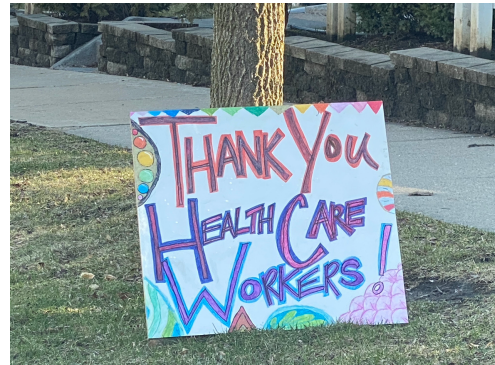
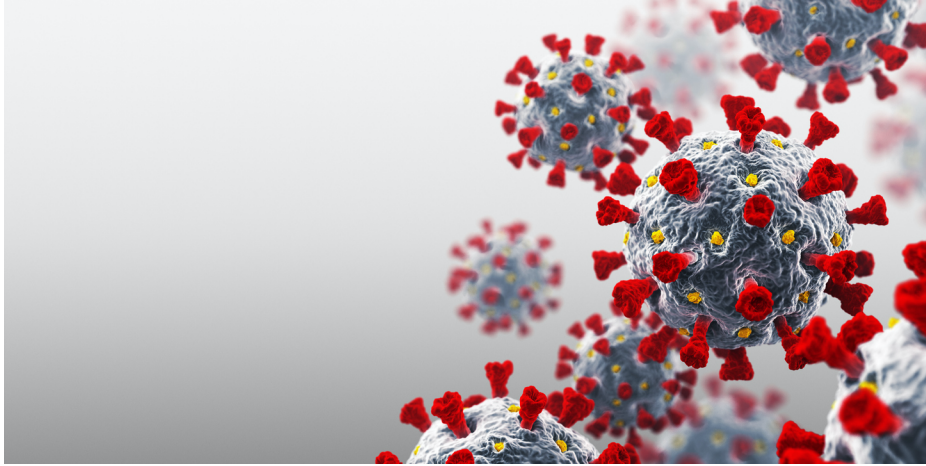
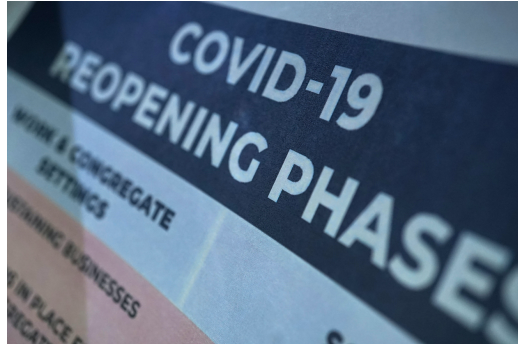




COVID-19 Report

Issue # 107

Friday, July 17, 2020

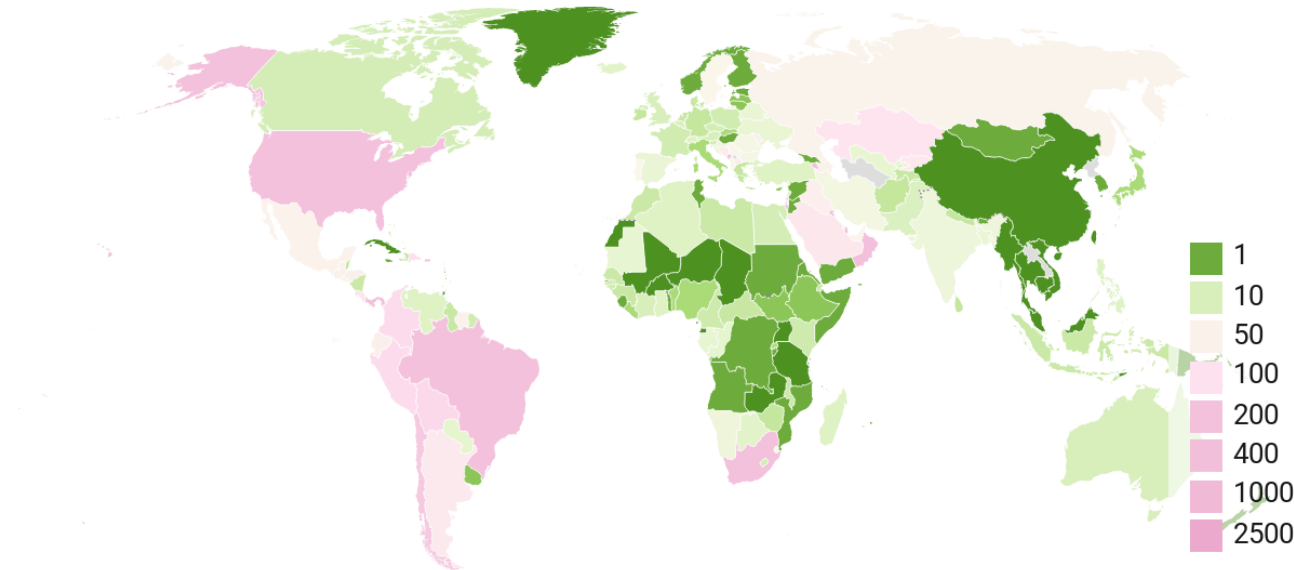
- The new daily infection rate (trailing 7-day moving average) in the United States topped 200 per million population yesterday
 - Florida has the highest rate of new daily infections per capita in the United States, followed by Louisiana, Arizona and South Carolina. This rate is still increasing in Florida and Louisiana; it has been declining in Arizona and South Carolina
 - Twenty-one states posted their highest infection rate to-date yesterday, two others did so on Wednesday
 - Still, others may have turned a corner:
 - Arizona's peak rate occurred 9 days ago
 - West Virginia: 5 days ago
 - California and Kentucky: 4 days ago
 - Twenty states have gone more than 45 days since their peak; Michigan has now gone 100 days
 - The maps of new daily infections per capita (by state and by country) reveal are strong concentration Southern states and, particularly, southern counties in these Southern states
- New cases exceeded 70,000 yesterday, even after adjusting for 4,800 "backlogged" cases reported by Texas
 - Florida, Texas and California continue to set the pace in new cases, accounting for 43% of all new cases in the United States Thursday
 - A similar pattern exists worldwide: the United States, Brazil, India and South Africa accounted for 66% of new cases worldwide yesterday
- Testing in the United States continued its ascent, as yesterday produced the second highest tally on any day since the pandemic began. On a week-over-week basis, testing is up 13%; and, 21% over two weeks ago. The critical test-positive rate now seems to have stabilized over the past week, and remains below the rate suggested by World Health Organization scientists
 - Twelve states are experiencing test-positive rates higher than suggested by WHO, led by Arizona, South Carolina and Florida. Arizona's rate, encouragingly, has declined significantly during the past week; Florida's has declined slightly, and South Carolina's has leveled
- Hospitalizations continue to increase across the United States in general and in Florida in particular - a trend that corresponds with the current, 5-week surge in new cases. These seem to be finally stabilizing, however, in Arizona and Texas
 - Fortunately, hospitalizations have not increased at the same pace as new cases
 - Further, the % of hospitalized patients on ventilators continues its long-term decline; the % of patients in the ICU initially declined as cases surged and now seems to have stabilized
- Deaths have increased somewhat since the new case surge began, although they remain 2-3x lower than March and April levels

Worldwide

New Infection Rates have intensified in the United States, South Africa and throughout South America over the past 4 weeks

New Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 16



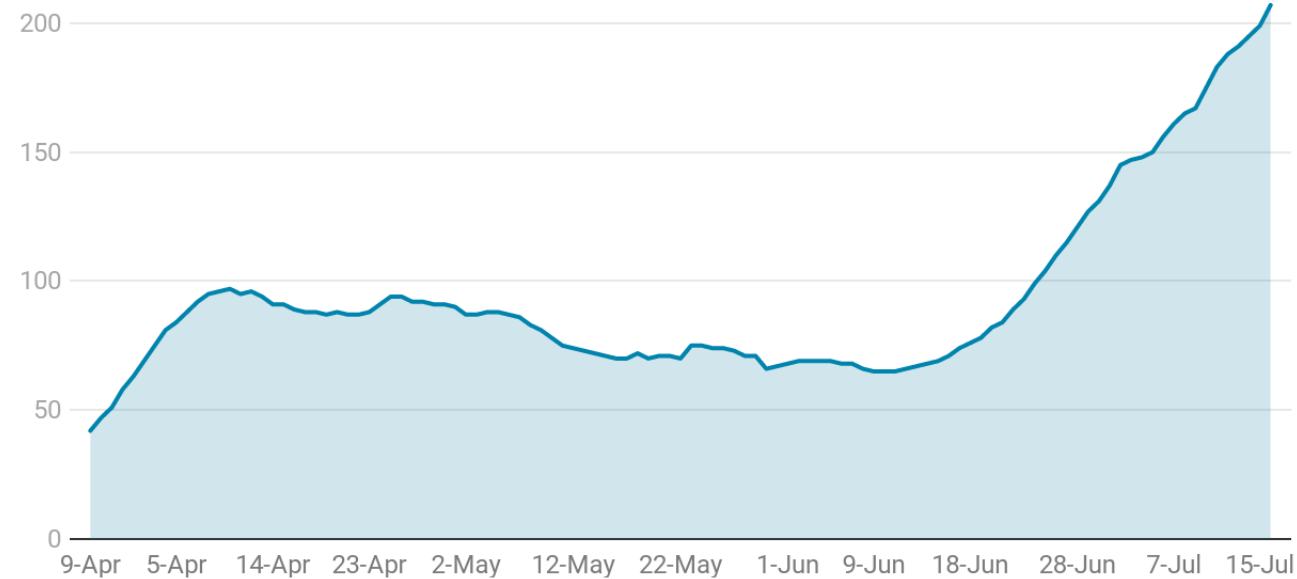
Health Industry Advisor LLC analysis

Map: Health Industry Advisor LLC • Source: worldometers.info • Created with Datavrapper

The new infection rate topped 200 yesterday

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, As of July 16



Health Industry Advisor LLC analysis

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

Trailing 7-Day Moving Average, As of July 16



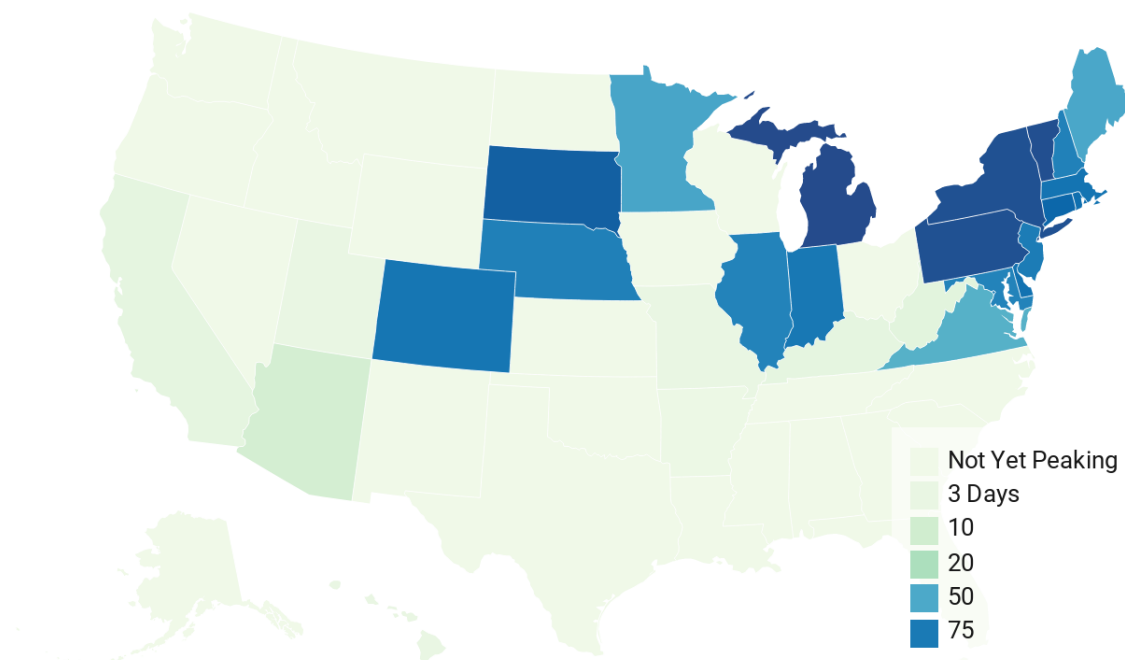
New Infections – Are we turning a corner? Several states moving past their peak

Are we turning a corner?

- Arizona's infection rate peaked 9 days ago
- West Virginia: 5 days ago
- California & Kentucky: 4 days ago
- Hawaii, Missouri and Utah: 3 days ago

Days Since Peak New Infections Per Capita

As of July 16



Health Industry Advisor LLC analysis

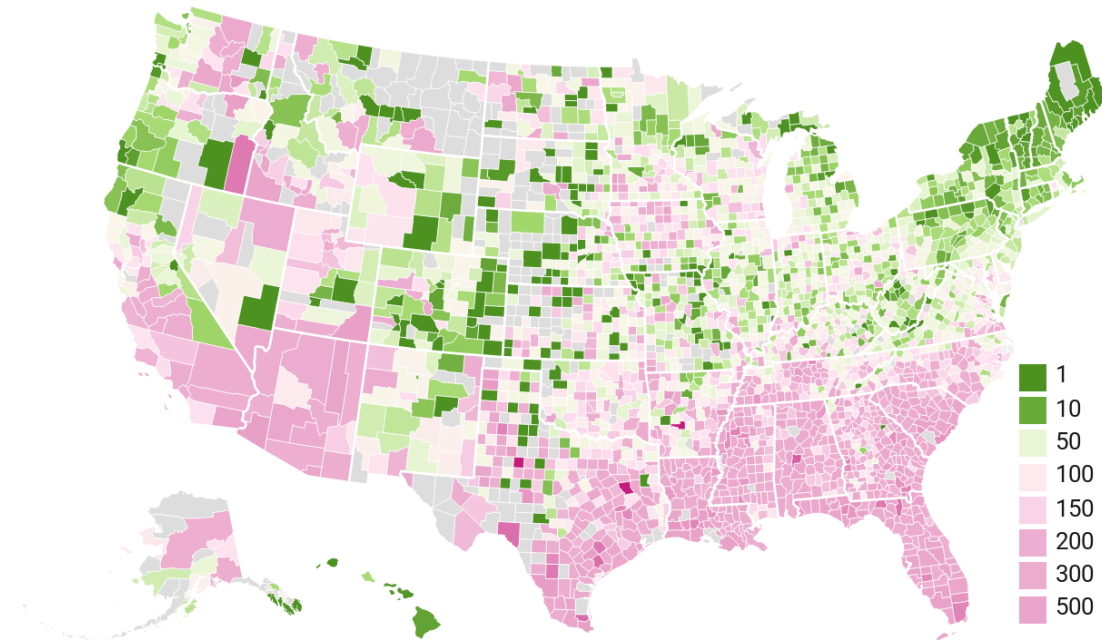
Map: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

