Health Industry Advisor, llc

COVID-19 Dashboard

"Strategic Guidance in an Era of Unprecedented Change"

Issue #17: April 7

Measure	Desired Change	Yesterday in the U.S.
No. of Tests	Increase	Up 8.4% (Cumulative)
Positive Test Rate	Decline	Down slightly 18.7% (from 18.8%)
No. of Cases	Plateau	Up to 9.0%, rate continues to slow
% of Deaths Per Case	Decline	Up slightly to 3.0% (v. 2.9%)
No. of Deaths / 1M Pop.	Plateau	Up to 32.4 (from 29.1)
Recoveries : Deaths	Increase (>1:1)	Down slightly to 1.82 (from 1.87)

We are tracking data for 16 of the 17 countries with the most confirmed coronavirus cases (excluding Brazil, which has just recently moved into the top 15). These 16 countries represent 87.2% of all confirmed cases in the world. Additionally, we are tracking all 50 states, the District of Columbia and now, New York City.

- Testing for coronavirus in the U.S. has reached nearly 2,000,000, and the positive test rate seems to be stabilizing in the 18-19% range. Please note that there have been questions about whether a high incidence of false negatives is occurring.
- The death rate in the U.S. continues to climb, and stands now at nearly 11,000. Deaths have exceeded 1,000 on 5 of the past 6 days. Recoveries, however, continue to outpace deaths, with nearly 2x as many recoveries as deaths. Also, the U.S. death rate remains low, compared to the experiences of many of the countries reflected herein.

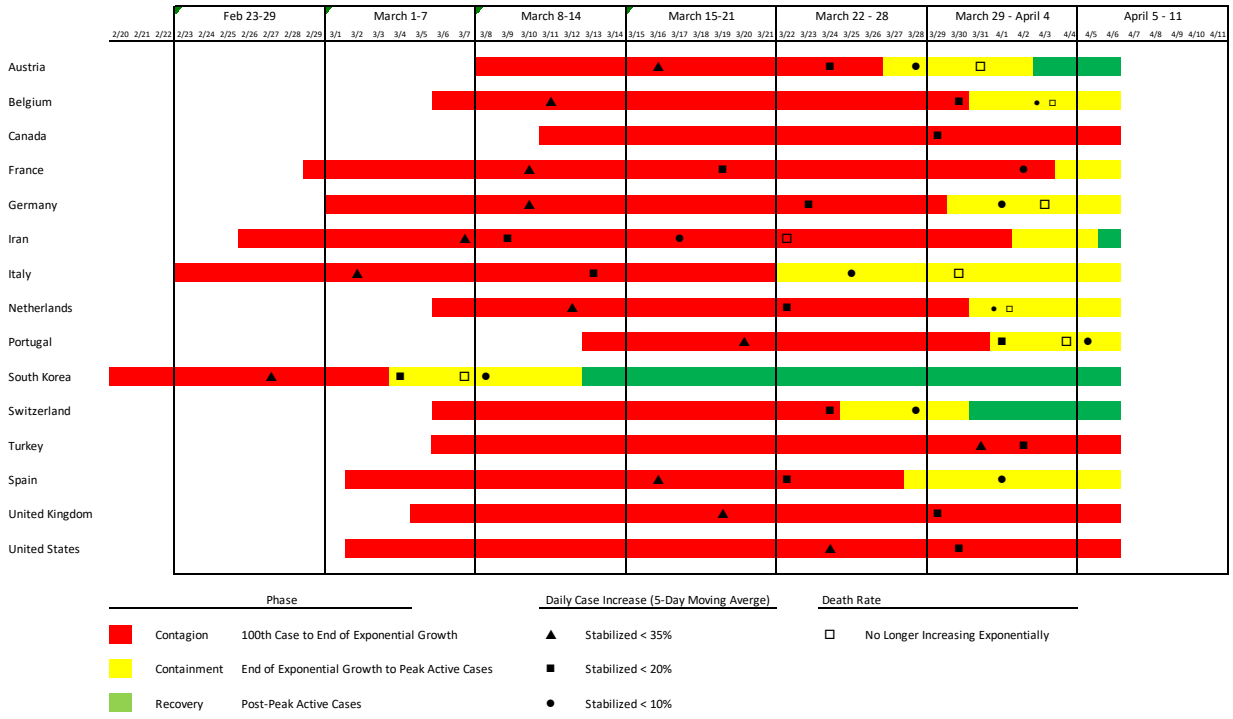
  As one would expect, death rates likely will not plateau until after cases will begin to taper off. In those countries that have already experienced slowing death rates, cases ceased growing exponentially, at the median, 4-5 days before a similar pattern occurred for deaths (the range has been 1 to 8 days). (In other words the death rate is a "lagging indicator" of success in containing the virus; case growth is a "leading indicator".) So, expect the death rate in the U.S. to continue increasing, until several days after cases stop growing exponentially.
- The concentration of confirmed cases in the U.S. (cases per 1M population) is showing indication of beginning to plateau. This comes as the pace of growth in daily cases continues to drop for the U.S in total and, for most states. It now takes 5+ days for cases to double in every state, including Louisiana; It takes 10 days in Tennessee and more than 9 days in Alaska, Minnesota, Montana and Washington.
- Average daily case growth (measured on a 5-day moving average basis) is now below 10% in 18 states and New York City. In the countries included herein, falling below this 10% figure has been highly associated with being in the containment phase (cases no longer increasing exponentially) and with being within days of entering the recovery phase (active cases reaching their peak).
- 11 of the 16 countries we are following have seemingly broken the trend of exponential case growth – an indication of the containment phase.
- Of these, 6 are in or near the recovery phase: Iran had fewer active cases on Monday than Sunday; Belgium continues to indicate that its active cases are reaching a peak. Austria, China, South Korea and Switzerland have already passed peak.

