

COVID-19 Dashboard

Issue # 72
Thursday, June 11, 2020

Measure	Desired Change	Yesterday in the U.S.
Number of Tests	Increase	420,000 on Wednesday
Test-Positivity Rate	Decline	5.0% test-positive past 2 days; 4.6% for past 7 days
Number of Cases	Plateau	New Cases down 6.5% week-over-week (after adjusting for accounting changes)
Deaths % of Total Cases	Decline	<5.6%
Number of Deaths / 1M Population	Plateau	347.8
Recoveries : Death	Increase	7.02

- The United States recorded its lowest 5-day average increase in new cases - 1.0% - since the beginning of this pandemic. Tremendous news, given the (appropriate) concern about the impact of relaxed restrictions on infection rates. Adjusting for accounting changing in cases counts in New York and Michigan last week, new cases are down 6.5% week-over-week
- The death rate continues to stabilize, if not fall slightly. It has been < 5.6% for the past 3 days, failing from 6.0% on May 17. Although reporting of recoveries is still lagging, they now outnumber deaths by > 7:1
- Texas and Florida have garnered a great deal of press in the past 24 hours, due to large increases in new cases. As always, the story behind the numbers is more complicated than reported:
 - Texas' new daily infections are up 56.6% since its recent low on May 27; however, even at this higher rate, it is still lower than 22 other states and is 12 infections per million per day lower than the United States average. Its recent test-positive rate is reasonable, at 7.4%, and its testing is up 80.5% since this May 27th date. Of concern in Texas, however, is that COVID-19 hospitalizations are up 16% week-over-week and 19% over that of 28 days ago
- Florida, like Texas, has experienced an 85.5% increase in new daily infections since its recent low on May 29; Florida's recent rate, however, is even lower than Texas'. Its recent test-positive rate is very good, at only 4.3%, and its testing is up 34.1% since this May 29th date. While Florida does not report current hospitalizations, its new admissions due to COVID-19 over the past 7 days are down 8% relative to the prior week and 22.1% versus 4 weeks ago
- Greater concern is due Arizona and Arkansas, just to name two states:
 - Arizona's new daily infection rate has more than tripled since May 27 and is the highest of any state - by a significant amount; its test-positive rate is above 10% and rising (in fairness, its testing volume has increased by 79% in that time); and, its hospitalized COVID-19 patients are up 23% week-over-week and 62% in the past 4 weeks
 - Arkansas' new daily infection rate has increased by more than 6x since May 10 and is now ranked 3rd among the states; its test-positive rate, while reasonable at 6.8%, has risen from 2.5% on May 10 and rising (in fairness, its testing volume has increased by 2.7x in that time); and, its hospitalized COVID-19 patients are up 43% week-over-week have nearly doubled in the past 4 weeks

COUNTRY-BY-COUNTRY INFORMATION

Countries Included

"Strategic Guidance in an Era of Unprecedented Change"

- In Mid-March, we began tracking the twenty countries with the most coronavirus cases; in mid-April, we expanded it to the thirty countries with the most cases
- We now have visibility to all 213 countries and 2 conveyances that have at least 1 coronavirus case
- Case and death information is sourced from the worldometers.info, the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University and the New York Times, each of which are accessed daily; analysis by Health Industry Advisor LLC

Country-by-Country Comparative Statistics

"Strategic Guidance in an Era of Unprecedented Change"

Top 30 Countries By Total Cases
As of June 10

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 (5-Day M.A.)	Rank8
USA	2,066,401	(1)	6,245	(5)	115,130	(1)	5.6%	(12)	347.9	(8)	1.0%	(20)	1,523	(6)	60.9	(11)
Brazil	775,184	(2)	3,648	(13)	39,797	(3)	5.1%	(13)	187.3	(11)	4.7%	(6)	170	(22)	150.0	(4)
Russia	493,657	(3)	3,383	(14)	6,358	(13)	1.3%	(25)	43.6	(18)	2.3%	(13)	2,343	(4)	72.0	(8)
UK	290,143	(4)	4,275	(10)	41,128	(2)	14.2%	(4)	606.0	(2)	0.6%	(23)	3,004	(3)	25.0	(18)
Spain	289,360	(5)	6,189	(6)	27,136	(6)	9.4%	(8)	580.4	(3)	0.1%	(29)	1,227	(9)	6.9	(27)
India	287,155	(6)	208	(29)	8,107	(11)	2.8%	(19)	5.9	(28)	4.8%	(5)	113	(24)	8.8	(25)
Italy	235,763	(7)	3,899	(12)	34,114	(4)	14.5%	(3)	564.2	(4)	0.1%	(28)	990	(13)	5.8	(28)
Peru	208,823	(8)	6,339	(4)	5,903	(15)	2.8%	(18)	179.2	(12)	2.7%	(12)	706	(14)	155.6	(3)
Germany	186,866	(9)	2,231	(20)	8,844	(9)	4.7%	(15)	105.6	(15)	0.2%	(27)	1,263	(8)	4.6	(29)
Iran	177,938	(10)	2,120	(21)	8,506	(10)	4.8%	(14)	101.3	(16)	1.6%	(18)	259	(21)	32.6	(16)
Turkey	173,036	(11)	2,053	(22)	4,746	(17)	2.7%	(20)	56.3	(17)	0.7%	(22)	590	(18)	13.3	(24)
France	155,136	(12)	2,377	(19)	29,319	(5)	18.9%	(1)	449.2	(6)	0.4%	(25)	0	(30)	8.2	(26)
Chile	148,496	(13)	7,772	(2)	2,475	(20)	1.7%	(23)	129.5	(13)	4.7%	(7)	1,108	(10)	316.2	(2)
Mexico	124,301	(14)	965	(23)	14,649	(7)	11.8%	(6)	113.7	(14)	4.2%	(9)	83	(26)	35.8	(14)
Pakistan	113,702	(15)	515	(26)	2,255	(21)	2.0%	(22)	10.2	(26)	5.9%	(2)	114	(23)	25.8	(17)
Saudi Arabia	112,288	(16)	3,228	(15)	819	(26)	0.7%	(26)	23.5	(22)	3.8%	(10)	680	(16)	110.0	(5)
Canada	97,125	(17)	2,575	(17)	7,960	(12)	8.2%	(10)	211.0	(10)	0.7%	(21)	1,002	(12)	18.0	(20)
China	83,046	(18)	58	(30)	4,634	(18)	5.6%	(11)	3.2	(30)	0.0%	(30)	0	(28)	0.0	(30)
Bangladesh	74,865	(19)	455	(27)	1,012	(25)	1.4%	(24)	6.1	(27)	5.4%	(3)	94	(25)	21.0	(19)
Qatar	73,595	(20)	26,211	(1)	66	(29)	0.1%	(29)	23.5	(23)	2.9%	(11)	1,977	(5)	701.9	(1)
Belgium	59,569	(21)	5,141	(8)	9,629	(8)	16.2%	(2)	831.0	(1)	0.3%	(26)	1,050	(11)	13.8	(22)
South Africa	55,421	(22)	935	(24)	1,210	(24)	2.2%	(21)	20.4	(24)	6.3%	(1)	570	(19)	49.4	(12)
Belarus	51,066	(23)	5,404	(7)	288	(27)	0.6%	(28)	30.5	(19)	2.1%	(15)	1,461	(7)	107.6	(6)
Netherlands	48,087	(24)	2,807	(16)	6,042	(14)	12.6%	(5)	352.7	(7)	0.5%	(24)	631	(17)	13.4	(23)
Sweden	46,814	(25)	4,637	(9)	4,795	(16)	10.2%	(7)	474.9	(5)	2.3%	(14)	700	(15)	97.7	(7)
Ecuador	44,440	(26)	2,521	(18)	3,720	(19)	8.4%	(9)	211.0	(9)	1.6%	(17)	76	(27)	39.4	(13)
Colombia	43,682	(27)	859	(25)	1,433	(22)	3.3%	(17)	28.2	(21)	4.5%	(8)	266	(20)	33.7	(15)
UAE	40,507	(28)	4,098	(11)	284	(28)	0.7%	(27)	28.7	(20)	1.8%	(16)	5,651	(1)	70.6	(9)
Singapore	38,965	(29)	6,663	(3)	25	(30)	0.1%	(30)	4.3	(29)	1.1%	(19)	3,761	(2)	69.9	(10)
Egypt	38,284	(30)	375	(28)	1,342	(23)	3.5%	(16)	13.1	(25)	5.2%	(4)	0	(28)	16.7	(21)