County-By-Country

Highest New Daily Infection Rates are concentrated in the South and West; particularly along the southern border

New Daily Infections Per Million Population

Trailing 7-Day Moving Average, As of July 15



Health Industry Advisor LLC analysis

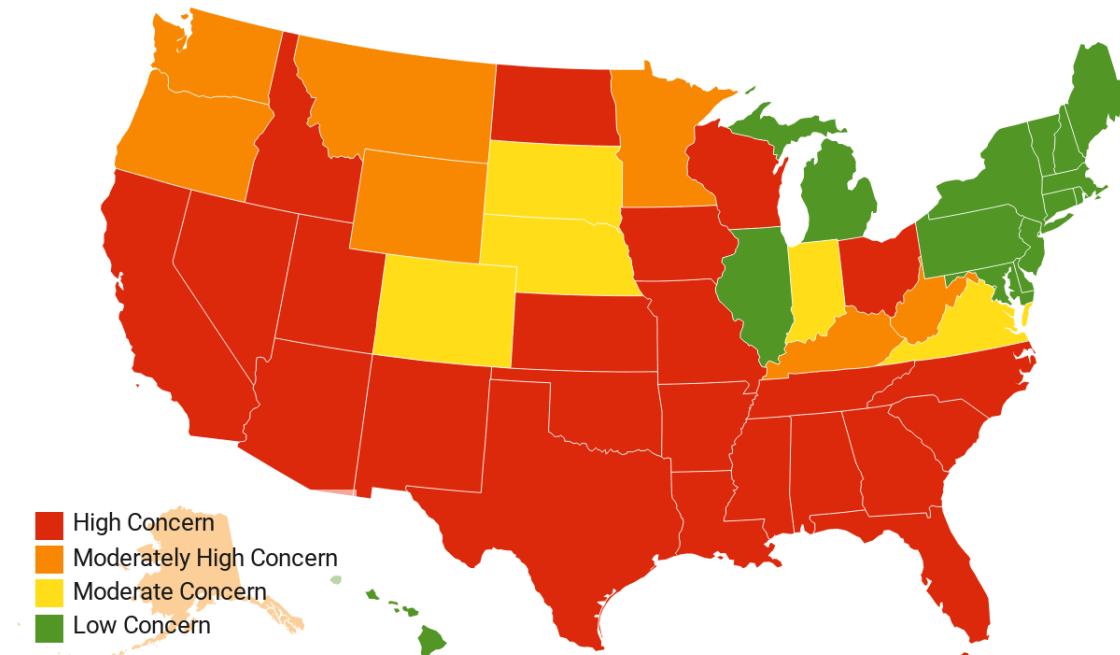
Map: Health Industry Advisor LLC • Source: New York Times • Created with Datawrapper

State-By-State

Two-thirds the country's population resides in a state we consider of "High" or "Moderately High" concern

Scorecard

As of July 16



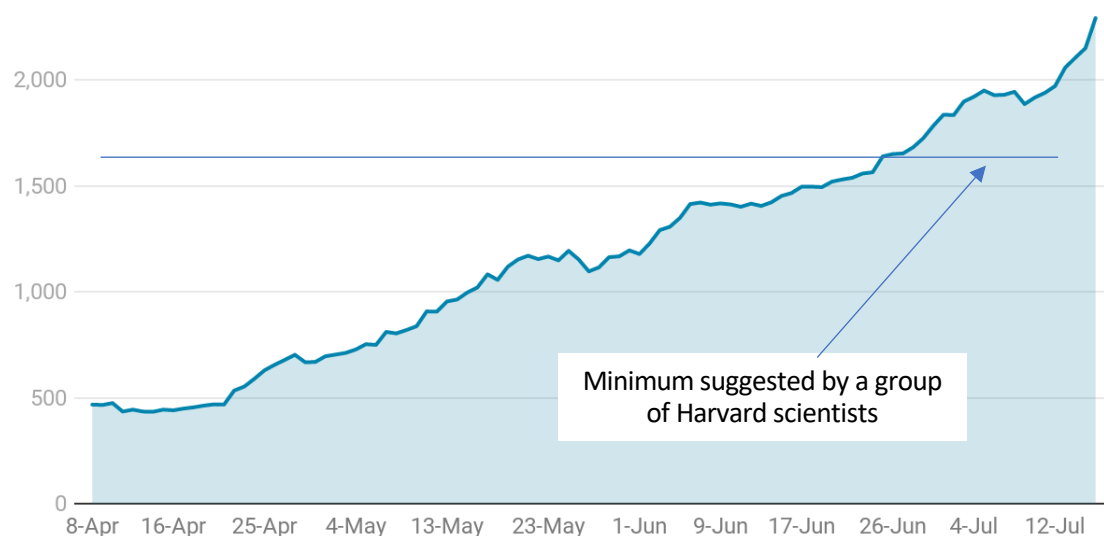
Scoring based on new infection, test-positive, hospitalization and case growth rates

Map: Health Industry Advisor LLC • Created with Datawrapper

Testing volumes are increasing; the test-positive rate seems to be moving downward again

