

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 1.6% (Cumulative)
Test-Positivity Rate	Decline	Up to 18.2%
No. of Cases	Plateau	Up 4.4%
% of Deaths Per Case	Decline	Down slightly to 5.6%
No. of Deaths / 1M Pop.	Plateau	Up to 157.7
Recoveries : Deaths	Increase (>1:1)	Up to 2.12

Explanation of shading changes since yesterday: Number of tests was low on Friday, as several states reported only their positive results; reported recoveries was high

Today, we have added ten countries to our coverage – Chile, Ecuador, India, Ireland, Japan, Mexico, Pakistan, Peru, Saudi Arabia and Singapore. This gives us the top 29 countries by total cases, plus South Korea (which is now just behind Poland in total cases). These 30 countries represent 91.6% of all cases in the world.

Highlights from Friday include:

- Friday was an example of the problem with lags in state data reporting: Four states reported positive test results only (many states do this regularly), bringing the total test volume down for the day. Further, reported recoveries were up substantially – Wisconsin reported about ½ of the active cases as now recovered. Again, these states tend to batch these reports, rendering day-to-day comparisons moot.
- Recoveries are now more than 110,000. As states continue to update their records, we expect to see this number continue to increase significantly. (Note: several states wait 28-30 days post-onset before declaring a person recovered.) Currently, there are 2.1 recoveries for each death; if we follow the experience of the rest of the world, that should increase to > 4:1.
- At this point, we are closely observing the rate of new infections per capita – looking for this rate to peak, then fall dramatically. As of yesterday, 38 states appear to be past the peak in this rate.

In 7 states – Alaska, Hawaii, Idaho, Louisiana, Montana, Vermont and Wyoming - the new infection rate less than ½ its peak rate; in Maine, Michigan and Washington, it is just above ½ its peak rate.

New Jersey, Massachusetts, Rhode Island, New York and Connecticut, in order, have the highest rate of new infections per capita over the past 5 days. Massachusetts' rate has yet to peak; Connecticut, Maine and New Jersey's are only slightly off their peaks. New York's is down nearly 50%.

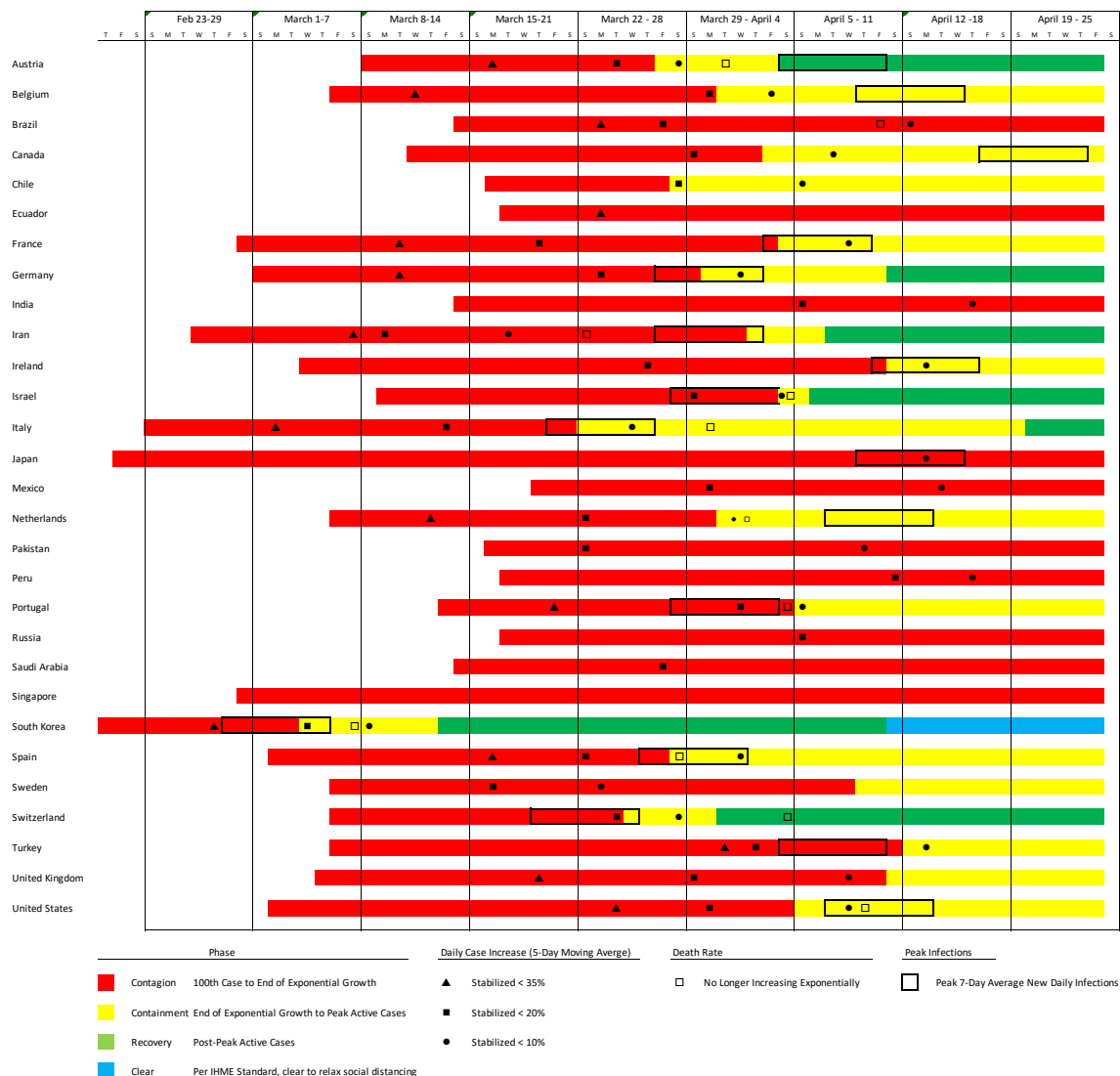
- Singapore, Ireland and Ecuador, all countries we added to our coverage today, report the highest rate of new daily infections of all of the 30 countries covered.
- Five European countries – Spain, Belgium, Ireland, Switzerland, and Italy – have the highest rate of cases per capita, ahead of the U.S. and the other countries we are tracking. Several countries outside of Europe - Brazil, Ecuador, India, Mexico, Russia, Saudi Arabia and Singapore - however, are reporting the highest % growth in cases.

