

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 5.2% (Cumulative)
Positive Test Rate	Decline	Down slightly to 19.4% (from 19.5%)
No. of Cases	Plateau	Up 4.6%, rate continues to slow
% of Deaths Per Case	Decline	Up to 4.2%
No. of Deaths / 1M Pop.	Plateau	Up to 78.7; however, rate no longer exponential
Recoveries : Deaths	Increase (>1:1)	Down to 1.49

We are tracking the twenty countries with the most confirmed coronavirus cases (as of March 12 – Ireland and India have recently moved ahead of South Korea and Sweden); these represent 88.4% of all cases in the world. Additionally, we are tracking all fifty U.S. states, the District of Columbia and New York City.

Highlights from Tuesday include:

- Deaths spiked in the U.S. on Tuesday, especially in hard-hit New Jersey, Louisiana, Connecticut, Massachusetts and Pennsylvania, (and to a lesser degree, New York and Michigan). With 2,407 deaths recorded yesterday, it was the worst of any day since the virus began spreading here.

According to a [World Health Organization study](#), deaths typically occur in a range of 2-8 weeks post-onset of the infection. Thus, while death rates are expected to decline, the number of deaths will likely continue to rise for some time.

- Recoveries, which were so strong on Monday, fell back on Tuesday (1,872 new recoveries on Tuesday v. 4,314 on Monday). Still, we should expect to see recoveries pick up soon, as those whom became infected as cases began to accelerate starting in mid-March, begin to recover.
- All was not grim on Tuesday, however, as Alaska, Oklahoma, Tennessee, Utah, Vermont and Washington now appear to have passed beyond a peak in active cases – joining Hawaii, Iowa, Kansas, Montana and Wyoming. These may be at or near peak in Alaska, Idaho, Louisiana, Maine, Michigan, Minnesota, Nevada, New Mexico, Oklahoma, Tennessee, Utah, Virginia, West Virginia and Wisconsin. For those keeping score – that's ½ of the states at or near the recovery rate of the virus.
- It now appears that Alabama, Delaware and Kentucky are no longer experiencing exponential case growth, beginning as of late last week (it requires several days evidence to confirm a change). Only eight states - Maryland, Massachusetts, Mississippi, Nebraska, Rhode Island, South Carolina, South Dakota and Virginia - have yet to demonstrably stop the exponential growth in cases. Of these, South Dakota and Rhode Island are of greatest concern, as they continue to post double-digit daily increases in confirmed cases.
- Internationally, there was continued progress in most of the countries hardest-hit by the virus. Of concern, however, confirmed cases increased significantly on Tuesday in Russia, India and Ireland and Peru.

Virus Progression: Hardest Hit Countries

Unchanged From Monday: Hardest-Hit Countries Continue Progress Toward Containment and Recovery

Austria, China (not pictured), Iran, Israel, South Korea and Switzerland are already in Recovery (past peak cases); only Russia, Turkey and the United Kingdom are 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.



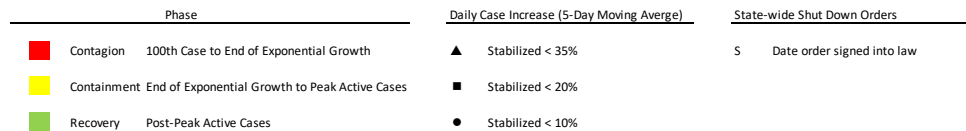
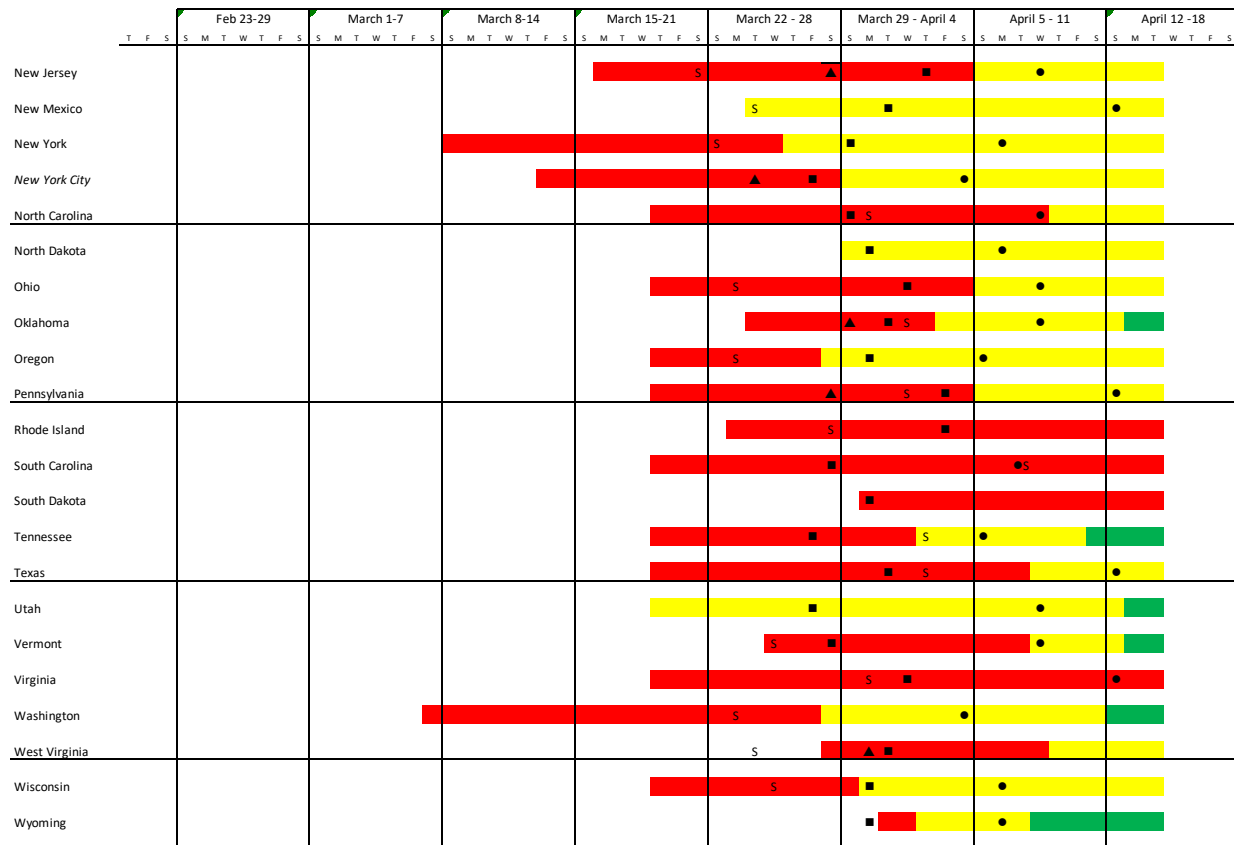
Virus Progression: US States, District of Columbia and New York City

