







COVID-19 Report

Issue # 113

Thursday, July 23, 2020



Today's Highlights

- Yesterday, the United States reported the most new cases on any day since last Friday and the most new deaths on any day since late May. These represented the most new cases of any country worldwide yesterday and the 2nd most deaths (Brazil was 2nd in new cases and 1st in deaths)
- Nonetheless, the leading indicators are pointing to a slowing of the virus spread in the U.S:
 - The week-over-week change in new cases has been steadily declining for the past 11 days, to the point that:
 - New cases reported each day, on a 7-day moving average basis, have now been relatively stable for about a week, which leads to:
 - the new daily infection rate per capita has been relatively stable for the past several days. This rate had more than doubled from mid-June to mid-July
- Ten states set new highs yesterday for new daily infections per capita; another eighteen experienced their peak rate within the past week. Eighteen other states are now 50+ days past their peak infection rate
 - Hard-hit Arizona (15 days ago), Florida (5), Georgia and Texas (both,
 have moved off their peak rates recently

- Testing rates continue to increase across the US, and test-positive rates continue to be stable. These rates, although above the WHO guideline (5%), are below the CDC guideline for Phase 2 re-opening (10%)
 - Nineteen states experienced a week-over-week increase in the testpositive rate - seven of these are above the 10% guideline
- Hospitalizations are up slightly (both day-over-day and week-over-week) in the US, although they are declining in Arizona and are showing hints of stabilizing in Florida and Texas
- The % of hospitalized patients in the ICU is beginning to increase, while the % on ventilators has stabilized
- The % of ER visits for COVID-like illnesses has been declining since early-July
- Recoveries now nearly equal the number of active cases in the U.S. and outnumber deaths by more than 13:1. Reported recoveries are close to what would be expected, assuming that most (90%) of cases would recover within 4 weeks of identification

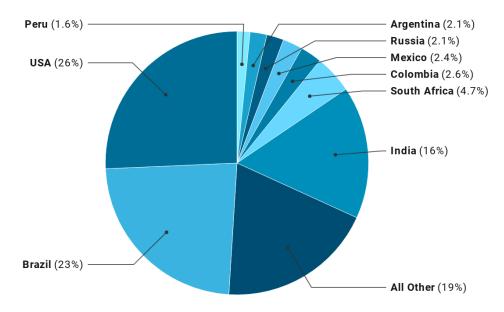


Worldwide

United States reported the most new cases and the 2nd most deaths yesterday; Brazil was 2nd in new cases & 1st in deaths

% of New Cases

July 22

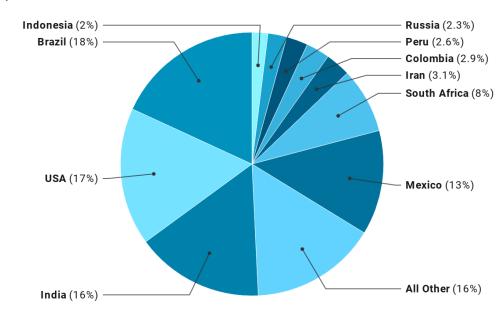


Health Industry Advisor LLC analysis

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

% of Newly Reported Deaths

July 22



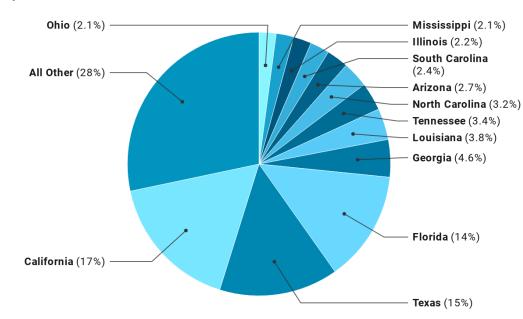
Health Industry Advisor LLC analysis



California, Florida and Texas reported the most new cases and deaths in the US yesterday (46 and 42% of respective totals)

