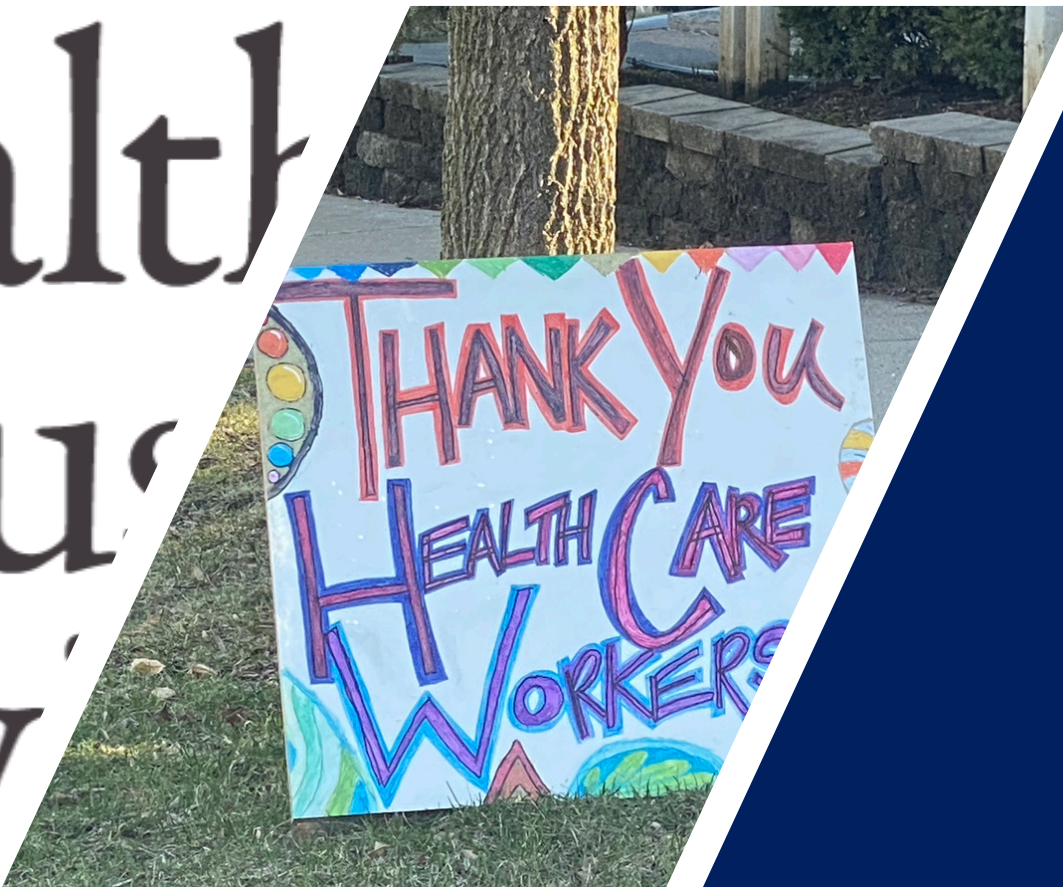




Health
Industry
Adv



Issue # 215
Wednesday, November 18, 2020

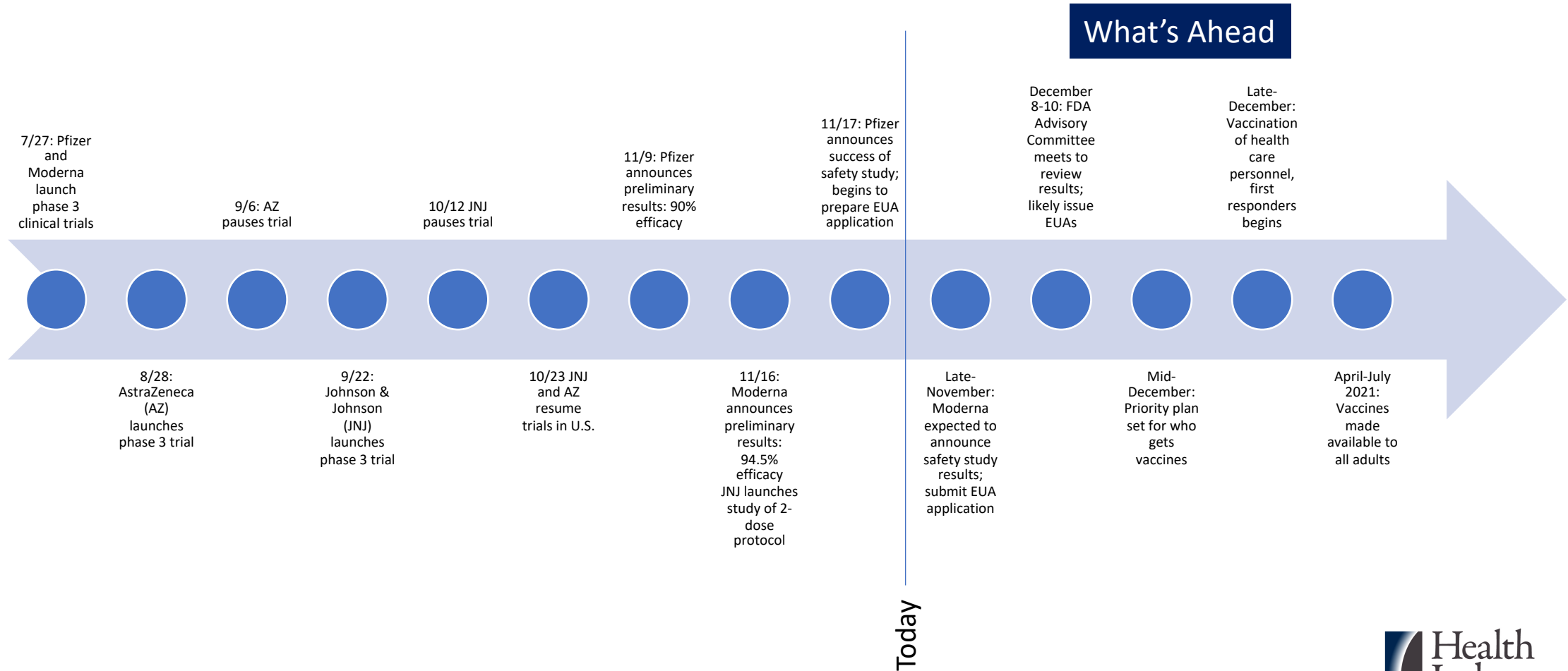
COVID-19 Report

Highlights

- **Pfizer announced that the safety study of its Covid-19 vaccine is complete, and they are preparing the application for to the FDA for Emergency Use Authorization (EUA).** Moderna is expected to follow suit shortly.
- **An FDA advisory panel is scheduled to meet on December 8-10, following which time EUAs are anticipated for both companies' vaccines.** If all goes according to plan, vaccination of healthcare personnel and first responders will begin before the end of the year. (Johnson & Johnson and AstraZeneca seem to be on-track to wrap-up their respective Phase 3 clinical studies by year-end.)
- Johnson & Johnson announced that it was adding a study of a 2-dose administration of its vaccine, complementing the single dose phase 3 study underway
- **The FDA granted an EUA to Lucira Health for its at-home Covid-19 rapid-test - the first such at-home test approved by the FDA.** The test reportedly takes 2 minutes to self-administer, with results in 15-20 minutes. A prescription will be required. Rollout will begin shortly in California and Florida, with national availability by early Spring
- **Research from the LaJolla Institute of Immunology suggests that immunity to the coronavirus may last years, if not longer.** The study reached this conclusion by reviewing the high level of stability in the first 6+ months of immunity. The study has not been peer-reviewed; however, its findings are consistent with studies from other labs and with the findings from survivors of an earlier coronavirus (SARS), which showed immunity cells after 17 years