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 graphic illustrates in color when the country first recorded 100 total cases ("contagion" phase); when growth stopped following an exponential pattern ("containment" phase); and, when peak total cases were recorded ("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 page.



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 5, 2020.

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

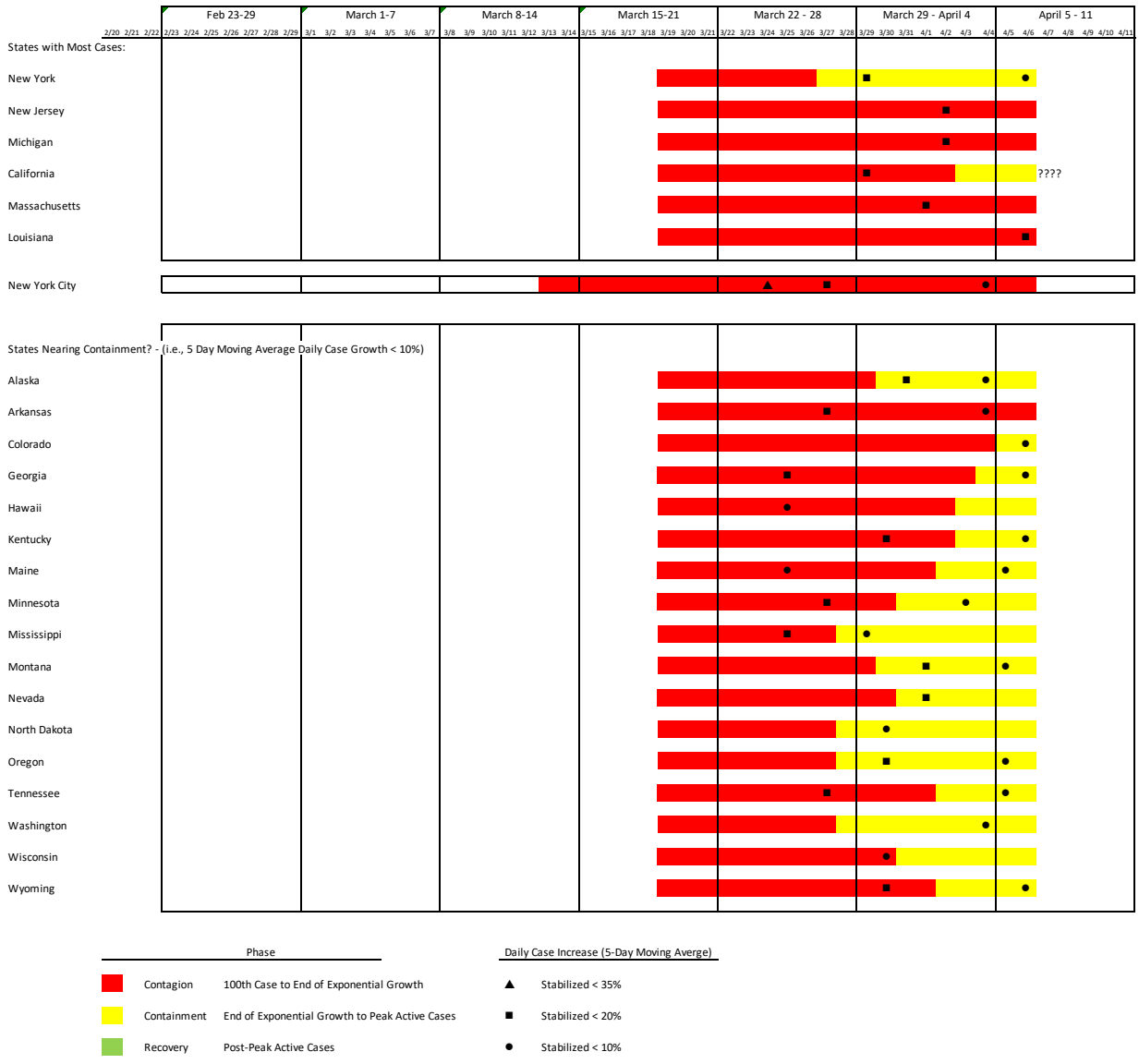
Health Industry Advisor, llc

COVID-19 Dashboard

"Strategic Guidance in an Era of Unprecedented Change"