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of July 16

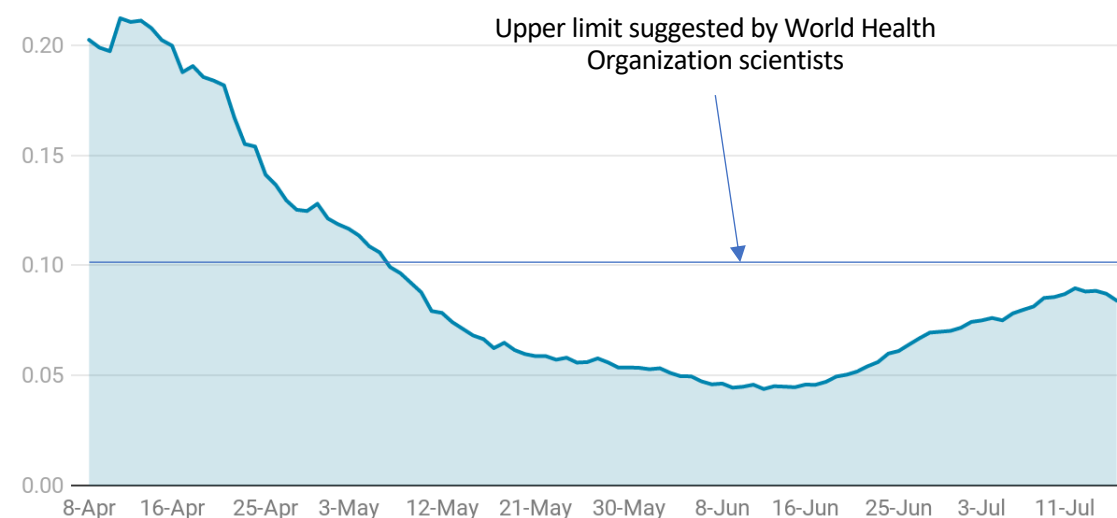


Health Industry Advisor LLC analysis

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

Test-Positive Rate - United States

Trailing 7-Day Moving Average, As of July 16



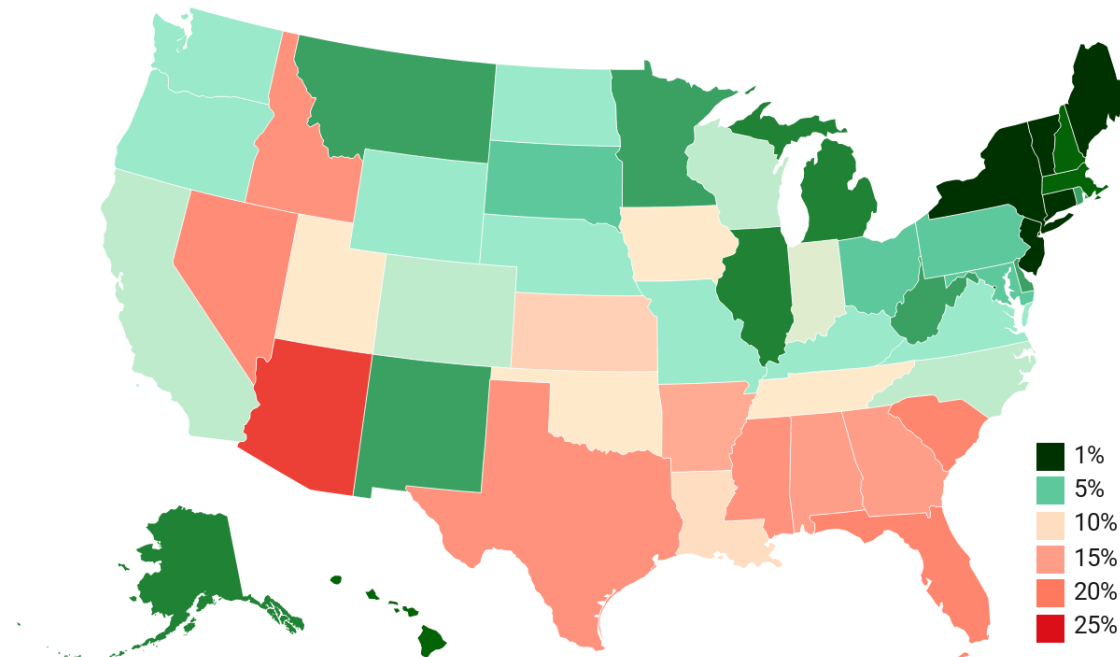
Health Industry Advisor LLC analysis

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

State-By-State Test-Positive Rates continue to be high in most states in the South

Test-Positive Rate

Trailing 7-Day Moving Average, As of July 16



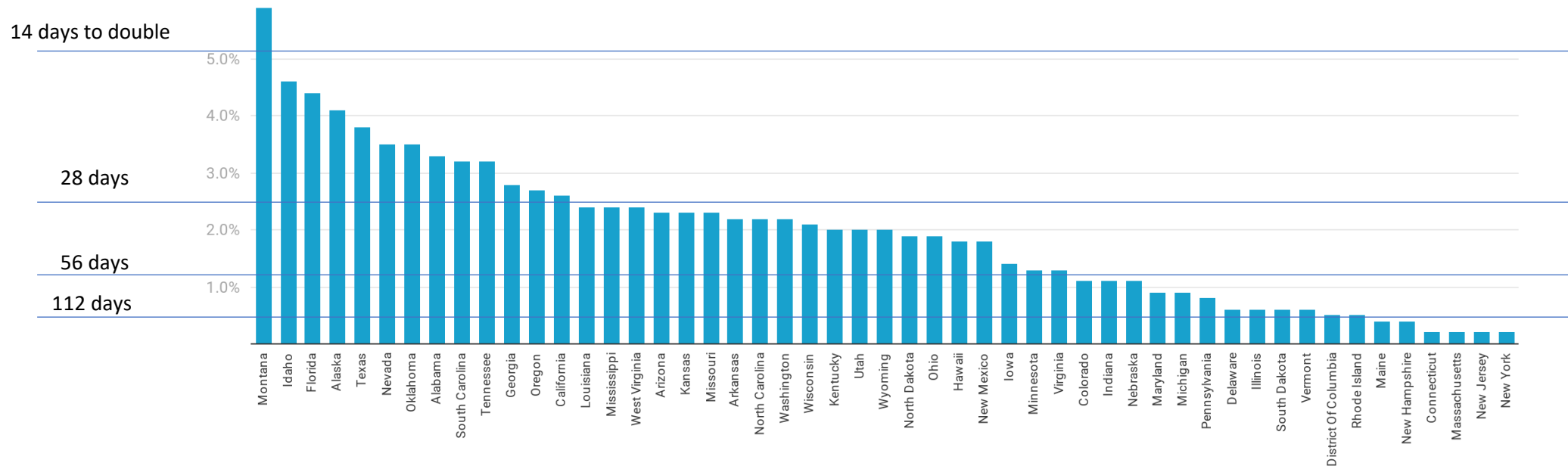
Health Industry Advisor LLC analysis

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

At current rates, cases are doubling every 12 days in Montana; every 356 days in Connecticut

Growth Rate in Total Cases

Trailing 5-Day Moving Average, As of July 16



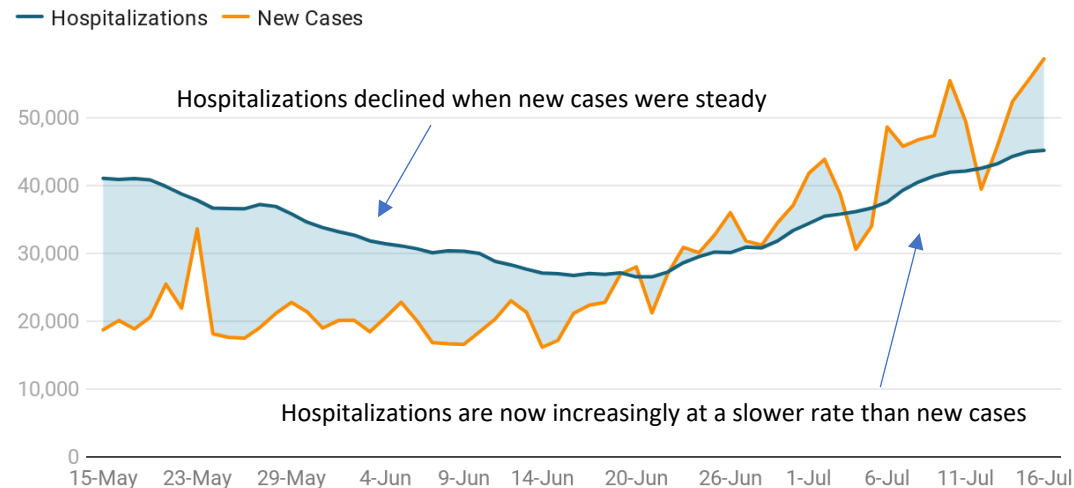
Health Industry Advisor LLC analysis

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

Case severity continues to decline: Hospitalizations increasing at a slower rate than new cases; ICU and Ventilator rates also declining

