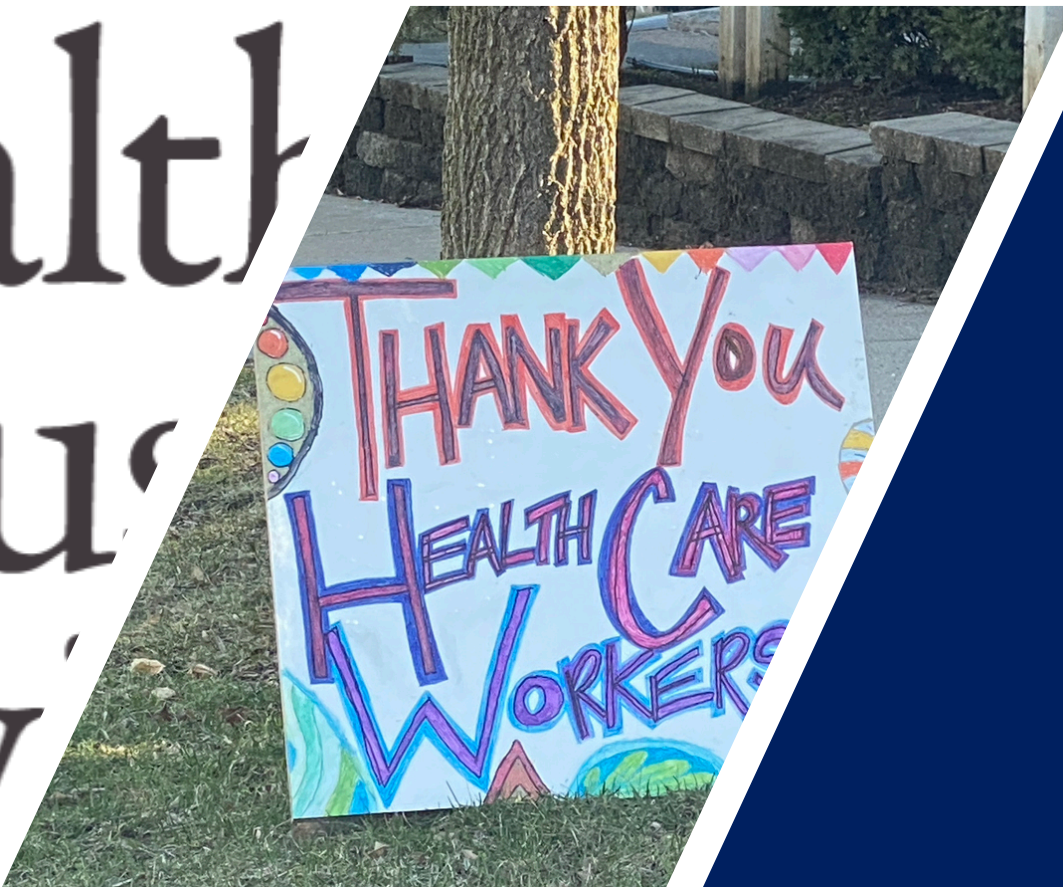




Health
Industry
Adv



Issue # 190
Tuesday, October 20, 2020
COVID-19
Report

Highlights

- Many European countries are experiencing high and sharply-increasing new infection rates:
 - In descending order of 7-day infection rates per capita: the Vatican, Andorra, Czech Republic, Belgium, Netherlands, Montenegro, Gibraltar, France, Slovakia and Switzerland
 - Several European countries have experienced extended periods of increasing rates: Netherlands: 49 consecutive days of increasing rates; Italy, 32; Germany, 25; Austria, 20; and Switzerland, 19. (Russia has experienced 52 consecutive days of increasing rates)
- Today, we debut a revised state-by-state Covid-19 status scorecard
 - It was well-received yesterday during a virtual seminar we delivered at the University of Michigan (a link to the presentation will be made available to this audience)
 - The scorecard uses five metrics (new infections per capita, weekly growth in new cases, tests performed : new cases, current Covid-19 census v. peak census and deaths per new case, lagged 28-days); states are measured on each criteria using a six-level scale
 - Vermont continues to set the standard for the country, grading out at the highest level on all five measures; Not surprisingly, North Dakota, South Dakota, Wisconsin and Wyoming are faring the worst overall
- Testing in the U.S continues to be a mixed story
 - Daily and 7-day moving average test volume both set record highs yesterday
 - Despite the high volume, the test-positive rate increased again; this rate has been trending upward for most of October
- The ratio of tests performed to newly detected cases continues its downward trend. This measure indicates the effectiveness and adequacy of testing, with the higher ratio being desirable
- Newly detected cases and the new infection rate are increasing in the U.S.
 - On a week-over-week basis, newly detected cases are up 17.1%
 - On a same-day, prior-week basis, newly detected cases have increased on eighteen of the nineteen days this month
 - There were more new cases detected yesterday than on any other Monday since July 27
 - As a result, the new daily infections per capita rate is a has as it has been since August 6
 - Still, the U.S rate remains markedly lower than it is in Belgium, France, Ireland, Netherlands, Switzerland and United Kingdom
 - Further, while the U.S rate has risen sharply in each of the past two weeks, the U.S.' ranking worldwide has fallen to 34th, from 31st last week and 26th two weeks ago
- With the recent rise in cases, we need to keep an eye on deaths with the coronavirus
 - We soon may begin to see the impact of new cases on deaths (Published reports suggest a 2-6 week lag from infection-to-death)
 - In fact, the 7-day moving average deaths increased on two consecutive days. Nonetheless, this rate remains within the relatively narrow range it has been for the past two weeks
 - There were more deaths reported yesterday than on each of the past four Mondays

After leveling in late-August through early-September, new daily cases worldwide* have been increasing at a significant rate

New daily cases are now averaging ~355k each day

* - 7-day moving average basis

Newly Reported Daily Cases - Worldwide

7-Day Moving Average



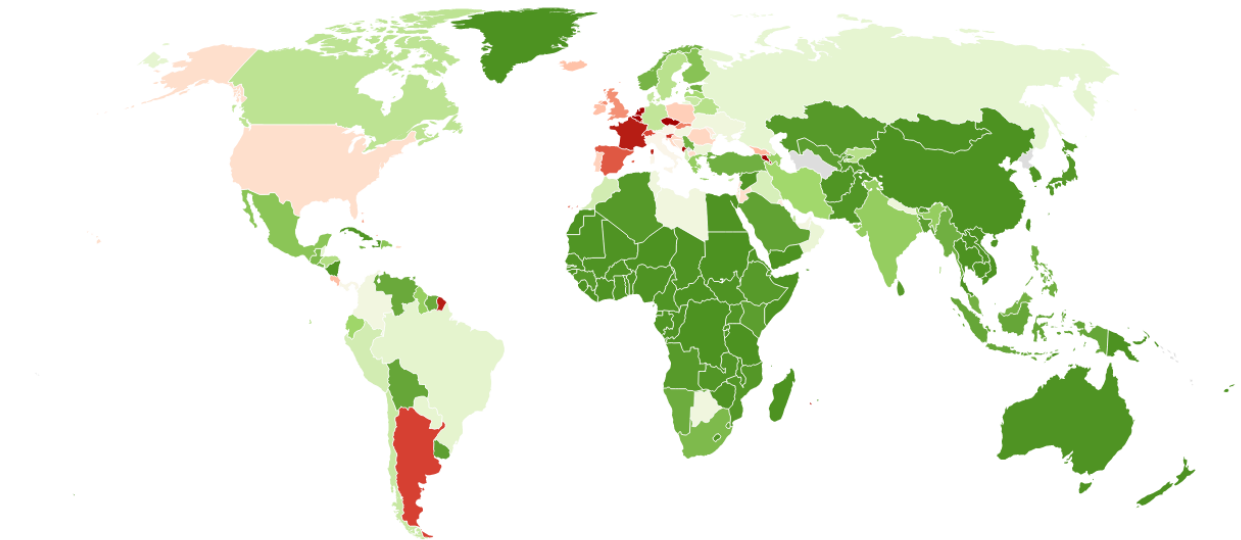
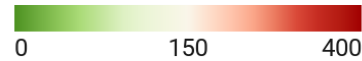
Chart: Health Industry Advisor LLC • Created with Datawrapper

