

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 3.8% (Cumulative)
Positive Test Rate	Decline	Steady at 19.3%
No. of Cases	Plateau	Up 3.7%, rate continues to slow
% of Deaths Per Case	Decline	Up slightly at 5.4%
No. of Deaths / 1M Pop.	Plateau	Up to 128.44
Recoveries : Deaths	Increase (>1:1)	Down slightly at 1.7

Highlights from Tuesday include:

- Ohio is dealing with a relatively new hot-spot – a breakout of cases at a state prison. Within the prison alone, there are 1,828 cases, representing 73% of the inmate population.
- Internationally, Russia and now Singapore are showing signs of significant case growth: Russia added 5,6452 cases, an 11.2% increase from Monday; Singapore added 1,111 cases, a 13.9% increase.
- Total Cases are nearly 800,000 in the U.S. and deaths are now 42,514. New infections per million population during the past week averaged 88.8, down from its peak of 95.4 recorded during the 7 days ending April 12.

New York and New Jersey account for 54.8% of deaths in the U.S. Nine states - New York, New Jersey, Michigan, Massachusetts, Illinois, Pennsylvania, Connecticut, Louisiana and California – account for 80.4% of these deaths.

- France, Italy and Spain seem to be approaching a peak in Active Cases, where they would join Austria, China, Germany, Iran, Israel, South Korea and Switzerland.
- Similarly, Kansas, Kentucky and Missouri may be near a peak, where they would join Alaska, Hawaii, Idaho, Maine, Michigan, Montana, Oklahoma, South Carolina, Utah and Wyoming. Nevada, however, exceeded by 29 cases its previous peak recorded on April 12. Alaska and Oklahoma are now 8 days beyond their peak.
- Recoveries reported yesterday were down significantly from prior days – hopefully, just a reporting lag issue.
- The rate of new infections per 1 million population appears to be past peak in all except ten U.S states - California, District of Columbia, Iowa, Kansas, Minnesota, Mississippi, Nebraska, New Hampshire, North Dakota and Ohio.

In eleven states – Colorado, Hawaii, Florida, Idaho, Louisiana, Michigan, Nevada, New Jersey, Oklahoma, Oregon and Wisconsin – this peak occurred more than 2 weeks ago. Louisiana, an area significant concern for a while, has seen its rate fall from 339.5 per day from April 1-7 to 107.8 the past 7 days, a 68.2% decline.

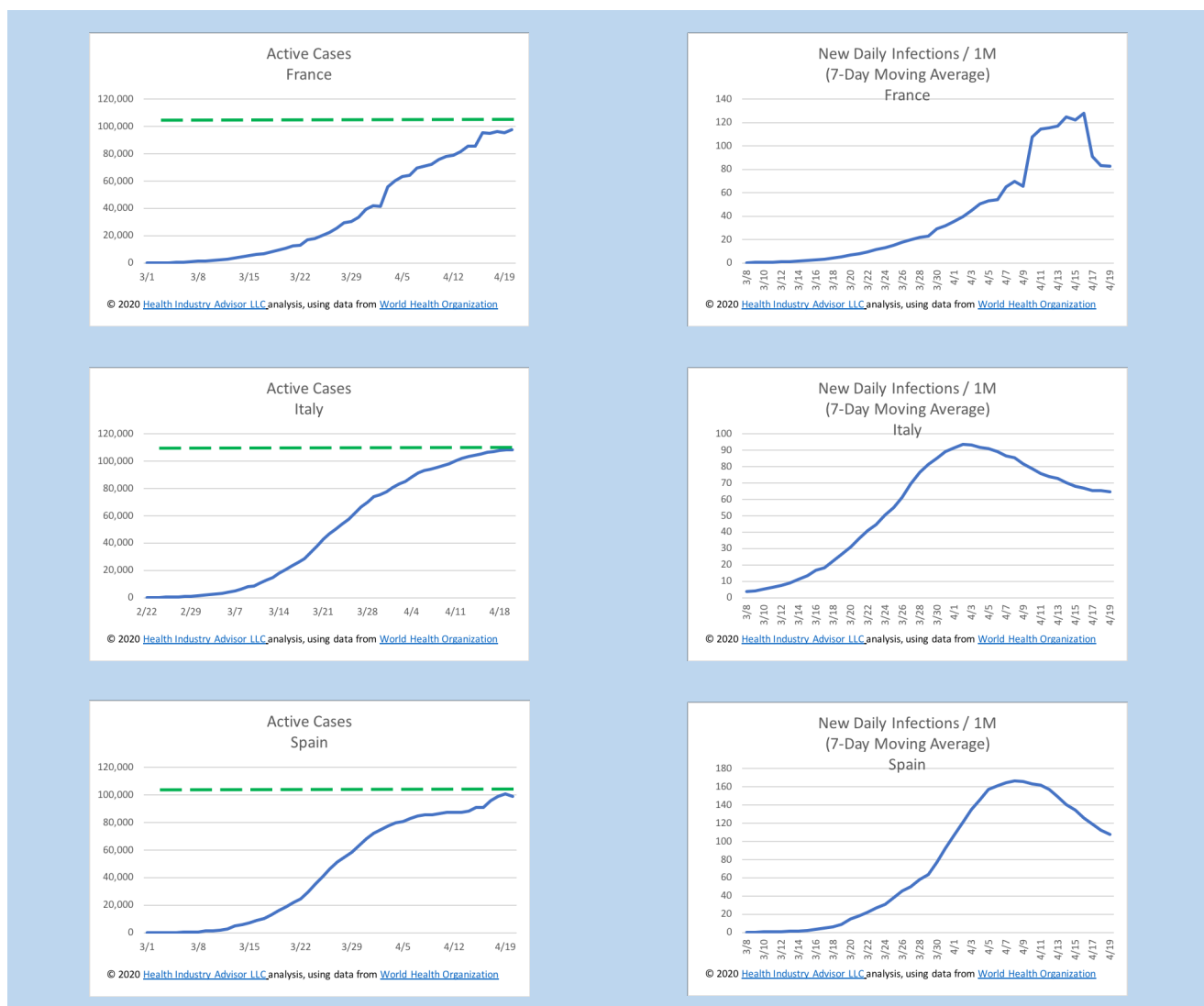
New Infection Rate Per Capita

IHME Has Suggested A Standard of 1 New Infection Per 1M For Relaxing Social Distancing

The Institute for [Health Metrics and Evaluation \(IHME\)](#) suggests that at 1 new infection per 1 million population "it may be possible to relax social distancing, assuming strategies for testing, contact tracing, isolation, and limitations on mass gathering are in place."

Several countries have already experienced peak in Active Cases and are progressing toward this the IHME standard for new infection rate; China and South Korea are already below the IHME standard.

The following graphs depict Active Cases and New Daily Infections per 1Million (7-Day Moving Average) for three countries that appear at or near peak in Active Cases: France, Italy and Spain.

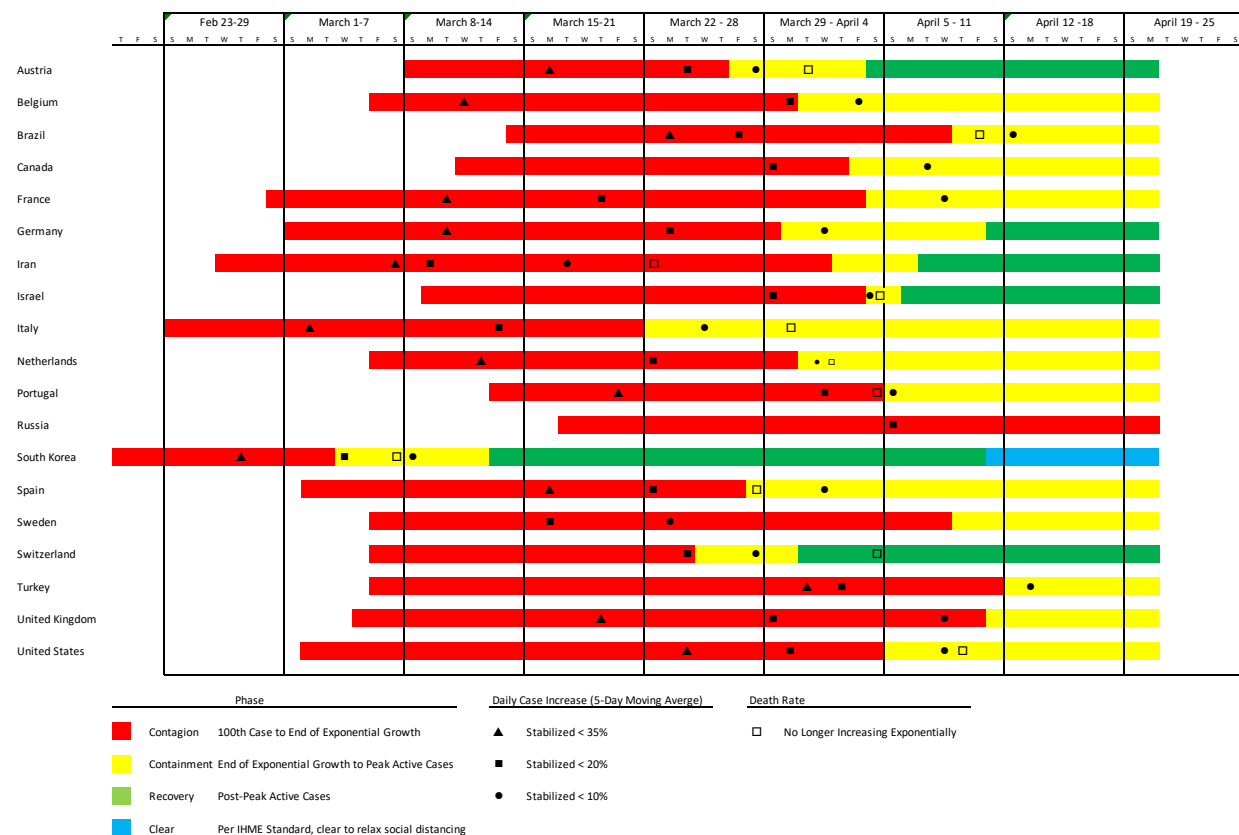


Virus Progression: Hardest Hit Countries

Hardest-Hit Countries Continue Progressing Toward Containment and Recovery; Only Russia Among These Countries Still Experiencing Exponential Growth; South Korea Is Below IHME Standard for Relaxing Social Distancing

Austria, China (not pictured), Germany, Iran, Israel, South Korea and Switzerland are already in Recovery (past peak cases); France Italy, Italy, and Spain appear close. Only Russia is still experiencing exponential case growth.

