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COVID-19 Dashboard

"Strategic Guidance in an Era of Unprecedented Change"

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Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 4.0% (Cumulative)
Test-Positivity Rate	Decline	Down to 17.1% (v. 17.4%)
No. of Cases	Plateau	Up 2.7% (active cases up 2.5%)
% of Deaths Per Case	Decline	Up slightly to 5.8%
No. of Deaths / 1M Population	Plateau	Up to 186.3
Recoveries : Deaths	Increase (>1:1)	Steady at 2.4

We continue to track the 29 countries with the most cases, plus South Korea. These 30 countries represent 91.2% of all cases in the world.

Highlights from Wednesday include:

- Test volume in the U.S. was reasonably high again on Wednesday, at 230,000. As we have seen repeatedly, as test volume increases, we see a lower test-positive rate. Tuesday's test-positive rate was 12.0%, bringing the cumulative rate down to 17.1%. The lower positive rate, at higher volumes suggests that the testing is moving beyond simply the more likely cases.
- Recoveries from the virus reported on Wednesday also were strong, at nearly 5,200. Total recoveries are now just under 150,000. With the 4-week lag from infection-onset to when many states judge an infected person to be recovered, we are at the front-end of an expected wave of new recoveries (new cases in the U.S. began their rapid accent 4 weeks ago).
- Every state is now experiencing case growth of 10% or less. Case growth has slowed so dramatically that it would take 25 days for cases to double in the U.S.; in Montana, 224 days; in New York, 35 days; and, in Louisiana, 61 days (It doesn't seem too long ago when these were doubling every 2-3 days).
- Most states have moved past the point where new infections were still increasing n a daily basis. The exceptions to this are: Arizona, Colorado, Illinois, Indiana, Iowa, Kansas, Maryland, Massachusetts, Minnesota, Nebraska, New Hampshire, North Carolina, North Dakota and Wisconsin. Of these, however, the rates remain relatively low in Arizona, Minnesota, North Carolina and Wisconsin.
- New York City had 12,287 confirmed deaths as of April 28, compared to the ~60,000 confirmed and suspected deaths for the U.S. in total. Data from NYC reinforces that deaths may be highly correlated to the existence of underlying health conditions: At least 73% of NYC's confirmed deaths were among persons with known underlying conditions; for persons 17 years old and younger, it was 100%. This age group, notably, represented only 4% of all deaths. Persons between 18 - 44 years old accounted for 22% of deaths, and more than 79% of these had underlying health conditions; persons between 45 – 64 years old, represented 24.6% of the deaths and more than 84% of these had underlying health conditions.
- At the current rate of deaths per captia, as well as the projected rate by August 4 (per the Institute for Health Metrics and Evaluation), the death rate from coronavirus would be comparable to leading causes of death in the U.S. (higher than influenza, lower than diabetes and Alzheimer's). It would be 20x lower than that experience from the Spanish Flu in 2018-19 although that resulted from thee waves of infection (Spring, Fall and Winter).

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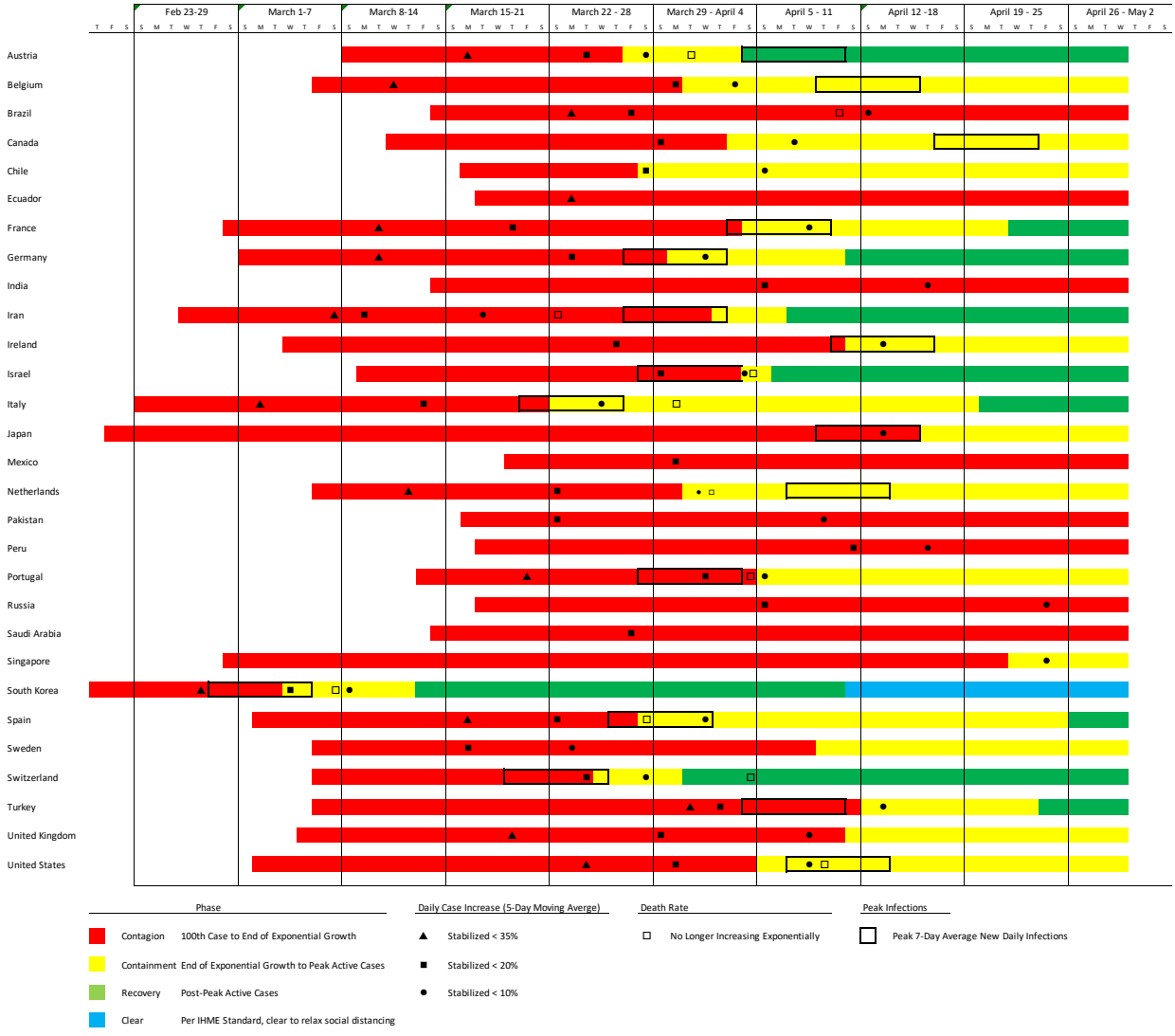
Virus Progression: Hardest Hit Countries

Japan Breaks from Exponential Case Growth; Spain Moves Beyond Peak Active Cases

Eight countries as still experiencing exponential case growth – Brazil, Ecuador, India, Mexico, Pakistan, Peru, Russia and Saudi Arabia. Note that, except for Russia, these countries are in the bottom ½ of the tracked countries in terms of total cases. The exponential growth in these countries suggests that the virus is beginning to spread now in Asia and South America.

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.



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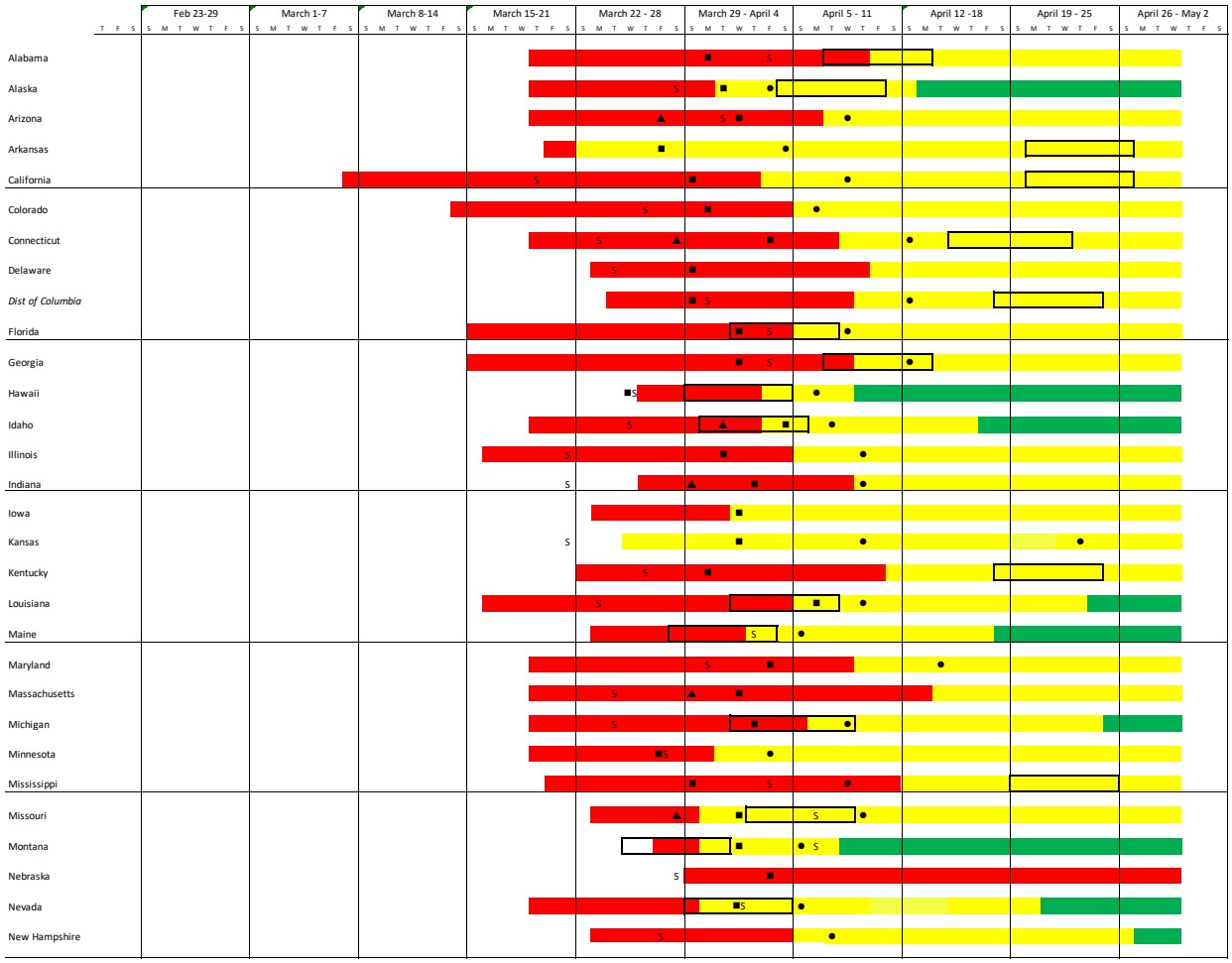
Virus Progression: US States, District of Columbia and New York City

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

New Hampshire may have moved past a peak in Active Cases on April 26. We now show fifteen states – Alaska, Hawaii, Idaho, Louisiana, Maine, Michigan, Montana, Nevada, New Hampshire, Oklahoma, South Carolina, South Dakota, Texas, Wisconsin and Wyoming - that may be past their peak in Active cases. Caution should be advised when viewing these numbers, as states tend to report recoveries in batches. Thus, it is possible that active cases will rise again, until the states again report recoveries.



