 5

Projected hospital admissions decline over the next few weeks in most states, with the exceptions including Maine, Michigan, Minnesota, and Vermont.

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

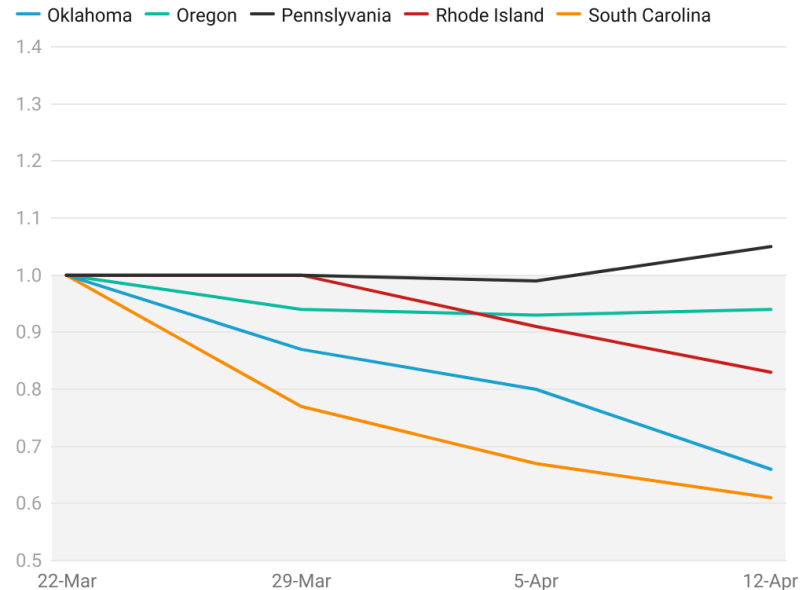


Updated March 17

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 17

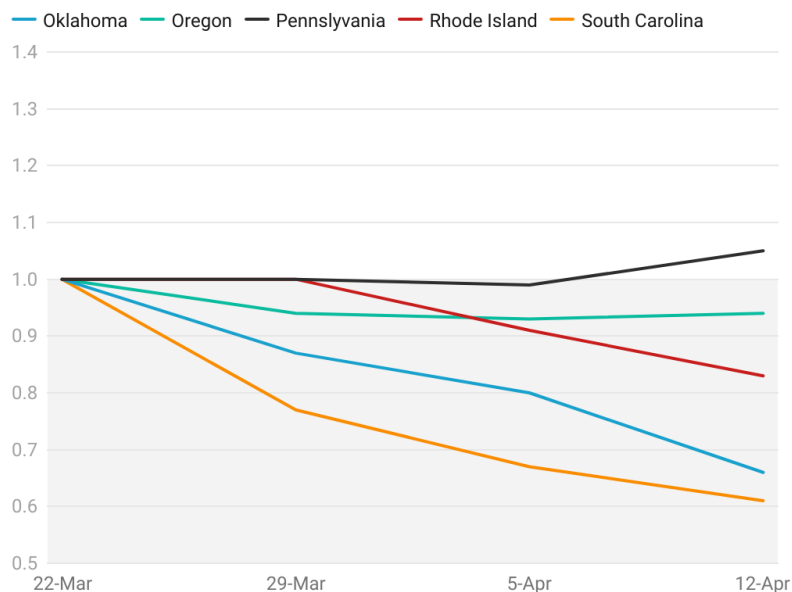
Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

Projections of Hospital Admissions (US) – 5 of 5

Projected hospital admissions decline over the next few weeks in most states, with the exceptions including Maine, Michigan, Minnesota, and Vermont.