While many countries are experiencing relatively low infection rates*, Argentina, United States and parts of Europe are experiencing relatively high and increasing rates

* - 7-day moving average basis

New Infections / Million

7-Day Moving Average, As of October 19



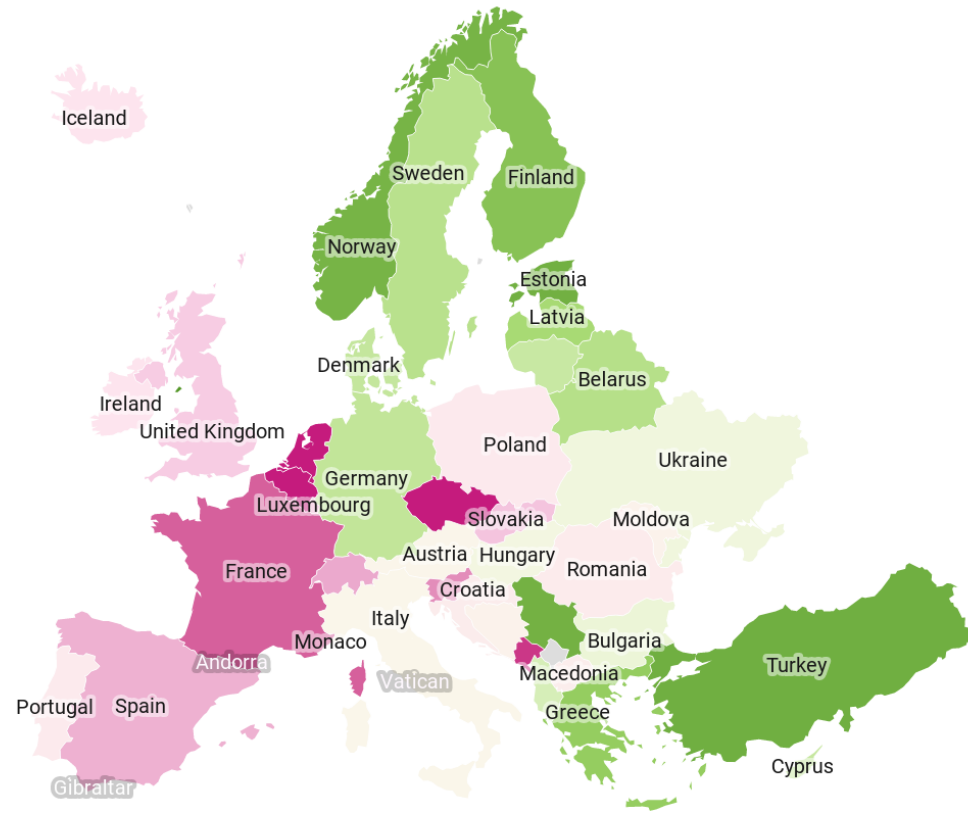
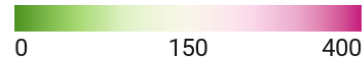
Map: Health Industry advisor LLC • Created with Datawrapper

European countries with the highest rates of new infections per capita* (in descending order): Vatican, Andorra, Czech Republic, Belgium, Netherlands, Montenegro, Gibraltar, France, Slovakia and Switzerland

* - 7-day moving average basis

New Daily Cases / Million

7-Day Moving Average, As of October 19



Map: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

The Netherlands and Russia have experienced extended periods of rising infections rates per capita*, followed by Italy and Germany

This rate has risen for seventeen consecutive days in the United States

* - 7-day moving average basis

Consecutive Days of Increases in Newly Detected Cases Per Capita

7-Day Moving Average, As of October 19

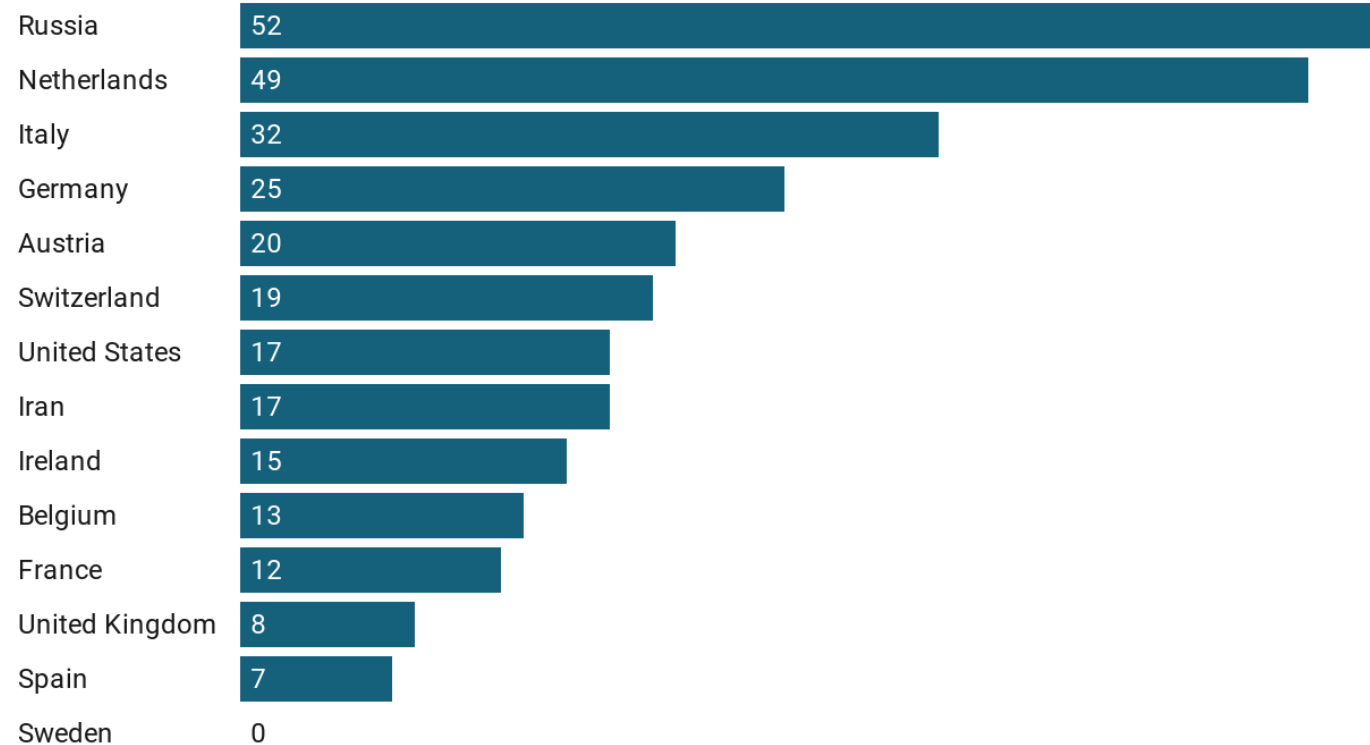


Chart: Health Industry Advisor LLC • Source: Worldometers.info • Created with Datawrapper

Infections have spread rapidly across Europe over the past week – most notably in Belgium, France, the Netherlands, Switzerland and the United Kingdom

Rates in the countries are higher and, in some cases, increasing more sharply than in the United States

Sweden, with its controversy about how it has handled the pandemic, Remains a relatively low rate