% of New Cases

July 22

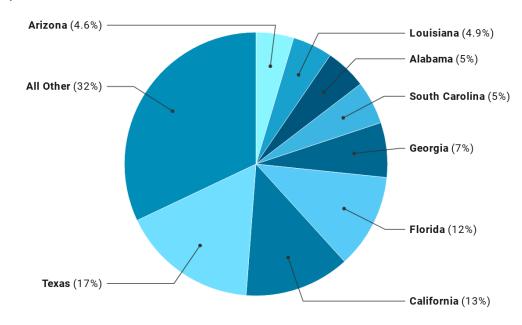


Health Industry Advisor LLC analysis

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

% of Newly Reported Deaths

July 22



Health Industry Advisor LLC analysis



New daily cases appear to have plateaued in the past week

New Daily Cases - United States

Trailing 7-Day Moving Average, As of July 21



Health Industry Advisor LLC analysis

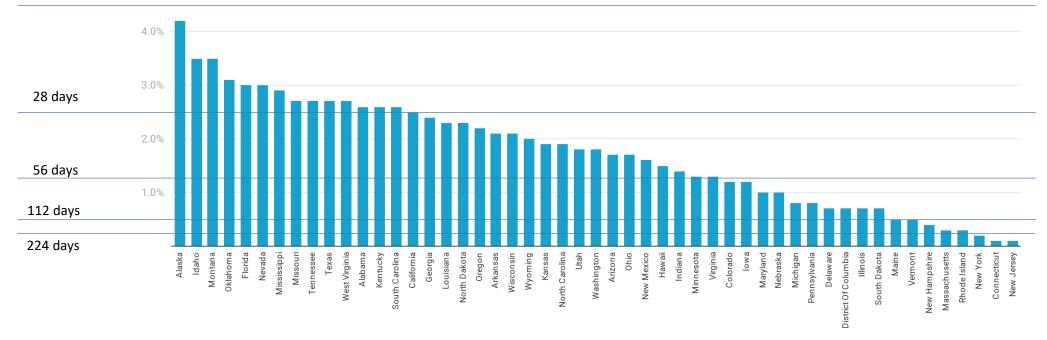


At current rates, cases are doubling every 17 days in Alaska; every 676 days in New Jersey

Growth Rate in Total Cases

14 days to double

Trailing 5-Day Moving Average, As of July 22



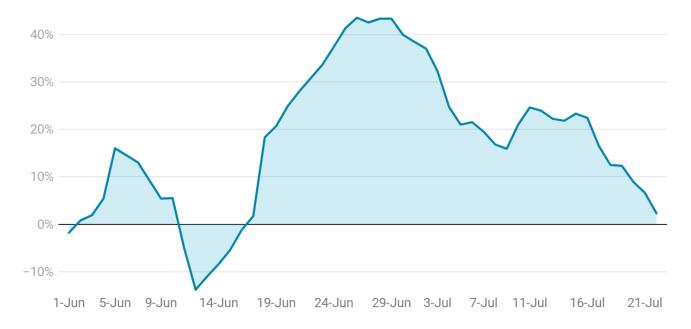
Health Industry Advisor LLC analysis



Leading Indicator: The rate of growth in new cases has slowed dramatically in the past 4 weeks

Week-Over-Week Change In New Cases

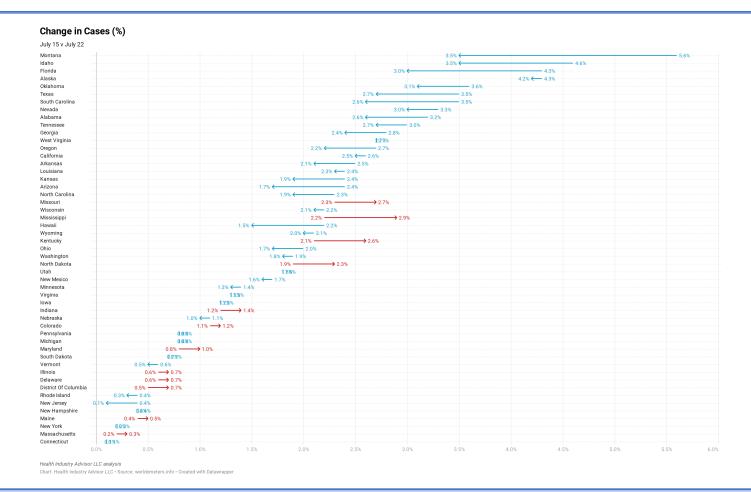
United States



Health Industry Advisor LLC analysis



Leading Indicator: Over the past week, the rate of case growth has declined in most states, including the nineteen states with the highest growth rate





The new daily infection rate seems to be stabilizing, after 5 weeks of accelerated growth