Note: China does not report test volumes

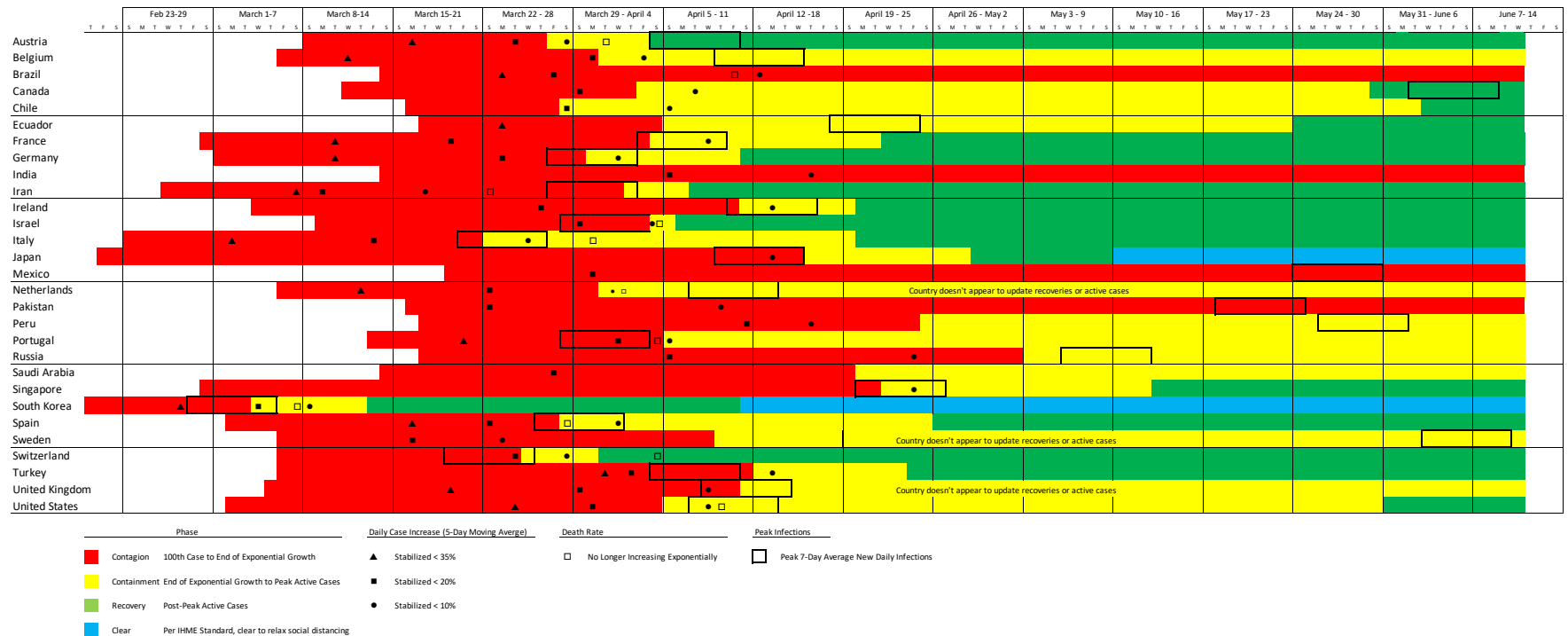
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VIRUS PROGRESSION BY COUNTRY

Country-by-Country Virus Progression – Original 30 Hardest-Hit Countries

“Strategic Guidance in an Era of Unprecedented Change”

This graphic illustrates 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.



Country-By-Country Listing of Countries By Total Cases

"Strategic Guidance in an Era of Unprecedented Change"

Countries making large upward movements are highlighted

When we first expanded our tracking to 30 countries in mid-April, they represented the most countries with cases in the world. Since that time, Austria, Israel, Japan and South Korea have dropped in the rankings. Among the countries that have moved up:

- Afghanistan
- Argentina
- Bangladesh
- Belarus
- Columbia
- Denmark
- Dominican Republic
- Indonesia
- Kuwait
- Poland
- Qatar
- Panama
- Philippines
- Romania
- South Africa
- UAE
- Ukraine

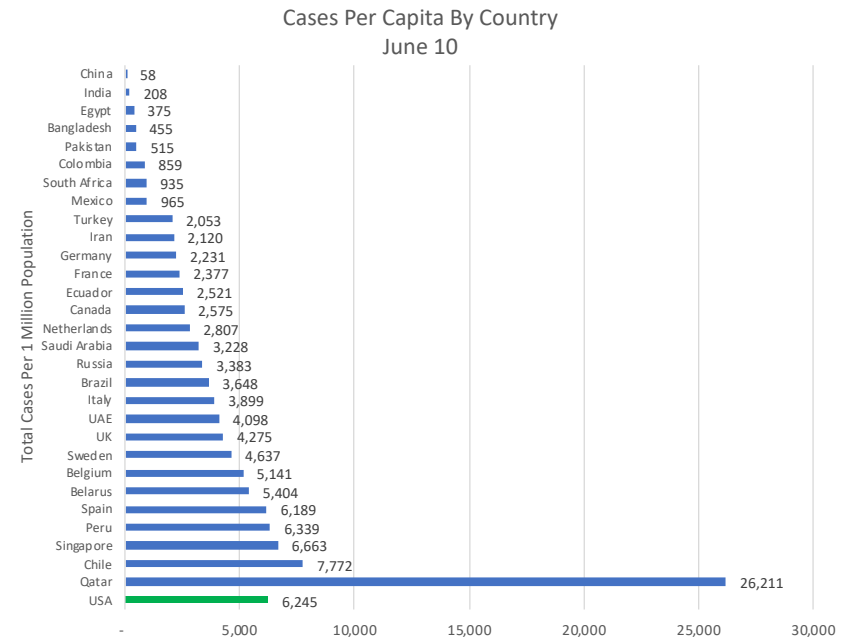
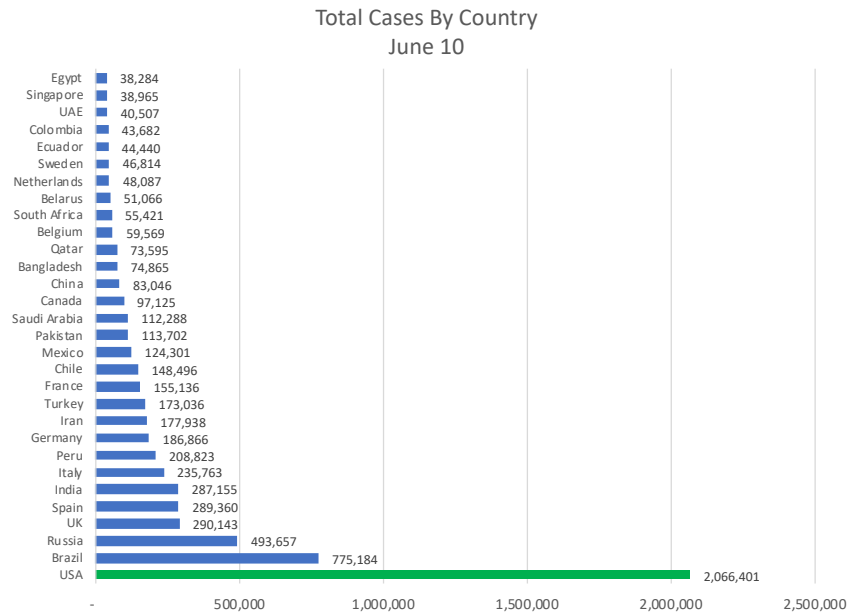
The original 30 still account for 86.1% of all cases worldwide.

