

COVID-19 Dashboard

Issue # 55
Wednesday, May 20, 2020

"Strategic Guidance in an Era of Unprecedented Change"

Measure	Desired Change	Yesterday in the U.S.
Number of Tests	Increase	~400,000 tests on Tuesday; average of 377,000 for past 7 days
Test-Positivity Rate	Decline	5.3% for the day; 6.2% for past 7 days
Number of Cases	Plateau	New Cases down 2,400 day-over-day,, down 5.3% week-over-week
Deaths % of Total Cases	Decline	6.0%
Number of Deaths / 1M Population	Plateau	22.6
Recoveries : Death	Increase	3.86

- Test volume in the U.S. was just under 400,00 for the day, with a 5.3% test-positive rate. For the past week, tests averaged 377,000, with a test-positive rate of 6.2%. Weekly test-positive rates have been under 10% - the rate suggested by a World Health Organization scientist as necessary to gain a reasonable view of true virus prevalence - since May 7.
- Only 8 states - Colorado, Delaware, Maine, Maryland, Massachusetts, Minnesota and Pennsylvania - and the District of Columbia are reporting test-positive rates > 10% for the past week (Maine is only reporting positive results; Colorado is barely above this 10% threshold)
- Even with the increased testing, new cases have dropped 5.3% week-over-week. Only four states - Arizona, Maine, North Carolina and North Dakota - reported their highest rate of new daily infections yesterday. Rates in other states declined yesterday and, in most states, have been dealing for some time now
- While the virus spread hit the Northeast and large metro areas hardest, these areas are generally experiencing declining infection rates. For example, New York (and, New York City) were the hardest-hit (in terms of both cases and deaths per capita). New York has seen its new daily infection rate (trailing 7-day moving average) fall from a peak of 506 new cases per 1 million per day on April 5-11 to 104 the past 7 days; New York City's has fallen from 651 to 130 in roughly the same timeframe
- Now, higher new daily infection rates are being reported in Large Fringe, Medium, Small and Micropolitan areas. Further, more of the counties/municipalities in these categories are still at or near their peak infection rates
- On a worldwide basis, there was no change in the relative number of cases among the 44 hardest-hit countries. Brazil, however, is poised to surpass Spain for 3rd most cases in the next day or two.

COUNTRY-BY-COUNTRY INFORMATION

Countries Included

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- 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
- Since that time, 13 countries have moved ahead of South Korea in total cases
- We continue to track the 30 countries, which still account for 89.2% of the nearly 5 million total cases worldwide
- Case and death information is sourced from the [worldometers.info](https://www.worldometers.info), which is accessed daily; analysis by Health Industry Advisor LLC

Country-by-Country Comparative Statistics

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As of May 19

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	Rank7	New Daily Infections Per 1M Population (5-Day M.A.)	Rank8
USA	1,570,583	(1)	4,745	(5)	93,533	(1)	6.0%	(14)	282.6	(9)	1.5%	(14)	38,229	(11)	69.9	(4)
Austria	16,321	(29)	1,812	(20)	632	(25)	3.9%	(20)	70.2	(18)	0.3%	(22)	39,710	(8)	5.7	(23)
Belgium	55,791	(16)	4,814	(4)	9,108	(7)	16.3%	(1)	785.8	(1)	0.5%	(18)	57,302	(4)	24.8	(14)
Brazil	271,885	(4)	1,279	(24)	17,983	(6)	6.6%	(11)	84.6	(17)	6.0%	(1)	3,462	(25)	63.4	(7)
Canada	79,112	(14)	2,096	(16)	5,912	(10)	7.5%	(10)	156.6	(12)	1.5%	(12)	33,567	(14)	30.1	(11)
Chile	49,579	(18)	2,594	(13)	509	(26)	1.0%	(27)	26.6	(22)	6.0%	(2)	18,346	(18)	133.5	(1)
China	82,960	(13)	58	(30)	4,634	(13)	5.6%	(16)	3.2	(29)	0.0%	(30)	N/A	N/A	0.0	(30)
Ecuador	34,151	(21)	1,936	(18)	2,839	(18)	8.3%	(9)	160.9	(11)	2.3%	(9)	5,301	(24)	30.2	(10)
France	180,809	(7)	2,770	(12)	28,022	(4)	15.5%	(2)	429.3	(5)	0.2%	(26)	21,218	(15)	5.7	(24)
Germany	177,827	(8)	2,122	(15)	8,193	(8)	4.6%	(18)	97.8	(14)	0.3%	(23)	37,585	(12)	7.9	(21)
India	106,475	(11)	77	(29)	3,302	(16)	3.1%	(21)	2.4	(30)	5.4%	(3)	1,548	(28)	3.3	(26)
Iran	124,603	(10)	1,483	(23)	7,119	(9)	5.7%	(15)	84.8	(16)	1.7%	(11)	8,022	(23)	23.5	(15)
Ireland	24,251	(26)	4,911	(3)	1,561	(21)	6.4%	(12)	316.1	(8)	0.4%	(20)	52,488	(5)	29.2	(12)
Israel	16,659	(27)	1,925	(19)	278	(28)	1.7%	(26)	32.1	(21)	0.1%	(29)	57,733	(3)	2.1	(27)
Italy	226,699	(6)	3,749	(6)	32,169	(3)	14.2%	(4)	532.1	(3)	0.3%	(24)	48,698	(6)	13.0	(19)
Japan	16,367	(28)	129	(28)	768	(24)	4.7%	(17)	6.1	(25)	0.3%	(25)	1,900	(26)	0.5	(28)
Mexico	51,633	(17)	400	(25)	5,332	(12)	10.3%	(7)	41.4	(20)	5.1%	(4)	1,271	(29)	17.0	(18)
Netherlands	44,249	(19)	2,582	(14)	5,715	(11)	12.9%	(5)	333.5	(7)	0.4%	(21)	16,809	(20)	10.5	(20)
Pakistan	43,966	(20)	199	(27)	939	(23)	2.1%	(25)	4.3	(27)	4.2%	(7)	1,631	(27)	7.3	(22)
Peru	99,483	(12)	3,017	(10)	2,914	(17)	2.9%	(22)	88.4	(15)	4.3%	(6)	19,156	(16)	118.8	(2)
Portugal	29,432	(24)	2,886	(11)	1,247	(22)	4.2%	(19)	122.3	(13)	0.8%	(17)	58,828	(2)	21.3	(16)
Russia	299,941	(2)	2,000	(17)	2,837	(19)	0.9%	(28)	18.9	(23)	3.5%	(8)	45,614	(7)	64.5	(6)
Saudi Arabia	59,854	(15)	1,719	(22)	329	(27)	0.5%	(29)	9.5	(24)	5.0%	(5)	14,457	(22)	69.5	(5)
Singapore	28,794	(25)	4,922	(2)	22	(30)	0.1%	(30)	3.8	(28)	2.0%	(10)	15,773	(21)	100.7	(3)
South Korea	11,078	(30)	216	(26)	263	(29)	2.4%	(24)	5.1	(26)	0.2%	(27)	38,371	(10)	0.4	(29)
Spain	278,803	(3)	5,963	(1)	27,778	(5)	10.0%	(8)	594.1	(2)	0.4%	(19)	64,977	(1)	28.4	(13)
Sweden	30,799	(22)	3,050	(9)	3,743	(15)	12.2%	(6)	370.6	(6)	1.5%	(13)	17,589	(19)	49.9	(8)
Switzerland	30,618	(23)	3,575	(8)	1,891	(20)	6.2%	(13)	220.8	(10)	0.1%	(28)	39,247	(9)	4.0	(25)
Turkey	151,615	(9)	1,798	(21)	4,199	(14)	2.8%	(23)	49.8	(19)	0.9%	(16)	18,874	(17)	17.2	(17)
UK	248,818	(5)	3,665	(7)	35,341	(2)	14.2%	(3)	520.6	(4)	1.3%	(15)	36,696	(13)	47.0	(9)

Note: China does not report test volumes

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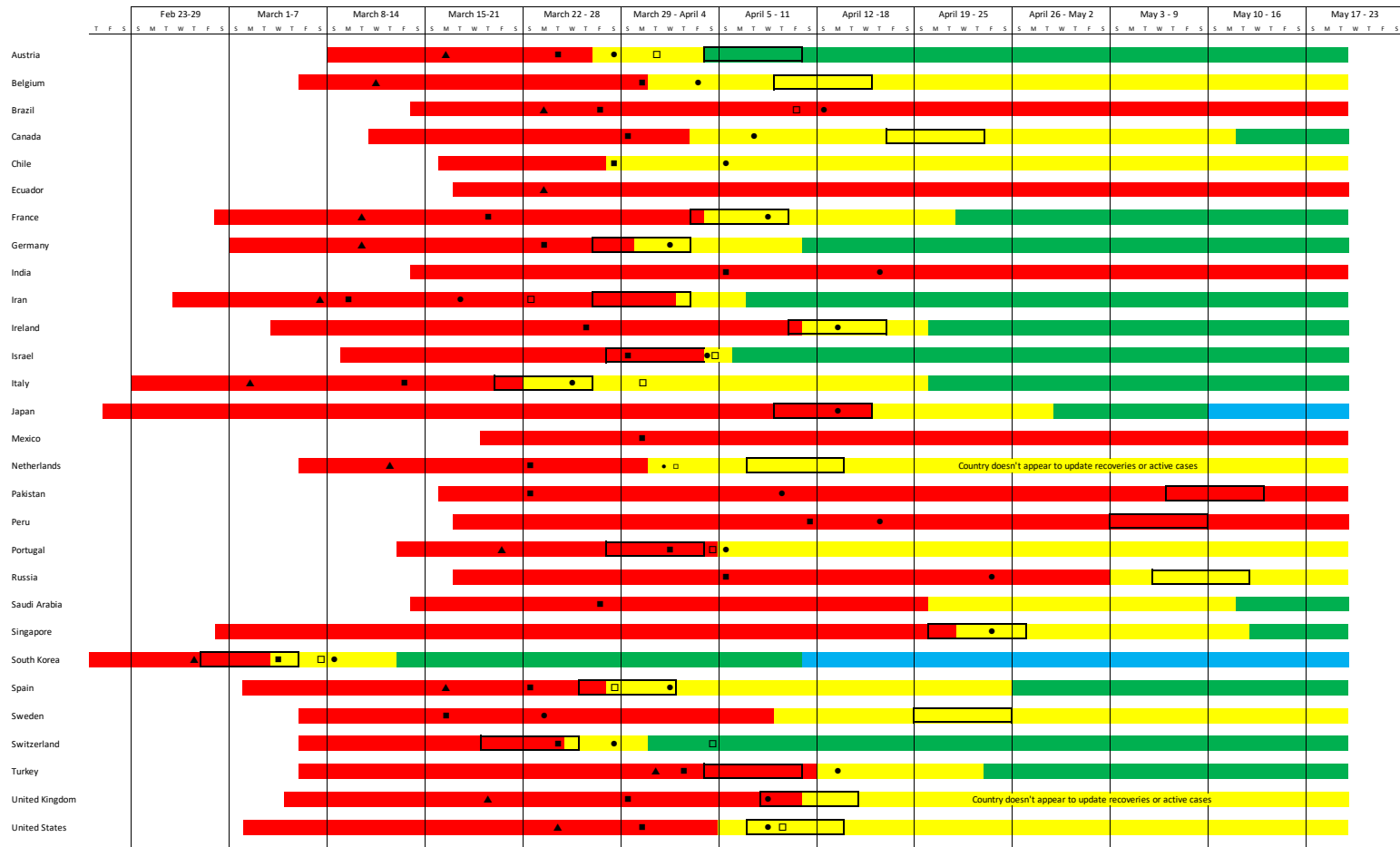
This graphic on the following page illustrates when the country first recorded 100 total cases (start of the “contagion” phase); when growth stopped following an exponential pattern (start of the “containment” phase); and, when peak total cases were recorded (start of the “recovery” phase). It uses symbols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

Legend:

Phase		Daily Case Increase (5-Day Moving Average)	Death Rate
	Contagion 100th Case to End of Exponential Growth	 Stabilized < 35%	 No Longer Increasing Exponentially
	Containment End of Exponential Growth to Peak Active Cases	 Stabilized < 20%	
	Recovery Post-Peak Active Cases	 Stabilized < 10%	<u>Peak Infections</u>
	Clear Per IHME Standard, clear to relax social distancing		 Peak 7-Day Average New Daily Infections

Country-by-Country Virus Progression

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Country-By-Country Listing of Countries By Total Cases

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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. These countries have moved up:

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

The original 30 still account for ~90% of all cases worldwide.

Total Cases			Total Cases			Total Cases		
Rank	Country	15-May	Rank	Country	6-May	Rank	Country	27-Apr
1	USA	1,570,583	1	USA	1,263,092	1	USA	1,010,356
2	Russia	299,941	2	Spain	253,682	2	Spain	229,422
3	Spain	278,803	3	Italy	214,457	3	Italy	199,414
4	Brazil	271,885	4	UK	201,101	4	France	165,842
5	UK	248,818	5	France	174,191	5	Germany	158,758
6	Italy	226,699	6	Germany	168,162	6	UK	157,149
7	France	180,809	7	Russia	165,929	7	Turkey	112,261
8	Germany	177,827	8	Turkey	131,744	8	Iran	91,472
9	Turkey	151,615	9	Brazil	126,611	9	Russia	87,147
10	Iran	124,603	10	Iran	101,650	10	China	82,830
11	India	106,475	11	China	82,883	11	Brazil	66,501
12	Peru	99,483	12	Canada	63,496	12	Canada	48,500
13	China	82,960	13	Peru	54,817	13	Belgium	46,687
14	Canada	79,112	14	India	52,987	14	Netherlands	38,245
15	Saudi Arabia	59,854	15	Belgium	50,781	15	India	29,451
16	Belgium	55,791	16	Netherlands	41,319	16	Switzerland	29,164
17	Mexico	51,633	17	Saudi Arabia	31,938	17	Peru	28,669
18	Chile	49,579	18	Switzerland	30,060	18	Portugal	24,070
19	Netherlands	44,249	19	Ecuador	29,420	19	Ecuador	23,240
20	Pakistan	43,966	20	Portugal	26,182	20	Ireland	19,648
22	Ecuador	34,151	21	Mexico	26,025	21	Sweden	18,926
24	Sweden	30,799	22	Sweden	23,918	22	Saudi Arabia	18,811
25	Switzerland	30,618	23	Pakistan	23,214	23	Israel	15,555
26	Portugal	29,432	24	Chile	23,048	24	Austria	15,274
27	Singapore	28,794	25	Ireland	22,248	25	Mexico	14,677
30	Ireland	24,251	26	Singapore	20,198	26	Singapore	14,423
38	Israel	16,659	29	Israel	16,310	27	Pakistan	13,915
39	Japan	16,367	31	Austria	15,684	28	Chile	13,813
40	Austria	16,321	32	Japan	15,253	29	Japan	13,614
44	S. Korea	11,078	38	S. Korea	10,806	35	South Korea	10,738
	Others	539,782		Others	356,176		Others	263,943
	World	4,982,937		World	3,817,382		World	3,062,515

30 countries' share

89.2%

90.7%

91.4%

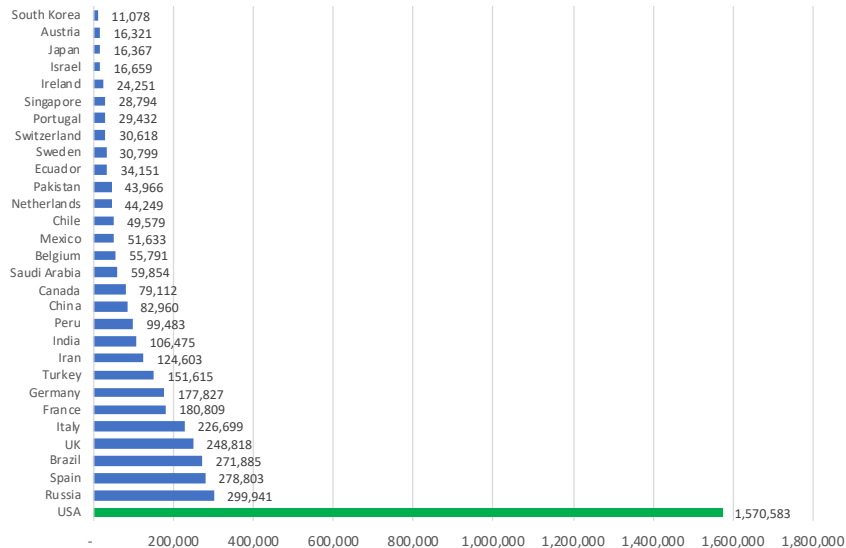
Country-by-Country Cases & Cases Per Capita

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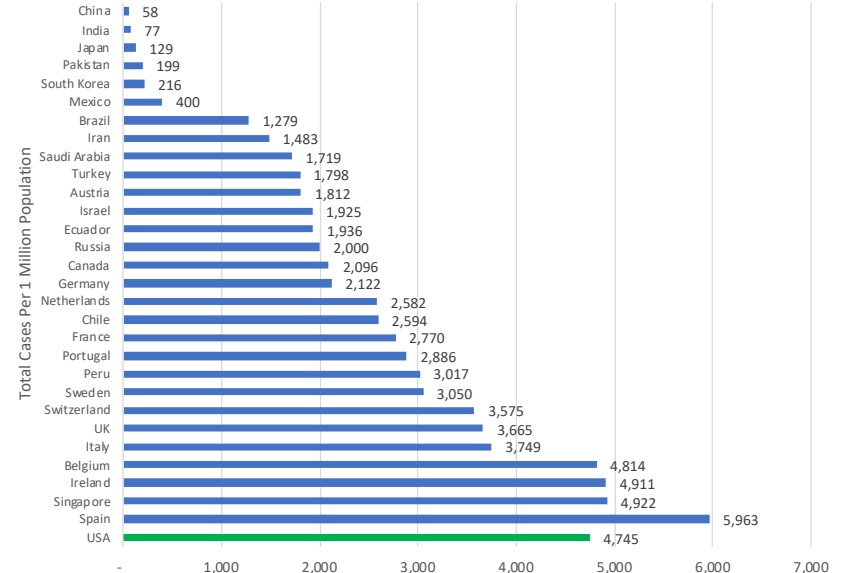
Brazil, Chile, India, Mexico, Pakistan, Peru, Russia and Saudi Arabia are moving up in the ranks of most cases; Austria, Israel, Japan and South Korea are dropping

Cases per capita remain the highest in European countries, Singapore and the US.