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, As of July 22



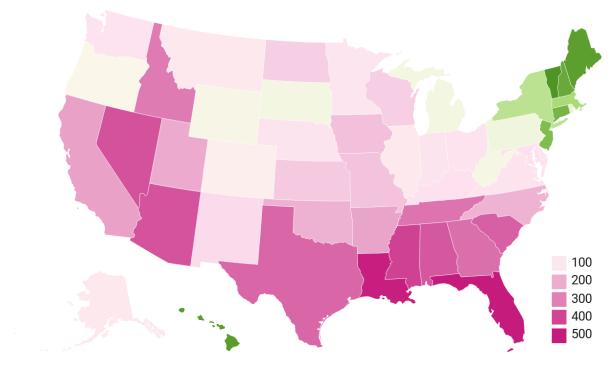
Health Industry Advisor LLC analysis



The new daily infection rate remains high in the South and West; lowest in the Northeast

New Daily Infections Per 1 Million Population

Trailing 7-Day Moving Average, As of July 22

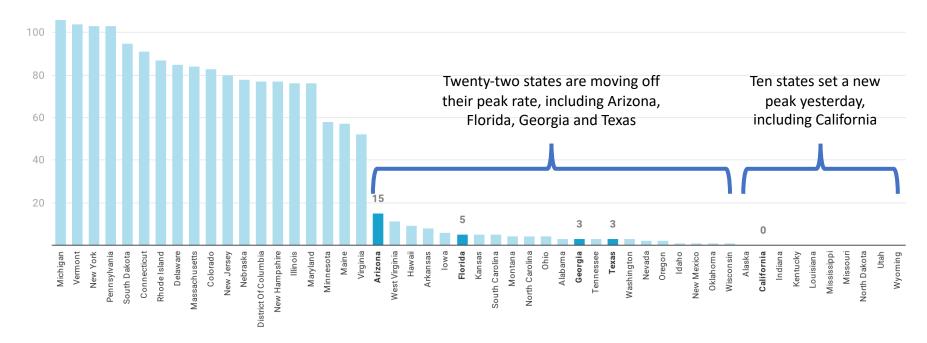




Eighteen states and the District of Columbia have gone 50+ days since their peak in new daily infections; Ten states, however, set new peaks on Wednesday

Days Since Peak New Infection Rate

Trailing 7-Day Moving Average, As of July 22



Health Industry Advisor LLC analysis

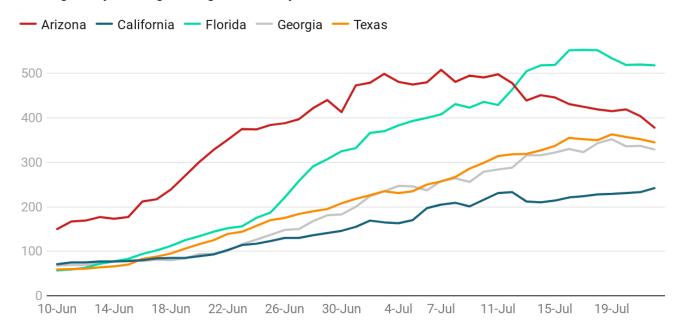


Arizona, California, Florida, Georgia and Texas

Progress in Arizona and Florida; early signs of progress in Texas and Georgia?

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 22



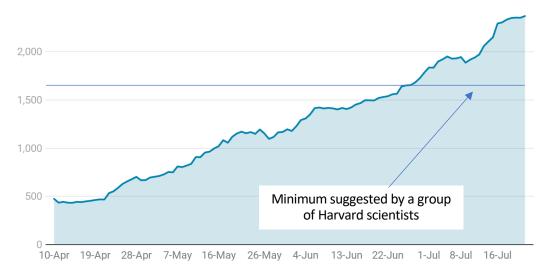
Health Industry Advisor LLC analysis



Testing continues to ramp-up; test-positive rate is stabilizing or slightly declining

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of July 22

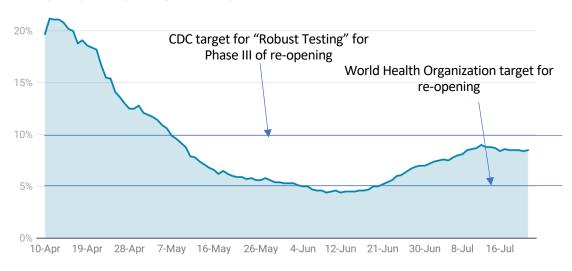


Health Industry Advisor LLC analysis

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 22



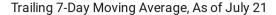
Health Industry Advisor LLC analysis

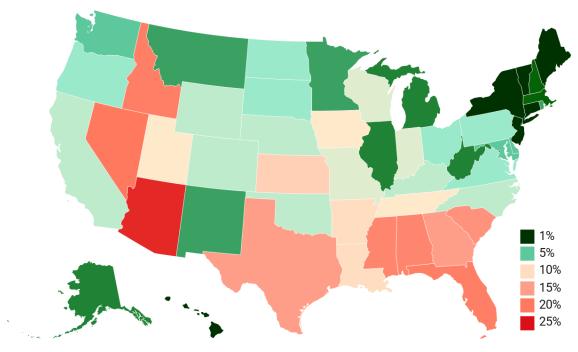
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper