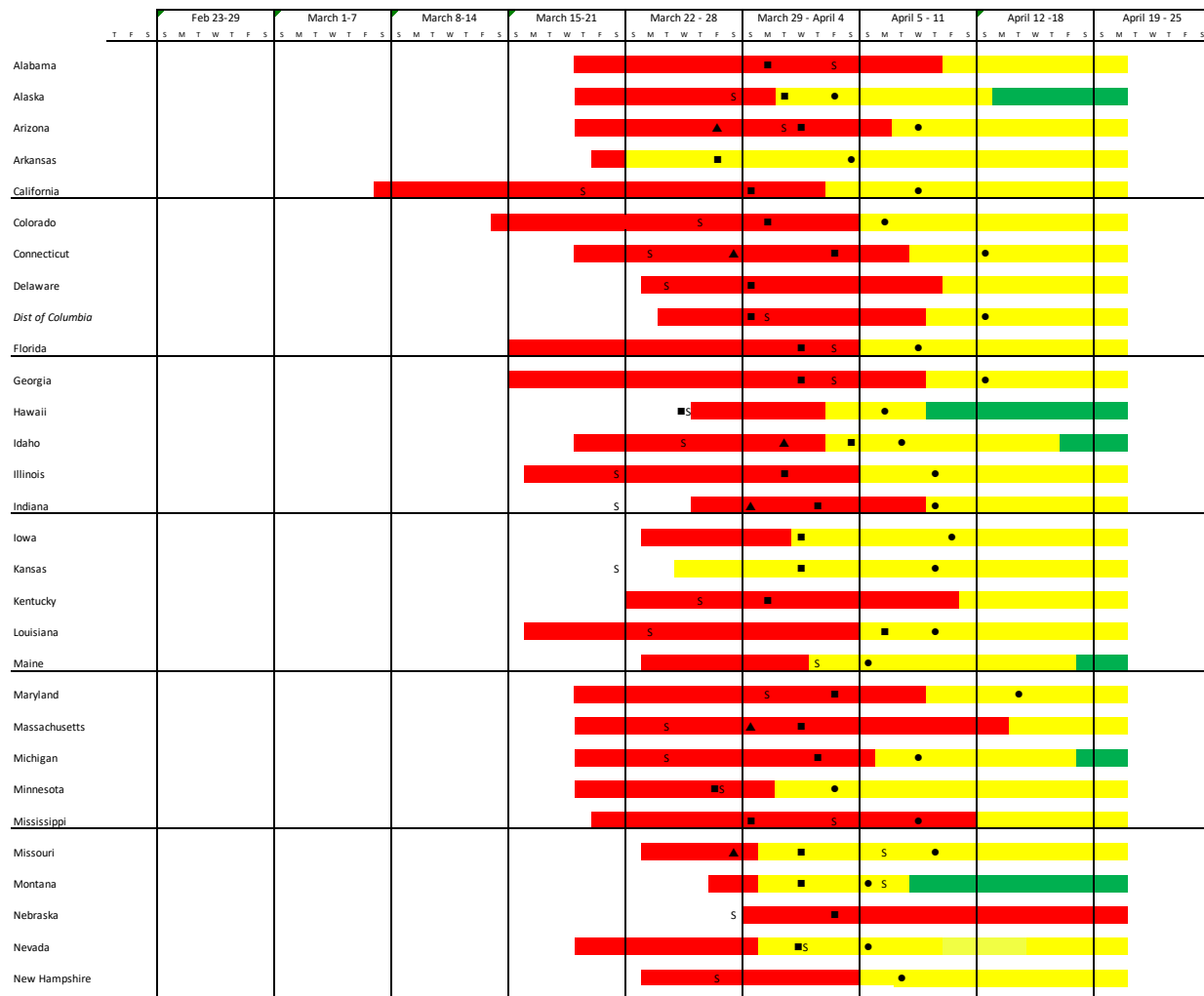
The graphic illustrates in color when the country first recorded 100 total cases (start of the "contagion" phase); when growth stopped following an exponential pattern (start of the "containment" phase); and when peak total cases were recorded (start of the "recovery" phase). It uses symbols to indicate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



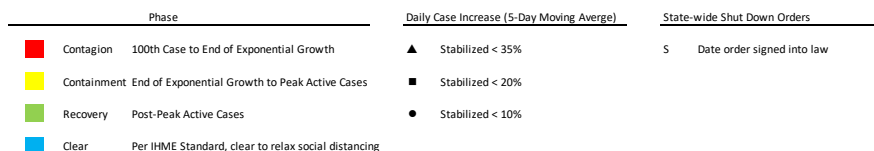
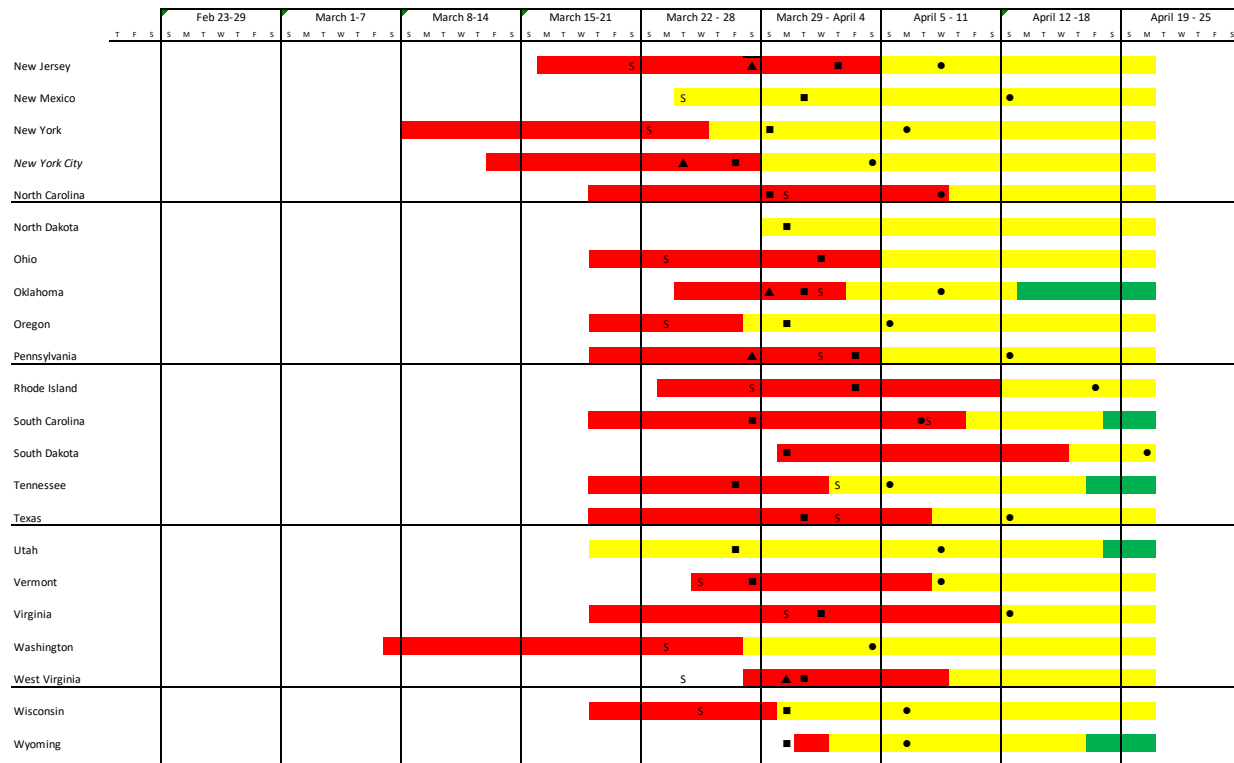
Virus Progression: US States, District of Columbia and New York City

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

Only Nebraska has yet to demonstrably stop the exponential growth in cases. Kansas and Kentucky are two days past their peak in Active Days (a possibility that they have reached Recovery phase). Active Cases in New Mexico on Monday surpassed their previous high mark.



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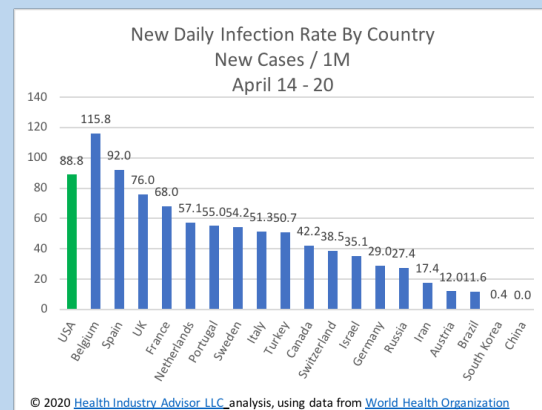
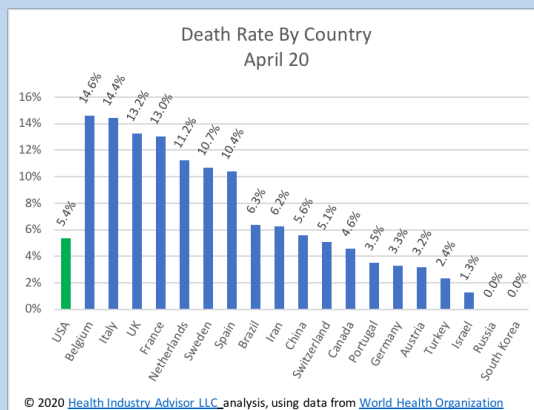
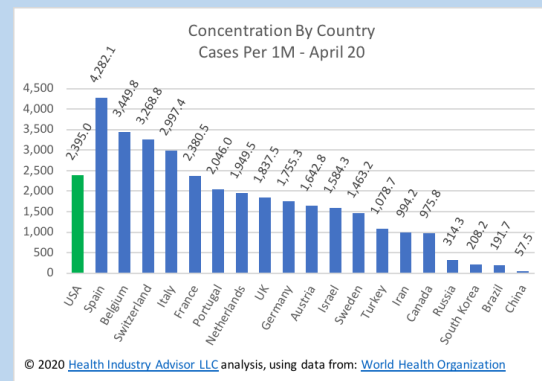
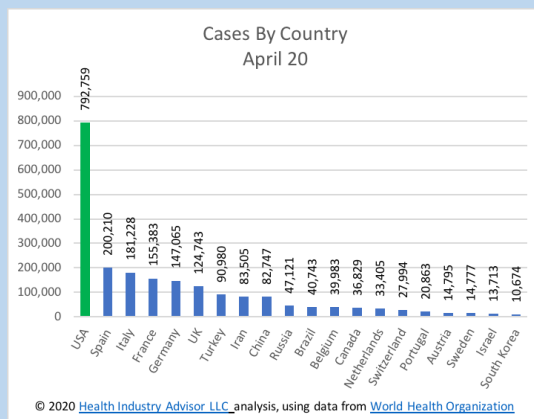
Global Statistics

The U.S. Far Outpaces the World In Total Cases, is Now 5th in Cases Per Capita and 11th in Death Rate. Case Growth is Falling In All of the Hardest-Hit Countries, Except Russia

Case growth continues to decline in most of the countries hardest-hit at during the first wave of virus spread. Russia continues to grow cases more quickly than most. India, Ireland and Peru are moving up the ranks of cases, now at 16th, 17th and 18th, respectively.