Virus Progression: Hardest Hit Countries

Nine of the Ten Countries Added to Our Coverage Are Still Experiencing Exponential Case Growth

Only Ireland among the newly-added countries has broken the exponential growth in cases. Russia joins the other 9 countries as still experiencing exponential case growth

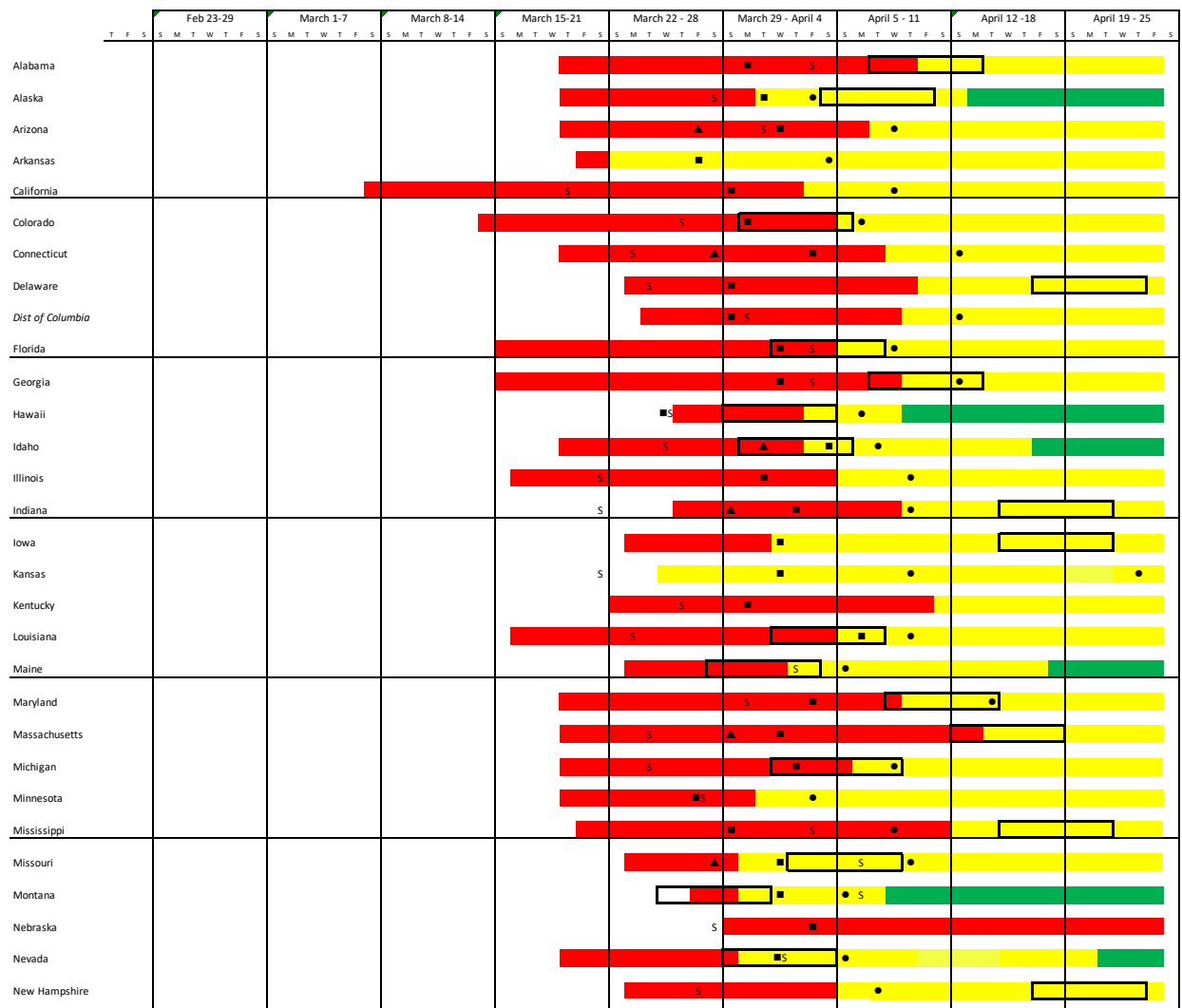
The graphic illustrates in color when the country first recorded 100 total cases (start of the "contagion" phase); when growth stopped following an exponential pattern (start of the "containment" phase); and when peak total cases were recorded (start of the "recovery" phase). It uses symbols to indicate when average daily case growth rates fell (and were sustained) below certain benchmarks, as well as when deaths stopped growing exponentially.