- **Newly-detected cases each day continue to increase in the U.S. - yet, the week-over-week change in new cases has declined (rather significantly) on seven consecutive days.** It is important that this trend continues
- **7-day tests per capita set another new high yesterday - the twenty-second time this has occurred in the past twenty-seven days**
- Unfortunately, **the 7-day test-positive rate increased for the twenty-second consecutive day.** This rate exceeds the CDC target for Phase 3 re-openings
- **Nearly 1-in-4 available inpatient beds in the U.S. are occupied by Covid-19 patients.** In Nevada, its 1/2; in Connecticut, Illinois, New Mexico and Wisconsin, its > 4-in-10. **These high occupancy levels impair the ability to perform elective surgeries and to serve other non-Covid-19 patients**
- The rate that new Covid-19 cases are hospitalized remains much lower than earlier in the pandemic. Although this rate was up very slightly yesterday, it had declined sixteen consecutive days leading up to yesterday and twenty-five of the prior twenty-six days
- **7-day average deaths with the coronavirus increased yesterday - the fifteenth consecutive day this has occurred.** The current rate now matches where it was in early-August yet, is nearly 50% lower than it was in late-April
- The case fatality rate, based on a 28-day lag from case detection to death, has remained steady for the past month; the current rate is more than 40% lower than where it was in mid-July
- **ER visits for Covid-19-like illnesses have declined over the past six days, following a 6-week-long period of increasing rates; ER visits for influenza-like illnesses continue to be below each of the eight prior flu seasons**