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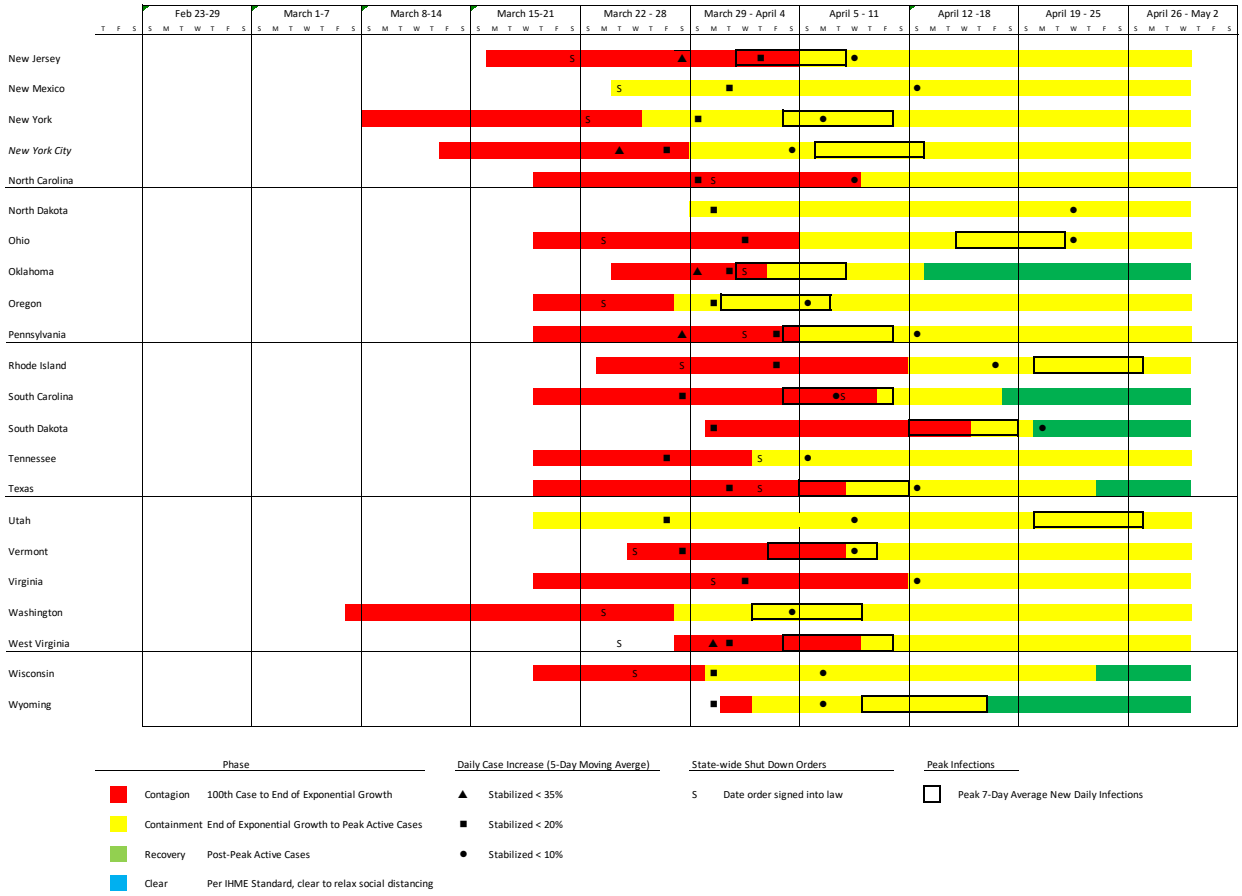

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Country-By-Country Statistics and Rankings

The U.S. Leads the World in Cases and Deaths; Is 4th 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 29

Country	Total Cases	Rank	Cases per 1M Population	Rank	Deaths	Rank	Death Rate	Rank	Deaths per 1 Million Population	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	1,064,194	(1)	3,215	(6)	61,656	(1)	5.8%	(13)	186.3	(9)	2.8%	(13)	18,549	(13)	90.6	(4)
Austria	15,402	(27)	1,710	(15)	580	(23)	3.8%	(17)	64.4	(14)	0.4%	(28)	27,509	(8)	7.6	(25)
Belgium	47,859	(13)	4,129	(2)	7,501	(5)	15.7%	(2)	647.2	(1)	1.6%	(17)	19,563	(12)	73.6	(6)
Brazil	79,361	(11)	373	(24)	5,511	(8)	6.9%	(8)	25.9	(19)	8.4%	(1)	1,597	(25)	22.6	(18)
Canada	51,597	(12)	1,367	(18)	2,996	(12)	5.8%	(12)	79.4	(11)	3.3%	(10)	19,999	(11)	43.2	(10)
Chile	14,885	(28)	779	(21)	216	(27)	1.5%	(25)	11.3	(22)	3.7%	(9)	9,030	(19)	26.8	(17)
China	82,858	(10)	58	(29)	4,633	(10)	5.6%	(14)	3.2	(27)	0.0%	(30)	0	(30)	0.0	(30)
Ecuador	24,675	(18)	1,399	(16)	883	(22)	3.6%	(18)	50.0	(15)	2.8%	(14)	3,487	(24)	111.9	(2)
France	166,420	(4)	2,550	(8)	2,407	(14)	1.4%	(26)	36.9	(16)	0.8%	(26)	7,103	(21)	14.3	(22)
Germany	161,539	(6)	1,928	(13)	6,467	(6)	4.0%	(15)	77.2	(12)	0.8%	(25)	30,400	(5)	18.6	(21)
India	33,062	(16)	24	(30)	1,079	(18)	3.3%	(19)	0.8	(29)	5.8%	(6)	559	(29)	1.2	(28)
Iran	93,667	(9)	1,115	(19)	5,957	(7)	6.4%	(9)	70.9	(13)	1.2%	(20)	5,398	(23)	13.0	(23)
Ireland	20,253	(22)	4,101	(3)	1,190	(17)	5.9%	(10)	241.0	(7)	1.7%	(16)	31,179	(4)	103.6	(3)
Israel	15,834	(24)	1,829	(14)	215	(28)	1.4%	(27)	24.8	(20)	1.0%	(24)	42,108	(1)	22.1	(19)
Italy	203,591	(3)	3,367	(5)	27,682	(2)	13.6%	(3)	457.8	(3)	1.1%	(23)	31,603	(3)	38.4	(12)
Japan	13,895	(29)	110	(27)	413	(24)	3.0%	(20)	3.3	(26)	1.1%	(22)	1,299	(26)	2.2	(27)
Mexico	16,752	(23)	130	(26)	1,569	(16)	9.4%	(7)	12.2	(21)	6.6%	(5)	597	(28)	8.0	(24)
Netherlands	38,802	(14)	2,265	(11)	4,711	(9)	12.1%	(4)	274.9	(5)	1.2%	(21)	12,453	(14)	33.0	(15)
Pakistan	15,525	(26)	70	(28)	343	(25)	2.2%	(24)	1.6	(28)	5.2%	(7)	751	(27)	3.5	(26)
Peru	33,931	(15)	1,029	(20)	943	(21)	2.8%	(21)	28.6	(18)	7.2%	(3)	8,985	(20)	63.6	(8)
Portugal	24,505	(19)	2,403	(10)	973	(19)	4.0%	(16)	95.4	(10)	1.5%	(19)	37,223	(2)	35.3	(14)
Russia	99,399	(8)	663	(22)	972	(20)	1.0%	(28)	6.5	(23)	7.7%	(2)	22,638	(10)	39.4	(11)
Saudi Arabia	21,402	(20)	615	(23)	157	(29)	0.7%	(29)	4.5	(25)	6.9%	(4)	5,745	(22)	35.4	(13)
Singapore	15,641	(25)	2,674	(7)	-	(30)	0.0%	(30)	-	(30)	4.7%	(8)	24,600	(9)	134.3	(1)
South Korea	10,761	(30)	210	(25)	246	(26)	2.3%	(23)	4.8	(24)	0.1%	(29)	11,980	(16)	0.2	(29)
Spain	236,899	(2)	5,067	(1)	24,275	(4)	10.2%	(6)	519.2	(2)	1.5%	(18)	30,253	(6)	87.1	(5)
Sweden	20,302	(21)	2,010	(12)	2,462	(13)	12.1%	(5)	243.8	(6)	2.9%	(11)	11,833	(17)	60.8	(9)
Switzerland	29,407	(17)	3,434	(4)	1,716	(15)	5.8%	(11)	200.4	(8)	0.5%	(27)	30,100	(7)	19.0	(20)
Turkey	117,589	(7)	1,394	(17)	3,081	(11)	2.6%	(22)	36.5	(17)	2.3%	(15)	11,757	(18)	32.0	(16)
UK	165,221	(5)	2,434	(9)	26,097	(3)	15.8%	(1)	384.4	(4)	2.9%	(12)	12,058	(15)	66.8	(7)