Total Cases By Country
May 19



Cases Per Capita By Country
May 19

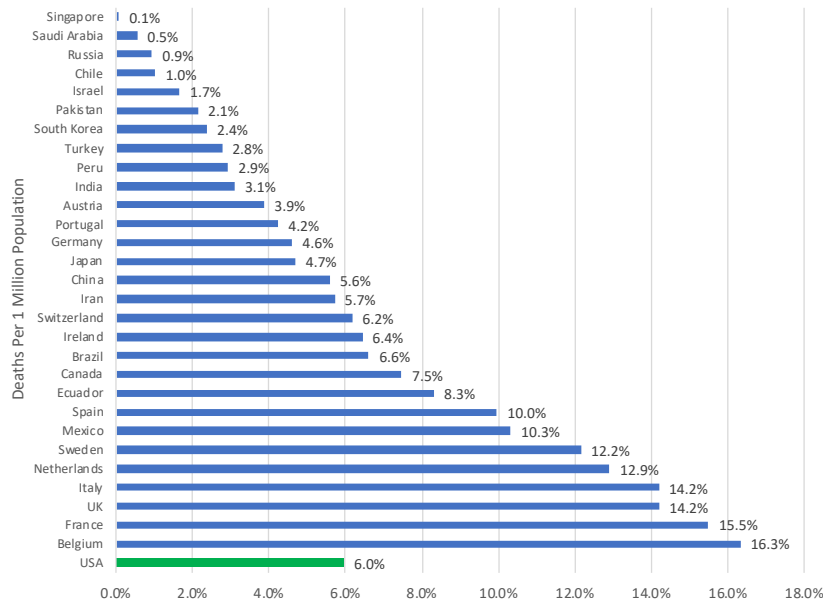


Deaths Per Cases & Per Capita

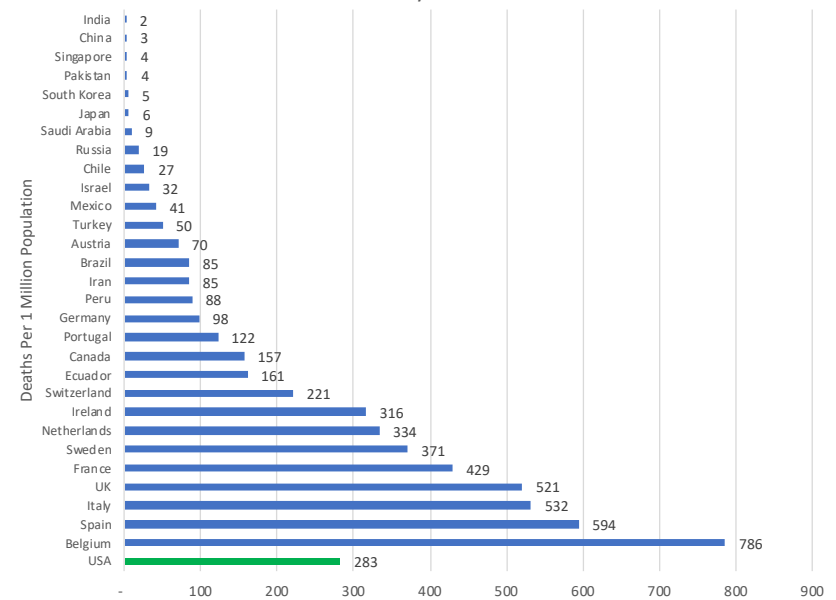
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Death rates per case and per capita are the highest in Belgium, France, Italy and the UK. Rates in the US are in the middle of this group of countries

Death Rate By Country
May 19



Deaths Per Capita By Country
May 19

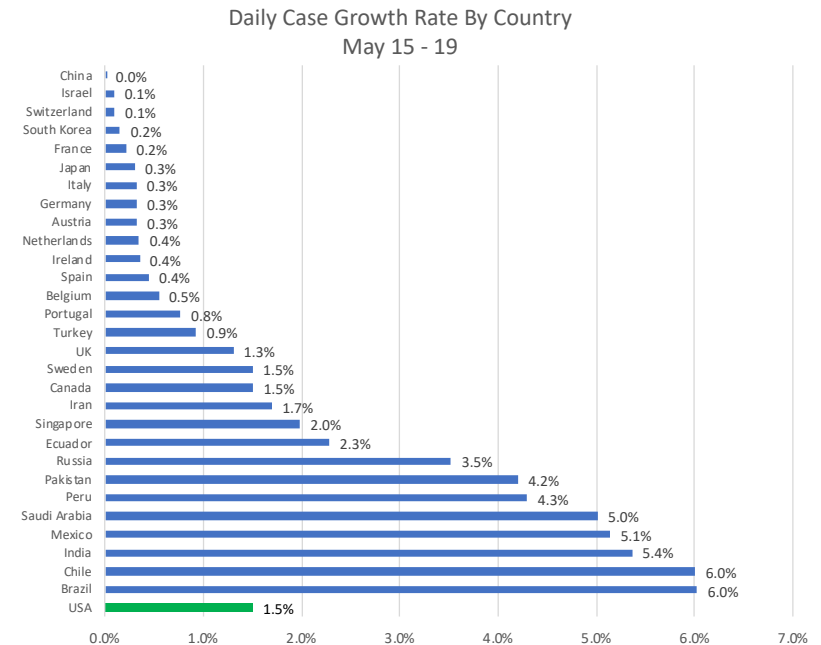
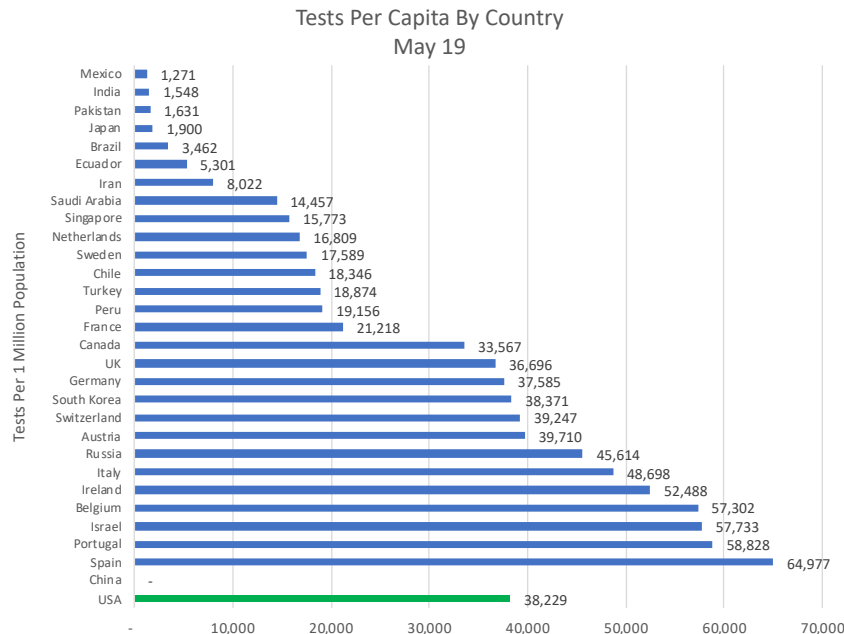


Country-by-Country Tests Per Capita & Case Growth Rate

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Testing per capita varies widely among these countries. The US, while ramping up testing over the past several weeks, still lags that of many European countries.

Case growth among the hardest-hit countries has fallen sharply over the past month; relatively high in Brazil, Chile, India, Mexico, Peru and Saudi Arabia

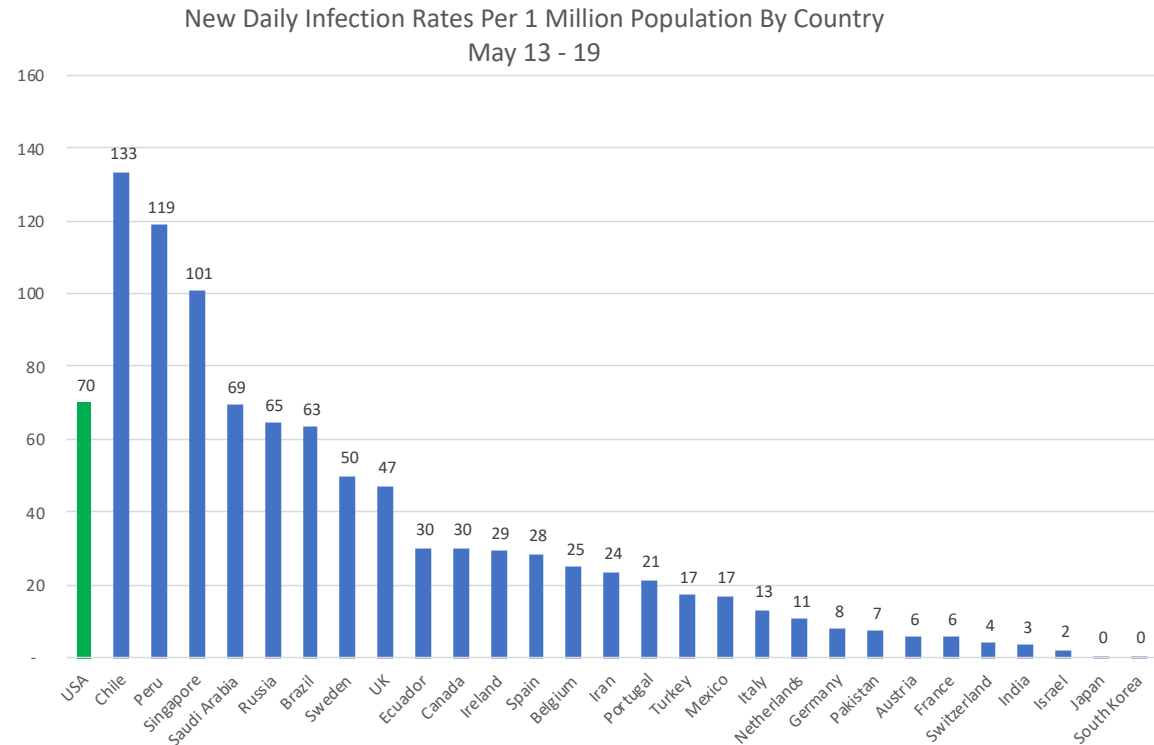


Country-by-Country New Daily Infection Rate

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New daily infection rates are declining in most of the hardest-hit countries. Singapore is high but, declining.

Even in countries with newly-emerging virus-spread - Brazil, India, Mexico and Saudi Arabia - infection rates appear relatively low. Chile and Peru are the exceptions.



UNITED STATES & STATE-BY-STATE INFORMATION

State-by-State Comparative Statistics

"Strategic Guidance in an Era of Unprecedented Change"

As of May 19

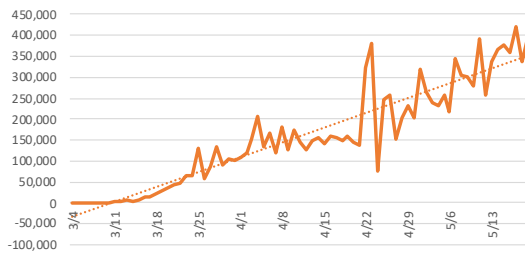
State	Total Cases	Rank	Cases per 1M Population	Rank2	Deaths	Rank3	Death Rate	Rank4	Deaths per 1 Million Population	Rank5	5-day Moving Average Case Growth Rate	Rank6	Tests per 1M Population Past 7 days	Rank7	New Daily Cases Per 1M Population (5-Day M.A.)	Rank8
Alabama	12,376	(26)	2,524.1	(28)	504	(25)	4.1%	(32)	102.8	(25)	2.2%	(16)	709	(44)	55.7	(25)
Alaska	399	(51)	545.4	(49)	10	(51)	2.5%	(42)	13.7	(50)	0.6%	(47)	1,254	(19)	3.1	(49)
Arizona	14,566	(23)	2,001.2	(35)	704	(21)	4.8%	(19)	96.7	(27)	2.8%	(7)	760	(39)	55.5	(26)
Arkansas	4,923	(39)	1,631.3	(41)	102	(40)	2.1%	(46)	33.8	(45)	2.4%	(10)	1,101	(23)	35.9	(36)
California	83,804	(5)	2,121.0	(34)	3,425	(8)	4.1%	(31)	86.7	(29)	2.3%	(13)	1,106	(22)	46.5	(32)
Colorado	22,482	(17)	3,904.0	(18)	1,257	(16)	5.6%	(11)	218.3	(14)	1.5%	(34)	563	(49)	57.7	(22)
Connecticut	38,430	(12)	10,778.9	(5)	3,472	(7)	9.0%	(2)	973.8	(3)	1.6%	(31)	1,887	(3)	164.2	(7)
Delaware	8,037	(33)	8,253.5	(7)	304	(33)	3.8%	(33)	312.2	(12)	2.2%	(19)	1,590	(11)	190.1	(2)
District Of Columbia	7,434	(35)	10,533.5	(6)	400	(27)	5.4%	(13)	566.8	(5)	2.0%	(24)	1,685	(7)	192.1	(1)
Florida	46,944	(9)	2,185.7	(33)	2,052	(11)	4.4%	(27)	95.5	(28)	1.7%	(29)	906	(32)	33.4	(38)
Georgia	38,855	(11)	3,659.6	(20)	1,675	(14)	4.3%	(28)	157.8	(16)	1.6%	(33)	1,560	(12)	53.9	(28)
Hawaii	641	(49)	452.7	(50)	17	(48)	2.7%	(41)	12.0	(51)	0.1%	(51)	715	(43)	0.6	(51)
Idaho	2,476	(43)	1,381.6	(44)	77	(42)	3.1%	(39)	43.0	(43)	1.0%	(43)	428	(50)	14.6	(45)
Illinois	98,030	(3)	7,736.1	(8)	4,379	(6)	4.5%	(23)	345.6	(10)	2.2%	(17)	1,691	(6)	169.2	(6)
Indiana	28,705	(16)	4,263.8	(16)	1,824	(12)	6.4%	(8)	270.9	(13)	2.0%	(25)	824	(34)	75.9	(17)
Iowa	15,349	(22)	4,864.9	(14)	375	(29)	2.4%	(43)	118.9	(24)	2.3%	(12)	1,194	(20)	110.3	(11)
Kansas	8,341	(31)	2,863.1	(23)	199	(36)	2.4%	(44)	68.3	(36)	1.6%	(32)	632	(47)	54.0	(27)
Kentucky	8,069	(32)	1,806.1	(38)	366	(31)	4.5%	(21)	81.9	(31)	2.2%	(14)	1,598	(10)	38.9	(35)
Louisiana	35,038	(13)	7,537.0	(9)	2,581	(9)	7.4%	(4)	555.2	(6)	0.9%	(46)	1,538	(15)	91.8	(14)
Maine	1,741	(45)	1,295.2	(46)	73	(43)	4.2%	(29)	54.3	(39)	2.2%	(20)	28	(51)	28.1	(41)
Maryland	41,546	(10)	6,872.0	(10)	2,081	(10)	5.0%	(17)	344.2	(11)	3.0%	(4)	925	(30)	176.9	(4)
Massachusetts	87,925	(4)	12,652.0	(3)	5,938	(3)	6.8%	(7)	854.4	(4)	1.4%	(39)	1,551	(14)	176.6	(5)
Michigan	52,350	(7)	5,241.9	(13)	5,017	(4)	9.6%	(1)	502.4	(7)	1.1%	(41)	1,645	(8)	61.9	(21)
Minnesota	17,029	(21)	3,019.5	(21)	757	(19)	4.4%	(25)	134.2	(19)	4.9%	(1)	1,039	(27)	114.9	(10)
Mississippi	11,704	(27)	3,932.6	(17)	554	(23)	4.7%	(20)	186.1	(15)	2.2%	(15)	963	(28)	86.2	(15)
Missouri	11,361	(28)	1,851.1	(37)	625	(22)	5.5%	(12)	101.8	(26)	1.5%	(37)	764	(37)	26.3	(43)
Montana	471	(50)	440.7	(51)	16	(49)	3.4%	(37)	15.0	(49)	0.4%	(49)	791	(36)	1.3	(50)
Nebraska	10,846	(29)	5,606.9	(11)	132	(39)	1.2%	(49)	68.2	(37)	2.9%	(6)	1,628	(9)	159.1	(8)
Nevada	7,046	(36)	2,287.5	(31)	373	(30)	5.3%	(15)	121.1	(23)	1.6%	(30)	1,089	(24)	34.1	(37)
New Hampshire	3,721	(42)	2,736.6	(24)	182	(37)	4.9%	(18)	133.9	(20)	1.9%	(27)	1,462	(16)	50.6	(29)
New Jersey	151,014	(2)	17,001.9	(2)	10,591	(2)	7.0%	(6)	1,192.4	(2)	1.0%	(45)	1,401	(17)	143.7	(9)
New Mexico	6,192	(37)	2,953.0	(22)	276	(35)	4.5%	(24)	131.6	(21)	2.4%	(11)	2,105	(2)	66.8	(20)
New York	362,630	(1)	18,640.8	(1)	28,648	(1)	7.9%	(3)	1,472.6	(1)	0.5%	(48)	1,782	(5)	102.6	(13)
North Carolina	19,844	(18)	1,892.1	(36)	719	(20)	3.6%	(36)	68.6	(35)	3.1%	(2)	855	(33)	57.5	(23)
North Dakota	1,994	(44)	2,616.6	(26)	45	(47)	2.3%	(45)	59.1	(38)	3.1%	(3)	1,856	(4)	79.3	(16)
Ohio	28,991	(15)	2,480.2	(29)	1,724	(13)	5.9%	(9)	147.5	(17)	1.9%	(28)	732	(41)	45.5	(33)
Oklahoma	5,489	(38)	1,387.2	(43)	294	(34)	5.4%	(14)	74.3	(34)	2.0%	(22)	1,554	(13)	27.3	(42)
Oregon	3,726	(41)	883.4	(47)	140	(38)	3.8%	(34)	33.2	(46)	1.4%	(38)	749	(40)	12.5	(46)
Pennsylvania	67,427	(6)	5,266.9	(12)	4,751	(5)	7.0%	(5)	371.1	(9)	1.3%	(40)	599	(48)	67.0	(19)
Rhode Island	12,951	(24)	12,225.3	(4)	532	(24)	4.1%	(30)	502.2	(8)	1.5%	(35)	2,968	(1)	180.3	(3)
South Carolina	9,056	(30)	1,758.9	(39)	399	(28)	4.4%	(26)	77.5	(33)	2.0%	(23)	1,163	(21)	31.3	(39)
South Dakota	4,085	(40)	4,617.6	(15)	46	(46)	1.1%	(51)	52.0	(40)	1.5%	(36)	729	(42)	68.1	(18)
Tennessee	18,378	(20)	2,689.5	(25)	305	(32)	1.7%	(47)	44.6	(42)	1.9%	(26)	1,302	(18)	47.4	(31)
Texas	50,672	(8)	1,747.6	(40)	1,402	(15)	2.8%	(40)	48.4	(41)	2.5%	(9)	1,080	(25)	43.4	(34)
Utah	7,518	(34)	2,345.0	(30)	88	(41)	1.2%	(50)	27.4	(47)	2.2%	(18)	915	(31)	48.4	(30)
Vermont	944	(47)	1,512.8	(42)	54	(45)	5.7%	(10)	86.5	(30)	0.3%	(50)	762	(38)	3.9	(48)
Virginia	32,145	(14)	3,766.0	(19)	1,041	(17)	3.2%	(38)	122.0	(22)	2.9%	(5)	794	(35)	106.2	(12)
Washington	19,639	(19)	2,579.0	(27)	1,029	(18)	5.2%	(16)	135.1	(18)	1.0%	(44)	695	(45)	29.5	(40)
West Virginia	1,514	(46)	847.2	(48)	68	(44)	4.5%	(22)	38.0	(44)	1.1%	(42)	1,058	(26)	10.9	(47)
Wisconsin	12,885	(25)	2,213.0	(32)	467	(26)	3.6%	(35)	80.2	(32)	2.7%	(8)	927	(29)	55.8	(24)
Wyoming	776	(48)	1,340.8	(45)	10	(51)	1.3%	(48)	17.3	(48)	2.1%	(21)	689	(46)	24.9	(44)
United States	1,570,583		4,744.9		93,533		6.0%		282.6		1.5%		1,119		69.9	

