

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 5.5% (Cumulative)
Positive Test Rate	Decline	Steady at 19.5%
No. of Cases	Plateau	Up 6.0%, rate continues to slow
% of Deaths Per Case	Decline	Up to 3.9% (v. 3.7%)
No. of Deaths / 1M Pop.	Plateau	Up to 62.2 (from 56.6)
Recoveries : Deaths	Increase (>1:1)	Up to 1.48 (from 1.46)

We are tracking the twenty countries with the most confirmed coronavirus cases; these represent 93.2% 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 Saturday include:

- Let’s start some outstanding news – New York City appears to have broken off the exponential growth rate in confirmed coronavirus cases. In fact, the break seems to have occurred two weeks ago but, it was a weak signal that finally strengthened this past week.

Connecticut, the state with 5th highest number of cases per capita, and Illinois, with the 8th most cases in the U.S, also seemed to break off the exponential growth rate this past week. Six of the ten states with the most cases, and 29 overall, have now broken off this exponential growth trend.

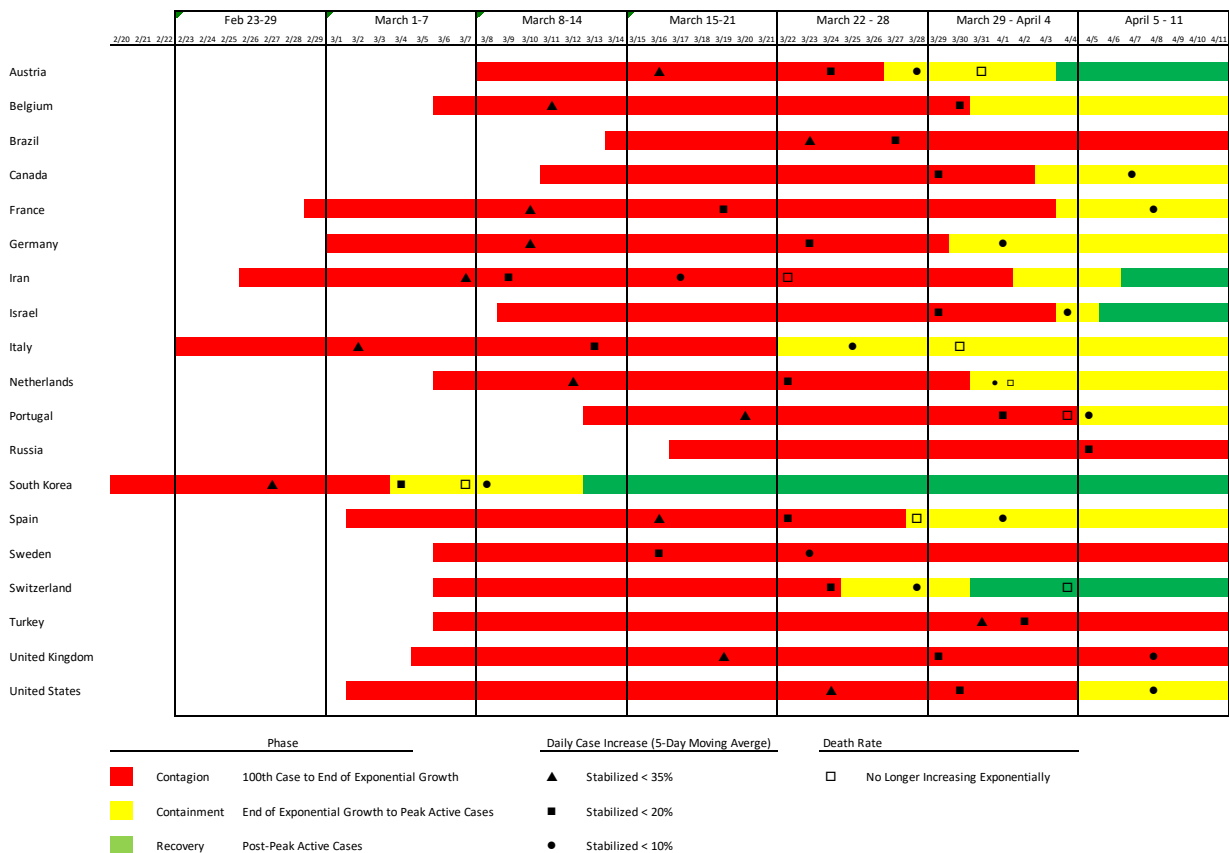
- With much of the world (excepting Brazil, Portugal, Sweden, Turkey and United Kingdom) and the majority of U.S. states no longer experiencing exponential case growth, we shift our focus to active cases and death rates. As we have stated in prior updates, the break in exponential growth precedes both the peak in active cases, as well as that in deaths.
- Nine of the twenty countries with the most confirmed cases have already passed or are nearing a peak in active cases: Austria, China, Germany, Iran, South Korea and Switzerland have passed the peak; Israel, Italy and Portugal appear to be close to peak.

Ten countries also appear to have broken the exponential growth trend in deaths, as well as having passed their peak in new daily deaths – Austria, China, France, Iran, Italy, Netherlands, Portugal, South Korea, Spain and Switzerland.

- Five states – Alaska, Hawaii, Montana, Nevada and Wyoming – have passed the peak in active cases; Eight more states – Arkansas, Idaho, Maine, Minnesota, Missouri, North Dakota, Oklahoma and Tennessee – seem to be reaching this peak.
- Nine states – in order, New York, New Jersey, Michigan, Louisiana, Massachusetts and Illinois – account for 72.9% of all deaths to date in the U.S. from coronavirus. In each of these states, new deaths appear that they may have plateaued or peaked in recent days.

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 was sustained) below certain benchmarks, as well as when deaths stopped growing exponentially.

A similar chart for selected U.S. states and New York City is provided on the next two pages.



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 Graphics depict data as of April 11, 2020.

Please note: Due to data limitations, it is more difficult to discern when cases cease to grow exponentially at the State level. Thus, the determination of when to depict the containment phase on the chart below (yellow shading) was made on the basis of the state's timing of posting case growth rates <10%; whether active cases appear to be plateauing; and, a visual interpretation of the state's logarithmic chart of total and new cases. We have added a designation ("S") indicating the date that a state-wide stay home order was executed.



Phase

- Contagion 100th Case to End of Exponential Growth
- Containment End of Exponential Growth to Peak Active Cases
- Recovery Post-Peak Active Cases

Daily Case Increase (5-Day Moving Average)

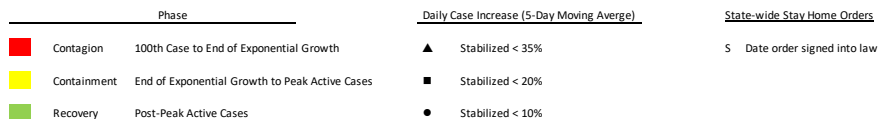
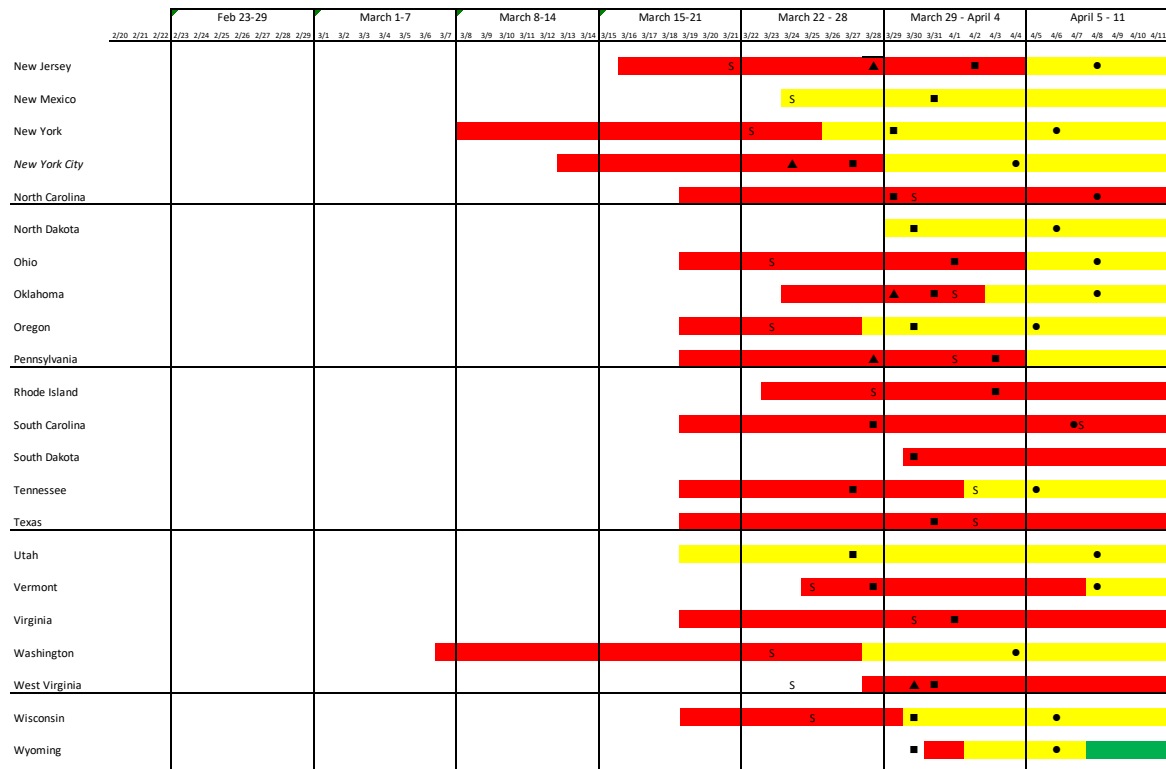
- ▲ Stabilized < 35%
- Stabilized < 20%
- Stabilized < 10%

