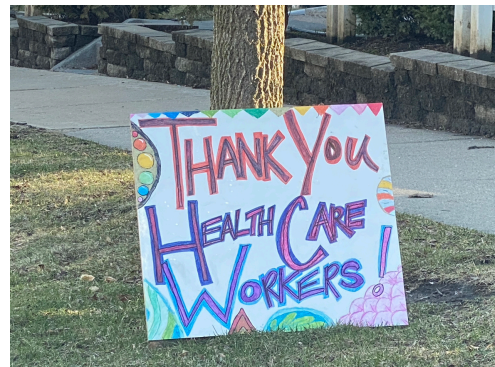
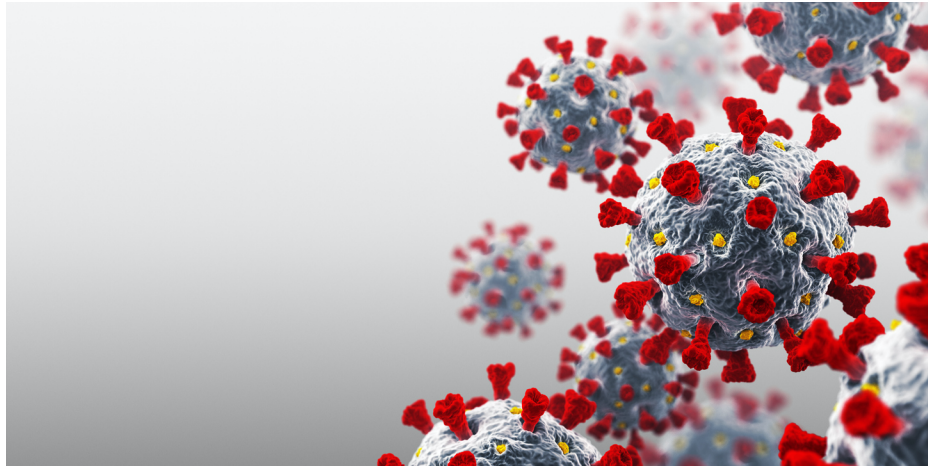
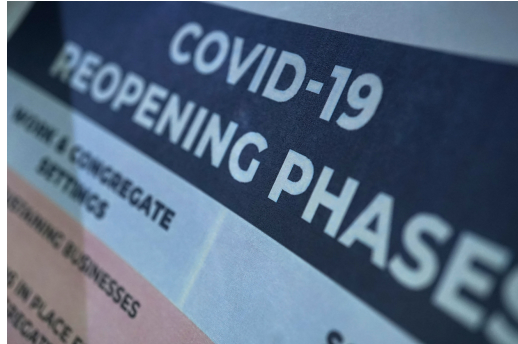




COVID-19 Report

Issue # 106

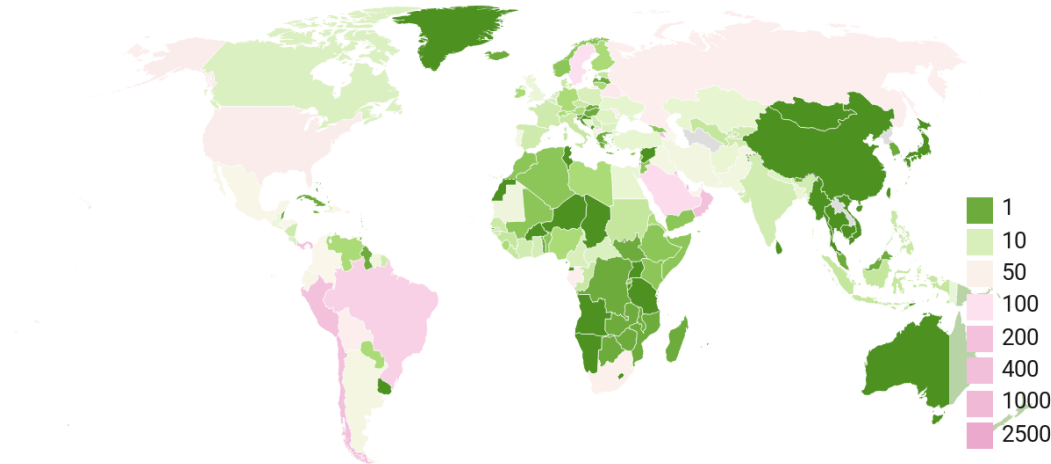
Thursday, July 16, 2020

- New cases reported in the United States on Wednesday nearly matched the single-day record, which was set 5 days earlier. On a week-over-week basis, new cases are up 23.3%
 - Texas, Florida and California record the highest number of new cases yesterday - each more than 2x the number in Georgia, which had the 4th highest
 - A similar pattern was evident worldwide: the United States, Brazil and India each recorded at least 2.5x as many new cases as South Africa and at least 4.6x as many as Mexico
- The rate of new daily infections per capita continues to rise in the United States, and has doubled in the past 3 weeks (based on a trailing 7-day moving average)
 - Florida, Arizona and Louisiana have the highest rates over the past week; each is more than 2x the national average
 - Twenty states recorded their highest new daily infection rate (trailing 7-day moving average) to-date yesterday, and 3 others did so on Tuesday. Conversely, twenty-one states are more than 1 month past their peak new infection rates
 - The United States trails only South Africa on this measure, among the thirty countries with the most total cases
- 6 in 10 United States residents now live in a state we rank as of "high concern", based on our model that weighs new infection, case growth, hospitalization and test-positive rates. A week ago, this was 4.5 in 10
- Test volume continues its ascent; tests per capita in the past 7 days are up 13.7% from the week prior and 54% from one month earlier. The test-positive rate remains below the 10% desired maximum (per the World Health Organization)
 - This rate has been increasing over the past month; however, this increase appears to be easing over the past week
 - The United States testing per capita ranks 3rd highest worldwide over the past week, among the 30 countries with the most total cases
 - The United States overall and 38 states are testing at a rate higher than the minimum rate suggested by Harvard public health scientists
 - Thirty-eight states reported test-positive rates for the past 7 days below the 10% desired upper limit
- Deaths with the coronavirus, on a 7-day moving average basis, have been slowly increasing for the past week
 - While this should be expected, following the 5-week long spike in new cases, they have been increasing at a slower rate than new cases
 - The death rate per case in the United States is now down to 3.88%, which is 15th among the thirty countries worldwide with the most total cases; the United States ranks 6th among these countries in deaths per capita