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week

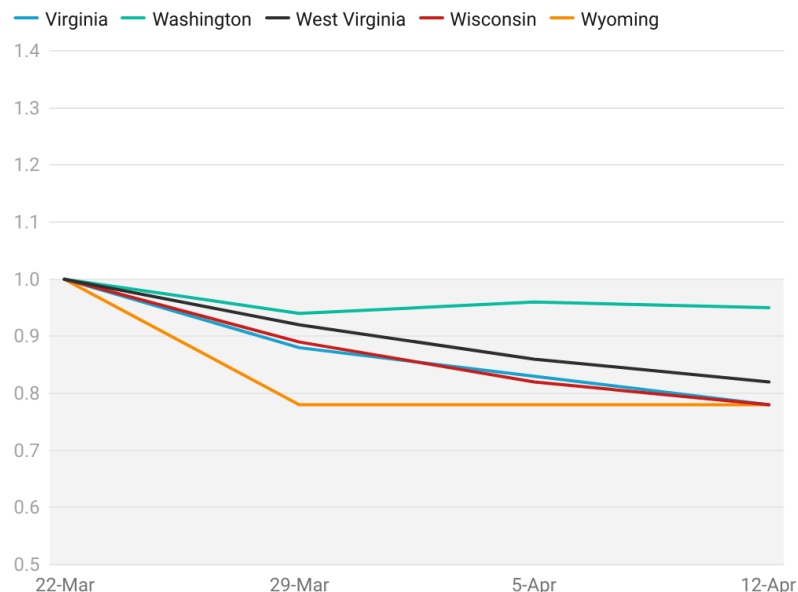


Updated March 17

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

Projected Hospital Admissions

Next Three Weeks, Indexed To This Week



Updated March 17

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	10.4%	2,119	1,618	5.2%	110	15	8%	11
Alaska	8.0%	418	8,720	2.1%	176	49	6%	6
Arizona	11.5%	2,287	2,427	4.1%	81	30	12%	22
Arkansas	10.9%	1,827	1,707	2.9%	95	18	6%	19
California	9.2%	1,438	3,173	1.9%	73	43	13%	35
Colorado	7.8%	1,067	4,112	3.5%	158	26	8%	15
Connecticut	8.3%	2,194	7,347	2.9%	244	30	26%	11
Delaware	9.4%	1,558	5,725	3.6%	256	22	16%	12
District Of Columbia	6.1%	1,482	8,361	2.7%	155	54	20%	10
Florida	9.3%	1,518	3,492	7.0%	209	17	17%	14
Georgia	9.8%	1,735	1,764	5.2%	144	12	20%	15
Hawaii	2.0%	319	1,608	1.1%	43	37	4%	9
Idaho	9.9%	1,081	2,090	7.5%	175	12	8%	16
Illinois	9.6%	1,838	4,259	2.5%	132	32	8%	14
Indiana	10.0%	1,917	2,801	3.1%	113	25	7%	20
Iowa	11.8%	1,798	2,339	5.4%	144	16	4%	14
Kansas	10.4%	1,665	1,859	3.5%	76	24	5%	(5)

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	9.4%	1,232	2,201	5.5%	160		14	8%	87
Louisiana	9.5%	2,146	3,406	2.9%	111		31	6%	30
Maine	3.6%	541	2,672	2.3%	148		18	9%	4
Maryland	6.6%	1,342	4,597	4.1%	148		31	25%	19
Massachusetts	8.8%	2,412	12,116	1.9%	231		52	12%	20
Michigan	6.8%	1,687	3,319	5.1%	261		13	11%	12
Minnesota	8.9%	1,211	4,986	4.2%	186		27	7%	7
Mississippi	10.1%	2,331	755	4.2%	134		6	7%	22
Missouri	9.3%	1,452	1,840	4.6%	75		25	10%	2
Montana	9.6%	1,316	2,861	4.3%	159		18	3%	14
Nebraska	10.6%	1,101	2,016	7.0%	122		17	5%	4
Nevada	9.8%	1,674	2,790	5.1%	123		23	14%	32
New Hampshire	5.9%	888	5,326	3.5%	204		26	8%	10
New Jersey	9.6%	2,711	5,038	7.8%	430		12	25%	11
New Mexico	9.0%	1,849	2,581	2.5%	98		26	9%	15
New York	9.3%	2,547	7,414	5.0%	379		20	42%	11
North Carolina	8.5%	1,123	2,777	4.5%	156		18	15%	11