Test-Positive Rates continue to be high in several Southern states; reasonably strong across the Northeast, Midwest and Pacific Northwest

Test-Positive Rate



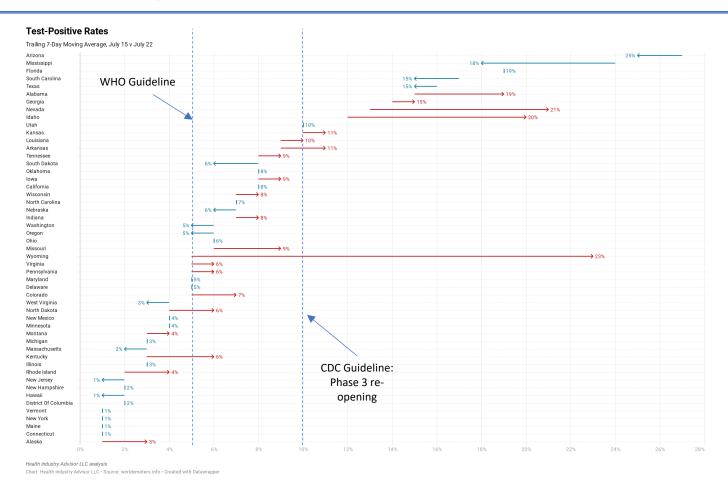


Health Industry Advisor LLC analysis

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



Nineteen states saw test-positive rates increase week-over-week; seven of these states exceed the 10% guideline level (CDC – Phase 3 re-opening)

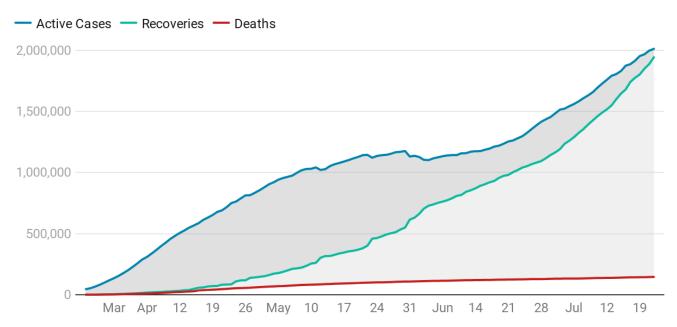




Recoveries nearly equaling active cases; Deaths represent a far smaller share of outcomes

Active Cases v. Recoveries & Deaths

As of July 22



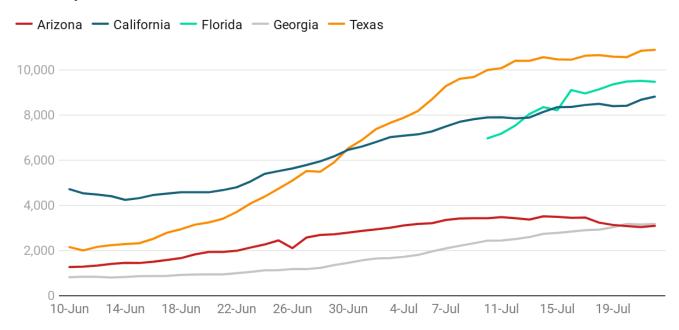
Health Industry Advisor LLC analysis



Arizona, California, Florida, Georgia and Texas Hospitalizations: Declining in Arizona; Stabilizing in Florida and Texas?