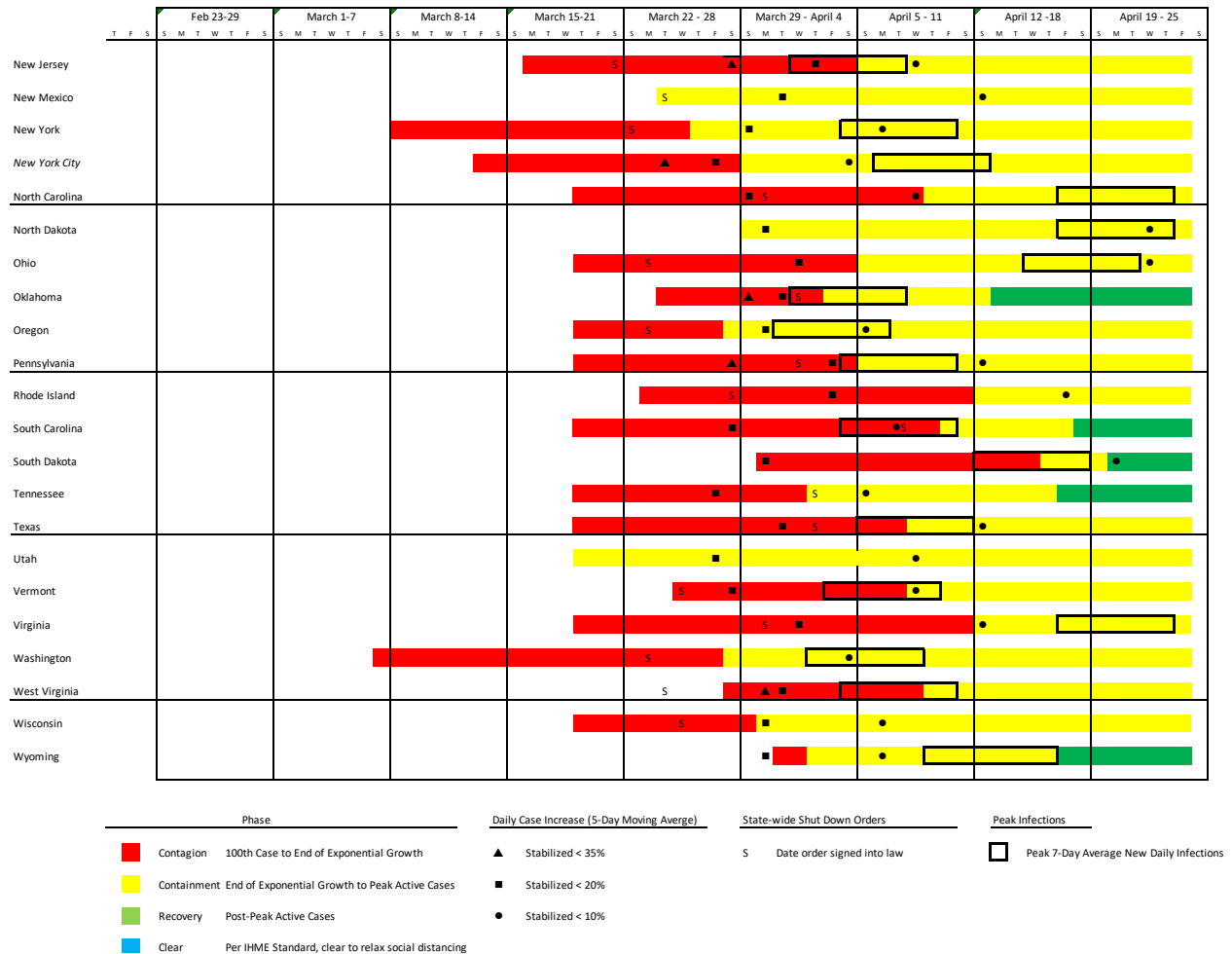
Virus Progression: US States, District of Columbia and New York City

The Majority of U.S. States Are in Containment and Well on Their Way Toward Recovery

Kentucky, after having moved several days past its peak in Active Cases on Thursday, recorded a new peak on Friday. This still leaves eleven states – Alaska, Hawaii, Idaho, Maine, Montana, Nevada, Oklahoma, South Carolina, South Dakota, Tennessee, and Wyoming - that may be past their peak in Active cases.