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	13.3%	1,915	3,379	1.9%	127	27	5%	9	
Ohio	8.5%	1,539	2,717	3.0%	133	20	9%	27	
Oklahoma	11.0%	1,210	603	5.9%	113	5	7%	19	
Oregon	3.8%	558	2,777	4.3%	67	41	7%	17	
Pennsylvania	7.7%	1,941	3,004	5.7%	207	15	12%	14	
Rhode Island	12.5%	2,449	11,965	2.0%	307	39	21%	11	
South Carolina	10.4%	1,736	1,971	6.7%	225	9	12%	12	
South Dakota	13.0%	2,169	1,156	8.0%	168	7	3%	13	
Tennessee	11.7%	1,709	1,633	5.8%	178	9	9%	7	
Texas	9.5%	1,630	1,495	6.1%	144	10	16%	21	
Utah	11.9%	637	2,757	4.9%	150	18	6%	7	
Vermont	2.8%	348	14,564	1.6%	171	85	5%	7	
Virginia	7.0%	1,193	2,330	5.4%	166	14	16%	27	
Washington	4.7%	687	1,289	4.4%	104	12	8%	13	
West Virginia	7.6%	1,438	3,254	4.7%	177	18	6%	124	
Wisconsin	9.8%	1,126	4,027	2.3%	70	57	5%	9	
Wyoming	9.6%	1,197	3,982	2.7%	91	44	3%	4	

Table: Health Industry Advisor LLC • Created with Datawrapper

Covid-19 "Vital Signs"