New Daily Infections / Million - U.S. and Selected European Countries

7-Day Moving Average, October 13-19

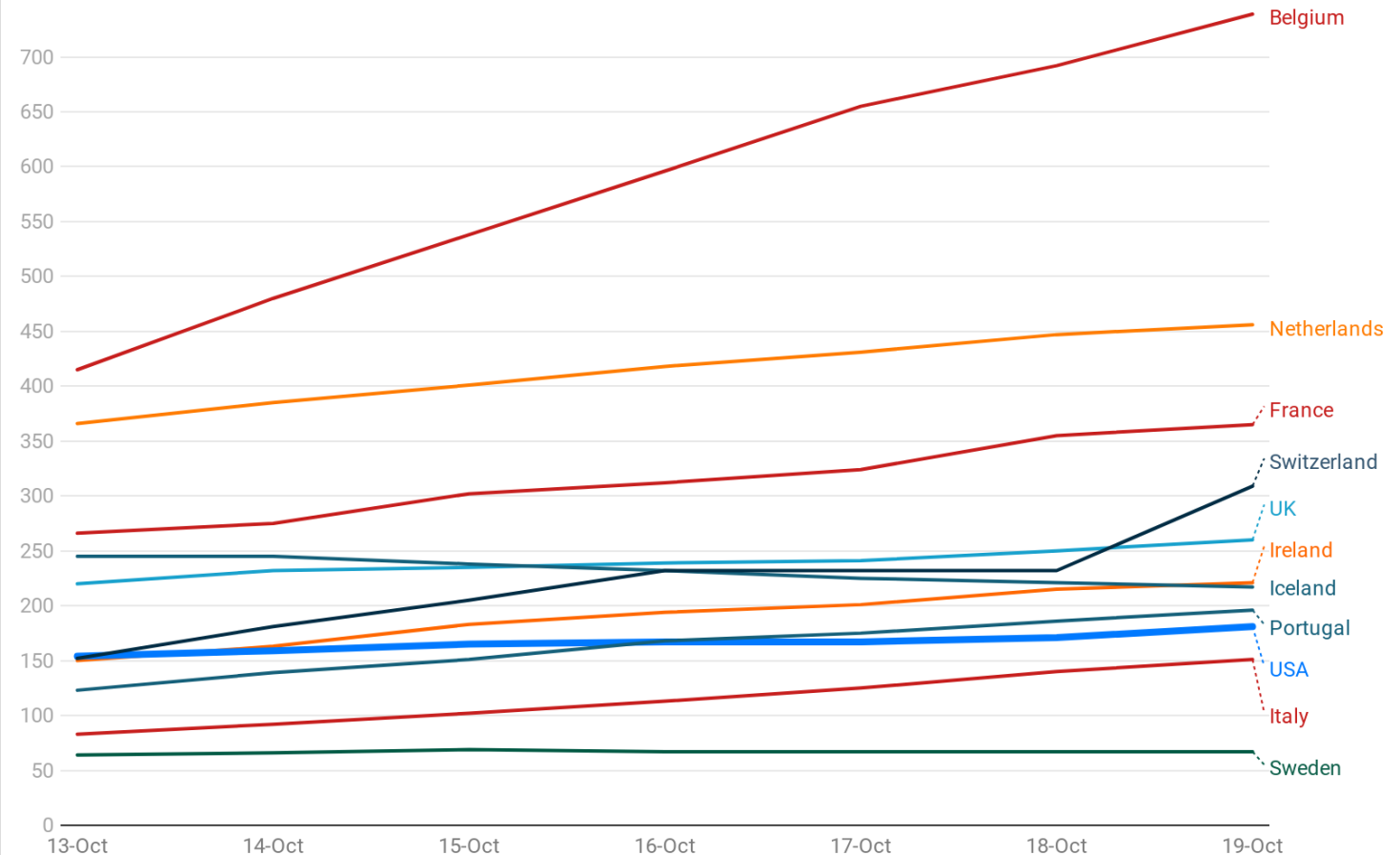


Chart: Health Industry Advisor LLC • Created with Datawrapper

Introducing a revised state-by-state scorecard

Designed to reflect five critical measures of a state's current experience with Covid-19

At his point, we have elected not to provide an overall score – in our view, different audiences would assign different priorities to each of the five measures

For example, health systems might weigh the Covid-19 census v. peak highest; A community might weigh the deaths per case highest



Metric		Black	Red	Orange	Yellow	Green	Blue
7-Day Average New Daily Reported Infections per Capita	Greater than	450	350	250	150	50	0
Week-over-Week Change in Newly Reported Cases	Greater than	30%	20%	10%	0%	-10%	N/A
7-Day Average Viral Tests per 7-Day Average Newly Reported Cases	Less than	5	10	25	50	75	N/A
7-Day Covid-19 Inpatient Census v. Peak Covid-19 Inpatient Census	Greater than	95%	85%	75%	50%	25%	0%
7-Day Deaths per 1000 New Cases (28-day lag)	Greater than	50	40	30	20	10	0

Scorecard (1 of 2)

District of Columbia doing well across all categories

California is doing well, save for its testing efficiency

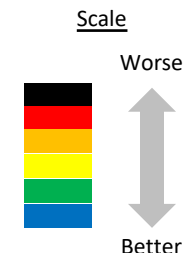
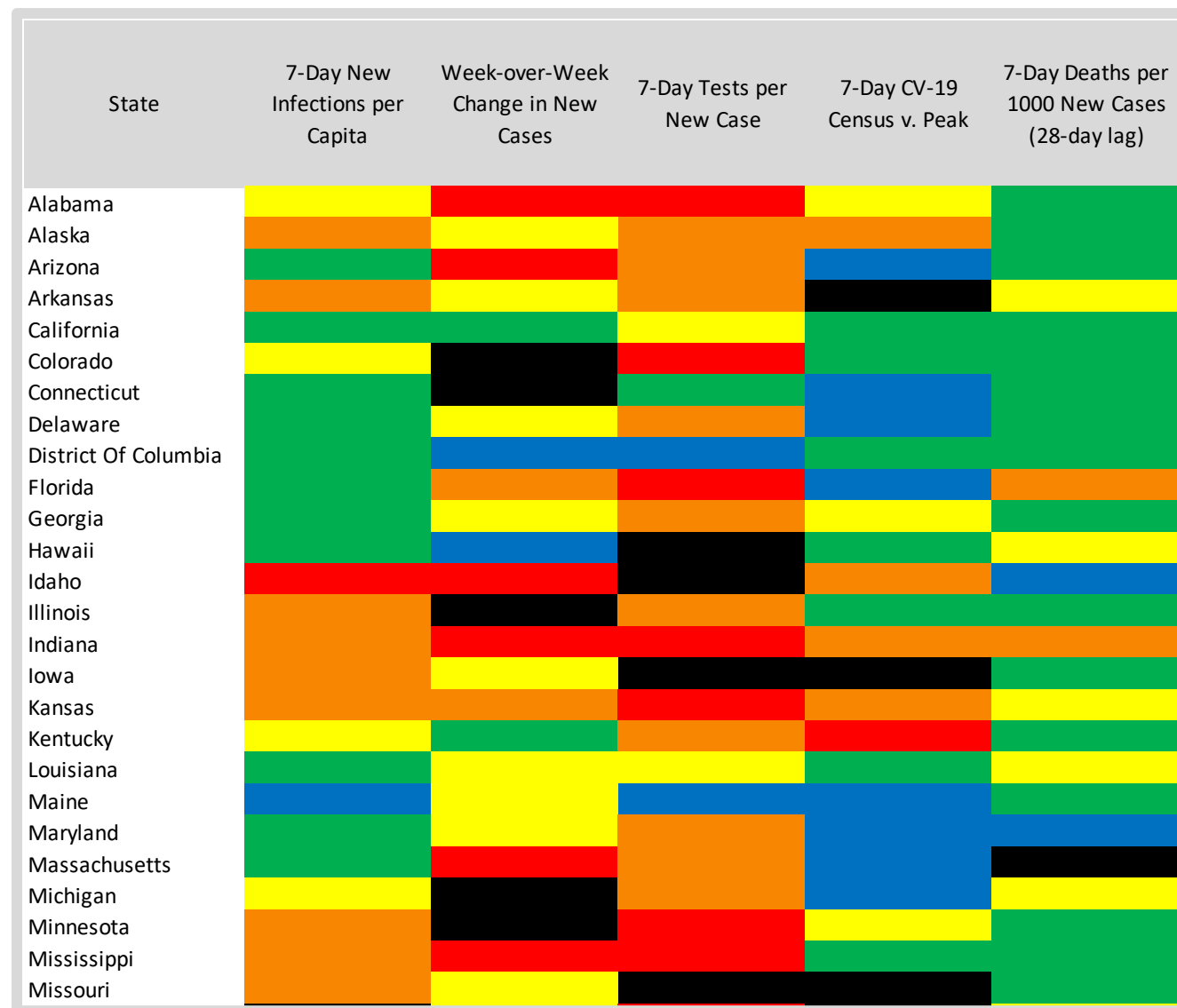
Connecticut and Maine are doing well, save for week-over-week increases in newly reported cases