Issue #17: April 7

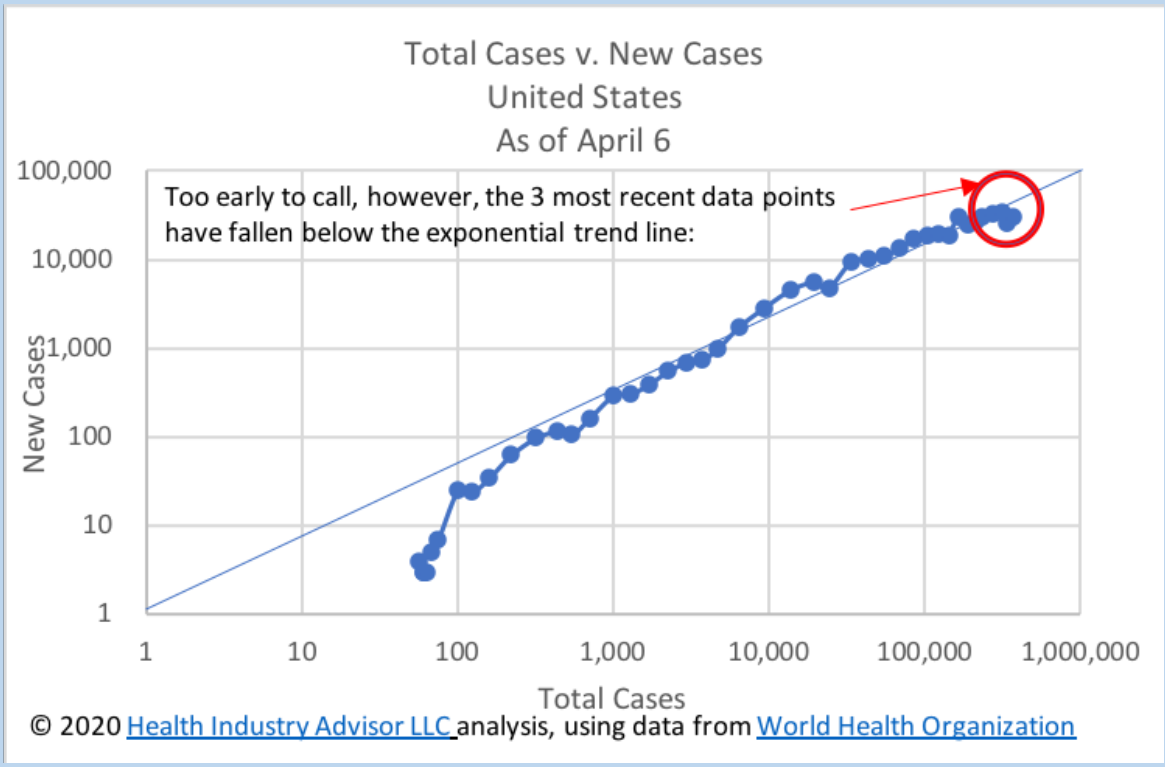
Please note: Due to data limitations, it is more difficult to discern when cases cease to grow exponentially at the State level. Thus, the determination of when to depict the containment phase on the chart below (yellow shading) was made on the basis of the state's timing of posting case growth rates <10% and a visual interpretation of the state's logarithmic chart of total and new cases.



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

Illustration of the logarithmic growth in cases in the U.S., along with similar graphs for selected countries. The selected countries are those which are showing evidence that cases are no longer growing exponentially - in other words, containment.