Rank	Country	10-Jun	Rank	Country	6-May	Rank	Country	27-Apr
1	USA	2,066,401	1	USA	1,263,092	1	USA	1,010,356
2	Brazil	775,184	2	Spain	253,682	2	Spain	229,422
3	Russia	493,657	3	Italy	214,457	3	Italy	199,414
4	UK	290,143	4	UK	201,101	4	France	128,339
5	Spain	289,360	5	France	174,191	5	Germany	158,758
6	India	287,155	6	Germany	168,162	6	UK	157,149
7	Italy	235,763	7	Russia	165,929	7	Turkey	112,261
8	Peru	208,823	8	Turkey	131,744	8	Iran	91,472
9	Germany	186,866	9	Brazil	126,611	9	Russia	87,147
10	Iran	177,938	10	Iran	101,650	10	China	82,830
11	Turkey	173,036	11	China	82,883	11	Brazil	66,501
12	France	155,136	12	Canada	63,496	12	Canada	48,500
13	Chile	148,496	13	Peru	54,817	13	Belgium	46,687
14	Mexico	124,301	14	India	52,987	14	Netherlands	38,245
15	Pakistan	113,702	15	Belgium	50,781	15	India	29,451
16	Saudi Arabia	112,288	16	Netherlands	41,319	16	Switzerland	29,164
17	Canada	97,125	17	Saudi Arabia	31,938	17	Peru	28,669
18	China	83,046	18	Switzerland	30,060	18	Portugal	24,070
21	Belgium	59,569	19	Ecuador	29,420	19	Ecuador	23,240
24	Netherlands	48,087	20	Portugal	26,182	20	Ireland	19,648
25	Sweden	46,814	21	Mexico	26,025	21	Sweden	18,926
26	Ecuador	44,440	22	Sweden	23,918	22	Saudi Arabia	18,811
29	Singapore	38,965	23	Pakistan	23,214	23	Israel	15,555
31	Portugal	35,600	24	Chile	23,048	24	Austria	15,274
34	Switzerland	31,011	25	Ireland	22,248	25	Mexico	14,677
38	Ireland	25,231	26	Singapore	20,198	26	Singapore	14,423
44	Israel	18,355	29	Israel	16,310	27	Pakistan	13,915
46	Japan	17,251	31	Austria	15,684	28	Chile	13,813
47	Austria	17,005	32	Japan	15,253	29	Japan	13,614
56	S. Korea	11,902	38	S. Korea	10,806	35	South Korea	10,738
	Others	1,033,579		Others	356,176		Others	301,446
	World	7,446,229			3,817,382		World	3,062,515
30 countries' share		86.1%			90.7%			90.2%

Country-by-Country Cases & Cases Per Capita

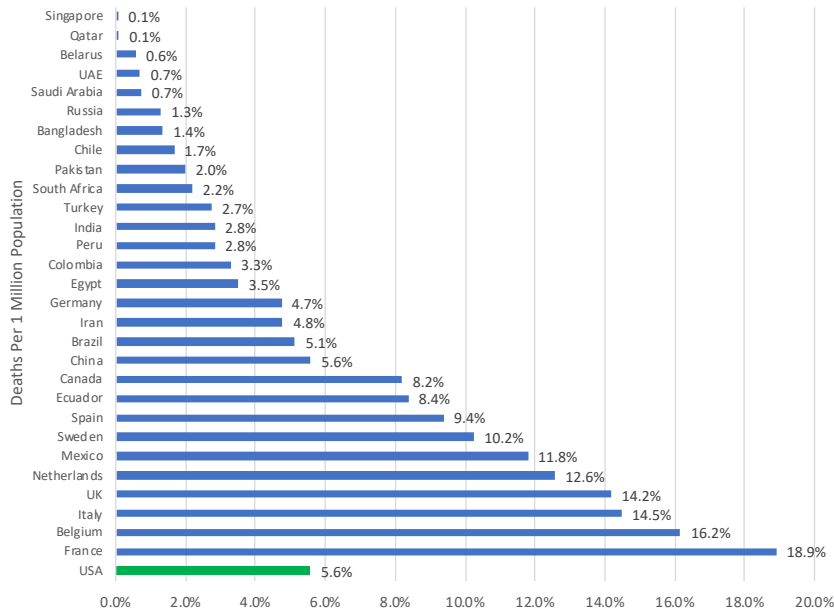
"Strategic Guidance in an Era of Unprecedented Change"