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

A few notable changes from Monday: several states seemed to move past peak active cases, including: Alaska, Oklahoma, Tennessee, Utah, Vermont and Washington; Nevada’s actual cases increased over what was previously seen as a peak. We now believe that 11 states are past peak and 14 others are testing a peak level.

It now appears that Alabama, Delaware and Kentucky are no longer experiencing exponential case growth, beginning as of late last week (it requires several days evidence to confirm a change). Only eight states have yet to demonstrably stop the exponential growth in cases.



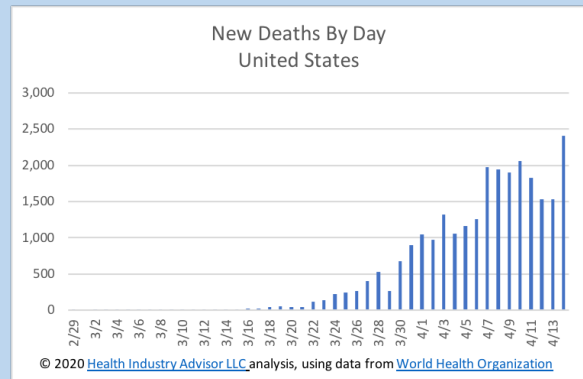
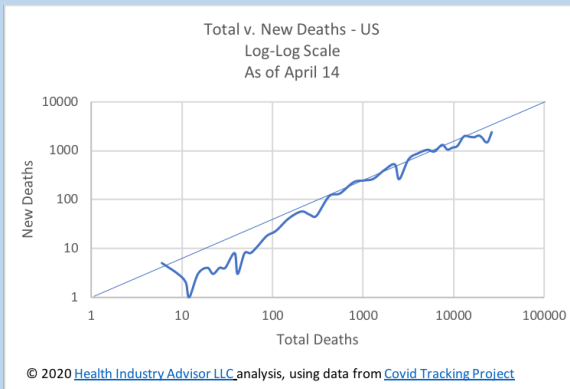
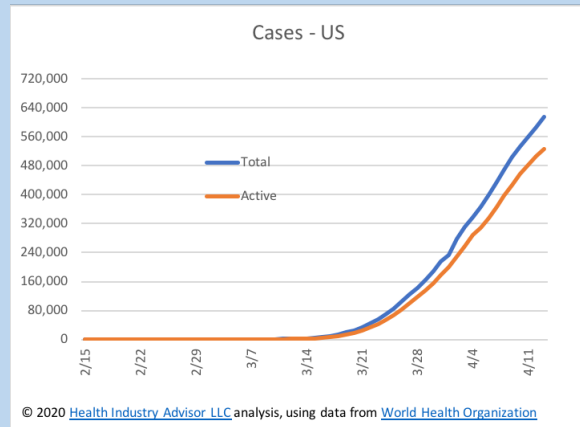
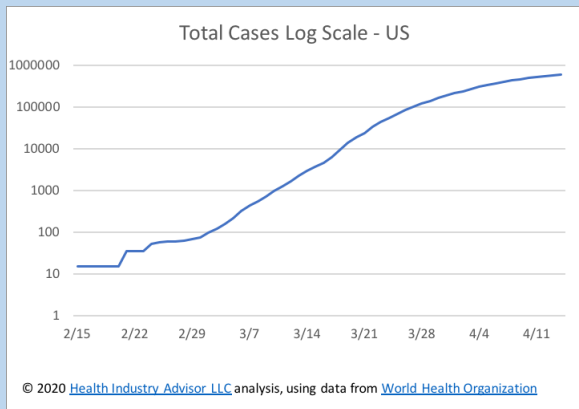


Cases and Death Rates in the U.S.

Case Growth has Begun to Plateau in the U.S., Deaths Had Appeared to Have Peaked, But Spiked on Tuesday

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.

Deaths have ceased their exponential growth in the past few days, and new daily deaths had appear edto be declining, until spiking on Tuesday. The 2,407 deaths yesterday were the highest of any day.