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COVID-19 Dashboard

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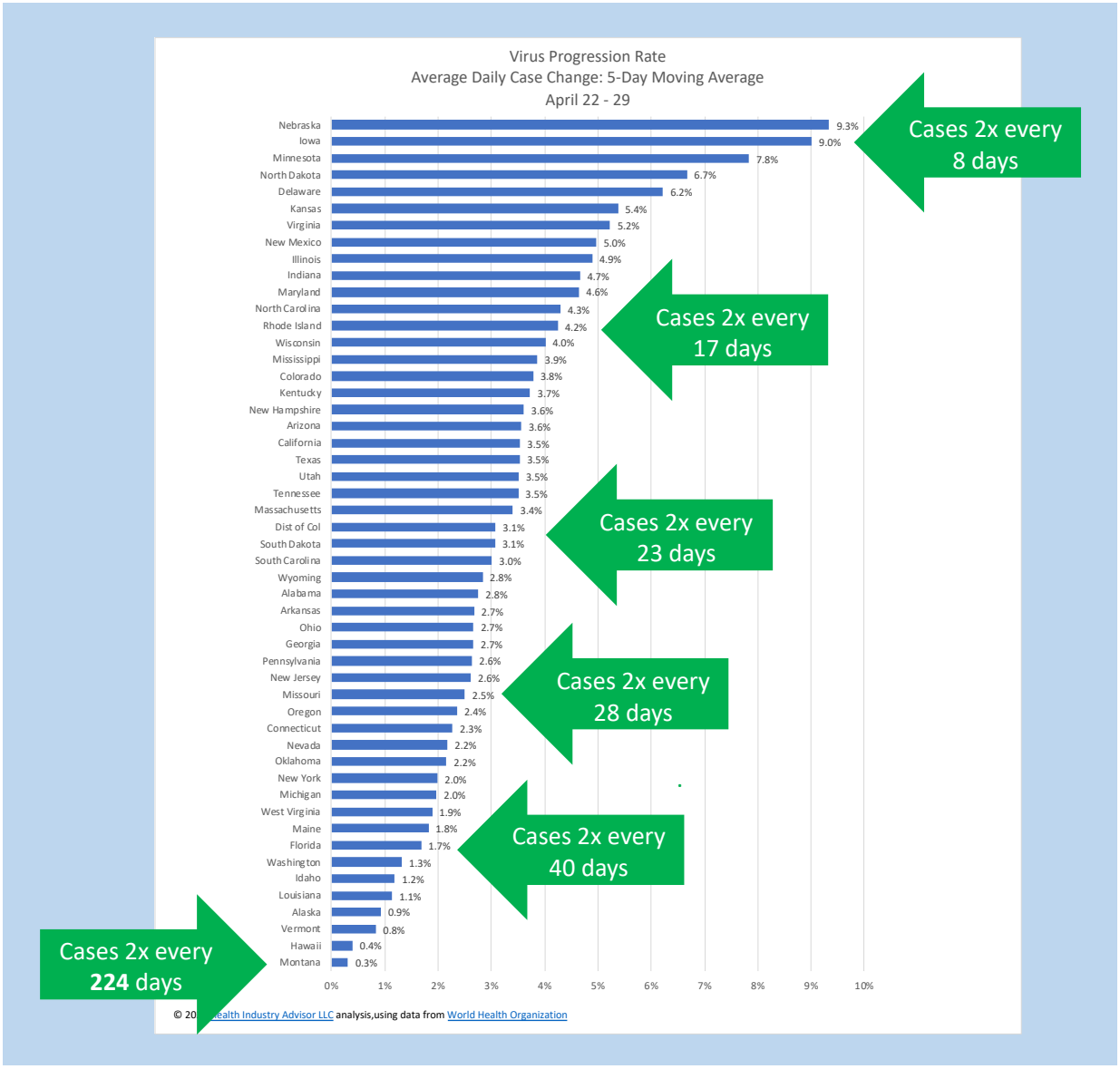
Daily Case Growth Rates by State

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

The case growth rate is so low in Montana that it would now take 224 days for cases to double; in Hawaii, 174 days; in Vermont, 84; and in Alaska, 75 days. In Louisiana and New York – two of the hardest-hit states – it would take 61 and 35 days, respectively. For the U.S overall, it would take about 25 days.



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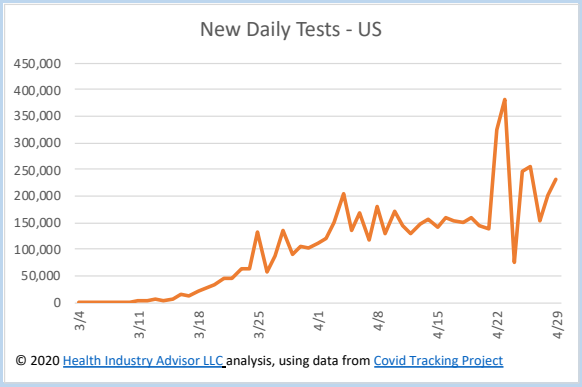
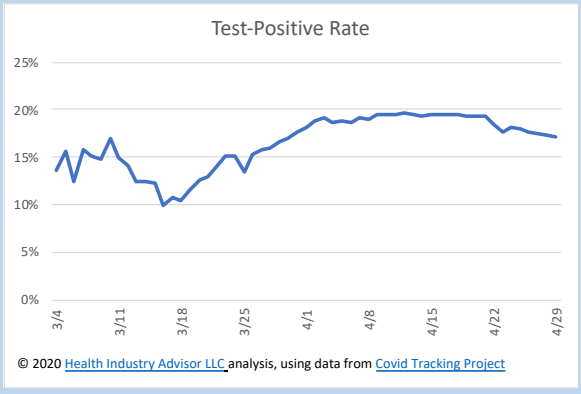
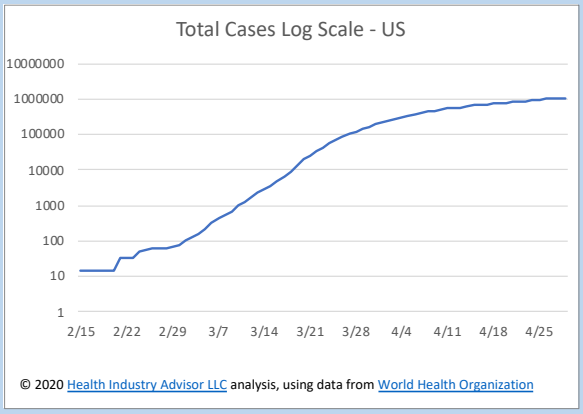
Cases and Death Rates in the U.S.

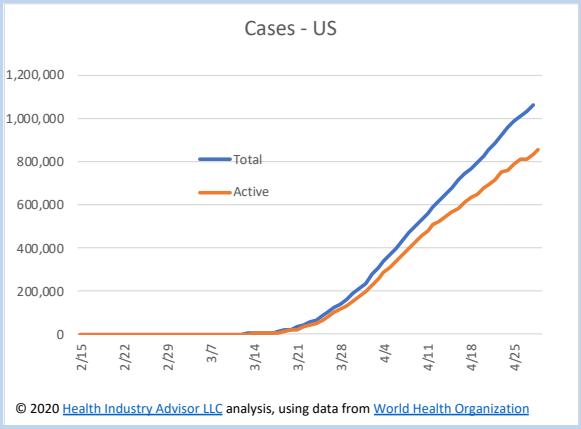
Increased Testing Volume Over the Past Week Is Improving Our Visibility to the Virus; New Infection Rates Have Stabilized

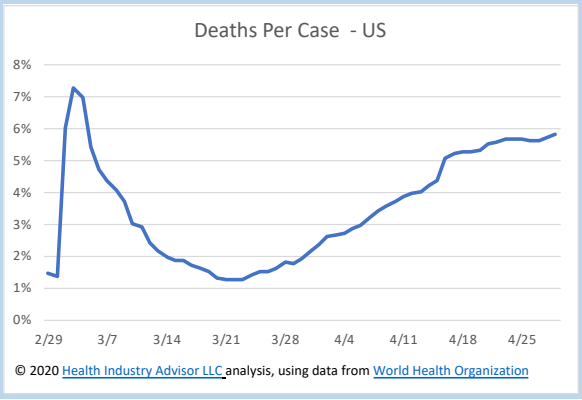
Altough testing volumes are "lumpy" - several states only report positive tests on many days; others report in batches – the trend over the past week is clearly toward increased testing. With increased testing, test-positive rates have declined. This suggests that we are moving beyond simply testing the more severe cases, and getting closer to an idea of true infection rates.

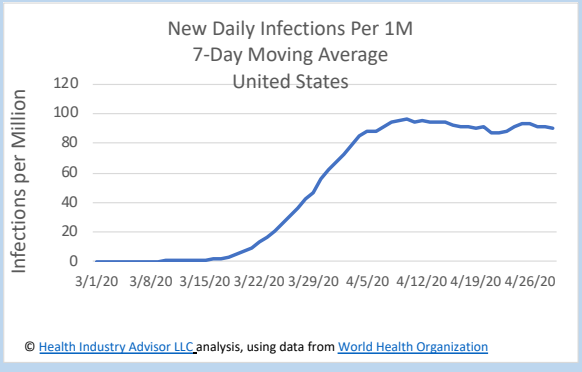












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Hardest-Hit States

New York Has Experienced Far More Coronavirus Cases, and More Cases Per Capita Than Any State

New York now has more than 300,000 cases, representing 2928.8% of all coronavirus cases in the U.S. (down from a peak of 48% on March 25). The top ten states account 71.1% of all cases and 77.3% of all deaths. New York by itself accounts for 38.1% of the deaths in the U.S.; New York and New Jersey combined, 49.1%. New York City alone accounts for 15.4% of total cases in the U.S., although this is down from a peak of 33.5% on March 21.

Cases per capita in New York, New Jersey, Massachusetts, Connecticut, Rhode Island, Louisiana and the District of Columbia are greater than any of the hardest-hit countries in the world.

Michigan has the highest death rate (9.1%), followed by Connecticut (8.1%) and New York (7.7%). Measured in terms of deaths per million in population, New York is the highest (1,206.7), followed by New Jersey (762.2).

From April 23-29, Massachusetts had the highest rate of new daily infections, at 356.1; New Jersey was 2nd, with 328.1. New York was 4th, at 322.3 which is significantly below its peak of 505.8 experienced April 4 – 10.

