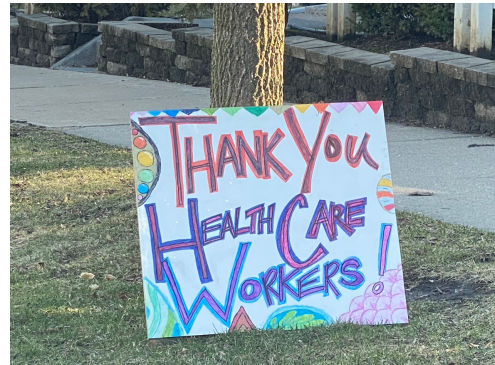
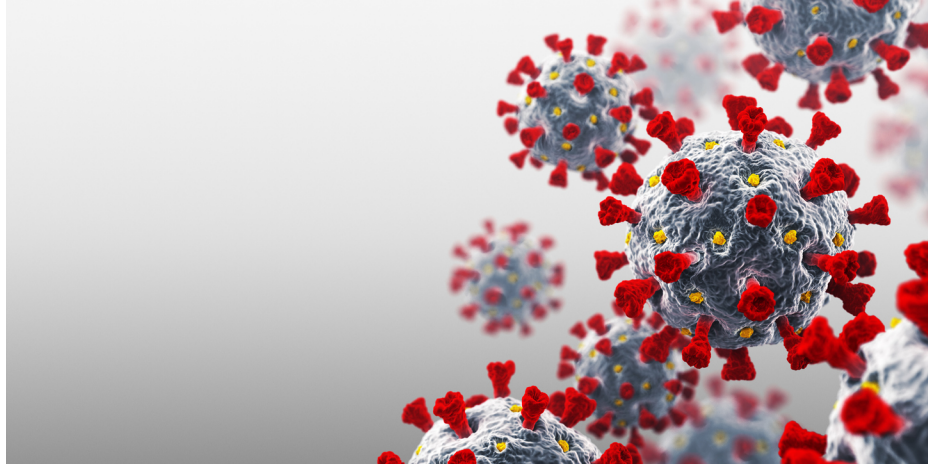
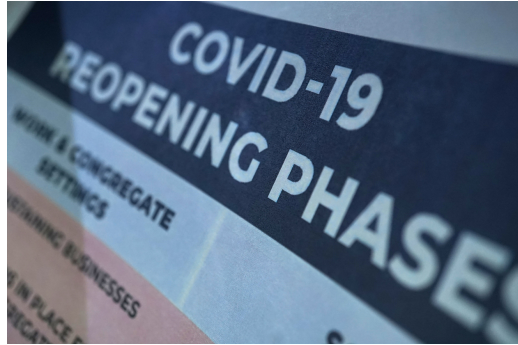




COVID-19 Report

Issue # 118

Tuesday, July 28, 2020

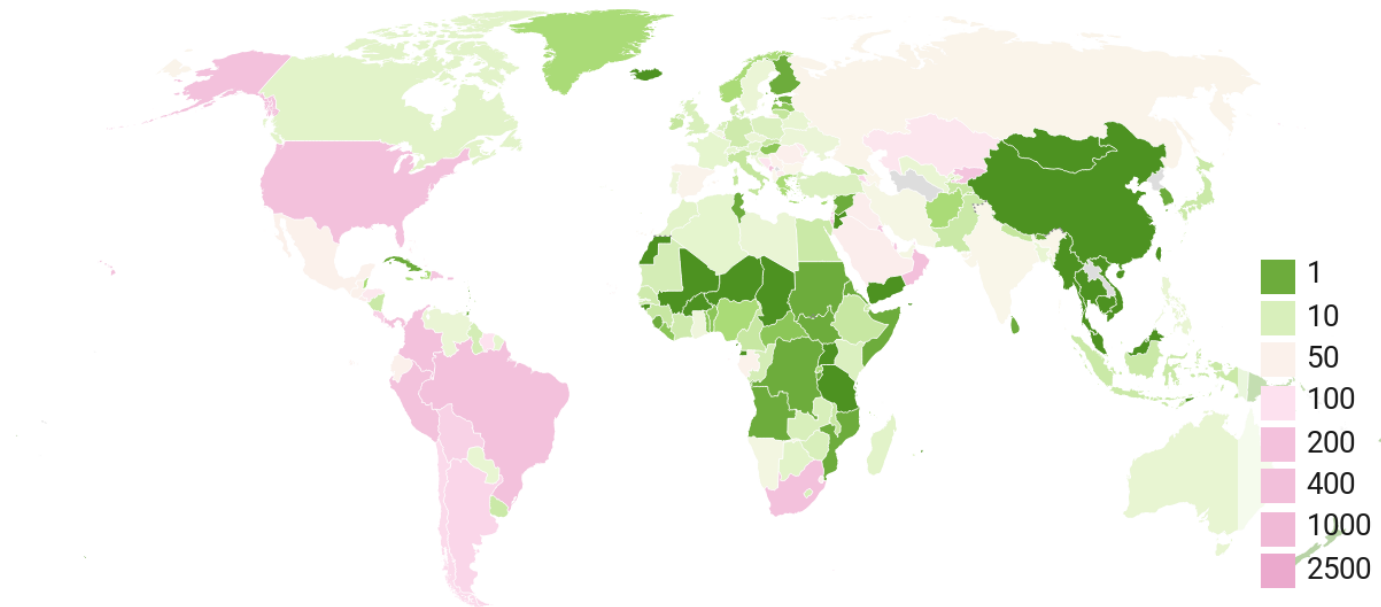
- Test volume in the United States remained high - although concerns are rampant about the excessive delays in test processing (taking up to or more than 1 week for results)
- The test-positive rate remained at the 7.2% reported on Sunday, bringing the weekly rate down to 8%.
- New cases were relatively low again yesterday. Although higher than Sunday, they were lower than any other day since July 12. On a week-over-week basis, new cases are now down 2.8%
- New infections per capita (trailing 7-day moving average) declined again on Monday, and are at the lowest point since July 15
- The US. is now 8 days past its peak new infection rate. Worldwide, Israel is 3 days past-peak, Mexico, 2 days. Brazil, India and Japan set new highs yesterday
- Recoveries from the virus in the U.S. are now essentially equal to the number of reported active cases
- Hospital census of COVID-19 patients increased marginally yesterday, following 3 consecutive days of decline. Importantly, this census is stabilizing or declining in hard-hit Arizona, California, Florida and Texas. The mix of hospital patients in the ICU and on ventilators appears to be stable
- The % of ER visits due to coronavirus-like illnesses fell again on Friday (the latest date available), and is now lower than it has been since June 16
- Deaths reported with coronavirus yesterday remained relatively low - the third consecutive day of fewer than 1,000 deaths. Frankly, this is somewhat surprising, as we would anticipate the death count to remain higher in the aftermath of the 5-week long case surge through mid-July. The death rate per case fell just below 3.4% for the first time
- Recently hard-hit states Arizona, California, Florida and Texas continue to experience progress in lowering test-positive %, cases and new infections. Arizona has now gone 20 days from its peak infection rate; Florida, 10; and Texas, 8.
- Other states, however, need to be on our radar, as they are experiencing ever-increasing infection rates each day. Most notably, Arkansas, Oklahoma and Tennessee are experiencing rapid increases in infections and set new highs yesterday in infection rates. Five other states also set new highs yesterday: Alaska, Hawaii, Missouri, New Mexico and North Dakota

Worldwide

New infection rates remain highest in the United States, South Africa and in South American countries

New Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 27



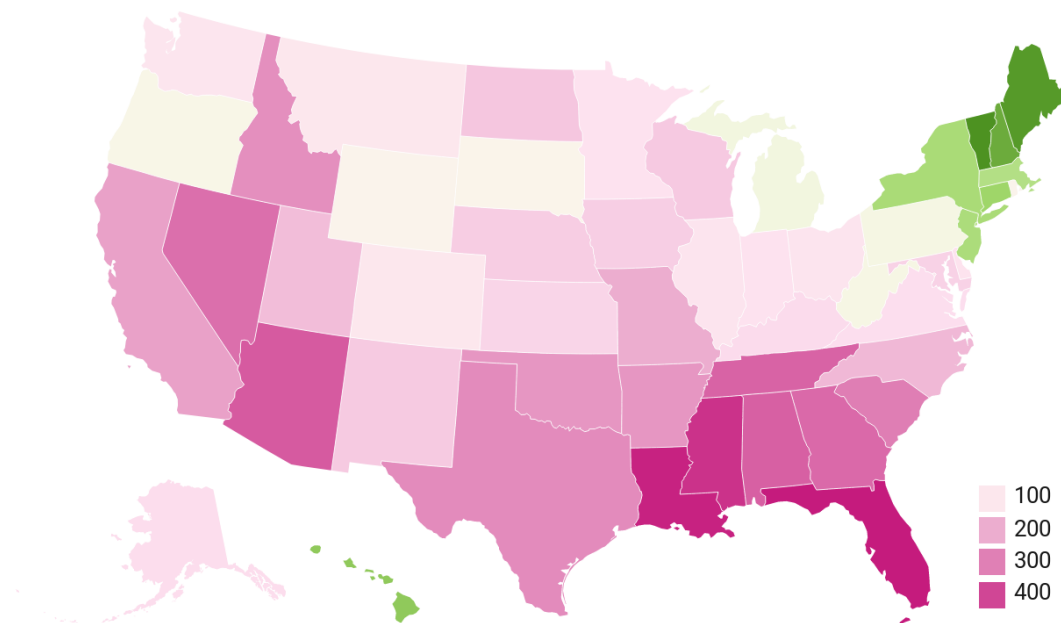
Health Industry Advisor LLC analysis

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

The new daily infection rates are found throughout most counties in the Southeast, scattered elsewhere except in the Northeast

New Daily Infections Per 1 Million Population

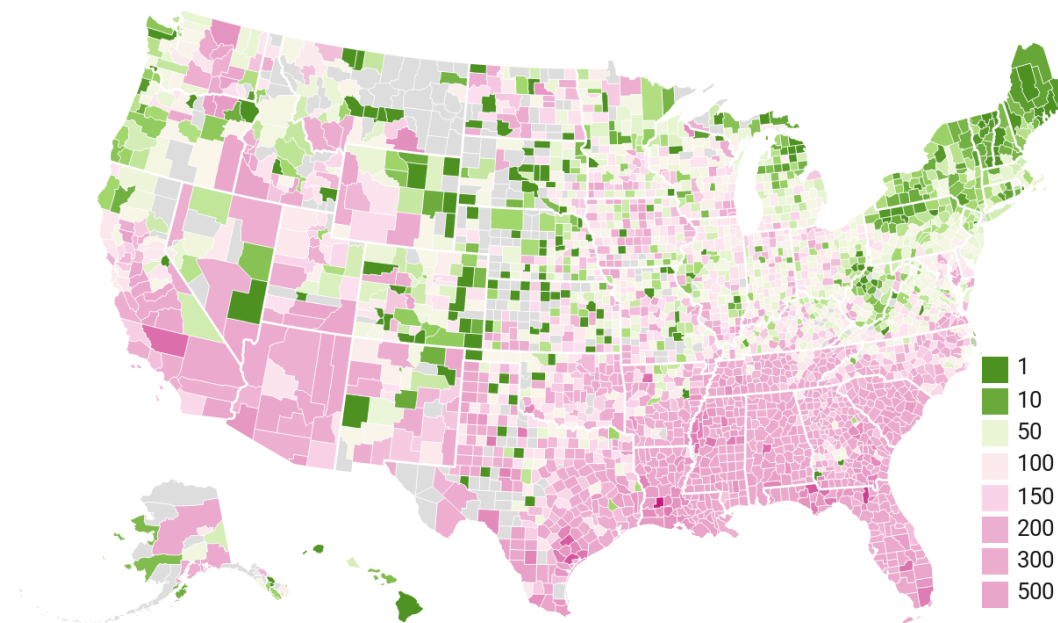
Trailing 7-Day Moving Average, As of July 27



