

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 10.7% (Cumulative)
Positive Test Rate	Decline	Up to 17.7% (from 17.0%)
No. of Cases	Plateau	Up very slightly @15.0%, Rate is still declining over time
% of Deaths Per Case	Decline	Up to 2.1% (v. 1.9%)
No. of Deaths / 1M Pop.	Plateau	Up to 12.2 (from 9.5)
Recoveries : Deaths	Increase (>1:1)	Up slightly to 1.79 (from 1.74)

Yesterday's Highlights:

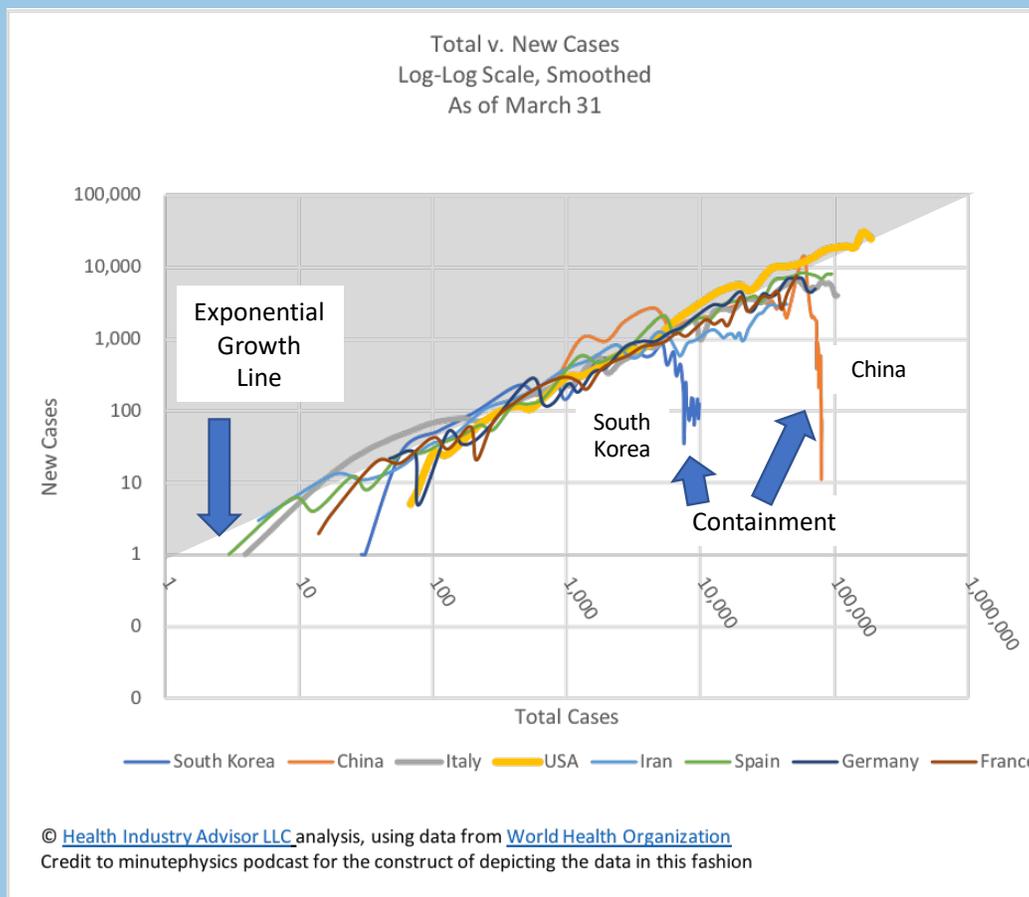
- On a day when total U.S. cases neared 190,000 and total deaths exceeded 4,000, there were still some encouraging signs in the fight to slow the spread of the COVID-19 virus. First, even with an unfortunate 897 deaths yesterday, there were 1,745 recoveries. Clearly, progress comes when recoveries exceed deaths on a given day; further progress comes when recoveries exceed new cases. We are a long way, however, from that benchmark.
- The positive test rate, while still increasing steadily over the past week, remains seemingly low at 17.7%, given that we are focused on testing the more likely cases and generally not asymptomatic ones
- Similarly, the U.S. death rate has increased each of the past 3 days but, at 2.1%, is low compared to the experiences of other countries
- New York continues to be an area of great concern. With nearly 76,000 cases, it represents 40.3% of all U.S. cases (although this is down from 48% one week earlier). Combined, the New York-New Jersey-Connecticut region has nearly 100,000 or 51.9% of all U.S. cases
- California, Florida, Louisiana and Michigan are receiving a great deal of attention of late, because of "hot spots" developing in major cities in those states. Of these states, Louisiana and Michigan have significant state-wide concentrations of cases (cases per 1M population); Louisiana trails only New York and New Jersey in this measure. State-wide concentrations in Florida and California are actually notably lower than the national average.
- Of course, the aim is to reach a point where the virus is no longer spreading (few or no new cases any day). A milestone is achieved when Active Cases decline day-over-day, as they did in China on February 17 and South Korea on March 9. Before this can occur, however, cases must cease to grow exponentially (the pattern clearly observed country-by-country). In South Korea this appeared to commence on February 28 - 10 days ahead of their peak in active cases; in China, it appeared to occur on February 8, - 9 days before their active cases peaked.

Italy, Spain, Alabama, Arkansas, Colorado, Ohio and Mississippi are worth observing closely over the next several days. The case growth rate for these countries/states appears to be deviating from the exponential growth trend line and perhaps heading downward. Should this continue, it is reasonable to expect that peak Active Cases in these areas could in the near future.

Information 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 March 31, 2020

During its contagion phase, a virus like COVID-19 grows exponentially, as shown on the graphic below. Once the virus-spread begins to be contained, a noticeable downward trend emerges - see China and South Korea’s experience.

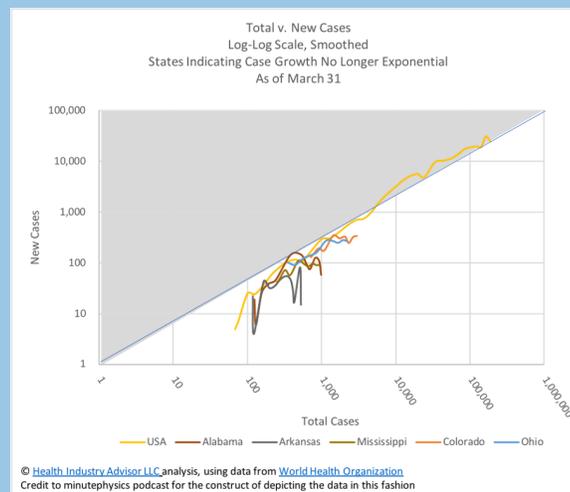
China’s downward trend, or the beginning of containment, occurred on about February 8; peak active cases occurred there on February 17. South Korea’s downward trend began on or about February 28; peak active cases occurred March 15.



We are keeping a close eye on Italy and Spain, where it is possible that a onset of the downward trend can be observed. If this continues for another few days, it would suggest that these countries have begun to contain the virus spread.



Similarly, we are watching Alabama, Arkansas, Colorado, Mississippi and Ohio, as these states are also showing hints of a downward trend on the measure.



As expected with an exponentially-growing virus, average daily growth rates diminish over time. Only one state, Indiana, is now experiencing the doubling of cases faster than every 3 days. In two states, doubling now takes more than 6 days; and in ten states, including New York, it is now taking more than 5 days to double the number of cases.