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State-By State Statistics and Rankings

New York Continues to Experience the Most Cases, Cases Per Capita and Deaths; Massachusetts Now Has the Highest New Infection Rate

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

As of April 29

State	Total Cases	Rank	Cases per 1M Population	Rank	Deaths	Rank	Death Rate	Rank	Deaths per 1 Million Population	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	6,904	(24)	1,408.1	(28)	255	(24)	3.7%	(30)	52.0	(29)	2.8%	(29)	17,548	(24)	38.2	(33)
Alaska	355	(51)	485.3	(49)	9	(50)	2.5%	(43)	12.3	(49)	0.9%	(48)	25,888	(11)	3.9	(49)
Arizona	7,202	(23)	989.5	(40)	304	(23)	4.2%	(24)	41.8	(35)	3.6%	(19)	9,906	(50)	34.2	(36)
Arkansas	3,207	(39)	1,062.7	(38)	59	(41)	1.8%	(46)	19.6	(45)	2.7%	(31)	15,550	(30)	38.6	(32)
California	48,565	(5)	1,229.1	(34)	1,939	(8)	4.0%	(26)	49.1	(30)	3.5%	(20)	15,406	(32)	40.6	(29)
Colorado	14,758	(17)	2,562.7	(14)	766	(16)	5.2%	(13)	133.0	(14)	3.8%	(16)	12,556	(41)	96.3	(14)
Connecticut	26,767	(11)	7,507.7	(5)	2,168	(7)	8.1%	(2)	608.1	(3)	2.3%	(38)	26,474	(10)	172.2	(7)
Delaware	4,655	(30)	4,780.4	(8)	144	(34)	3.1%	(37)	147.9	(13)	6.2%	(5)	22,684	(16)	213.5	(5)
District Of Columbia	4,106	(34)	5,817.9	(7)	205	(31)	5.0%	(17)	290.5	(7)	3.1%	(25)	28,092	(8)	182.2	(6)
Florida	33,193	(8)	1,545.5	(23)	1,218	(10)	3.7%	(31)	56.7	(22)	1.7%	(44)	18,220	(22)	30.7	(39)
Georgia	25,651	(12)	2,415.9	(16)	1,098	(11)	4.3%	(23)	103.4	(16)	2.7%	(33)	13,964	(33)	61.2	(23)
Hawaii	613	(48)	432.9	(50)	16	(48)	2.6%	(42)	11.3	(51)	0.4%	(50)	21,000	(18)	2.1	(50)
Idaho	1,984	(43)	1,107.1	(37)	60	(40)	3.0%	(39)	33.5	(39)	1.2%	(46)	16,732	(27)	14.5	(45)
Illinois	50,355	(4)	3,973.8	(10)	2,215	(6)	4.4%	(22)	174.8	(11)	4.9%	(9)	20,018	(19)	171.9	(8)
Indiana	17,182	(15)	2,552.2	(15)	1,065	(13)	6.2%	(6)	158.2	(12)	4.7%	(10)	13,793	(34)	100.7	(12)
Iowa	6,843	(25)	2,168.9	(18)	148	(33)	2.2%	(44)	46.9	(31)	9.0%	(2)	13,196	(38)	140.1	(11)
Kansas	3,839	(35)	1,317.7	(32)	134	(35)	3.5%	(34)	46.0	(32)	5.4%	(6)	9,657	(51)	74.6	(19)
Kentucky	4,539	(32)	1,016.0	(39)	235	(27)	5.2%	(14)	52.6	(28)	3.7%	(18)	12,184	(42)	37.3	(34)
Louisiana	27,660	(9)	5,949.9	(6)	1,845	(9)	6.7%	(5)	396.9	(5)	1.1%	(47)	33,572	(6)	73.8	(20)
Maine	1,056	(45)	785.6	(46)	52	(42)	4.9%	(18)	38.7	(36)	1.8%	(43)	13,360	(36)	15.8	(44)
Maryland	20,849	(13)	3,448.6	(12)	1,078	(12)	5.2%	(15)	178.3	(10)	4.6%	(11)	18,478	(21)	143.5	(10)
Massachusetts	60,265	(3)	8,671.8	(3)	3,405	(4)	5.7%	(10)	490.0	(4)	3.4%	(24)	38,889	(3)	356.1	(1)
Michigan	40,399	(7)	4,045.2	(9)	3,670	(3)	9.1%	(1)	367.5	(6)	2.0%	(41)	17,798	(23)	92.0	(15)
Minnesota	4,644	(31)	823.5	(45)	319	(21)	6.9%	(4)	56.6	(23)	7.8%	(3)	12,075	(43)	48.7	(26)
Mississippi	6,569	(26)	2,207.2	(17)	250	(26)	3.8%	(28)	84.0	(17)	3.9%	(15)	22,114	(17)	80.4	(17)
Missouri	7,576	(22)	1,234.4	(33)	338	(20)	4.5%	(21)	55.1	(24)	2.5%	(36)	12,069	(44)	32.3	(37)
Montana	451	(50)	422.0	(51)	16	(48)	3.5%	(33)	15.0	(46)	0.3%	(51)	12,986	(39)	1.6	(51)
Nebraska	3,784	(36)	1,956.2	(19)	68	(38)	1.8%	(48)	35.2	(38)	9.3%	(1)	13,386	(35)	145.6	(9)
Nevada	4,805	(29)	1,560.0	(22)	225	(29)	4.7%	(20)	73.0	(20)	2.7%	(30)	16,927	(25)	40.3	(30)
New Hampshire	2,010	(42)	1,478.3	(27)	60	(40)	3.0%	(40)	44.1	(34)	3.8%	(17)	15,440	(31)	54.5	(24)
New Jersey	116,264	(2)	13,089.6	(2)	6,770	(2)	5.8%	(8)	762.2	(2)	2.6%	(35)	27,049	(9)	328.1	(2)
New Mexico	3,213	(38)	1,532.3	(24)	112	(36)	3.5%	(36)	53.4	(26)	5.0%	(8)	31,105	(7)	68.3	(21)
New York	306,158	(1)	15,737.9	(1)	23,474	(1)	7.7%	(3)	1,206.7	(1)	2.0%	(40)	44,472	(2)	322.3	(4)
North Carolina	10,181	(20)	970.7	(41)	381	(19)	3.7%	(29)	36.3	(37)	4.3%	(12)	11,663	(45)	36.7	(35)
North Dakota	1,033	(46)	1,355.5	(31)	19	(46)	1.8%	(47)	24.9	(42)	6.7%	(4)	33,948	(4)	66.4	(22)
Ohio	17,303	(14)	1,480.3	(26)	937	(14)	5.4%	(12)	80.2	(18)	2.7%	(32)	11,012	(46)	38.9	(31)
Oklahoma	3,473	(37)	877.7	(44)	214	(30)	6.2%	(7)	54.1	(25)	2.2%	(39)	15,727	(29)	20.9	(43)
Oregon	2,446	(40)	579.9	(48)	101	(37)	4.1%	(25)	23.9	(43)	2.4%	(37)	13,345	(37)	13.1	(46)
Pennsylvania	45,728	(6)	3,571.9	(11)	2,354	(5)	5.1%	(16)	183.9	(9)	2.6%	(34)	16,799	(26)	98.6	(13)
Rhode Island	8,247	(21)	7,784.9	(4)	251	(25)	3.0%	(38)	236.9	(8)	4.2%	(13)	56,941	(1)	324.5	(3)
South Carolina	5,881	(28)	1,142.2	(35)	232	(28)	3.9%	(27)	45.1	(33)	3.0%	(27)	10,940	(47)	31.1	(38)
South Dakota	2,373	(41)	2,682.4	(13)	13	(49)	0.5%	(51)	14.7	(47)	3.1%	(26)	19,220	(20)	83.2	(16)
Tennessee	10,366	(19)	1,517.0	(25)	195	(32)	1.9%	(45)	28.5	(40)	3.5%	(23)	25,342	(13)	52.8	(25)
Texas	27,566	(10)	950.7	(42)	749	(17)	2.7%	(41)	25.8	(41)	3.5%	(21)	10,772	(48)	30.1	(40)
Utah	4,495	(33)	1,402.1	(29)	45	(44)	1.0%	(50)	14.0	(48)	3.5%	(22)	33,638	(5)	46.8	(27)
Vermont	862	(47)	1,381.4	(30)	47	(43)	5.5%	(11)	75.3	(19)	0.8%	(49)	24,687	(14)	8.9	(48)
Virginia	14,961	(16)	1,752.8	(21)	522	(18)	3.5%	(35)	61.2	(21)	5.2%	(7)	10,139	(49)	78.6	(18)
Washington	14,070	(18)	1,847.7	(20)	801	(15)	5.7%	(9)	105.2	(15)	1.3%	(45)	25,746	(12)	29.6	(41)
West Virginia	1,109	(44)	620.5	(47)	40	(45)	3.6%	(32)	22.4	(44)	1.9%	(42)	23,634	(15)	11.7	(47)
Wisconsin	6,520	(27)	1,119.8	(36)	308	(22)	4.7%	(19)	52.9	(27)	4.0%	(14)	12,659	(40)	41.1	(28)
Wyoming	544	(49)	939.9	(43)	7	(51)	1.3%	(49)	12.1	(50)	2.8%	(28)	15,994	(28)	23.9	(42)
United States	1,064,194		3,215.1		61,656		5.8%		186.3		2.8%		18,549		90.6	

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"Strategic Guidance in an Era of Unprecedented Change"

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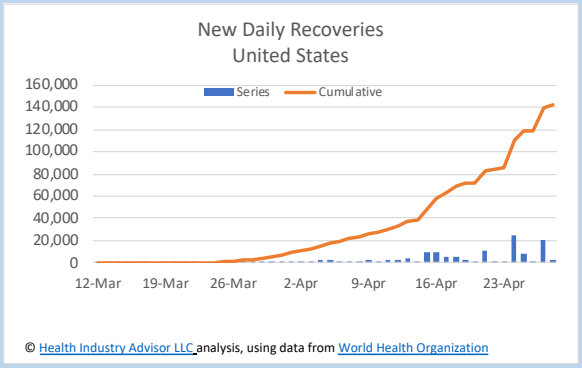
Recovery Rates

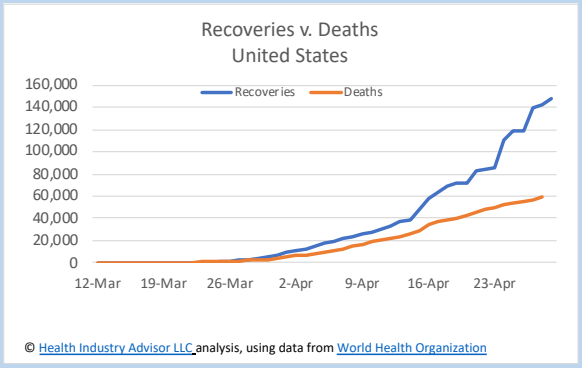
Recovery Rates from the Coronavirus Are Showing Signs of Accelerating in the U.S.