State-wide Stay Home Orders

- S Date order signed into law

Mark A. Van Sumeren
P. O. Box 1810
Ann Arbor, MI 48106

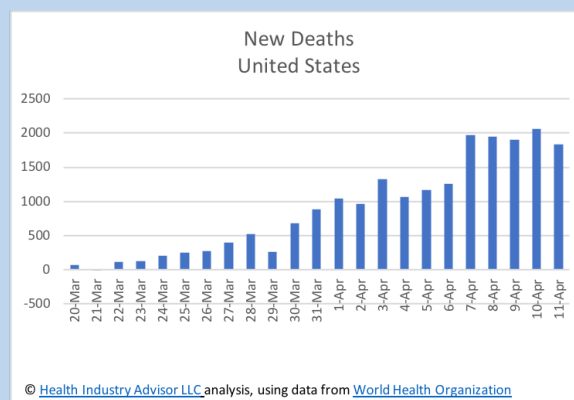
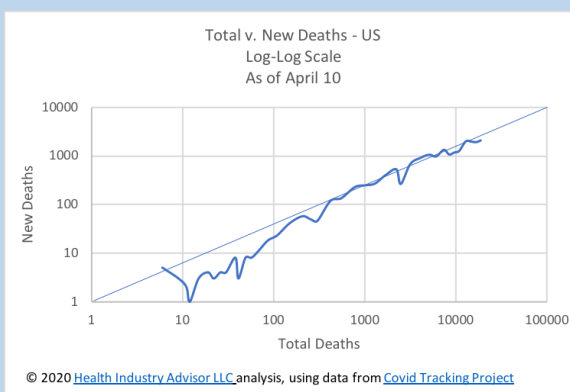
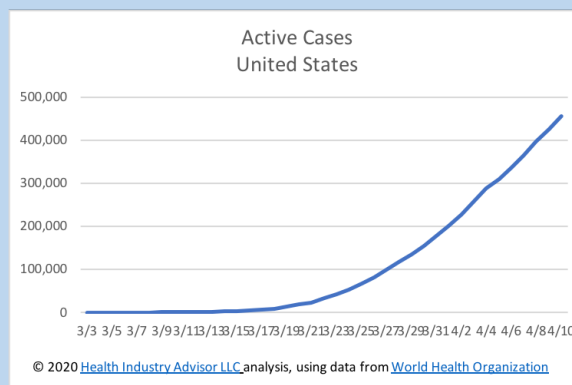
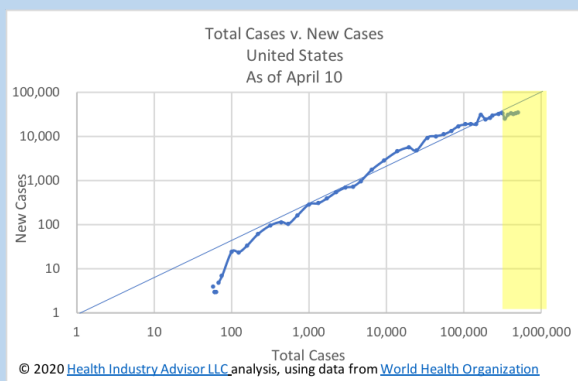
Phone: 804/402-1365
Email: Mark.VanSumeren@HealthIndustryAdvisor.com
Website: www.HealthIndustryAdvisor.com
Twitter: @HealthIndAdv



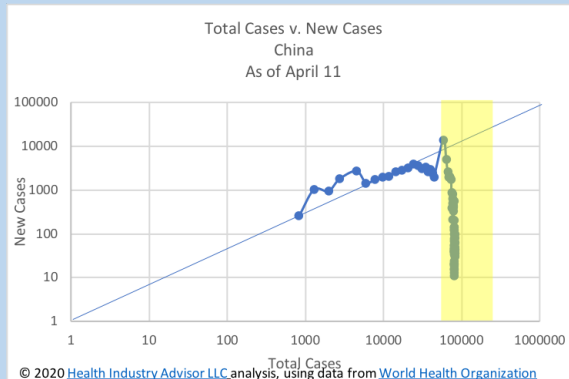
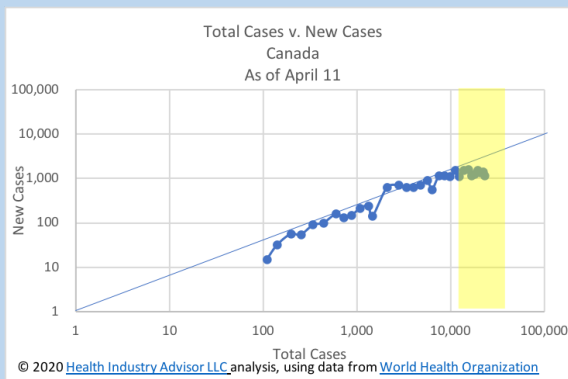
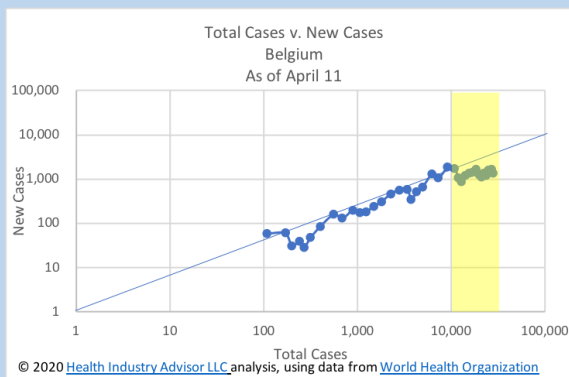
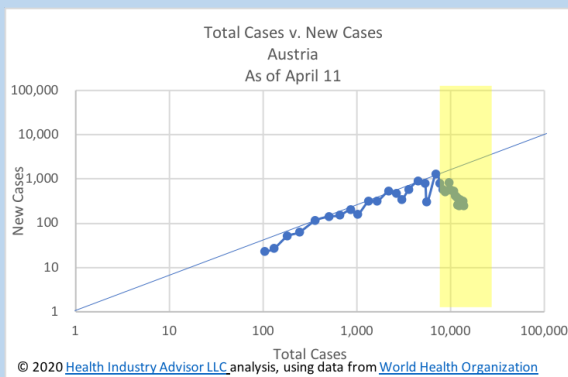
The following is an illustration of the exponential growth in cases in the U.S., alongside a graph of active cases. We are looking to observe when cases cease to grow exponentially (i.e. "containment" of the virus), followed by a peak in active cases.