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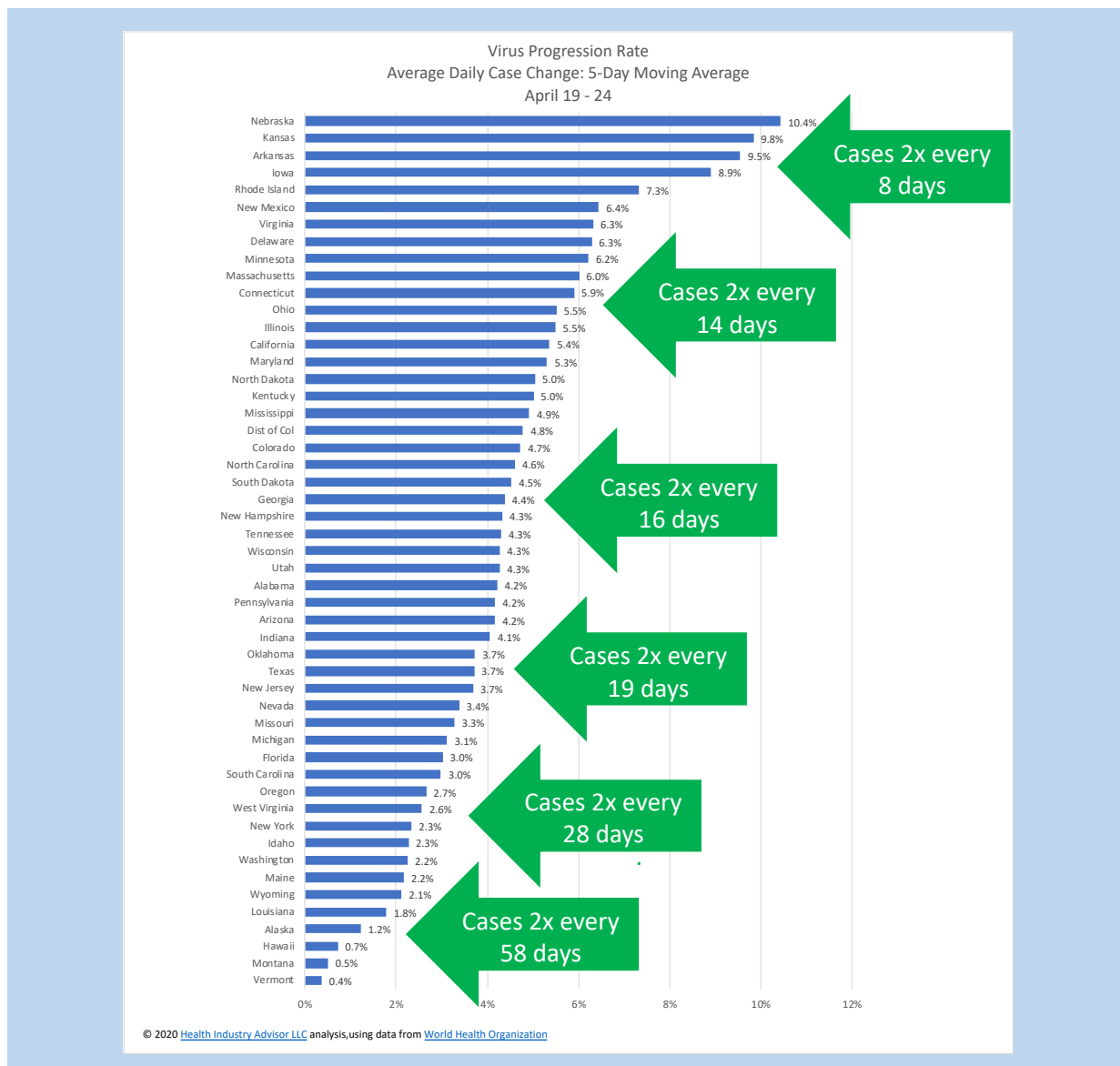


Daily Case Growth Rates By State

Case Growth Rates Continue to Fall Dramatically Across the U.S.

Nebraska remains the lone state experiencing daily case growth > 10%. It also is the only state still experiencing exponential case growth.

The case growth rate is so low in Vermont that it would now take 188 days for cases to double; in Montana, 139 days. In Louisiana and New York – two of the hardest-hit states – it would take 38 and 31 days, respectively. For the U.S. overall, it would take about 18 days.



State-By State Statistics and Rankings

New York Continues To Experience the Most Cases, Cases Per Capita and Deaths

This table provided statistics and ranking of each of the 50 states and the District of Columbia.