Countries Ranked 1-30 In Total Cases

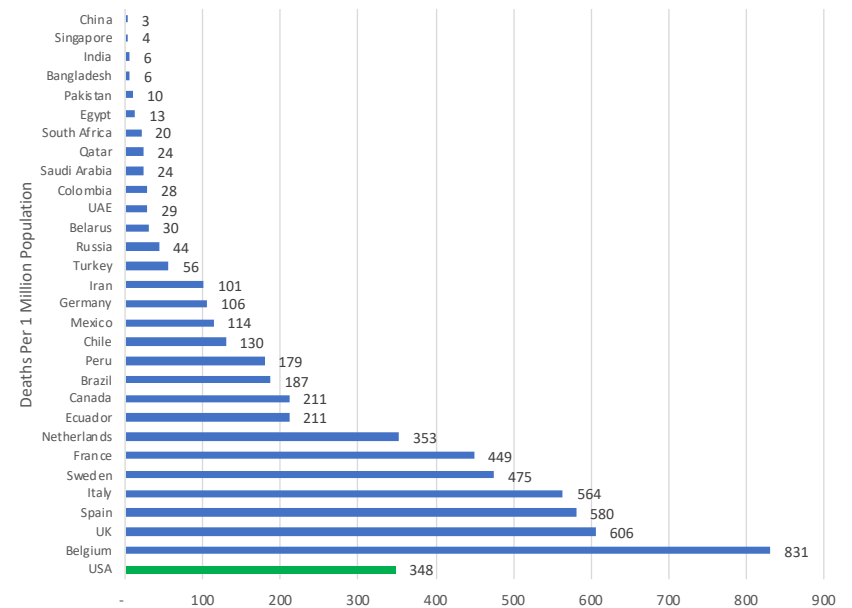


Countries Ranked 1-30 In Total Cases

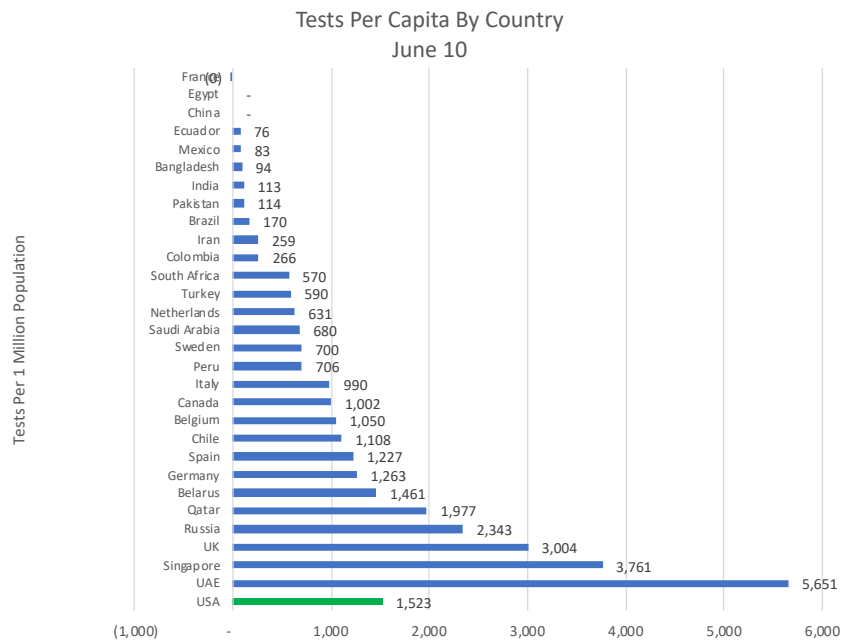
Death Rate By Country
June 10



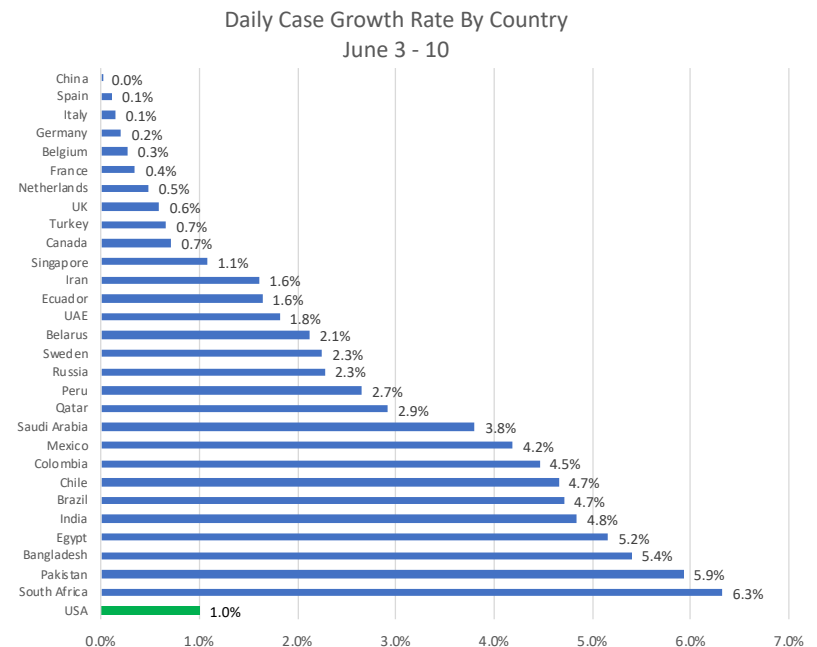
Deaths Per Capita By Country
June 10



Countries Ranked 1-30 In Total Cases



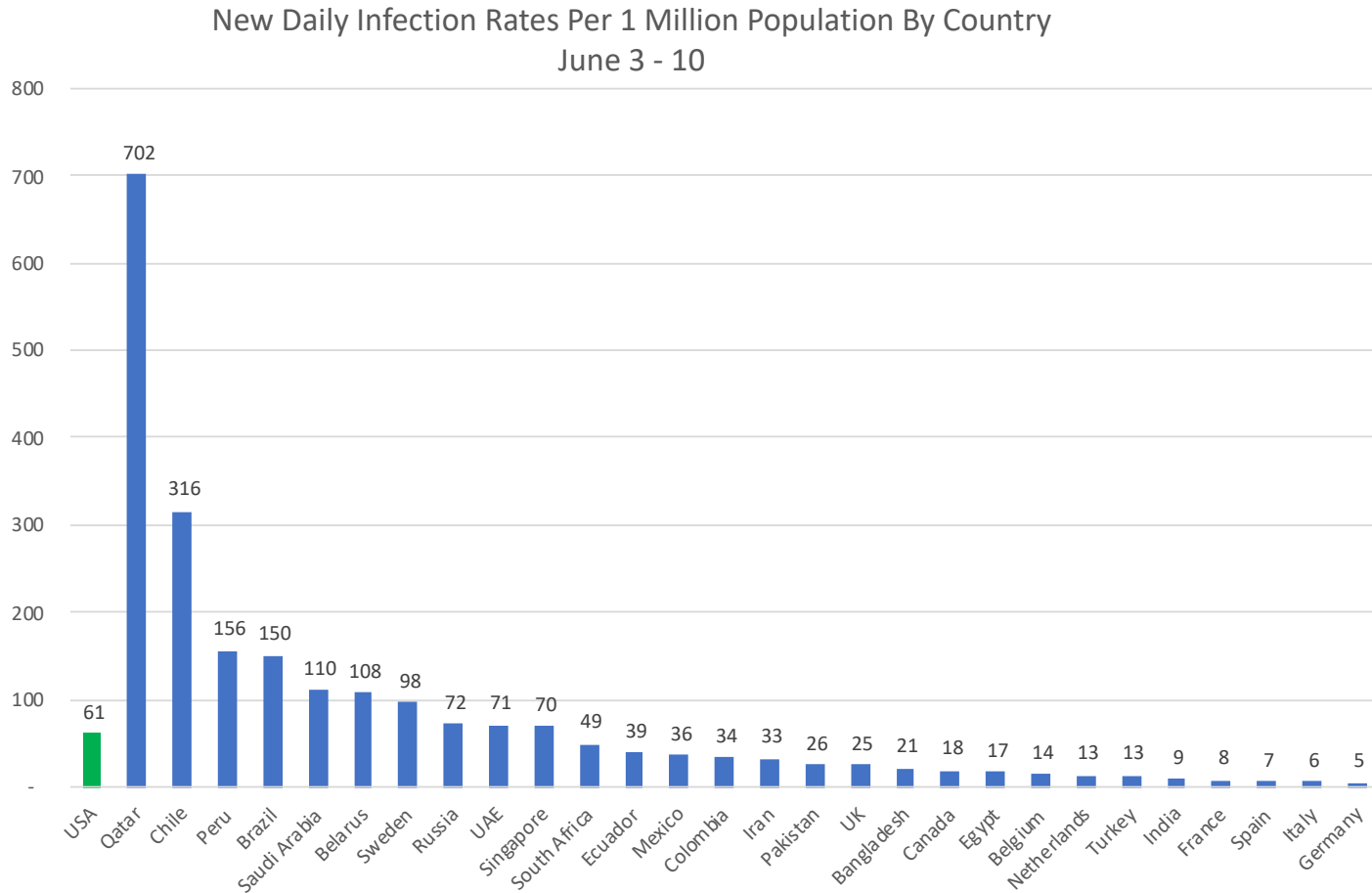
Daily Tests Per Capita For Past Week



Daily Case Growth – 5-Day Moving Average

Country-by-Country New Daily Infection Rates

"Still a Long Way to Go" - COVID-19 Infection Rates



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UNITED STATES & STATE-BY-STATE INFORMATION

As of June 10

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	21,989	(24)	4,484.6	(22)	744	(25)	3.4%	(33)	151.7	(24)	2.6%	(6)	1,208	(29)	91.4	(11)
Alaska	593	(50)	810.6	(49)	11	(51)	1.9%	(45)	15.0	(50)	2.5%	(7)	1,863	(11)	17.2	(47)
Arizona	29,852	(18)	4,101.3	(24)	1,095	(20)	3.7%	(30)	150.4	(25)	4.2%	(1)	1,083	(36)	149.7	(1)
Arkansas	10,368	(34)	3,435.6	(33)	165	(40)	1.6%	(47)	54.7	(43)	3.7%	(2)	1,597	(16)	108.9	(3)
California	139,931	(3)	3,541.5	(32)	4,870	(7)	3.5%	(32)	123.3	(29)	2.1%	(10)	1,481	(19)	71.1	(19)
Colorado	28,499	(20)	4,948.8	(21)	1,573	(16)	5.5%	(12)	273.2	(15)	0.6%	(41)	792	(46)	35.7	(38)
Connecticut	44,347	(13)	12,438.5	(6)	4,120	(8)	9.3%	(1)	1,155.6	(3)	0.4%	(47)	1,622	(15)	50.3	(32)
Delaware	10,056	(36)	10,326.9	(7)	413	(33)	4.1%	(26)	424.1	(12)	0.6%	(45)	1,001	(38)	50.5	(31)
District Of Columbia	9,537	(37)	13,513.3	(5)	499	(29)	5.2%	(13)	707.1	(6)	0.7%	(39)	1,747	(13)	105.5	(6)
Florida	67,371	(8)	3,136.8	(37)	2,803	(11)	4.2%	(25)	130.5	(28)	1.8%	(13)	1,318	(27)	57.2	(26)
Georgia	53,980	(11)	5,084.1	(20)	2,329	(14)	4.3%	(24)	219.4	(18)	1.3%	(24)	1,187	(30)	68.4	(21)
Hawaii	685	(49)	483.8	(51)	17	(50)	2.5%	(42)	12.0	(51)	0.6%	(42)	672	(51)	3.2	(51)
Idaho	3,260	(43)	1,819.1	(44)	85	(44)	2.6%	(40)	47.4	(45)	0.9%	(33)	806	(45)	21.5	(46)
Illinois	129,837	(4)	10,246.1	(8)	6,095	(5)	4.7%	(19)	481.0	(10)	0.6%	(44)	1,596	(17)	67.7	(22)
Indiana	38,337	(17)	5,694.6	(18)	2,355	(13)	6.1%	(9)	349.8	(13)	0.9%	(31)	897	(42)	55.7	(28)
Iowa	22,626	(23)	7,171.3	(12)	631	(27)	2.8%	(39)	200.0	(20)	1.3%	(19)	1,738	(14)	105.3	(7)
Kansas	10,872	(33)	3,731.8	(29)	240	(37)	2.2%	(44)	82.4	(38)	0.8%	(36)	769	(48)	32.4	(41)
Kentucky	11,883	(32)	2,659.8	(40)	484	(30)	4.1%	(27)	108.3	(32)	1.6%	(15)	1,350	(24)	47.1	(34)
Louisiana	44,030	(14)	9,471.3	(10)	2,974	(9)	6.8%	(7)	639.7	(7)	0.9%	(32)	1,783	(12)	89.0	(12)
Maine	2,637	(45)	1,961.7	(42)	100	(42)	3.8%	(29)	74.4	(40)	1.2%	(26)	1,162	(31)	23.3	(44)
Maryland	59,465	(10)	9,835.9	(9)	2,844	(10)	4.8%	(16)	470.4	(11)	0.9%	(34)	1,347	(25)	105.9	(4)
Massachusetts	104,156	(5)	14,987.5	(3)	7,454	(3)	7.2%	(6)	1,072.6	(4)	0.3%	(49)	1,117	(35)	52.7	(30)
Michigan	65,182	(9)	6,526.8	(13)	5,955	(6)	9.1%	(2)	596.3	(8)	0.5%	(46)	2,057	(7)	102.2	(9)
Minnesota	28,869	(19)	5,119.0	(19)	1,267	(18)	4.4%	(23)	224.7	(16)	1.4%	(18)	2,636	(5)	76.0	(16)
Mississippi	18,483	(26)	6,210.4	(16)	868	(23)	4.7%	(18)	291.7	(14)	2.0%	(11)	1,399	(22)	103.7	(8)

"Strategic Guidance in an Era of Unprecedented Change"