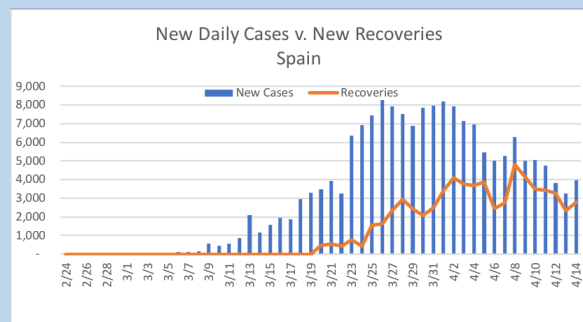
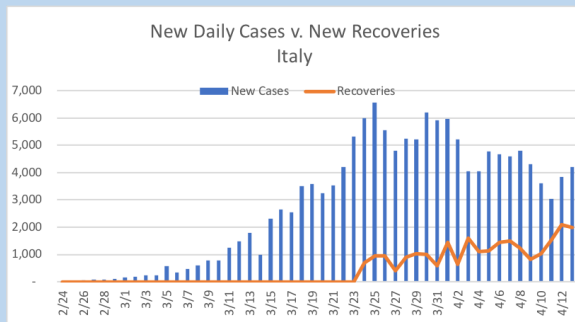
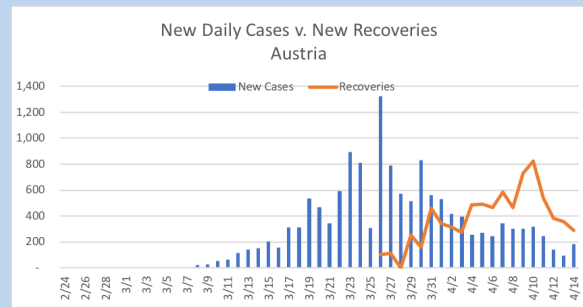
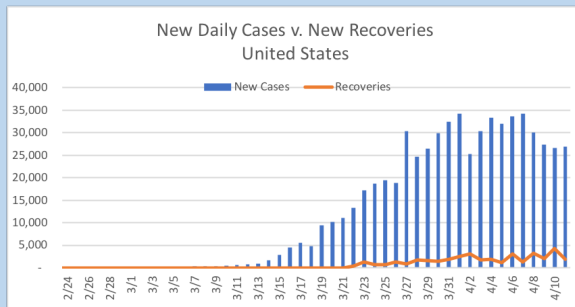


Recovery Rates.

Recovery Rates From the Coronavirus Remain Low, Should Start to Accelerate in the U.S.

According to a [World Health Organization report](#), recoveries from the coronavirus should occur in about 2 weeks for mild cases, 3-6 weeks for severe or critical cases. Given that we would expect to see a 2-4 week lag between the pattern for new cases and that for new recoveries. This would suggest that the U.S. should soon see an acceleration in recoveries, although it hasn't become fully apparent yet..

Actual patterns for the United States, Austria, Italy and Spain are shown below.

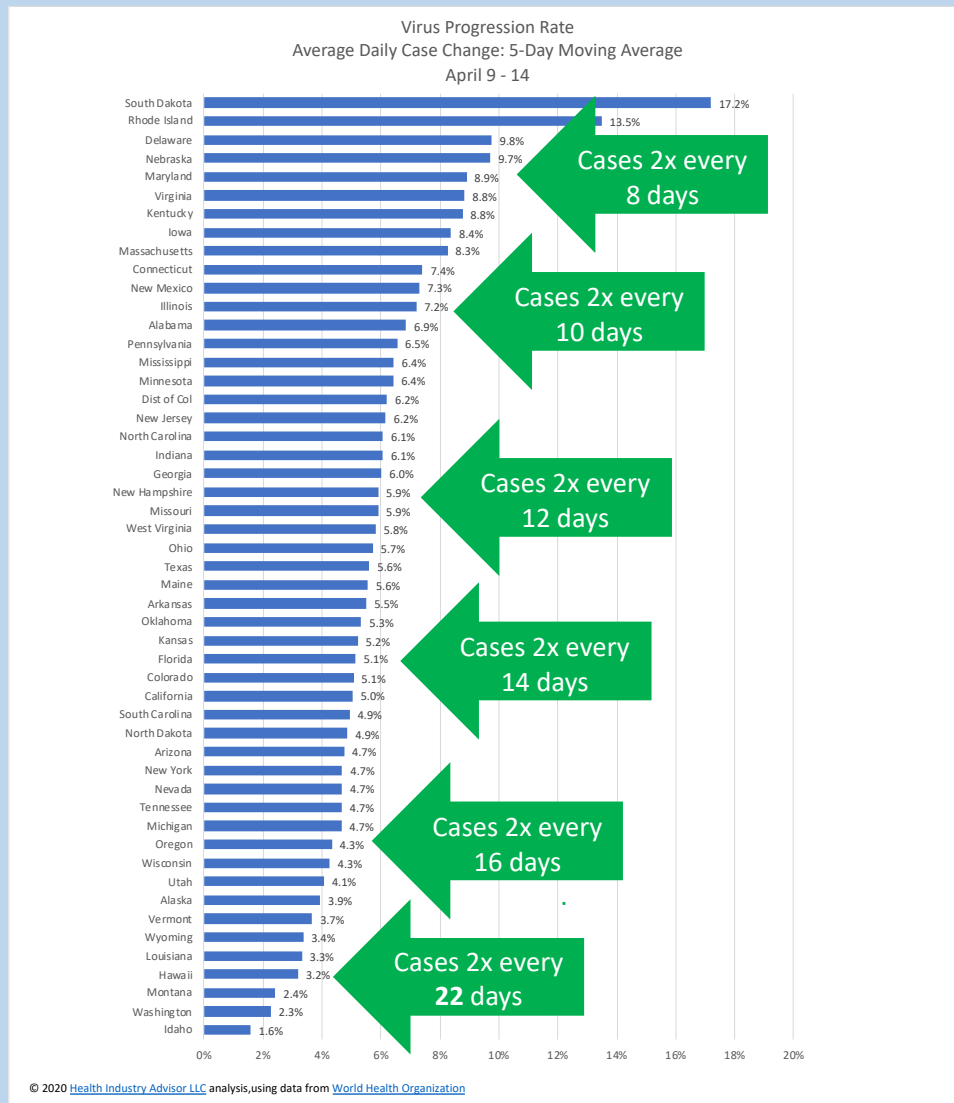


Daily Case Growth Rates By State

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

Only South Dakota and Rhode Island continue to show daily case increases (5-day moving average) of > 10%. Nineteen states have a rate ≤ 5%. At 5%, it takes more than two weeks for cases to double.