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

New Daily Infections Per Million Population

Trailing 7-Day Moving Average, As of July 6

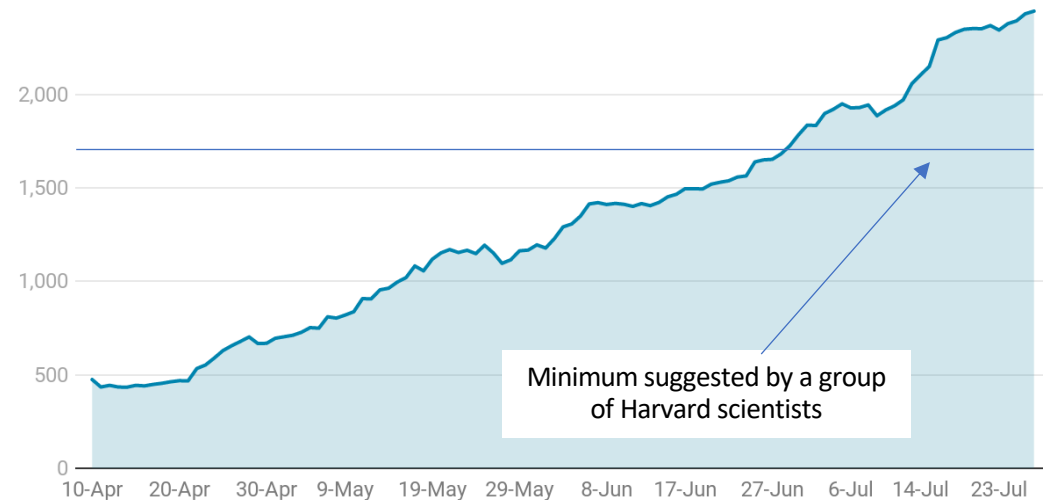


Health Industry Advisor LLC analysis

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

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of July 27

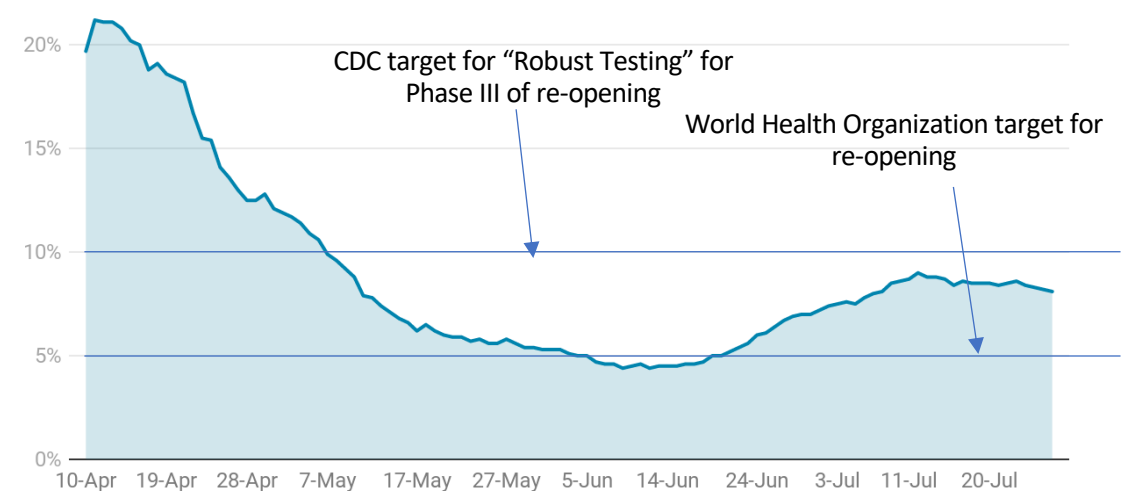


Health Industry Advisor LLC analysis

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 27



Health Industry Advisor LLC analysis

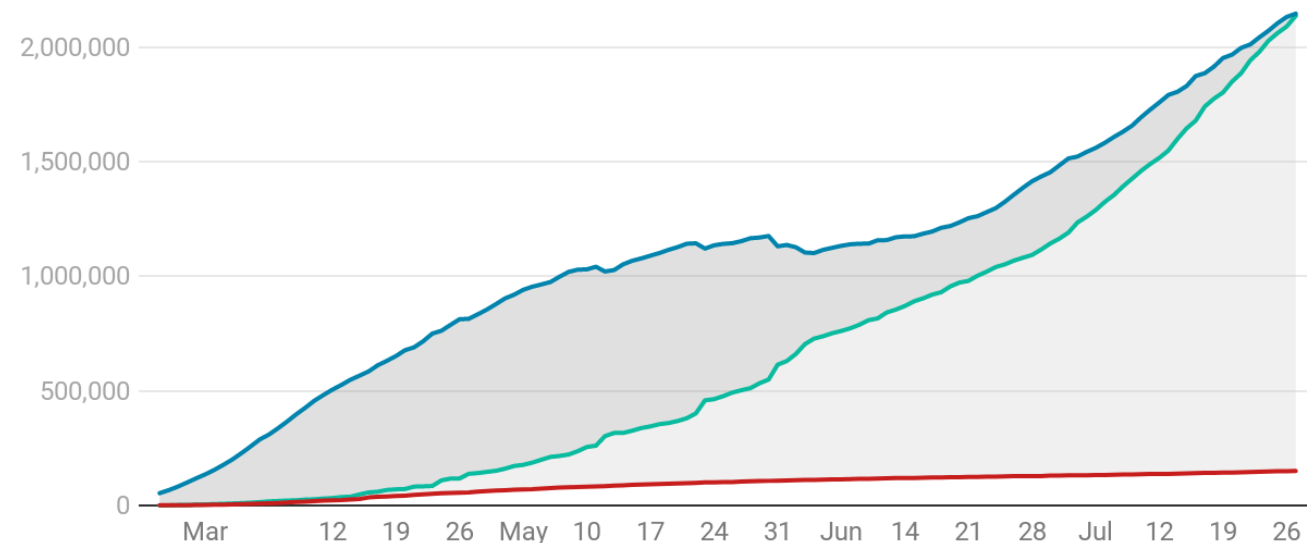
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Recoveries are essentially equal to the number of active cases;
Deaths are now < 3.4% of all cases