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

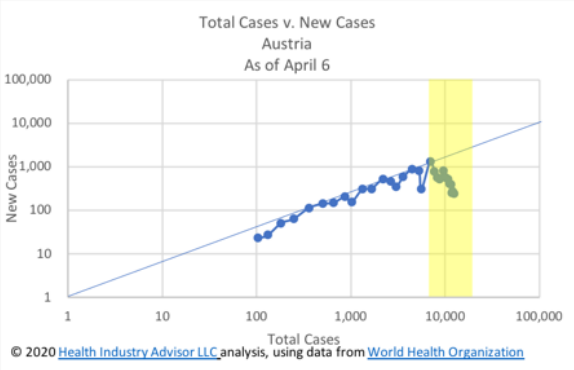
Health Industry Advisor, llc

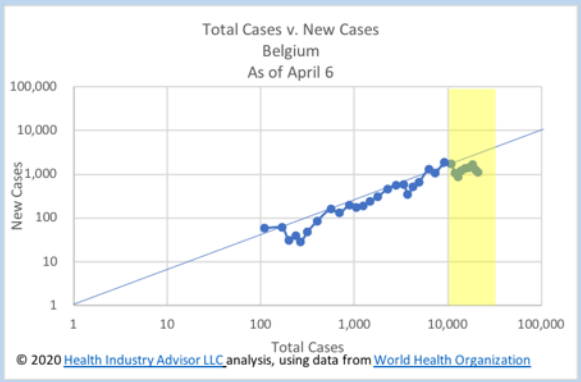
COVID-19 Dashboard

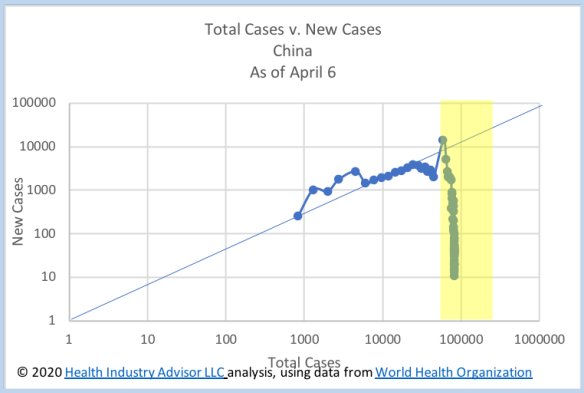
"Strategic Guidance in an Era of Unprecedented Change"

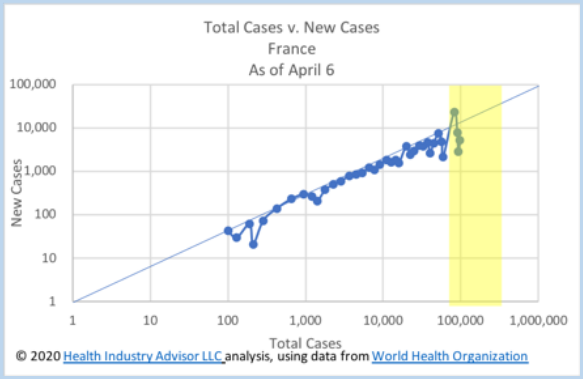
Issue #17: April 7

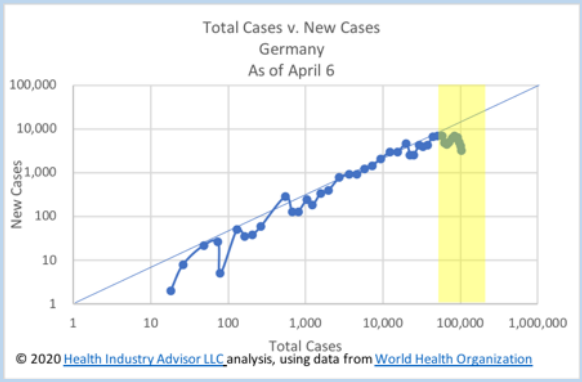
Note: on the country graphs that follow, the yellow-shaded areas are intended to highlight where case growth seems to have ceased growing exponentially:

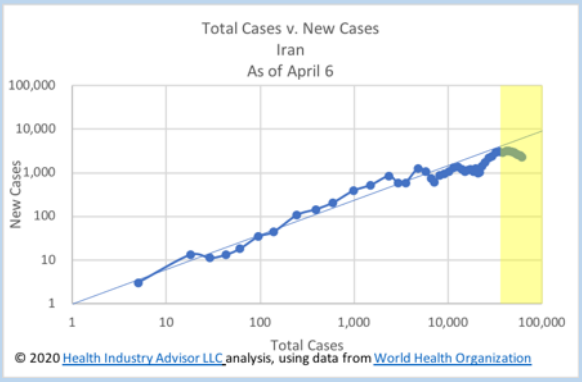












Mark A. Van Sumeren
P. O. Box 1810
Ann Arbor, MI 48106

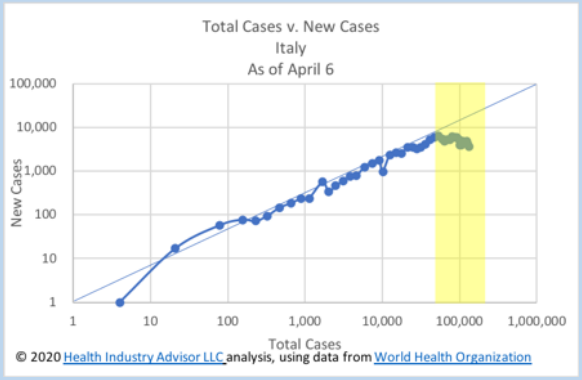
Phone: 804/402-1365
Email: Mark.VanSumeren@HealthIndustryAdvisor.com
Website: www.HealthIndustryAdvisor.com
Twitter: @HealthIndAdv