As of April 24

State	Total Cases	Rank	Cases per 1M Population	Rank	Deaths	Rank	Death Rate	Rank	5-day Moving Average Case Growth Rate	Rank	Tests per 1M Population	Rank	New Daily Cases Per 1M Population (5-Day M.A.)	Rank
Alabama	6,026	(24)	1,229.0	(28)	209	(25)	3.5%	(31)	4.2%	(28)	10,821	(36)	42.4	(29)
Alaska	339	(51)	463.4	(49)	9	(50)	2.7%	(41)	1.2%	(48)	16,170	(19)	5.9	(49)
Arizona	6,045	(23)	830.5	(40)	266	(21)	4.4%	(20)	4.2%	(30)	8,740	(48)	30.2	(38)
Arkansas	2,810	(37)	931.1	(37)	47	(42)	1.7%	(48)	9.5%	(3)	11,947	(31)	52.5	(25)
California	40,812	(4)	1,032.9	(33)	1,594	(9)	3.9%	(27)	5.4%	(14)	12,623	(29)	42.1	(30)
Colorado	12,256	(17)	2,128.2	(14)	674	(16)	5.5%	(7)	4.7%	(20)	10,267	(41)	79.6	(16)
Connecticut	23,921	(10)	6,709.4	(4)	1,764	(6)	7.4%	(3)	5.9%	(11)	20,672	(12)	285.0	(5)
Delaware	3,442	(33)	3,534.7	(9)	100	(35)	2.9%	(39)	6.3%	(8)	18,303	(16)	164.2	(7)
District Of Columbia	3,528	(32)	4,998.9	(7)	153	(32)	4.3%	(21)	4.8%	(19)	24,153	(7)	212.9	(6)
Florida	30,533	(8)	1,421.6	(20)	1,046	(10)	3.4%	(32)	3.0%	(38)	15,583	(20)	38.4	(33)
Georgia	22,491	(12)	2,118.3	(15)	899	(11)	4.0%	(23)	4.4%	(23)	10,408	(39)	68.1	(21)
Hawaii	601	(48)	424.5	(50)	13	(48)	2.2%	(44)	0.7%	(49)	19,881	(13)	4.8	(50)
Idaho	1,870	(42)	1,043.5	(32)	54	(38)	2.9%	(40)	2.3%	(43)	11,471	(33)	17.1	(44)
Illinois	39,658	(6)	3,129.6	(11)	1,795	(5)	4.5%	(18)	5.5%	(13)	14,790	(22)	136.2	(8)
Indiana	13,680	(15)	2,032.0	(16)	741	(13)	5.4%	(10)	4.1%	(31)	11,383	(34)	74.8	(18)
Iowa	4,445	(28)	1,408.8	(21)	107	(34)	2.4%	(43)	8.9%	(4)	10,207	(42)	95.7	(12)
Kansas	2,955	(36)	1,014.3	(34)	118	(33)	4.0%	(24)	9.8%	(2)	8,109	(51)	61.3	(22)
Kentucky	3,779	(31)	845.9	(39)	200	(27)	5.3%	(12)	5.0%	(17)	10,126	(43)	40.2	(32)
Louisiana	26,140	(9)	5,623.0	(6)	1,660	(8)	6.4%	(5)	1.8%	(47)	30,460	(4)	92.9	(15)
Maine	965	(45)	717.9	(45)	47	(42)	4.9%	(15)	2.2%	(45)	13,296	(26)	14.7	(46)
Maryland	16,616	(13)	2,748.4	(12)	798	(12)	4.8%	(16)	5.3%	(15)	14,111	(24)	119.2	(9)
Massachusetts	50,969	(3)	7,334.2	(3)	2,556	(4)	5.0%	(13)	6.0%	(10)	31,509	(3)	340.6	(2)
Michigan	36,641	(7)	3,668.9	(8)	3,085	(3)	8.4%	(1)	3.1%	(37)	14,073	(25)	94.7	(14)
Minnesota	3,185	(34)	564.8	(47)	221	(23)	6.9%	(4)	6.2%	(9)	9,731	(45)	28.2	(39)
Mississippi	5,434	(25)	1,825.8	(17)	209	(25)	3.8%	(28)	4.9%	(18)	18,532	(15)	78.8	(17)
Missouri	6,694	(22)	1,090.7	(31)	267	(20)	4.0%	(25)	3.3%	(36)	10,657	(37)	32.8	(35)
Montana	444	(50)	415.4	(51)	14	(47)	3.2%	(35)	0.5%	(50)	11,641	(32)	2.9	(51)
Nebraska	2,421	(39)	1,251.5	(27)	50	(40)	2.1%	(45)	10.4%	(1)	10,559	(38)	94.8	(13)
Nevada	4,398	(29)	1,427.8	(19)	197	(28)	4.5%	(19)	3.4%	(35)	15,220	(21)	40.5	(31)
New Hampshire	1,720	(43)	1,265.0	(26)	53	(39)	3.1%	(37)	4.3%	(24)	13,193	(27)	45.5	(26)
New Jersey	102,196	(2)	11,505.7	(2)	5,617	(2)	5.5%	(8)	3.7%	(34)	23,184	(9)	381.6	(1)
New Mexico	2,521	(38)	1,202.3	(29)	84	(37)	3.3%	(33)	6.4%	(6)	24,617	(6)	55.2	(24)
New York	277,445	(1)	14,261.9	(1)	21,291	(1)	7.7%	(2)	2.3%	(42)	37,243	(2)	319.4	(4)
North Carolina	8,250	(20)	786.6	(44)	293	(19)	3.6%	(29)	4.6%	(21)	9,904	(44)	30.2	(37)
North Dakota	748	(47)	981.5	(36)	15	(46)	2.0%	(46)	5.0%	(16)	23,197	(8)	57.9	(23)
Ohio	15,169	(14)	1,297.7	(24)	690	(15)	4.5%	(17)	5.5%	(12)	9,200	(46)	74.1	(19)
Oklahoma	3,121	(35)	788.7	(43)	188	(29)	6.0%	(6)	3.7%	(32)	12,247	(30)	23.7	(42)
Oregon	2,177	(40)	516.2	(48)	86	(36)	4.0%	(26)	2.7%	(40)	11,145	(35)	13.3	(47)
Pennsylvania	40,149	(5)	3,136.2	(10)	1,736	(7)	4.3%	(22)	4.2%	(29)	14,552	(23)	114.1	(10)
Rhode Island	6,699	(21)	6,323.6	(5)	202	(26)	3.0%	(38)	7.3%	(5)	44,725	(1)	340.1	(3)
South Carolina	5,070	(27)	984.7	(35)	157	(31)	3.1%	(36)	3.0%	(39)	8,972	(47)	27.3	(40)
South Dakota	2,040	(41)	2,306.0	(13)	10	(49)	0.5%	(51)	4.5%	(22)	17,152	(18)	101.6	(11)
Tennessee	8,726	(19)	1,277.0	(25)	168	(30)	1.9%	(47)	4.3%	(25)	19,741	(14)	44.7	(27)
Texas	23,170	(11)	799.1	(42)	601	(17)	2.6%	(42)	3.7%	(33)	8,698	(49)	26.7	(41)
Utah	3,782	(30)	1,179.7	(30)	39	(44)	1.0%	(50)	4.3%	(27)	27,812	(5)	43.5	(28)
Vermont	827	(46)	1,325.3	(23)	44	(43)	5.3%	(11)	0.4%	(51)	22,897	(10)	11.0	(48)
Virginia	11,594	(18)	1,358.3	(22)	410	(18)	3.5%	(30)	6.3%	(7)	8,203	(50)	68.7	(20)
Washington	13,176	(16)	1,730.3	(18)	723	(14)	5.5%	(9)	2.2%	(44)	21,027	(11)	38.1	(34)
West Virginia	1,010	(44)	565.1	(46)	32	(45)	3.2%	(34)	2.6%	(41)	17,724	(17)	18.8	(43)
Wisconsin	5,356	(26)	919.9	(38)	262	(22)	4.9%	(14)	4.3%	(26)	10,371	(40)	32.2	(36)
Wyoming	473	(49)	817.3	(41)	7	(51)	1.5%	(49)	2.1%	(46)	13,102	(28)	15.1	(45)