Active Cases v. Recoveries & Deaths

As of July 27

— Active Cases — Recoveries — Deaths

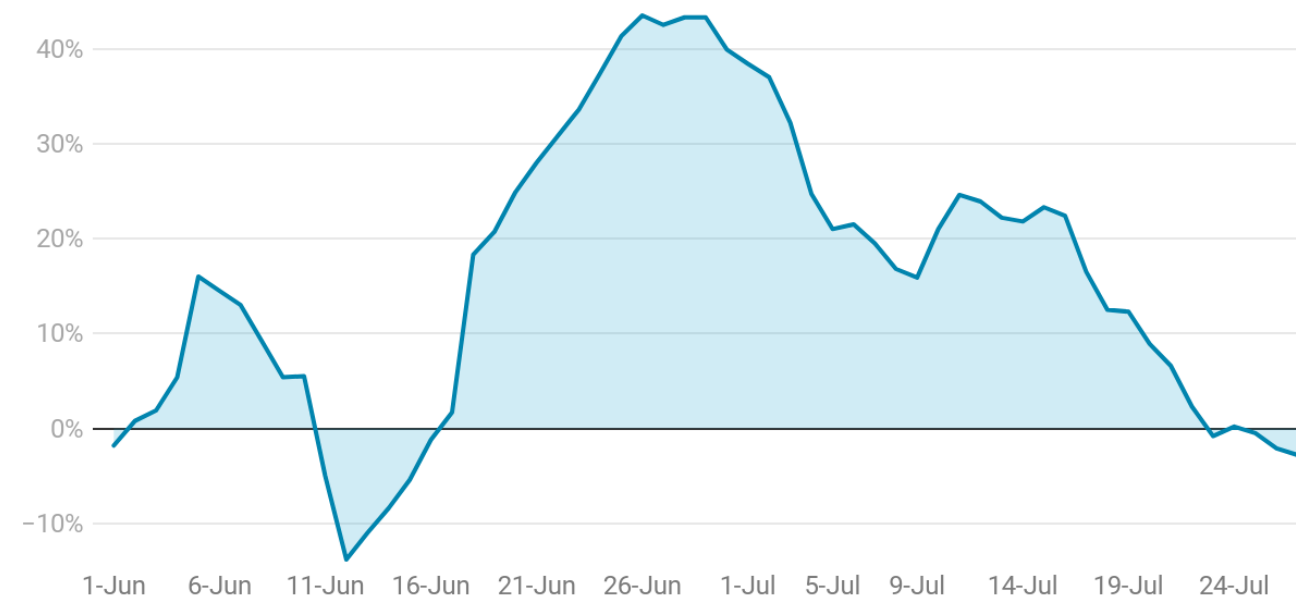


Health Industry Advisor LLC analysis

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

Week-Over-Week Change In New Cases

United States, As of July 27



Health Industry Advisor LLC analysis

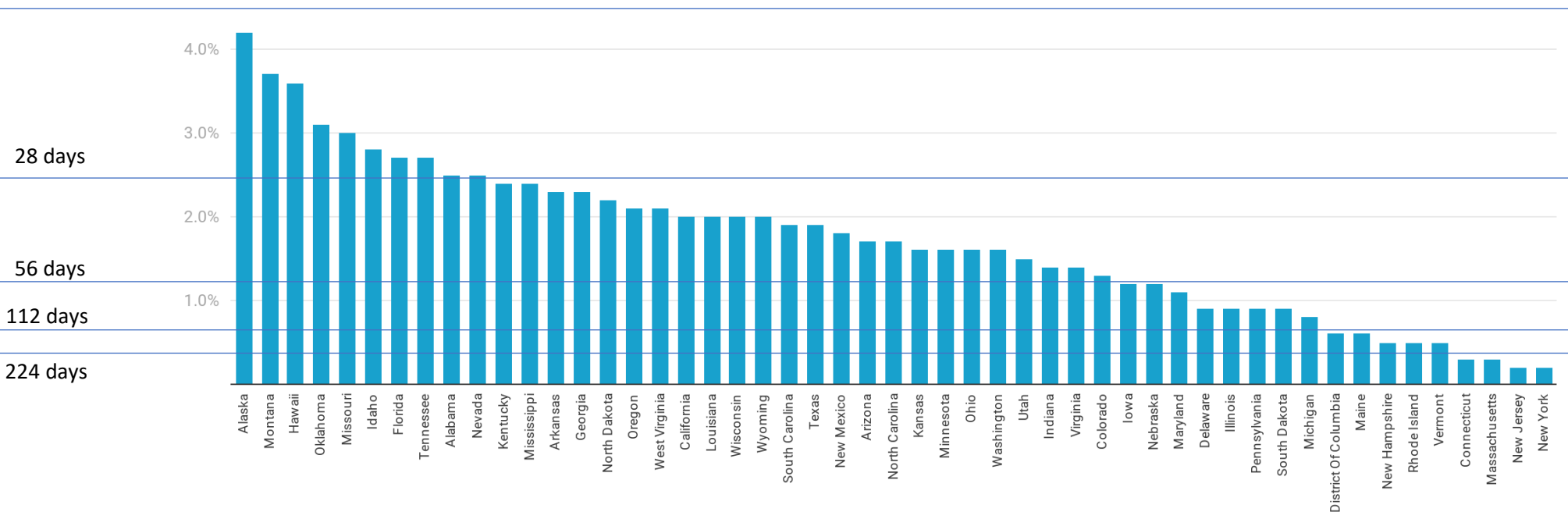
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

At current rates, cases are doubling every 16-17 days in Montana; every 391 days in New York; 44-45 for the United States overall

Growth Rate in Total Cases

Trailing 5-Day Moving Average, As of July 27

14 days to double



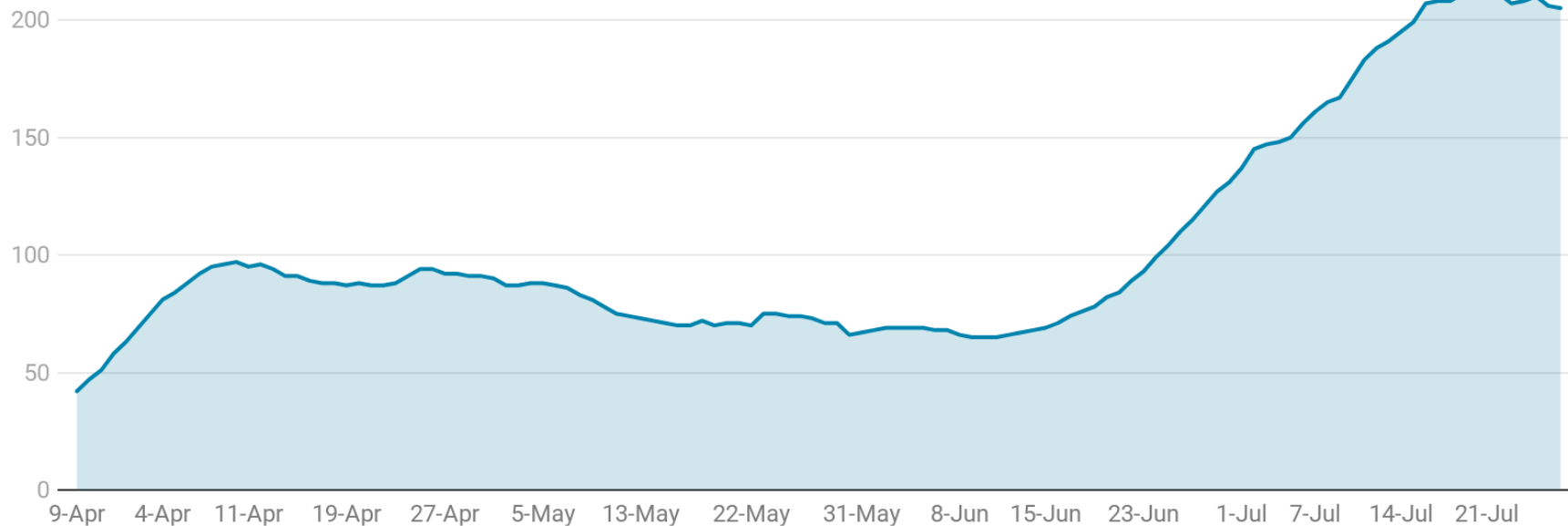
Health Industry Advisor LLC analysis

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

The new daily infection rate peaked 8 days ago, reversing a 5-week period of accelerated growth

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, As of July 27



Health Industry Advisor LLC analysis

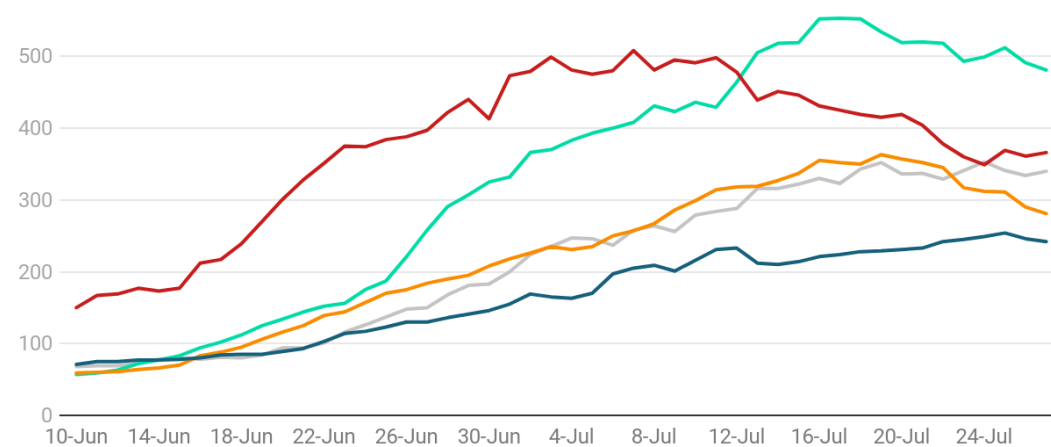
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

While infection rates stabilize or decline in Arizona, California, Florida and Texas, 8 states set new high yesterday; Of these, Arkansas, Oklahoma and Tennessee have highest rates

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 27

— Arizona — California — Florida — Georgia — Texas



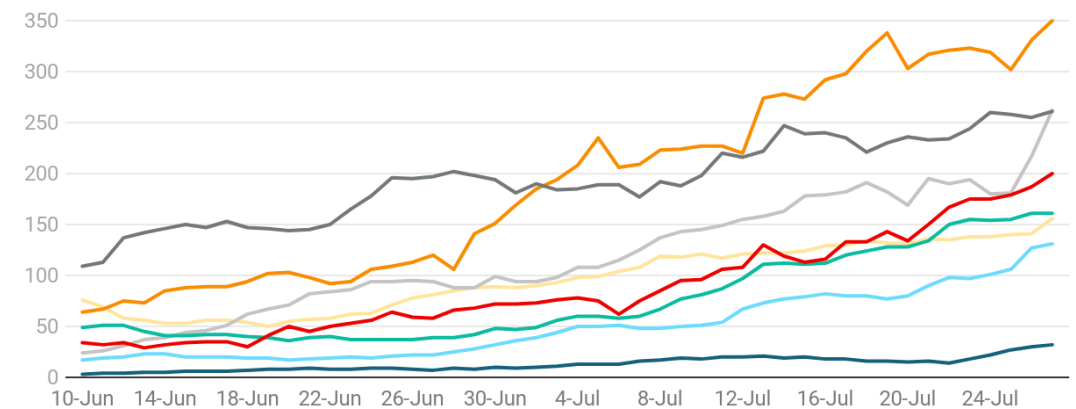
Health Industry Advisor LLC analysis

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

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 27

— Alaska — Arkansas — Hawaii — Missouri — New Mexico — North Dakota — Oklahoma — Tennessee