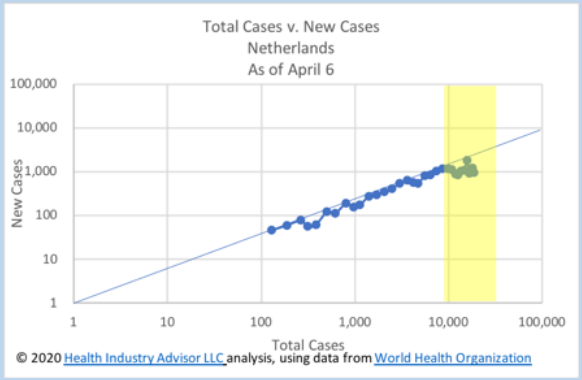
Health Industry Advisor, llc

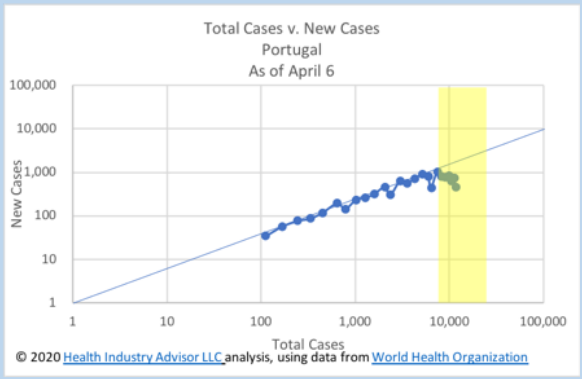
COVID-19 Dashboard

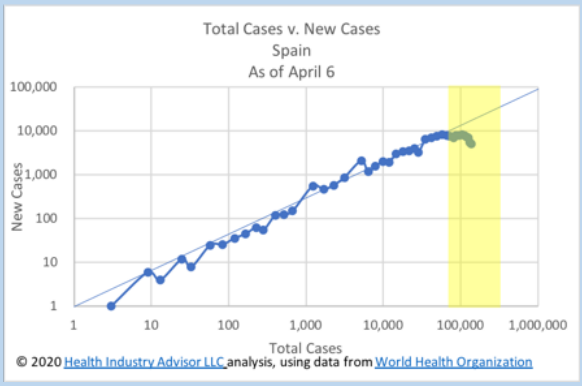
"Strategic Guidance in an Era of Unprecedented Change"