United States	925,232		2,818.2		52,193		5.6%		3.6%		15,153		91.0	
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Country-By-Country Statistics and Rankings

The U.S. Leads the World in Cases and Deaths; Is 5th in New Daily Infections per Capita and 6th in Cases per Capita

This table provided statistics and ranking of each of the countries we are tracking.

As of April 24

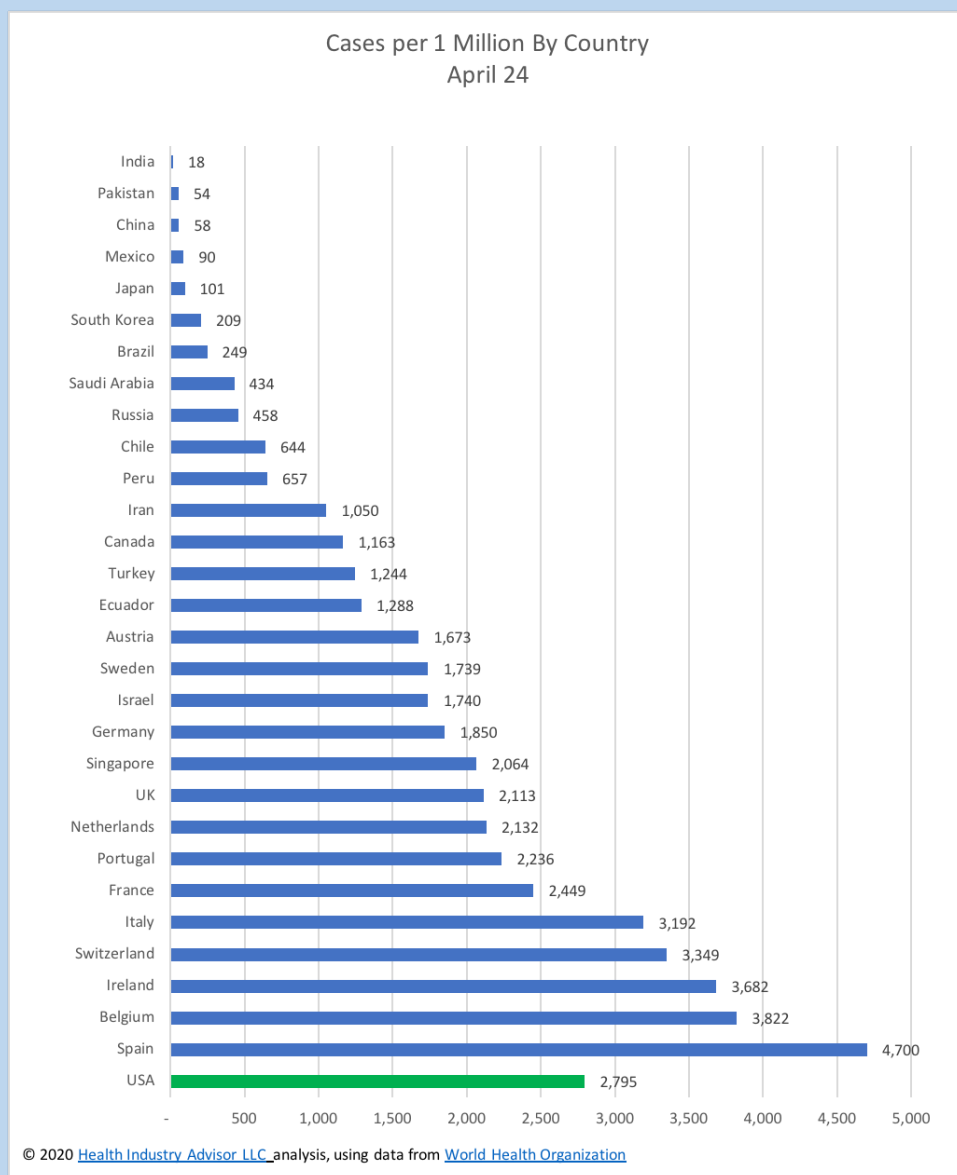
Country	Total Cases	Rank	Cases per 1M Population	Rank	Deaths	Rank	Death Rate	Rank	5-day Moving Average Case Growth Rate	Rank	Tests per 1M Population	Rank	New Daily Infections Per 1M Population (5-Day M.A.)	Rank
USA	925,232	(1)	2,795	(6)	52,193	(1)	5.6%	(11)	3.9%	(15)	15,153	(13)	93.0	(5)
Austria	15,071	(23)	1,673	(15)	530	(23)	3.5%	(18)	0.4%	(28)	23,615	(6)	7.6	(24)
Belgium	44,293	(12)	3,822	(2)	6,679	(6)	15.1%	(1)	2.8%	(18)	16,313	(11)	100.5	(4)
Brazil	52,995	(11)	249	(24)	3,670	(11)	6.9%	(9)	6.5%	(9)	1,373	(25)	13.0	(23)
Canada	43,888	(13)	1,163	(18)	2,302	(13)	5.2%	(15)	4.6%	(10)	17,490	(9)	45.3	(12)
Chile	12,306	(26)	644	(21)	174	(28)	1.4%	(26)	4.3%	(11)	7,442	(19)	22.8	(21)
China	82,804	(9)	58	(28)	4,631	(9)	5.6%	(12)	0.0%	(30)	0	(30)	0.0	(30)
Ecuador	22,719	(18)	1,288	(16)	576	(22)	2.5%	(22)	29.8%	(1)	3,203	(24)	115.5	(3)
France	159,828	(4)	2,449	(7)	22,245	(4)	13.9%	(2)	0.9%	(26)	7,103	(20)	26.0	(19)
Germany	154,999	(5)	1,850	(12)	5,760	(7)	3.7%	(17)	1.2%	(25)	24,738	(5)	23.2	(20)
India	24,447	(16)	18	(30)	780	(19)	3.2%	(19)	6.8%	(7)	393	(29)	1.0	(28)