Hospitalized COVID-19 Patients

As of July 22



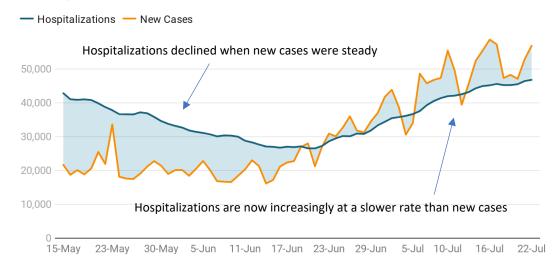
Health Industry Advisor LLC analysis,



Hospitalizations not keeping pace with new cases; higher % of patients, however, are in the ICU

Hospitalizations v. New Cases





Health Industry Advisor LLC analysis

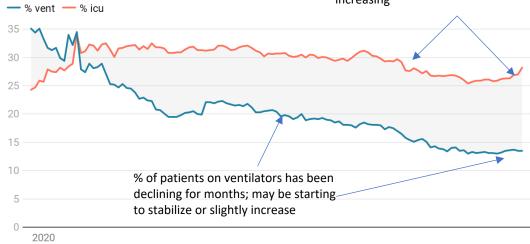
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

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 22

% of patients in the ICU declined for a period following the case surge; now is increasing



Health Industry Advisor LLC analysis

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



ER Visits for COVID-Like Illness has been declining for about two weeks

% of Emergency Department Visits for COVID-Like Illness



Health Industry Advisor LLC analysis

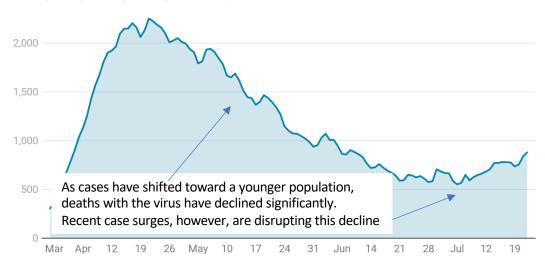
Chart: Health Industry Advisor LLC • Source: Centers for Disease Control • Created with Datawrapper



Deaths turning back up again?; Recoveries outnumber deaths by >13:1

Deaths Recorded With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of July 22

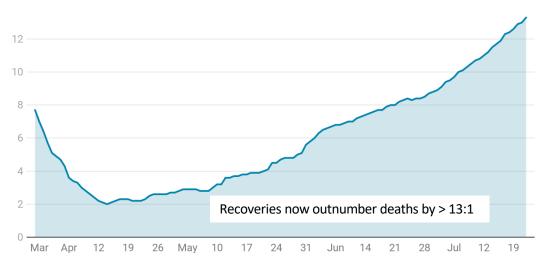


Health Industry Advisor LLC analysis

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

Recoveries: Deaths - United States

As of July 22

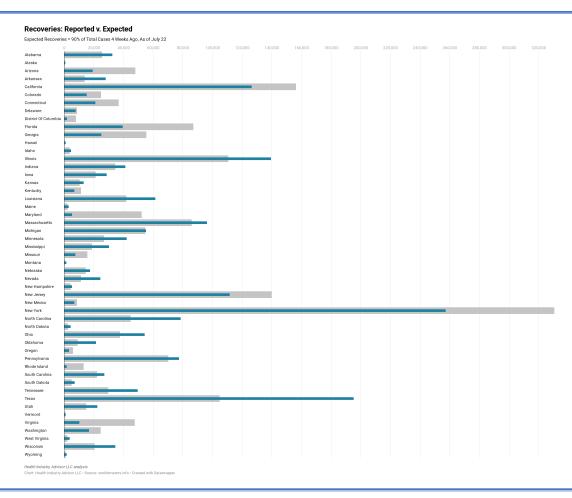


Health Industry Advisor LLC analysis

 $\textbf{Chart: Health Industry Advisor LLC} \cdot \textbf{Source: worldometers.info} \cdot \textbf{Created with Datawrapper}$



Reported recoveries versus recoveries expected, assuming 90% of cases would recover within 4 weeks