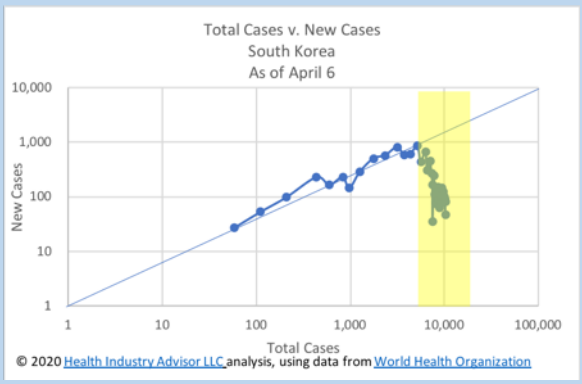
Issue #17: April 7

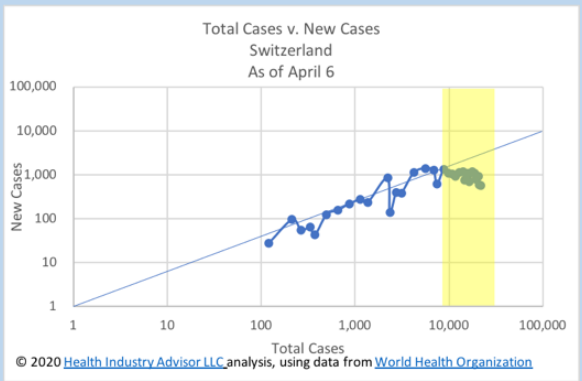












Mark A. Van Sumeren
P. O. Box 1810
Ann Arbor, MI 48106

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

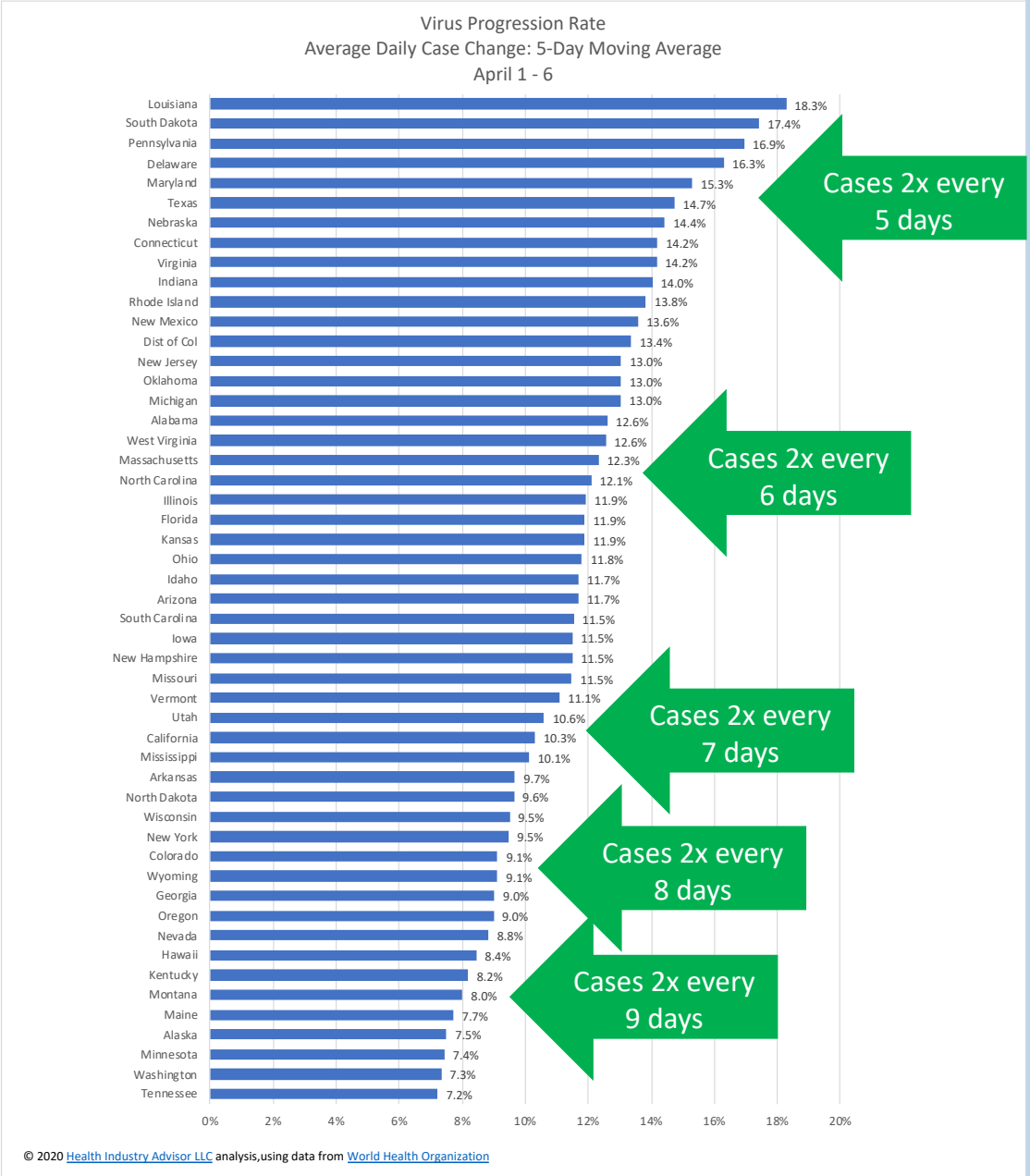
Health Industry Advisor, llc

COVID-19 Dashboard

"Strategic Guidance in an Era of Unprecedented Change"

Issue #17: April 7

Growth is slowing across the U.S.:



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

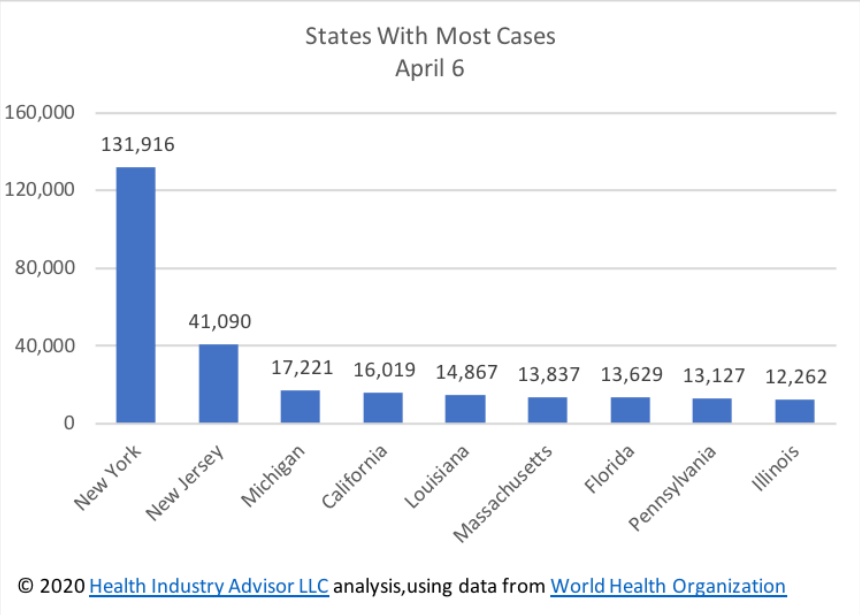
Phone: 804/402-1365
Email: Mark.VanSumeren@HealthIndustryAdvisor.com
Website: www.HealthIndustryAdvisor.com
Twitter: @HealthIndAdv