Hospitalizations v. New Cases

As of July 16



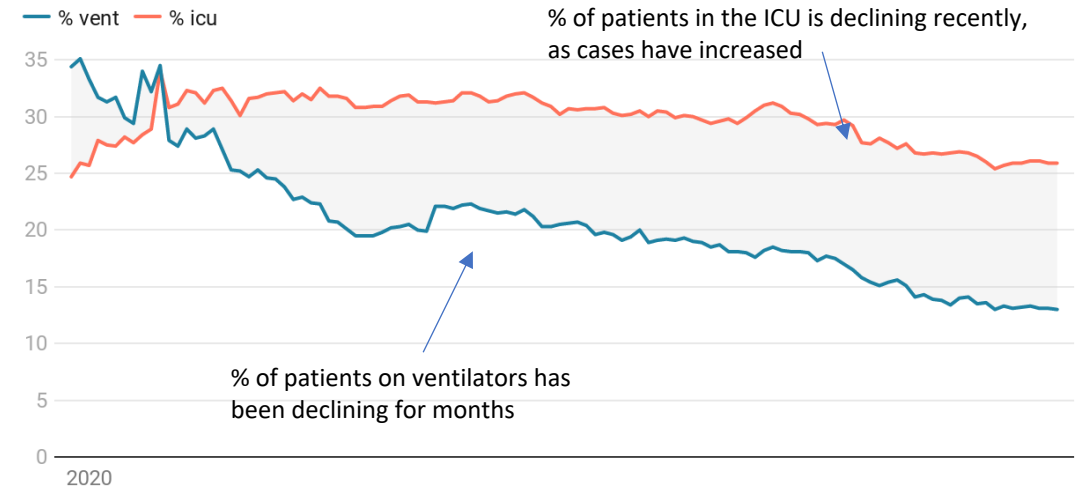
Health Industry Advisor LLC analysis

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

Data excludes: Alabama, Alaska, Florida, Hawaii, Idaho, Kansas, Nebraska and Tennessee – data either not reported or not consistently reported

Severity of Hospitalized Patients

% of patients on ventilators and in the ICU, As of July 16

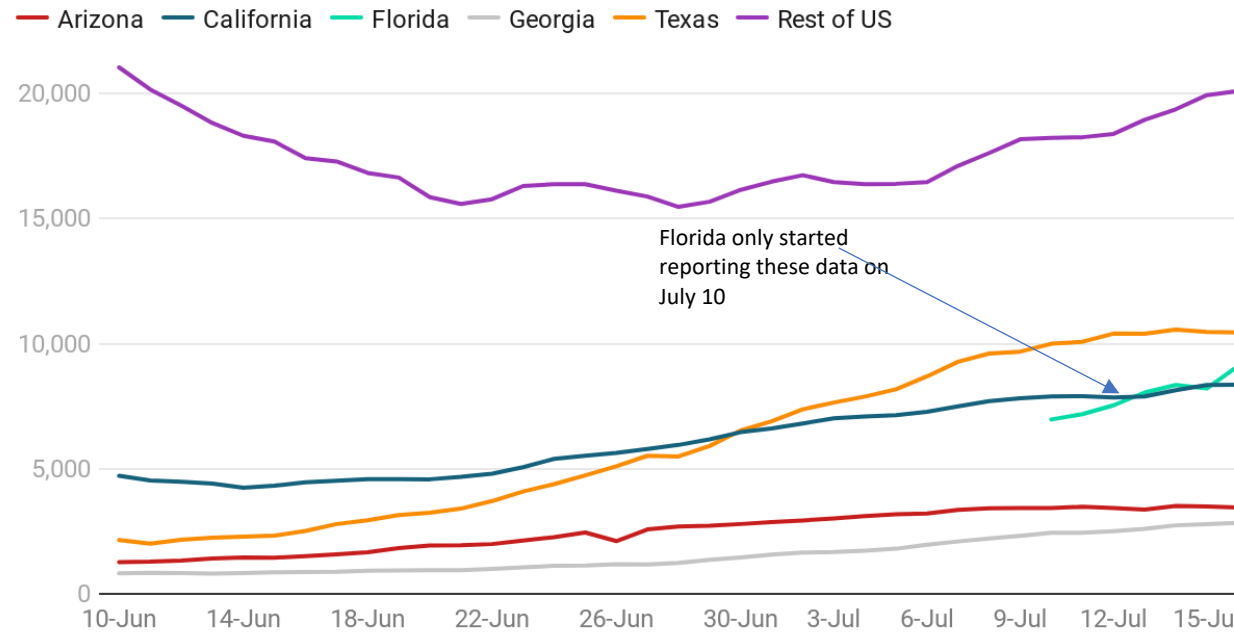


Health Industry Advisor LLC analysis

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

Hospital rates stabilizing in Arizona and Texas; demand growing in Florida and the rest of the country

Hospitalized COVID-19 Patients



Health Industry Advisor LLC analysis, As of July 16

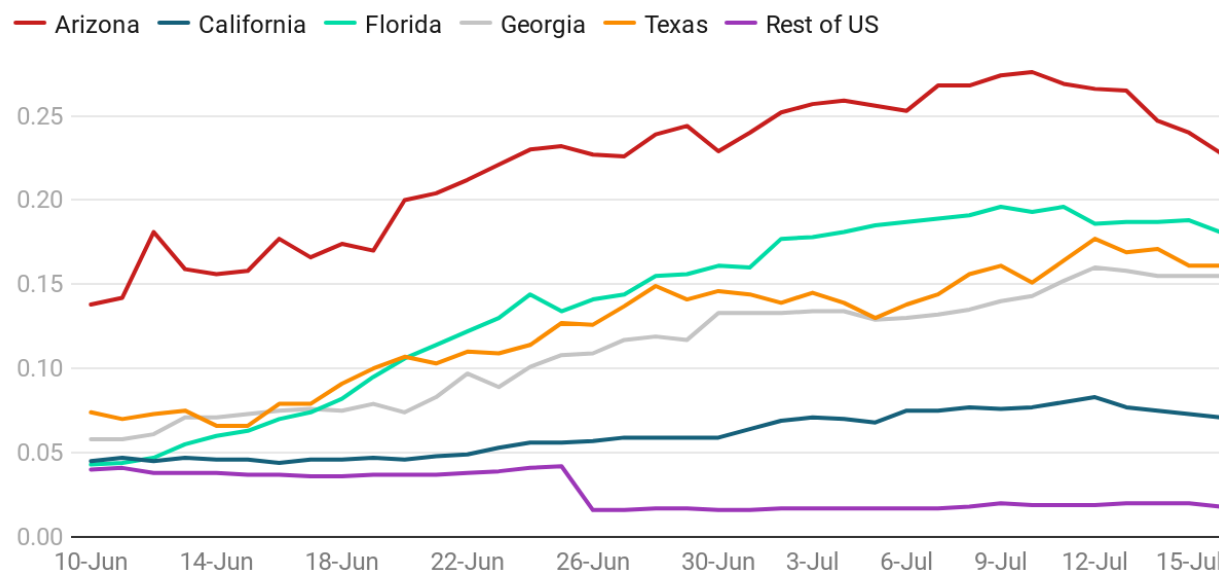
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Arizona, California, Florida, Georgia and Texas

We are starting to see test-positive rates decline in Arizona and stabilize in other hard-hit states