Japan has moved up to 23rd in total cases. Singapore, which has gained notice recently, is 30th, however, it experienced 1,111 new cases yesterday alone, bringing its total to 9,125 cases.

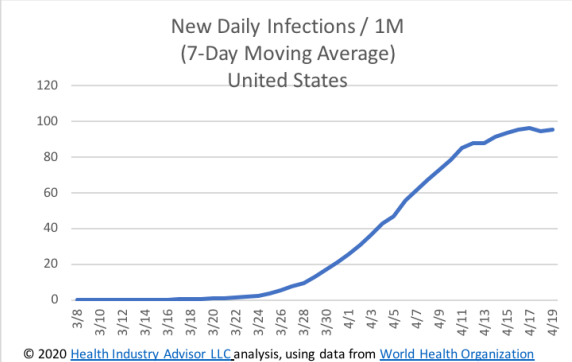
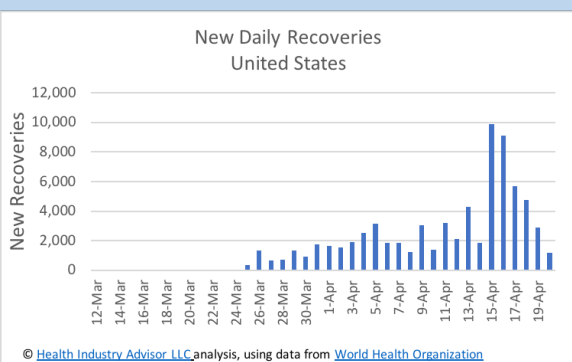
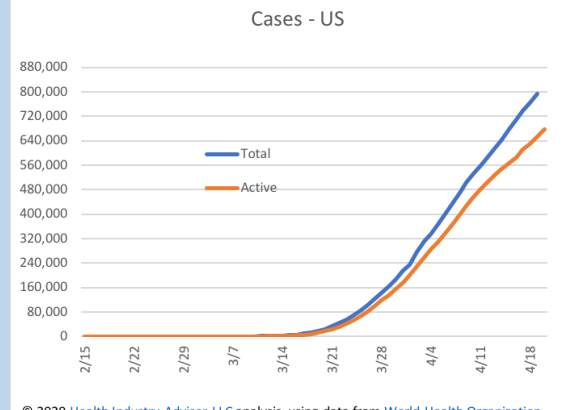
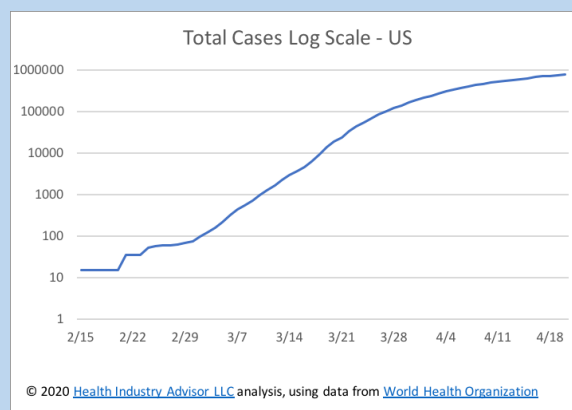
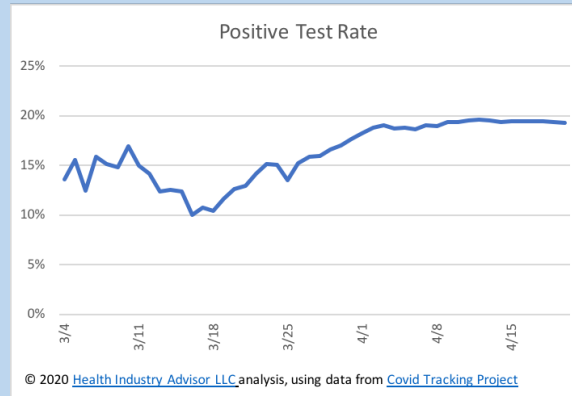
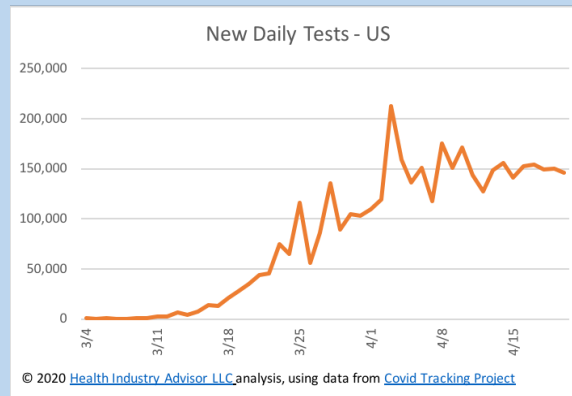
U.S. moved ahead of France to 5th in cases per capita, at nearly 2,400 cases per 1 million in population.



Cases and Death Rates in the U.S.

Case Growth, New Infections Per Capita, Testing and the Positive Test % Have Each Begun to Plateau in the U.S.; Active Cases Starting to Fall off From Total Cases

Cases in the U.S. are no longer growing at an exponential rate; active cases, however, have yet to peak. As infected persons begin to recover, active cases are beginning to separate from total cases.



Hardest-Hit States

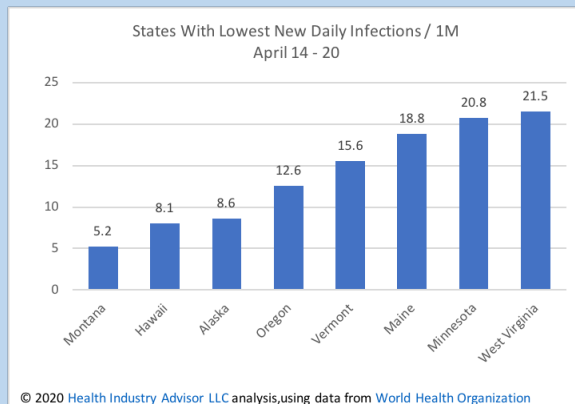
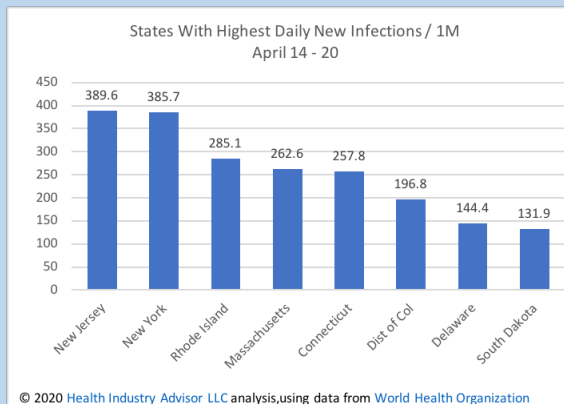
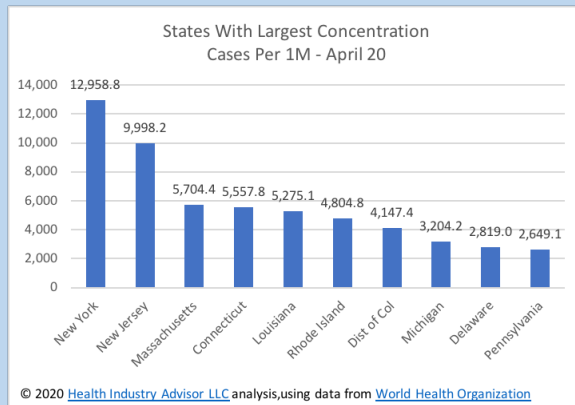
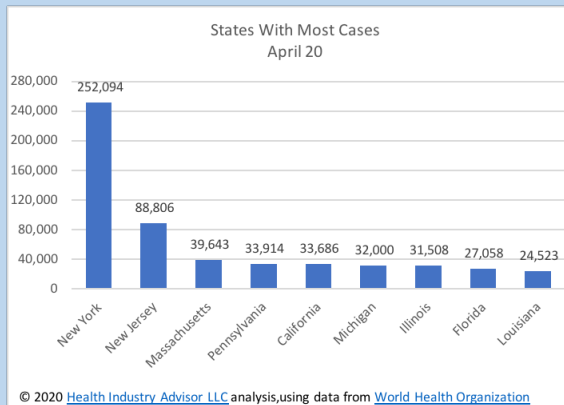
New York Has Experienced Far More Coronavirus Cases, and More Cases Per Capita Than Any State

New York, which now more than 250,000 cases, represents 31.8% of all coronavirus cases in the U.S., down from a peak of 48% on March 25. The top ten states account 76.3% of all cases and 84.3% of all deaths. New York by itself accounts for 44.5% of the deaths in the U.S.; New York and New Jersey combined, 54.8%.

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

Michigan has the highest death rate (7.7%), followed by New York (7.5%), Connecticut (6.7%), and Minnesota (5.8%).

From April 14 -20, New Jersey surpassed New York for the highest rate of new daily infections; the 385.7 rate in New York is significantly below its peak of 505.8 experienced April 4 – 10.