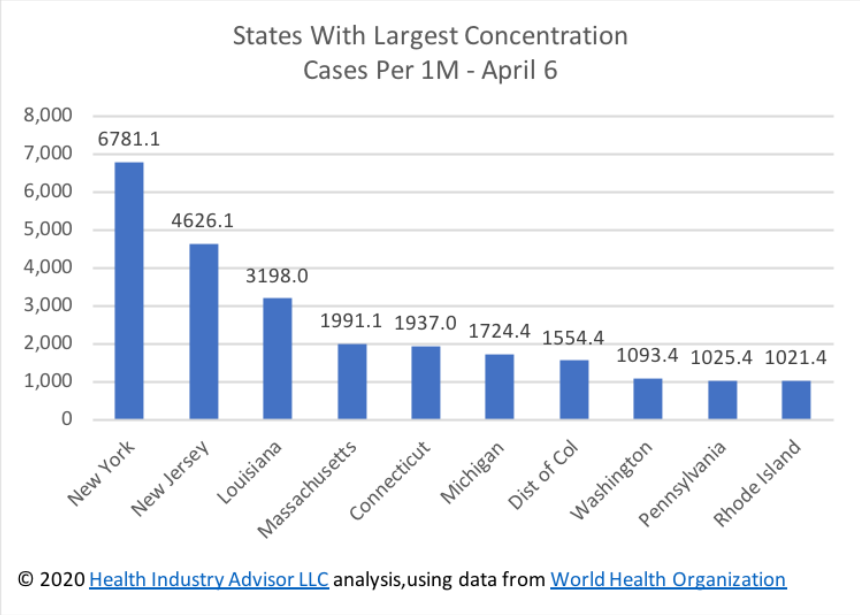
Health Industry Advisor, llc

COVID-19 Dashboard

"Strategic Guidance in an Era of Unprecedented Change"

Issue #17: April 7





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

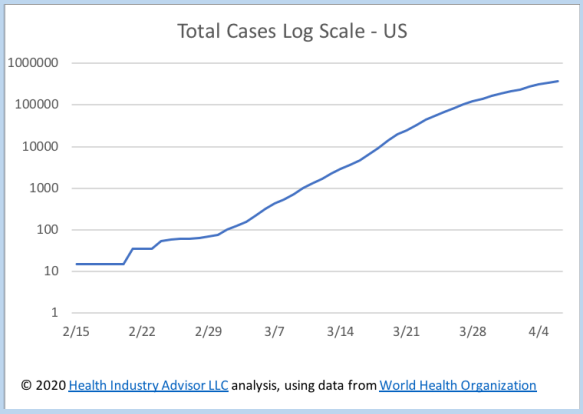
Phone: 804/402-1365
Email: Mark.VanSumeren@HealthIndustryAdvisor.com
Website: www.HealthIndustryAdvisor.com
Twitter: @HealthIndAdv

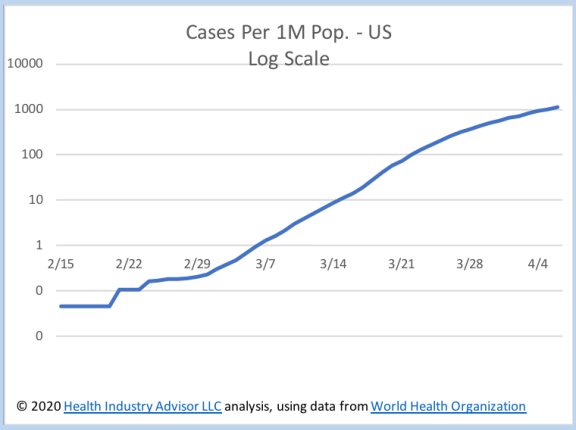
Health Industry Advisor, llc

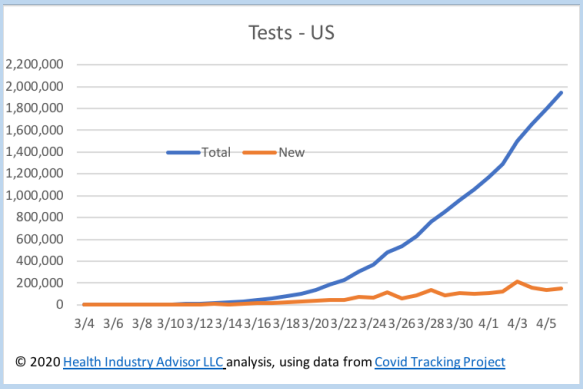
COVID-19 Dashboard

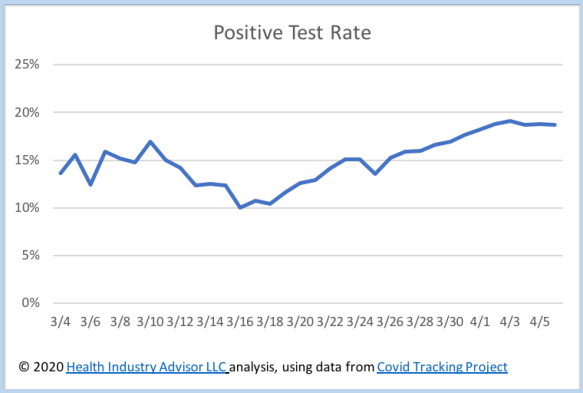
"Strategic Guidance in an Era of Unprecedented Change"