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 June 15

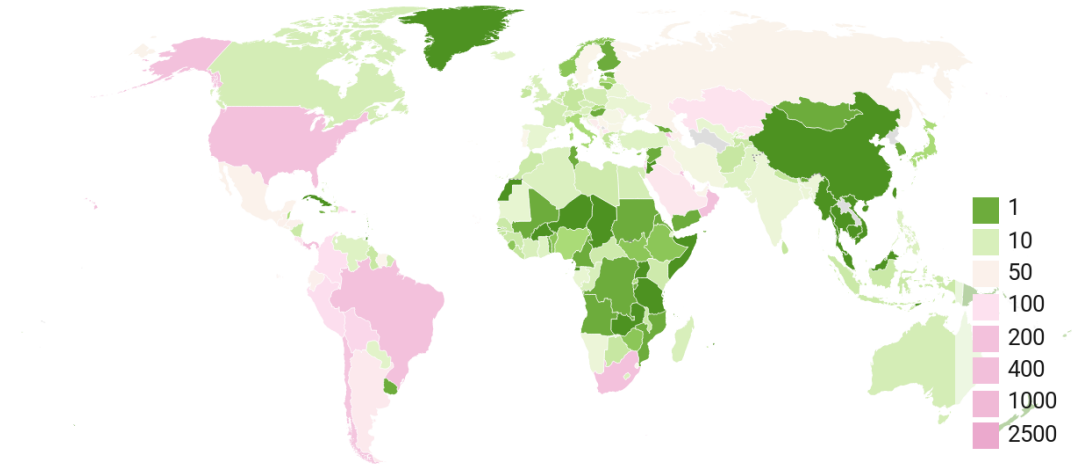


Health Industry Advisor LLC analysis

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

New Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 15

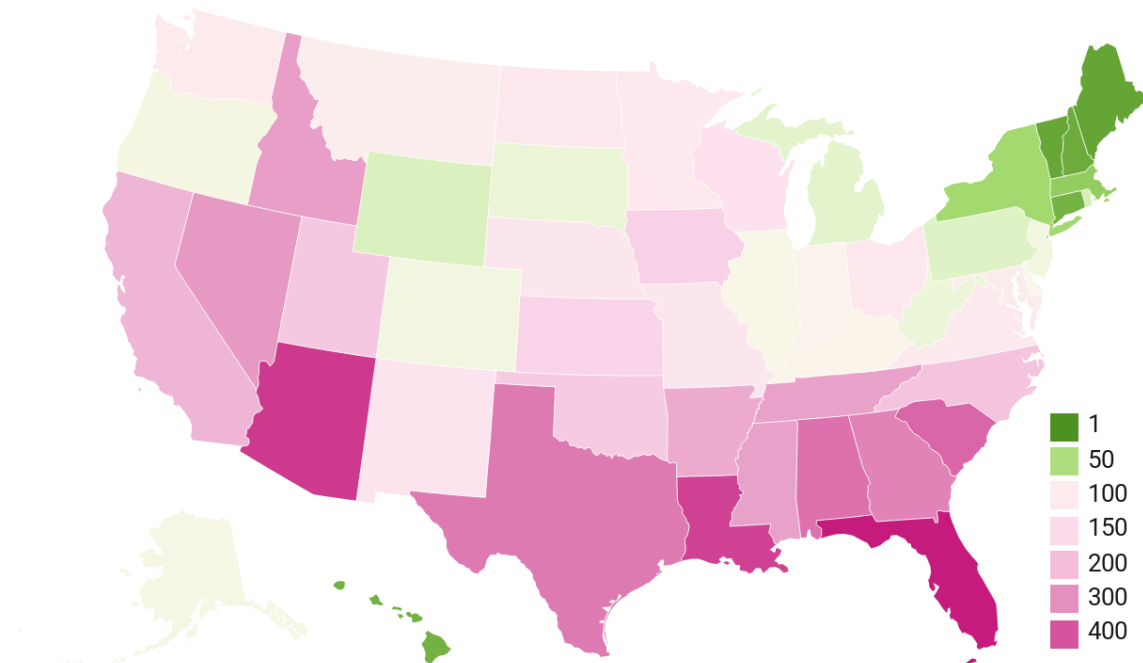


Health Industry Advisor LLC analysis

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

New Infections Per 1 Million Population

Trailing 7-Day Moving Average, As of July 15

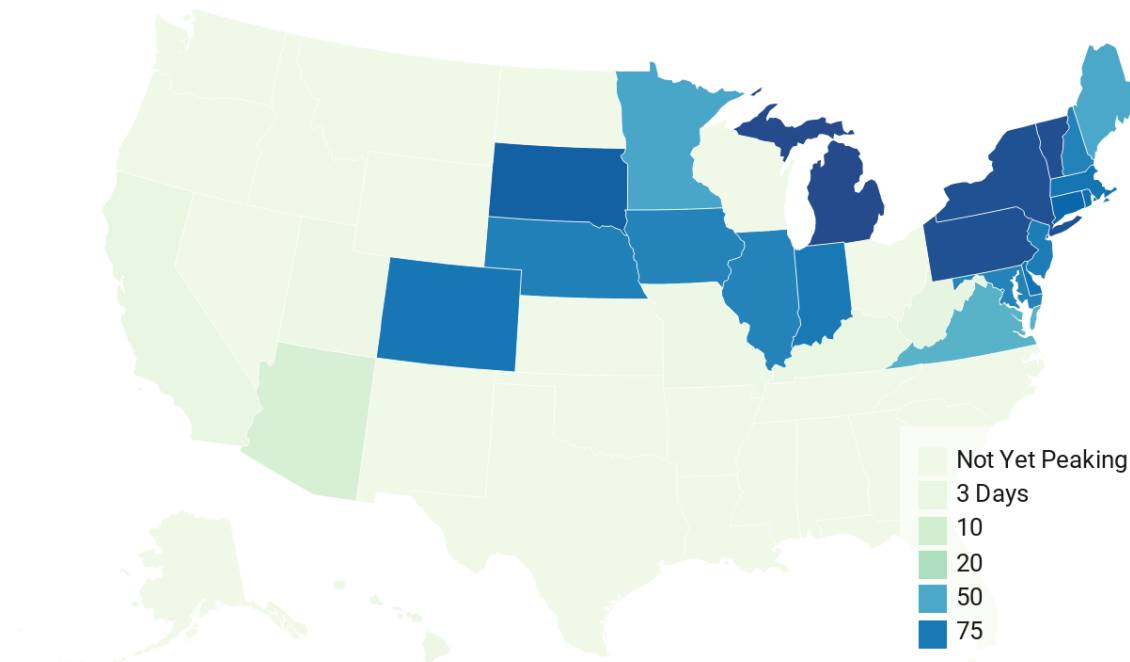


Health Industry Advisor LLC analysis