Health Industry Advisor LLC analysis

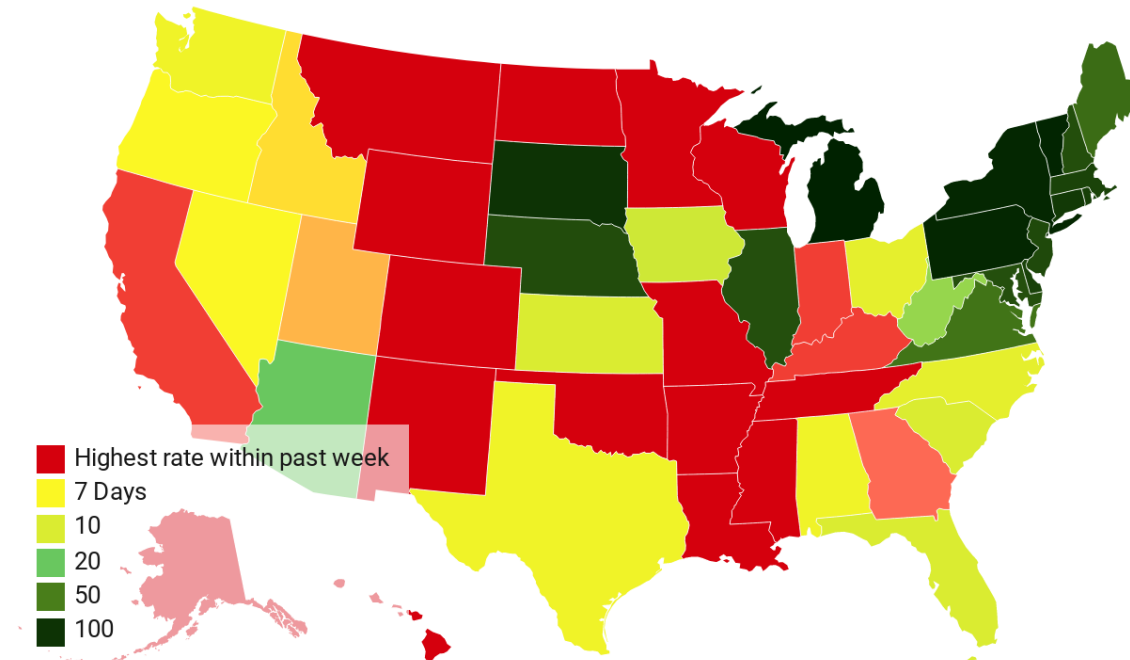
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

State-By-State

31 states are more than 1 week past a peak infection rate; eight, however experienced the highest rate to date on Monday

Days Since Peak New Infections Per Capita

Trailing 7-Day Moving Average, As of July 27



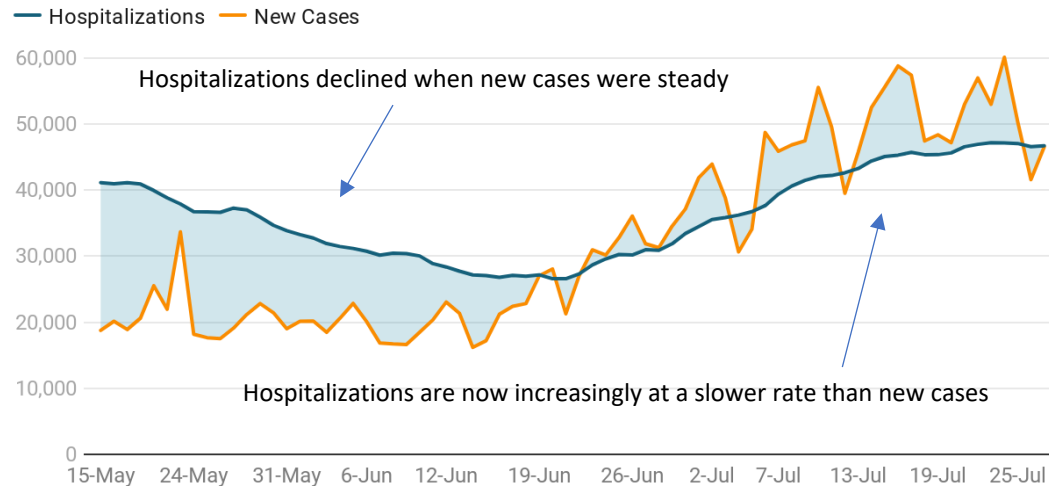
Health Industry Advisor LLC analysis

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

In the past few days, COVID-19 hospital census has declined; Patients in the ICU stabilized; Patients on ventilators increased slightly