Vaccine Timeline in the U.S

What's Ahead



Worldwide, the rate of growth slowed over the past three weeks

The U.S. was moving in the opposite direction, with the rate of change in new cases *increasing* throughout November (accelerating growth)

The good news – the week-over-week rate of increase has now declined on seven consecutive days

Week-Over-Week Changes in Newly-Detected Cases: USA v. Worldwide

7-Day Moving Average

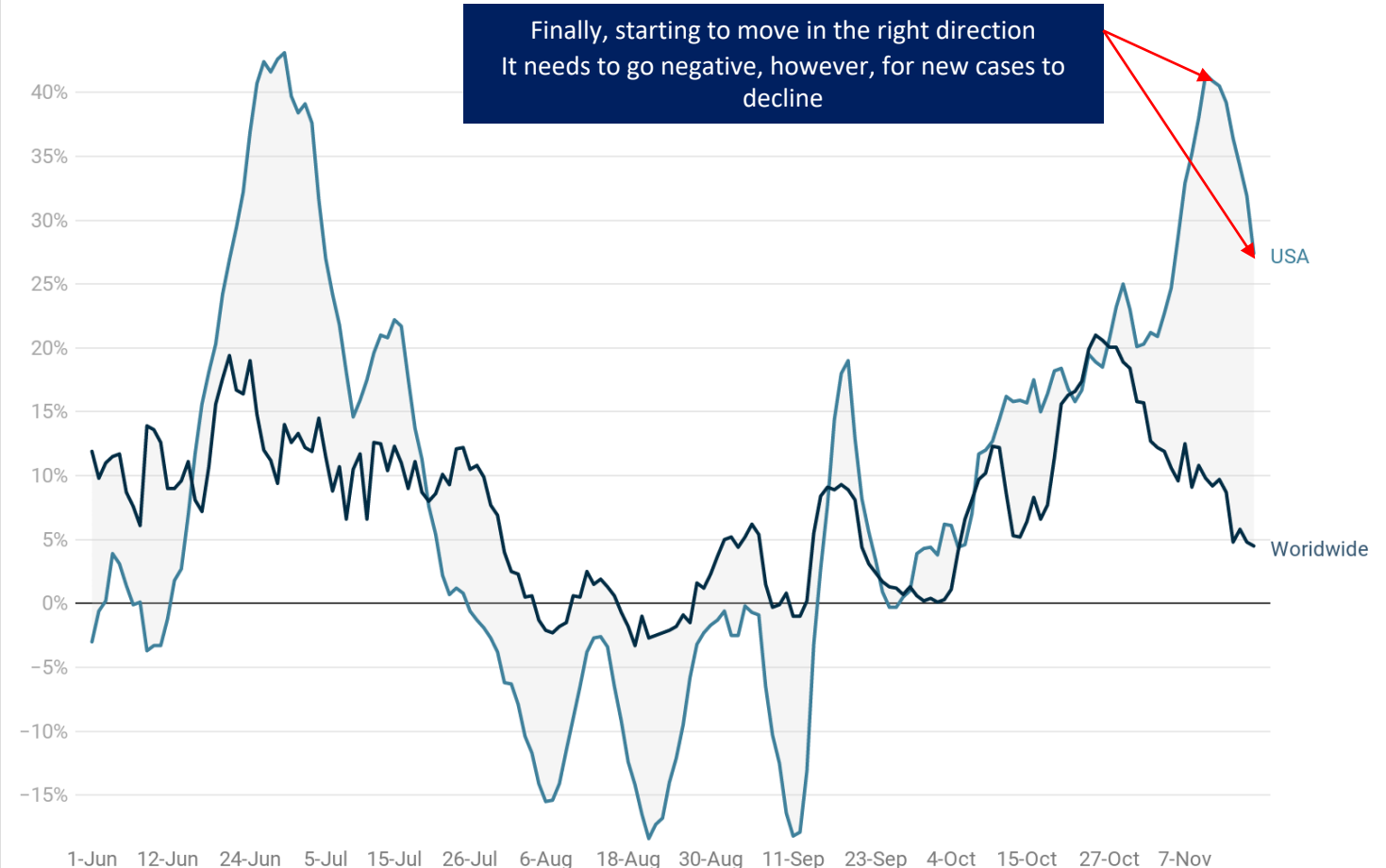


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

One for the physics majors:

Although new cases are continuing to rise, the underlying trends have turned favorable:

The week-over-week change in new case began to decline on November 11 (see "A" on graph)