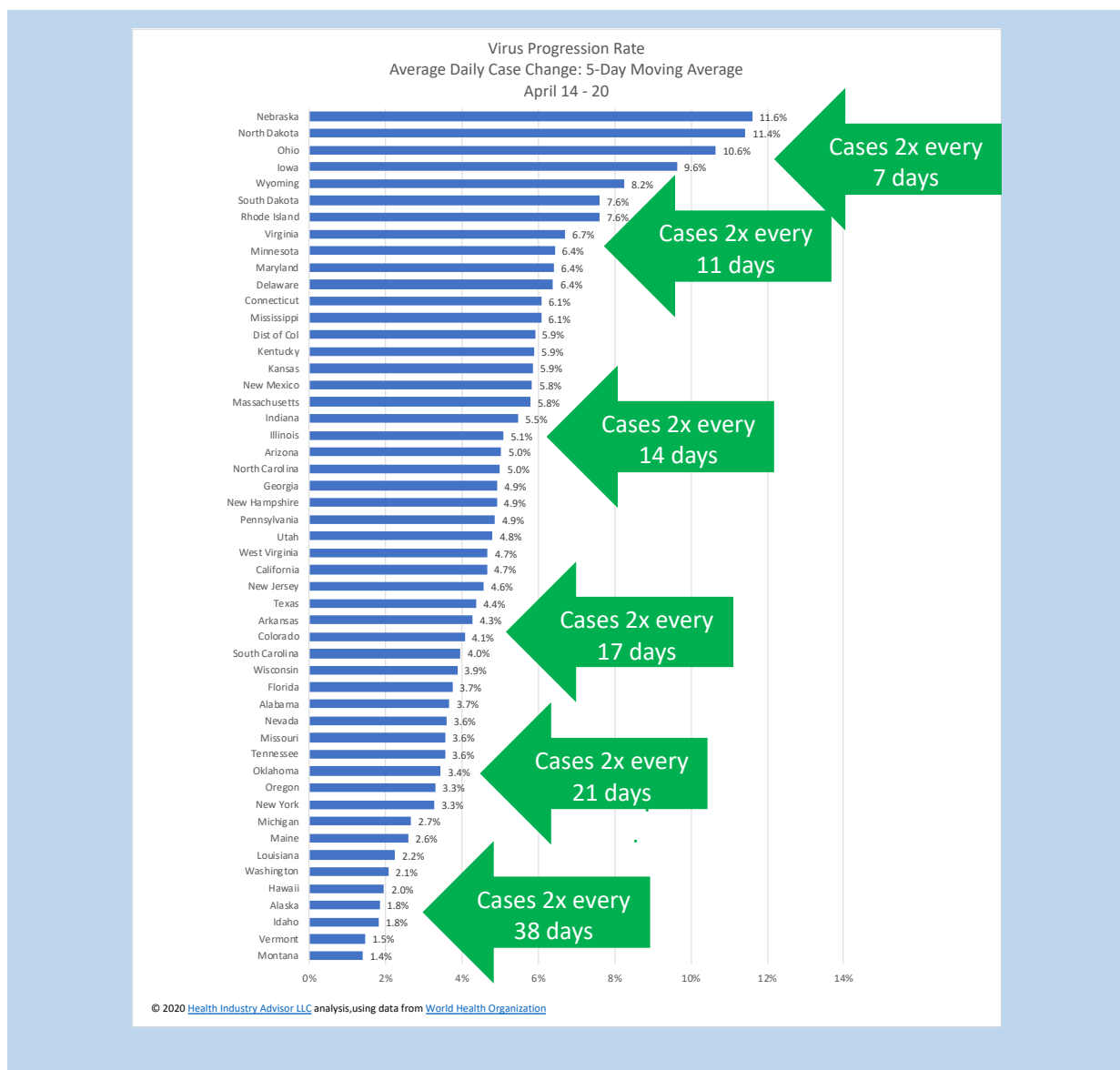


Daily Case Growth Rates By State

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

Nebraska, North Dakota and Ohio are each now experiencing daily case growth > 10%. Last week Ohio had a outbreak in a state prison with 1,828 cases, representing 73% of the prison population.

The rate is so low in Alaska, Hawaii, Idaho, Louisiana, Montana, Vermont and Washington that it would take more than a month now for cases to double; in Maine, Michigan, New York, Oklahoma and Oregon, it would take about 3 weeks. In 33 states in all it would take 2 weeks or more for cases to double.



New Infection Rates By State

New Infection Rates Seemed to Have Peaked in Most U.S States

The table below indicates the date that each state recorded its peak rate of new infections per 1 million in population (using a 7-day moving average, in order to minimize any weekend effect).

Date	States Where New Infections / 1M Peaked
March 29 – April 4	Hawaii, Nevada
March 30 – April 5	Colorado, Idaho
March 31 – April 6	Oregon
April 1 - 7	Florida, Louisiana, Michigan, New Jersey, Oklahoma, Wisconsin
April 2 – 8	Missouri, Washington
April 3 - 9	Arizona, Utah, Vermont
April 4 -10	Alaska, New York, Pennsylvania, South Carolina, West Virginia, U.S overall
April 5 - 11	Texas
April 6 - 12	Indiana
April 7 - 13	Alabama, Connecticut, Georgia, New Mexico
April 8 - 14	Arkansas, Kentucky
April 9 - 15	None
April 10 - 16	None
April 11 - 17	None
April 12 - 18	Delaware, Illinois, Massachusetts, North Carolina, South Dakota
April 13 - 19	Virginia
Yet To Peak	California, District of Columbia, Iowa, Kansas, Minnesota, Mississippi, Nebraska, New Hampshire, North Dakota, Ohio

State-By State Statistics and Rankings.

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

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

As of April 20

State	Total Cases	Rank	Cases per 1M Population	Rank	Deaths	Rank	Death Rate	Rank	5-day Moving Average Case Growth Rate	Rank	Tests per 1M Population	Rank	New Daily Cases Per 1M Population (5-Day M.A.)	Rank
Alabama	5,078	(23)	1,035.7	(26)	164	(24)	3.2%	(30)	3.7%	(36)	9,397	(33)	37.1	(29)
Alaska	321	(51)	438.8	(48)	9	(49)	2.8%	(36)	1.8%	(48)	13,709	(18)	8.6	(49)
Arizona	5,064	(24)	695.7	(38)	187	(22)	3.7%	(25)	5.0%	(21)	7,845	(44)	26.7	(38)
Arkansas	1,971	(38)	653.1	(44)	42	(40)	2.1%	(44)	4.3%	(31)	9,024	(36)	23.5	(41)
California	33,686	(5)	852.5	(33)	1,223	(9)	3.6%	(26)	4.7%	(28)	7,175	(48)	34.5	(30)
Colorado	10,106	(17)	1,754.9	(15)	449	(17)	4.4%	(15)	4.1%	(32)	8,582	(39)	60.1	(19)
Connecticut	19,815	(11)	5,557.8	(4)	1,331	(7)	6.7%	(3)	6.1%	(12)	17,536	(12)	257.8	(5)
Delaware	2,745	(33)	2,819.0	(9)	72	(36)	2.6%	(40)	6.4%	(11)	17,346	(13)	144.4	(7)
District Of Columbia	2,927	(32)	4,147.4	(7)	105	(32)	3.6%	(27)	5.9%	(14)	20,618	(7)	196.8	(6)
Florida	27,058	(8)	1,259.8	(20)	823	(10)	3.0%	(33)	3.7%	(35)	13,280	(20)	40.2	(25)
Georgia	19,399	(12)	1,827.1	(14)	775	(11)	4.0%	(20)	4.9%	(23)	8,189	(42)	77.7	(14)
Hawaii	584	(48)	412.5	(50)	10	(48)	1.7%	(48)	2.0%	(47)	17,195	(15)	8.1	(50)
Idaho	1,736	(40)	968.7	(29)	48	(38)	2.8%	(38)	1.8%	(49)	10,336	(30)	22.6	(42)
Illinois	31,508	(7)	2,486.5	(11)	1,349	(5)	4.3%	(16)	5.1%	(20)	11,571	(26)	106.9	(12)
Indiana	11,686	(16)	1,735.8	(16)	569	(14)	4.9%	(12)	5.5%	(19)	9,739	(31)	73.2	(16)
Iowa	3,159	(30)	1,001.2	(28)	79	(34)	2.5%	(42)	9.6%	(4)	8,243	(41)	65.6	(18)
Kansas	1,986	(36)	681.7	(41)	100	(33)	5.0%	(10)	5.9%	(16)	6,450	(51)	29.9	(34)
Kentucky	3,050	(31)	682.7	(40)	154	(27)	5.0%	(9)	5.9%	(15)	7,392	(47)	32.0	(32)
Louisiana	24,523	(9)	5,275.1	(5)	1,328	(8)	5.4%	(5)	2.2%	(45)	30,413	(3)	107.8	(10)
Maine	875	(45)	650.9	(45)	35	(42)	4.0%	(19)	2.6%	(44)	11,212	(27)	18.8	(46)
Maryland	13,684	(13)	2,263.4	(12)	582	(13)	4.3%	(17)	6.4%	(10)	11,893	(24)	112.2	(9)
Massachusetts	39,643	(3)	5,704.4	(3)	1,809	(4)	4.6%	(14)	5.8%	(18)	24,801	(4)	262.6	(4)
Michigan	32,000	(6)	3,204.2	(8)	2,468	(3)	7.7%	(1)	2.7%	(43)	11,877	(25)	91.0	(13)
Minnesota	2,470	(35)	438.0	(49)	143	(30)	5.8%	(4)	6.4%	(9)	8,476	(40)	20.8	(45)
Mississippi	4,512	(25)	1,516.1	(18)	169	(23)	3.7%	(24)	6.1%	(13)	17,209	(14)	75.4	(15)
Missouri	5,831	(21)	950.1	(30)	205	(21)	3.5%	(28)	3.6%	(38)	9,357	(34)	30.7	(33)
Montana	433	(49)	405.1	(51)	10	(48)	2.3%	(43)	1.4%	(51)	10,608	(29)	5.2	(51)
Nebraska	1,648	(42)	851.9	(34)	33	(43)	2.0%	(47)	11.6%	(1)	8,651	(38)	57.4	(20)
Nevada	3,830	(28)	1,243.4	(21)	158	(25)	4.1%	(18)	3.6%	(37)	13,524	(19)	39.8	(26)
New Hampshire	1,447	(43)	1,064.2	(23)	42	(40)	2.9%	(35)	4.9%	(24)	10,639	(28)	44.9	(23)
New Jersey	88,806	(2)	9,998.2	(2)	4,377	(2)	4.9%	(11)	4.6%	(29)	20,230	(8)	389.6	(1)
New Mexico	1,971	(38)	940.0	(31)	58	(37)	2.9%	(34)	5.8%	(17)	18,521	(11)	42.6	(24)
New York	252,094	(1)	12,958.8	(1)	18,929	(1)	7.5%	(2)	3.3%	(42)	32,309	(2)	385.7	(2)
North Carolina	6,867	(20)	654.7	(43)	210	(20)	3.1%	(31)	5.0%	(22)	7,827	(45)	27.0	(37)
North Dakota	627	(47)	822.8	(35)	13	(46)	2.1%	(46)	11.4%	(2)	19,605	(9)	55.5	(21)
Ohio	12,919	(14)	1,105.2	(22)	509	(15)	3.9%	(22)	10.6%	(3)	7,803	(46)	72.6	(17)
Oklahoma	2,680	(34)	677.3	(42)	143	(30)	5.3%	(7)	3.4%	(40)	9,070	(35)	22.1	(43)
Oregon	1,956	(39)	463.8	(47)	75	(35)	3.8%	(23)	3.3%	(41)	9,564	(32)	12.6	(48)
Pennsylvania	33,914	(4)	2,649.1	(10)	1,348	(6)	4.0%	(21)	4.9%	(25)	12,739	(21)	107.4	(11)
Rhode Island	5,090	(22)	4,804.8	(6)	155	(26)	3.0%	(32)	7.6%	(7)	35,093	(1)	285.1	(3)
South Carolina	4,439	(27)	862.2	(32)	124	(31)	2.8%	(37)	4.0%	(33)	8,168	(43)	27.7	(35)
South Dakota	1,685	(41)	1,904.7	(13)	7	(50)	0.4%	(51)	7.6%	(6)	13,956	(17)	131.9	(8)
Tennessee	7,238	(19)	1,059.2	(24)	152	(28)	2.1%	(45)	3.6%	(39)	14,599	(16)	34.0	(31)
Texas	19,822	(10)	683.6	(39)	505	(16)	2.5%	(41)	4.4%	(30)	6,828	(49)	27.3	(36)
Utah	3,213	(29)	1,002.2	(27)	28	(44)	0.9%	(49)	4.8%	(26)	22,431	(5)	37.9	(27)
Vermont	816	(46)	1,307.7	(19)	38	(41)	4.7%	(13)	1.5%	(50)	20,770	(6)	15.6	(47)
Virginia	8,990	(18)	1,053.2	(25)	300	(18)	3.3%	(29)	6.7%	(8)	6,743	(50)	54.3	(22)
Washington	12,085	(15)	1,587.0	(17)	652	(12)	5.4%	(6)	2.1%	(46)	19,332	(10)	26.2	(40)
West Virginia	902	(44)	504.7	(46)	24	(45)	2.7%	(39)	4.7%	(27)	12,113	(23)	21.5	(44)
Wisconsin	4,499	(26)	772.7	(36)	230	(19)	5.1%	(8)	3.9%	(34)	8,844	(37)	26.3	(39)
Wyoming	428	(50)	739.5	(37)	2	(51)	0.5%	(50)	8.2%	(5)	12,694	(22)	37.8	(28)
United States	792,759		2,414.7		42,514		5.4%		4.2%		12,164		87.5	