Hospitalizations v. New Cases

As of July 27



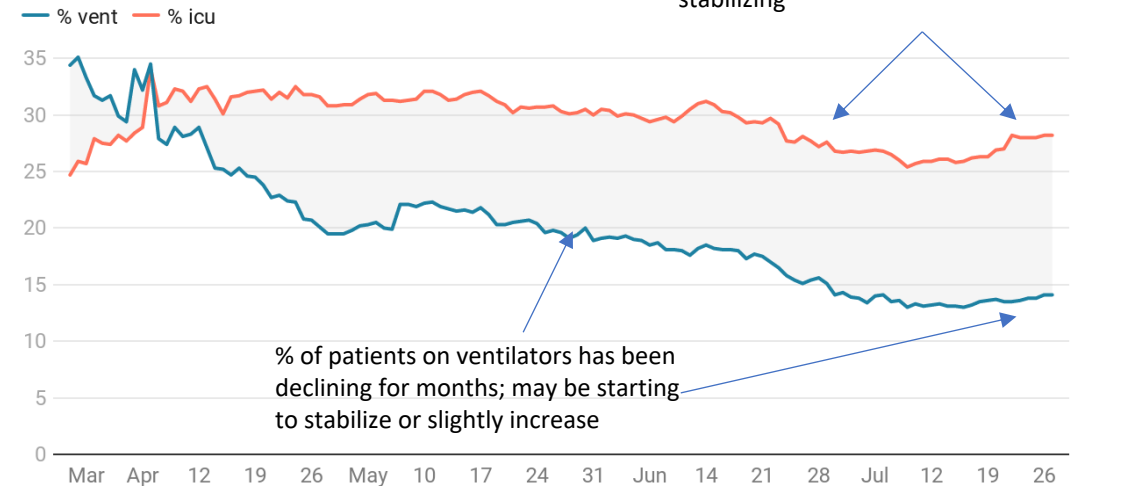
Health Industry Advisor LLC analysis

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 27



Health Industry Advisor LLC analysis

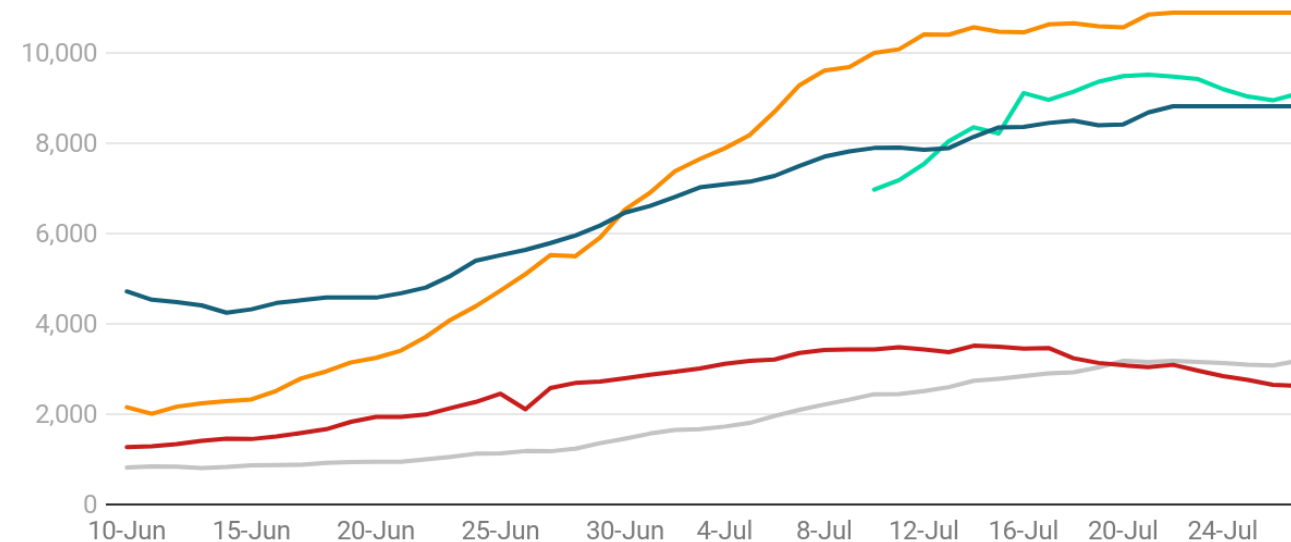
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

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

Hospitalized COVID-19 Patients

As of July 27

— Arizona — California — Florida — Georgia — Texas

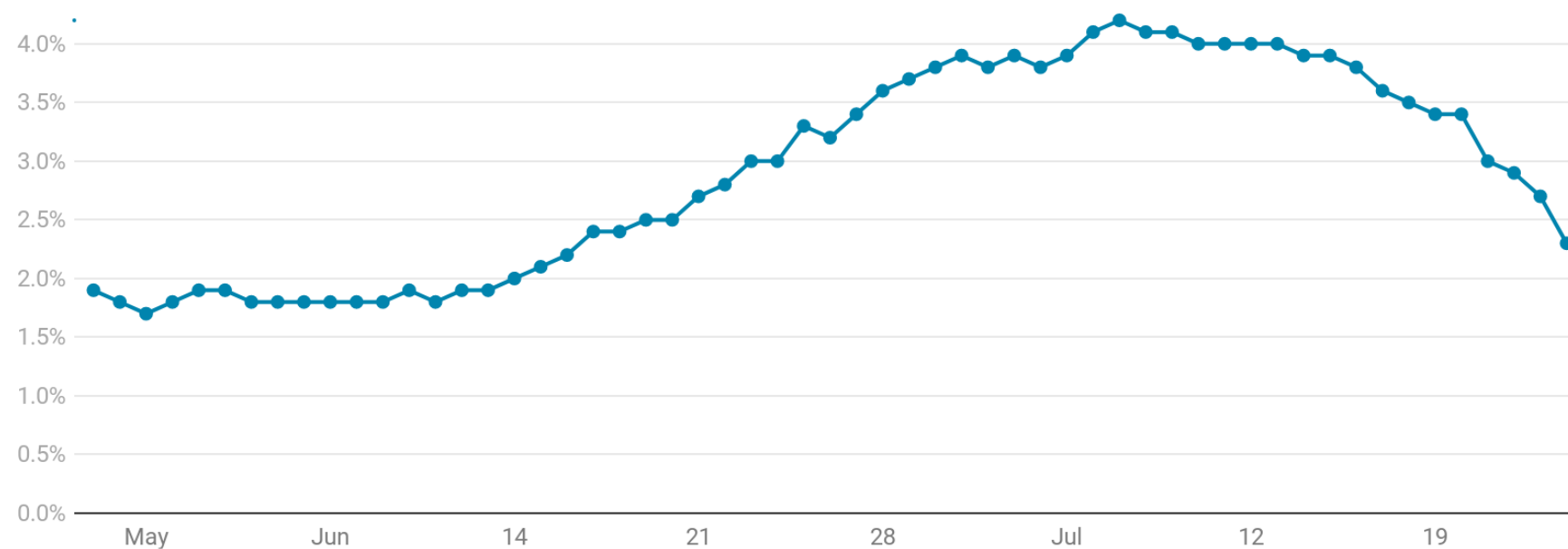


Health Industry Advisor LLC analysis,

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

% of Emergency Department Visits for COVID-Like Illness

As of July 24

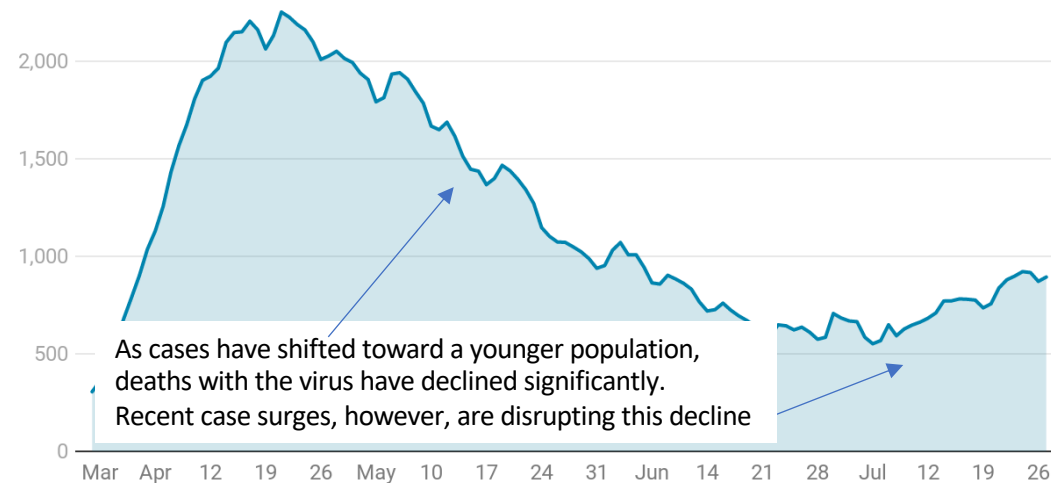


Health Industry Advisor LLC analysis

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

Deaths Recorded With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of July 27