Metro Areas in the US

The improved case rate over the past month can be seen at the Metro Area-level

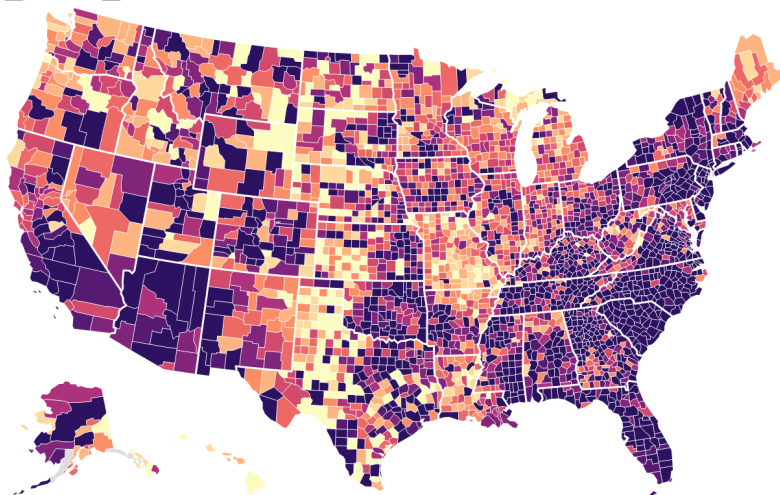
February 18

March 18

New Daily Infections / Million

7-Day Moving Average, As of February 18

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

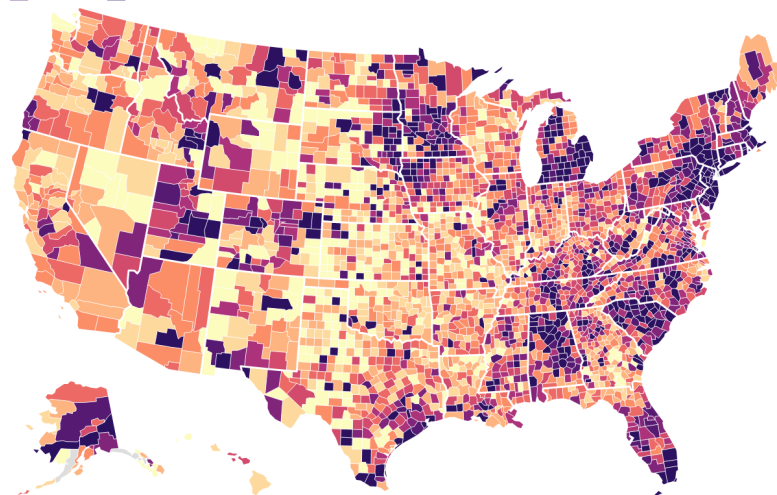


Map: Health Industry Advisor LLC • Created with Datawrapper

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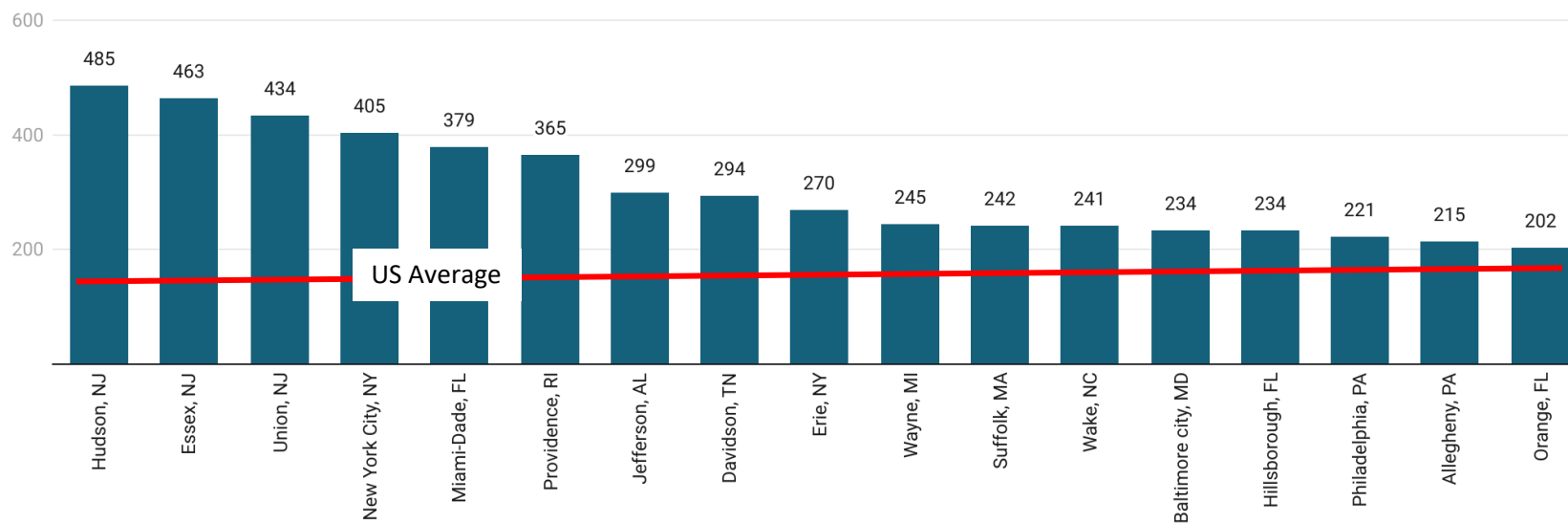