Information throughout the Dashboard is provided as a courtesy, based on data from the above-named sources. HIA has no responsibility for the accuracy and updating of any data. Sources: worldometers.info; covidtracking.com, <https://covid19.healthdata.org/united-states-of-america>, and nyc.gov. Graphics depict data as of the date in the header.

Opening Up America Again

The President Released His Guidelines For Getting the Country Moving

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.

We are producing a one-page summary of key measures for selected states per day. We began with those states with the most Total Cases: in order – New York, New Jersey, Massachusetts, Pennsylvania and Michigan on Sunday; California, Illinois, Florida, Louisiana and Texas, yesterday.

Today, we add the next twenty, in order of Total Cases - Georgia, Connecticut, Maryland, Washington, Indiana, Ohio, Colorado, Virginia, Tennessee and North Carolina.

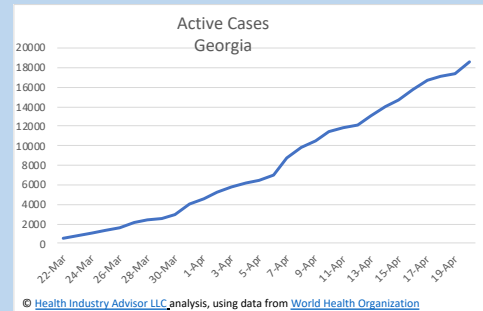
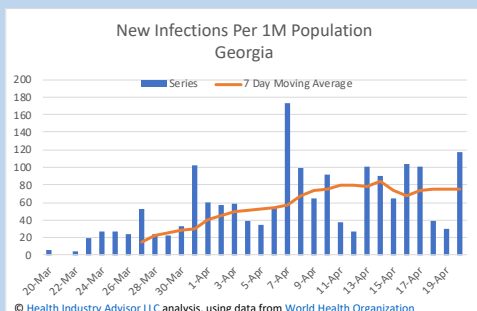
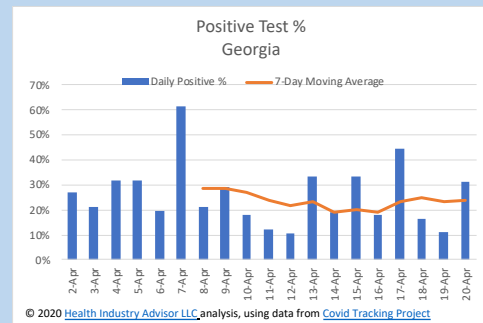
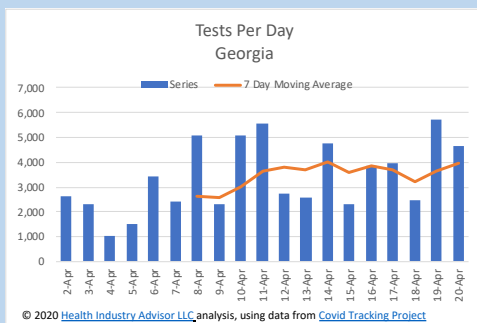
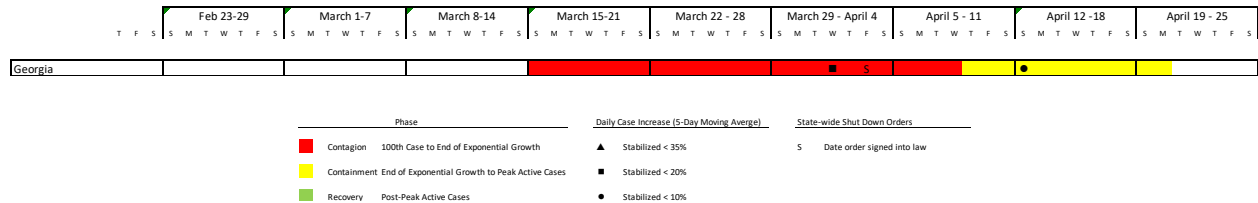
On these pages, we show:

- Our Virus Progression chart for the state, indicating 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)
- 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](https://www.cdc.gov), indicating the trajectory of these illness per the criteria above
- Projected Hospital Resource Needs from [Covid19.Health data.org](https://covid19.healthdata.org), indicating how these needs are trending

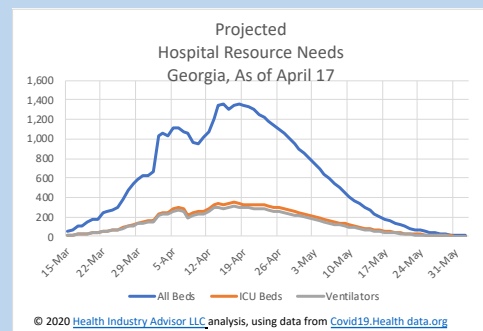
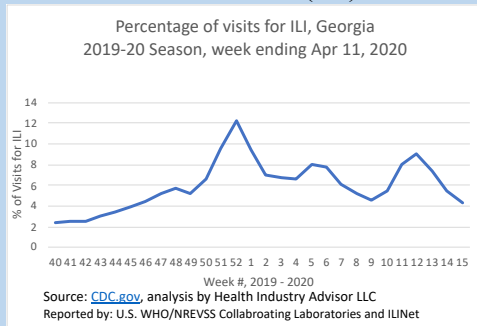
Note: these measures are not necessarily those that will be used by the states, however, they could serve as useful proxies. **Still, no one should rely on any of the following for a determination of what actions each state will take, and when.**

Georgia

Timeline

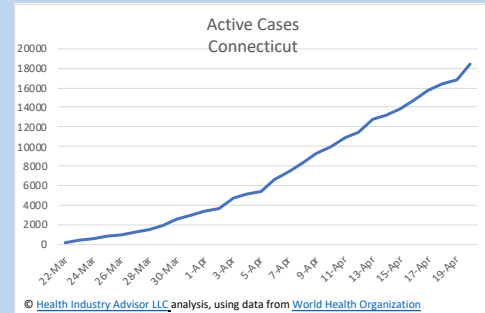
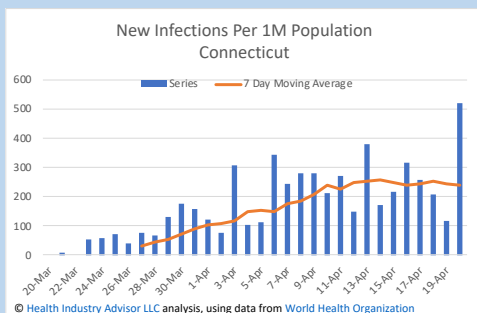
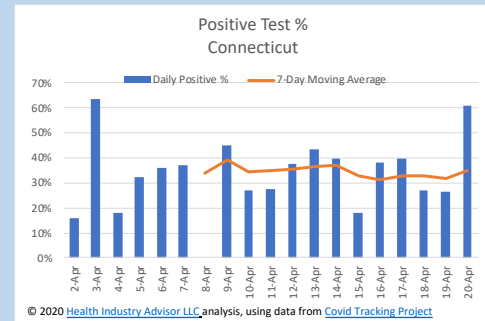
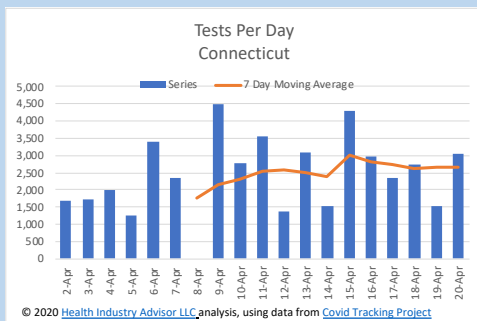
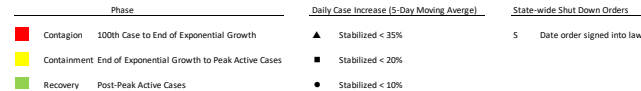
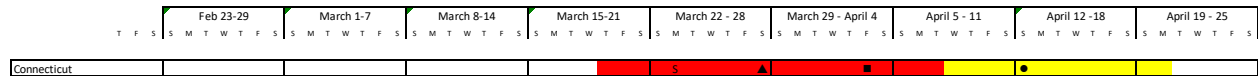