Test Positive Rate

Trailing 7-Day Moving Average, As of July 16



Health Industry Advisor LLC analysis

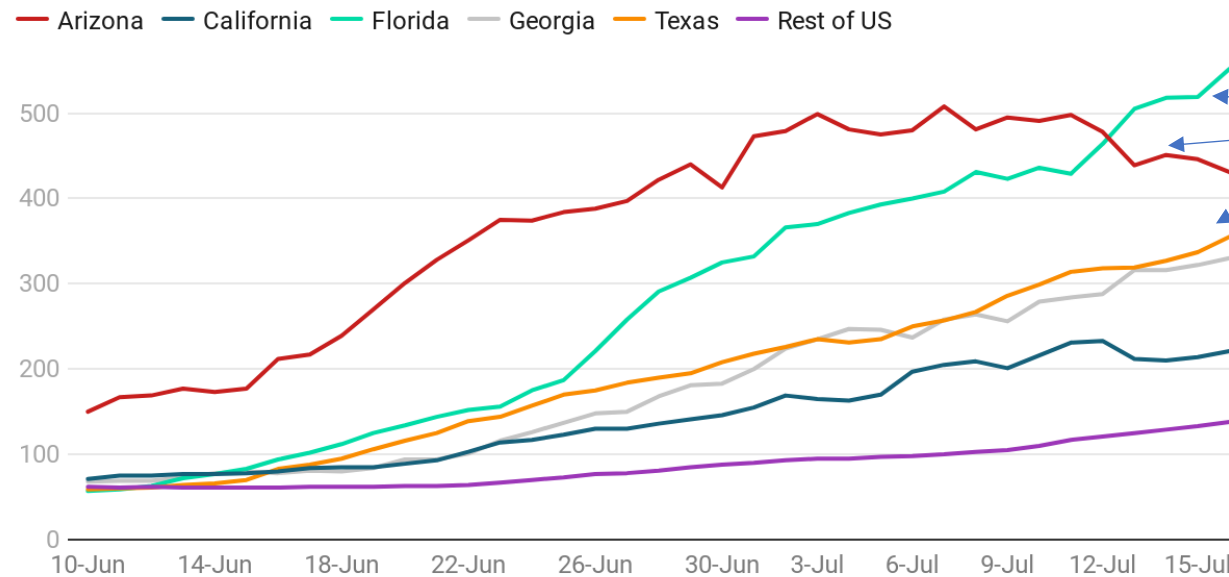
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Arizona, California, Florida, Georgia and Texas

**Infection rate has declined in Arizona since peaking on July 7;
Florida, Georgia and Texas set new highs on Thursday**

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 16



Trend has turned downward in Arizona

Still increasing in Florida, Georgia and Texas

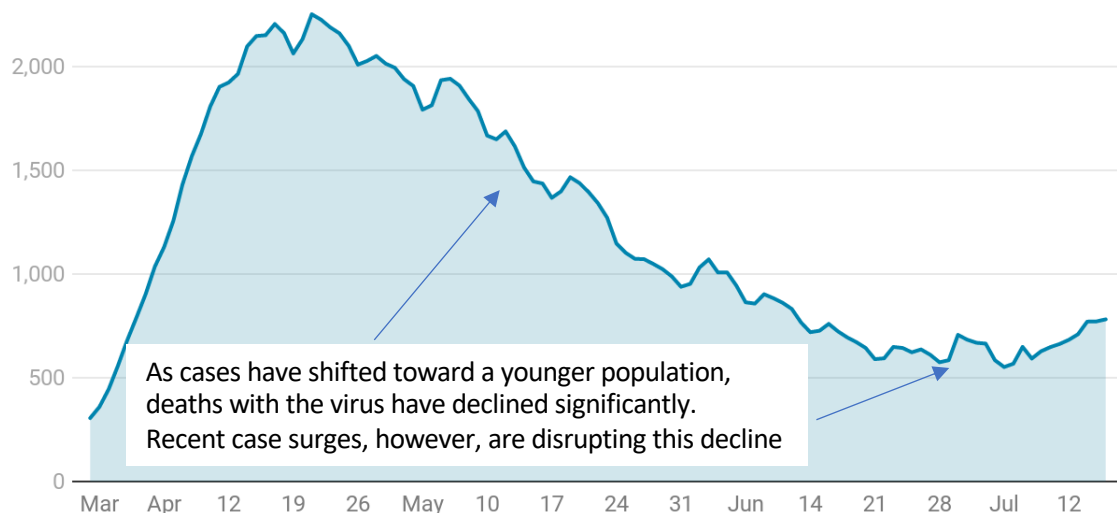
Health Industry Advisor LLC analysis

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

Deaths had been declining since mid-April but, are now increasing following the recent surge in new cases

Deaths Recorded With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of July 16