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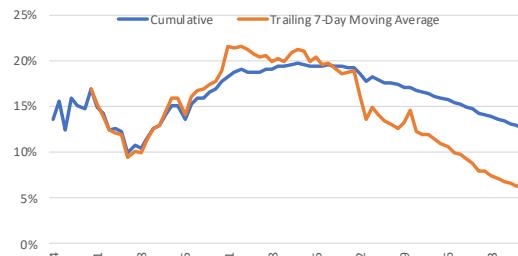
With significantly increased testing, the US is now meeting the WHO standard of <10% test-positives. This suggests that asymptomatic cases are being captured and that we have a better view of true infection rates. Further, new daily infections continue to decline; the death rate seems to have stabilized.

New Daily Tests - US



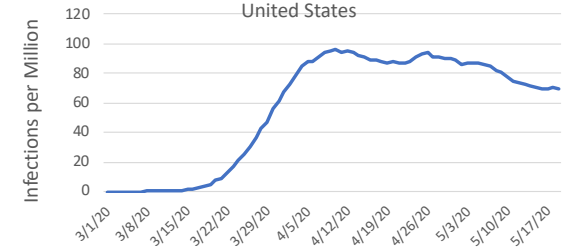
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Test-Positive Rate



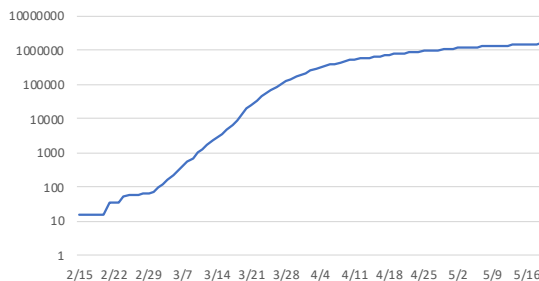
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New Daily Infections Per 1M
Trailing 7-Day Moving Average
United States



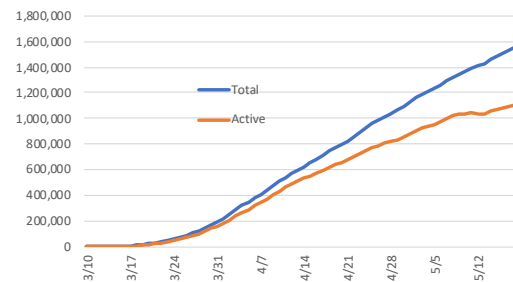
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Total Cases Log Scale - US



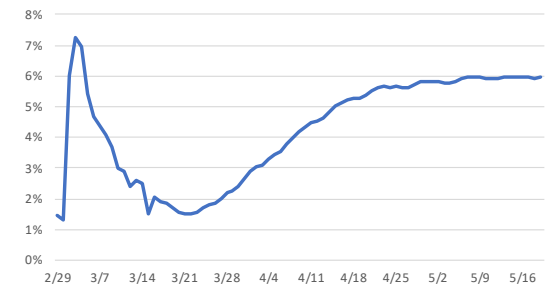
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Cases - US



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Deaths Per Case - US

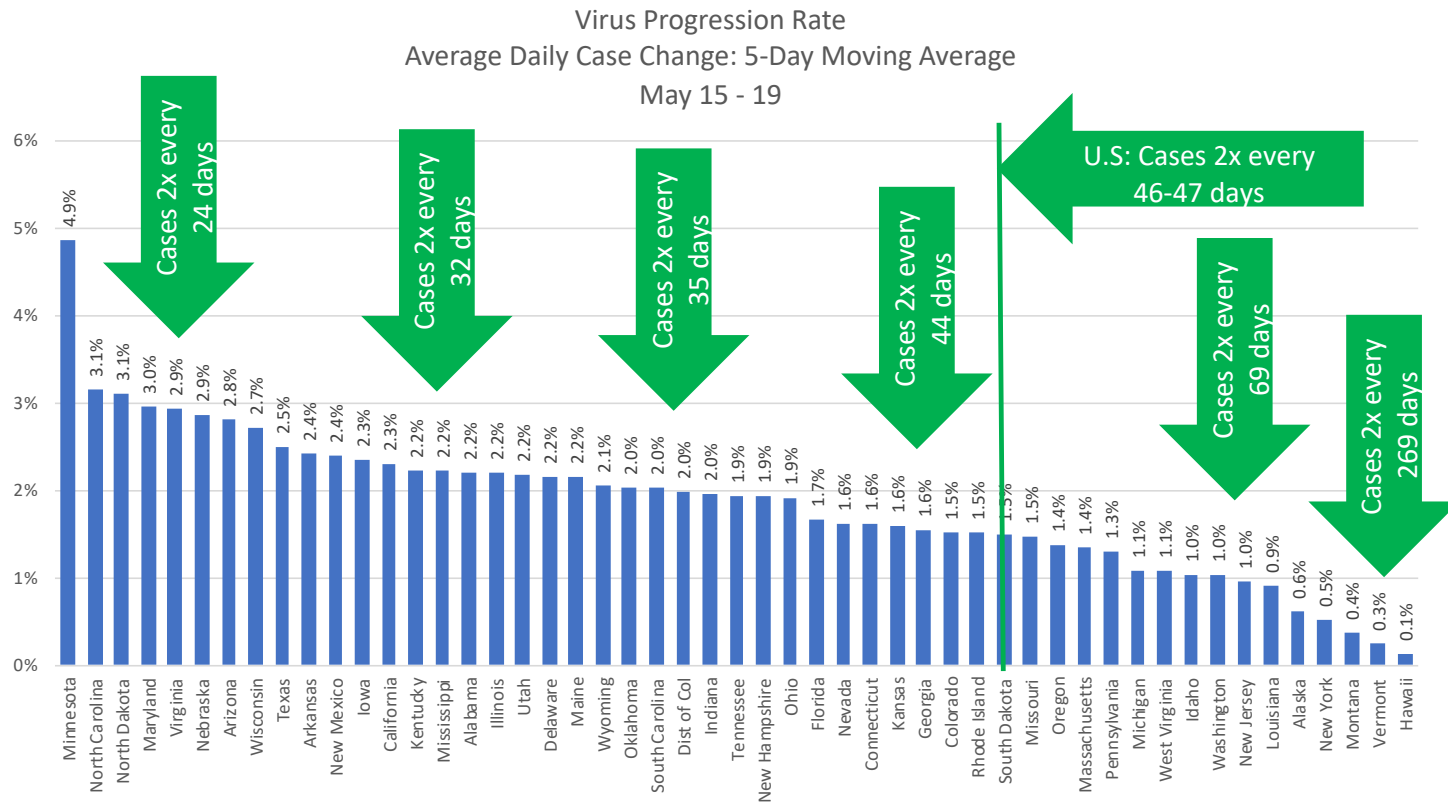


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State-by-State Average Daily Case Growth

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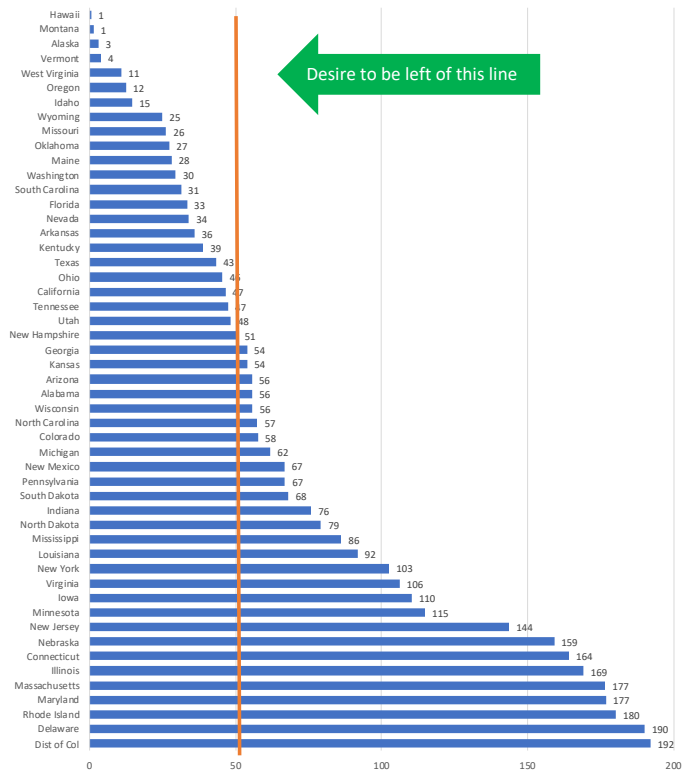
Just 1 month ago, cases in every state were doubling every 1 – 3 weeks.
Now, they would take 2 weeks to more than 1 year to double



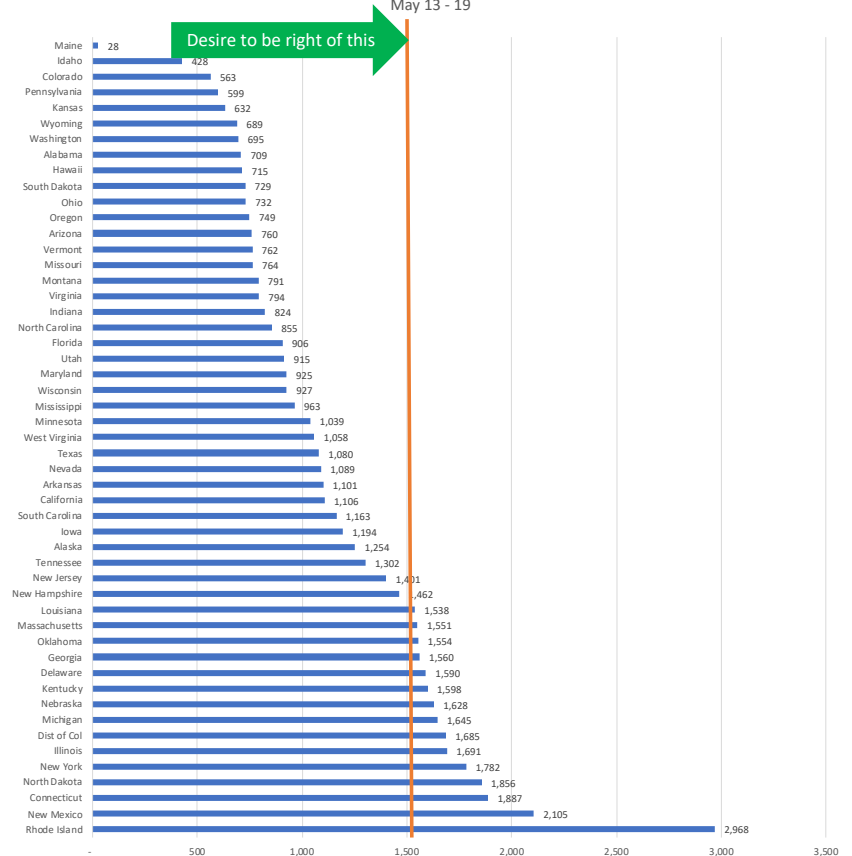
State-by-State New Daily Infections & Tests Per Capita

"Strategic Guidance in an Era of Unprecedented Change"

New Daily Infections Per 1 Million Population
By State
May 13 - 19



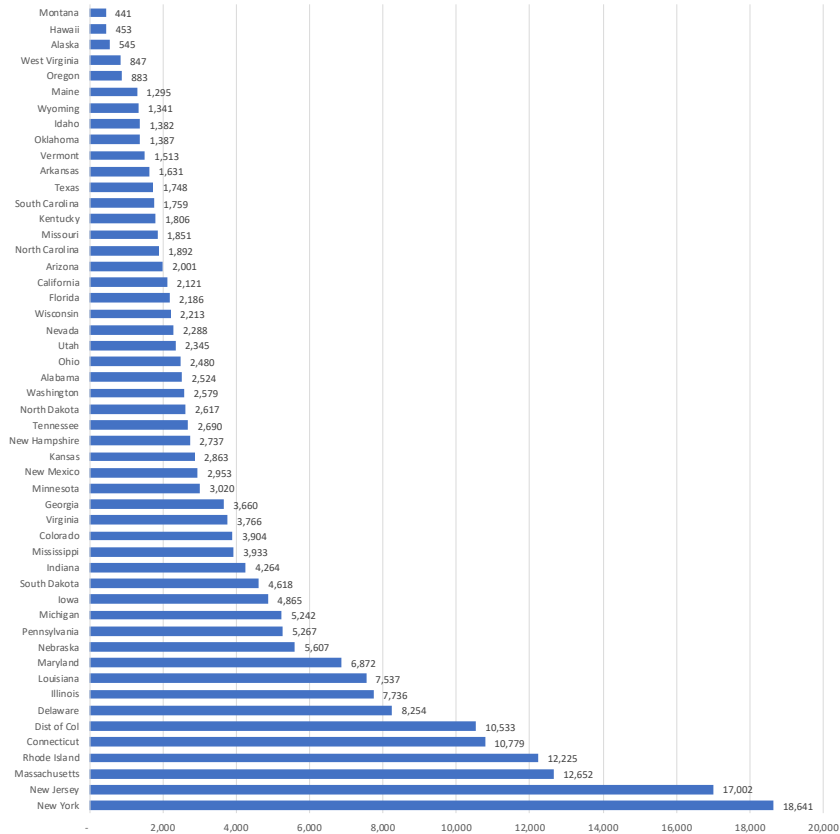
Daily Tests Per 1 Million Population
By State
May 13 - 19