Influenza Like Illness (ILI) Trend

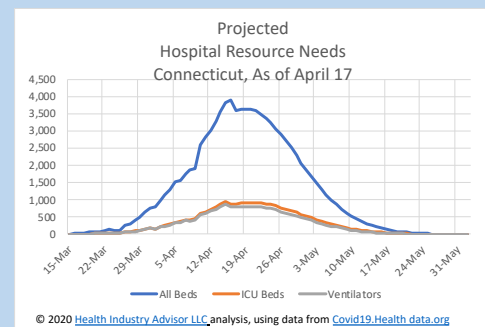
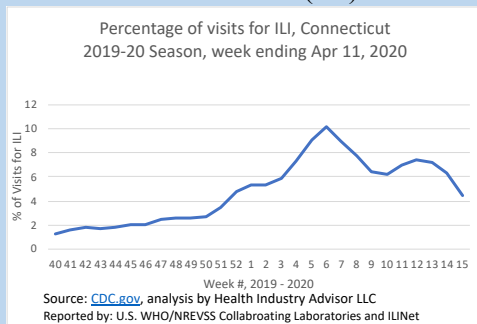


Connecticut

Timeline



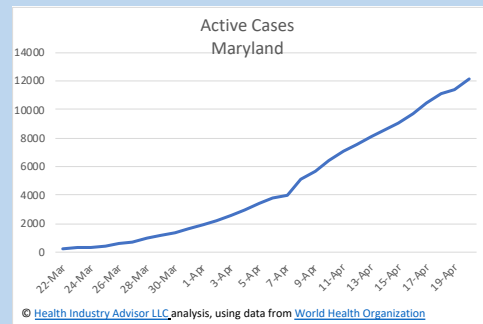
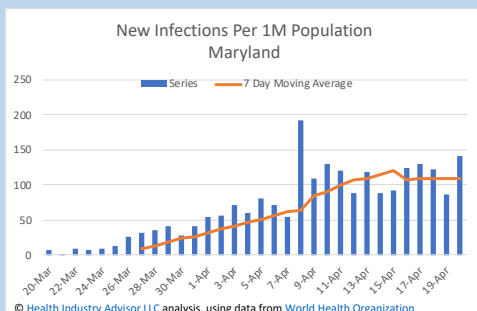
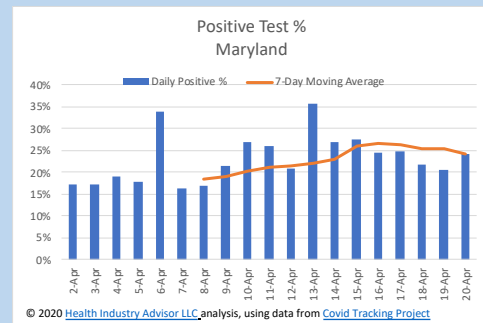
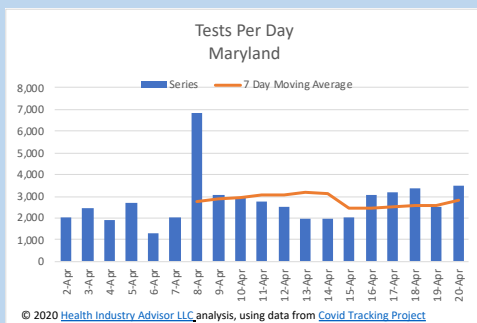
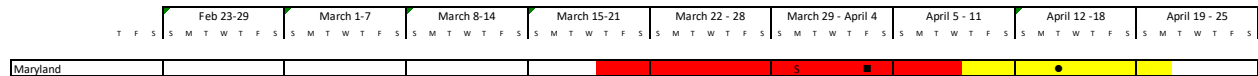
Influenza Like Illness (ILI) Trend



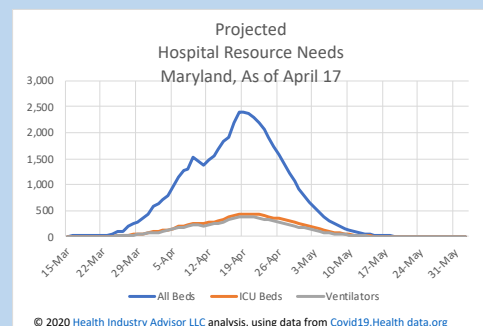
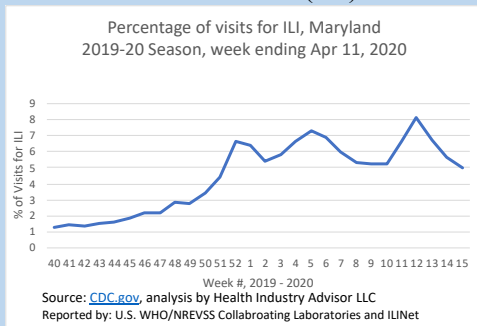
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Maryland

Timeline

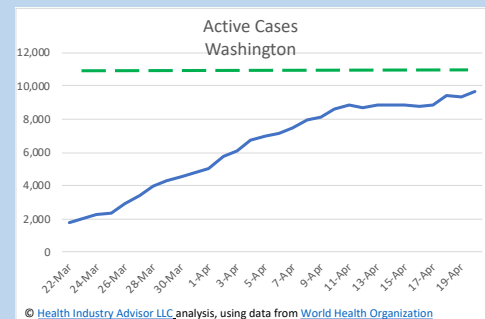
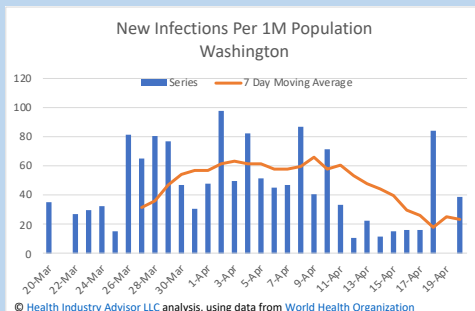
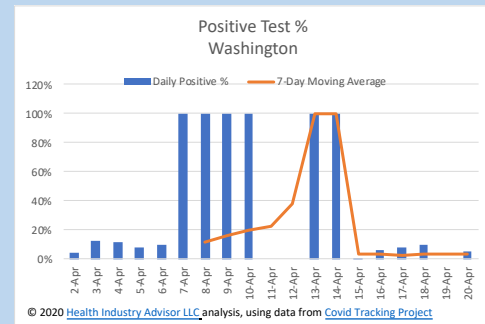
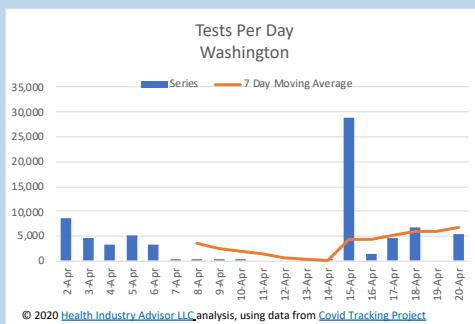
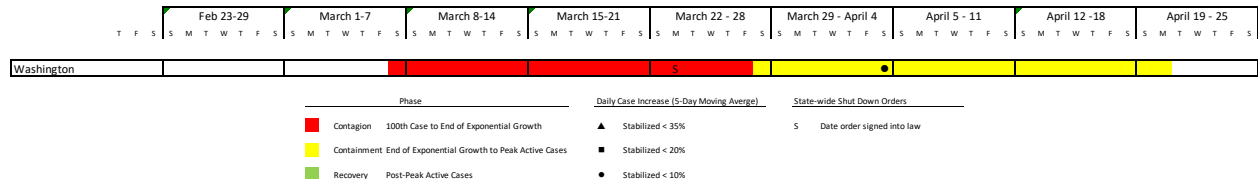


Influenza Like Illness (ILI) Trend

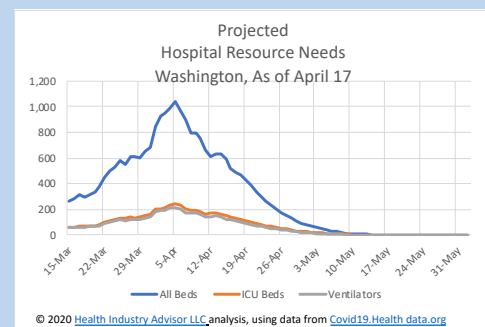
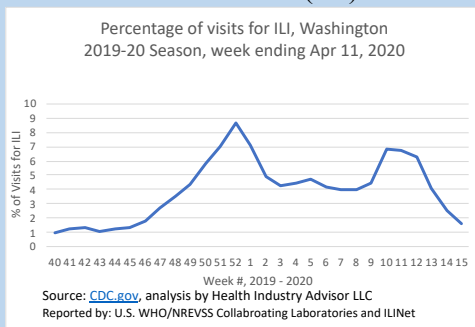


Washington

Timeline

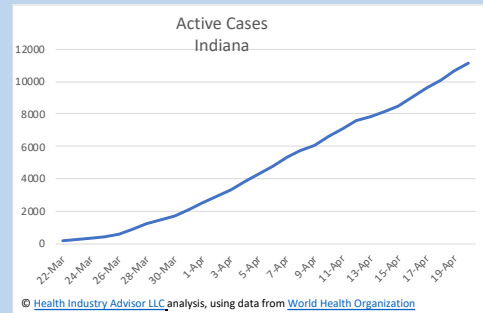
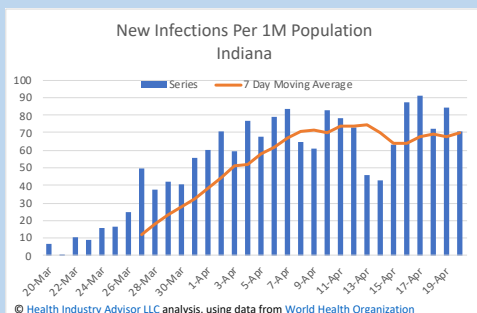
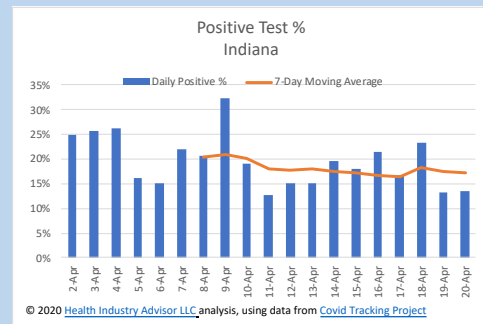
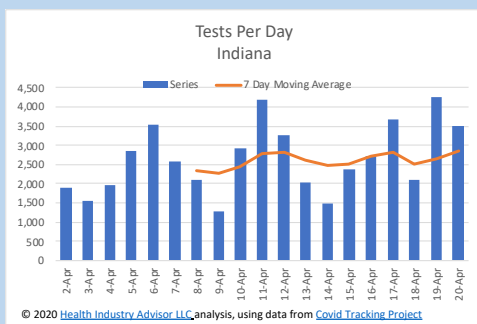
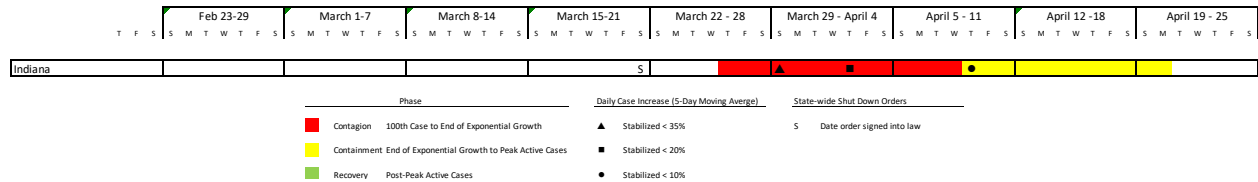