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

Days Since Peak New Infections Per Capita

As of July 15



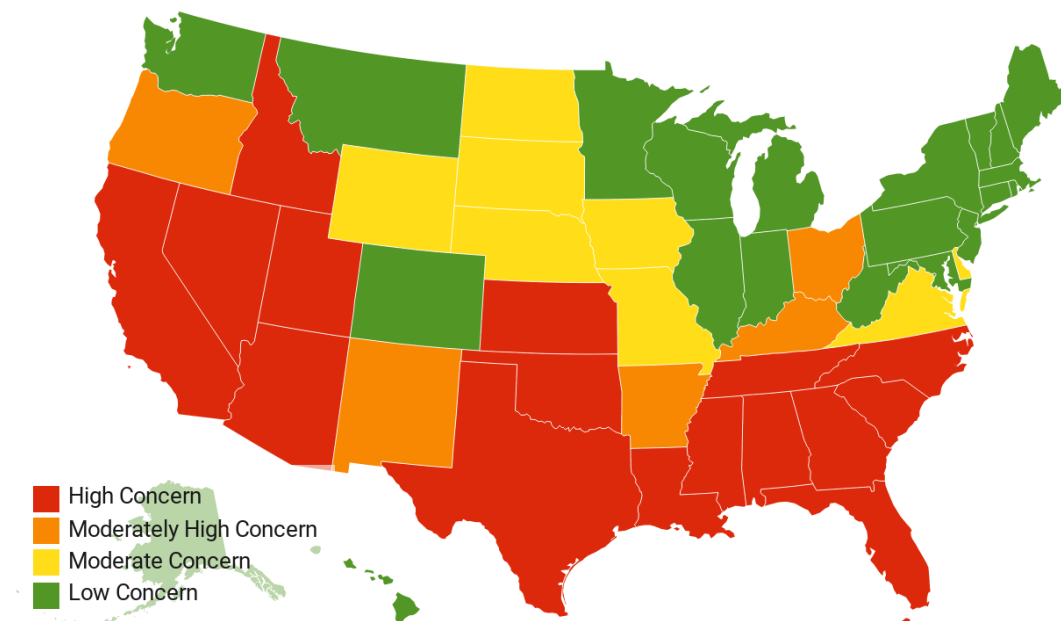
Health Industry Advisor LLC analysis

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

Situation worsens: Two-thirds the country's population resides in a state we consider of "High" or "Moderately High" concern; Several states are no longer considered "Low" Concern

Scorecard

As of July 8

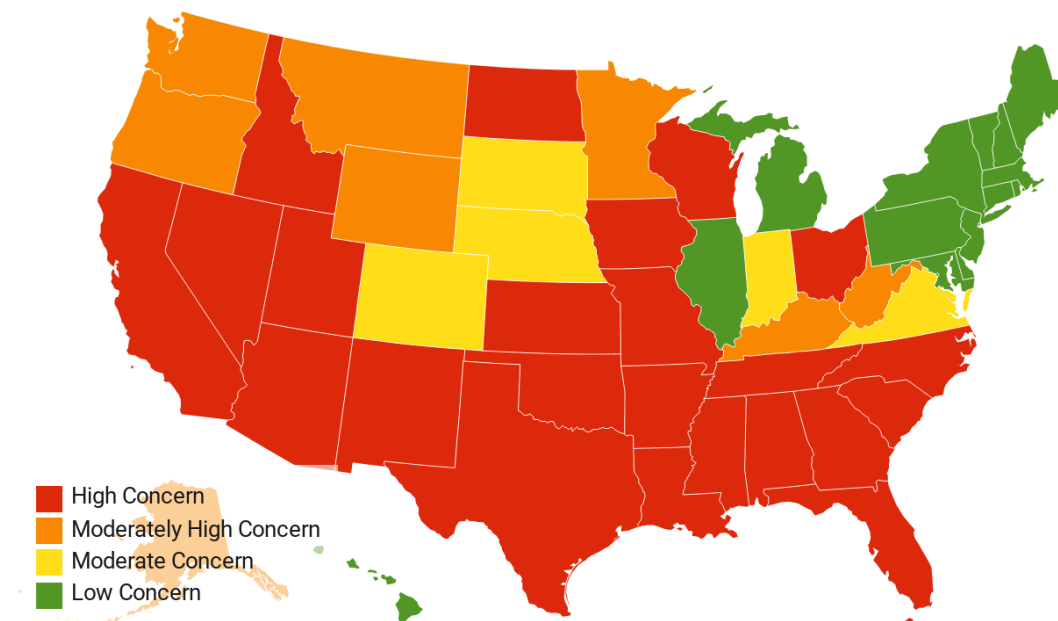


Scoring based on new infection, test-positive, hospitalization and case growth rates