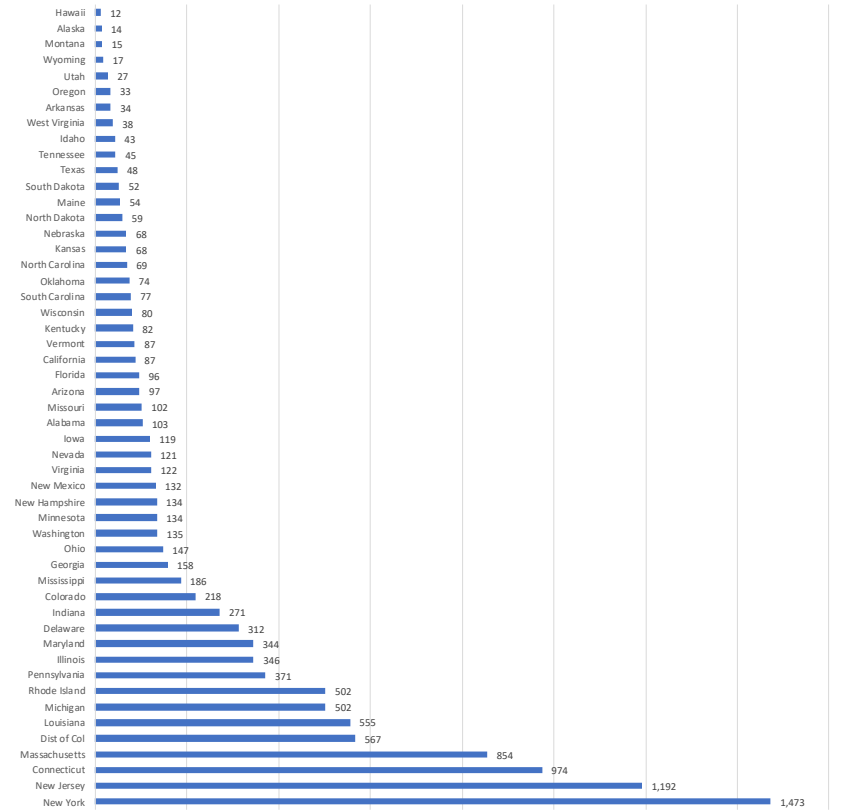
State-by-State Cases & Deaths Per Capita

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Total Cases Per 1 Million Population
By State
As of May 19



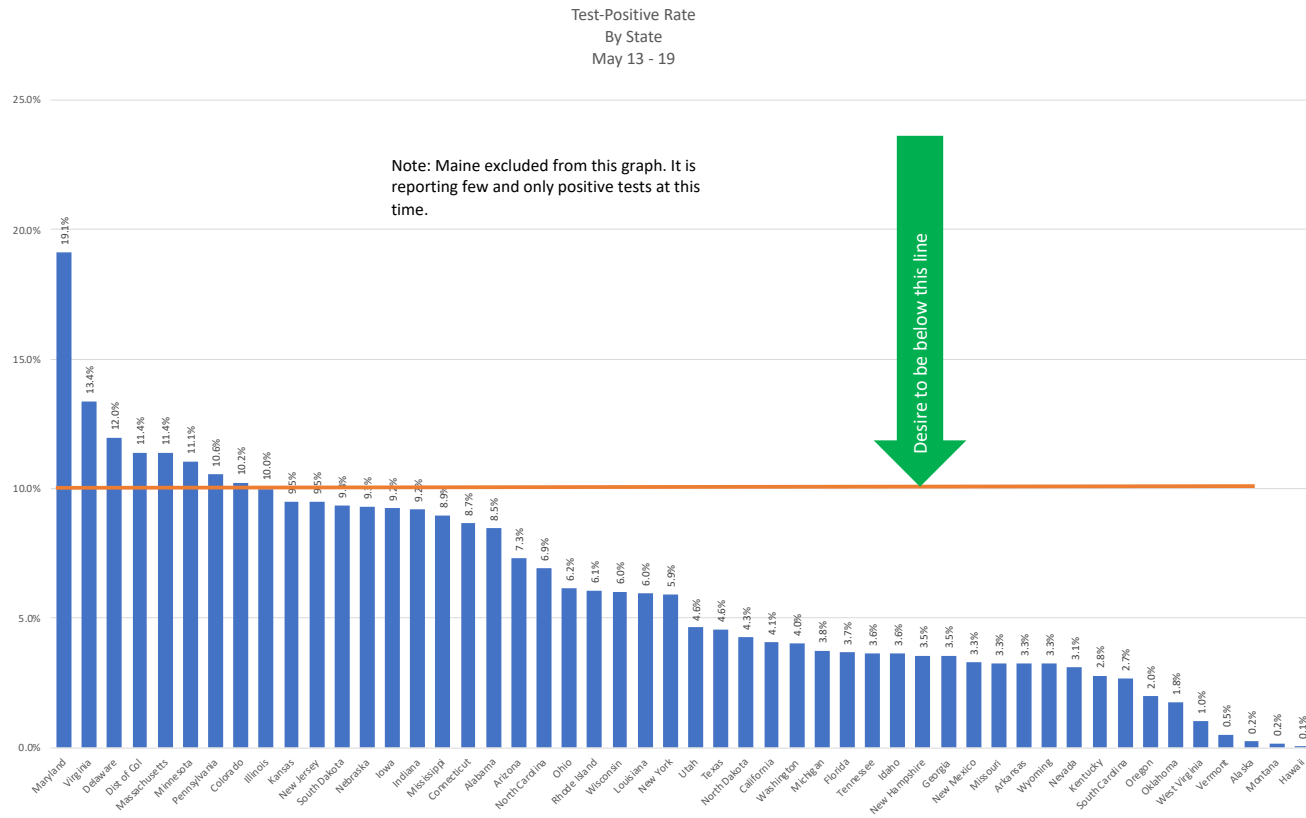
Deaths Per 1 Million Population
By State
As of May 19



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. All except 7 states and the District of Columbia effectively met this guideline for the past week.



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STATE-BY-STATE READINESS FOR RELAXING RESTRICTIONS

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We recently modified the tests/capita metric in two ways: first, we changed to tests/capita past 2 weeks (v. cumulative); second, we adopted the Harvard based study of susceptible-infected-recovered model (SEIR) identification of a goal of 2.7% of population tested per week; and, a minimum of 1520 tests per 1 million population. This will serve as a more challenging standard.

- We recently introduced a scorecard to provide a snapshot of each state’s readiness for relaxing restrictions on businesses and individuals.
- To portray readiness we have incorporated the following measures into to the scorecard, (along with the rationale for the scoring within each measure):
 - Tests/Capita – last 14 days; indicates testing robustness; grading quintiles based on Harvard study using susceptible-infected-recovered model (SEIR) 2.7% of population tested per week, 1%, 0.7%, 0.35%, all others
 - Direction – whether test volume increased/stayed level, or decreased the past 2 weeks v. prior two weeks
 - Test-Positive Rate – indicates whether testing is identifying sufficient numbers of non-infected persons; grading based on comparison to best reported in the world (South Korea, Australia, New Zealand), next group of countries (Canada, Germany, Denmark), then, next 3 levels set to differentiate among states
 - Direction – whether test positive rate increased/stayed level, or past 2 weeks v. prior two weeks
 - New Infections / 1 Million – indicates how quickly the virus is spreading; grading based on: rate proposed by IHME for ending social distancing, top ten, top 20, top 25 among the countries we track, then all others
 - Direction – whether new infection per capita rate increased/stayed level, or past 2 weeks v. prior two weeks
 - Influenza-Like Illness – Using CDC-reported data, indicates whether the state’s visits for influenza the past week were above or below CDC baseline for the state’s region
 - Direction – whether the % visits for influenza the last 3 weeks increased or decreased the past 3 weeks v. the prior 3 weeks
 - Hospital Resources – using IHME projections, whether the state is pre- or post- peak projected hospital resource needs due to the virus; and the 5 of peak resources projected to be needed today. Grading based on current need at <45% of peak, 45-60%, 60-75%, 75-85%, and all others.
- On the following pages, we portray state-by-state readiness on various dates.
- **These scorecards are for informational purposes only. The measures and grading used are not based on any scientific standard and should not be considered a substitute for public health considerations or other clinical or economic judgement. States may elect to move faster or slower than the scorecard might otherwise indicate.**

Readiness For Relaxing Restrictions

“Strategic Guidance in an Era of Unprecedented Change”

Highlights:

- Progress has been made in several states, on both testing volumes and test-positive rates
 - Most states are still testing far below the minimum 152 daily tests per 1 million population cited in a recent [NY Times article](#); and the higher standard of 2.7% of the population tested weekly (386 daily per 1 million, as suggested by a recent [Kaiser Family Foundation article](#). Both articles referenced Harvard researchers as the source of these metrics
 - Test-positive rates in many states, however, are below or close to the 10% threshold suggested by Dr. Maria Van Kerkhove of the [World Health Organization](#), as indicative of sufficient testing to have reasonable visibility to true infection rates
- As we have progressed past the peak flu season in many states, that “constraint” on re-opening is diminishing
- With the relaxing of restrictions in many states, the [Institute for Health Metrics and Evaluation’s \(IHME\) projections](#) of these states’ hospital resources needs have increased significantly in the past week. Note: these metrics consider hospital resource needs, however, they do not consider capacity

May 19

State	Tests / Capita		Test-Positive Rate		New Infections / 1 Million		Influenza-Like Illness		Hospital Resources
	#	Direction	#	Direction	#	Direction	Baseline	Direction	
Alabama									
Alaska									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
District Of Columbia									
Florida									
Georgia									
Hawaii									
Idaho									
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									
Oregon									
Pennsylvania									
Rhode Island									
South Carolina									
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

May 12

State	Tests / Capita		Test-Positive Rate		New Infections / 1 Million		Influenza-Like Illness		Hospital Resources
	#	Direction	#	Direction	#	Direction	Baseline	Direction	
Alabama									
Alaska									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
District Of Columbia									
Florida									
Georgia									
Hawaii									
Idaho									
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									
Oregon									
Pennsylvania									
Rhode Island									
South Carolina									
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

Legend and sources provided on 2nd following page

Change in "Hospital Resources" due to IHME raising projections, in response to relaxed social distancing

May 17

State	Tests / Capita		Test-Positive Rate		New Infections / 1 Million		Influenza-Like Illness		Hospital Resources
	#	Direction	#	Direction	#	Direction	Baseline	Direction	
Alabama									
Alaska									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
District Of Columbia									
Florida									
Georgia									
Hawaii									
Idaho									
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									
Oregon									
Pennsylvania									
Rhode Island									
South Carolina									
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

April 15

State	Tests / Capita		Test-Positive Rate		New Infections / 1 Million		Influenza-Like Illness		Hospital Resources
	#	Direction	#	Direction	#	Direction	Baseline	Direction	
Alabama									
Alaska									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
District Of Columbia									
Florida									
Georgia									
Hawaii									
Idaho									
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									
Oregon									
Pennsylvania									
Rhode Island									
South Carolina									
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

Legend and sources provided on following page

Legend:

Time period	Tests per Capita	Direction	Test-Positive Rate	Direction	New Daily Infection Rate	Direction	Baseline	Direction	Hospital Resources
	Average last 2 weeks	last 14 days v prior 2 weeks	last 7 days	last 14 days v prior 2 weeks	per 1M last 7 days	last 14 days v prior 2 weeks	CDC Baseline by region	last 14 days v prior 2 weeks	As of 4/26
	>3,850		<=2%		<10				<45% of Peak
	1520 - 3,850		2-10%		10-50				45-60% of Peak
	1,501 - 3,850		10-14%		50-100				60-75% of Peak
	501 - 1,500		14-18%		100-150				75-85% of peak
	<750		>18%		>150				>85% of Peak or Pre-Peak
		Up		Down		Down by 40%	Below Baseline	Down	
						Down by 10%		N/A	
		Down		Up		Down <10% or Up	Above Baseline	Up	

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Sources:

Influenza guidelines and data from Centers for Disease Control (<https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>), accessed April 30 - May 16, 2020

Test data from Covid Tracking Project (<https://covidtracking.com/>), accessed March 21-May 20, 2020

Hospital resource Need projections from Institute for Health Metrics and Evaluation (I), accessed April 30- May 16, 2020

Infection rate data from worldometer.info, accessed March 21-May 20, 2020

VIRUS PROGRESSION: ROADMAP TO RECOVERY

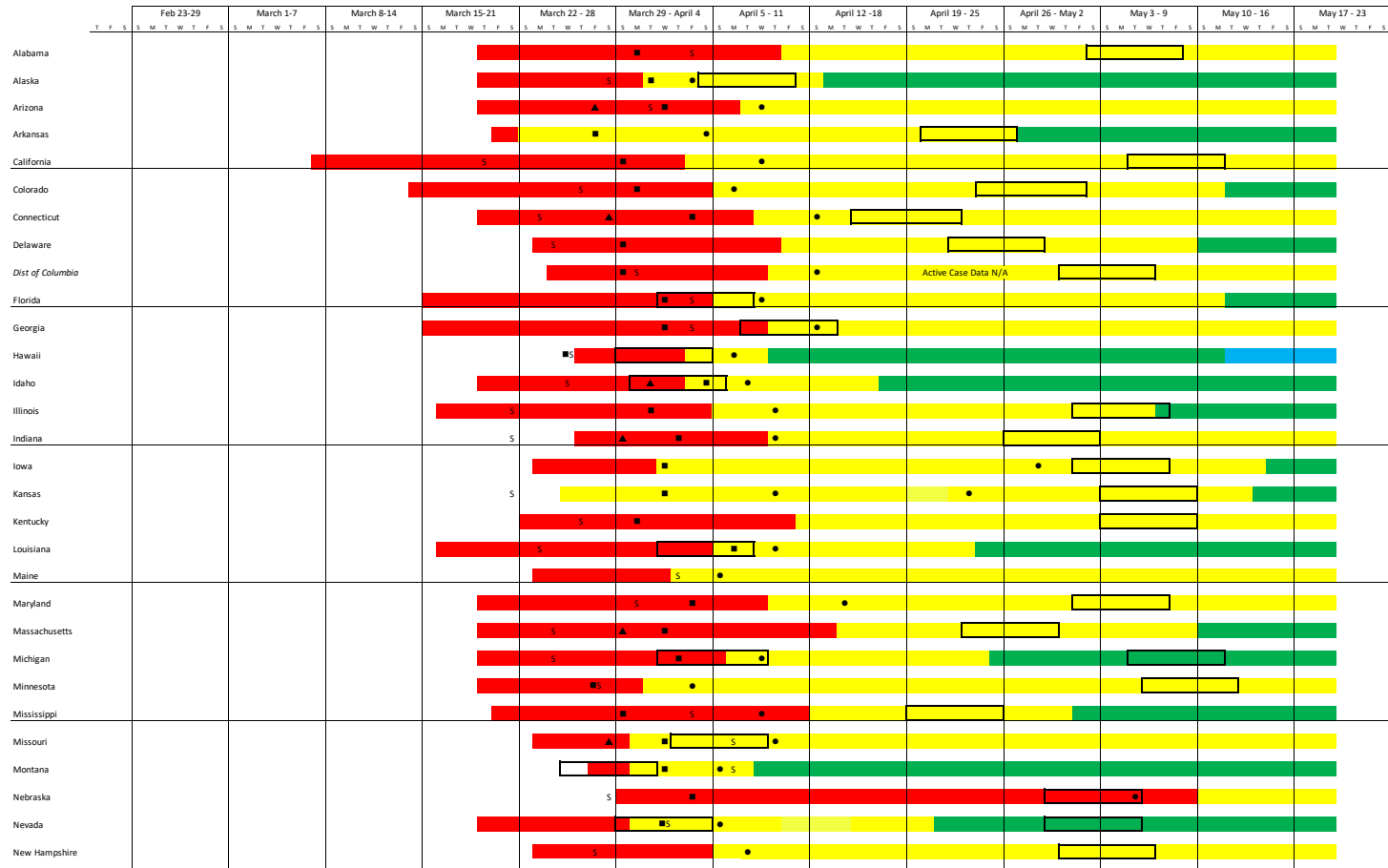
"Strategic Guidance in an Era of Unprecedented Change"

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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Legend on following page

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State-by-State Virus Progression – 2 of 2

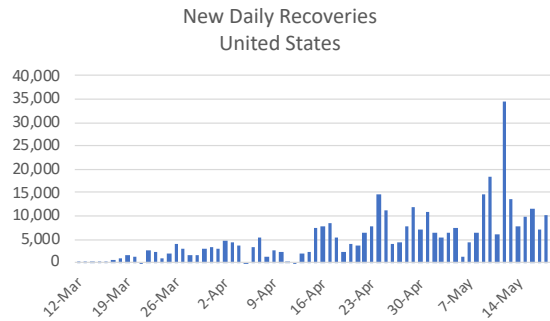
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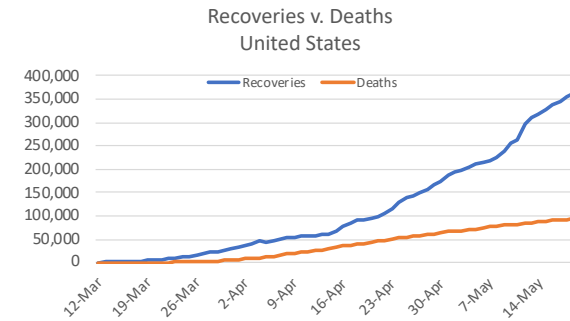
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UNDER-REPORTED RECOVERIES? POSSIBLE LAG IN STATE REPORTING

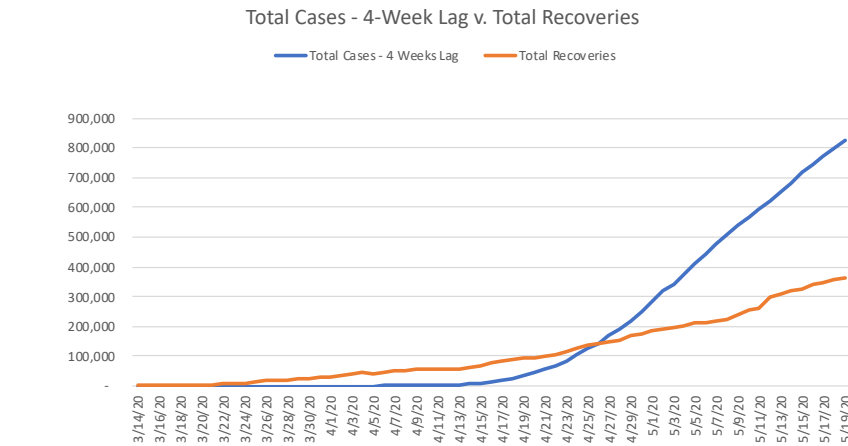
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Which states seem to be lagging in reporting?