Indiana struggling on each measure

Kansas struggling on all measures except deaths/ case

Michigan and Mississippi are struggling, except for inpatient Covid-19 census and deaths per case

Minnesota and Missouri are struggling, except for deaths per case

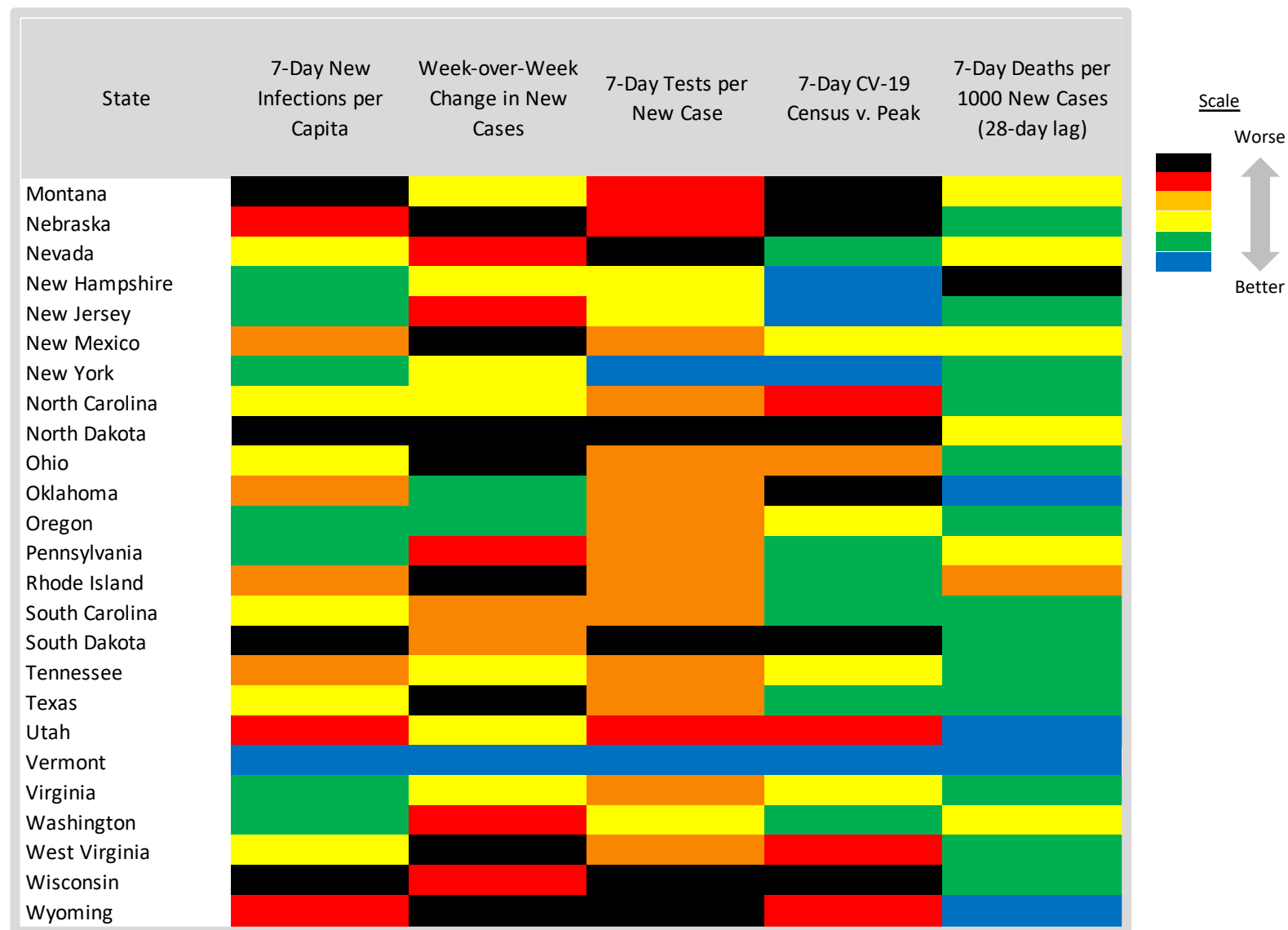


Scorecard (page 2 of 2)

Vermont excelling on every measure

New York faring well on all measures except week-over-week increase in new cases

North Dakota, South Dakota, Wisconsin and Wyoming challenged on every measure, except deaths per case

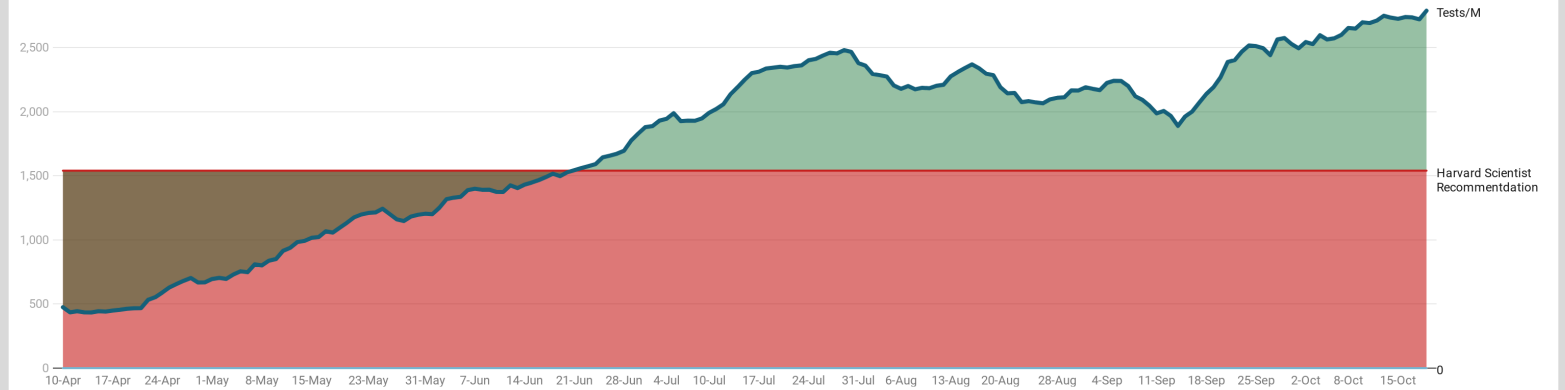


The daily and 7-day average testing volume set record highs yesterday

The 7-day test-positive rate, however, has been trending upward since the beginning of October