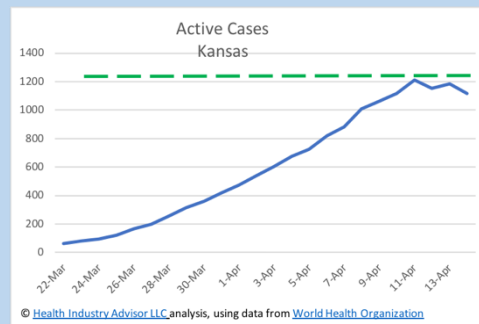
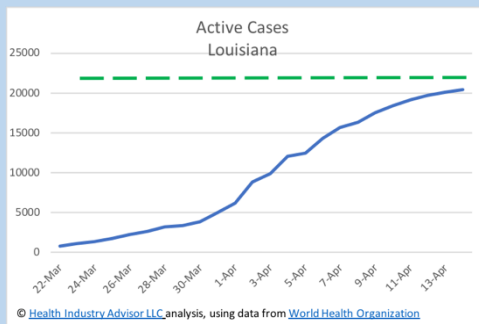
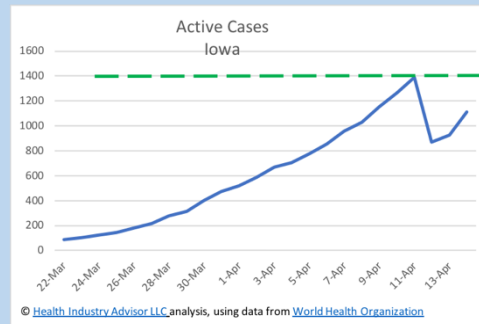
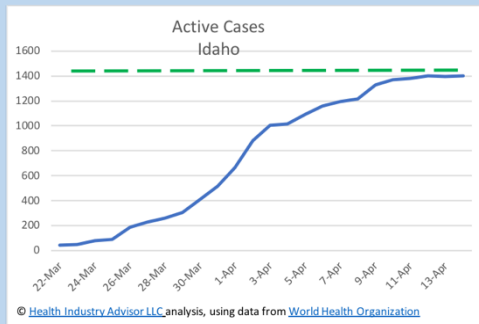
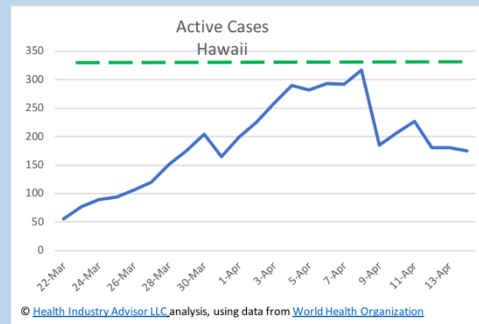
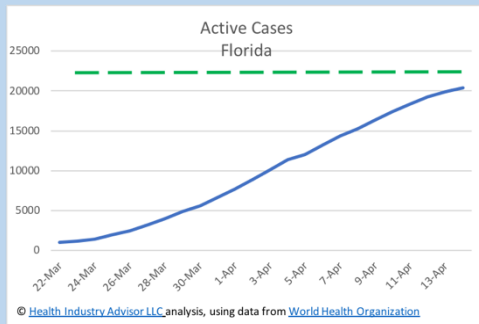
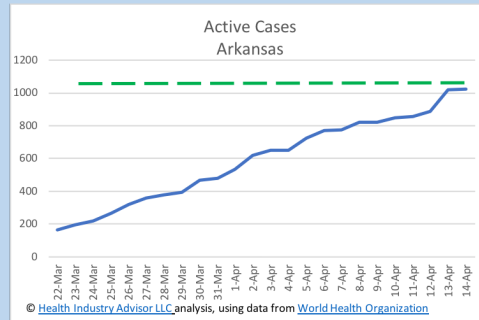
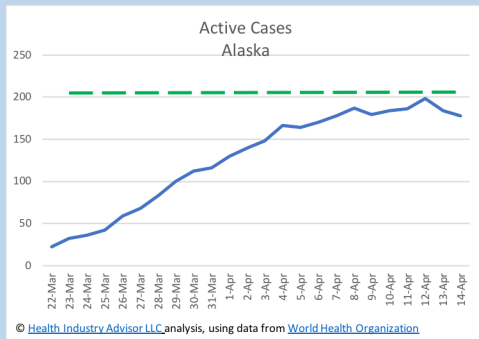
The rate for the U.S. overall is down to 6.2%.