As of June 10

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	15,669	(30)	2,553.0	(41)	871	(22)	5.6%	(11)	141.9	(27)	1.3%	(22)	937	(39)	33.6	(40)
Montana	561	(51)	524.9	(50)	18	(49)	3.2%	(35)	16.8	(49)	0.7%	(38)	1,493	(18)	4.8	(50)
Nebraska	16,025	(27)	8,284.2	(11)	195	(38)	1.2%	(50)	100.8	(34)	0.8%	(37)	1,122	(34)	85.6	(15)
Nevada	10,164	(35)	3,299.8	(36)	448	(31)	4.4%	(22)	145.4	(26)	1.9%	(12)	1,441	(20)	57.0	(27)
New Hampshire	5,178	(41)	3,808.2	(28)	301	(36)	5.8%	(10)	221.4	(17)	0.9%	(35)	1,356	(23)	40.2	(35)
New Jersey	167,678	(2)	18,878.0	(2)	12,467	(2)	7.4%	(5)	1,403.6	(2)	0.3%	(50)	2,759	(4)	62.8	(24)
New Mexico	9,250	(38)	4,411.4	(23)	410	(34)	4.4%	(21)	195.5	(21)	1.3%	(21)	2,372	(6)	75.6	(17)
New York	401,333	(1)	20,630.3	(1)	30,680	(1)	7.6%	(3)	1,577.1	(1)	0.2%	(51)	3,222	(2)	135.8	(2)
North Carolina	38,393	(16)	3,660.6	(31)	1,089	(21)	2.8%	(38)	103.8	(33)	2.9%	(4)	1,422	(21)	97.7	(10)
North Dakota	2,941	(44)	3,859.3	(27)	73	(45)	2.5%	(41)	95.8	(35)	1.4%	(17)	1,342	(26)	49.1	(33)
Ohio	39,615	(15)	3,389.1	(34)	2,465	(12)	6.2%	(8)	210.9	(19)	0.9%	(30)	926	(41)	34.1	(39)
Oklahoma	7,480	(39)	1,890.3	(43)	355	(35)	4.7%	(17)	89.7	(36)	1.3%	(20)	1,056	(37)	24.4	(42)
Oregon	5,060	(42)	1,199.7	(48)	169	(39)	3.3%	(34)	40.1	(46)	2.1%	(9)	680	(50)	22.4	(45)
Pennsylvania	81,388	(7)	6,357.4	(14)	6,161	(4)	7.6%	(4)	481.3	(9)	0.6%	(43)	770	(47)	39.2	(36)
Rhode Island	15,756	(29)	14,873.1	(4)	812	(24)	5.2%	(14)	766.5	(5)	0.4%	(48)	2,843	(3)	70.1	(20)
South Carolina	15,759	(28)	3,060.8	(38)	575	(28)	3.6%	(31)	111.7	(31)	3.2%	(3)	821	(44)	86.2	(14)
South Dakota	5,604	(40)	6,334.6	(15)	69	(46)	1.2%	(49)	78.0	(39)	1.2%	(27)	1,942	(10)	71.4	(18)
Tennessee	27,869	(21)	4,078.5	(25)	436	(32)	1.6%	(48)	63.8	(42)	1.8%	(14)	1,214	(28)	63.7	(23)
Texas	81,434	(6)	2,808.5	(39)	1,920	(15)	2.4%	(43)	66.2	(41)	2.1%	(8)	760	(49)	59.1	(25)
Utah	12,864	(31)	4,012.5	(26)	128	(41)	1.0%	(51)	39.9	(47)	2.7%	(5)	1,149	(32)	105.5	(5)
Vermont	1,095	(47)	1,754.8	(45)	55	(47)	5.0%	(15)	88.1	(37)	1.3%	(25)	1,957	(8)	24.0	(43)
Virginia	52,177	(12)	6,112.9	(17)	1,514	(17)	2.9%	(37)	177.4	(22)	1.5%	(16)	937	(40)	88.2	(13)
Washington	25,474	(22)	3,345.3	(35)	1,184	(19)	4.6%	(20)	155.5	(23)	1.0%	(29)	868	(43)	37.3	(37)
West Virginia	2,193	(46)	1,227.1	(47)	85	(44)	3.9%	(28)	47.6	(44)	0.7%	(40)	1,137	(33)	9.3	(49)
Wisconsin	21,593	(25)	3,708.6	(30)	671	(26)	3.1%	(36)	115.2	(30)	1.3%	(23)	1,953	(9)	53.8	(29)
Wyoming	980	(48)	1,693.3	(46)	18	(49)	1.8%	(46)	31.1	(48)	1.0%	(28)	7,389	(1)	16.0	(48)
United States	2,066,401		6,242.9		115,130		5.6%		329.7		1.0%		1,413		67.3	

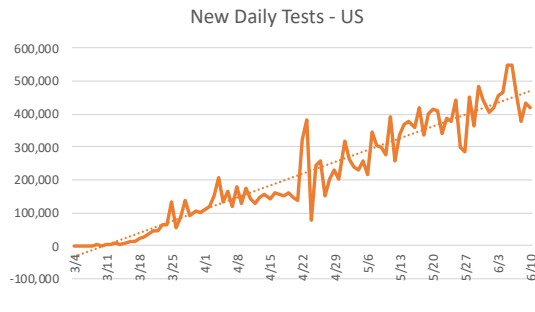
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United States Overall Statistics

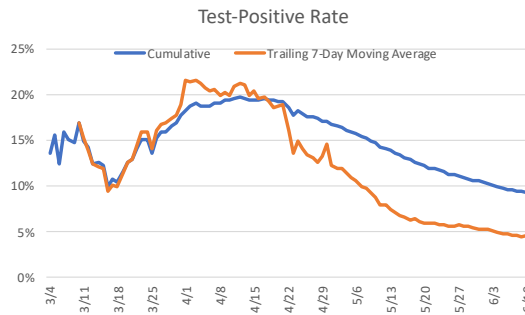
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With significantly increased testing, the US is now meeting the WHO standard of <10% test-positives. This suggests that asymptomatic cases are being captured and that we have a better view of true infection rates. Further, new daily infections continue to decline; the death rate seems to have stabilized.

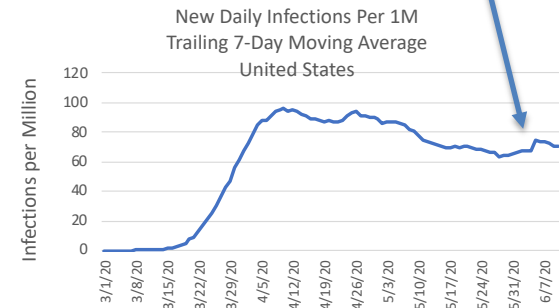
New York and Michigan made accounting adjustments to the case totals on June 5. These had the effect of adding 8.7 new daily infections per million to the US totals. Data here has not been adjusted to account for these accounting changes