Map: Health Industry Advisor LLC • Created with Datawrapper

Large Central Metro Areas

Among Large Central Metro areas, New Jersey counties, New York City and Miami-Dade experienced high case rates this week.

New Daily Cases / Million Population - Large Central Metro Areas

7-Day Moving Average, As of March 18



Health Industry Advisor LLC analysis

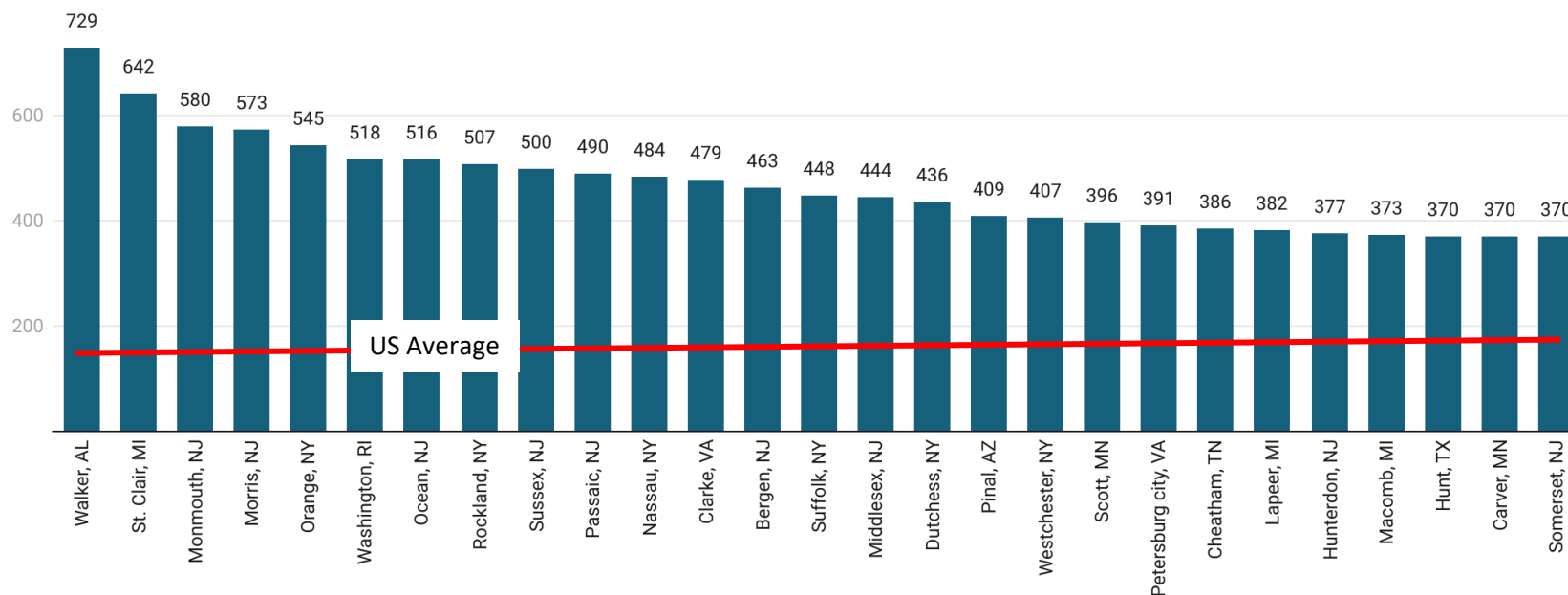
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Large Fringe Metro Areas