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of October 19

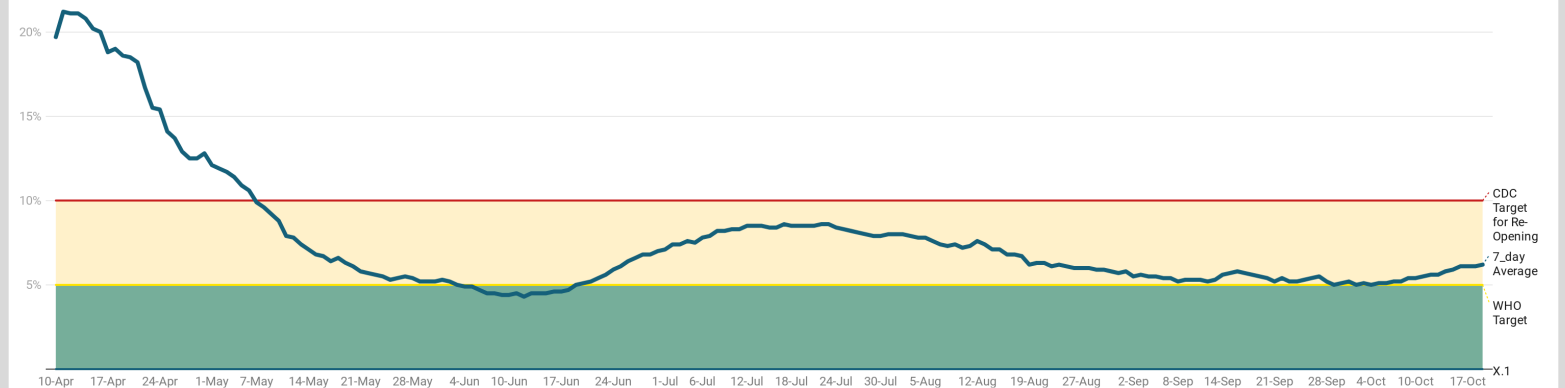


Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

Test-Positive Rate - United States

Trailing 7-Day Moving Average, As of October 19



Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • Created with Datawrapper

A measure of the effectiveness of testing is the ratio of tests performed to newly-detected cases

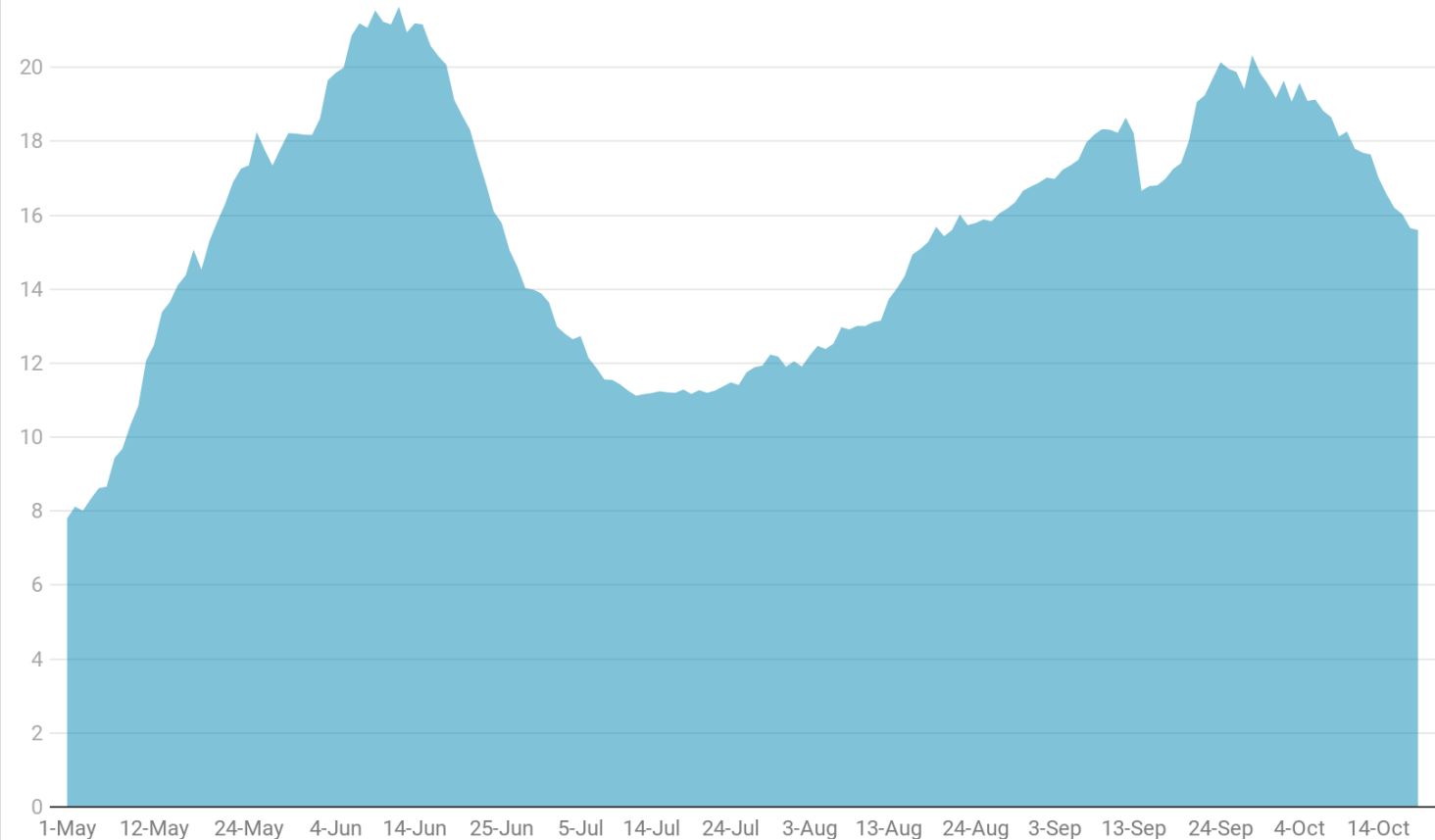
A low ratio indicates that testing may not be adequate to identify all new infections (i.e., may only be testing the most severe infections)

A high ratio indicates that testing may be sufficient to capturing a high percentage of infections

This ratio has been declining for the past month – perhaps, testing is not keeping up with the surge in new infections

Tests / New Case Detected (7-Day Average)

How many tests does it take to detect a new case?