Influenza Like Illness (ILI) Trend

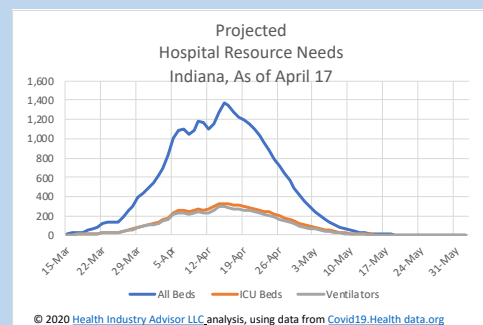
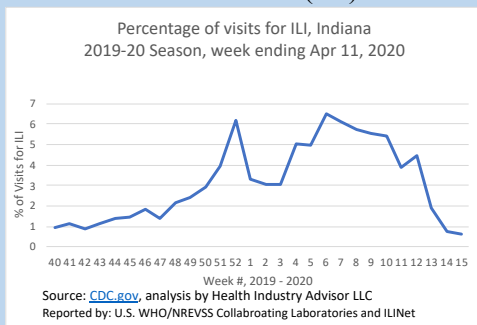


Indiana

Timeline



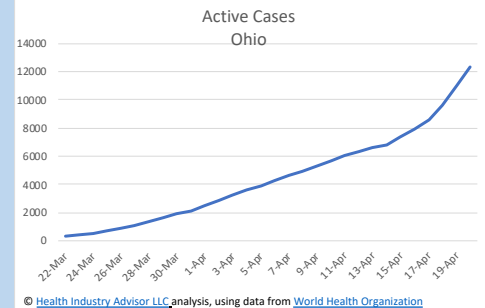
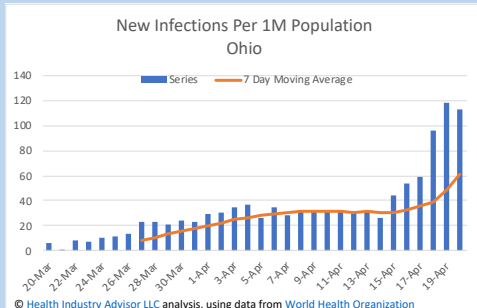
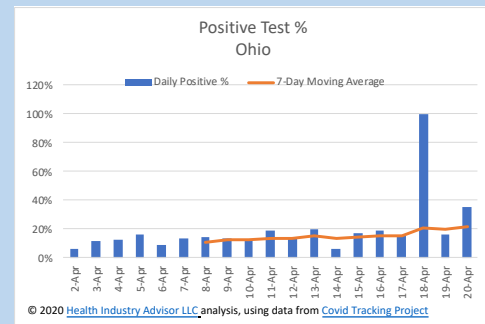
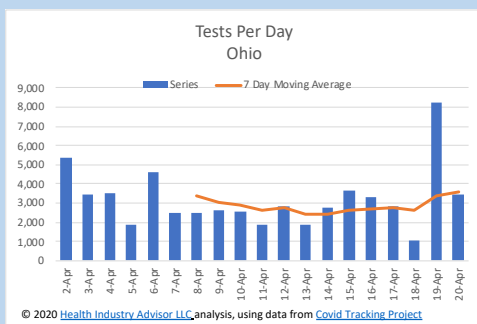
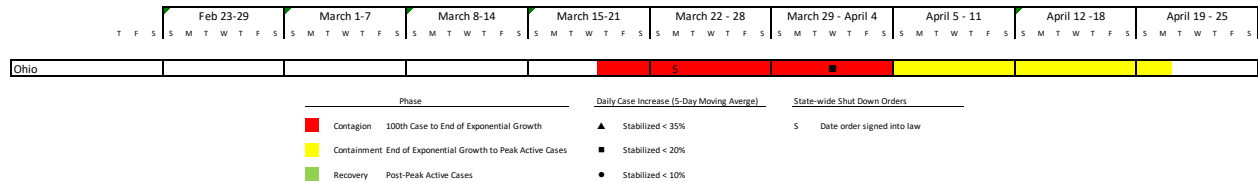
Influenza Like Illness (ILI) Trend



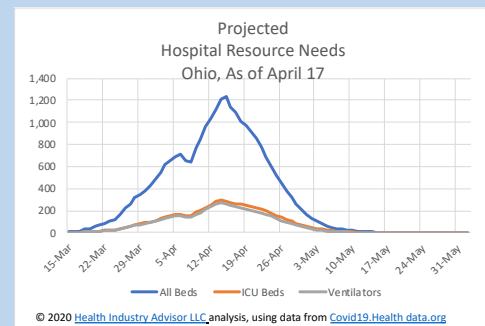
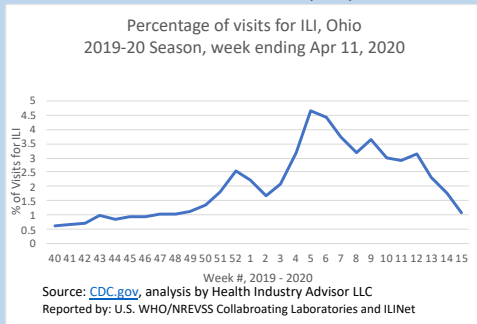
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Ohio

Timeline

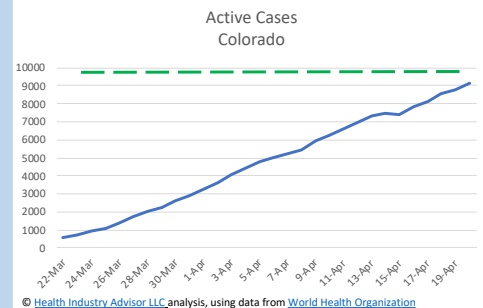
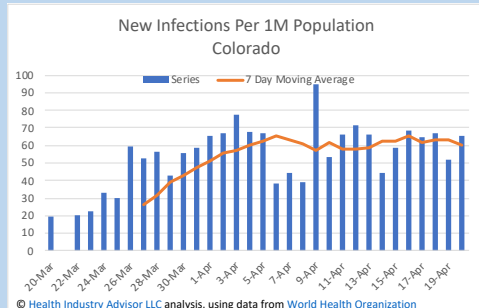
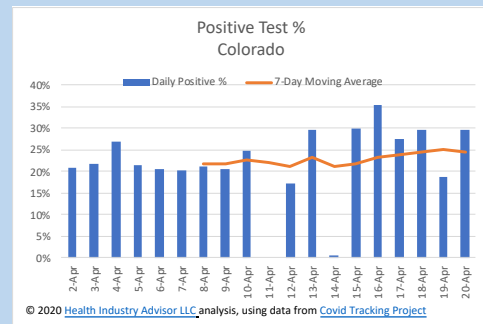
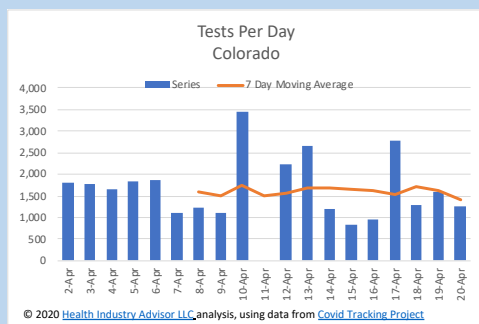
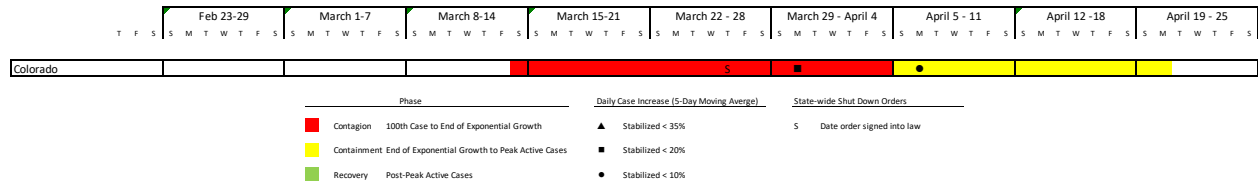


Influenza Like Illness (ILI) Trend

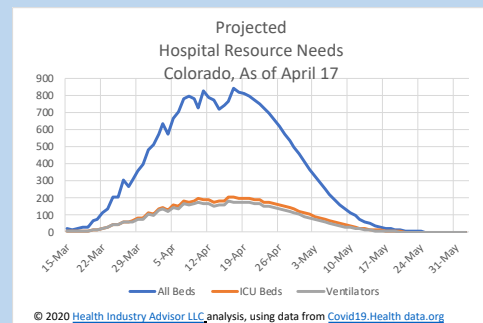
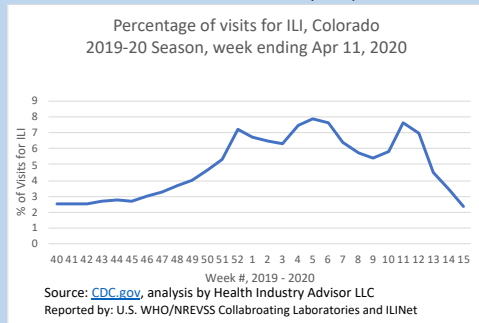