Among Large Fringe Metro areas, New Jersey and New York account for twelve of the sixteen countries reporting the high case rates this week.

New Daily Cases / Million Population - Large Fringe Metro Areas

7-Day Moving Average, As of March 18



Health Industry Advisor LLC analysis

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

Metro Areas With Major Universities

Montgomery County County, home to Virginia Tech, reported the highest new case rate of the areas we track.

Metro Areas With Major Universities: New Daily Cases / 1M Population

7-Day Average, As of March 18

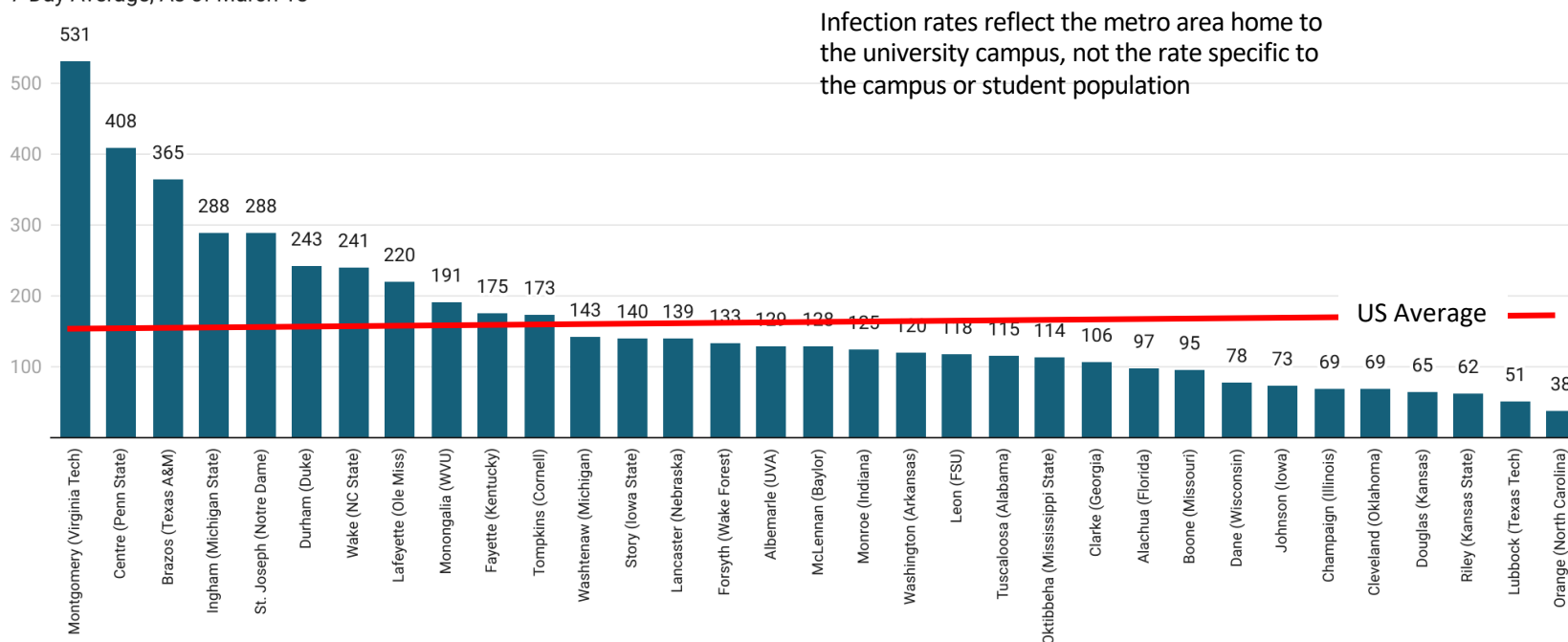


Chart: Health Industry Advisor LLC • Created with Datawrapper

Metro Areas With Major Universities

Reflecting the national trend, there was a split in the metro areas experiencing increasing and declining new case rates.

Metro Areas With Major Universities: Week-Over-Week Change In New Daily Cases / 1M Population

7-Day Average, March 18 v. March 11

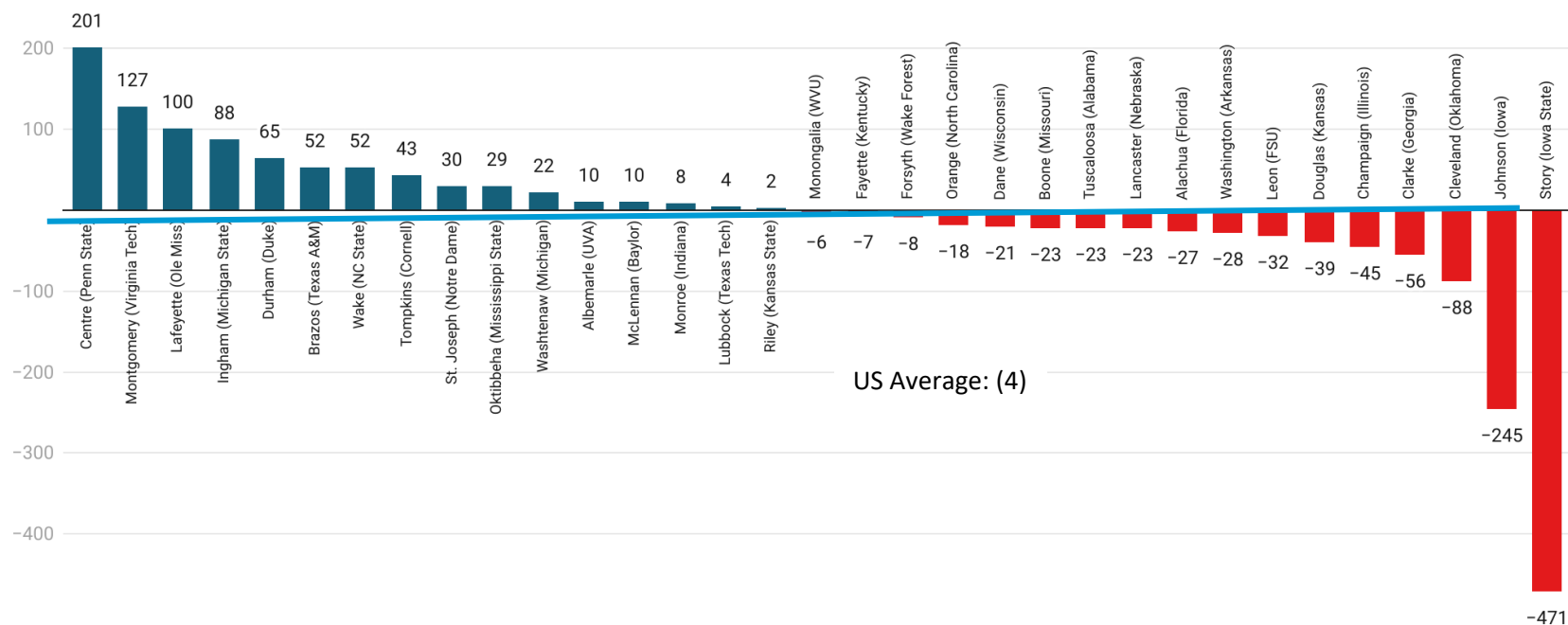


Chart: Health Industry Advisor LLC • Created with Datawrapper

Sources

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

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- 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
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- COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University <https://github.com/CSSEGISandData/COVID-19>
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- 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>