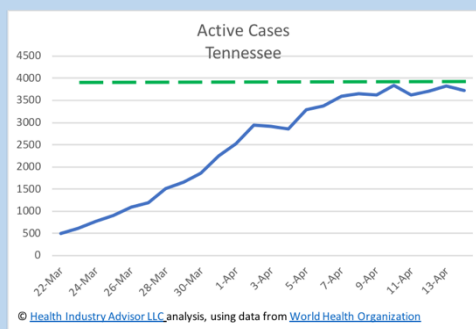
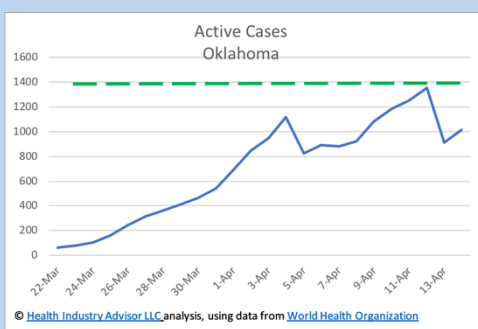
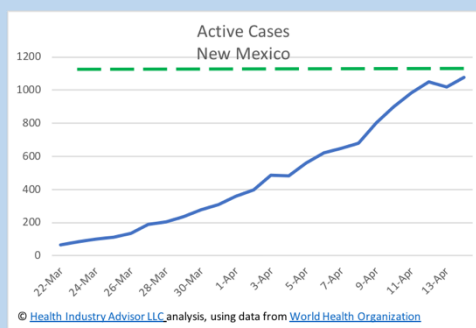
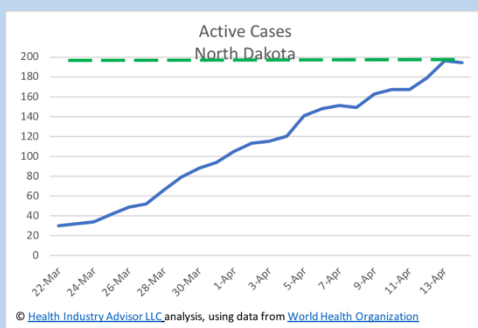
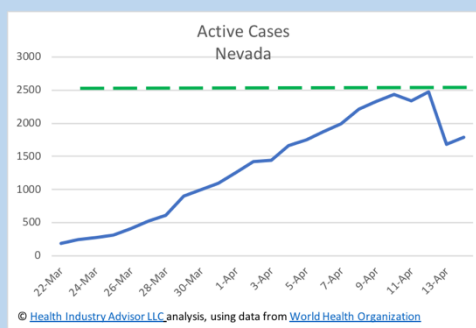
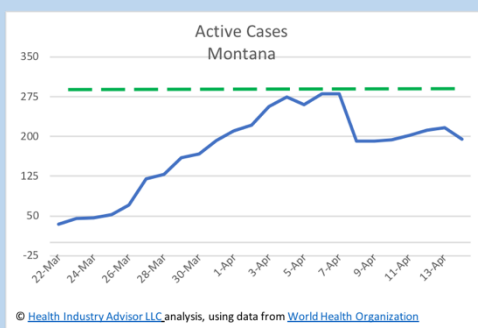
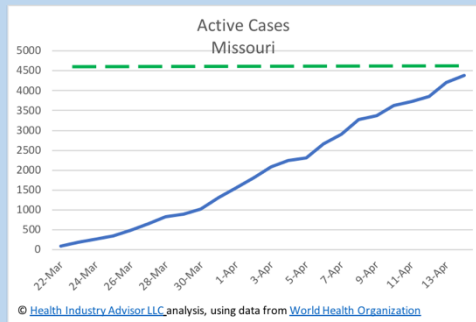
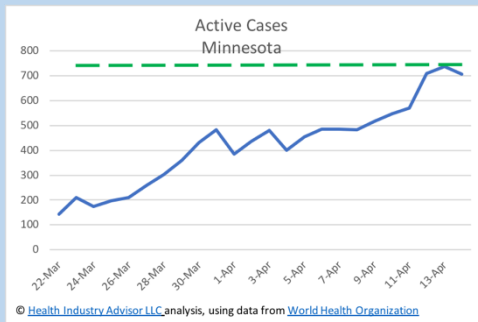


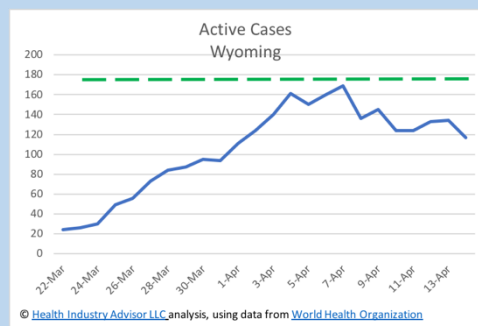
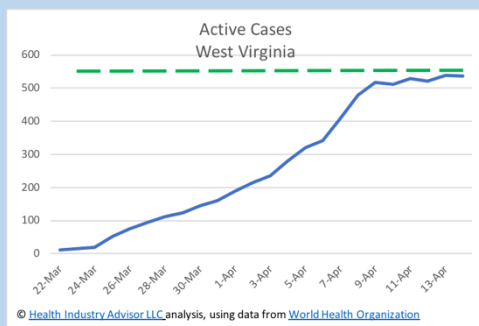
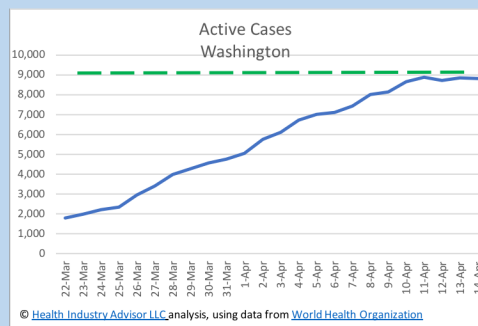
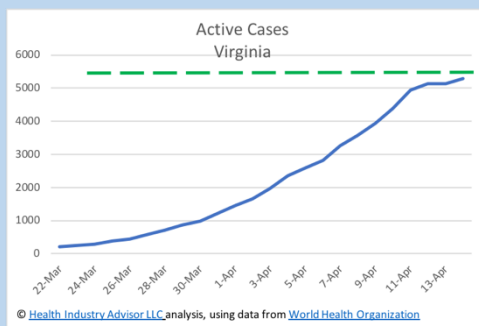
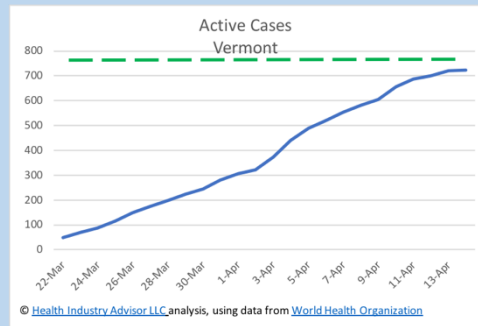
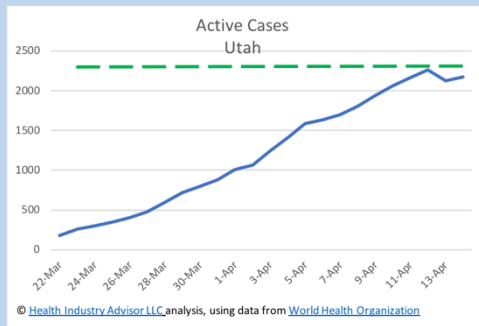
Active Coronavirus Cases in the U.S.