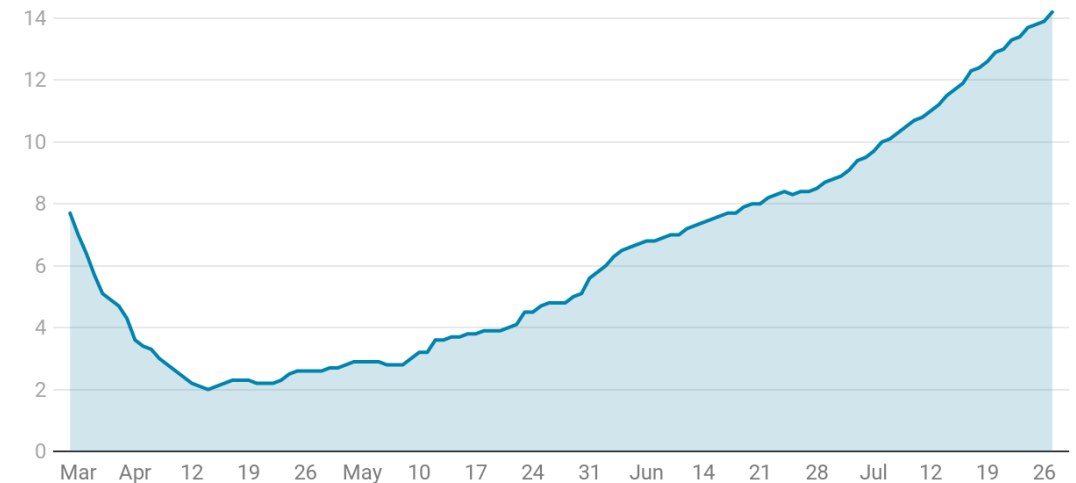


Health Industry Advisor LLC analysis

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

Recoveries: Deaths - United States

As of July 27



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 27

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.)	Rank9
USA	4,433,410	(1)	13,388	(10)	150,444	(1)	3.4%	(71)	454.3	(21)	1.6%	(72)	2,524	(16)	203.6	(6)
Brazil	2,443,480	(2)	11,490	(14)	87,679	(2)	3.6%	(61)	412.3	(23)	1.8%	(65)	5,165	(8)	216.2	(4)
India	1,482,503	(3)	1,074	(99)	33,448	(6)	2.3%	(102)	24.2	(196)	3.6%	(20)	285	(101)	33.9	(54)
Russia	818,120	(4)	5,606	(30)	13,354	(11)	1.6%	(126)	91.5	(91)	0.7%	(120)	1,850	(22)	39.8	(50)
South Africa	452,529	(5)	7,623	(20)	7,067	(17)	1.6%	(131)	119.1	(71)	2.8%	(36)	712	(55)	189.9	(7)
Mexico	390,516	(6)	3,027	(60)	43,680	(4)	11.2%	(11)	338.5	(31)	1.9%	(63)	107	(127)	51.3	(42)
Peru	389,717	(7)	11,808	(12)	18,418	(9)	4.7%	(45)	558.1	(15)	1.2%	(86)	716	(53)	138.7	(13)
Chile	347,923	(8)	18,189	(5)	9,187	(14)	2.6%	(89)	480.3	(17)	0.7%	(127)	937	(38)	111.2	(22)
Spain	325,862	(9)	6,969	(22)	28,434	(8)	8.7%	(13)	608.1	(9)	0.7%	(124)	899	(42)	42.6	(48)
UK	300,111	(10)	4,419	(42)	45,759	(3)	15.2%	(4)	673.8	(5)	0.3%	(167)	3,199	(13)	10.0	(93)
Iran	293,606	(11)	3,492	(52)	15,912	(10)	5.4%	(36)	189.3	(55)	0.9%	(110)	302	(97)	29.6	(55)
Pakistan	274,289	(12)	1,240	(93)	5,842	(19)	2.1%	(106)	26.4	(187)	0.5%	(141)	96	(129)	5.9	(109)
Saudi Arabia	268,934	(13)	7,717	(19)	2,760	(29)	1.0%	(152)	79.2	(97)	0.8%	(113)	1,343	(30)	63.9	(36)
Colombia	257,101	(14)	5,049	(36)	8,777	(16)	3.4%	(70)	172.4	(61)	3.3%	(24)	568	(67)	149.0	(11)
Italy	246,286	(15)	4,074	(45)	35,112	(5)	14.3%	(6)	580.8	(11)	0.1%	(180)	766	(48)	3.9	(124)
Turkey	227,019	(16)	2,690	(66)	5,630	(21)	2.5%	(93)	66.7	(108)	0.4%	(149)	508	(71)	10.9	(91)
Bangladesh	226,225	(17)	1,373	(89)	2,965	(28)	1.3%	(143)	18.0	(207)	1.2%	(89)	72	(136)	16.3	(72)
Germany	207,379	(18)	2,475	(71)	9,205	(13)	4.4%	(49)	109.8	(77)	0.3%	(166)	910	(41)	6.6	(106)
France	183,079	(19)	2,804	(63)	30,209	(7)	16.5%	(3)	462.7	(19)	0.5%	(140)	477	(75)	13.8	(81)
Argentina	167,416	(20)	3,702	(51)	3,059	(27)	1.8%	(117)	67.6	(107)	3.4%	(23)	301	(98)	115.7	(21)
Canada	114,597	(21)	3,034	(59)	8,901	(15)	7.8%	(17)	235.7	(43)	0.4%	(148)	1,096	(34)	13.1	(83)
Iraq	112,585	(22)	2,795	(64)	4,458	(26)	4.0%	(55)	110.7	(76)	2.4%	(48)	426	(80)	63.5	(37)
Qatar	109,597	(23)	39,033	(1)	165	(78)	0.2%	(187)	58.8	(121)	0.3%	(162)	1,585	(25)	130.2	(16)
Indonesia	100,303	(24)	366	(143)	4,838	(23)	4.8%	(41)	17.7	(209)	1.8%	(66)	83	(134)	6.3	(107)
Egypt	92,482	(25)	903	(105)	4,652	(24)	5.0%	(39)	45.4	(141)	0.6%	(134)	-	(161)	5.7	(110)
China	83,891	(26)	58	(193)	4,634	(25)	5.5%	(35)	3.2	(320)	0.0%	(186)	-	(161)	0.0	(188)
Kazakhstan	83,122	(27)	4,423	(41)	585	(53)	0.7%	(164)	31.1	(172)	2.0%	(59)	2,076	(19)	85.8	(26)
Philippines	82,040	(28)	748	(109)	1,945	(33)	2.4%	(98)	17.7	(208)	2.6%	(43)	248	(107)	17.1	(71)
Ecuador	81,161	(29)	4,595	(40)	5,532	(22)	6.8%	(21)	313.2	(33)	1.0%	(98)	170	(113)	52.9	(41)
Sweden	79,395	(30)	7,858	(18)	5,700	(20)	7.2%	(18)	564.1	(13)	0.2%	(168)	1,961	(20)	19.0	(65)