Prefer this ratio to be higher rather than lower

Chart: Health Industry Advisor LLC • Created with Datawrapper

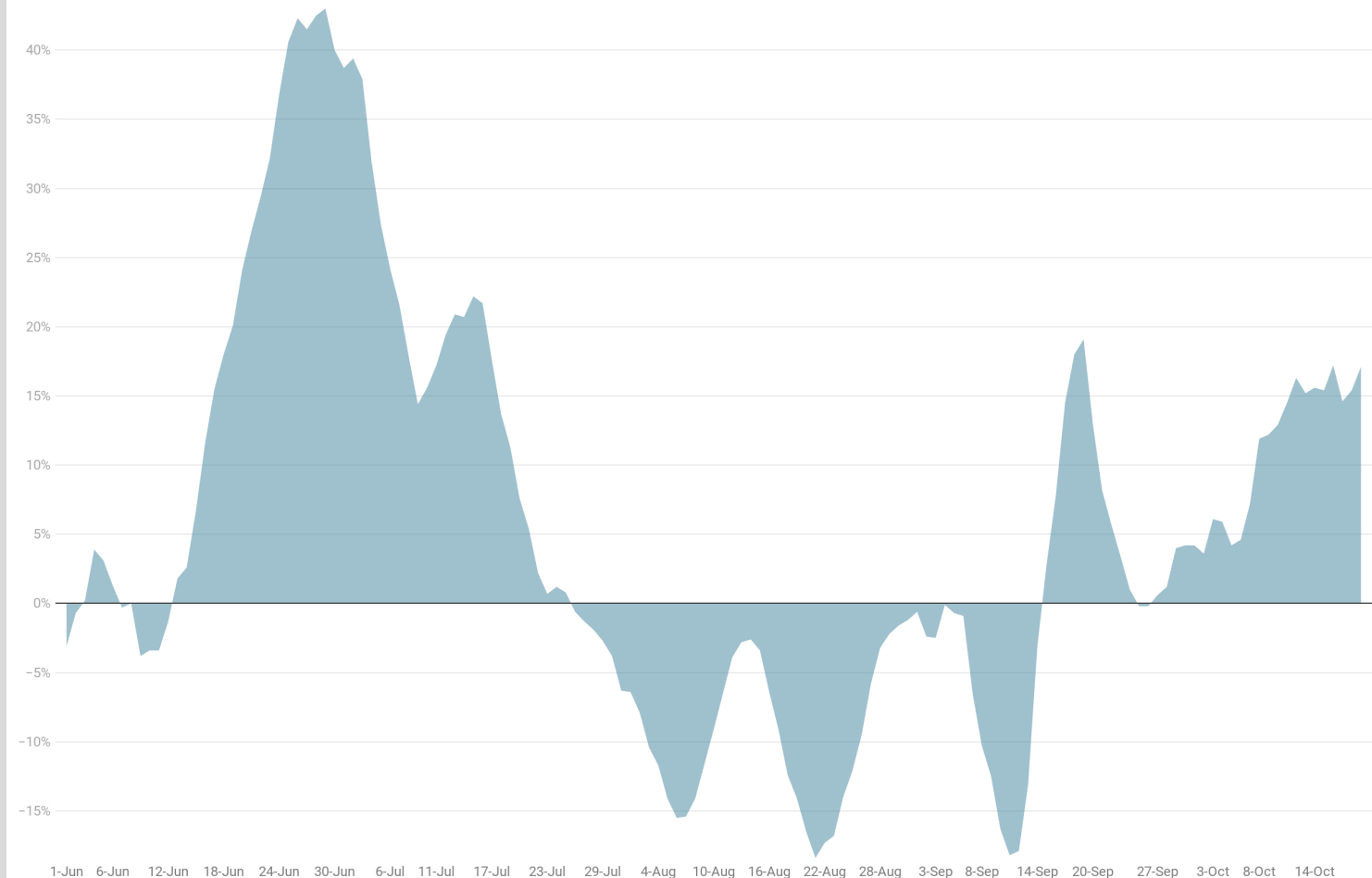
Following a seven-week period of decline, new cases began increasing on a week-over-week basis on September 15

A pause or will the rate of cases growth begun to decline? Yesterday, this rate was up 17.1% on a week-over-week basis it has bounced between 15.2-17.2% for the past eight days)

This rate had previously peaked at 19.1% on September 19 and 43% on June 29

Week-Over-Week Change In New Cases

Through October 19



Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Yesterday was the eighteenth time this month that newly detected cases increased on on same-day, prior-week basis

Change in New Daily Cases v. Same Day Week Earlier - U.S.

Month of October

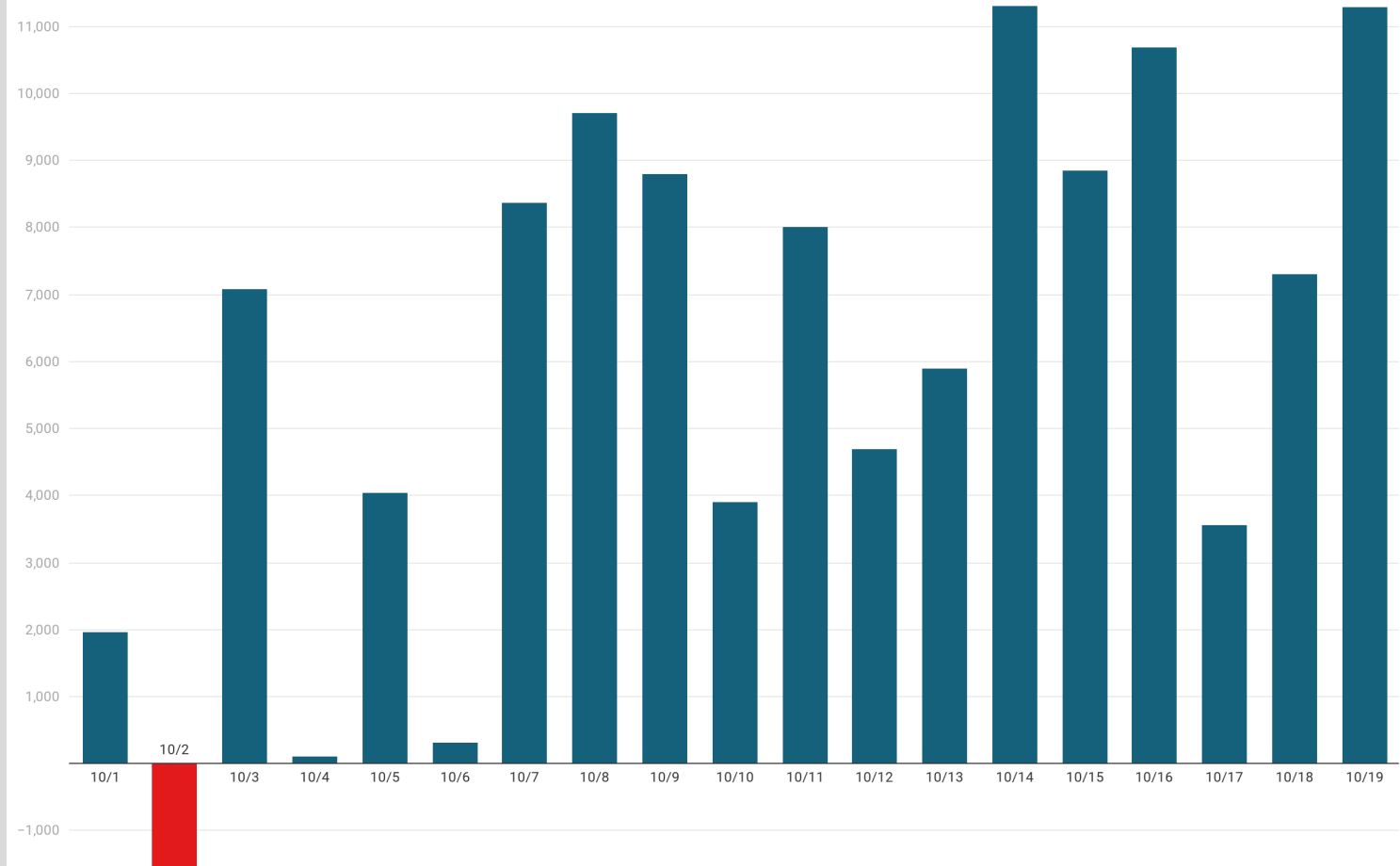


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

There were more newly detected cases reported yesterday than on any Monday since July 27