Active Cases are Beginning to Peak in Many States

Active cases seemed to have peaked late last week in Alaska, Oklahoma, Tennessee, Utah, Vermont and Washington, joining Hawaii, Iowa, Kansas, Montana and Wyoming. They may be at or near peak in Alaska, Idaho, Louisiana, Maine, Michigan, Minnesota, New Mexico, Oklahoma, Tennessee, Utah, Virginia, West Virginia and Wisconsin. (Nevada's actual cases increased over what was previously seen as a peak.) We now believe that 11 states are past peak and 14 others are testing a peak level.







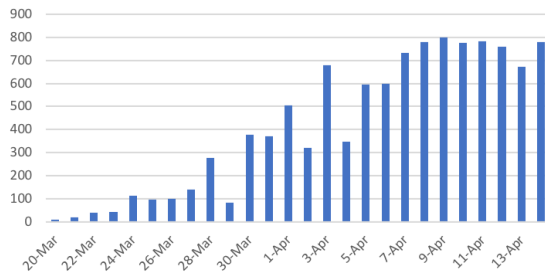
Deaths Associated With Coronavirus in the Hardest-Hit States

Death Rates, Which Were Declining in Each of the Ten Hardest-Hit States, Had Several Spikes on Tuesday

Ten states account for 80.5% of these deaths in the U.S. Florida edged past Washington for the dubious honor of being tenth on this list. Note that several states saw a spike in new deaths on Tuesday, including New Jersey, Louisiana, Connecticut, Massachusetts and Pennsylvania. Similar spikes, albeit more moderate were posted in New York and Michigan.

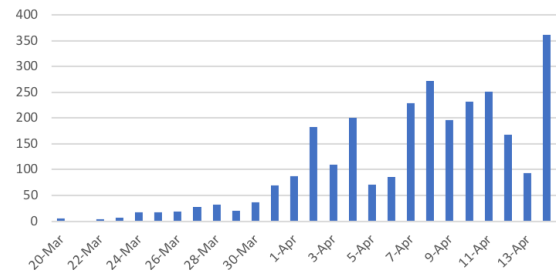
The following graphs depict the new cases per day for these ten states, displayed in descending order of number of deaths.

New Deaths New York



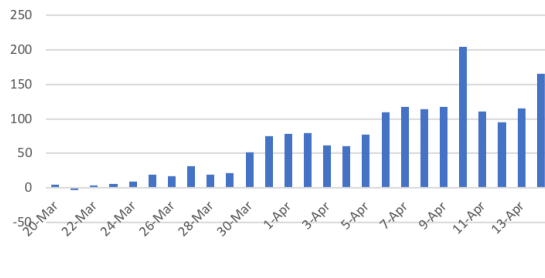
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New Deaths New Jersey



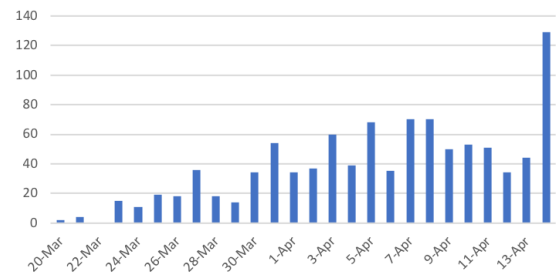
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New Deaths Michigan



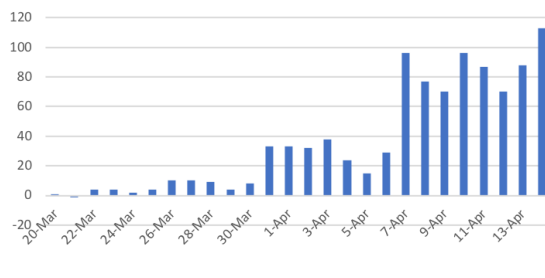
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New Deaths Louisiana



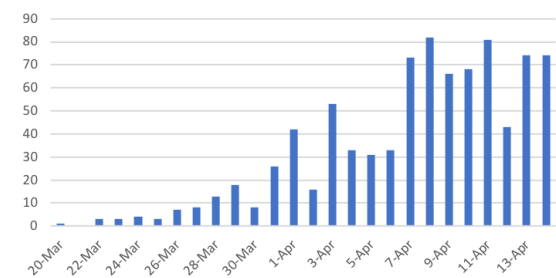
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New Deaths Massachusetts