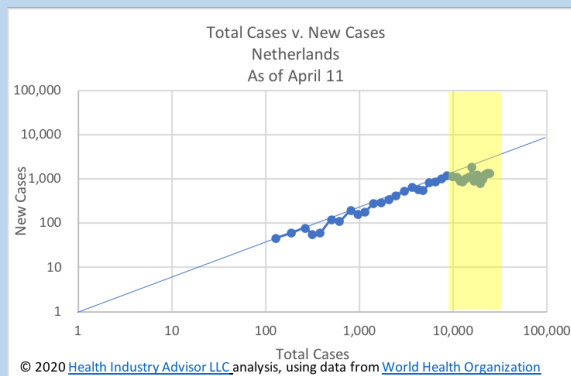
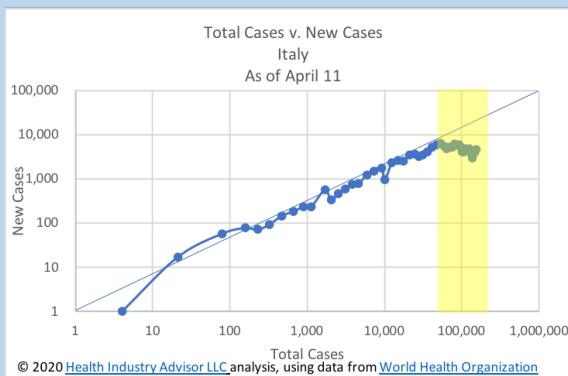
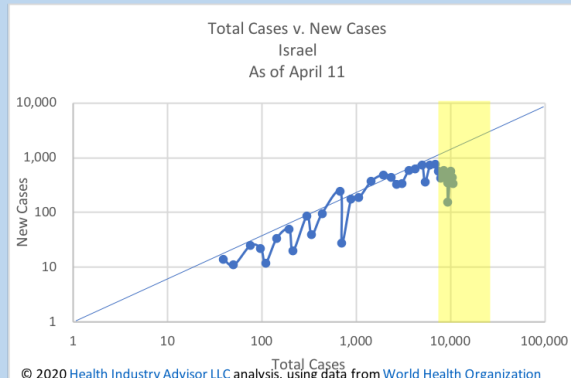
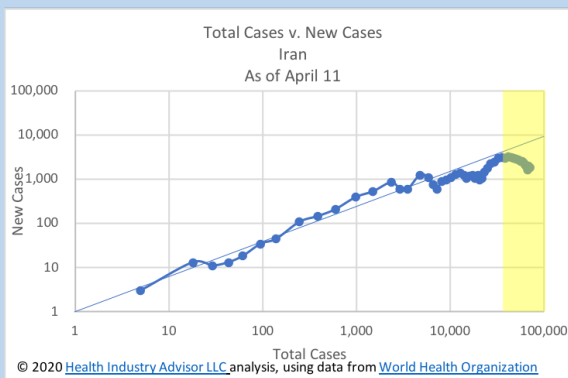
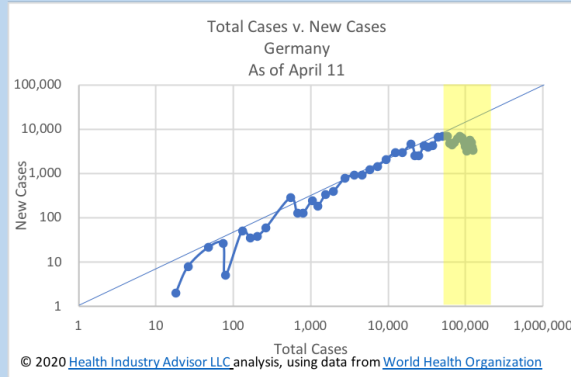
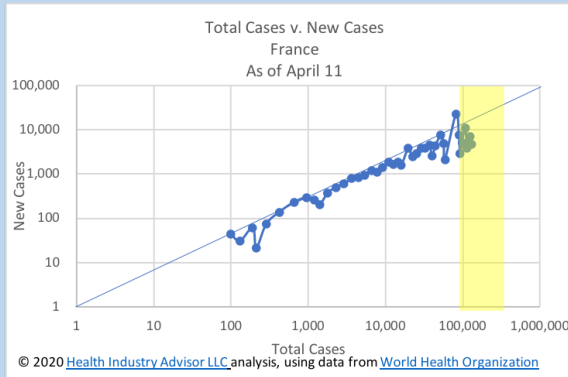
Of course, our greater goals are to see a peak in active cases, and a decline in new deaths. A signal of the latter's imminent arrival would be when deaths cease to grow exponentially.

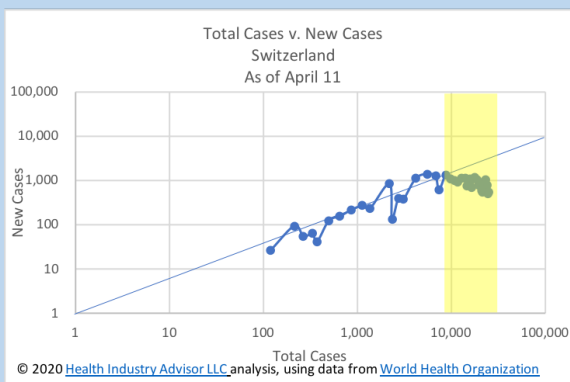
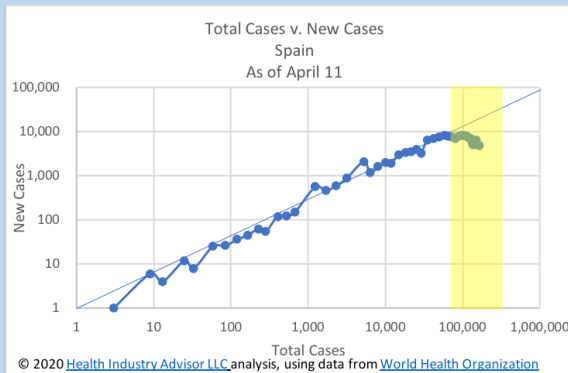
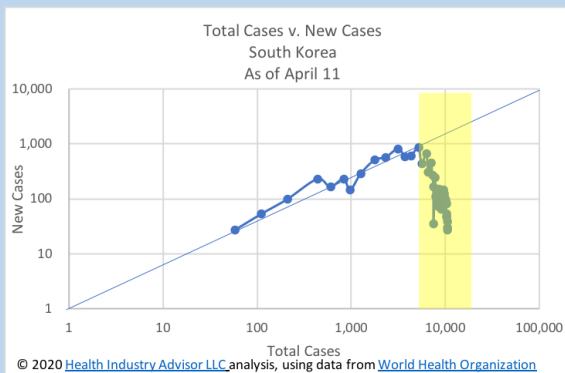
Cases in the U.S. are no longer growing at an exponential rate; active cases, however, have yet to peak. Deaths continue to grow exponentially and haven't yet demonstrated a peak.