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 ~290-375k

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

State	Recoveries	Expected Recoveries	
		Low	High
Alabama	20	4,262	4,794
Alaska	348	263	296
Arizona	70	4,201	4,726
Arkansas	3,645	1,592	1,791
California	15,021	28,514	32,079
Colorado	1,491	8,358	9,402
Connecticut	6,264	16,288	18,324
Delaware	3,545	2,345	2,638
District Of Columbia	1,040	2,478	2,788
Florida	7,638	22,295	25,082
Georgia	340	16,133	18,149
Hawaii	578	469	527
Idaho	1,379	1,413	1,589
Illinois	111	26,447	29,753
Indiana	1,869	9,678	10,887
Iowa	8,160	2,913	3,277
Kansas	2,604	1,768	1,989
Kentucky	2,826	2,554	2,873
Louisiana	26,249	19,883	22,369
Maine	1,088	710	799
Maryland	2,806	11,354	12,774
Massachusetts	27,812	32,959	37,079
Michigan	28,234	26,374	29,670
Minnesota	11,540	2,054	2,310
Mississippi	6,268	3,773	4,244
Missouri	2,807	4,753	5,347

State	Recoveries	Expected Recoveries	
		Low	High
Montana	437	350	393
Nebraska	349	1,370	1,542
Nevada	5,039	3,150	3,543
New Hampshire	1,275	1,193	1,342
New Jersey	6,915	73,910	83,148
New Mexico	1,882	1,658	1,865
New York	62,672	205,244	230,900
North Carolina	11,637	5,690	6,402
North Dakota	1,269	515	580
Ohio	4,913	10,980	12,353
Oklahoma	4,135	2,246	2,526
Oregon	1,406	1,602	1,802
Pennsylvania	6,763	28,234	31,764
Rhode Island	886	4,400	4,950
South Carolina	6,043	3,686	4,147
South Dakota	2,784	1,404	1,580
Tennessee	10,969	5,915	6,655
Texas	28,463	16,477	18,536
Utah	4,183	2,637	2,966
Vermont	820	654	736
Virginia	4,271	7,704	8,667
Washington	5,160	9,826	11,054
West Virginia	950	743	836
Wisconsin	6,773	3,696	4,158
Wyoming	528	353	397
United States	361,180	654,995	736,870

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

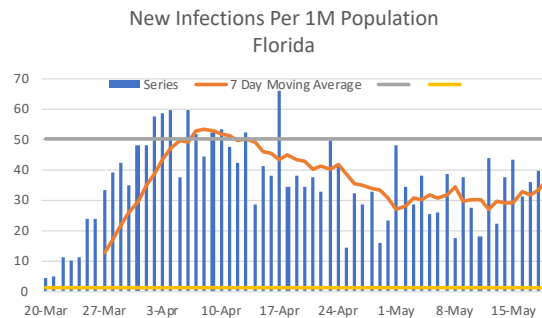
MONITORING THE IMPACT OF RELAXING RESTRICTIONS

State-By-State Impact of Relaxing Restrictions

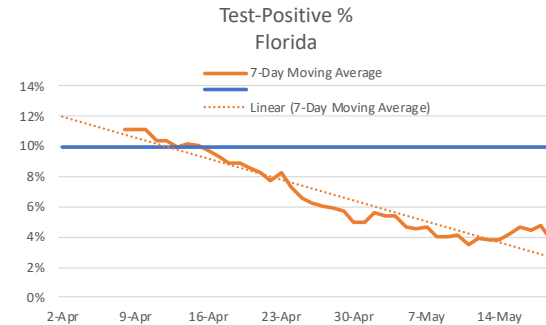
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With several states re-opening, we are monitoring testing and infection rates to determine if, when and how much impact relaxation has on renewed spread of the virus. Here, we focus on Florida and Wisconsin (its state Supreme Court last week invalidates governor’s stay-home order; its bars re-opened last Wednesday).

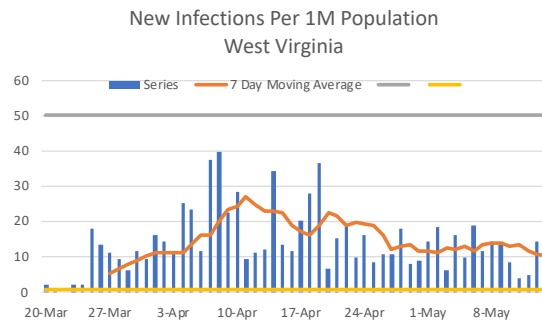
Florida and Wisconsin’s infections rates had increased but, then dropped yesterday. These rates in both states are relatively low.



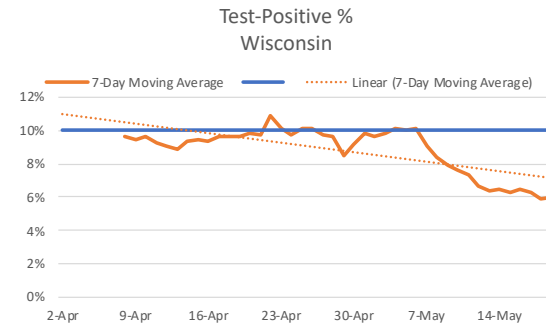
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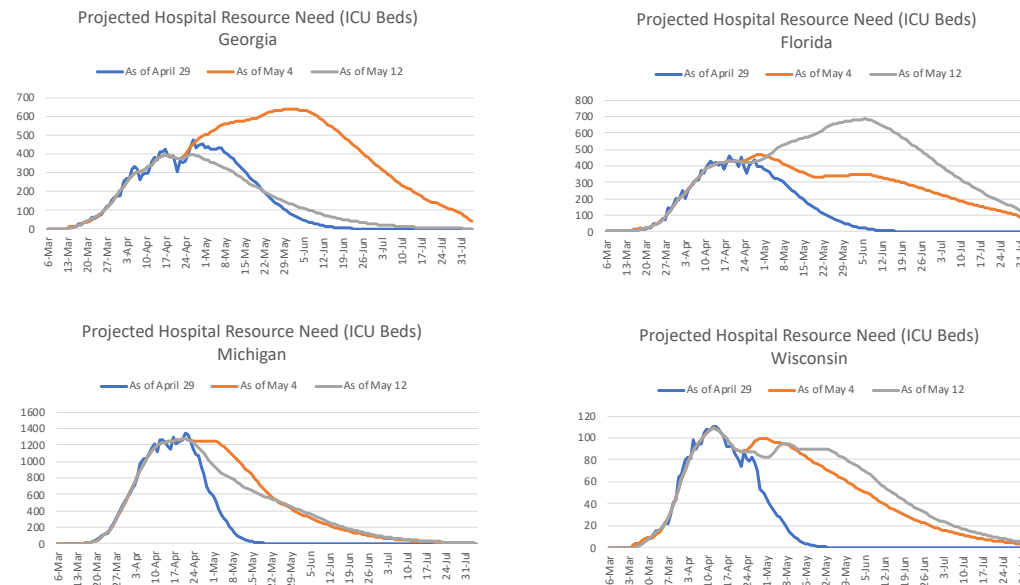


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IHME's Hospital Resource Need Projections Are Sensitive to Relaxing Restrictions

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The Institute for Health Metrics and Evaluation (IHME) regularly updates projections of hospital resource needs. Comparing their projections from April 29, May 2 and May 12 indicates how much relaxing restrictions factors into these projections. Consider how much the projections changed for Florida and Wisconsin:



Note: ICU beds were selected as representative of the three metrics that IHME uses: total beds, ICU beds and ventilators. HIA does not vouch for the accuracy of these projections; in our limited experience, they seem to over-state actual needs.

STATE TEST, INFECTION AND CASE TRENDS

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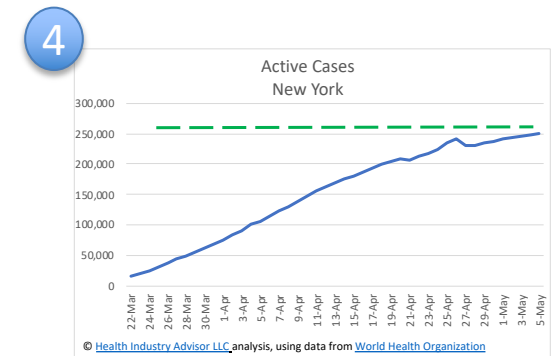
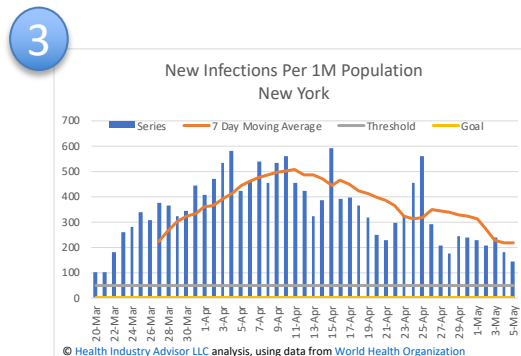
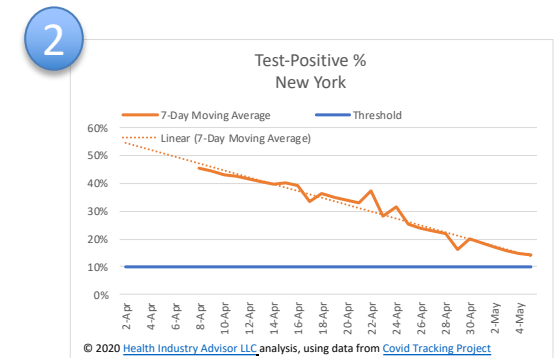
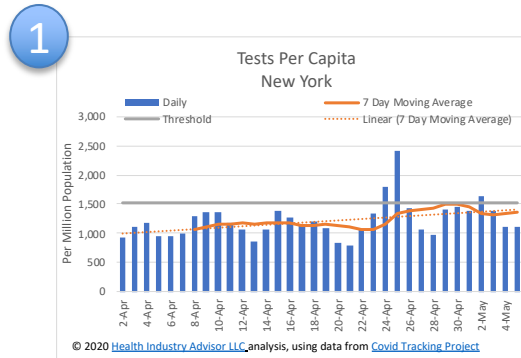
Graphics relevant to judging how far a state has progressed against the virus are provided on the following pages for:

- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina

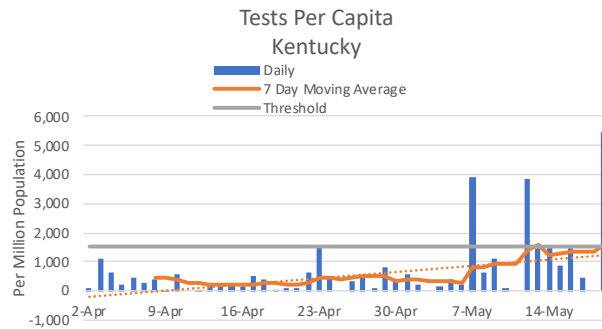
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How to "read" these charts:

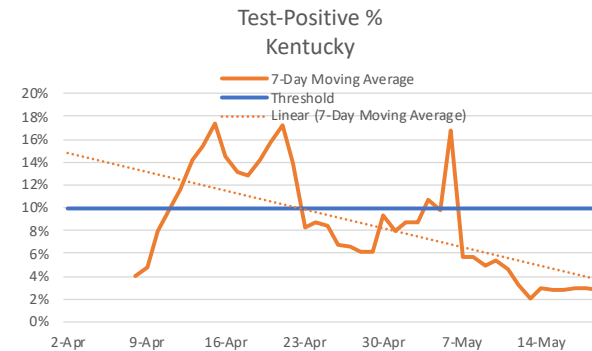
- Chart 1 – Desire to see tests per capita:
 - Above the threshold
 - Increasing or stable
- Chart 2 - Desire to see Test-Positive %:
 - Below the threshold
 - Declining or stable
- Chart 3 - Desire to see New Infections Per Capita:
 - Below the threshold
 - Declining or stable
- Chart 4 - Desire to see Active Cases:
 - Declining



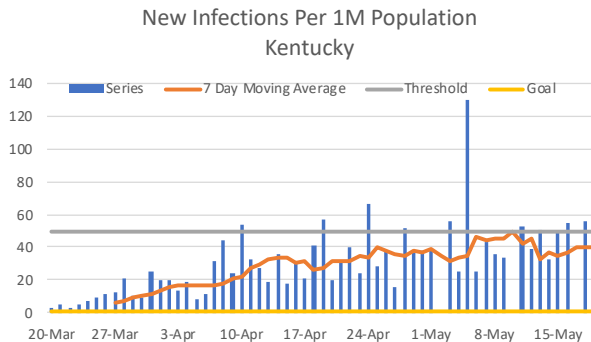
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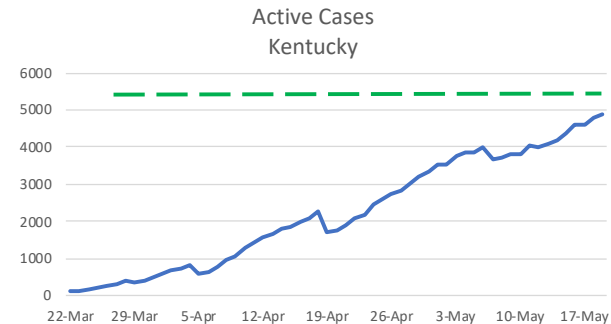
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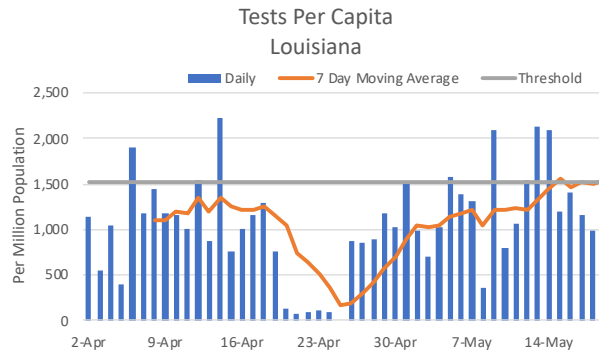


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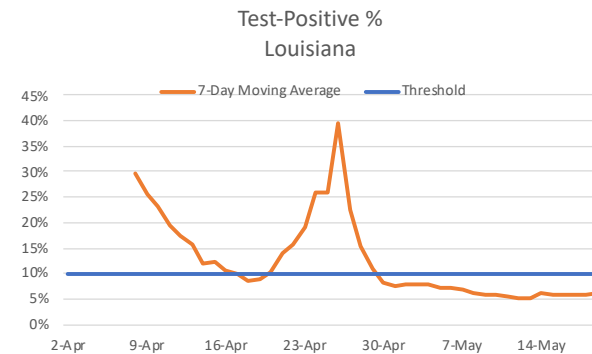