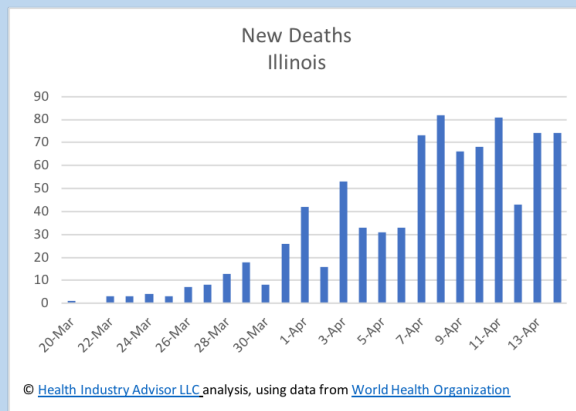
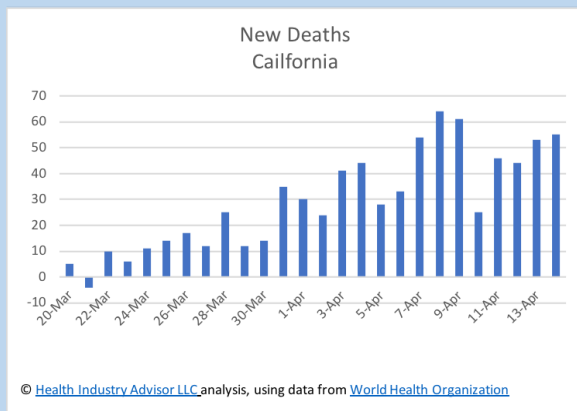
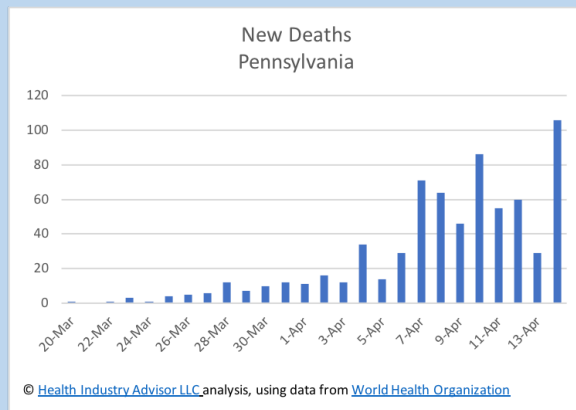
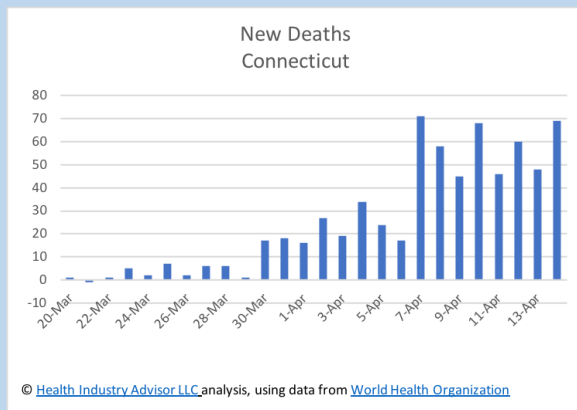


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New Deaths Illinois



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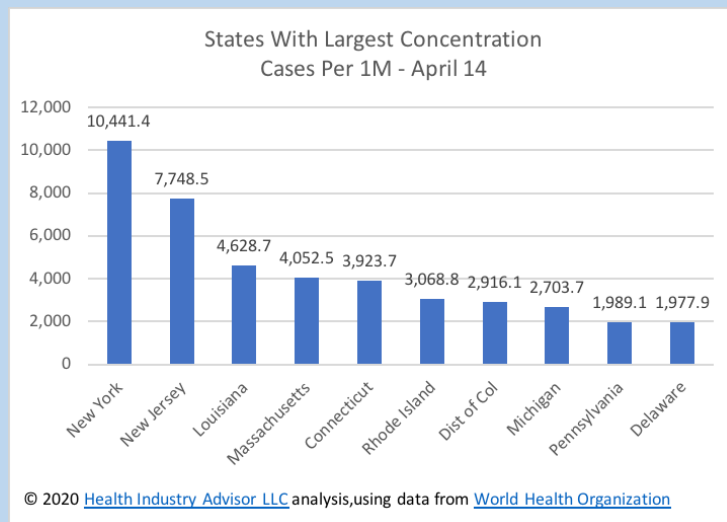
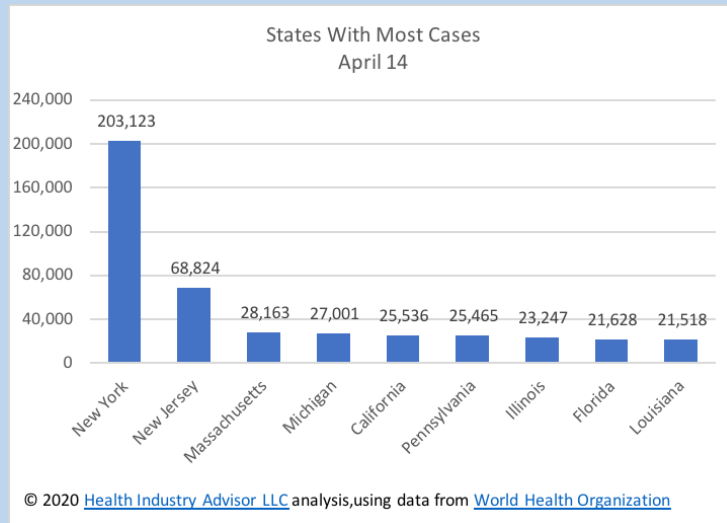