Iran	88,194	(8)	1,050	(19)	5,574	(8)	6.3%	(10)	1.4%	(24)	4,761	(23)	14.8	(22)
Ireland	18,184	(20)	3,682	(3)	1,014	(17)	5.6%	(13)	4.3%	(12)	22,598	(7)	121.6	(2)
Israel	15,058	(24)	1,740	(13)	194	(27)	1.3%	(27)	2.2%	(21)	34,971	(1)	34.3	(16)
Italy	192,994	(3)	3,192	(5)	25,969	(2)	13.5%	(4)	1.5%	(23)	27,164	(4)	48.6	(11)
Japan	12,712	(25)	101	(26)	345	(24)	2.7%	(21)	3.4%	(17)	1,120	(26)	3.3	(26)
Mexico	11,633	(29)	90	(27)	1,069	(16)	9.2%	(8)	9.9%	(3)	398	(28)	5.9	(25)
Netherlands	36,535	(14)	2,132	(9)	4,289	(10)	11.7%	(6)	2.3%	(20)	10,913	(15)	50.7	(10)
Pakistan	11,940	(28)	54	(29)	253	(25)	2.1%	(25)	7.7%	(6)	625	(27)	3.2	(27)
Peru	21,648	(19)	657	(20)	634	(20)	2.9%	(20)	6.7%	(8)	6,016	(21)	35.4	(14)
Portugal	22,797	(17)	2,236	(8)	854	(18)	3.7%	(16)	2.4%	(19)	30,967	(2)	52.9	(9)
Russia	68,622	(10)	458	(22)	615	(21)	0.9%	(28)	9.9%	(2)	17,474	(10)	34.9	(15)
Saudi Arabia	15,102	(22)	434	(23)	127	(29)	0.8%	(29)	9.1%	(5)	11,499	(14)	32.7	(17)
Singapore	12,075	(27)	2,064	(11)	12	(30)	0.1%	(30)	9.8%	(4)	5,745	(22)	171.6	(1)
South Korea	10,708	(30)	209	(25)	240	(26)	2.2%	(24)	0.1%	(29)	16,203	(12)	0.2	(29)
Spain	219,764	(2)	4,700	(1)	22,524	(3)	10.2%	(7)	2.0%	(22)	19,896	(8)	88.4	(6)
Sweden	17,567	(21)	1,739	(14)	2,152	(14)	12.3%	(5)	4.1%	(13)	9,357	(17)	61.5	(8)
Switzerland	28,677	(15)	3,349	(4)	1,589	(15)	5.5%	(14)	0.7%	(27)	27,182	(3)	26.7	(18)
Turkey	104,912	(7)	1,244	(17)	2,600	(12)	2.5%	(23)	4.0%	(14)	9,844	(16)	44.7	(13)
UK	143,464	(6)	2,113	(10)	19,506	(5)	13.6%	(3)	3.6%	(16)	9,016	(18)	73.2	(7)