The rate of change in this factor began to decline on November 6 (see "B" on graph)

New Case Trends in the United States

Including "first" and "second derivative"

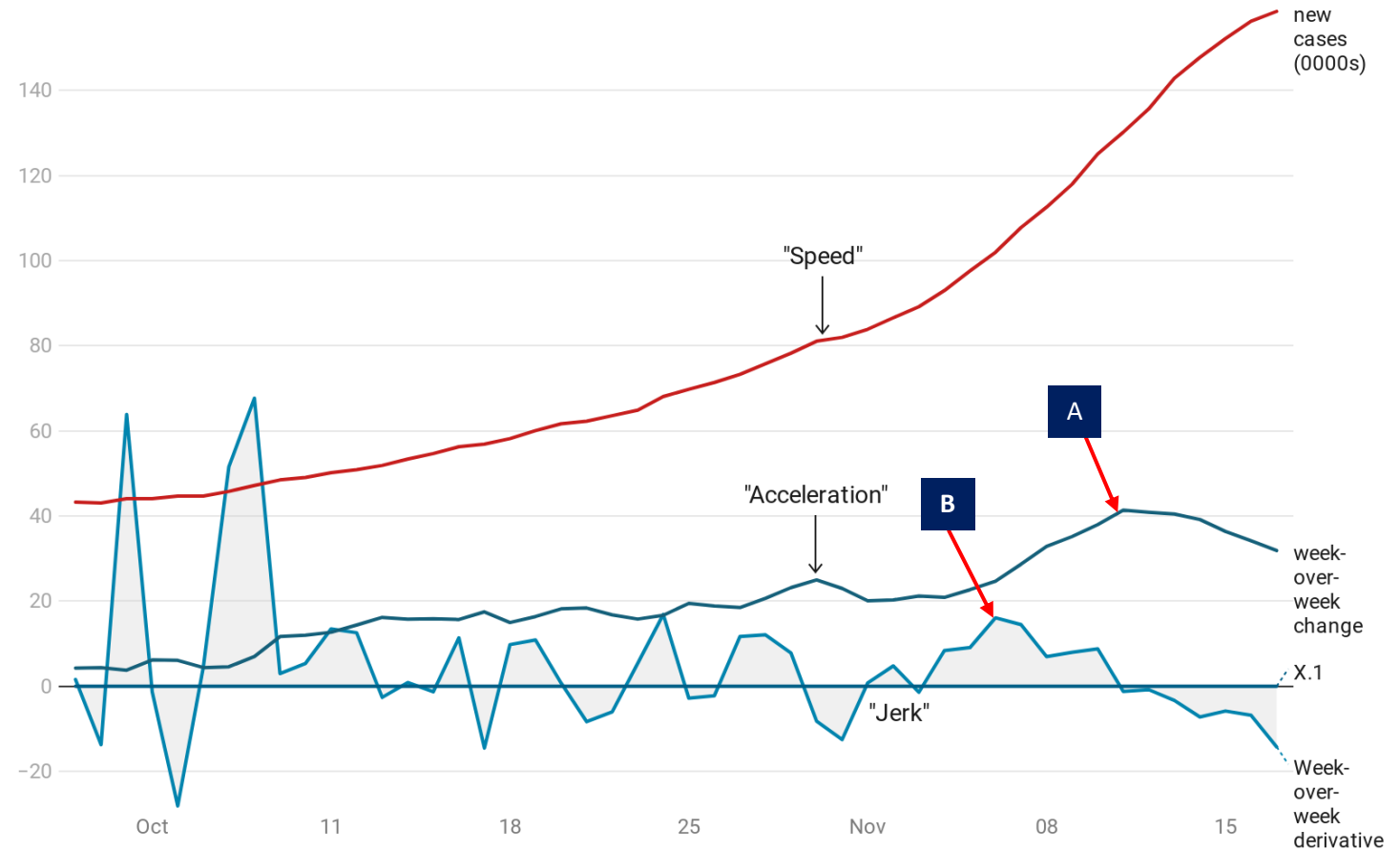


Chart: Health Industry Advisor LLC • Source: worlometers.info • Created with Datawrapper