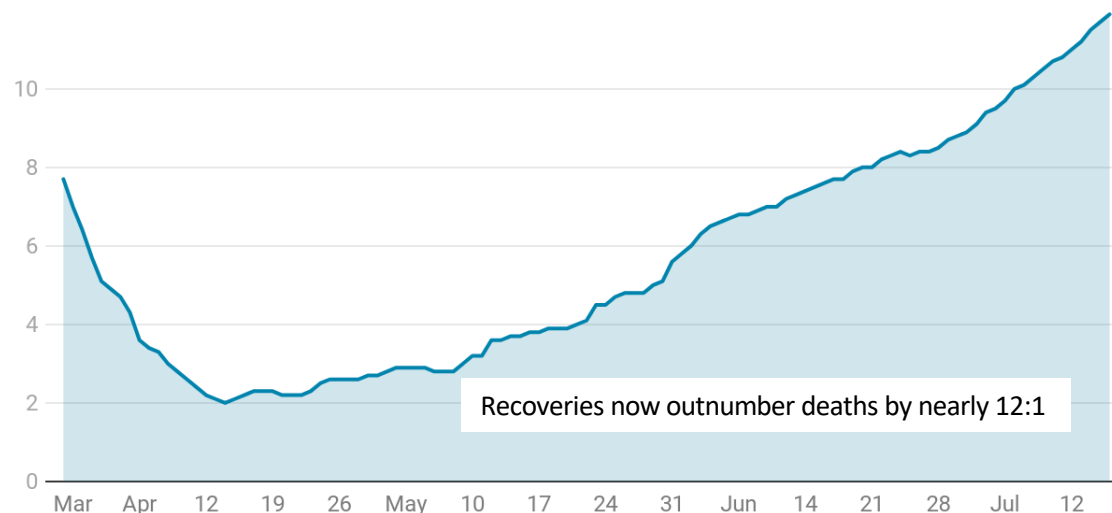


Health Industry Advisor LLC analysis

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

Recoveries: Deaths - United States

As of July 16



Health Industry Advisor LLC analysis

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

Worldwide Statistical Summary

Top 30 Countries By Total Cases
As of July 156

Country	Total Cases	Rank	Cases per 1M Population	Rank2	Deaths	Rank3	Death Rate	Rank4	Deaths per 1 Million Population	Rank5	5-day Moving Average Case Growth Rate	Rank6	Tests per 1M Population - Past 7 Days	Rank7	New Daily Infections Per 1M Population (7-Day M.A.)	Rank8
USA	3,695,025	(1)	11,160	(3)	141,118	(1)	3.8%	(15)	426.2	(6)	1.9%	(8)	2,387	(3)	205.0	(2)
Brazil	2,014,738	(2)	9,476	(5)	76,822	(2)	3.8%	(16)	361.3	(9)	1.8%	(10)	297	(21)	171.8	(3)
India	1,005,637	(3)	728	(28)	25,609	(8)	2.5%	(19)	18.5	(27)	3.4%	(3)	207	(23)	21.8	(17)
Russia	752,797	(4)	5,158	(11)	11,937	(11)	1.6%	(24)	81.8	(17)	0.9%	(18)	1,932	(4)	44.5	(14)
Peru	341,586	(5)	10,354	(4)	12,615	(10)	3.7%	(17)	382.4	(7)	1.1%	(14)	607	(15)	108.9	(7)
South Africa	324,221	(6)	5,464	(10)	4,669	(20)	1.4%	(25)	78.7	(18)	4.2%	(1)	780	(13)	206.8	(1)
Chile	323,698	(7)	16,927	(2)	7,290	(14)	2.3%	(21)	381.2	(8)	0.7%	(19)	852	(12)	130.6	(5)
Mexico	317,635	(8)	2,463	(22)	36,906	(4)	11.6%	(4)	286.1	(11)	1.9%	(9)	93	(26)	47.2	(13)
Spain	305,935	(9)	6,543	(9)	28,416	(7)	9.3%	(5)	607.8	(2)	0.3%	(25)	892	(10)	17.7	(20)
UK	292,552	(10)	4,308	(12)	45,119	(3)	15.4%	(2)	664.5	(1)	0.2%	(27)	2,907	(1)	10.4	(23)
Iran	267,061	(11)	3,178	(17)	13,608	(9)	5.1%	(10)	161.9	(13)	0.9%	(17)	298	(20)	28.2	(16)
Pakistan	257,914	(12)	1,167	(26)	5,426	(18)	2.1%	(22)	24.5	(25)	0.9%	(16)	103	(25)	11.0	(22)
Italy	243,736	(13)	4,032	(14)	35,017	(5)	14.4%	(3)	579.2	(3)	0.1%	(29)	702	(14)	3.2	(29)
Saudi Arabia	243,238	(14)	6,983	(7)	2,370	(26)	1.0%	(27)	68.0	(19)	1.2%	(13)	1,514	(6)	81.7	(9)
Turkey	216,873	(15)	2,570	(20)	5,440	(17)	2.5%	(20)	64.5	(20)	0.5%	(21)	536	(17)	11.7	(21)
Germany	201,836	(16)	2,409	(23)	9,157	(12)	4.5%	(13)	109.3	(15)	0.2%	(28)	866	(11)	4.5	(28)
Bangladesh	196,323	(17)	1,192	(25)	2,496	(25)	1.3%	(26)	15.1	(28)	1.6%	(11)	74	(28)	18.1	(19)
France	173,838	(18)	2,663	(19)	30,138	(6)	17.3%	(1)	461.7	(5)	0.4%	(23)	2,665	(2)	8.2	(26)
Colombia	173,206	(19)	3,403	(16)	6,029	(15)	3.5%	(18)	118.4	(14)	3.6%	(2)	472	(18)	110.1	(6)
Argentina	114,783	(20)	2,539	(21)	2,112	(27)	1.8%	(23)	46.7	(23)	3.3%	(4)	232	(22)	76.1	(10)
Canada	109,264	(21)	2,894	(18)	8,827	(13)	8.1%	(6)	233.8	(12)	0.4%	(24)	1,094	(9)	9.3	(24)
Qatar	105,477	(22)	37,566	(1)	152	(30)	0.1%	(30)	54.1	(21)	0.5%	(22)	1,521	(5)	171.3	(4)
Iraq	86,148	(23)	2,140	(24)	3,522	(24)	4.1%	(14)	87.5	(16)	2.8%	(6)	339	(19)	58.7	(11)
Egypt	85,771	(24)	838	(27)	4,120	(22)	4.8%	(11)	40.2	(24)	1.1%	(15)	(0)	(30)	9.1	(25)
China	83,612	(25)	58	(30)	4,634	(21)	5.5%	(9)	3.2	(30)	0.0%	(30)	-	(29)	0.0	(30)
Indonesia	81,668	(26)	298	(29)	3,873	(23)	4.7%	(12)	14.2	(29)	2.0%	(7)	80	(27)	5.7	(27)
Sweden	76,877	(27)	7,610	(6)	5,593	(16)	7.3%	(8)	553.7	(4)	0.5%	(20)	1,156	(7)	36.0	(15)
Ecuador	71,365	(28)	4,043	(13)	5,207	(19)	7.3%	(7)	295.0	(10)	1.2%	(12)	185	(24)	57.8	(12)
Belarus	65,623	(29)	6,945	(8)	485	(28)	0.7%	(28)	51.3	(22)	0.3%	(26)	1,134	(8)	18.3	(18)
Kazakhstan	65,188	(30)	3,470	(15)	375	(29)	0.6%	(29)	20.0	(26)	2.9%	(5)	590	(16)	92.5	(8)

State-By-State Statistical Summary (page 1 of 2)

As of July 16

State	Total Cases	Rank	Cases per 1M Population	Rank2	Deaths	Rank3	Death Rate	Rank4	Deaths per 1 Million Population	Rank5	5-day Moving Average Case Growth Rate	Rank6	Tests per 1M Population Past 7 days	Rank7	New Daily Cases Per 1M Population (5-Day M.A.)	Rank8
Alabama	61,088	(19)	12,458.8	(14)	1,230	(23)	2.0%	(31)	250.9	(22)	3.3%	(8)	2,348	(16)	347.1	(6)
Alaska	1,693	(49)	2,314.3	(48)	17	(51)	1.0%	(49)	23.2	(50)	4.1%	(4)	5,327	(1)	82.2	(34)
Arizona	134,613	(7)	18,494.1	(4)	2,492	(16)	1.9%	(35)	342.4	(15)	2.3%	(17)	1,888	(29)	430.6	(3)
Arkansas	31,114	(31)	10,310.1	(22)	341	(37)	1.1%	(48)	113.0	(39)	2.2%	(21)	1,718	(36)	239.6	(12)
California	364,554	(2)	9,226.4	(24)	7,489	(4)	2.1%	(30)	189.5	(28)	2.6%	(13)	3,026	(8)	221.4	(13)
Colorado	38,726	(26)	6,724.7	(36)	1,745	(18)	4.5%	(12)	303.0	(16)	1.1%	(35)	1,129	(47)	79.4	(36)
Connecticut	47,750	(21)	13,393.0	(10)	4,389	(9)	9.2%	(1)	1,231.0	(3)	0.2%	(51)	2,802	(9)	21.7	(47)
Delaware	13,114	(40)	13,467.3	(9)	521	(34)	4.0%	(17)	535.0	(12)	0.6%	(43)	2,151	(18)	85.5	(32)
District Of Columbia	11,076	(41)	15,694.0	(7)	574	(32)	5.2%	(9)	813.3	(6)	0.5%	(44)	4,923	(2)	80.4	(35)
Florida	315,775	(3)	14,702.4	(8)	4,677	(8)	1.5%	(42)	217.8	(25)	4.4%	(3)	3,048	(7)	552.4	(1)
Georgia	131,275	(8)	12,364.1	(16)	3,104	(13)	2.4%	(26)	292.3	(17)	2.8%	(11)	2,137	(19)	330.3	(7)
Hawaii	1,311	(51)	925.9	(51)	22	(50)	1.7%	(38)	15.5	(51)	1.8%	(29)	1,033	(50)	18.3	(48)
Idaho	13,133	(39)	7,328.4	(33)	114	(44)	0.9%	(50)	63.6	(45)	4.6%	(2)	1,773	(33)	295.3	(10)
Illinois	159,082	(6)	12,554.0	(12)	7,452	(5)	4.7%	(11)	588.1	(9)	0.6%	(41)	2,749	(10)	84.7	(33)
Indiana	54,080	(20)	8,033.0	(29)	2,795	(15)	5.2%	(10)	415.2	(14)	1.1%	(34)	1,130	(46)	95.6	(30)
Iowa	37,217	(27)	11,795.9	(17)	781	(29)	2.1%	(28)	247.5	(23)	1.4%	(31)	1,892	(27)	179.7	(16)
Kansas	21,151	(34)	7,260.1	(34)	304	(38)	1.4%	(43)	104.3	(41)	2.3%	(18)	1,515	(41)	159.8	(18)
Kentucky	21,083	(35)	4,719.0	(42)	650	(30)	3.1%	(24)	145.5	(33)	2.0%	(25)	1,407	(43)	90.7	(31)
Louisiana	86,411	(12)	18,587.8	(3)	3,487	(11)	4.0%	(16)	750.1	(7)	2.4%	(14)	4,425	(3)	443.0	(2)
Maine	3,598	(46)	2,676.7	(46)	114	(44)	3.2%	(22)	84.8	(43)	0.4%	(46)	1,563	(39)	11.9	(51)
Maryland	75,664	(14)	12,515.4	(13)	3,347	(12)	4.4%	(13)	553.6	(10)	0.9%	(38)	1,889	(28)	99.6	(29)
Massachusetts	112,581	(9)	16,199.9	(6)	8,380	(3)	7.4%	(5)	1,205.8	(4)	0.2%	(49)	1,561	(40)	34.6	(46)
Michigan	79,839	(13)	7,994.4	(30)	6,348	(7)	8.0%	(3)	635.6	(8)	0.9%	(37)	2,455	(15)	68.3	(39)
Minnesota	44,347	(23)	7,863.5	(31)	1,566	(20)	3.5%	(19)	277.7	(19)	1.3%	(32)	2,527	(14)	106.0	(27)
Mississippi	39,797	(24)	13,372.0	(11)	1,308	(22)	3.3%	(21)	439.5	(13)	2.4%	(15)	1,877	(30)	297.9	(9)