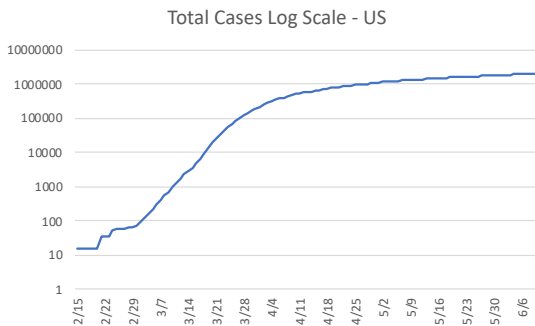
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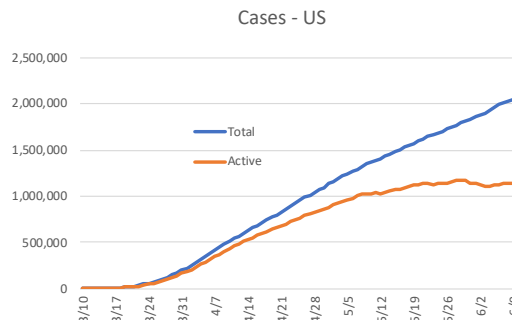
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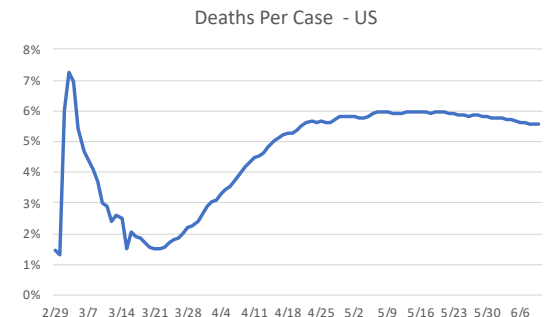
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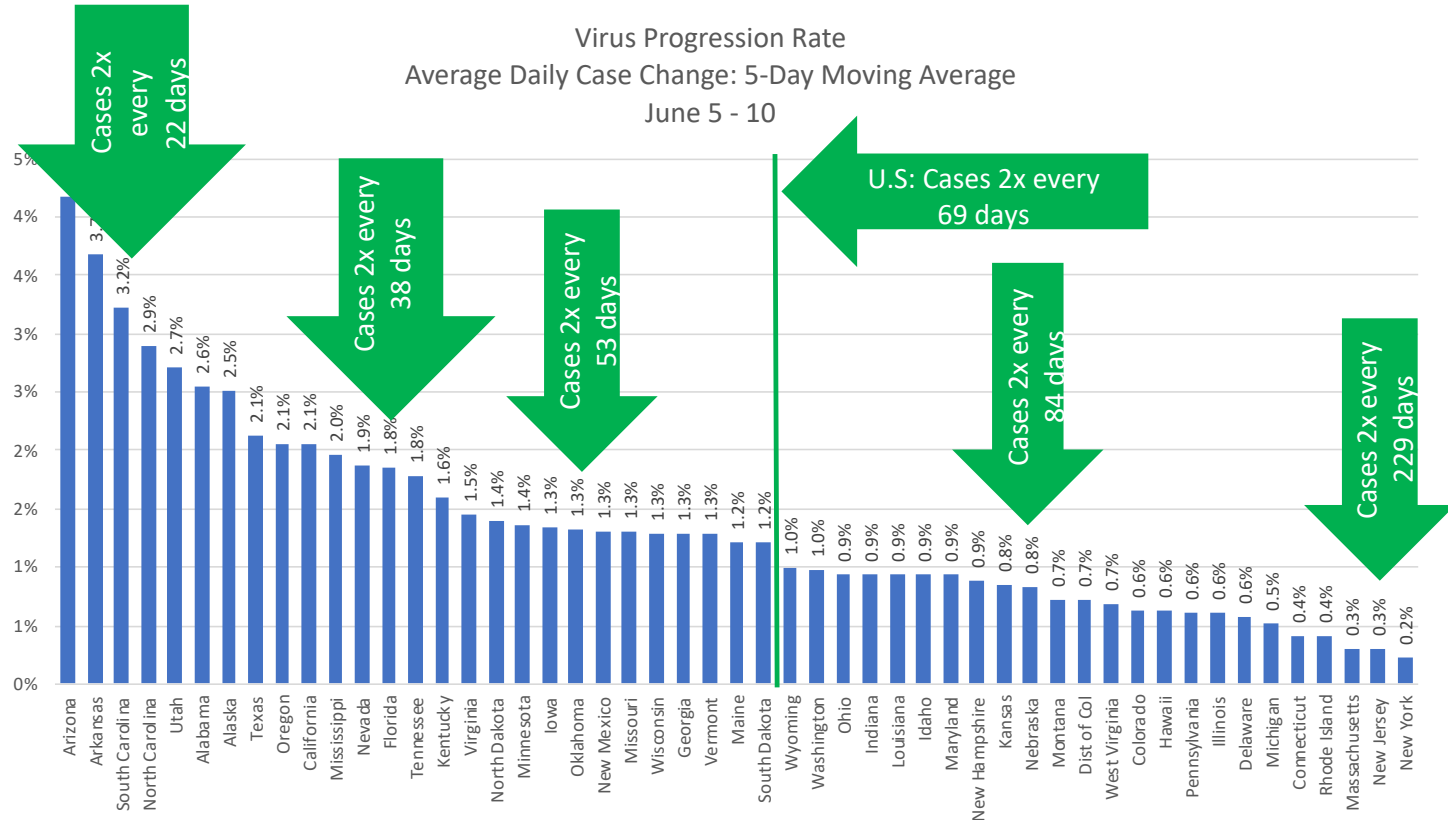


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State-by-State Average Daily Case Growth

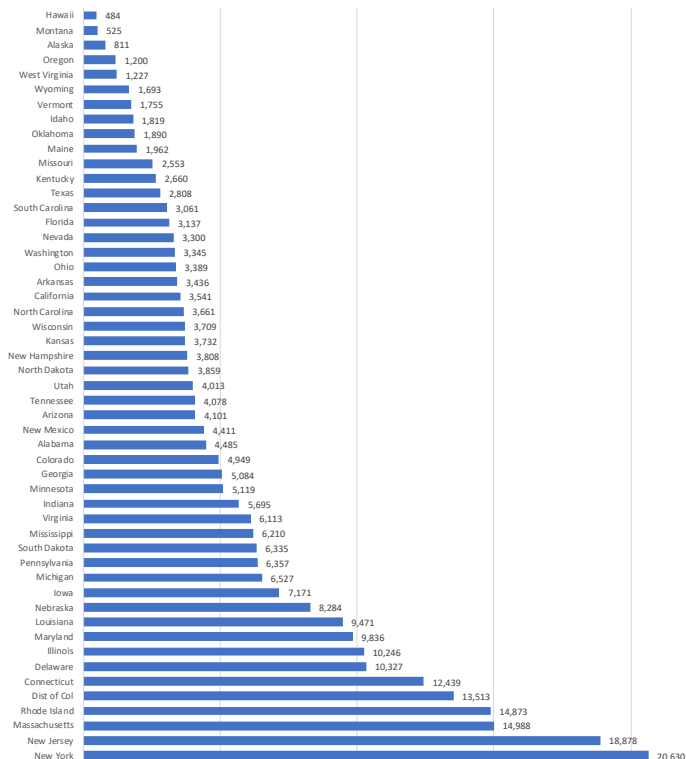
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At the height of the epidemic, cases in some states were doubling every few days. Now, they would take from 16 – 213 days to double

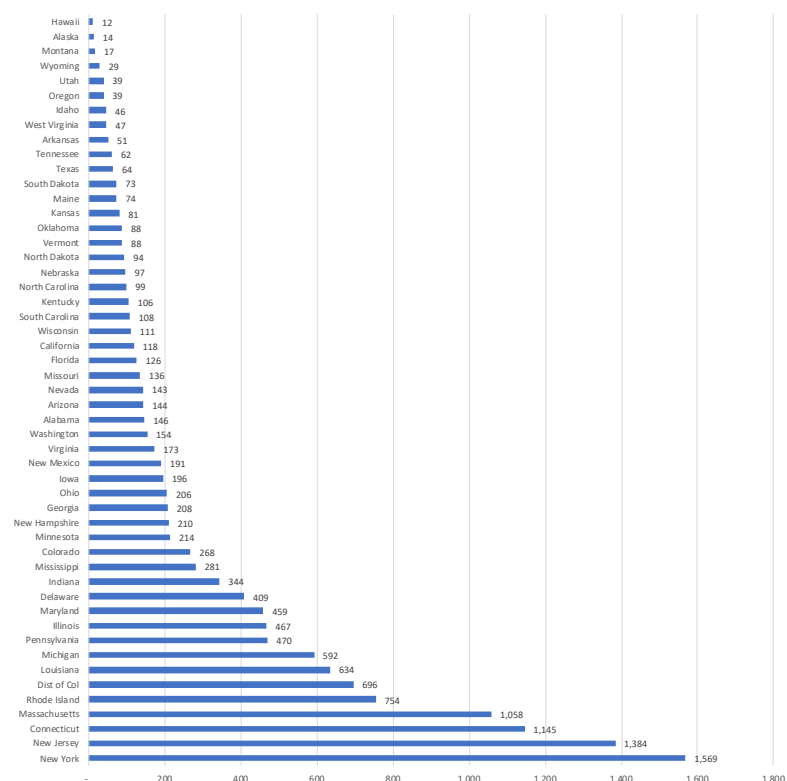


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Total Cases Per 1 Million Population
By State
As of June 10