Colorado

Timeline

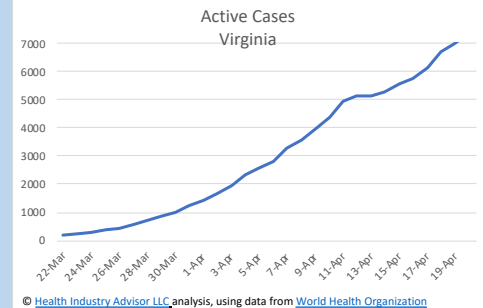
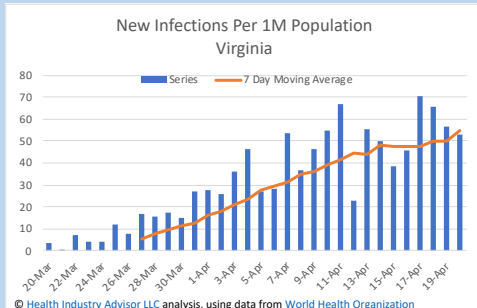
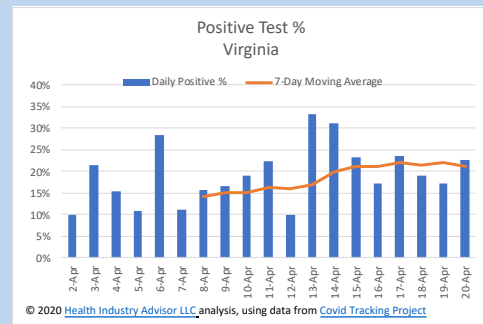
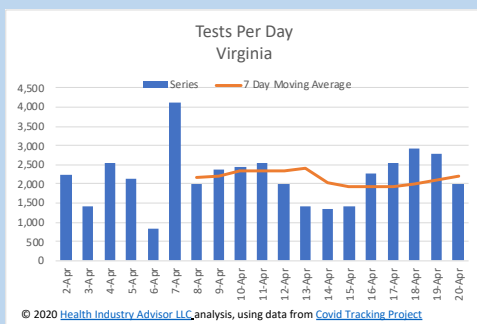
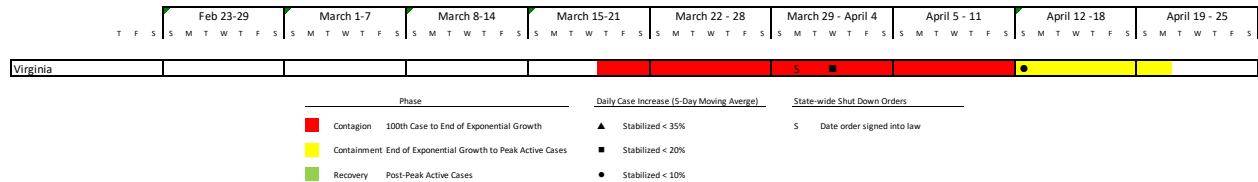


Influenza Like Illness (ILI) Trend

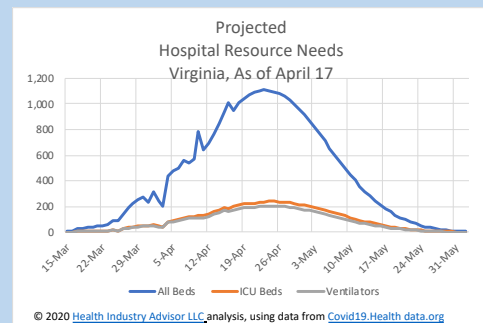
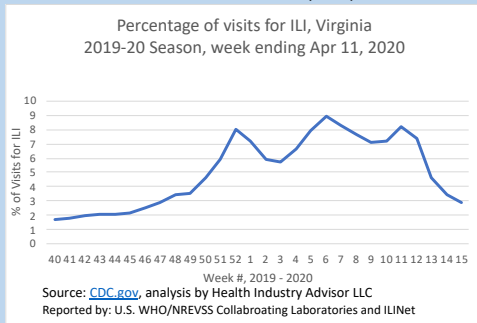


Virginia

Timeline

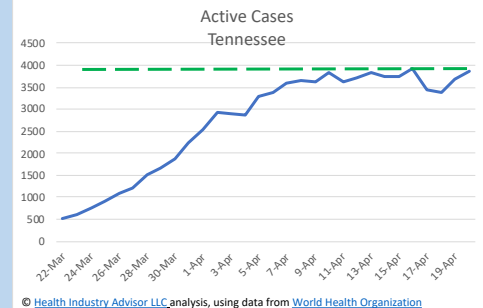
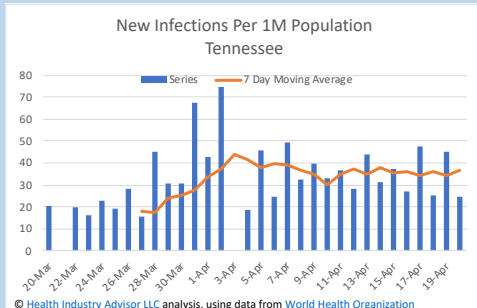
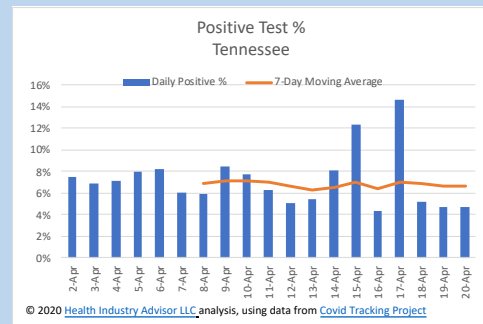
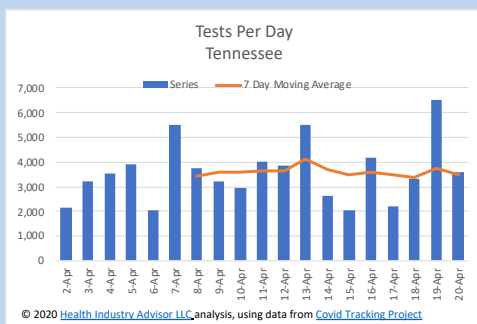
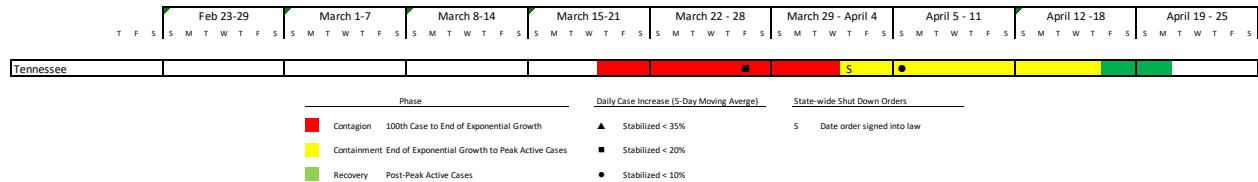


Influenza Like Illness (ILI) Trend

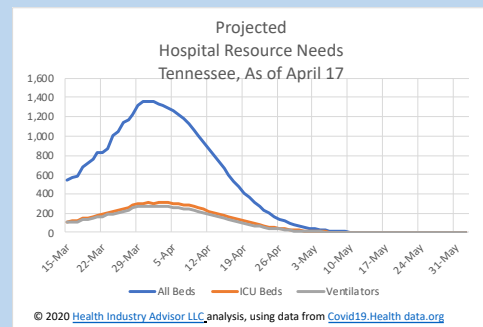
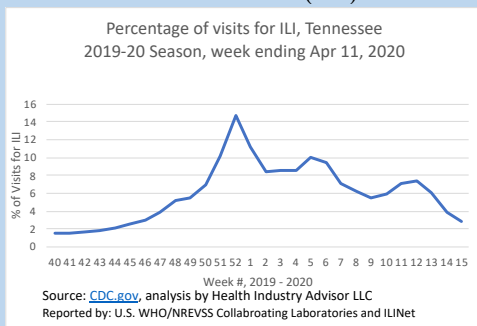


Tennessee

Timeline

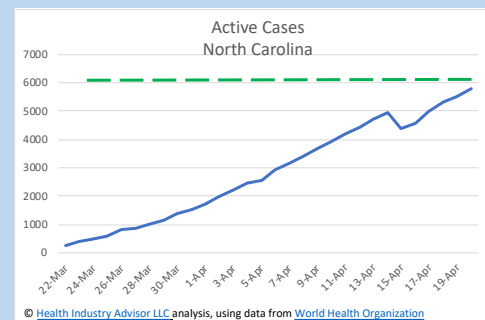
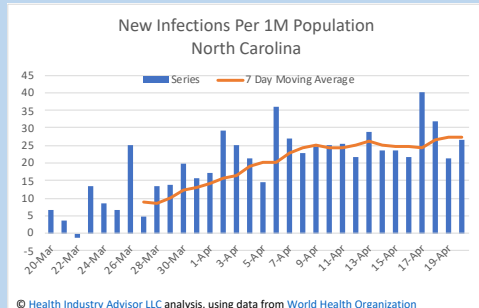
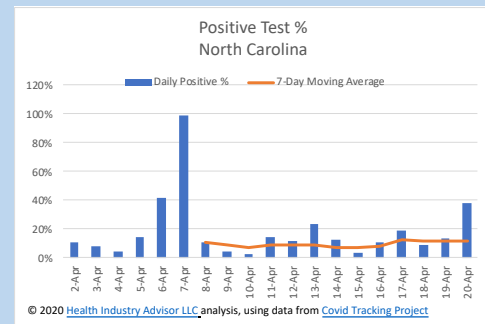
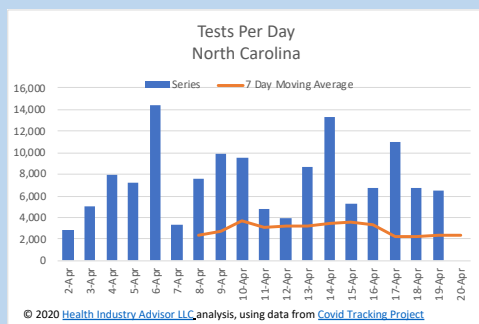
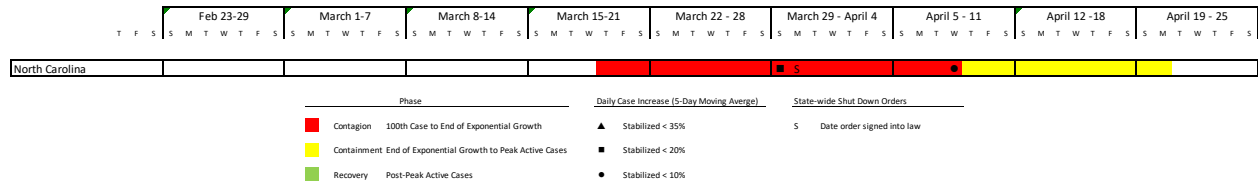


Influenza Like Illness (ILI) Trend



North Carolina

Timeline



Influenza Like Illness (ILI) Trend