Map: Health Industry Advisor LLC • Created with Datawrapper

Scorecard

As of July 15



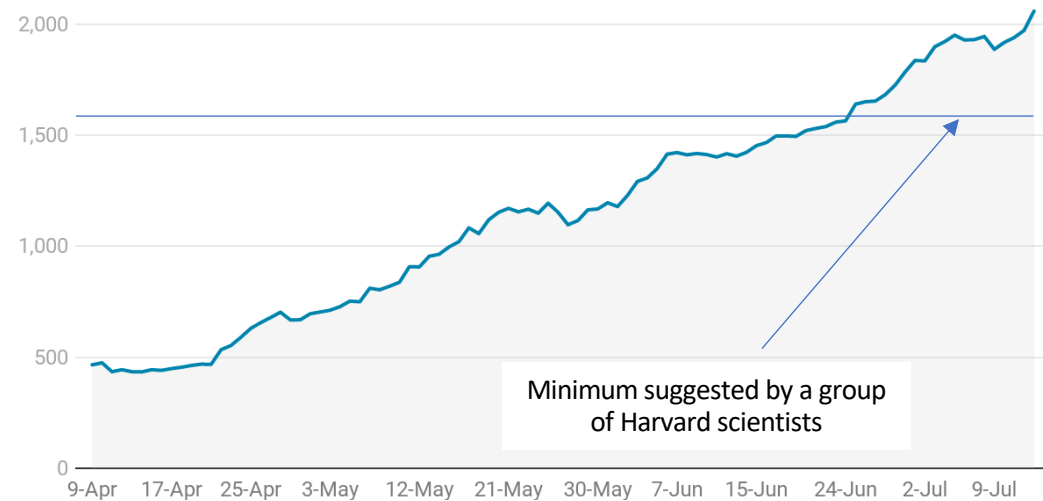
Scoring based on new infection, test-positive, hospitalization and case growth rates

Map: Health Industry Advisor LLC • Created with Datawrapper

Testing volumes are increasing; the test-positive rate seems to have begun leveling

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of July 15

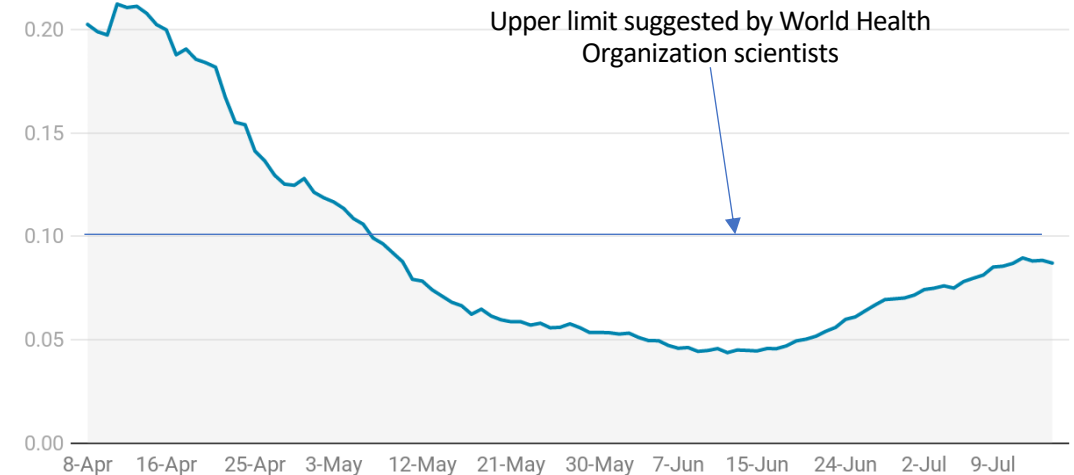


Health Industry Advisor LLC analysis

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 15



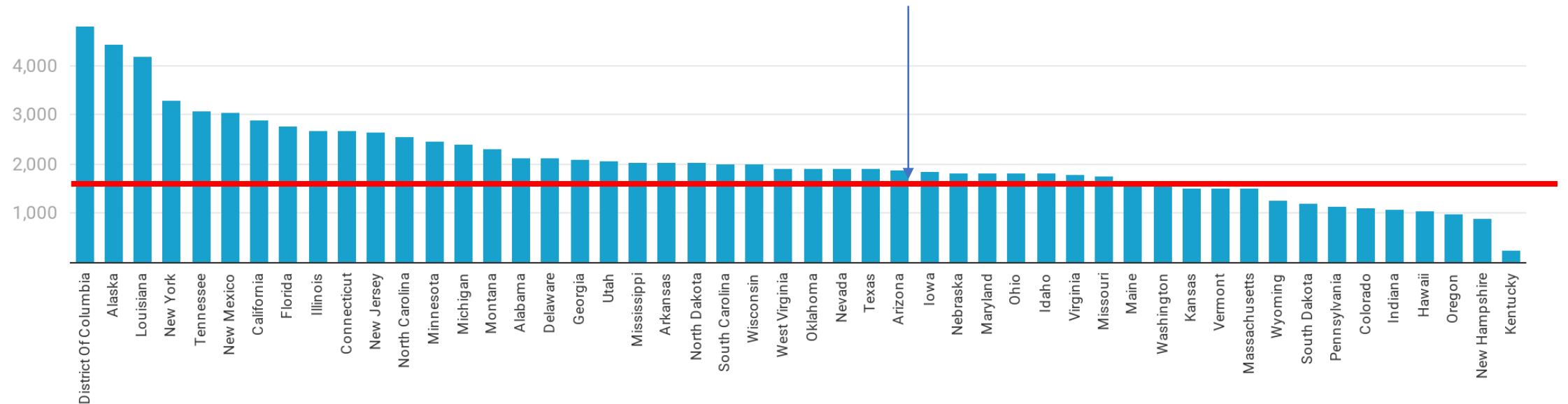
Health Industry Advisor LLC analysis

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

Not all states are testing at the minimum level suggested by a group of Harvard scientists