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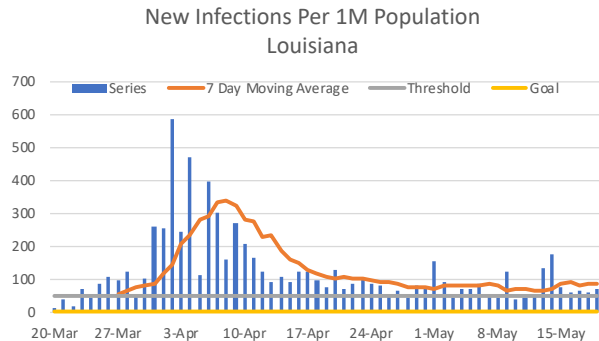
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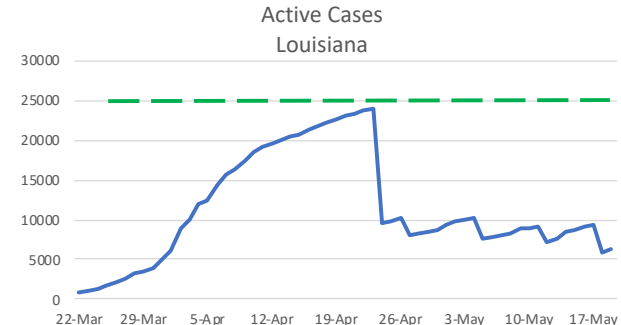
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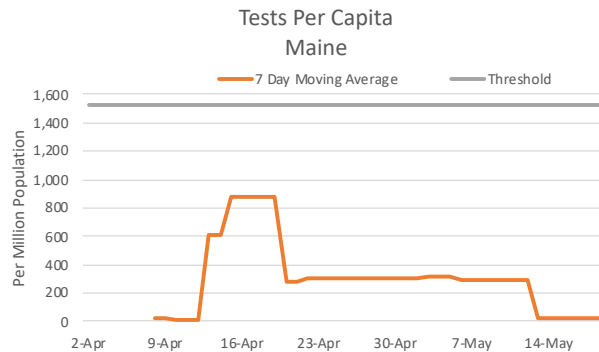
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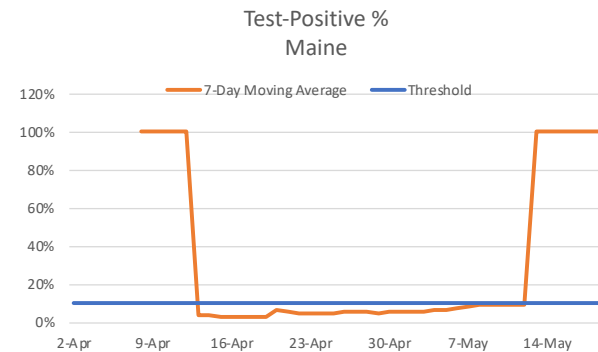
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State-by-State Test, New Daily Infection and Active Case Trends

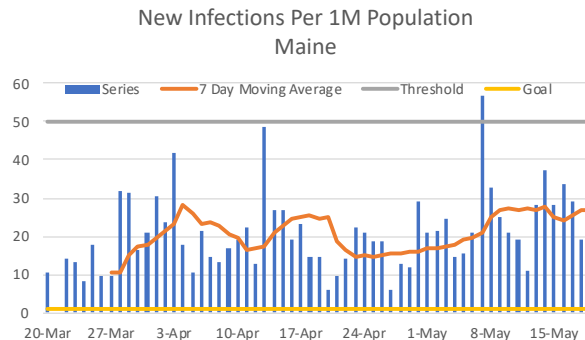
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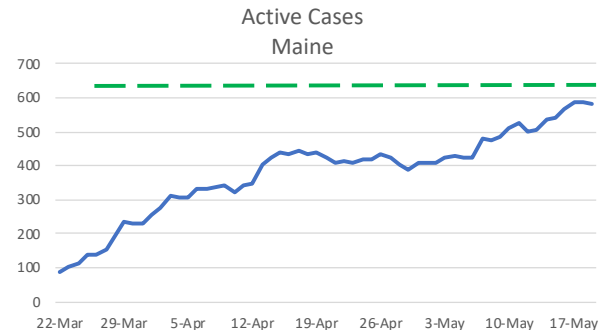
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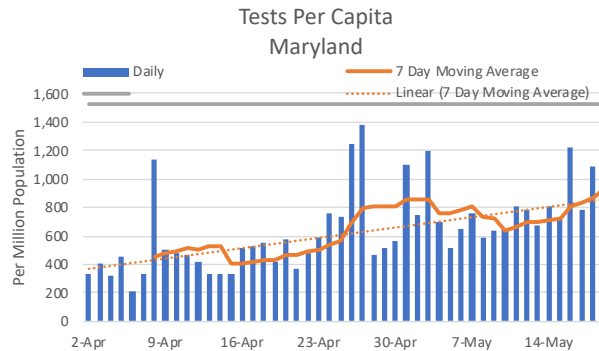


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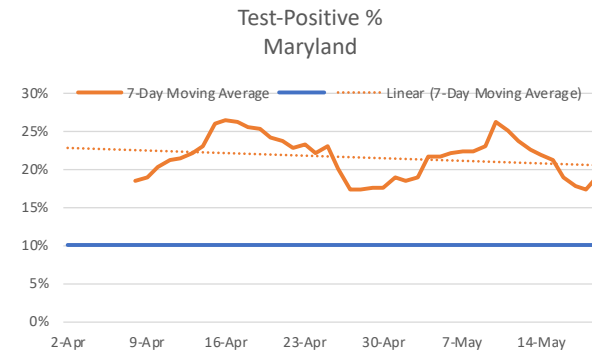


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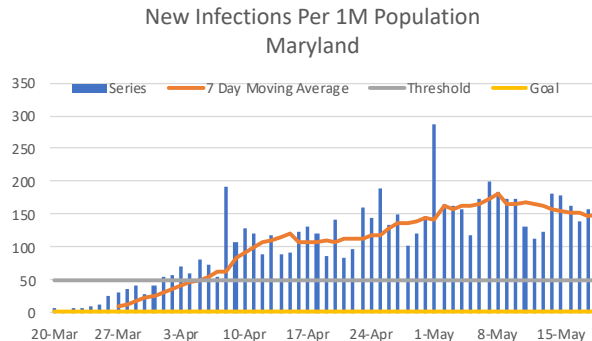
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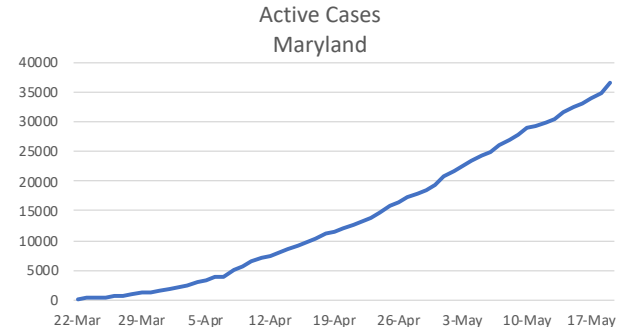
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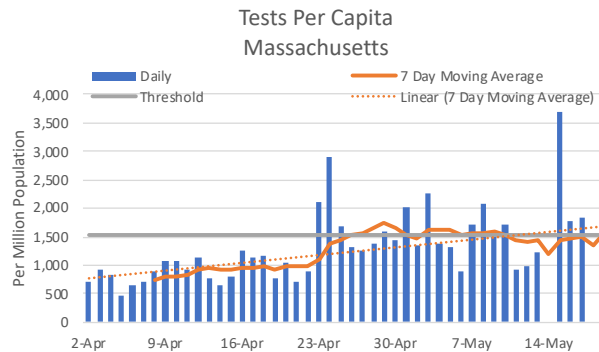


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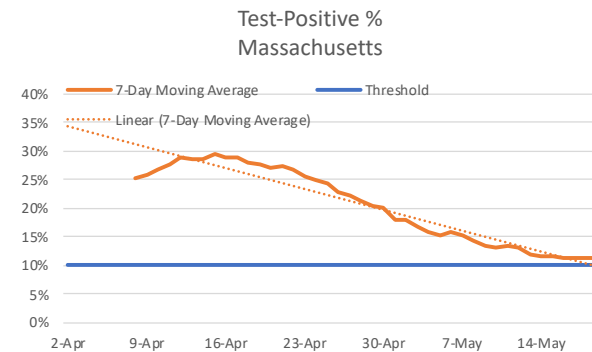


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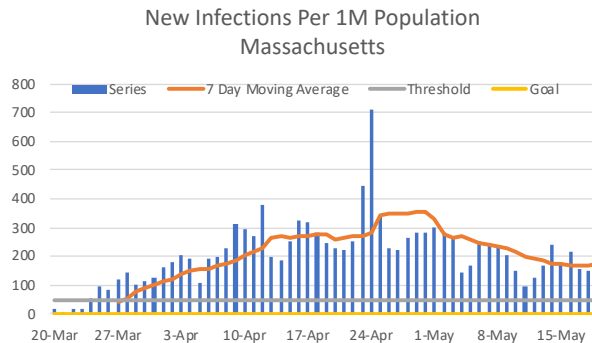
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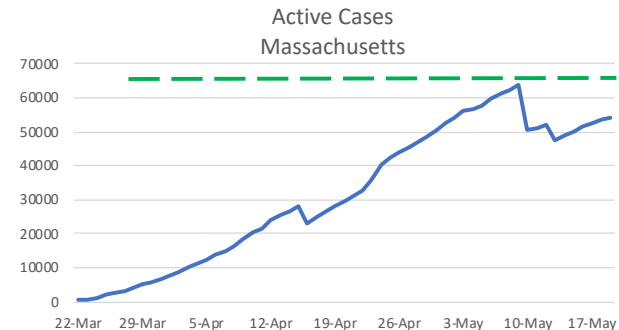
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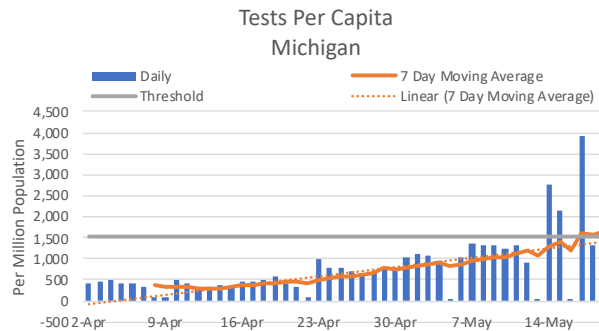
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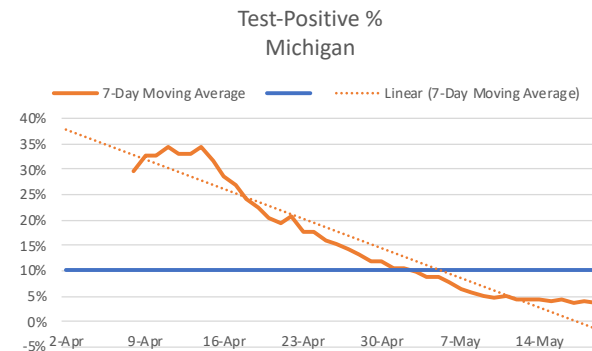
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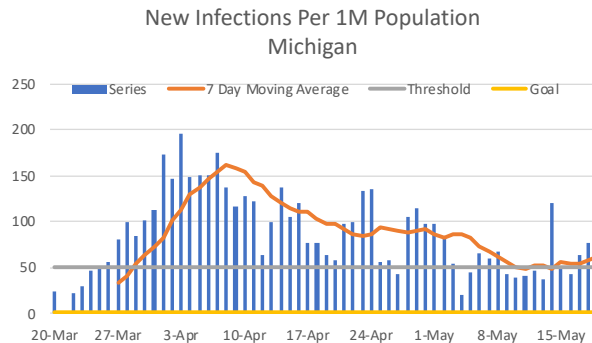
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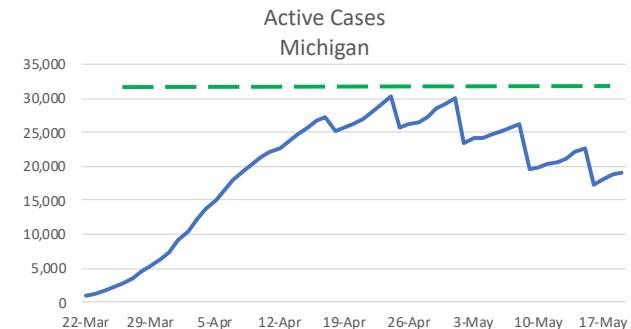
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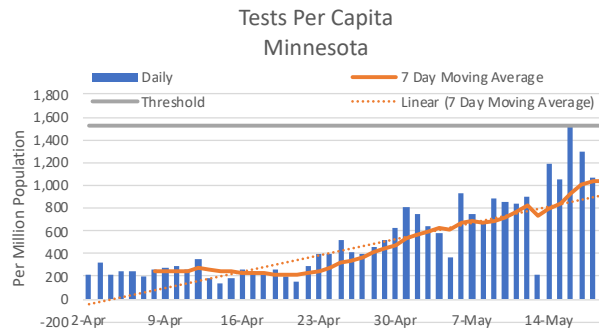


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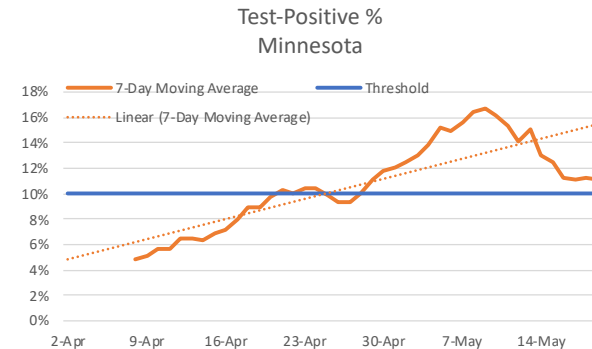


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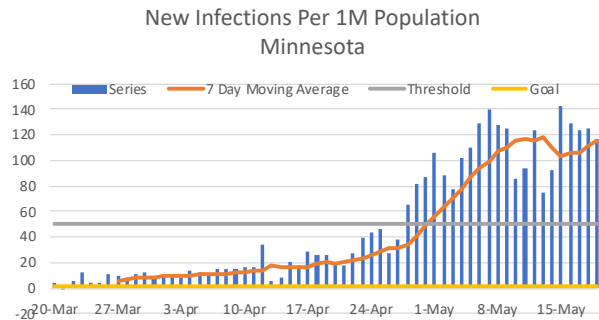
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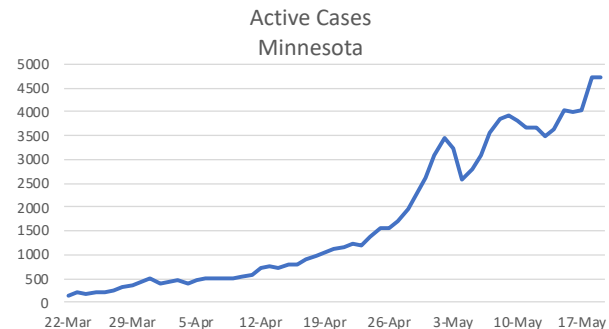
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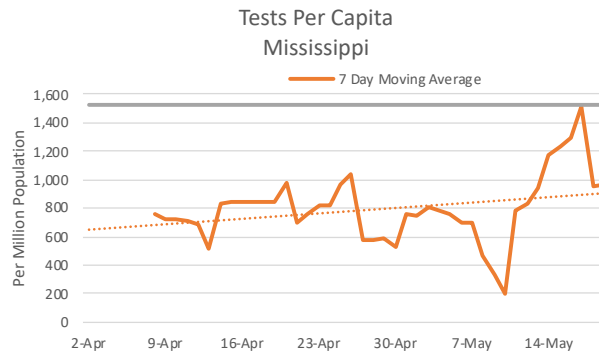


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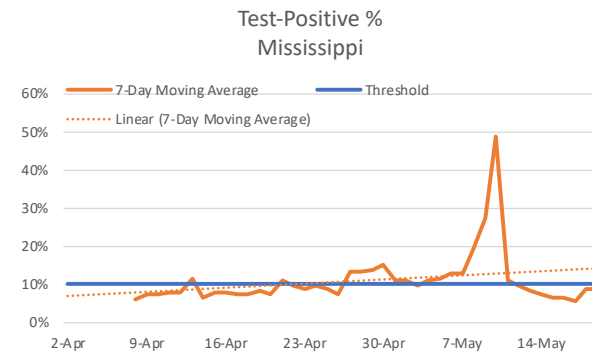