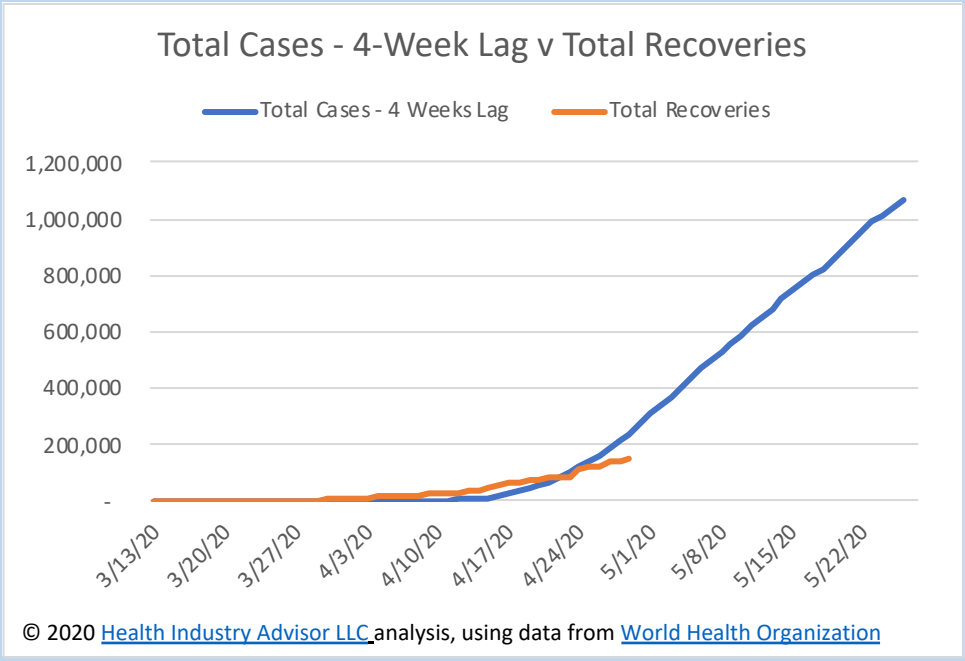
The U.S. reported 63,361 recoveries from the coronavirus in the past 7 days. This compares to 35,000 the week prior and 25,000 just two weeks prior.

Recoveries now out-number deaths by 2.4:1; this rate should grow over time to 4:1 or greater.

Many states are following a practice of declaring a person as recovered if no conditions or treatment are evident 4 weeks following the discovery of an infection. Given that lag, we plotted the trend line of total cases-lagged 4 weeks to total recoveries (bottom graphic). Should the pattern shown by this graphic continue, we should anticipate a significantly increasing slope in recoveries for the next month.







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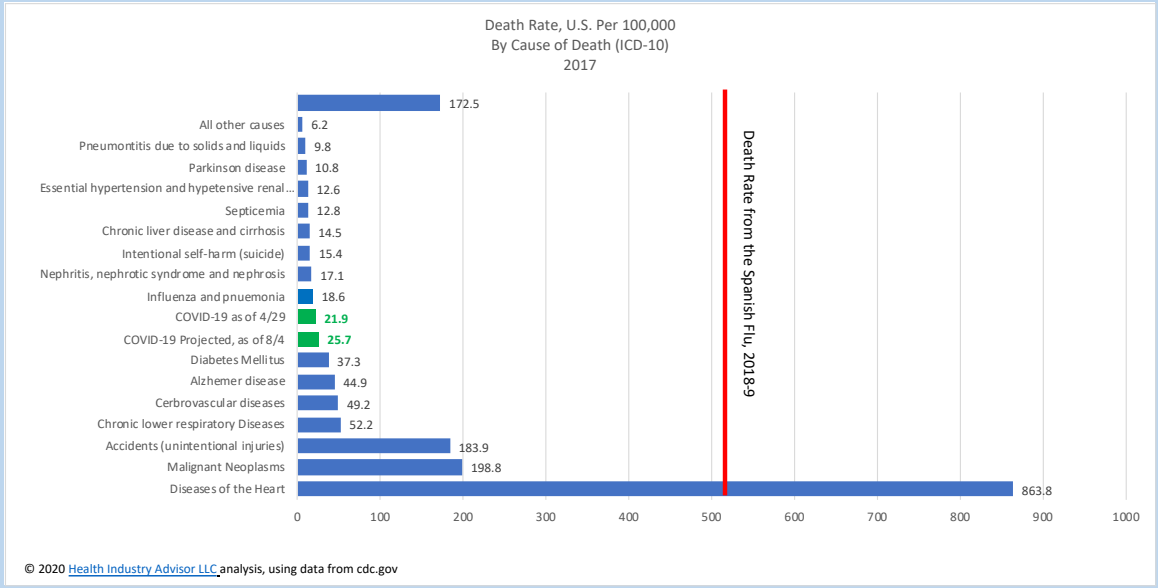
Death Statistics

Coronavirus Has Had a Devastating Effect on Vulnerable Parts of our Population

Using data from the Centers for Disease Control, we compared the death rate from the coronavirus to leading causes of death in the U.S. (2017 data, the latest published by the CDC). We plotted both the coronavirus death rate as of April 28, as well as a projected death rate using the most recent Institute for Health Metrics and Evaluation death projections (~ 72,000 by August 4). As the graphic portrays, the virus would rank among the leading cause of death.

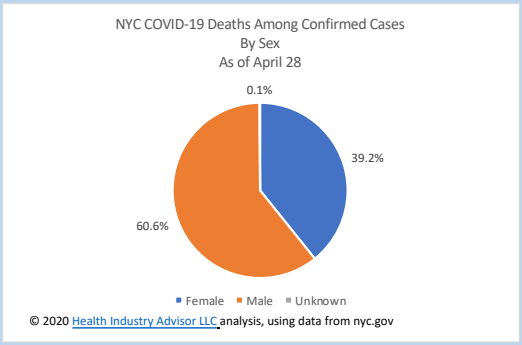
Note we also show the death rate from the Spanish Flu epidemic of 1918-19, a pandemic that is often used to assess the coronavirus pandemic's effects. The Spanish Flu came in three waves (Spring, Fall and Winter); the greatest concentration of deaths came in the 2nd wave. Notably, this epidemic reduced the average life expectancy in the U.S. by 12 years!

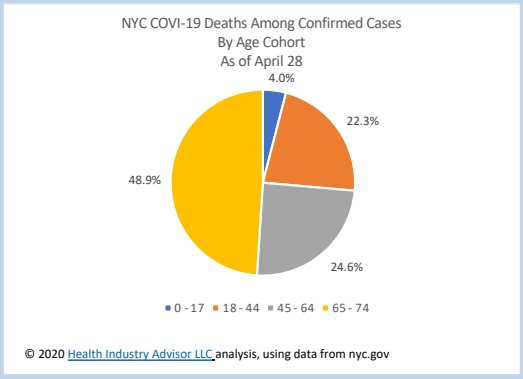


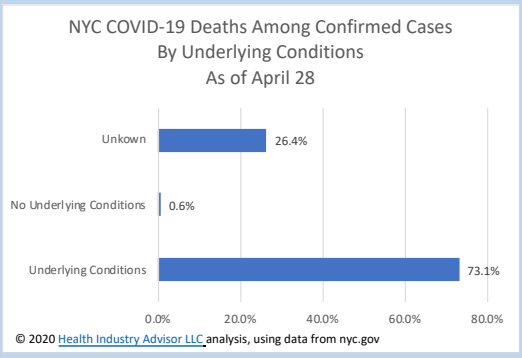
Using information reported by New York City, we also looked at certain demographics of the people who died from the coronavirus, as of April 27. Note the marked differences in death rates by sex, as well as by age.

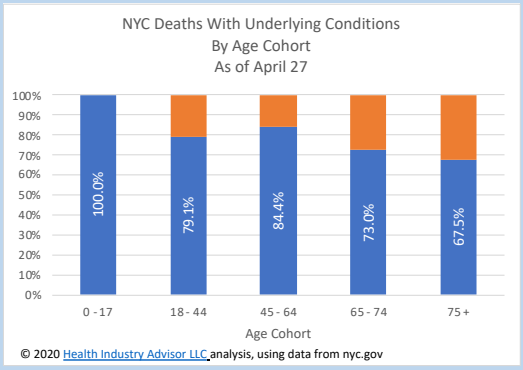
At first glance of the top right graphic, it appears the young (0-17 years old) make up a low portion of the deaths (only 4% of deaths in NYC from the virus. Deaths are somewhat distributed among the remaining age cohorts. The graphics in the second row, however, tell a more instructive tale: overall, and at every age cohort, persons with underlying health conditions comprise the strong majority of persons that have died from the virus.

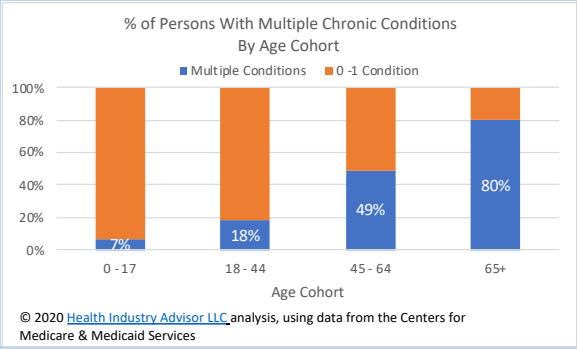
The bottom graphic depicts how the prevalence of chronic conditions by age cohort is the likely explanation for the pattern of deaths by age – and not that age by itself is the determinant of the likelihood of death.











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Opening Up America Again

A Graphical Representation of A State's Positioning, Relative to the Federal Gating Criteria For Relaxing Restrictions

On Thursday, April 16, 2020, President Trump released his guidelines for three phases of *Opening Up America Again*. Each state governor, however, retains the authority to determine how and when to open their states, based on the unique circumstances of their respective states.

The President outlined a staged approach, based on the state meeting certain "gating" criteria:

- Symptoms
  - Downward trajectory of influenza-like illness (ILI) reported within a 14-day period, and
  - Downward trajectory of COVID-19 syndromic cases reported within a 14-day period
- Cases
  - Downward trajectory of documented cases reported within a 14-day period, or
  - Downward trajectory of positive tests as a percent of total tests within a 14-day period (flat or increasing volume of tests)
- Hospitals
  - Treat all patients without crisis care, and
  - Robust testing program in place for at-risk healthcare workers, including emergency antibody testing

Whether these criteria will be applied is ultimately a state-by-state decision and will be subject to other considerations. Therefore, no certainty can be provided as to how closely these state-by state decisions will follow the guidelines suggested.

These considerations notwithstanding, the following pages are intended to paint a picture of how closely each state is tracking toward the guidelines suggested by the President and the CDC.

Monday through Friday, we are producing a one-page summary of key measures for selected states per day. Today, we look at New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania and Rhode Island.