State-By-State Statistical Summary (page 2 of 2)

As of July 16

State	Total Cases	Rank	Cases per 1M Population	Rank2	Deaths	Rank3	Death Rate	Rank4	Deaths per 1 Million Population	Rank5	5-day Moving Average Case Growth Rate	Rank6	Tests per 1M Population Past 7 days	Rank7	New Daily Cases Per 1M Population (5-Day M.A.)	Rank8
Missouri	32,155	(28)	5,239.2	(41)	1,150	(24)	3.6%	(18)	187.4	(30)	2.3%	(19)	1,734	(35)	115.7	(21)
Montana	2,231	(47)	2,087.4	(50)	35	(48)	1.6%	(40)	32.7	(49)	5.9%	(1)	2,550	(13)	102.3	(28)
Nebraska	22,134	(33)	11,442.3	(18)	299	(39)	1.4%	(44)	154.6	(32)	1.1%	(36)	1,875	(31)	111.6	(24)
Nevada	31,915	(29)	10,361.5	(21)	626	(31)	2.0%	(32)	203.2	(27)	3.5%	(6)	1,905	(26)	325.2	(8)
New Hampshire	6,139	(43)	4,514.9	(43)	395	(36)	6.4%	(7)	290.5	(18)	0.4%	(47)	908	(51)	17.4	(49)
New Jersey	182,532	(5)	20,550.3	(2)	15,736	(2)	8.6%	(2)	1,771.6	(1)	0.2%	(50)	2,581	(12)	76.2	(38)
New Mexico	16,138	(37)	7,696.4	(32)	562	(33)	3.5%	(20)	268.0	(20)	1.8%	(30)	3,224	(5)	128.6	(20)
New York	431,380	(1)	22,174.9	(1)	32,518	(1)	7.5%	(4)	1,671.6	(2)	0.2%	(48)	3,328	(4)	46.3	(45)
North Carolina	93,561	(11)	8,920.7	(25)	1,622	(19)	1.7%	(37)	154.7	(31)	2.2%	(22)	2,601	(11)	189.2	(15)
North Dakota	4,668	(44)	6,125.5	(37)	89	(46)	1.9%	(33)	116.8	(37)	1.9%	(27)	1,913	(24)	112.1	(23)
Ohio	70,601	(17)	6,039.9	(38)	3,103	(14)	4.4%	(14)	265.5	(21)	1.9%	(28)	2,107	(21)	113.3	(22)
Oklahoma	23,441	(32)	5,924.0	(40)	438	(35)	1.9%	(34)	110.7	(40)	3.5%	(7)	1,988	(23)	178.5	(17)
Oregon	13,510	(38)	3,203.1	(45)	249	(40)	1.8%	(36)	59.0	(46)	2.7%	(12)	1,249	(44)	78.6	(37)
Pennsylvania	103,169	(10)	8,058.8	(28)	7,051	(6)	6.8%	(6)	550.8	(11)	0.8%	(39)	1,156	(45)	61.8	(43)
Rhode Island	17,711	(36)	16,718.6	(5)	988	(26)	5.6%	(8)	932.6	(5)	0.5%	(45)	1,652	(38)	63.1	(41)
South Carolina	64,083	(18)	12,446.4	(15)	1,070	(25)	1.7%	(39)	207.8	(26)	3.2%	(10)	2,114	(20)	371.6	(4)
South Dakota	7,694	(42)	8,697.1	(27)	115	(42)	1.5%	(41)	130.0	(36)	0.6%	(42)	1,086	(49)	57.8	(44)
Tennessee	71,540	(16)	10,469.5	(20)	796	(28)	1.1%	(47)	116.5	(38)	3.2%	(9)	3,157	(6)	291.6	(11)
Texas	313,060	(4)	10,796.7	(19)	3,770	(10)	1.2%	(45)	130.0	(35)	3.8%	(5)	1,905	(25)	355.0	(5)
Utah	31,845	(30)	9,933.1	(23)	234	(41)	0.7%	(51)	73.0	(44)	2.0%	(24)	2,263	(17)	200.0	(14)
Vermont	1,325	(50)	2,123.4	(49)	56	(47)	4.2%	(15)	89.7	(42)	0.6%	(40)	1,440	(42)	12.1	(50)
Virginia	74,431	(15)	8,720.1	(26)	2,007	(17)	2.7%	(25)	235.1	(24)	1.3%	(33)	1,803	(32)	107.8	(26)
Washington	45,559	(22)	5,982.9	(39)	1,432	(21)	3.1%	(23)	188.1	(29)	2.2%	(20)	1,666	(37)	110.2	(25)
West Virginia	4,657	(45)	2,605.8	(47)	99	(45)	2.1%	(27)	55.4	(47)	2.4%	(16)	1,757	(34)	66.4	(40)
Wisconsin	39,627	(25)	6,805.9	(35)	831	(27)	2.1%	(29)	142.7	(34)	2.1%	(23)	2,013	(22)	140.3	(19)
Wyoming	2,026	(48)	3,500.6	(44)	24	(49)	1.2%	(46)	41.5	(48)	2.0%	(26)	1,088	(48)	62.2	(42)
United States	3,695,025		11,163.1		141,118		3.8%		426.2		1.9%		2,293		205.0	

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

- The Atlantic's Covid Tracking Project: <https://covidtracking.com>
- Worldometers.info: <https://www.worldometers.info/coronavirus/>
- Centers for Disease Control, National, Regional, and State Level Outpatient Illness and Viral Surveillance <https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>
- Centers for Disease Control, COVID-19 Laboratory-Confirmed Hospitalizations https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control, COVID Data Tracker <https://www.cdc.gov/covid-data-tracker/index.html#mobility>
- 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>