Newly Detected Cases

Through October 19

Mondays Highlighted

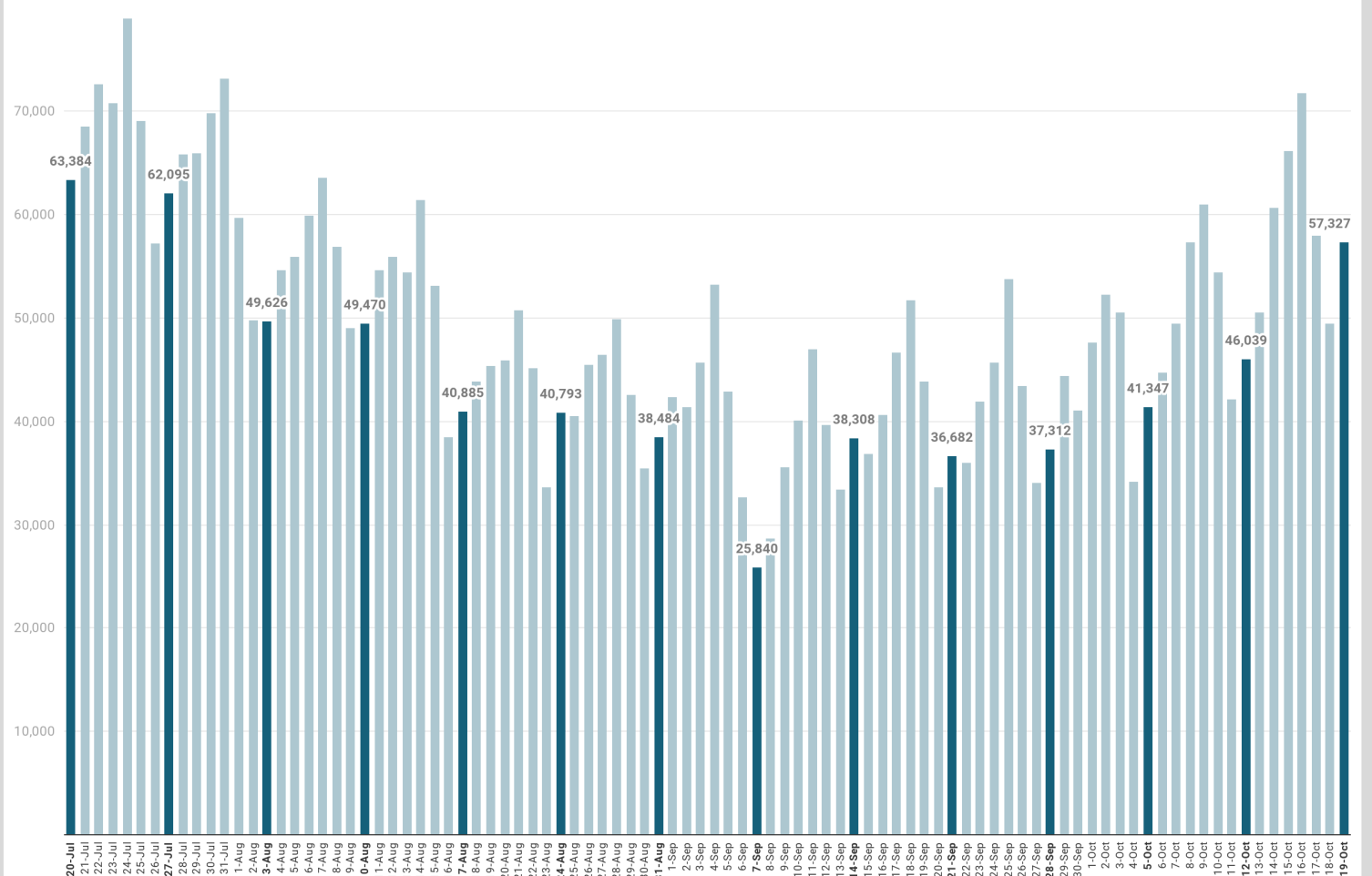


Chart: Health Industry Advisor LLC • Source: eorlometers.info • Created with Datawrapper

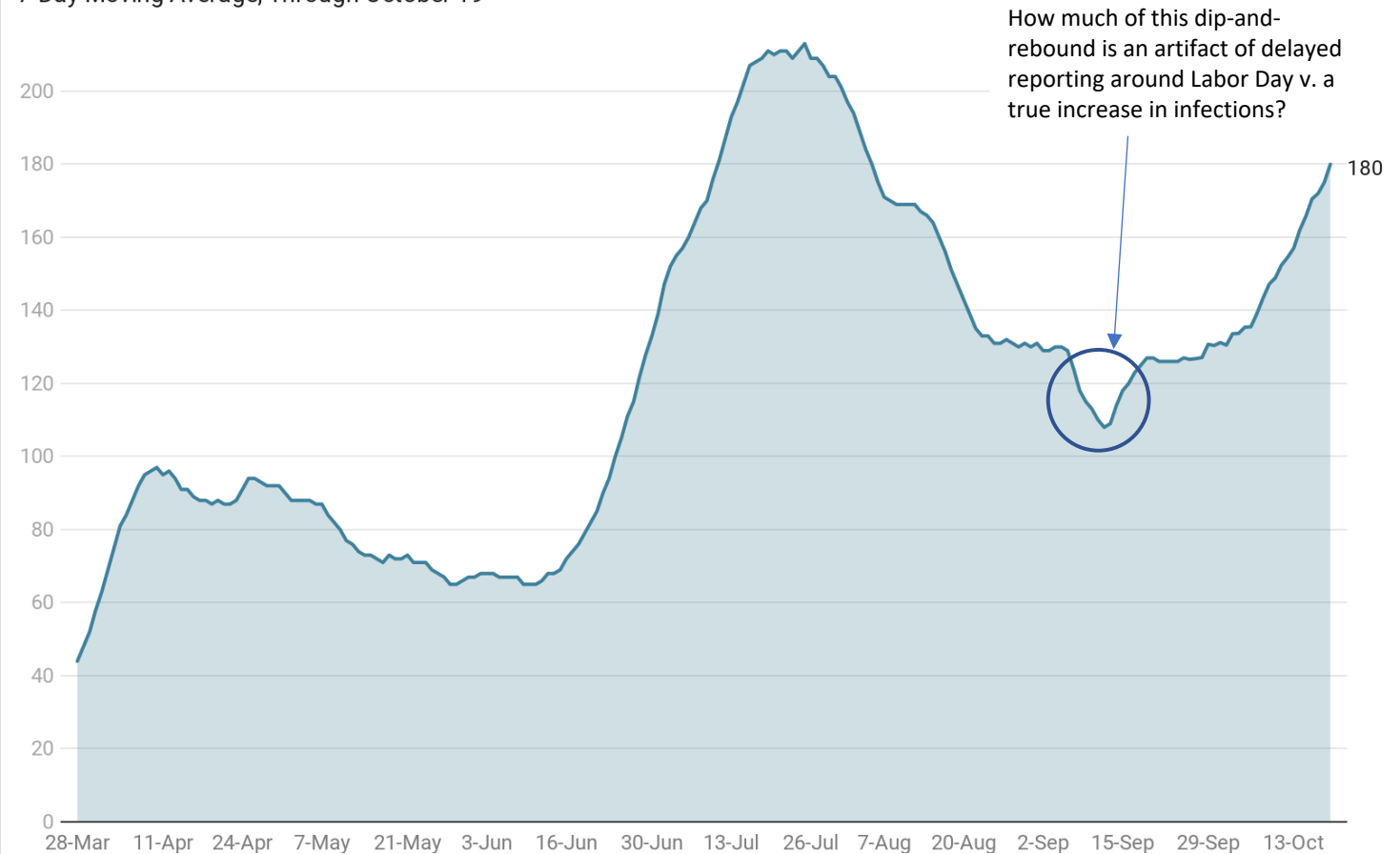
The rate of new infections per capita* in the U.S. rose for the seventeenth consecutive day