Daily Tests Per 1 Million Population

Trailing 7-Day Moving Average, As of July 15



Health Industry Advisor LLC analysis

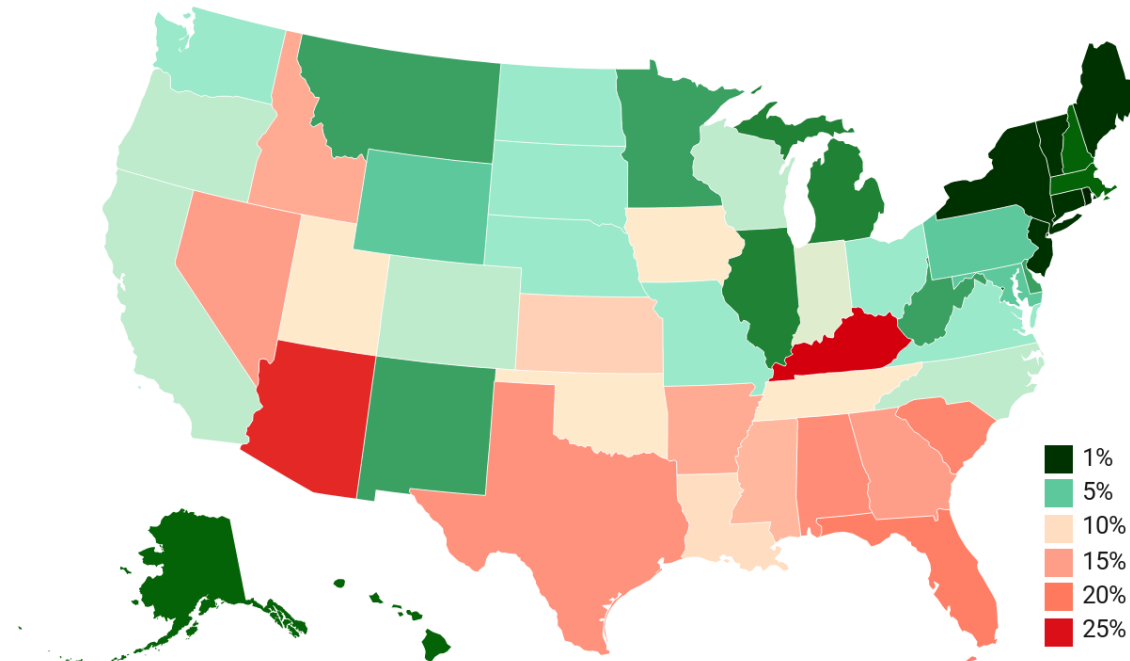
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid tracking Project • Created with Datawrapper

1 — source: <https://www.kff.org/coronavirus-policy-watch/what-testing-capacity-do-we-need/>

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

Test-Positive Rate

Trailing 7-Day Moving Average, As of July 15



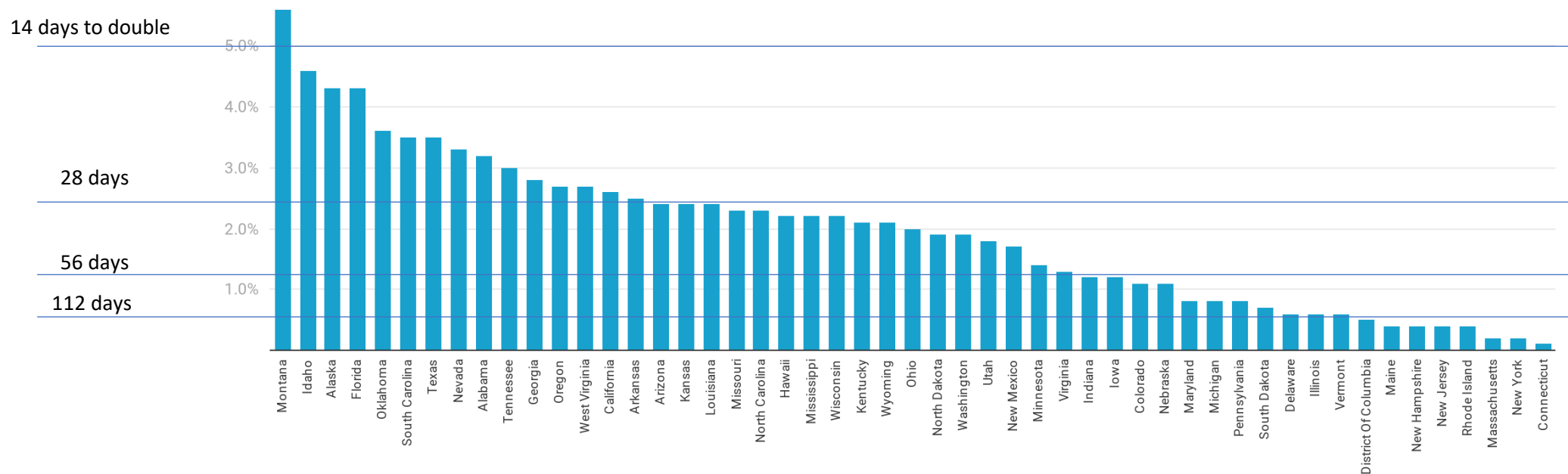
Health Industry Advisor LLC analysis

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

At current rates, cases are doubling every 12-13 days in Montana; every 472 days in Connecticut