On these pages, we show:

- Tests per day, and a 7-day moving average (given the provision for flat or increasing test volume)
- Positive test %, daily and 7-day moving average
- New Daily Infections per 1 Million Population – this metric may be better aligned with the gating criteria; also, it is the metric proposed by IHME to determine when social distancing may be relaxed
- Active cases per day, to indicate how active infections are trending
- % of Visits for Influenza-Like Illness (ILI) from CDC.gov, indicating the trajectory of these illness per the criteria above
- Projected Hospital Resource Needs from Covid19.Health data.org, indicating how these needs are trending

A quick commentary from the following pages:

- New Jersey – despite high test volumes, test-positivity rate suggests that only most severe cases are being tested
- New Mexico – increasing infection rate and active cases suggest that testing is not adequate to fully understand virus spread
- New York – testing volumes are strong; declining test-positivity rate is encouraging. Worst may be behind them
- North Carolina – story looks like New Mexico's
- North Dakota – with increasing testing volumes and low test-positivity rates, starting to look good
- Ohio – declining infection and test-positivity rates suggest active cases should peak soon
- Oklahoma – low infection and test-positivity rates – looking good!
- Oregon – same good news as with Oklahoma
- Pennsylvania – need to see declining test-positivity rates before we'll see drop in new infection rate and in active cases
- Rhode Island – test-positivity and new infection rates re too high

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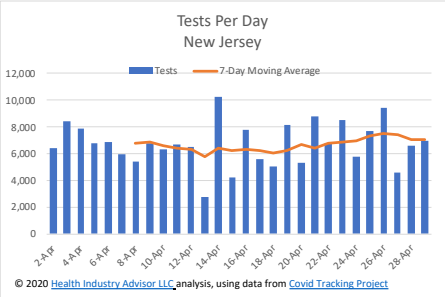
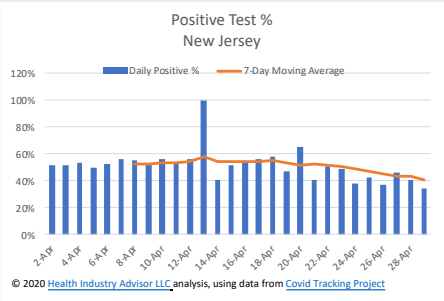
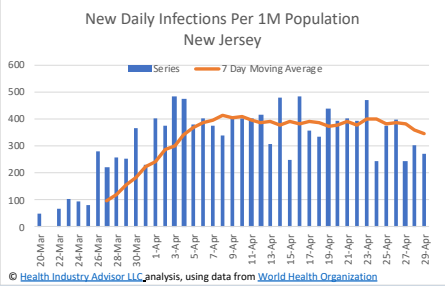
New Jersey

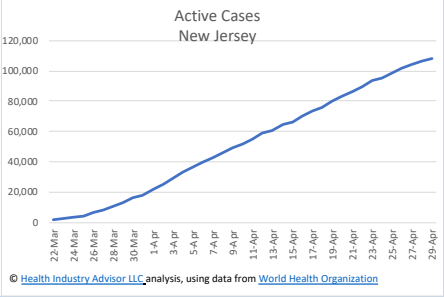
Analysis:

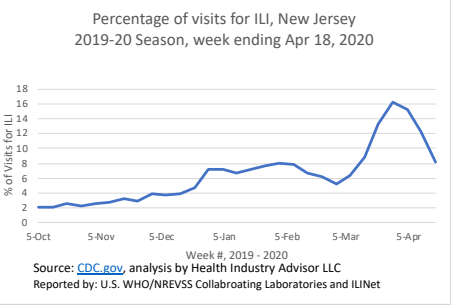
- ▼ Testing levels level or declining; relatively high per capita
- ▼ Test-Positivity rate declining but, at a very high level
- ▼ New infections trending down, very high level
- ▼ Active cases have yet to peak
- ▲ Influenza cases declining
- ▲ Hospital resource needs past peak

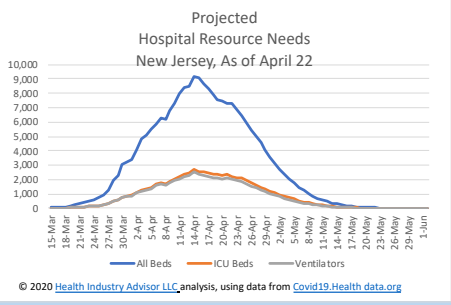












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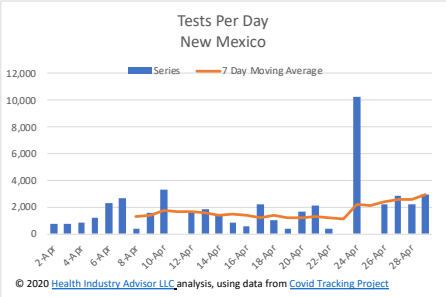
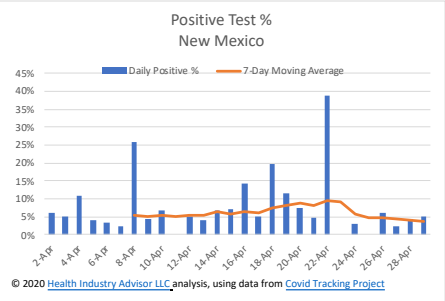
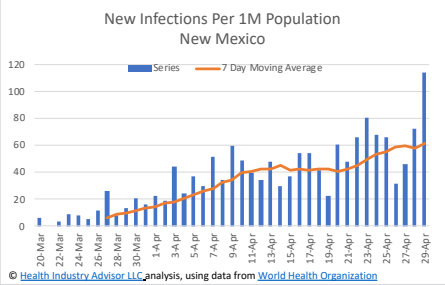
New Mexico

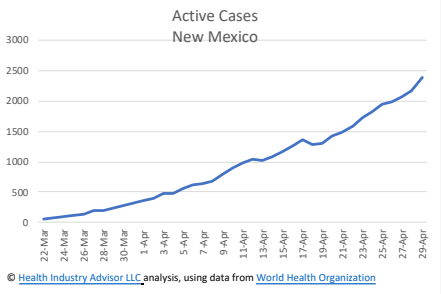
Analysis:

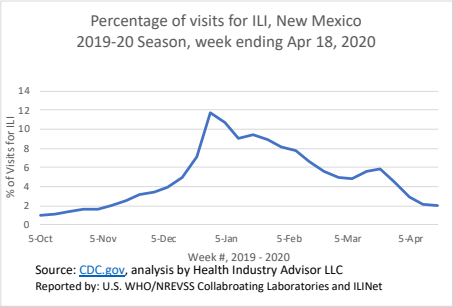
- ▲ Testing levels increasing
- ▲ Test-Positivity rate declining and very high
- ▶ New infections trending up, yet at a low level
- ▼ Active cases still increasing
- ▲ Influenza cases declining
- ▶ Hospital resource needs just past peak

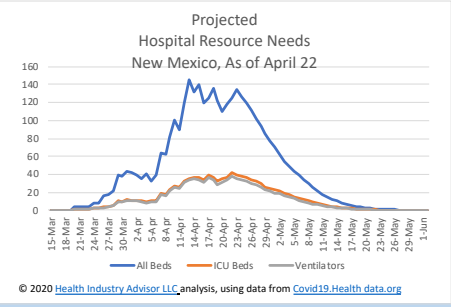












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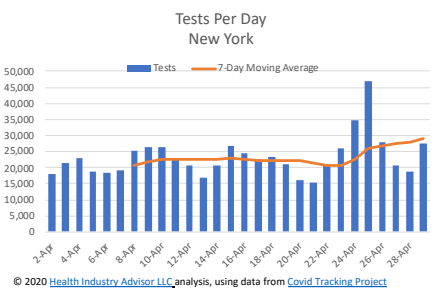
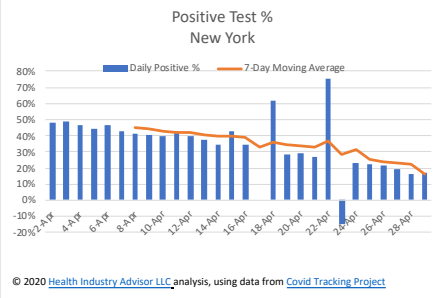
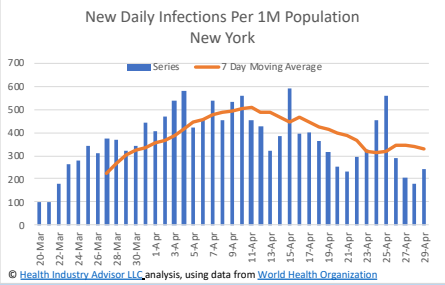
New York

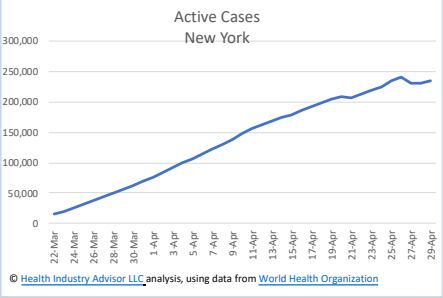
Analysis:

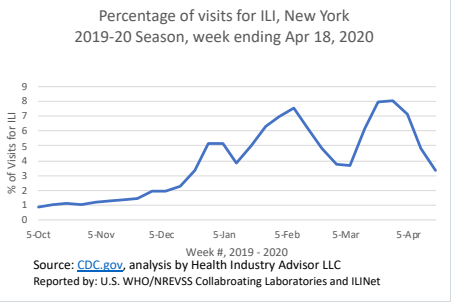
- ▲ Testing levels increasing; relatively high per capita
- ▼ Test-Positivity rate declining yet still at an elevated level
- ▼ New infections trending down, still at a high level
- ▶ Active cases may be near peak
- ▲ Influenza cases declining
- ▲ Hospital resource needs past peak

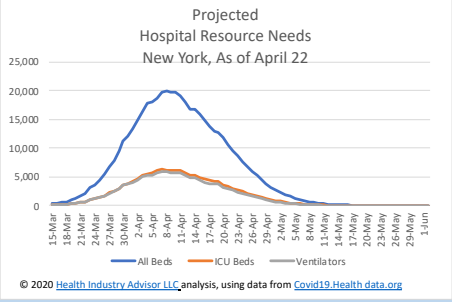












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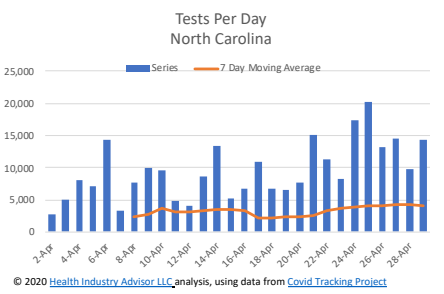
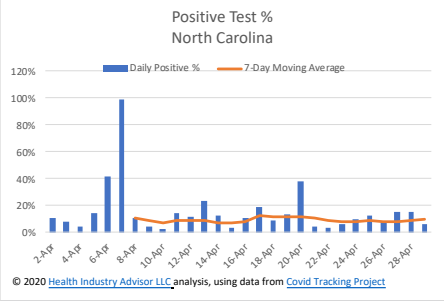
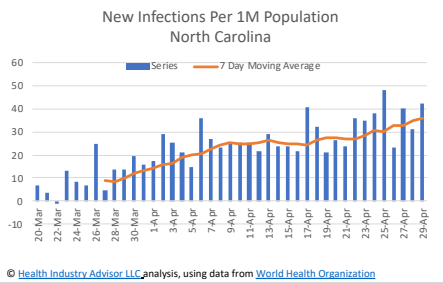
North Carolina