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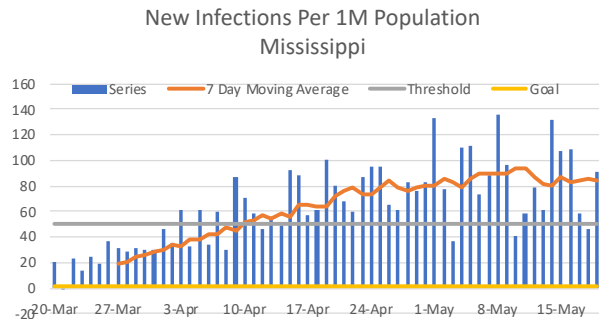
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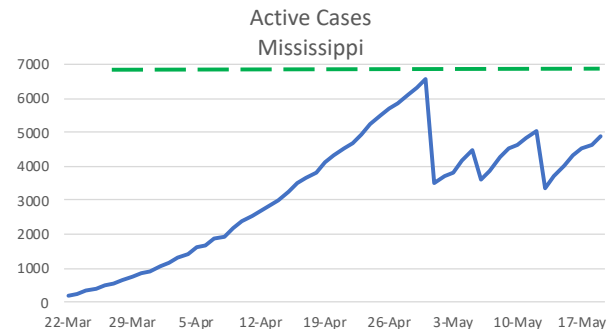
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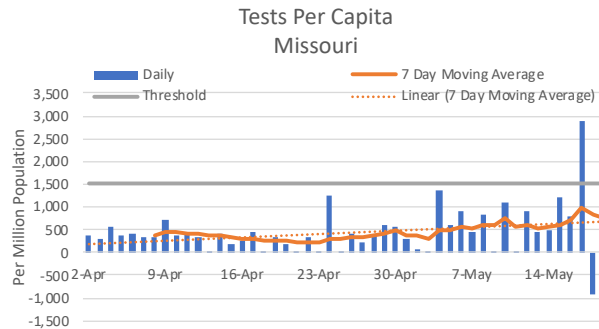


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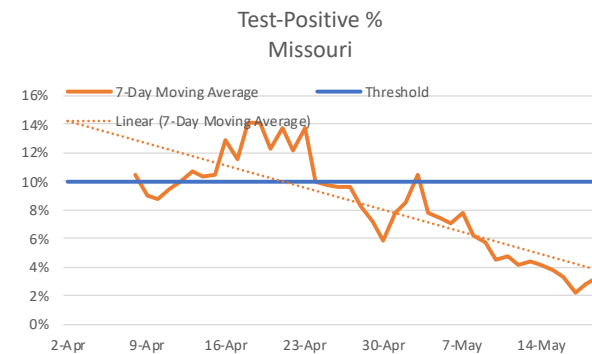


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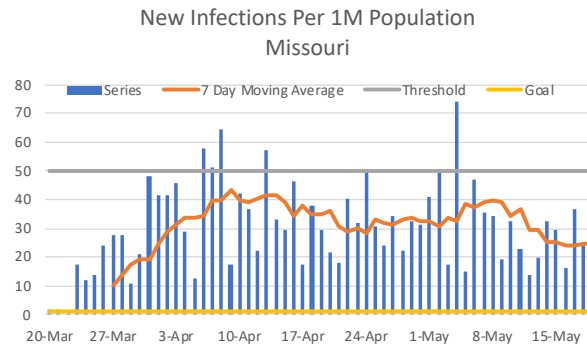
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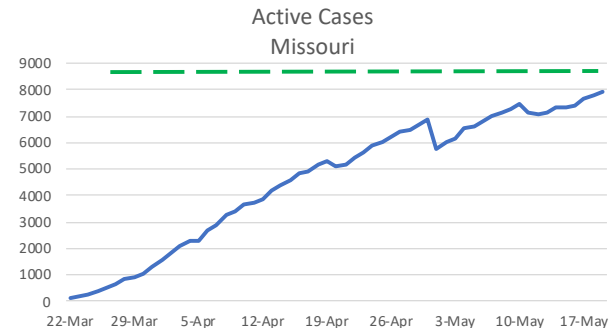
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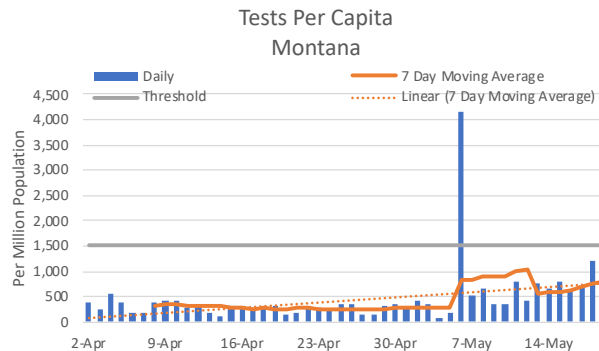
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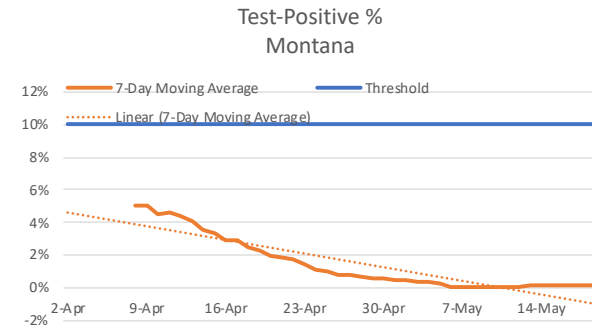
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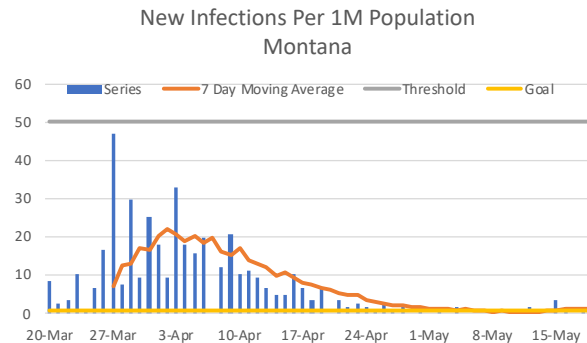
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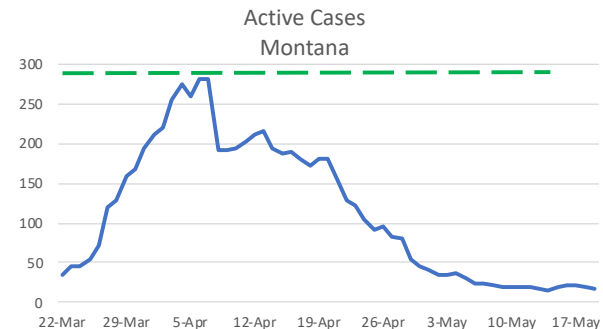
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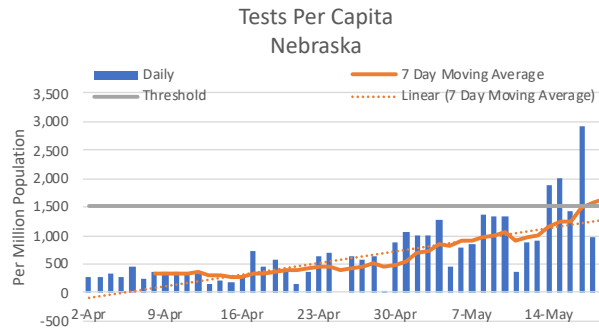


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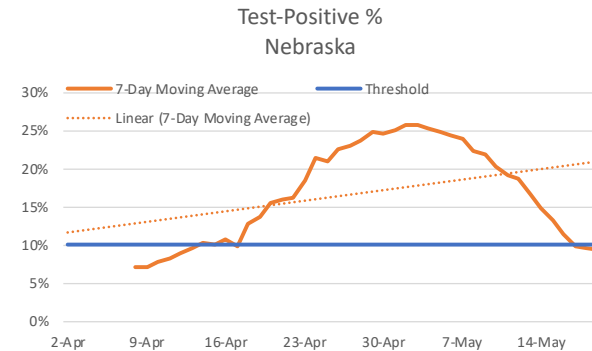


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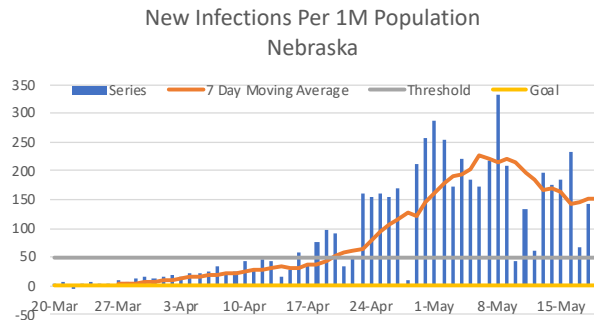
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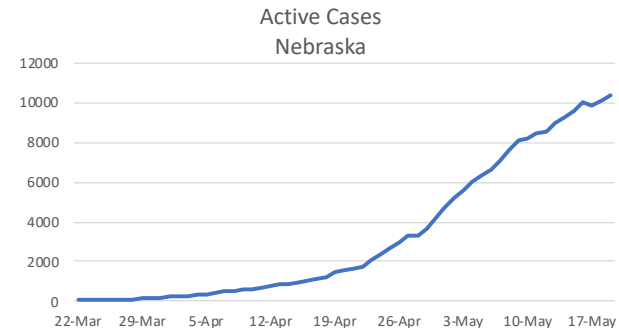
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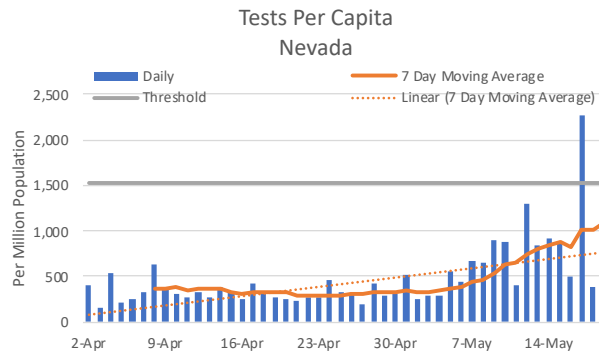
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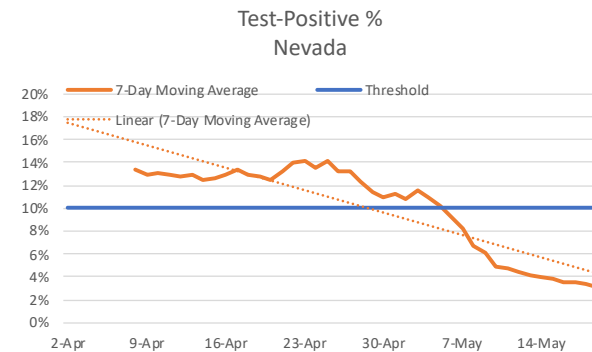
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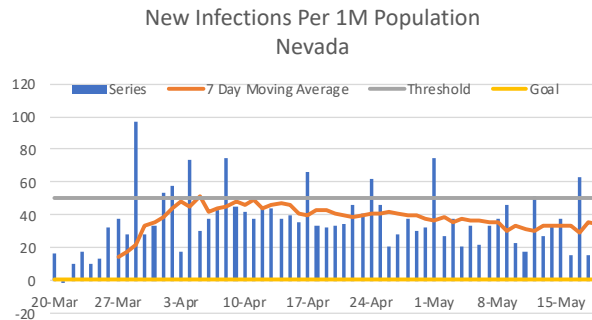
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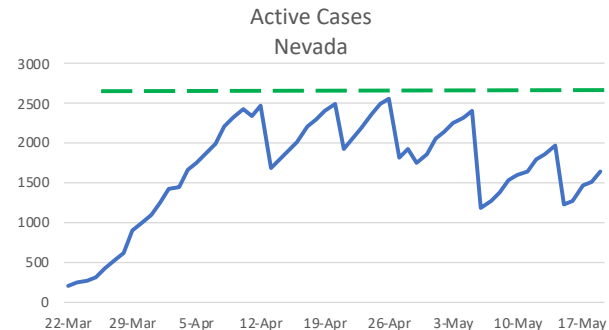
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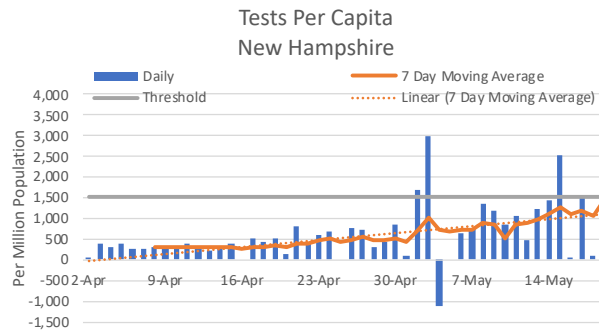


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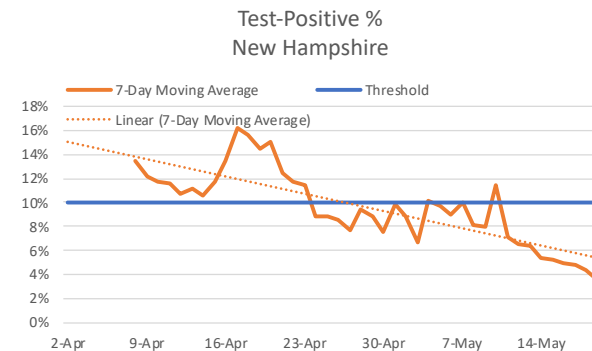


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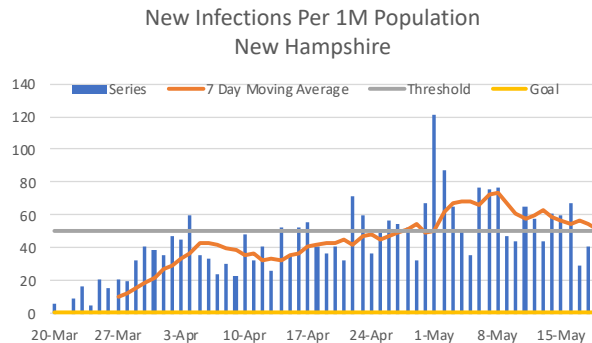
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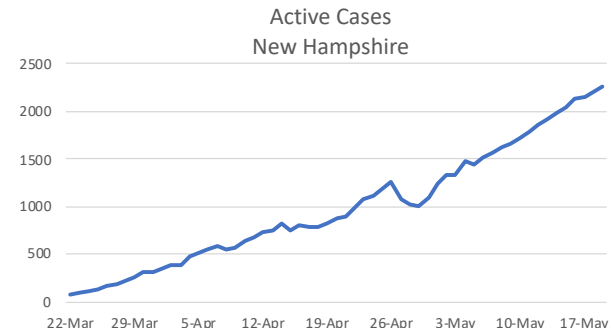
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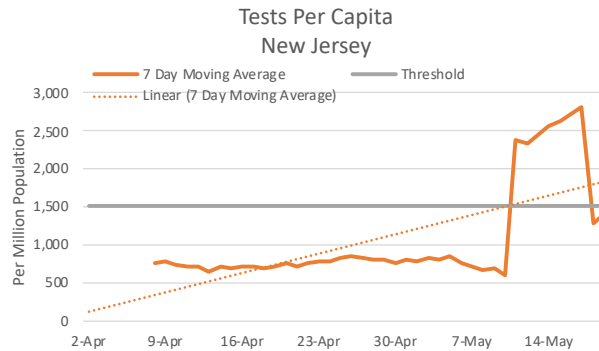


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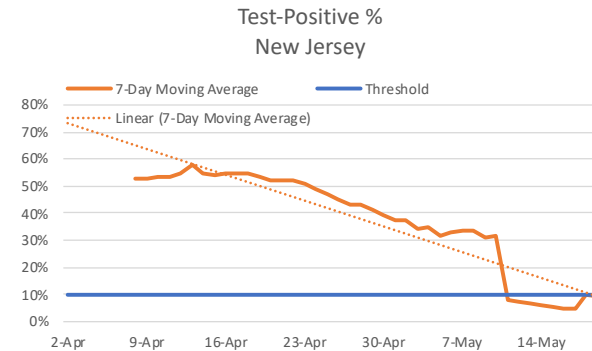