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Country-By-Country: Cases per Capita

Five European Countries Are Reporting the Most Cases per Capita

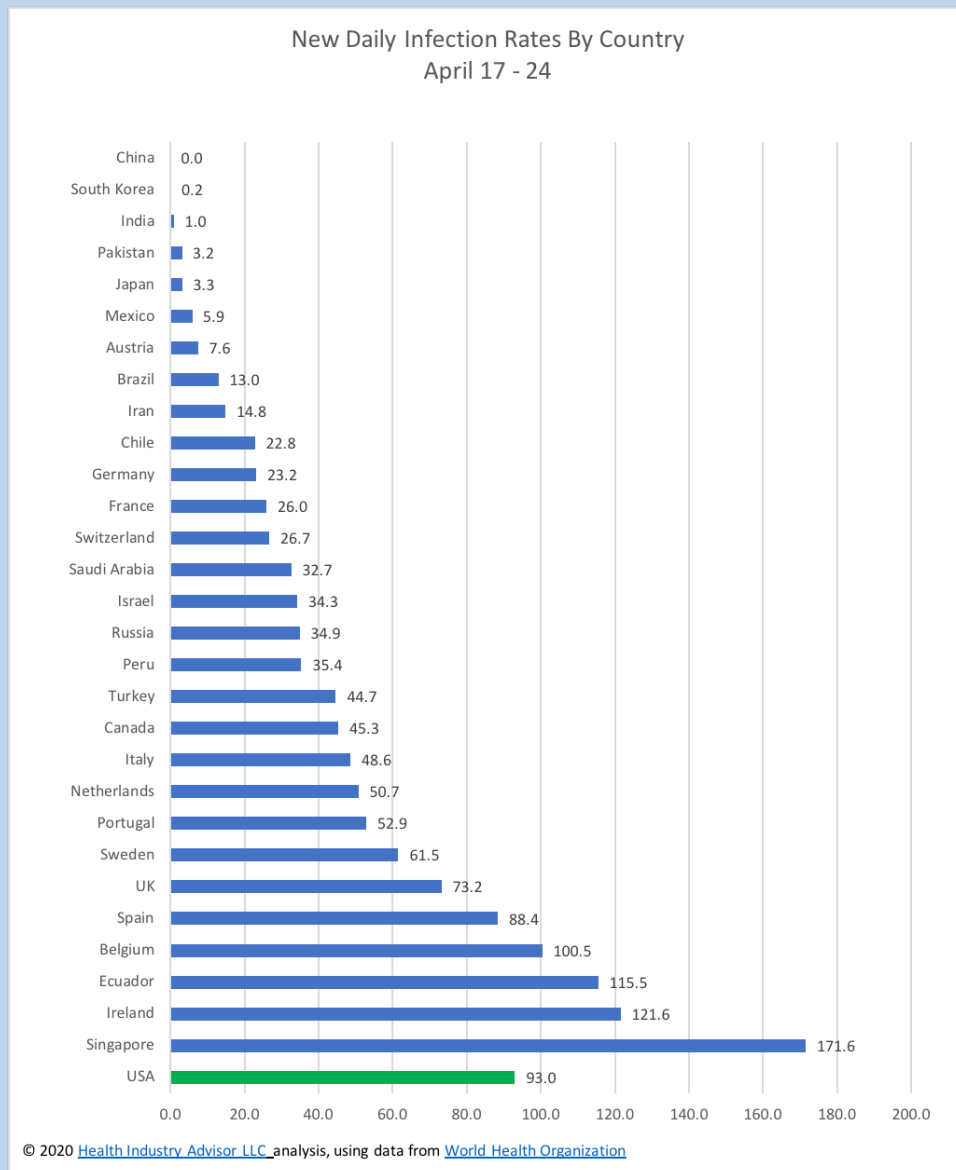
Spain, Belgium, Ireland, Switzerland and Italy each have more cases per capita than the U.S. Of these, only Italy and Switzerland have passed a peak in Active Cases.



Country-By-Country: New Daily Infection per Capita Rate

Three Countries With Relatively Fewer Cases Are Reporting the Highest Rate of New Daily Infections

Singapore, Ireland and Ecuador don't rank high in terms of total cases, however, they have the highest new infection rate of any of the top 30 countries.



Country-By-Country: Active Case and New Daily Infection per Capita Rate Time-Series

Time-Series Graphs of Active Cases and New Infection Rates Show the Virus Progression By Country

These are shown for each of the 30 covered countries on the following pages. Infection rates should begin to decline first; then, as infected patients recover, active cases will begin to decline.