Growth Rate in Total Cases

Trailing 5-Day Moving Average, As of July 15



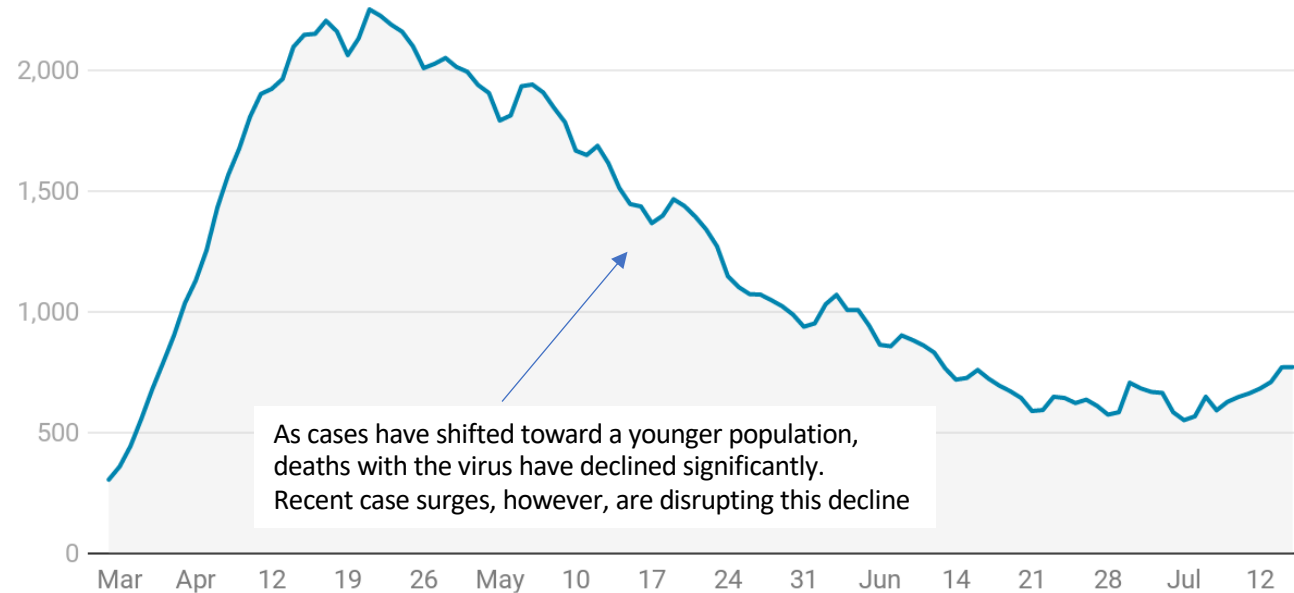
Health Industry Advisor LLC analysis

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 15



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 15

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	3,616,827	(1)	10,924	(3)	140,144	(1)	3.9%	(15)	423.3	(6)	1.9%	(9)	2,314	(3)	197.6	(2)
Brazil	1,970,909	(2)	9,270	(5)	75,523	(2)	3.8%	(16)	355.2	(9)	1.8%	(10)	143	(23)	171.1	(4)
India	970,169	(3)	703	(28)	24,929	(8)	2.6%	(19)	18.1	(27)	3.4%	(3)	200	(21)	20.8	(17)
Russia	746,369	(4)	5,114	(11)	11,770	(11)	1.6%	(24)	80.7	(17)	0.9%	(18)	1,922	(4)	44.6	(14)
Peru	337,724	(5)	10,238	(4)	12,417	(10)	3.7%	(17)	376.4	(7)	1.1%	(15)	611	(15)	107.5	(6)
Chile	321,205	(6)	16,797	(2)	7,186	(14)	2.2%	(21)	375.8	(8)	0.8%	(19)	850	(11)	135.4	(5)
Mexico	311,486	(7)	2,415	(22)	36,327	(4)	11.7%	(4)	281.6	(11)	2.0%	(8)	97	(25)	48.2	(13)
South Africa	311,049	(8)	5,242	(10)	4,453	(21)	1.4%	(25)	75.0	(18)	4.4%	(1)	802	(13)	208.0	(1)
Spain	304,574	(9)	6,514	(9)	28,413	(7)	9.3%	(5)	607.7	(2)	0.2%	(27)	892	(10)	15.2	(20)
UK	291,911	(10)	4,299	(12)	45,053	(3)	15.4%	(2)	663.5	(1)	0.3%	(25)	2,987	(1)	10.4	(23)
Iran	264,561	(11)	3,148	(17)	13,410	(9)	5.1%	(10)	159.6	(13)	0.9%	(17)	298	(19)	27.5	(16)
Pakistan	255,769	(12)	1,157	(26)	5,386	(18)	2.1%	(22)	24.4	(25)	1.0%	(16)	104	(24)	11.8	(22)
Italy	243,506	(13)	4,028	(13)	34,997	(5)	14.4%	(3)	578.9	(3)	0.1%	(29)	707	(14)	3.2	(29)
Saudi Arabia	240,474	(14)	6,904	(8)	2,325	(26)	1.0%	(27)	66.7	(19)	1.2%	(13)	1,494	(5)	83.4	(9)
Turkey	215,940	(15)	2,559	(20)	5,419	(17)	2.5%	(20)	64.2	(20)	0.5%	(20)	549	(16)	11.9	(21)
Germany	201,252	(16)	2,402	(23)	9,148	(12)	4.5%	(13)	109.2	(15)	0.2%	(28)	(1)	(30)	4.2	(28)
Bangladesh	193,590	(17)	1,175	(25)	2,457	(25)	1.3%	(26)	14.9	(28)	1.6%	(11)	76	(27)	18.6	(18)
France	173,304	(18)	2,655	(19)	30,120	(6)	17.4%	(1)	461.4	(5)	0.3%	(24)	2,511	(2)	8.4	(26)
Colombia	165,169	(19)	3,245	(16)	5,814	(15)	3.5%	(18)	114.2	(14)	3.2%	(4)	445	(17)	102.5	(7)
Argentina	111,146	(20)	2,458	(21)	2,050	(27)	1.8%	(23)	45.3	(23)	3.4%	(2)	225	(20)	76.2	(10)
Canada	108,829	(21)	2,882	(18)	8,810	(13)	8.1%	(6)	233.3	(12)	0.3%	(23)	1,082	(8)	9.1	(25)
Qatar	104,983	(22)	37,390	(1)	151	(30)	0.1%	(30)	53.8	(21)	0.5%	(21)	1,458	(6)	174.5	(3)
Egypt	84,843	(23)	829	(27)	4,067	(22)	4.8%	(11)	39.7	(24)	1.1%	(14)	(0)	(29)	9.1	(24)
Iraq	83,867	(24)	2,084	(24)	3,432	(24)	4.1%	(14)	85.3	(16)	3.0%	(6)	324	(18)	58.3	(11)
China	83,611	(25)	58	(30)	4,634	(20)	5.5%	(9)	3.2	(30)	0.0%	(30)	-	(28)	0.0	(30)
Indonesia	80,094	(26)	293	(29)	3,797	(23)	4.7%	(12)	13.9	(29)	2.1%	(7)	80	(26)	6.3	(27)
Sweden	76,492	(27)	7,572	(6)	5,572	(16)	7.3%	(8)	551.6	(4)	0.4%	(22)	1,156	(7)	37.2	(15)
Ecuador	70,329	(28)	3,984	(14)	5,158	(19)	7.3%	(7)	292.2	(10)	1.6%	(12)	178	(22)	57.3	(12)
Belarus	65,443	(29)	6,926	(7)	480	(28)	0.7%	(28)	50.8	(22)	0.3%	(26)	975	(9)	18.4	(19)
Kazakhstan	63,514	(30)	3,381	(15)	375	(29)	0.6%	(29)	20.0	(26)	3.0%	(5)	810	(12)	94.7	(8)