Top 30 Countries By Total Cases As of July 22

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	4,100,875	(1)	12,385	(3)	146,183	(1)	3.6%	(17)	441.5	(8)	1.7%	(11)	2,538	(2)	208.8	(1)
Brazil	2,231,871	(2)	10,496	(5)	82,890	(2)	3.7%	(16)	389.8	(9)	1.7%	(10)	227	(23)	175.3	(3)
India	1,239,684	(3)	898	(26)	29,890	(7)	2.4%	(22)	21.6	(26)	3.6%	(2)	239	(22)	27.9	(18)
Russia	789,190	(4)	5,408	(10)	12,745	(11)	1.6%	(25)	87.3	(18)	0.8%	(17)	1,908	(3)	41.9	(14)
South Africa	394,948	(5)	6,654	(9)	5,940	(16)	1.5%	(26)	100.1	(17)	3.2%	(4)	738	(12)	201.9	(2)
Peru	366,550	(6)	11,108	(4)	17,455	(9)	4.8%	(13)	529.0	(5)	1.2%	(14)	646	(15)	124.8	(6)
Mexico	356,255	(7)	2,761	(19)	40,400	(4)	11.3%	(4)	313.2	(10)	1.9%	(9)	99	(25)	49.6	(13)
Chile	336,402	(8)	17,589	(2)	8,722	(14)	2.6%	(19)	456.0	(7)	0.6%	(19)	828	(10)	113.5	(7)
Spain	314,631	(9)	6,729	(8)	28,426	(8)	9.0%	(5)	608.0	(2)	0.5%	(21)	899	(9)	30.7	(15)
UK	296,377	(10)	4,364	(12)	45,501	(3)	15.4%	(2)	670.0	(1)	0.2%	(27)	2,735	(1)	9.4	(24)
Iran	281,413	(11)	3,348	(16)	14,853	(10)	5.3%	(10)	176.7	(13)	0.9%	(16)	305	(19)	28.6	(16)
Pakistan	267,428	(12)	1,209	(25)	5,677	(17)	2.1%	(23)	25.7	(25)	0.6%	(20)	96	(26)	7.5	(25)
Saudi Arabia	258,156	(13)	7,409	(7)	2,601	(26)	1.0%	(28)	74.6	(19)	1.0%	(15)	1,638	(5)	72.5	(10)
Italy	245,032	(14)	4,053	(14)	35,082	(5)	14.3%	(3)	580.3	(3)	0.1%	(29)	713	(13)	3.6	(29)
Turkey	222,402	(15)	2,635	(21)	5,545	(19)	2.5%	(21)	65.7	(20)	0.4%	(23)	499	(17)	10.9	(23)
Colombia	218,428	(16)	4,290	(13)	7,373	(15)	3.4%	(18)	144.8	(14)	3.7%	(1)	589	(16)	149.4	(4)
Bangladesh	213,254	(17)	1,294	(24)	2,751	(25)	1.3%	(27)	16.7	(28)	1.4%	(12)	75	(28)	17.0	(20)
Germany	204,470	(18)	2,440	(23)	9,182	(12)	4.5%	(14)	109.6	(15)	0.2%	(28)	1,777	(4)	5.5	(28)
France	178,336	(19)	2,732	(20)	30,172	(6)	16.9%	(1)	462.2	(6)	0.4%	(24)	805	(11)	11.0	(22)
Argentina	141,900	(20)	3,138	(17)	2,588	(27)	1.8%	(24)	57.2	(22)	3.5%	(3)	262	(20)	97.2	(8)
Canada	112,240	(21)	2,972	(18)	8,870	(13)	7.9%	(6)	234.9	(12)	0.5%	(22)	1,200	(7)	12.9	(21)
Qatar	107,871	(22)	38,418	(1)	163	(30)	0.2%	(30)	58.1	(21)	0.4%	(25)	1,574	(6)	146.9	(5)
Iraq	99,865	(23)	2,480	(22)	4,042	(24)	4.0%	(15)	100.4	(16)	2.5%	(6)	408	(18)	56.8	(11)
Indonesia	91,751	(24)	335	(29)	4,459	(22)	4.9%	(12)	16.3	(29)	2.0%	(8)	84	(27)	6.1	(27)
Egypt	89,745	(25)	876	(27)	4,440	(23)	4.9%	(11)	43.3	(23)	0.7%	(18)	-	(29)	6.8	(26)
China	83,707	(26)	58	(30)	4,634	(21)	5.5%	(9)	3.2	(30)	0.0%	(30)	-	(29)	0.0	(30)
Sweden	78,504	(27)	7,770	(6)	5,667	(18)	7.2%	(7)	560.9	(4)	0.3%	(26)	980	(8)	28.4	(17)
Ecuador	77,257	(28)	4,375	(11)	5,418	(20)	7.0%	(8)	306.8	(11)	1.3%	(13)	183	(24)	56.0	(12)
Kazakhstan	75,153	(29)	4,000	(15)	585	(29)	0.8%	(29)	31.1	(24)	2.4%	(7)	649	(14)	88.5	(9)
Philippines	72,190	(30)	658	(28)	1,843	(28)	2.6%	(20)	16.8	(27)	2.8%	(5)	257	(21)	17.5	(19)



Statistical Summary (page 1 of 2)