Hardest-Hit States

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

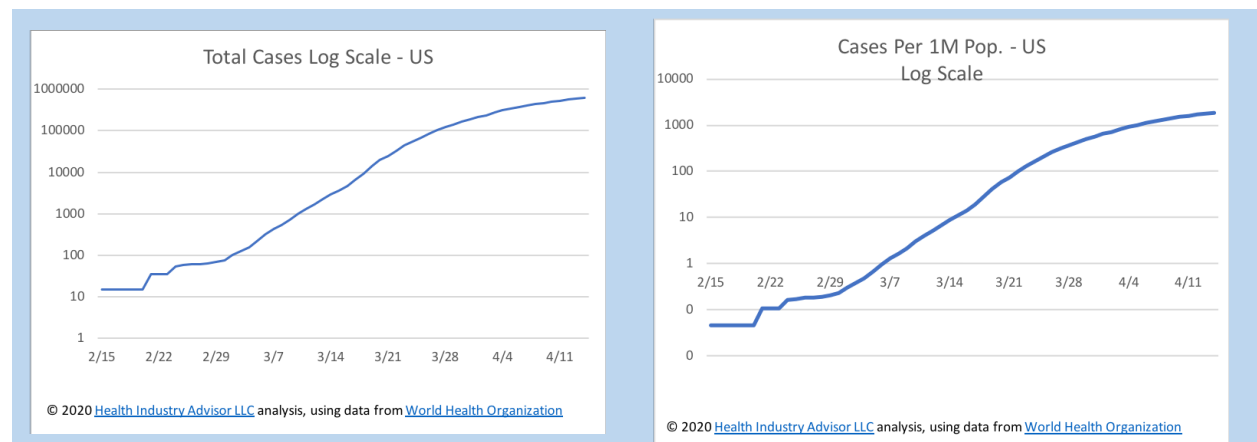
New York, which recorded its 200,000 confirmed case on Tuesday, continues to represent 33.3% of all coronavirus cases in the U.S.; New York, New Jersey and Connecticut combined represent 46.6% of all cases. Cases per capita in New York, New Jersey, Louisiana Massachusetts and Connecticut are greater than any of the hardest-hit countries in the world.

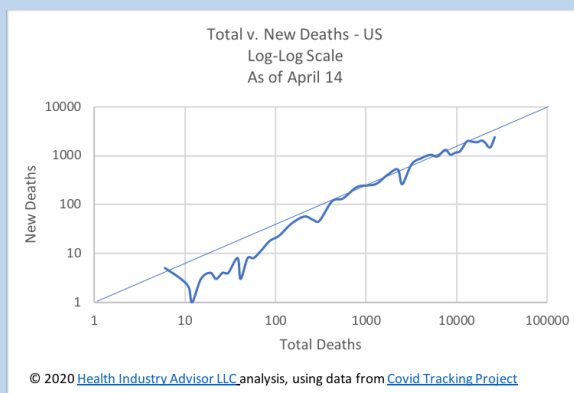
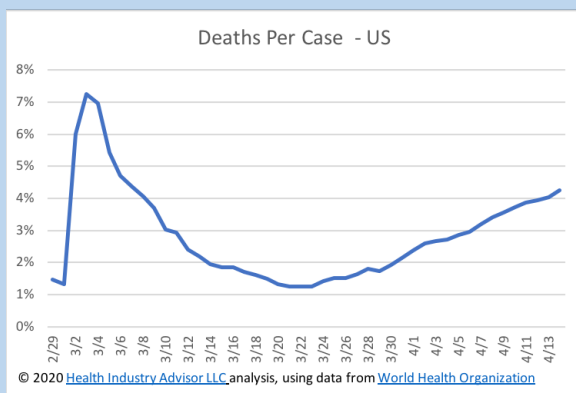
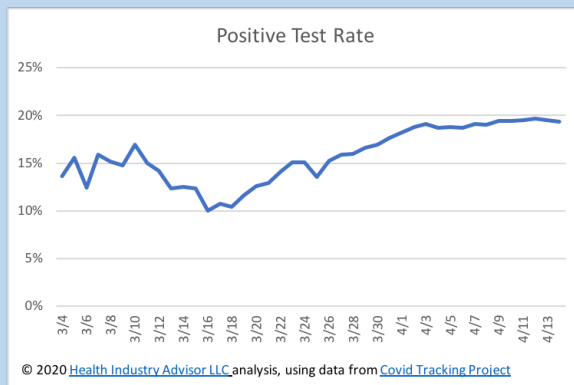
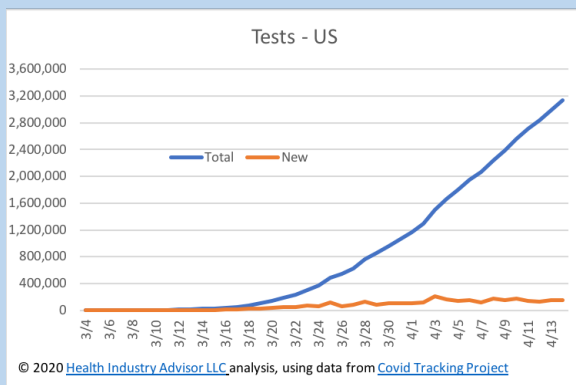
Of these states with the most confirmed cases, Massachusetts has the highest death rate (8.3%), followed by Michigan (6.5%) and New York (5.3%).



U.S. Statistics

Case Growth is Plateauing in the U.S., as Are Positive Test Rates; Deaths Are No Longer Growing Exponentially





Global Statistics

The U.S Far Outpaces the World In Total Cases, is 6th in Case Per Capita and 11th in Death Rate. Case Growth is Falling In All of the Hardest-Hit Countries, Except Russia