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

As of July 27

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	79,294	(19)	16,543	(10)	1,491	(24)	1.9%	(29)	304	(18)	2.5%	(10)	1,870	(31)	356.2	(5)
Alaska	2,524	(48)	3,584	(46)	21	(51)	0.8%	(50)	29	(50)	4.2%	(1)	6,206	(1)	131.4	(26)
Arizona	162,014	(8)	22,508	(3)	3,304	(15)	2.0%	(27)	454	(14)	1.7%	(26)	1,665	(37)	365.9	(4)
Arkansas	38,623	(30)	13,071	(21)	408	(37)	1.1%	(46)	135	(38)	2.3%	(14)	2,780	(14)	261.3	(13)
California	459,195	(1)	11,815	(24)	8,545	(3)	1.9%	(30)	216	(28)	2.0%	(19)	3,190	(9)	242.0	(14)
Colorado	44,336	(26)	7,739	(38)	1,799	(19)	4.1%	(13)	312	(17)	1.3%	(34)	1,380	(45)	99.2	(36)
Connecticut	48,776	(25)	13,739	(18)	4,418	(10)	9.1%	(1)	1,239	(3)	0.3%	(48)	3,516	(5)	37.2	(47)
Delaware	14,290	(40)	14,794	(13)	579	(34)	4.1%	(14)	595	(10)	0.9%	(40)	2,944	(11)	114.7	(30)
District Of Columbia	11,780	(41)	16,802	(8)	582	(33)	4.9%	(9)	825	(6)	0.6%	(44)	4,536	(3)	105.1	(34)
Florida	423,855	(3)	20,149	(5)	5,933	(8)	1.4%	(42)	276	(24)	2.7%	(8)	2,523	(18)	481.2	(1)
Georgia	167,953	(7)	16,091	(11)	3,509	(12)	2.1%	(26)	330	(16)	2.3%	(13)	2,411	(21)	340.0	(7)
Hawaii	1,683	(50)	1,208	(51)	26	(49)	1.5%	(39)	18	(51)	3.6%	(3)	823	(51)	32.1	(48)
Idaho	18,177	(38)	10,432	(26)	152	(42)	0.8%	(49)	85	(45)	2.8%	(6)	1,603	(41)	273.3	(11)
Illinois	172,666	(6)	13,723	(19)	7,608	(5)	4.4%	(11)	600	(9)	0.9%	(39)	2,966	(10)	112.4	(31)
Indiana	62,372	(20)	9,344	(29)	2,906	(16)	4.7%	(10)	432	(15)	1.4%	(32)	1,531	(43)	121.0	(28)
Iowa	42,205	(29)	13,495	(20)	834	(29)	2.0%	(28)	264	(25)	1.2%	(35)	1,644	(38)	150.6	(22)
Kansas	25,508	(34)	9,048	(32)	335	(38)	1.3%	(44)	115	(41)	1.6%	(27)	853	(50)	141.6	(24)
Kentucky	27,079	(33)	6,178	(42)	709	(31)	2.6%	(24)	159	(34)	2.4%	(12)	1,704	(36)	133.9	(25)
Louisiana	107,574	(12)	23,644	(1)	3,789	(11)	3.5%	(17)	815	(7)	2.0%	(18)	4,828	(2)	461.7	(2)
Maine	3,814	(46)	2,851	(49)	119	(44)	3.1%	(20)	89	(43)	0.6%	(43)	1,936	(30)	12.9	(50)
Maryland	83,748	(17)	14,039	(16)	3,447	(13)	4.1%	(12)	570	(11)	1.1%	(37)	2,510	(19)	146.3	(23)
Massachusetts	115,637	(9)	16,681	(9)	8,536	(4)	7.4%	(5)	1,228	(4)	0.3%	(49)	1,642	(39)	43.9	(44)
Michigan	86,661	(14)	8,729	(34)	6,405	(7)	7.4%	(4)	641	(8)	0.8%	(42)	2,771	(15)	68.3	(43)
Minnesota	51,153	(23)	9,186	(31)	1,616	(20)	3.2%	(19)	287	(23)	1.6%	(30)	2,617	(17)	119.0	(29)
Mississippi	52,304	(22)	17,794	(6)	1,501	(23)	2.9%	(22)	504	(13)	2.4%	(11)	1,806	(32)	435.3	(3)

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

As of July 27

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	43,240	(27)	7,239	(40)	1,244	(25)	2.9%	(21)	203	(29)	3.0%	(5)	1,629	(40)	200.4	(15)
Montana	3,342	(47)	3,163	(48)	47	(48)	1.4%	(41)	44	(48)	3.7%	(2)	2,622	(16)	101.6	(35)
Nebraska	24,618	(35)	12,872	(22)	317	(39)	1.3%	(45)	164	(33)	1.2%	(36)	1,767	(34)	151.5	(21)
Nevada	42,843	(28)	14,230	(14)	739	(30)	1.7%	(34)	240	(27)	2.5%	(9)	2,285	(24)	330.1	(8)
New Hampshire	6,436	(43)	4,737	(43)	409	(36)	6.4%	(7)	301	(19)	0.5%	(47)	1,075	(48)	20.2	(49)
New Jersey	185,117	(5)	20,913	(4)	15,889	(2)	8.6%	(2)	1,789	(1)	0.2%	(50)	2,911	(12)	42.5	(45)
New Mexico	19,042	(36)	9,301	(30)	619	(32)	3.3%	(18)	295	(20)	1.8%	(24)	3,509	(6)	155.8	(20)
New York	439,885	(2)	22,642	(2)	32,708	(1)	7.4%	(3)	1,681	(2)	0.2%	(51)	3,395	(7)	41.1	(46)
North Carolina	112,771	(10)	10,921	(25)	1,823	(18)	1.6%	(37)	174	(32)	1.7%	(25)	2,882	(13)	180.4	(16)
North Dakota	5,876	(45)	7,855	(37)	99	(46)	1.7%	(36)	130	(39)	2.2%	(15)	2,322	(22)	161.2	(18)
Ohio	84,094	(16)	7,289	(39)	3,351	(14)	4.0%	(16)	287	(22)	1.6%	(29)	1,982	(28)	110.1	(32)
Oklahoma	31,285	(32)	8,260	(36)	496	(35)	1.6%	(38)	125	(40)	3.1%	(4)	3,329	(8)	261.9	(12)
Oregon	16,758	(39)	4,051	(45)	289	(40)	1.7%	(35)	69	(46)	2.1%	(16)	1,440	(44)	75.9	(40)
Pennsylvania	111,773	(11)	8,826	(33)	7,194	(6)	6.4%	(6)	562	(12)	0.9%	(41)	1,236	(47)	72.5	(42)
Rhode Island	18,224	(37)	17,478	(7)	1,004	(26)	5.5%	(8)	948	(5)	0.5%	(46)	1,752	(35)	82.4	(37)
South Carolina	81,199	(18)	16,007	(12)	1,506	(22)	1.9%	(31)	293	(21)	1.9%	(23)	1,958	(29)	304.4	(9)
South Dakota	8,395	(42)	9,545	(28)	123	(43)	1.5%	(40)	139	(37)	0.9%	(38)	1,320	(46)	80.9	(39)
Tennessee	93,936	(13)	14,121	(15)	978	(27)	1.0%	(47)	143	(36)	2.7%	(7)	4,104	(4)	349.9	(6)
Texas	397,992	(4)	13,939	(17)	5,252	(9)	1.3%	(43)	181	(31)	1.9%	(22)	2,189	(25)	281.0	(10)
Utah	37,973	(31)	11,981	(23)	281	(41)	0.7%	(51)	88	(44)	1.5%	(31)	1,803	(33)	173.0	(17)
Vermont	1,400	(51)	2,247	(50)	56	(47)	4.0%	(15)	90	(42)	0.5%	(45)	1,545	(42)	9.6	(51)
Virginia	84,567	(15)	10,084	(27)	2,082	(17)	2.5%	(25)	244	(26)	1.4%	(33)	1,987	(27)	128.8	(27)
Washington	53,906	(21)	7,216	(41)	1,526	(21)	2.8%	(23)	200	(30)	1.6%	(28)	2,064	(26)	107.4	(33)
West Virginia	5,960	(44)	3,388	(47)	106	(45)	1.8%	(33)	59	(47)	2.1%	(17)	2,482	(20)	72.9	(41)
Wisconsin	48,827	(24)	8,487	(35)	893	(28)	1.8%	(32)	153	(35)	2.0%	(20)	2,290	(23)	157.0	(19)
Wyoming	2,475	(49)	4,354	(44)	25	(50)	1.0%	(48)	43	(49)	2.0%	(21)	1,044	(49)	82.2	(38)
United States	4,433,410		13,394		150,444		3.4%		454		1.6%		2,447		203.6	

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>