As of July 22

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	70,358	(19)	14,646	(10)	1,364	(23)	1.9%	(32)	278	(21)	2.6%	(12)	1,994	(27)	371.4	(6)
Alaska	2,041	(49)	2,914	(47)	19	(51)	0.9%	(49)	26	(50)	4.2%	(1)	5,710	(1)	97.8	(33)
Arizona	148,683	(8)	20,692	(3)	2,974	(15)	2.0%	(28)	409	(15)	1.7%	(28)	1,531	(42)	377.9	(5)
Arkansas	34,655	(31)	11,679	(22)	380	(37)	1.1%	(47)	126	(39)	2.1%	(20)	2,104	(24)	234.3	(13)
California	410,176	(2)	10,688	(24)	8,045	(4)	2.0%	(30)	204	(28)	2.5%	(15)	3,150	(7)	242.3	(12)
Colorado	41,059	(26)	7,241	(36)	1,771	(18)	4.3%	(12)	308	(17)	1.2%	(35)	1,176	(47)	87.9	(36)
Connecticut	48,096	(22)	13,526	(14)	4,406	(10)	9.2%	(1)	1,236	(3)	0.1%	(50)	2,817	(10)	23.5	(47)
Delaware	13,746	(40)	14,164	(13)	527	(34)	3.8%	(16)	541	(12)	0.7%	(43)	2,354	(17)	108.9	(30)
District Of Columbia	11,427	(41)	16,336	(8)	580	(33)	5.1%	(9)	822	(6)	0.7%	(40)	4,378	(3)	101.8	(32)
Florida	369,834	(3)	17,675	(5)	5,347	(8)	1.4%	(42)	249	(25)	3.0%	(6)	2,785	(11)	517.5	(1)
Georgia	148,988	(7)	14,345	(12)	3,335	(13)	2.2%	(26)	314	(16)	2.4%	(16)	2,178	(23)	329.2	(9)
Hawaii	1,418	(50)	1,014	(51)	25	(50)	1.8%	(36)	18	(51)	1.5%	(30)	1,072	(49)	14.4	(50)
Idaho	15,822	(38)	9,108	(28)	135	(42)	0.9%	(50)	75	(45)	3.5%	(3)	1,599	(40)	309.1	(11)
Illinois	164,878	(6)	13,137	(16)	7,540	(5)	4.6%	(11)	595	(9)	0.7%	(41)	3,032	(8)	97.5	(34)
Indiana	57,916	(20)	8,715	(29)	2,863	(16)	4.9%	(10)	425	(14)	1.4%	(31)	1,439	(44)	112.5	(28)
Iowa	39,563	(27)	12,705	(17)	812	(29)	2.1%	(27)	257	(23)	1.2%	(34)	1,771	(34)	170.3	(17)
Kansas	23,570	(34)	8,350	(34)	321	(38)	1.4%	(43)	110	(41)	1.9%	(24)	1,437	(45)	158.4	(19)
Kentucky	24,060	(33)	5,493	(42)	677	(31)	2.8%	(24)	152	(34)	2.6%	(14)	1,915	(30)	123.5	(23)
Louisiana	96,590	(12)	21,372	(2)	3,670	(11)	3.8%	(17)	789	(7)	2.3%	(17)	4,662	(2)	467.7	(2)
Maine	3,723	(46)	2,770	(48)	118	(44)	3.2%	(21)	88	(43)	0.5%	(45)	1,816	(33)	15.4	(49)
Maryland	79,545	(15)	13,261	(15)	3,405	(12)	4.3%	(13)	563	(10)	1.0%	(37)	2,428	(15)	121.8	(24)
Massachusetts	114,033	(9)	16,450	(7)	8,468	(3)	7.4%	(5)	1,219	(4)	0.3%	(48)	1,672	(37)	40.6	(45)
Michigan	83,059	(13)	8,384	(33)	6,388	(7)	7.7%	(3)	640	(8)	0.8%	(39)	2,742	(12)	68.9	(40)
Minnesota	47,457	(23)	8,504	(30)	1,592	(20)	3.4%	(19)	282	(19)	1.3%	(33)	2,484	(14)	106.9	(31)
Mississippi	45,524	(24)	15,816	(9)	1,423	(22)	3.1%	(22)	478	(13)	2.9%	(7)	2,216	(21)	408.2	(3)



Statistical Summary (page 2 of 2)