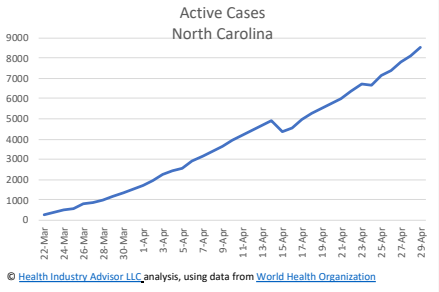
Analysis:

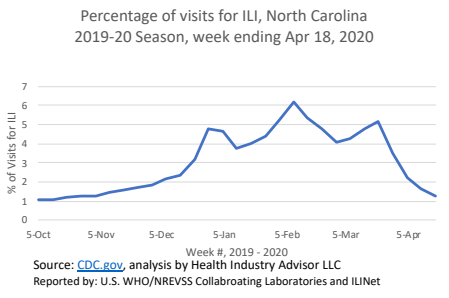
- Testing levels increasing; relatively low per capita
- Test-Positivity rate reasonably low
- New infections trending up but, at a low level
- Active cases have not yet peaked
- Influenza cases declining
- Hospital resource needs past peak

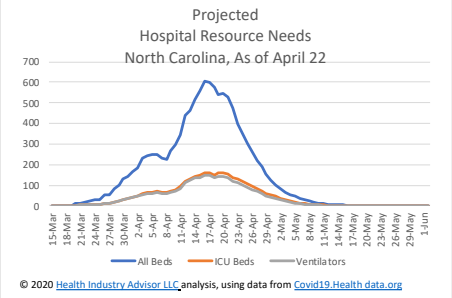












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Health Industry Advisor, llc

COVID-19 Dashboard

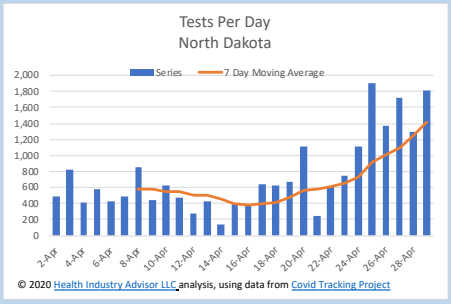
"Strategic Guidance in an Era of Unprecedented Change"

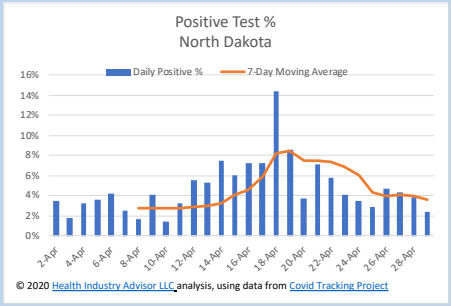
Issue #40: April 30

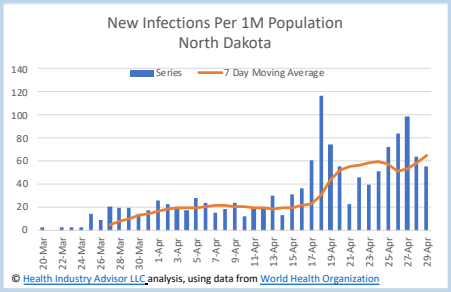
North Dakota

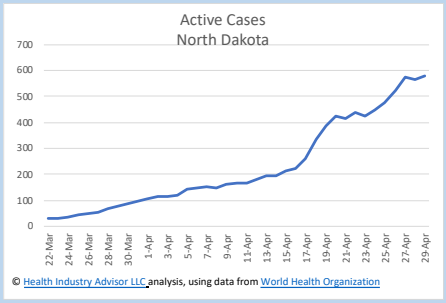
Analysis:

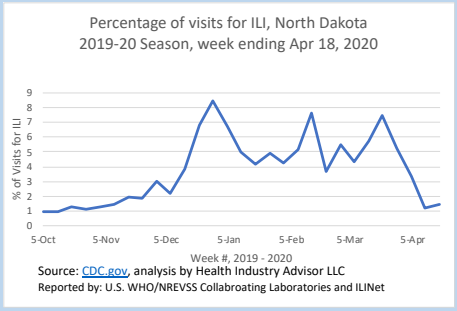
- ▲ Testing levels increasing
- ▲ Test-positive rate trending down, at a low level
- ▶ New infections trending up but, at a low level
- ▼ Active cases have not yet peaked
- ▲ Influenza cases declining
- ▼ Hospital resource needs have yet to peak

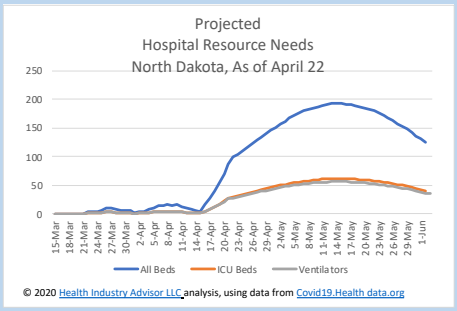












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COVID-19 Dashboard

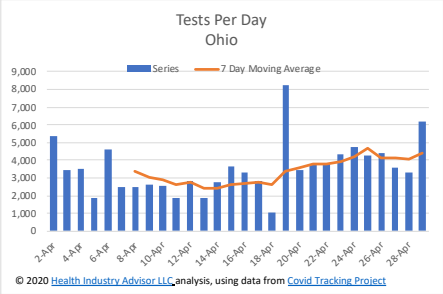
"Strategic Guidance in an Era of Unprecedented Change"

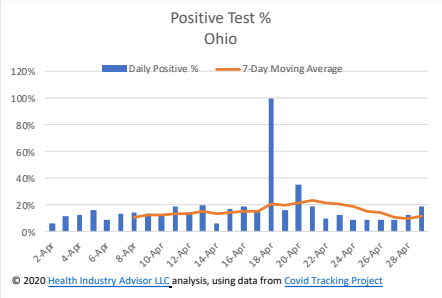
Issue #40: April 30

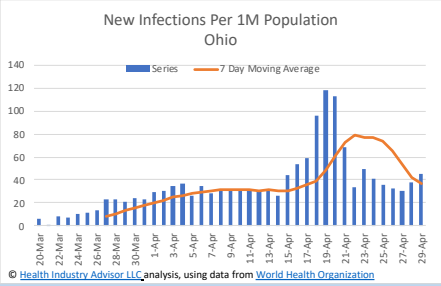
Ohio

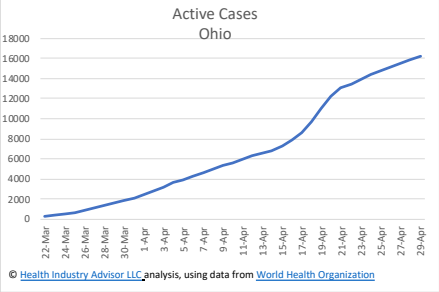
Analysis:

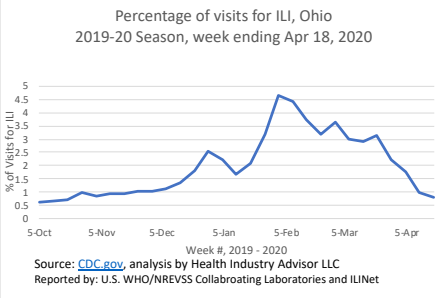
- ▲ Testing levels increasing
- ▲ Test-Positivity rate declining; at a moderate level
- ▲ New infections trending down, at low level
- ▼ Active cases have yet to peak
- ▲ Influenza cases declining
- ▲ Hospital resource needs past peak

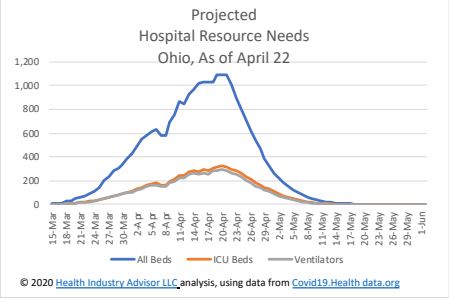












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COVID-19 Dashboard

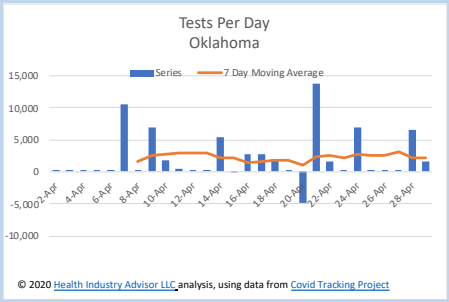
"Strategic Guidance in an Era of Unprecedented Change"

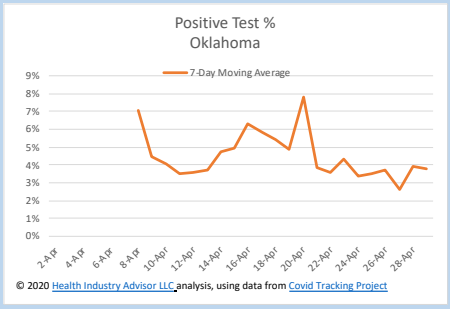
Issue #40: April 30

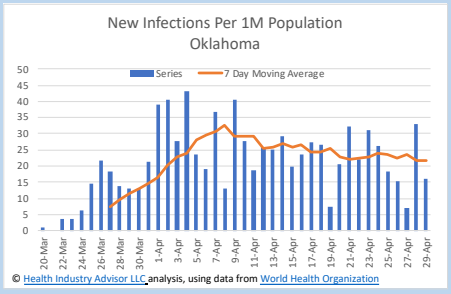
Oklahoma

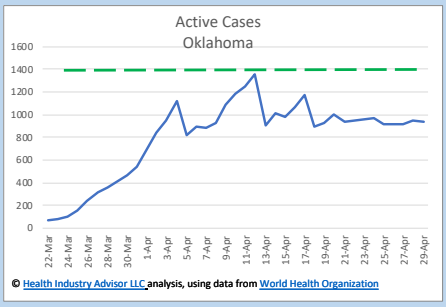
Analysis:

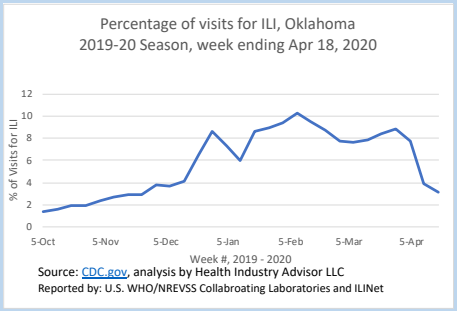
- ▲ Testing levels level
- ▲ Test-Positivity rate declining and at a low level
- ▲ New infections trending down, at a very low level
- ▲ Active cases well past peak
- ▲ Influenza cases declining
- ▶ Hospital resource needs just past peak

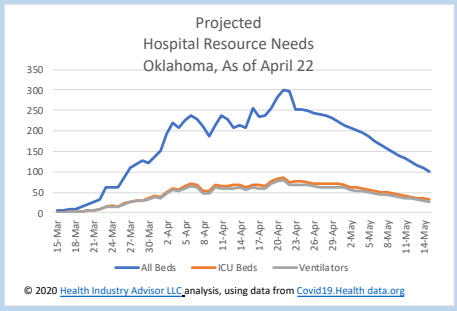












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COVID-19 Dashboard

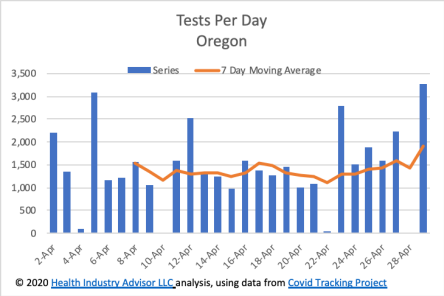
"Strategic Guidance in an Era of Unprecedented Change"

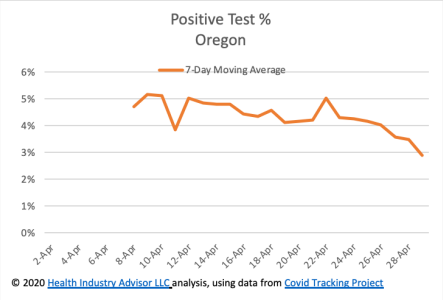
Issue #40: April 30

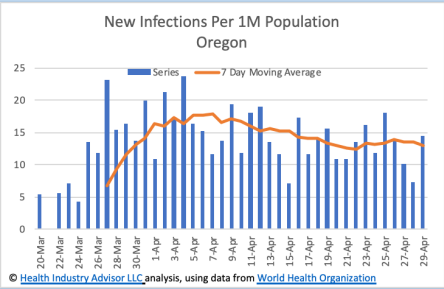
Oregon

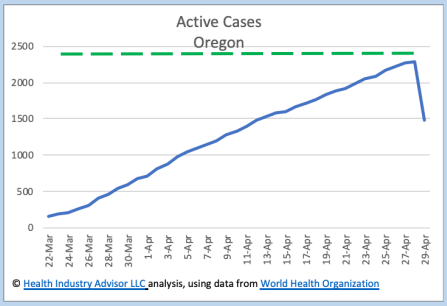
Analysis:

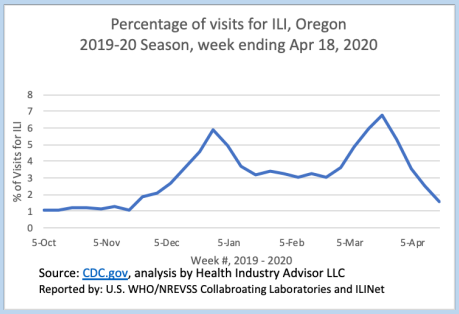
- ▲ Testing levels increasing
- ▲ Test-Positivity rate declining; at a low level
- ▲ New infections stable; at low level
- ▶ Active cases may or may not have peaked
- ▲ Influenza cases declining
- ▶ Hospital resource needs just past peak

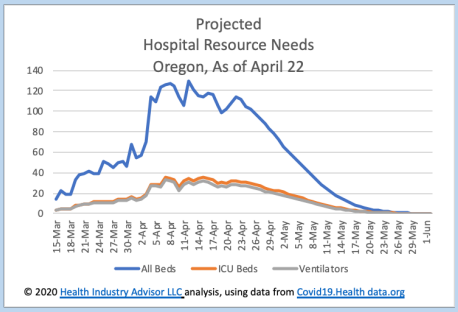












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COVID-19 Dashboard

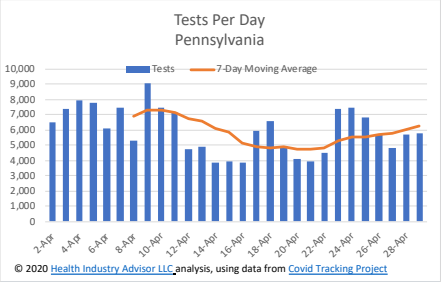
"Strategic Guidance in an Era of Unprecedented Change"

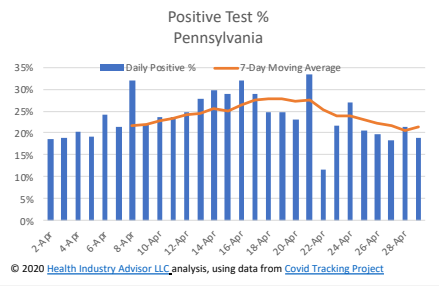
Issue #40: April 30

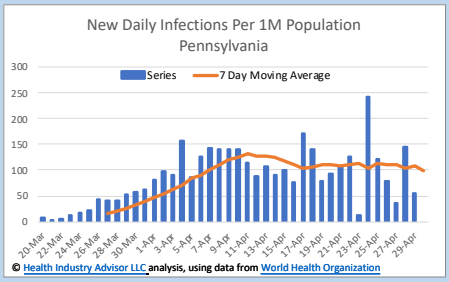
Pensylvania

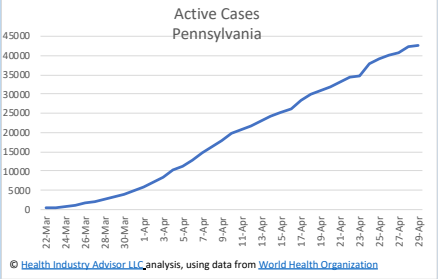
Analysis:

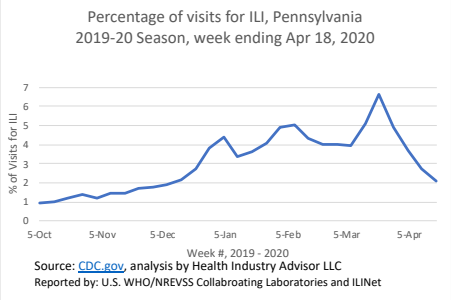
- ▲ Testing levels increasing
- ▼ Test-Positivity rate declining yet at a high level
- ▶ New infections stable; at a moderately high level
- ▼ Active cases not yet peaked
- ▲ Influenza cases declining
- ▲ Hospital resource needs past peak

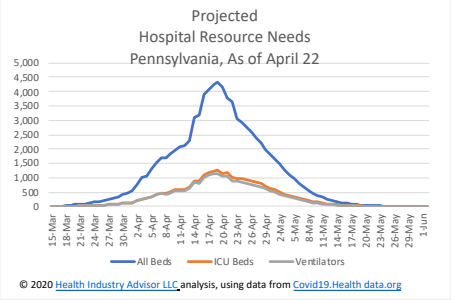












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COVID-19 Dashboard

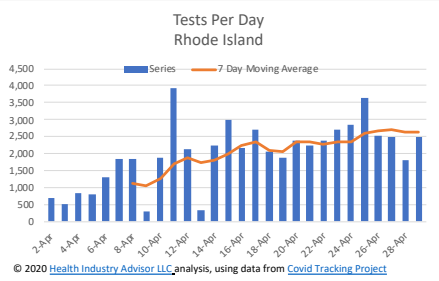
"Strategic Guidance in an Era of Unprecedented Change"

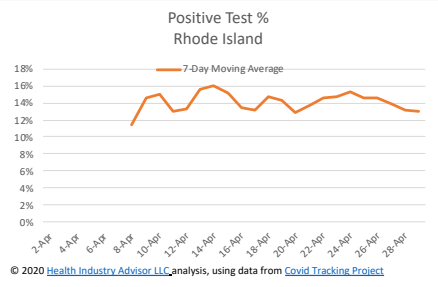
Issue #40: April 30

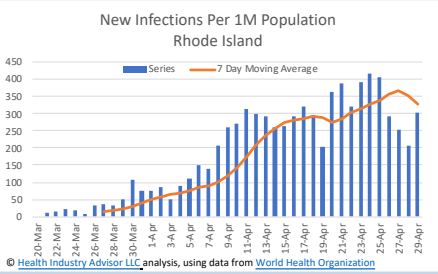
Rhode Island

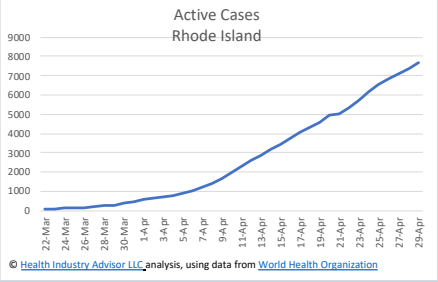
Analysis:

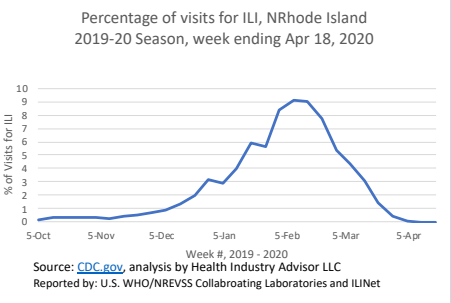
- ▲ Testing levels increasing;
- ▼ Test-Positivity rate stable; at moderately high level
- ▶ New infections trending up; at low level
- ▼ Active cases have not yet peaked
- ▲ Influenza cases declining
- ▼ Hospital resource needs at peak

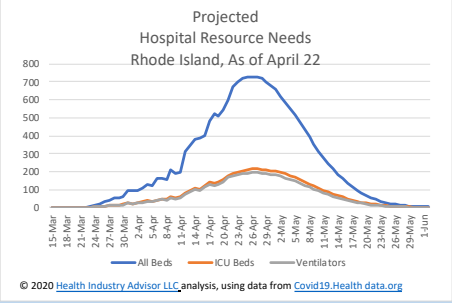












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