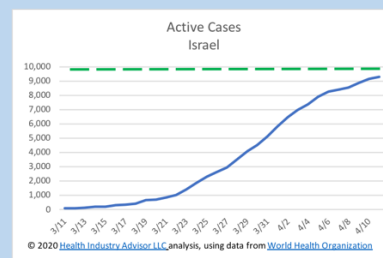
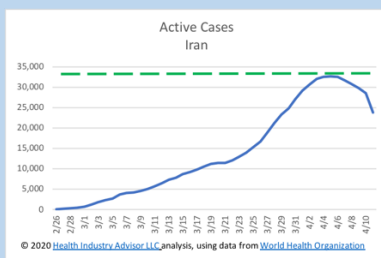
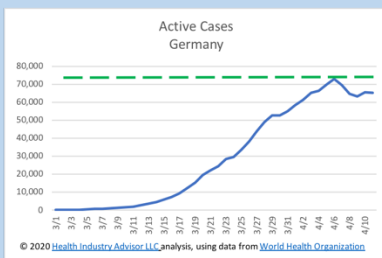
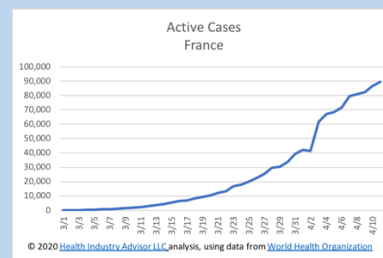
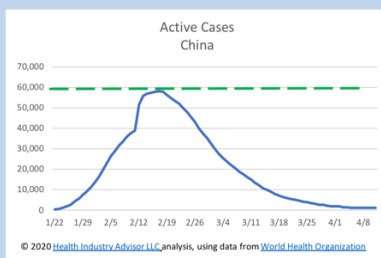
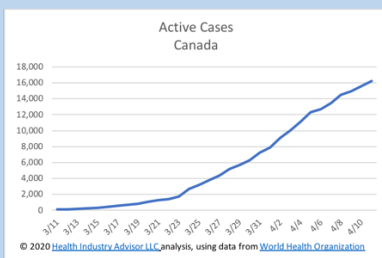
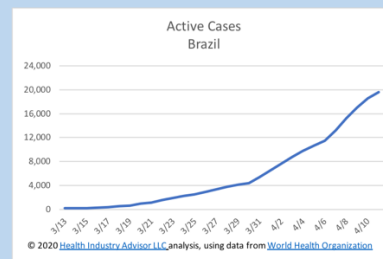
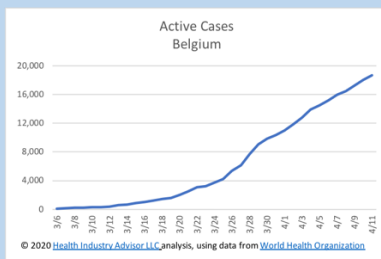
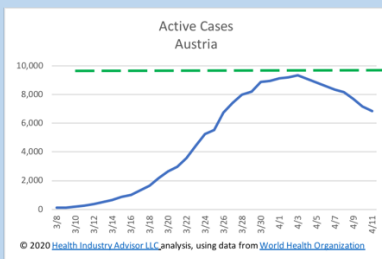
The follow charts show the progress that several countries have made in breaking the exponential growth of coronavirus cases. After that occurs, these countries have seen, or should expect to soon see peak active cases.

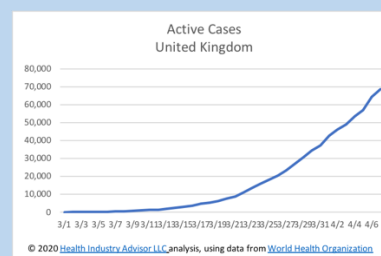
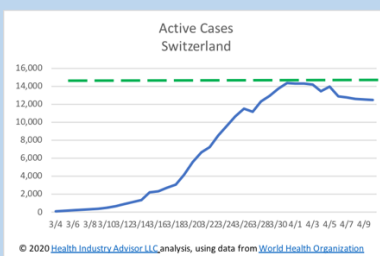
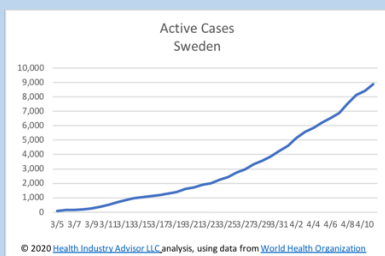
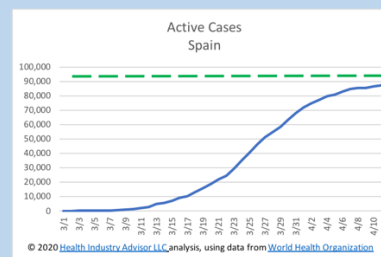
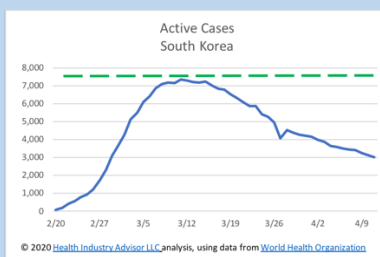
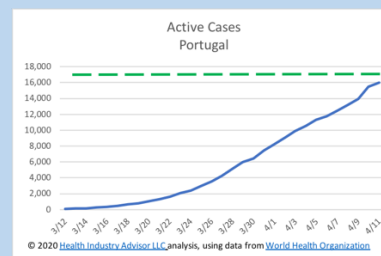
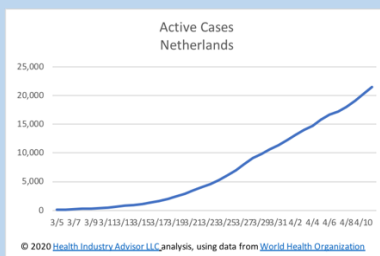




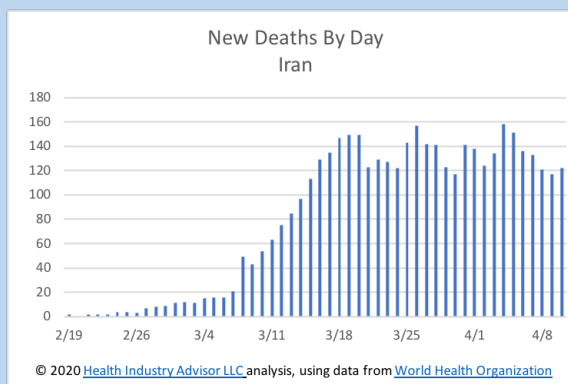
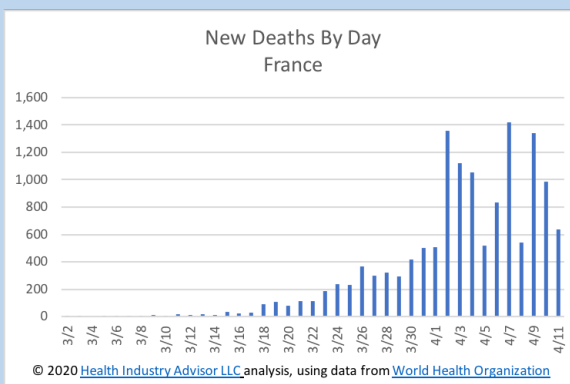
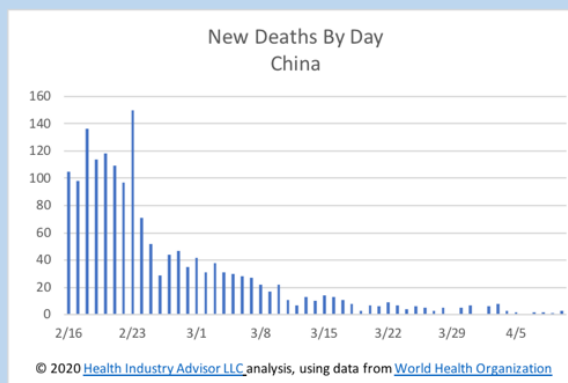
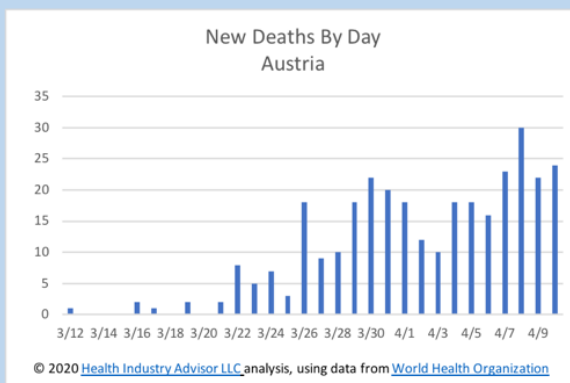