As of July 22

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	37,149	(29)	6,256	(41)	1,195	(25)	3.2%	(20)	195	(29)	2.7%	(9)	1,665	(38)	167.3	(18)
Montana	2,712	(47)	2,632	(49)	42	(48)	1.5%	(40)	39	(49)	3.5%	(2)	2,641	(13)	95.8	(35)
Nebraska	23,190	(35)	12,141	(21)	311	(39)	1.3%	(44)	161	(32)	1.0%	(36)	1,690	(36)	111.3	(29)
Nevada	37,528	(28)	12,550	(19)	704	(30)	1.9%	(33)	229	(27)	3.0%	(5)	1,850	(31)	379.8	(4)
New Hampshire	6,262	(43)	4,630	(43)	402	(36)	6.4%	(7)	296	(18)	0.4%	(46)	886	(50)	19.1	(48)
New Jersey	183,372	(5)	20,687	(4)	15,785	(2)	8.6%	(2)	1,777	(1)	0.1%	(51)	1,586	(41)	26.5	(46)
New Mexico	17,517	(37)	8,502	(31)	591	(32)	3.4%	(18)	282	(20)	1.6%	(29)	3,510	(4)	135.4	(22)
New York	435,753	(1)	22,442	(1)	32,617	(1)	7.5%	(4)	1,677	(2)	0.2%	(49)	3,305	(6)	46.3	(44)
North Carolina	102,920	(11)	10,033	(25)	1,734	(19)	1.7%	(39)	165	(31)	1.9%	(23)	2,822	(9)	187.1	(16)
North Dakota	5,207	(44)	7,043	(38)	96	(46)	1.8%	(34)	126	(38)	2.3%	(18)	2,381	(16)	150.3	(20)
Ohio	77,269	(17)	6,740	(39)	3,239	(14)	4.2%	(14)	277	(22)	1.7%	(27)	1,943	(29)	115.0	(26)
Oklahoma	27,147	(32)	7,093	(37)	474	(35)	1.7%	(38)	120	(40)	3.1%	(4)	2,104	(25)	189.6	(15)
Oregon	15,139	(39)	3,650	(45)	271	(40)	1.8%	(35)	64	(46)	2.2%	(19)	1,603	(39)	78.3	(37)
Pennsylvania	107,460	(10)	8,457	(32)	7,136	(6)	6.6%	(6)	557	(11)	0.8%	(38)	1,147	(48)	65.9	(42)
Rhode Island	17,986	(36)	17,050	(6)	997	(26)	5.5%	(8)	941	(5)	0.3%	(47)	1,481	(43)	56.9	(43)
South Carolina	73,337	(18)	14,575	(11)	1,285	(24)	1.8%	(37)	250	(24)	2.6%	(13)	2,308	(18)	355.1	(7)
South Dakota	8,019	(42)	9,130	(27)	119	(43)	1.5%	(41)	135	(36)	0.7%	(42)	1,214	(46)	68.6	(41)
Tennessee	81,944	(14)	12,354	(20)	888	(27)	1.1%	(48)	130	(37)	2.7%	(8)	3,474	(5)	321.0	(10)
Texas	357,127	(4)	12,691	(18)	4,550	(9)	1.3%	(45)	157	(33)	2.7%	(11)	2,276	(20)	344.8	(8)
Utah	35,012	(30)	11,097	(23)	260	(41)	0.7%	(51)	81	(44)	1.8%	(25)	2,198	(22)	208.9	(14)
Vermont	1,366	(51)	2,189	(50)	56	(47)	4.1%	(15)	90	(42)	0.5%	(44)	1,691	(35)	11.0	(51)
Virginia	79,371	(16)	9,419	(26)	2,051	(17)	2.6%	(25)	240	(26)	1.3%	(32)	1,828	(32)	114.9	(27)
Washington	50,003	(21)	6,661	(40)	1,476	(21)	3.0%	(23)	194	(30)	1.8%	(26)	2,307	(19)	119.5	(25)
West Virginia	5,199	(45)	3,056	(46)	102	(45)	2.0%	(29)	57	(47)	2.7%	(10)	1,957	(28)	72.3	(39)
Wisconsin	44,135	(25)	7,702	(35)	865	(28)	2.0%	(31)	149	(35)	2.1%	(21)	2,079	(26)	150.2	(21)
Wyoming	2,238	(48)	3,953	(44)	25	(50)	1.1%	(46)	43	(48)	2.0%	(22)	321	(51)	74.8	(38)
United States	4,100,875		12,389		146,183		3.6%		441		1.7%		2,370		208.8	



Data Sources

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