This rate is the highest it has been since August 6

* - 7-day moving average basis

Newly Detected Infections Per 1 Million Population - United States

7-Day Moving Average, Through October 19



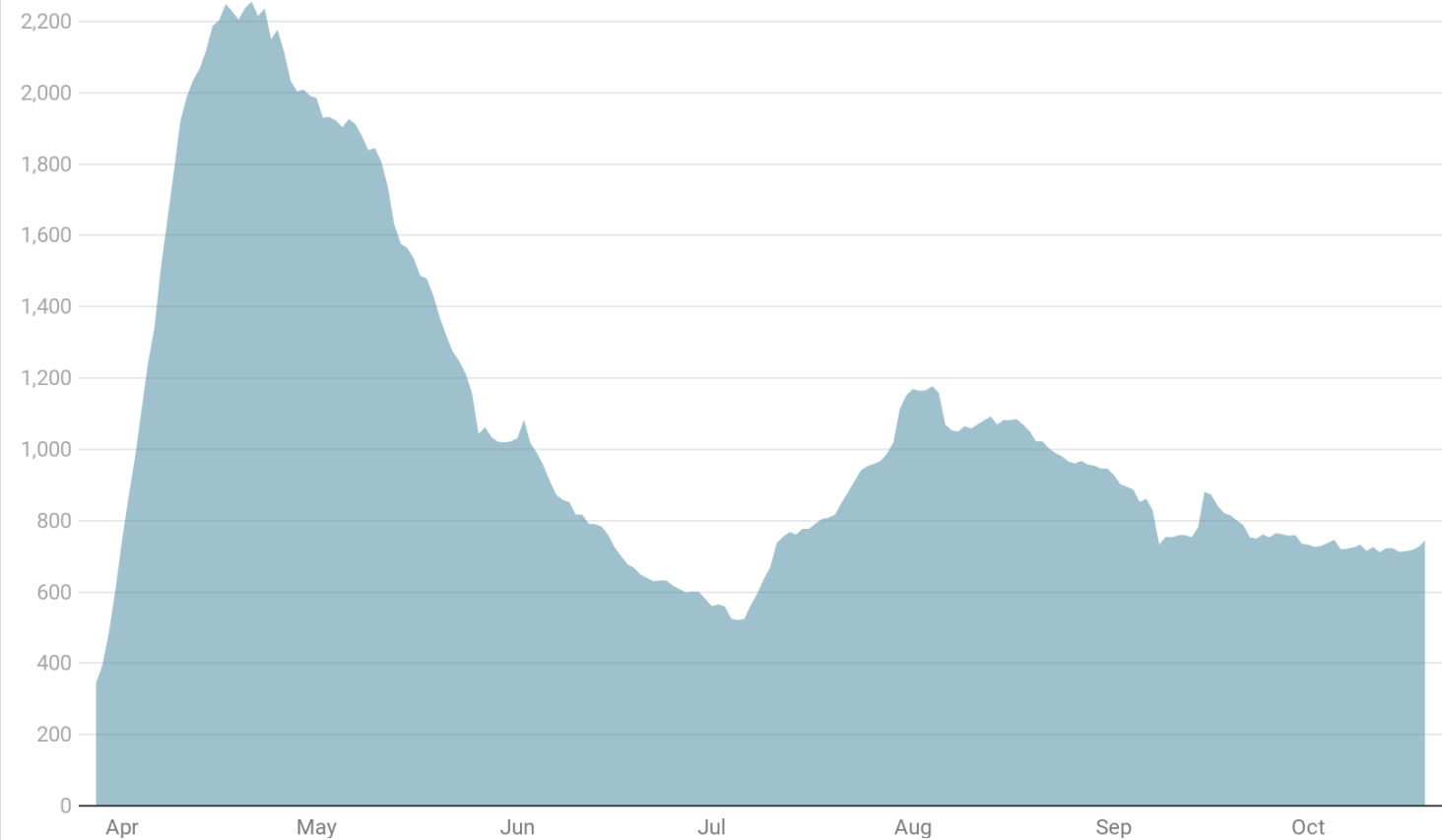
Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

The 7-day average deaths per day increased on consecutive days. Nevertheless, this rate has been relatively stable for the past two weeks

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of October 19



Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

There were more deaths reported yesterday than each of the past four Mondays

Newly Reported Deaths

Through October 19

Mondays Highlighted

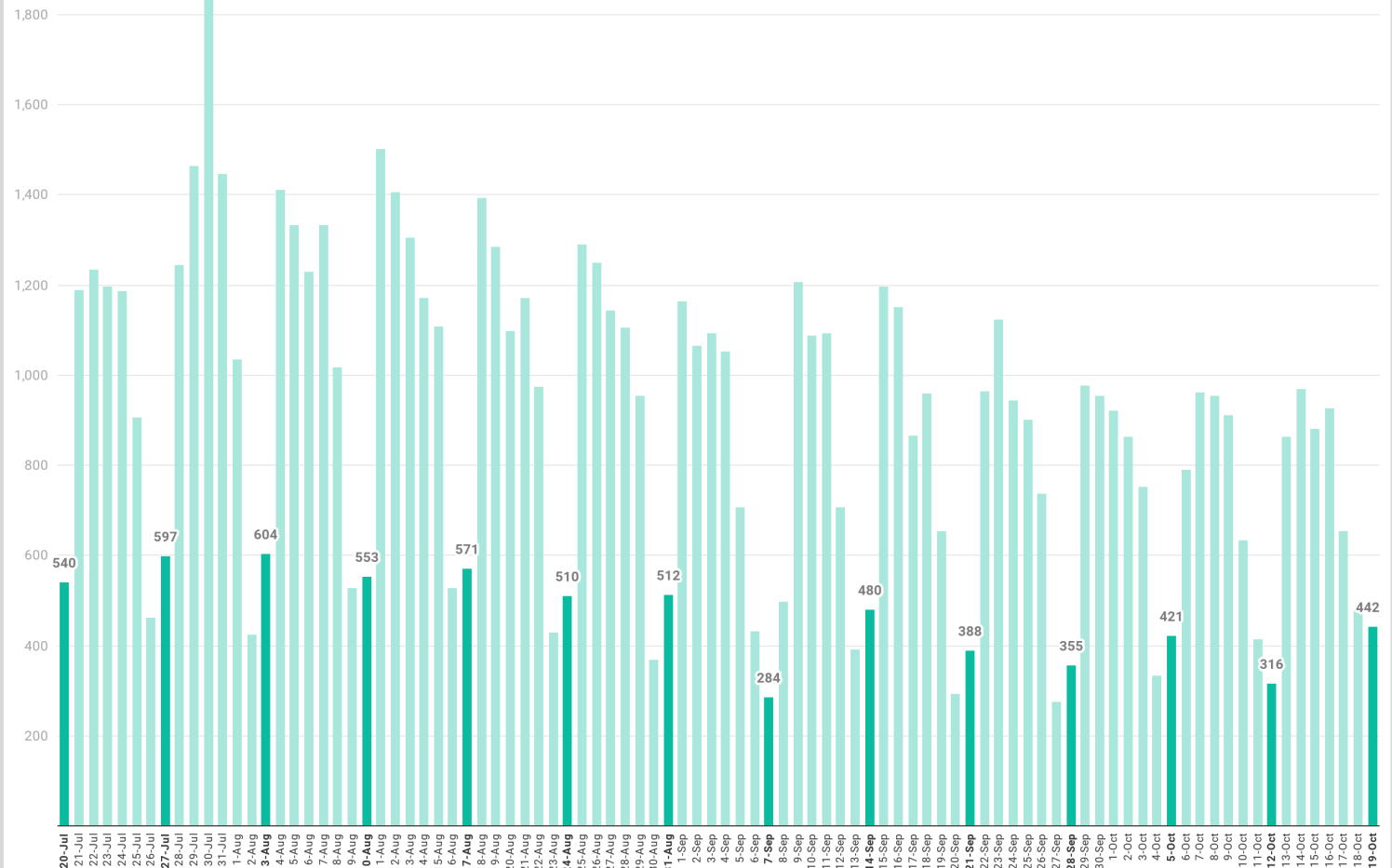


Chart: Health Industry Advisor LLC • Source: eorlometers.info • Created with Datawrapper

Data Sources

The following data sources are accessed on a daily or weekly basis:

- The Atlantic's Covid Tracking Project: <https://covidtracking.com>
- Worldometers.info: <https://www.worldometers.info/coronavirus/>
- Centers for Disease Control, National, Regional, and State Level Outpatient Illness and Viral Surveillance
<https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>
- Centers for Disease Control, COVID-19 Laboratory-Confirmed Hospitalizations
https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control, COVID Data Tracker <https://www.cdc.gov/covid-data-tracker/index.html#mobility>
- Institute for Health Metrics and Evaluation, COVID-19 estimate downloads
<http://www.healthdata.org/covid/data-downloads>
- New York Times, Covid-19 data <https://github.com/nytimes/covid-19-data>
- COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University
<https://github.com/CSSEGISandData/COVID-19>
- COVID-19 Projections Using Machine Learning, <https://covid19-projections.com>