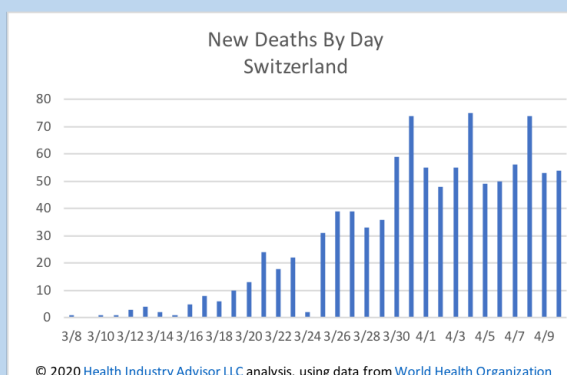
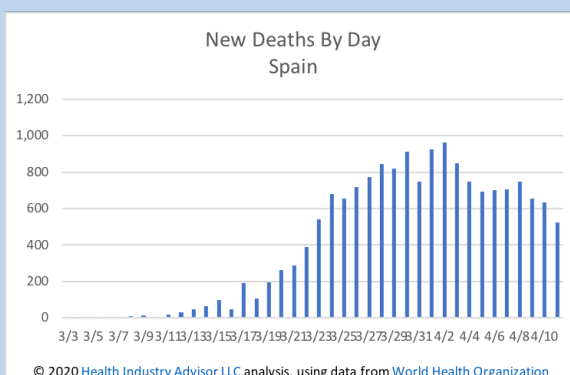
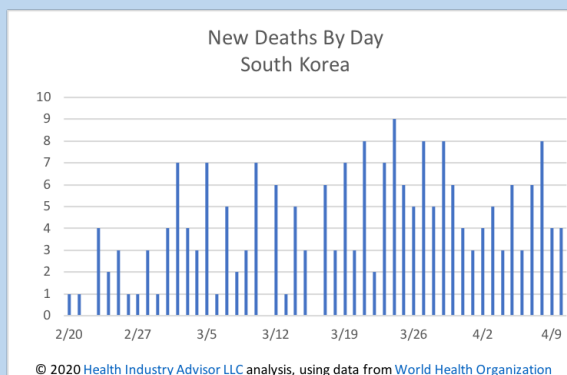
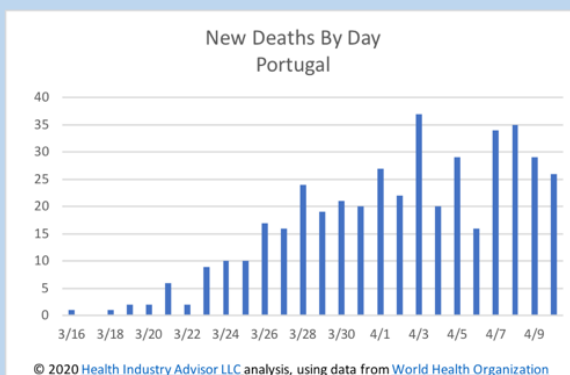
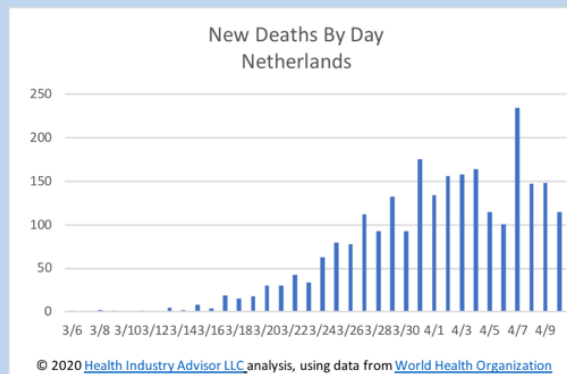
The following graphs show trends in active cases for each of the twenty hardest-hit countries in the world. Countries (except the U.S., which is shown on an earlier page). Where appropriate, we indicate with a dashed green line the approximate peak.



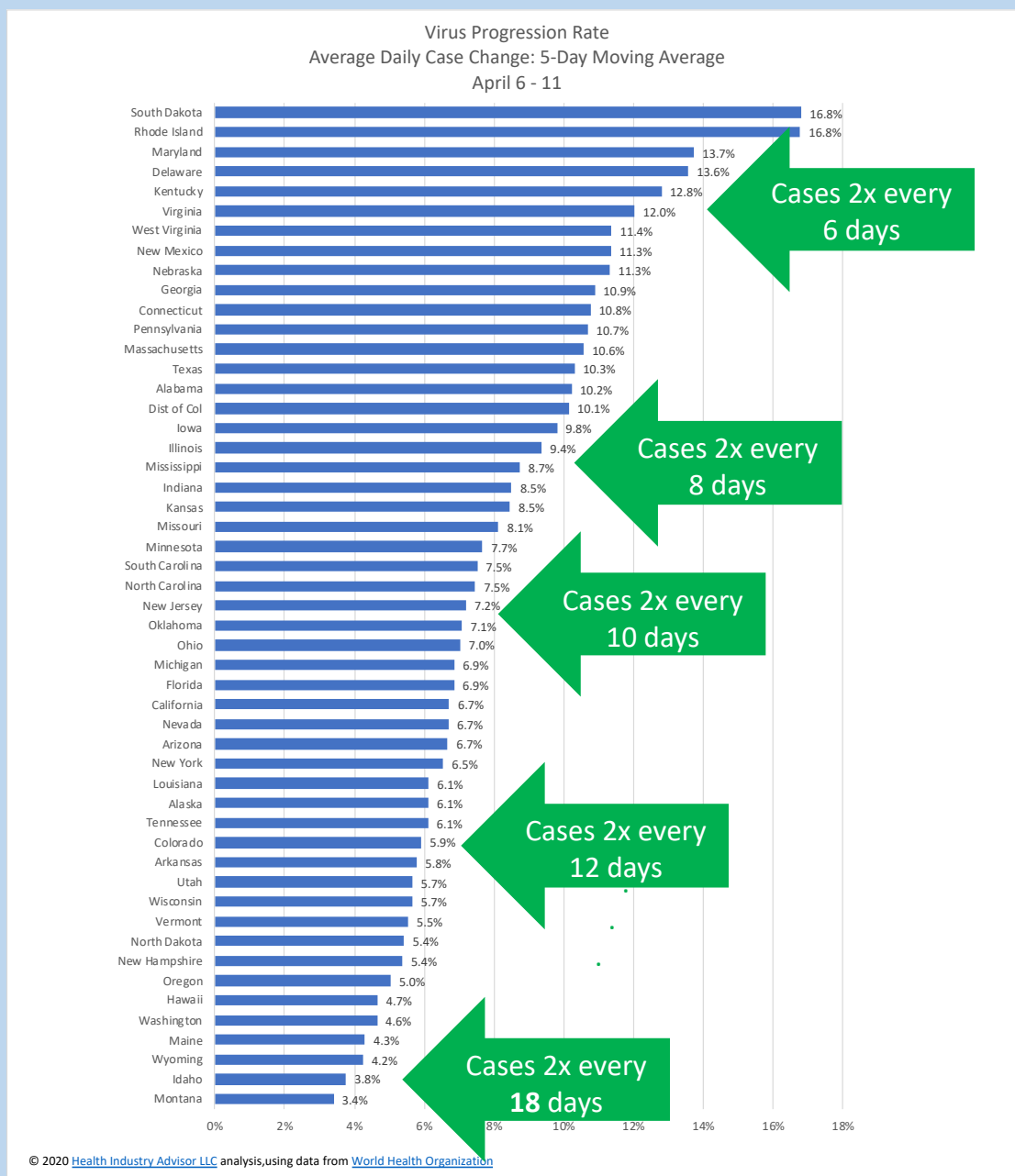


Several countries have already broken the trend of exponential growth in deaths of persons with coronavirus. These are reflected in the following graphs showing new deaths by day:

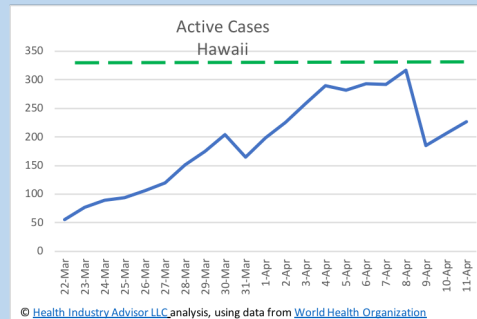
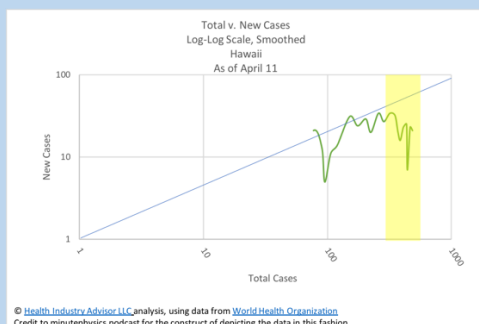
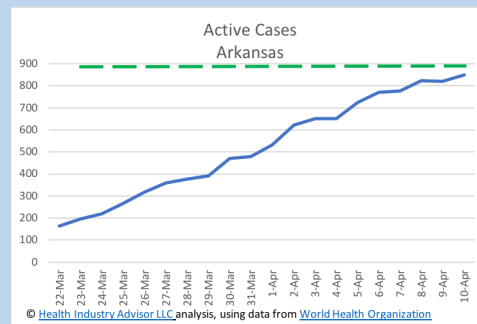
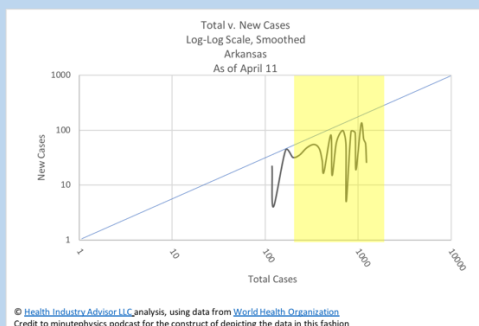
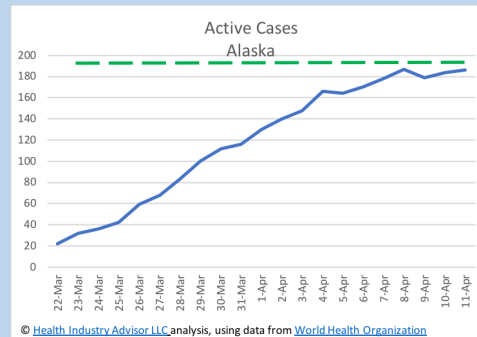
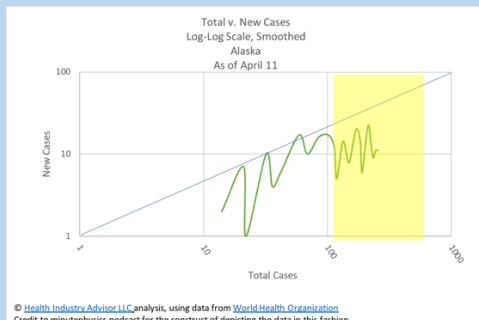


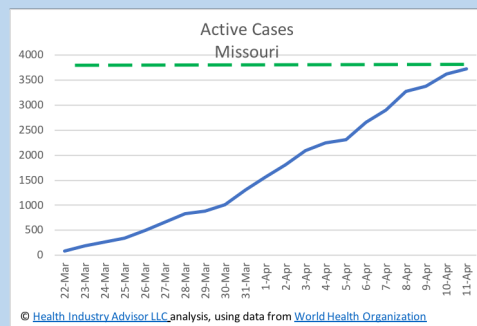
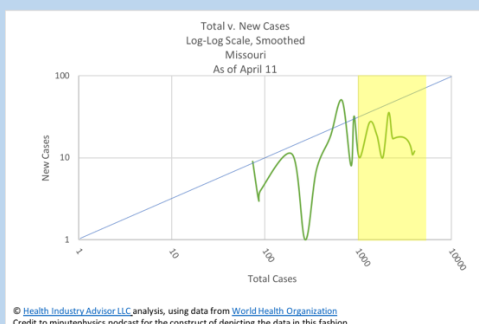
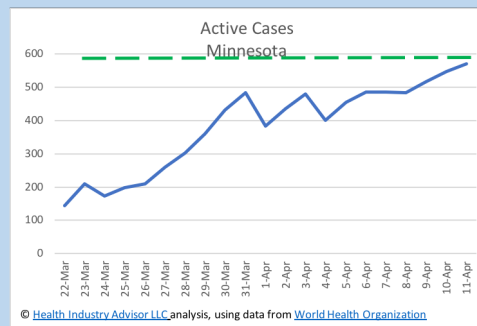
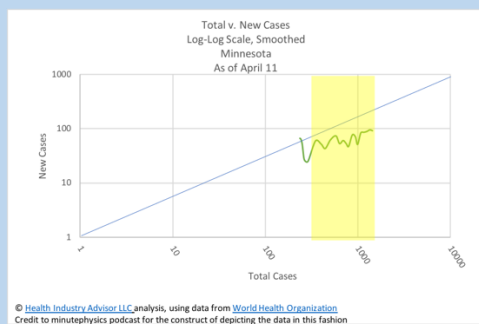
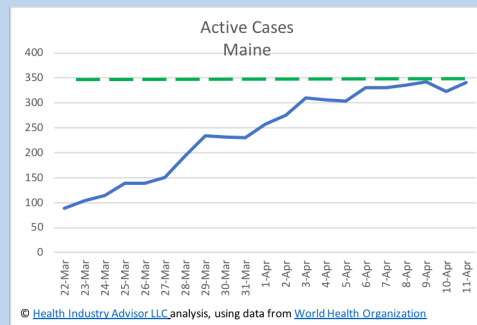
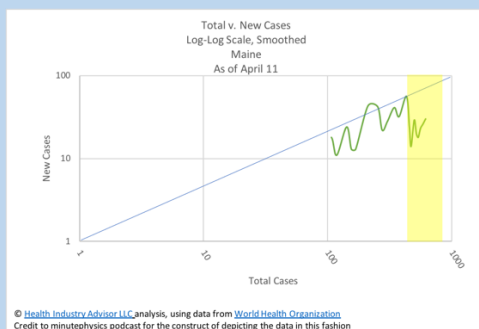
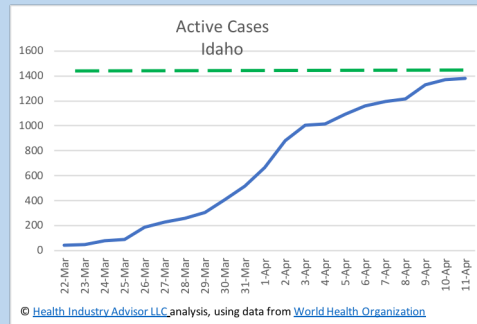
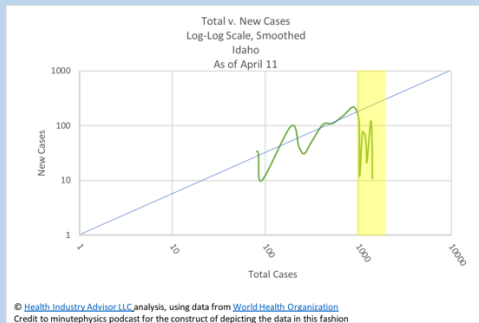