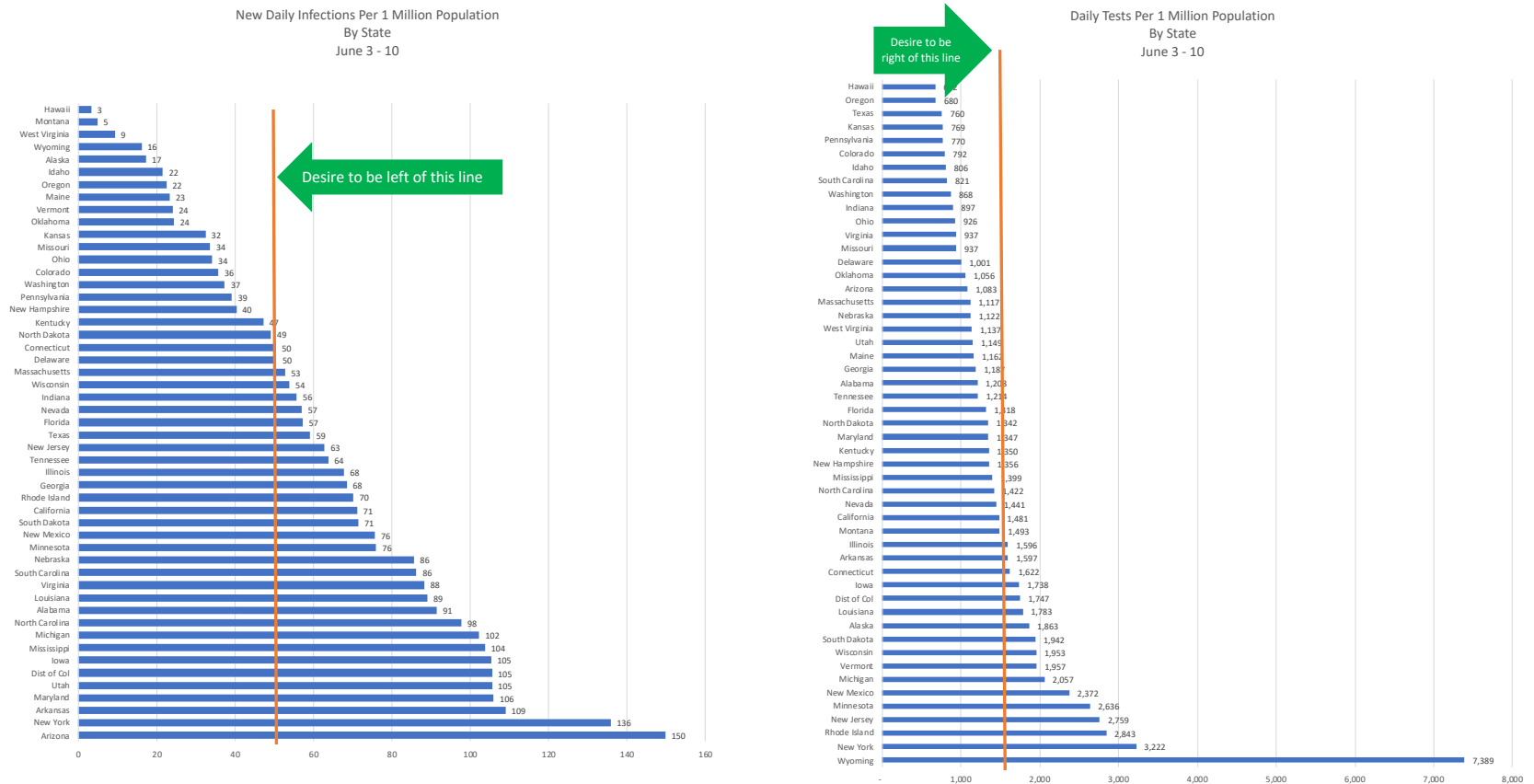


Deaths Per 1 Million Population
By State
As of June 10



State-by-State New Daily Infections & Tests Per Capita

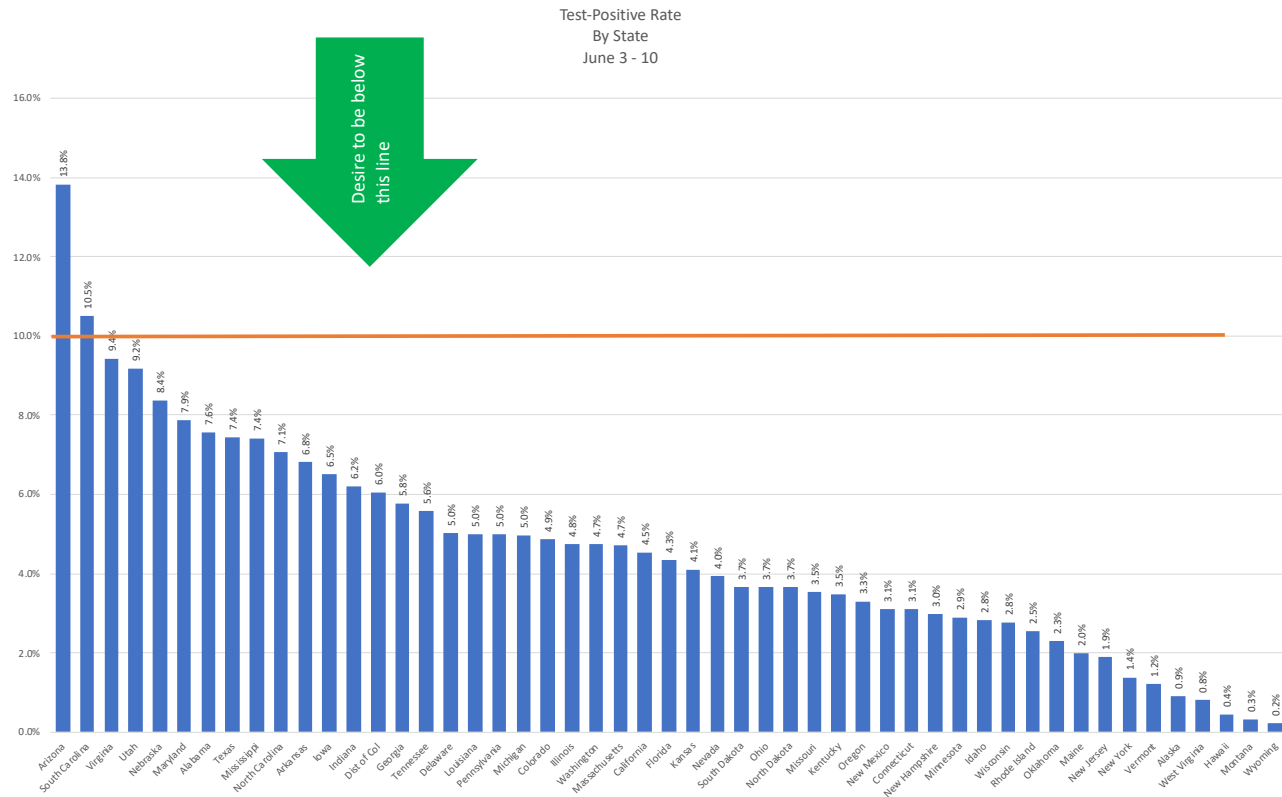
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Which States Are Performing Sufficient Tests?

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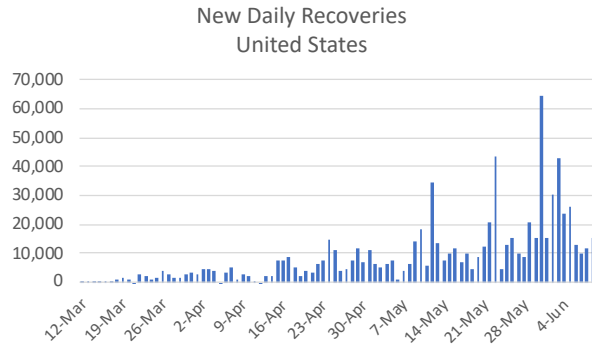
The [World Health Organization](#) suggested that the test-positive rate should be 10% or lower, for testing to be sufficient to assess the true prevalence of the virus. Only Arizona states met this guideline for the past week.



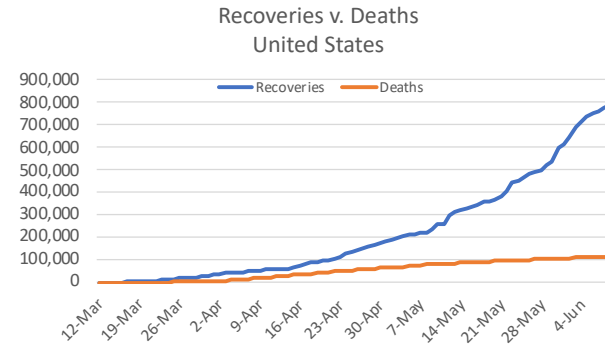
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UNDER-REPORTED RECOVERIES? POSSIBLE LAG IN STATE REPORTING

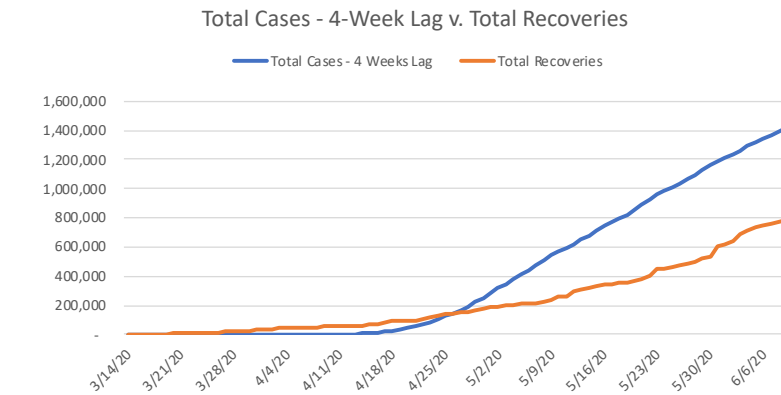
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Which states seem to be lagging in reporting?