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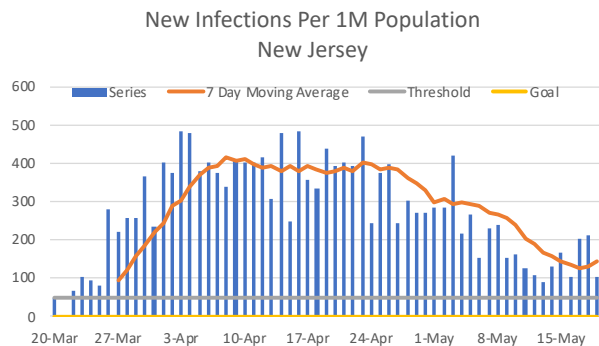
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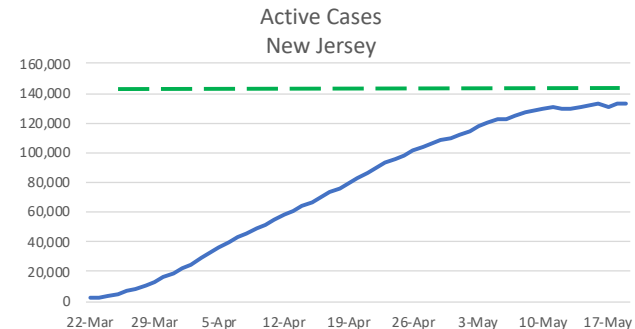
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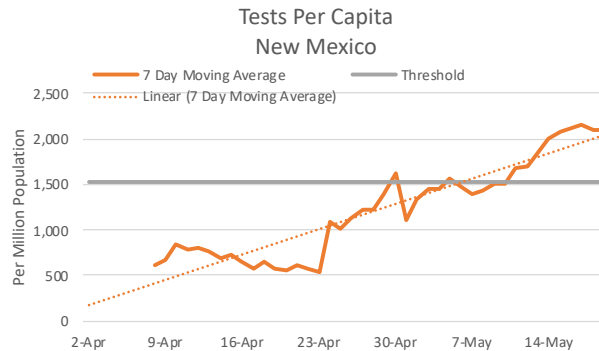
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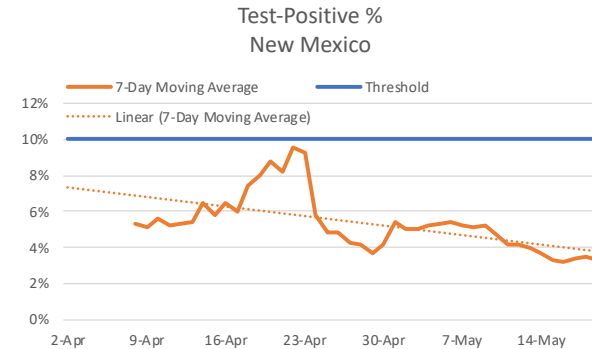
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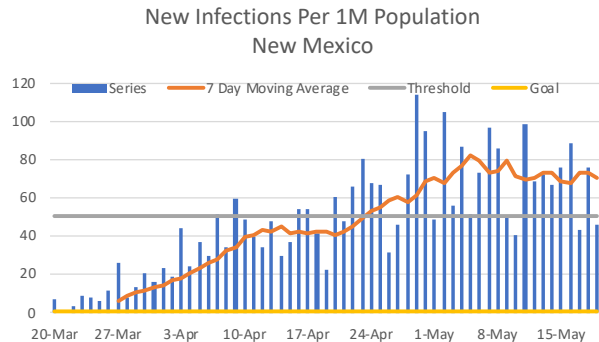
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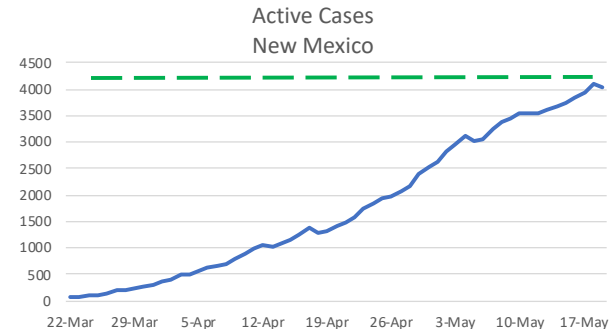
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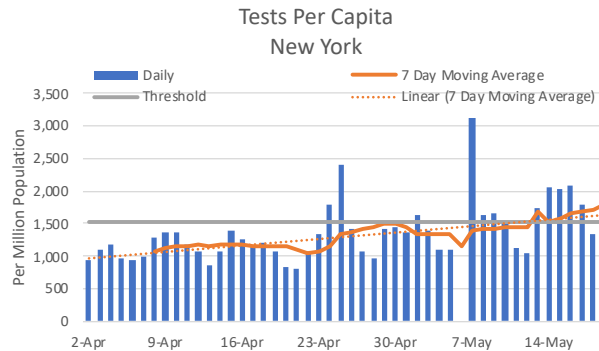
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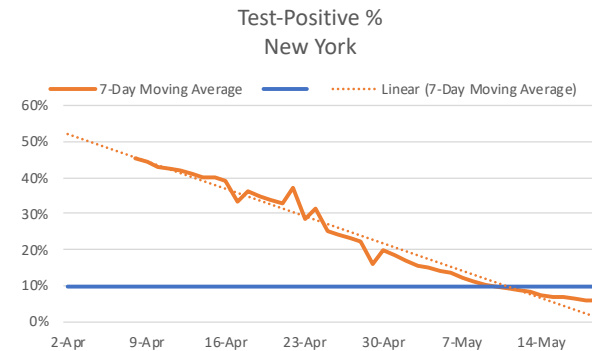
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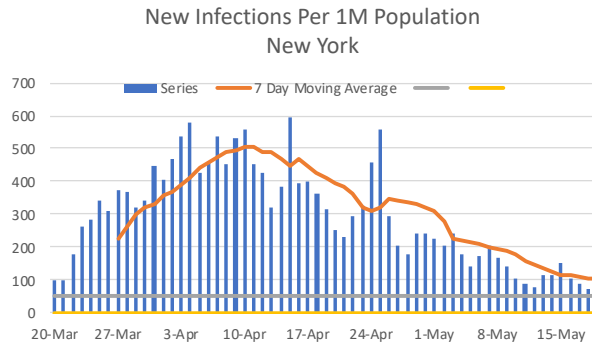
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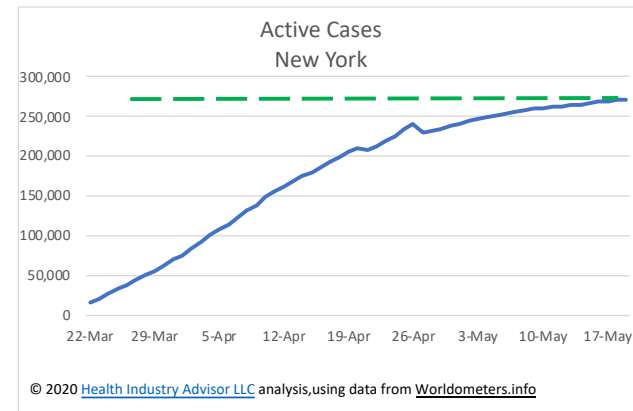
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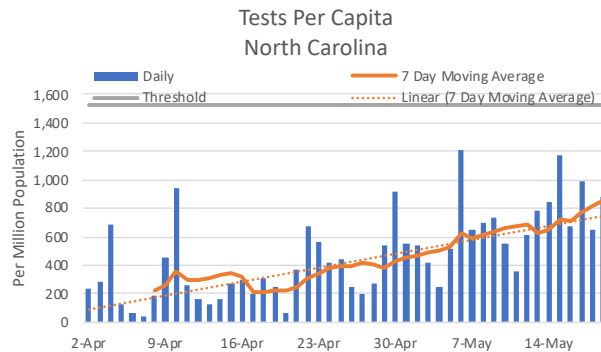
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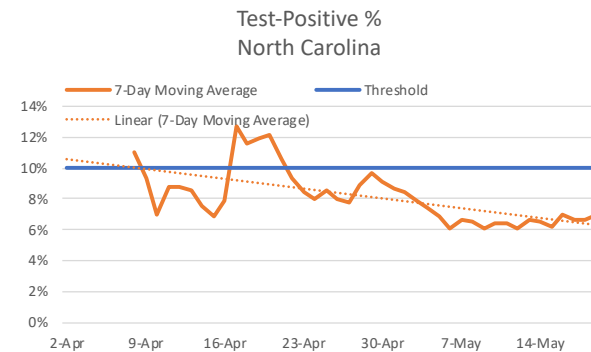
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State-by-State Test, New Daily Infection and Active Case Trends

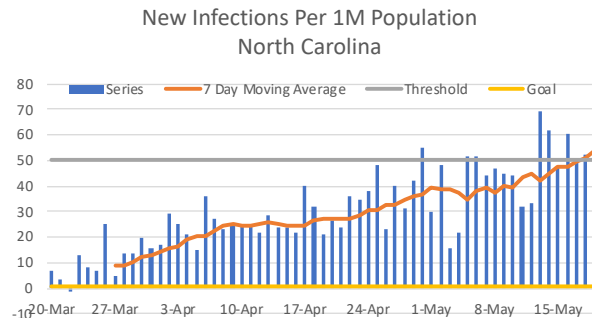
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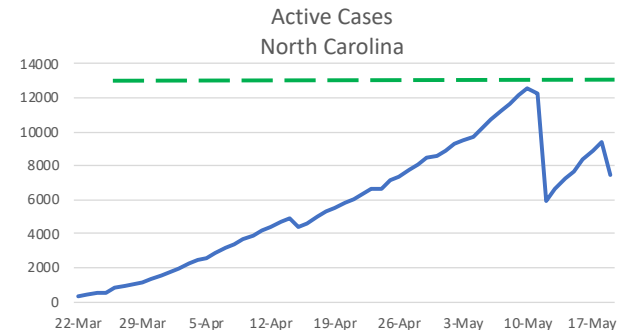
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U.S. COUNTY-BY-COUNTY INFORMATION

- On the following pages, case and death information¹ is presented by county/municipality in the United States
 - New York case and death information are reported on a combined basis for Bronx, Kings, New York, Queens and Richmond counties
 - Cities that are not otherwise part of a county are listed separately
- Counties are grouped according to the 2013 Rural/Urban classification from Center for Disease Control, "[NCHS Urban-Rural Classification Scheme for Counties](#)"³:
 - Large Central Metro Areas
 - Large Fringe Metro Areas
 - Medium Metro Areas
 - Small Metro Areas
 - Micropolitan Areas
 - Non-Core Areas
- Population information is the 2019 official estimate from the US Census Bureau²

1. Data from [The New York Times](#), based on reports from state and local health agencies. Accessed May 10-19, 2020

2. "Annual Estimates of the Resident Population for Counties in the United States: April 1, 2010 to July 1, 2019 (CO-EST2019-ANNRES)", Source: U.S. Census Bureau, Population Division, Release Date: March 2020. Accessed May 12, 2020

3. Urban-Rural Classification of counties from CDC's "[NCHS Urban-Rural Classification Scheme for Counties](#)". Accessed May 19, 2020

Daily Infection Rates By Rural/Metro Class

Large Central Metro Areas – Top 20 Ranked By Trailing 7-Day Moving Average

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Large Central Metro Areas

Metropolitan counties:
Large central metro counties in MSA of 1 million population that:
1) contain the entire population of the largest principal city of the MSA, or 2) are completely contained within the largest principal city of the MSA, or 3) contain at least 250,000 residents of any principal city in the MSA

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Cook	Illinois	1	404		289
Hartford	Connecticut	1	287		263
Suffolk	Massachusetts	1	858		247
Alexandria city	Virginia	1	300		227
Hennepin	Minnesota	1	192	Yes	192
Union	New Jersey	1	888		191
District of Columbia	District of Columbia	1	284		188
Essex	New Jersey	1	745		182
Ramsey	Minnesota	1	171	Yes	171
Milwaukee	Wisconsin	1	177		147
Marion	Indiana	1	268		140
Richmond city	Virginia	1	151	Yes	139
Hudson	New Jersey	1	852		137
New York City	New York	1	651		130
Denver	Colorado	1	203		122
Philadelphia	Pennsylvania	1	458		120
Kent	Michigan	1	206		119
Baltimore city	Maryland	1	246		117
Arlington	Virginia	1	228		116
Providence	Rhode Island	1	656		103

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)

Daily Infection Rates By Rural/Metro Class

Large Fringe Metro Areas – Top 20 Ranked By Trailing 7-Day Moving Average

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Large Fringe Metro Areas

Large fringe metro counties in MSA of 1 million or more population

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Sussex	Virginia	2	792	Yes	759
Manassas city	Virginia	2	747	Yes	574
Manassas Park city	Virginia	2	556	Yes	431
Kane	Illinois	2	405		394
Trousdale	Tennessee	2	22,069		339
Prince George's	Maryland	2	399		310
Culpeper	Virginia	2	339		279
Lake	Illinois	2	277	Yes	277
Bristol	Massachusetts	2	469		259
Pickaway	Ohio	2	4,133		228
Shelby	Indiana	2	347		219
Leavenworth	Kansas	2	1,020		214
Essex	Massachusetts	2	624		213
Prince William	Virginia	2	313	Yes	208
DuPage	Illinois	2	208	Yes	208
Montgomery	Maryland	2	238		207
Tolland	Connecticut	2	200	Yes	200
Hocking	Ohio	2	209	Yes	199
Plymouth	Massachusetts	2	594		192
St. James	Louisiana	2	1,057		192

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)

Daily Infection Rates By Rural/Metro Class

Medium Metro Areas – Top 20 Ranked By Trailing 7-Day Moving Average

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Medium Metro Areas

Medium metro counties
in MSA of 250,000-
999,999 population

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Potter	Texas	3	1,302	Yes	1,204
Sussex	Delaware	3	682		488
Lowndes	Alabama	3	522		435
Gadsden	Florida	3	362	Yes	362
East Feliciana	Louisiana	3	414		346
Winnebago	Illinois	3	320	Yes	320
Worcester	Massachusetts	3	422		289
Boone	Illinois	3	272	Yes	272
Fairfield	South Carolina	3	272	Yes	266
Acadia	Louisiana	3	245	Yes	245
Randall	Texas	3	264	Yes	239
Mercer	New Jersey	3	549		227
Saluda	South Carolina	3	254		225
East Baton Rouge	Louisiana	3	232		219
Douglas	Nebraska	3	217	Yes	217
Pointe Coupee	Louisiana	3	275	Yes	216
Wicomico	Maryland	3	359	Yes	213
Yadkin	North Carolina	3	211	Yes	211
Copiah	Mississippi	3	257		211
Polk	Iowa	3	319		189

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)

Daily Infection Rates By Rural/Metro Class

Small Metro Areas – Top 20 Ranked By Trailing 7-Day Moving Average

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Small Metro Areas

Small metro counties are counties in MSAs of less than 250,000 population

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Buckingham	Virginia	4	1,699		1,593
Woodbury	Iowa	4	1,084		861
Dakota	Nebraska	4	5,011		817
Jefferson	Arkansas	4	587	Yes	578
Union	Louisiana	4	557		485
Lincoln	Arkansas	4	9,304		356
Monroe	Georgia	4	332	Yes	327
Echols	Georgia	4	323	Yes	323
Cumberland	New Jersey	4	448		320
Howard	Nebraska	4	314	Yes	314
San Juan	New Mexico	4	416		312
Cass	North Dakota	4	285	Yes	285
Kankakee	Illinois	4	610		279
Stearns	Minnesota	4	836		278
Yakima	Washington	4	382	Yes	275
Warren	Kentucky	4	283	Yes	273
Jackson	Kansas	4	262	Yes	262
Imperial	California	4	258	Yes	258
Forrest	Mississippi	4	251	Yes	251
Hall	Nebraska	4	1,208		224

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)

Daily Infection Rates By Rural/Metro Class

Micropolitan Areas – Top 20 Ranked By Trailing 7-Day Moving Average

“Strategic Guidance in an Era of Unprecedented Change”

Micropolitan Areas

Micropolitan counties in micropolitan statistical area

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Texas	Oklahoma	5	2,252	Yes	2,101
Finney	Kansas	5	1,888		1,634
Ford	Kansas	5	2,135		1,158
Nobles	Minnesota	5	4,417		783
McKinley	New Mexico	5	1,220		735
Hancock	Georgia	5	1,424		662
Dawson	Nebraska	5	1,969		605
Seward	Kansas	5	2,843		585
Wapello	Iowa	5	772		572
Buena Vista	Iowa	5	557	Yes	557
Deaf Smith	Texas	5	572	Yes	487
St. Francis	Arkansas	5	1,521	Yes	469
Logan	Colorado	5	2,002		433
Dodge	Nebraska	5	407	Yes	407
Dubois	Indiana	5	394	Yes	394
Wilkes	North Carolina	5	430	Yes	388
Platte	Nebraska	5	936		387
Navajo	Arizona	5	382	Yes	368
Kandiyohi	Minnesota	5	567		336
Rice	Minnesota	5	323	Yes	323

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)

Daily Infection Rates By Rural/Metro Class

Non-Core Areas – Top 20 Ranked By Trailing 7-Day Moving Average

“Strategic Guidance in an Era of Unprecedented Change”

Non-Core Areas

Noncore counties not in micropolitan statistical areas data access website

County	State	2013 CDC Urban / Rural Classification	Peak	Highest Occured in Past 3 Days?	5/18/20
Lake	Tennessee	6	10,032	Yes	9,974
Crawford	Iowa	6	1,727	Yes	1,634
Hamilton	Florida	6	1,670	Yes	1,572
Colfax	Nebraska	6	3,659		1,450
Richmond	Virginia	6	3,321		1,381
Sullivan	Missouri	6	818	Yes	818
Accomack	Virginia	6	1,027		732
Saline	Nebraska	6	2,120		696
Butler	Alabama	6	769		658
Holmes	Mississippi	6	706	Yes	645
Wayne	Tennessee	6	595	Yes	595
Galax city	Virginia	6	1,003	Yes	583
Apache	Arizona	6	534	Yes	526
Neshoba	Mississippi	6	568		513
Union	Illinois	6	524		507
Noxubee	Mississippi	6	606		482
Franklin	Louisiana	6	888		477
San Juan	Utah	6	831		463
Lee	South Carolina	6	541	Yes	450
Franklin	Alabama	6	581		447

2013 Rural/Urban classification from Center for Disease Control, [“NCHS Urban-Rural Classification Scheme for Counties”](#)