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

As of July 15

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	59,067	(19)	12,046.7	(15)	1,211	(23)	2.1%	(31)	247.0	(22)	3.2%	(9)	2,120	(16)	352.7	(5)
Alaska	1,631	(49)	2,229.5	(48)	17	(51)	1.0%	(49)	23.2	(50)	4.3%	(4)	4,431	(2)	79.1	(34)
Arizona	131,354	(7)	18,046.3	(4)	2,434	(16)	1.9%	(36)	334.4	(15)	2.4%	(18)	1,862	(29)	446.3	(2)
Arkansas	30,297	(31)	10,039.3	(21)	335	(37)	1.1%	(48)	111.0	(39)	2.5%	(15)	2,012	(21)	239.1	(12)
California	355,285	(2)	8,991.8	(24)	7,361	(5)	2.1%	(30)	186.3	(30)	2.6%	(14)	2,882	(7)	214.1	(13)
Colorado	38,155	(26)	6,625.6	(36)	1,744	(18)	4.6%	(12)	302.8	(16)	1.1%	(36)	1,114	(45)	75.4	(37)
Connecticut	47,636	(21)	13,361.1	(10)	4,380	(9)	9.2%	(1)	1,228.5	(3)	0.1%	(51)	2,671	(10)	21.2	(47)
Delaware	13,050	(39)	13,401.6	(9)	521	(34)	4.0%	(17)	535.0	(12)	0.6%	(43)	2,106	(17)	86.3	(32)
District Of Columbia	11,026	(41)	15,623.1	(7)	571	(32)	5.2%	(10)	809.1	(6)	0.5%	(44)	4,788	(1)	77.7	(35)
Florida	301,810	(3)	14,052.2	(8)	4,521	(8)	1.5%	(41)	210.5	(25)	4.3%	(3)	2,765	(8)	519.0	(1)
Georgia	127,834	(8)	12,040.0	(16)	3,091	(13)	2.4%	(26)	291.1	(17)	2.8%	(11)	2,080	(18)	322.2	(7)
Hawaii	1,292	(51)	912.5	(51)	22	(50)	1.7%	(38)	15.5	(51)	2.2%	(21)	1,055	(47)	20.0	(48)
Idaho	12,445	(40)	6,944.5	(34)	110	(44)	0.9%	(50)	61.4	(45)	4.6%	(2)	1,800	(34)	277.1	(9)
Illinois	157,825	(6)	12,454.8	(12)	7,427	(4)	4.7%	(11)	586.1	(9)	0.6%	(41)	2,672	(9)	82.0	(33)
Indiana	53,370	(20)	7,927.5	(29)	2,785	(15)	5.2%	(9)	413.7	(14)	1.2%	(34)	1,077	(46)	91.4	(30)
Iowa	36,323	(27)	11,512.6	(17)	771	(29)	2.1%	(29)	244.4	(23)	1.2%	(33)	1,855	(30)	167.7	(17)
Kansas	21,097	(34)	7,241.6	(33)	303	(38)	1.4%	(43)	104.0	(41)	2.4%	(17)	1,515	(39)	164.2	(18)
Kentucky	20,677	(35)	4,628.1	(42)	645	(30)	3.1%	(24)	144.4	(33)	2.1%	(25)	232	(50)	88.2	(31)
Louisiana	84,133	(12)	18,097.8	(3)	3,463	(11)	4.1%	(16)	744.9	(7)	2.4%	(16)	4,163	(3)	429.7	(3)
Maine	3,578	(46)	2,661.8	(46)	114	(42)	3.2%	(23)	84.8	(43)	0.4%	(45)	1,593	(37)	12.5	(51)
Maryland	75,016	(14)	12,408.2	(13)	3,341	(12)	4.5%	(13)	552.6	(10)	0.8%	(37)	1,819	(32)	98.2	(28)
Massachusetts	112,347	(9)	16,166.2	(6)	8,368	(3)	7.4%	(5)	1,204.1	(4)	0.2%	(49)	1,495	(41)	35.9	(46)
Michigan	78,913	(13)	7,901.7	(30)	6,330	(7)	8.0%	(3)	633.8	(8)	0.8%	(38)	2,402	(14)	62.4	(41)
Minnesota	43,742	(23)	7,756.2	(31)	1,558	(20)	3.6%	(19)	276.3	(19)	1.4%	(31)	2,470	(13)	105.2	(25)
Mississippi	38,567	(25)	12,958.7	(11)	1,290	(22)	3.3%	(21)	433.4	(13)	2.2%	(23)	2,022	(20)	272.6	(11)