At this point, we should be expecting far more recoveries in the U.S.

Comparing the reported recoveries to Total Cases 4 weeks ago*, this shortfall is ~355-478k

* - 4 weeks is the presumed time from infection-onset to recovery referenced by many states

State	Recoveries	Expected Recoveries	
		Low	High
Alabama	13,508	8,560	9,630
Alaska	392	306	345
Arizona	174	9,741	10,958
Arkansas	7,116	3,389	3,812
California	37,068	58,324	65,615
Colorado	2,425	16,380	18,428
Connecticut	7,689	27,884	31,370
Delaware	5,939	5,562	6,257
District Of Columbia	1,143	5,267	5,926
Florida	12,917	33,922	38,162
Georgia	858	28,342	31,884
Hawaii	622	510	574
Idaho	2,628	1,859	2,092
Illinois	70,092	67,758	76,228
Indiana	26,791	20,378	22,926
Iowa	13,739	10,631	11,960
Kansas	5,661	6,006	6,756
Kentucky	3,375	5,664	6,372
Louisiana	33,904	26,130	29,396
Maine	2,023	1,212	1,364
Maryland	4,310	27,850	31,331
Massachusetts	84,621	64,398	72,447
Michigan	42,041	38,713	43,552
Minnesota	24,675	10,334	11,625
Mississippi	13,356	8,072	9,081
Missouri	3,557	8,284	9,320
Montana	487	370	416
Nebraska	8,946	7,260	8,168
Nevada	7,545	5,115	5,755
New Hampshire	3,585	2,639	2,969
New Jersey	29,118	114,289	128,575
New Mexico	3,806	4,291	4,828
New York	85,192	280,678	315,763
North Carolina	23,653	13,081	14,716
North Dakota	2,482	1,318	1,482
Ohio	7,704	20,583	23,156
Oklahoma	6,166	3,882	4,367
Oregon	2,350	2,733	3,074
Pennsylvania	54,888	49,770	55,992
Rhode Island	1,406	9,468	10,652
South Carolina	7,928	6,424	7,227
South Dakota	4,573	2,986	3,359
Tennessee	18,516	13,096	14,733
Texas	52,473	34,802	39,152
Utah	7,587	5,296	5,958
Vermont	903	743	836
Virginia	6,826	21,397	24,071
Washington	8,070	14,625	16,453
West Virginia	1,507	1,123	1,264
Wisconsin	14,999	8,722	9,812
Wyoming	804	550	619
United States	808,494	1,144,278	1,287,313

Low = 80% of Total Cases 4 week ago
High = 90% of Total Cases 4 week ago

States seemingly up-to-date with reporting recoveries
States only reporting ~ 1/2 expected recoveries
States well-behind in reporting recoveries

VIRUS PROGRESSION: ROADMAP TO RECOVERY

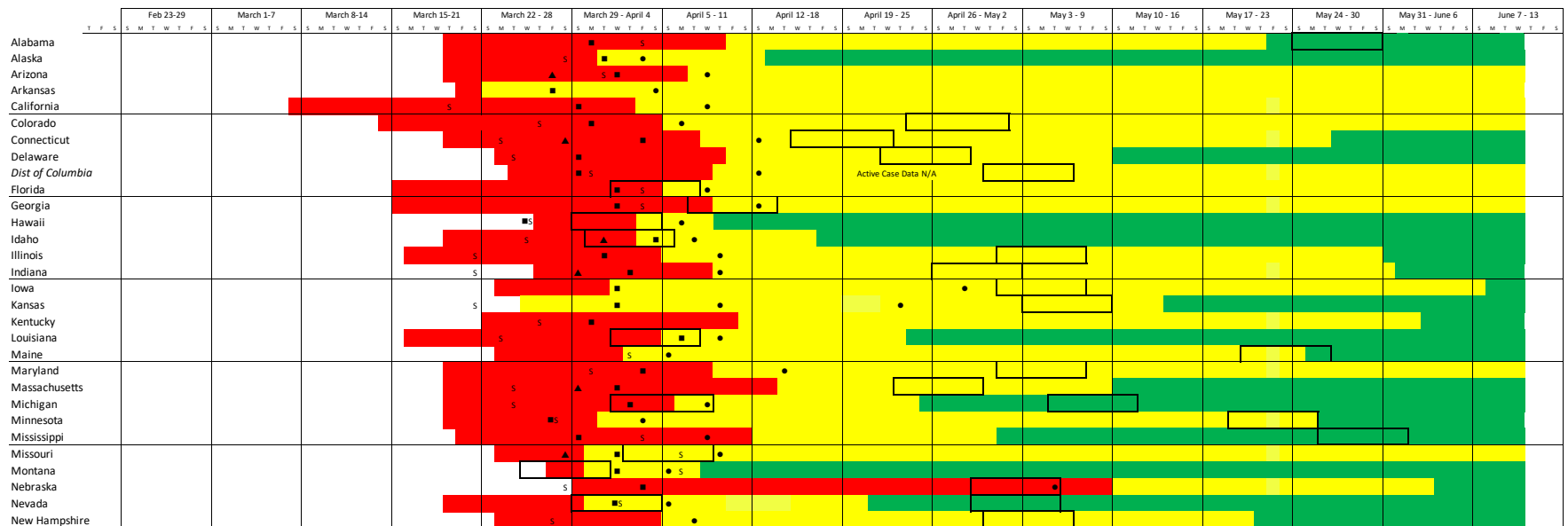
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The graphic on the following two pages illustrates when the state first recorded 100 total cases (start of the "contagion" phase); when growth stopped following an exponential pattern (start of the "containment" phase); and, when peak total cases were 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.

A state is not shaded green until active cases appear to have peaked.

State-by-State Virus Progression – 1 of 2

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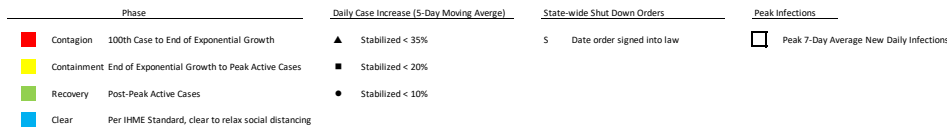
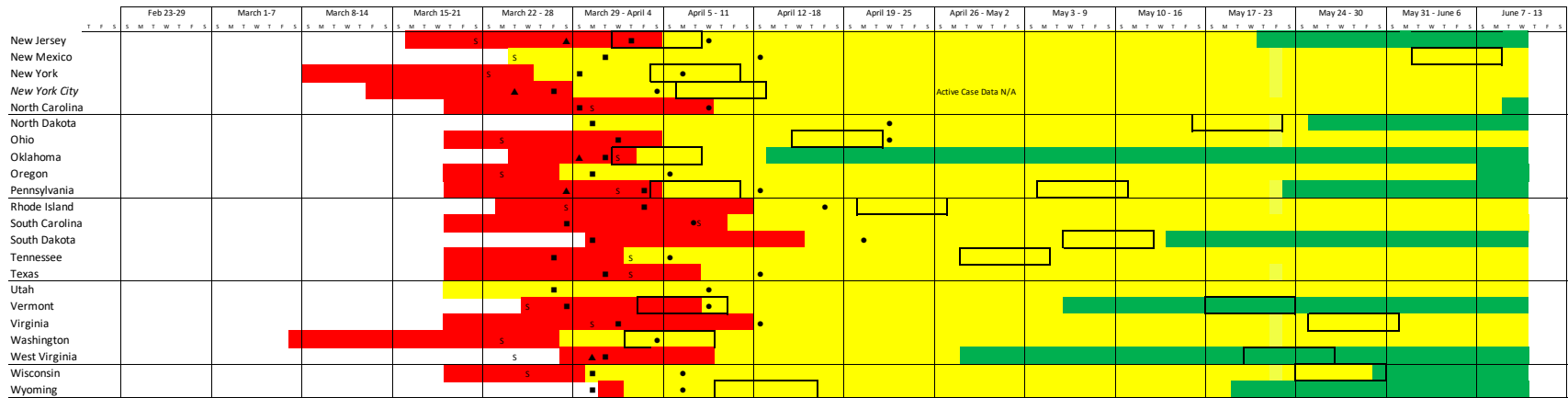


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State-by-State Virus Progression – 2 of 2

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