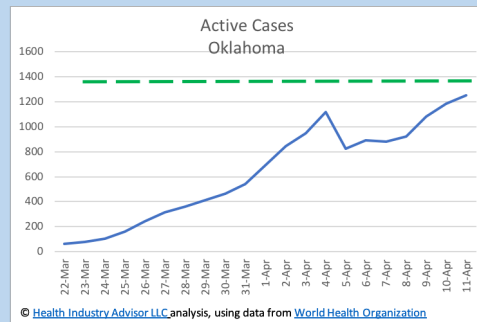
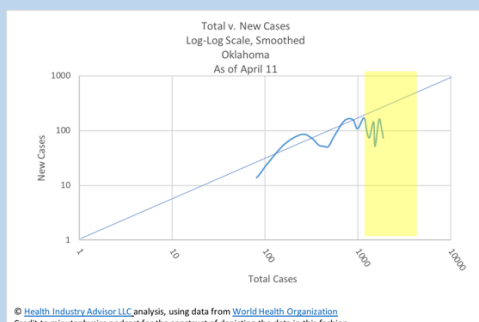
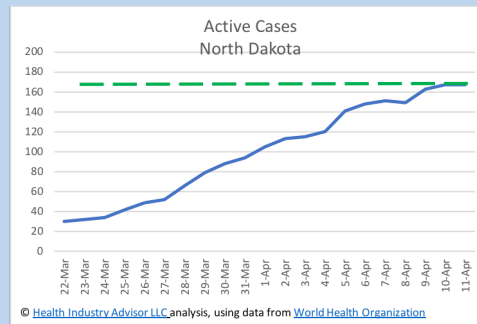
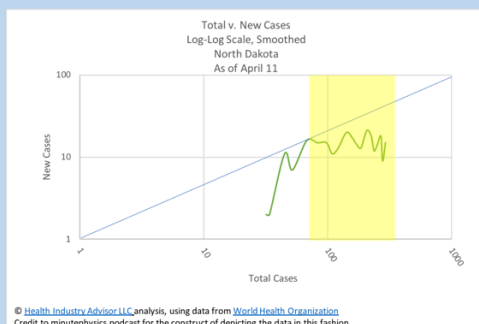
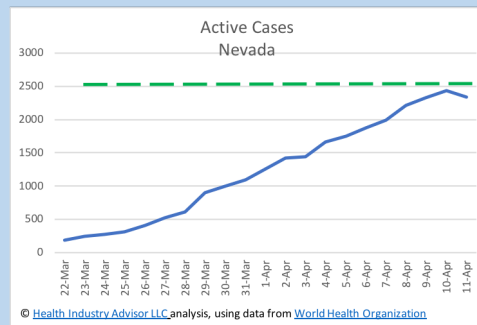
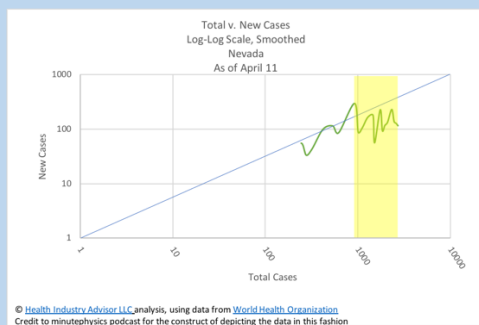
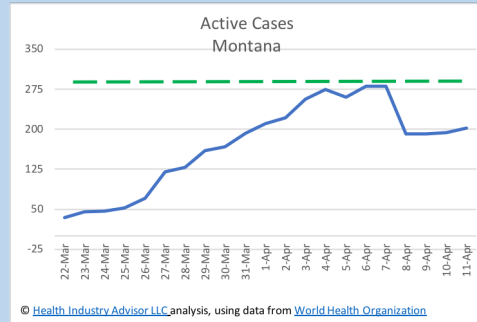
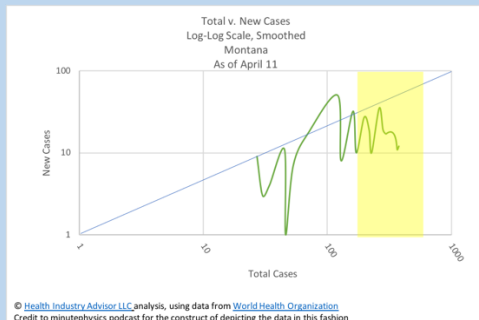
Growth is slowing across the U.S.:

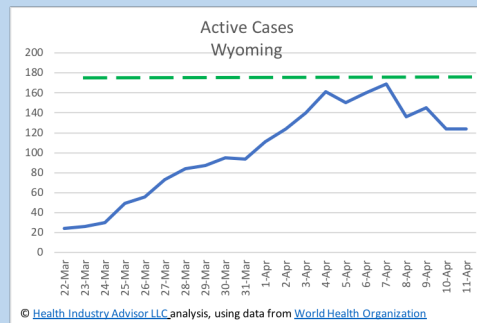
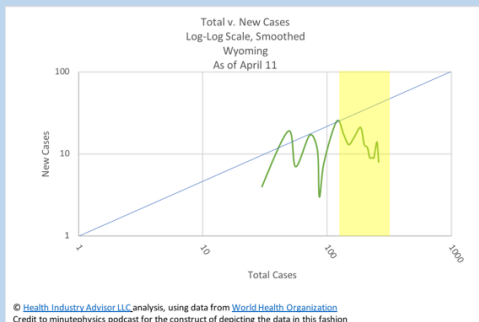
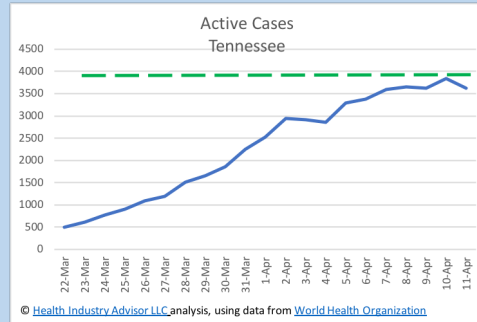
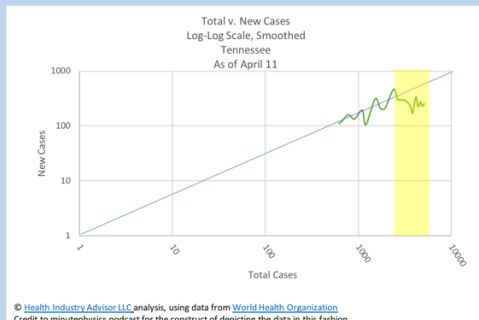


On these four pages, we provide exponential case growth and active cases graphs for the 13 states nearing or past their peak in active cases. Note that in all instances, these states had been below the exponential growth rate trend for a few to several days prior to reaching peak active cases.

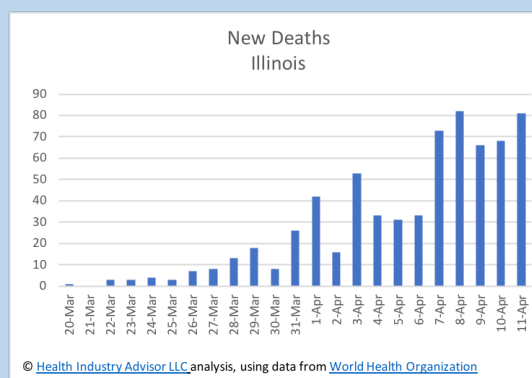
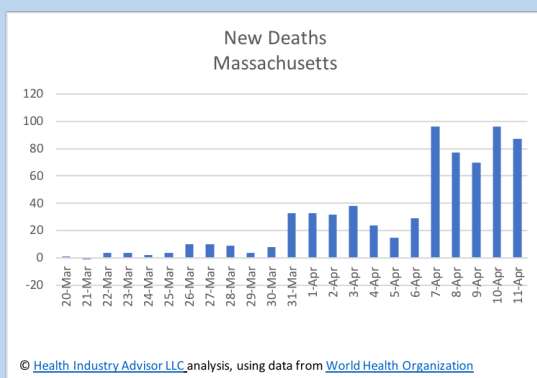
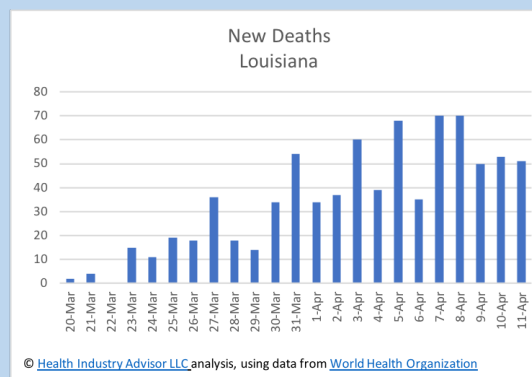
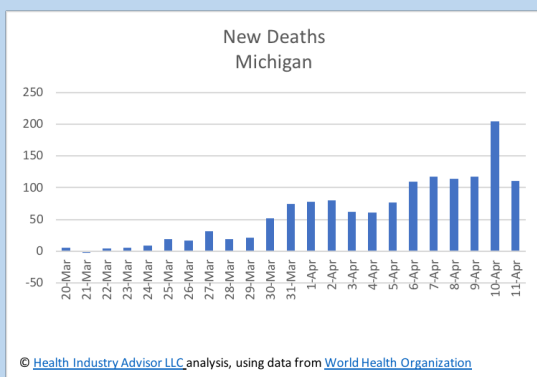
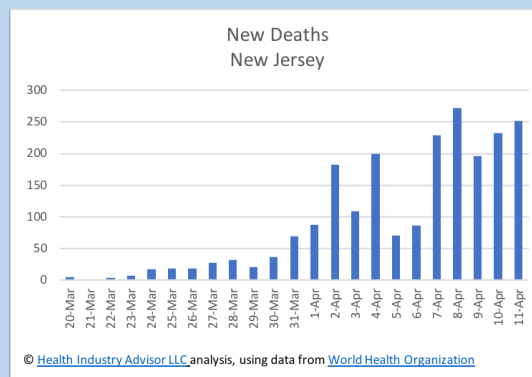
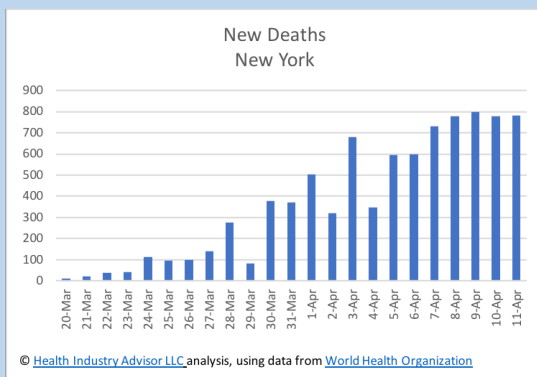