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

As of July 15

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	31,209	(28)	5,085.0	(41)	1,144	(24)	3.7%	(18)	186.4	(29)	2.3%	(20)	1,760	(36)	113.5	(22)
Montana	2,096	(47)	1,961.1	(50)	34	(48)	1.6%	(39)	31.8	(49)	5.6%	(1)	2,317	(15)	96.9	(29)
Nebraska	21,979	(33)	11,362.1	(18)	291	(39)	1.3%	(44)	150.4	(32)	1.1%	(35)	1,824	(31)	114.8	(21)
Nevada	30,468	(30)	9,891.7	(22)	618	(31)	2.0%	(32)	200.6	(26)	3.3%	(8)	1,891	(27)	286.0	(8)
New Hampshire	6,113	(43)	4,495.8	(43)	394	(36)	6.4%	(7)	289.8	(18)	0.4%	(47)	903	(49)	16.9	(49)
New Jersey	182,094	(5)	20,501.0	(2)	15,705	(2)	8.6%	(2)	1,768.1	(1)	0.4%	(46)	2,646	(11)	74.5	(38)
New Mexico	15,841	(37)	7,554.7	(32)	557	(33)	3.5%	(20)	265.6	(20)	1.7%	(30)	3,050	(6)	124.3	(20)
New York	430,277	(1)	22,118.2	(1)	32,495	(1)	7.6%	(4)	1,670.4	(2)	0.2%	(50)	3,276	(4)	44.2	(45)
North Carolina	91,487	(11)	8,722.9	(25)	1,604	(19)	1.8%	(37)	152.9	(31)	2.3%	(19)	2,560	(12)	189.0	(14)
North Dakota	4,565	(44)	5,990.3	(37)	88	(46)	1.9%	(33)	115.5	(37)	1.9%	(27)	2,011	(22)	111.4	(24)
Ohio	69,371	(16)	5,934.7	(38)	3,083	(14)	4.4%	(14)	263.7	(21)	2.0%	(26)	1,801	(33)	111.9	(23)
Oklahoma	22,813	(32)	5,765.3	(40)	432	(35)	1.9%	(34)	109.2	(40)	3.6%	(5)	1,895	(26)	177.6	(16)
Oregon	13,081	(38)	3,101.4	(45)	247	(40)	1.9%	(35)	58.6	(46)	2.7%	(13)	989	(48)	76.7	(36)
Pennsylvania	102,361	(10)	7,995.7	(28)	7,023	(6)	6.9%	(6)	548.6	(11)	0.8%	(39)	1,140	(44)	60.7	(42)
Rhode Island	17,640	(36)	16,651.5	(5)	987	(26)	5.6%	(8)	931.7	(5)	0.4%	(48)	(11,913)	(51)	58.8	(44)
South Carolina	62,245	(18)	12,089.4	(14)	998	(25)	1.6%	(40)	193.8	(27)	3.5%	(6)	2,002	(23)	370.0	(4)
South Dakota	7,652	(42)	8,649.7	(26)	111	(43)	1.5%	(42)	125.5	(35)	0.7%	(40)	1,182	(43)	66.2	(40)
Tennessee	69,061	(17)	10,106.7	(20)	783	(28)	1.1%	(46)	114.6	(38)	3.0%	(10)	3,067	(5)	273.4	(10)
Texas	298,007	(4)	10,277.6	(19)	3,625	(10)	1.2%	(45)	125.0	(36)	3.5%	(7)	1,889	(28)	336.9	(6)
Utah	30,891	(29)	9,635.5	(23)	233	(41)	0.8%	(51)	72.7	(44)	1.8%	(29)	2,064	(19)	184.3	(15)
Vermont	1,318	(50)	2,112.2	(49)	56	(47)	4.2%	(15)	89.7	(42)	0.6%	(42)	1,511	(40)	14.2	(50)
Virginia	73,527	(15)	8,614.2	(27)	1,992	(17)	2.7%	(25)	233.4	(24)	1.3%	(32)	1,791	(35)	103.0	(26)
Washington	44,350	(22)	5,824.1	(39)	1,425	(21)	3.2%	(22)	187.1	(28)	1.9%	(28)	1,552	(38)	100.4	(27)
West Virginia	4,557	(45)	2,549.9	(47)	98	(45)	2.2%	(27)	54.8	(47)	2.7%	(12)	1,918	(25)	67.9	(39)
Wisconsin	38,727	(24)	6,651.3	(35)	827	(27)	2.1%	(28)	142.0	(34)	2.2%	(22)	1,986	(24)	136.7	(19)
Wyoming	1,985	(48)	3,429.8	(44)	22	(50)	1.1%	(47)	38.0	(48)	2.1%	(24)	1,258	(42)	60.5	(43)
United States	3,616,827		10,926.9		140,144		3.9%		423.3		1.9%		2,151		197.6	

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>