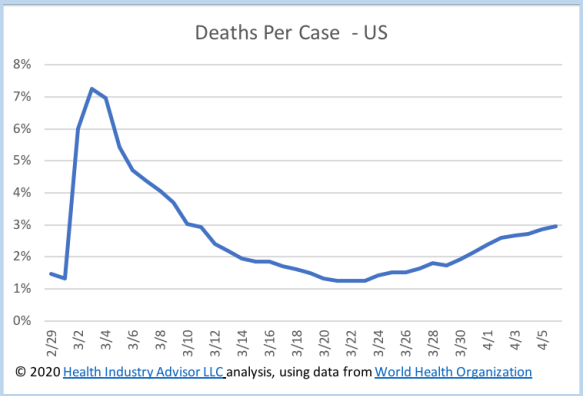
Issue #17: April 7

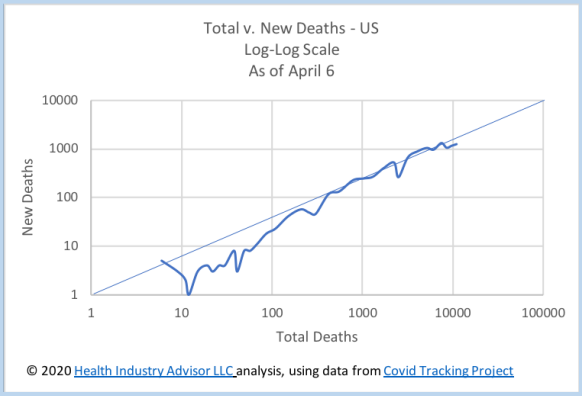












Mark A. Van Sumeren
P. O. Box 1810
Ann Arbor, MI 48106

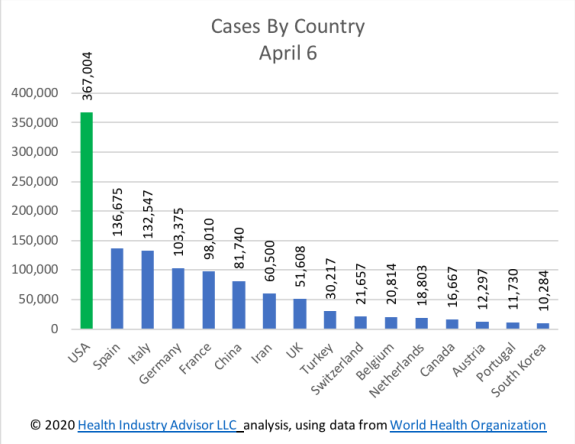
Phone: 804/402-1365
Email: Mark.VanSumeren@HealthIndustryAdvisor.com
Website: www.HealthIndustryAdvisor.com
Twitter: @HealthIndAdv

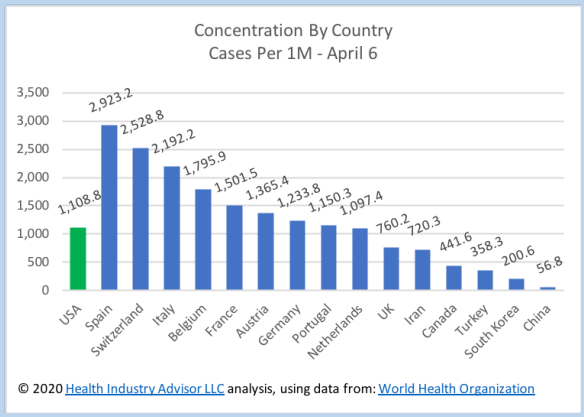
Health Industry Advisor, llc

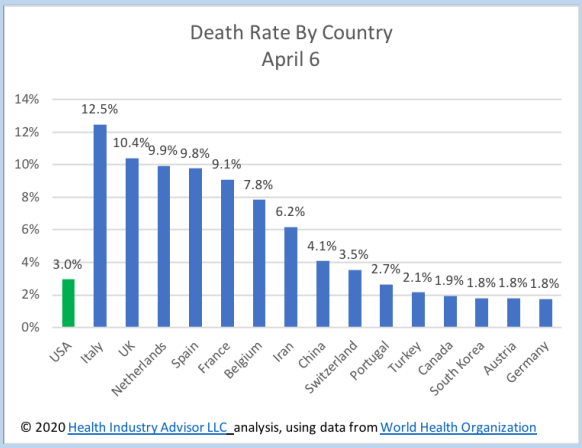
COVID-19 Dashboard

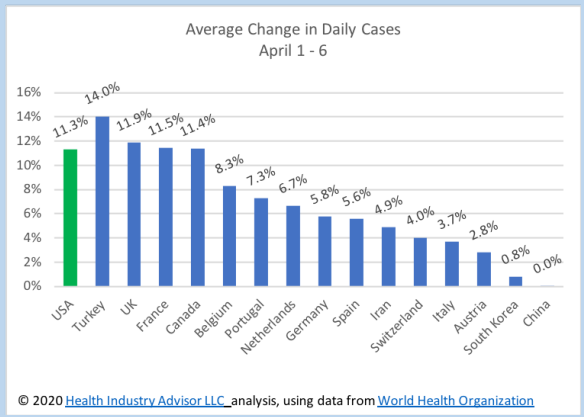
"Strategic Guidance in an Era of Unprecedented Change"

Issue #17: April 7









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