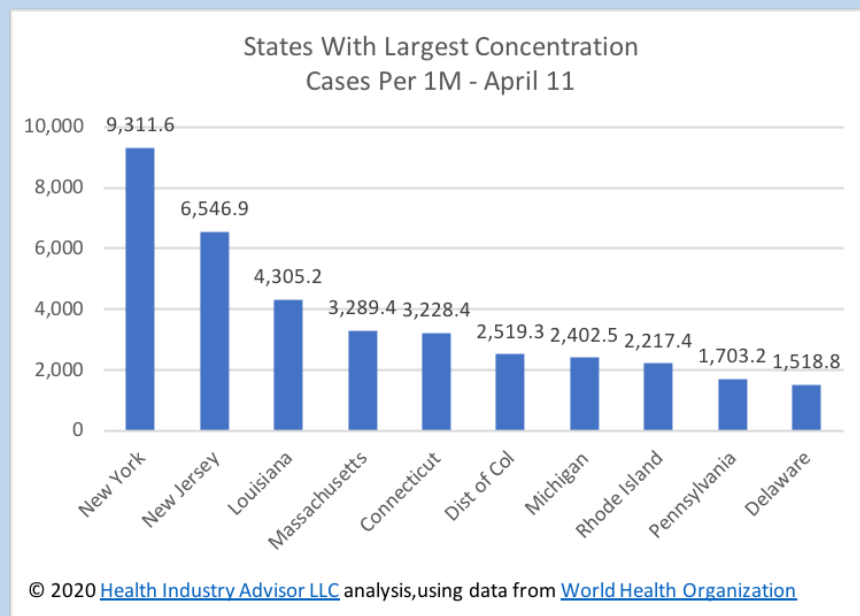
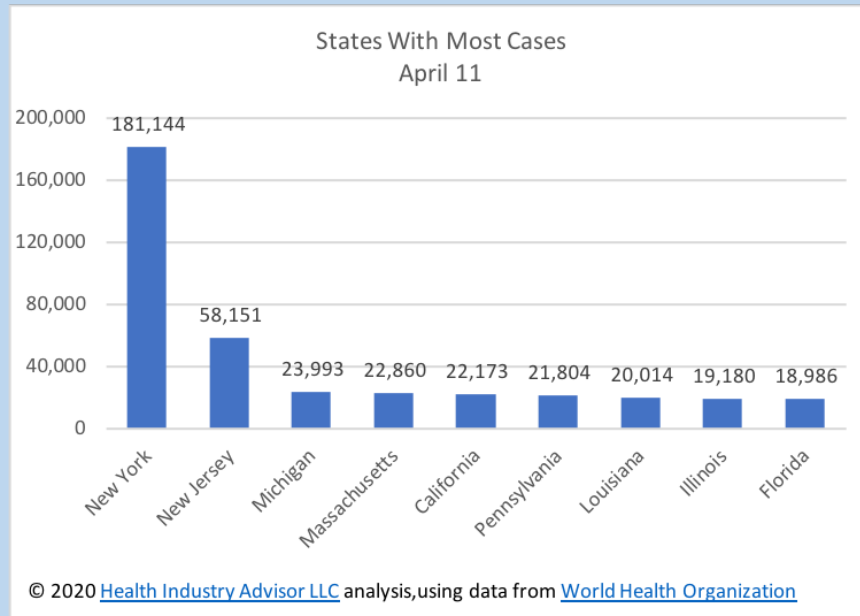


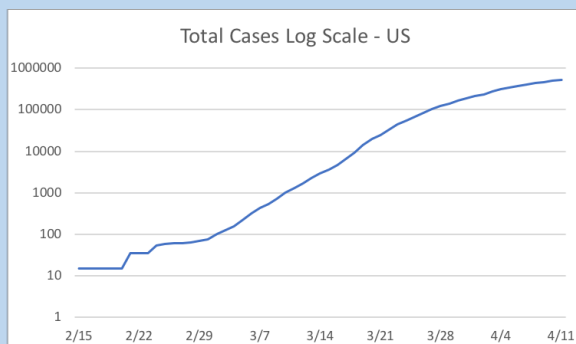




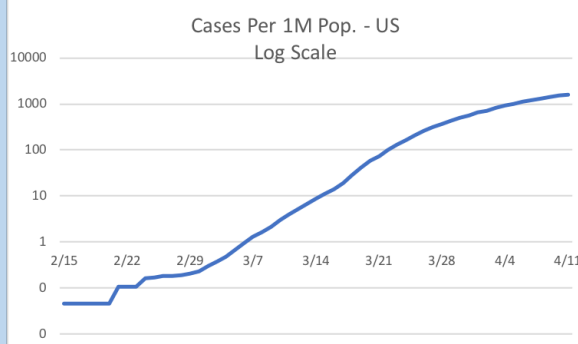
Ultimately, we want to see a decline in the number of new deaths of persons with coronavirus. Six states account for 76.7% of these deaths in the U.S. The following graphs depict the new cases per day for these 6 states, displayed in descending order of number of deaths:



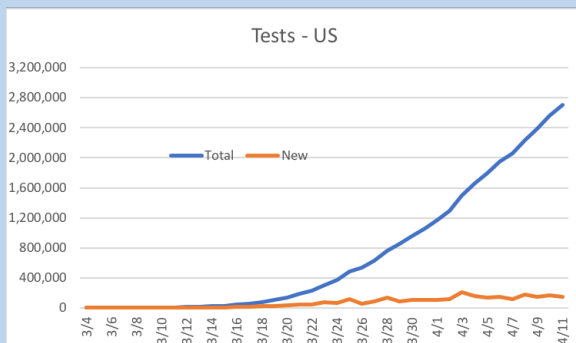




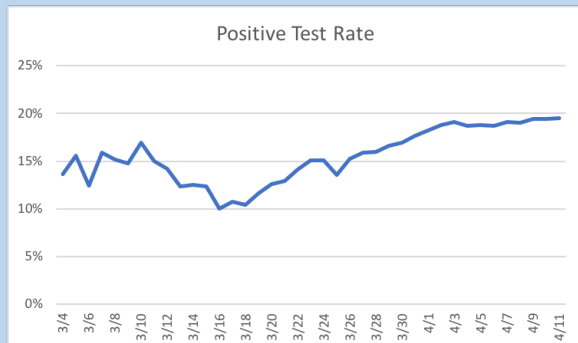
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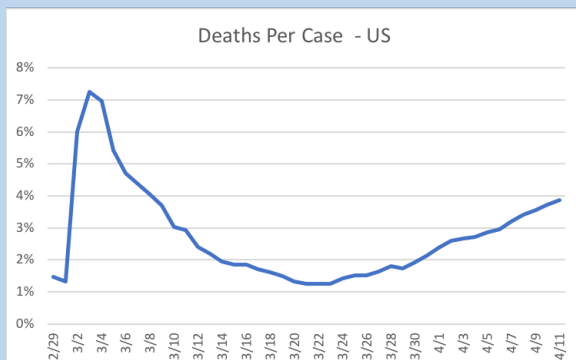
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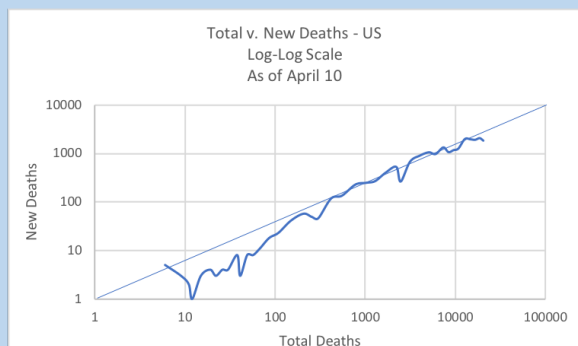
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