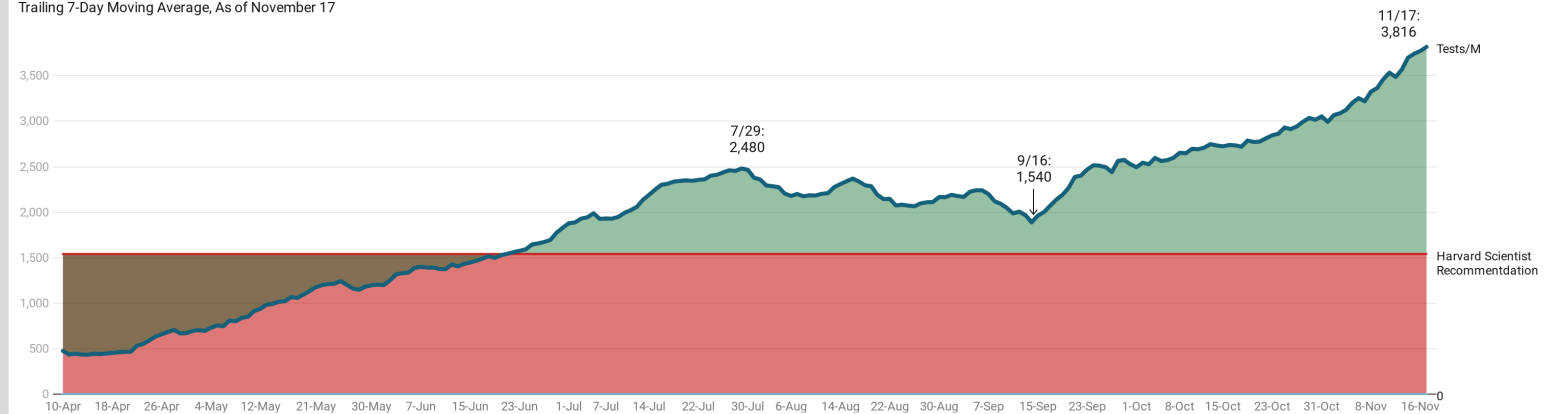
The 7-day average testing volume has increased by 50% since its late-July peak – setting new highs twenty-two of the past twenty-seven days

The 7-day test-positive rate, however, has been trending upward since the beginning of October - increasing on twenty-two consecutive days

This rate is now above the target established by the CDC for Phase 3 re-openings

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of November 17

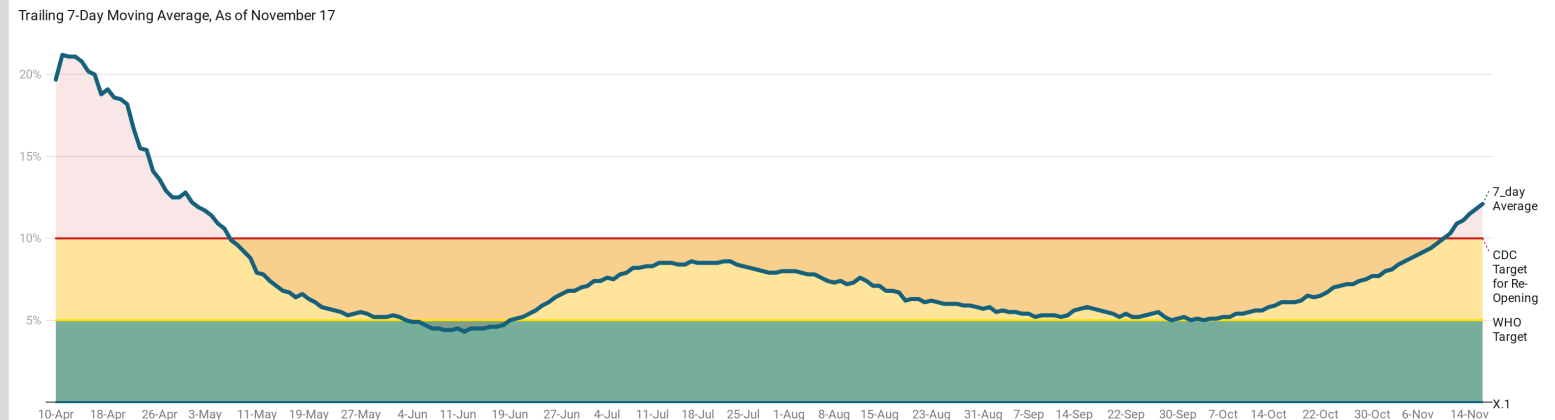


Health Industry Advisor LLC analysis

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 November 17



Health Industry Advisor LLC analysis

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

In Nevada, more than ½ of all inpatient beds are occupied by Covid-19 patients

In Connecticut, Illinois, New Mexico and Wisconsin, its more than 40%

In Indiana, Iowa, Michigan, Minnesota, Missouri, Rhode Island and South Dakota, its more than 30%

For the U.S. overall, its 24.4%

Covid-19 Patients / Total Inpatient Beds

7-Day Moving Average, As of November 17

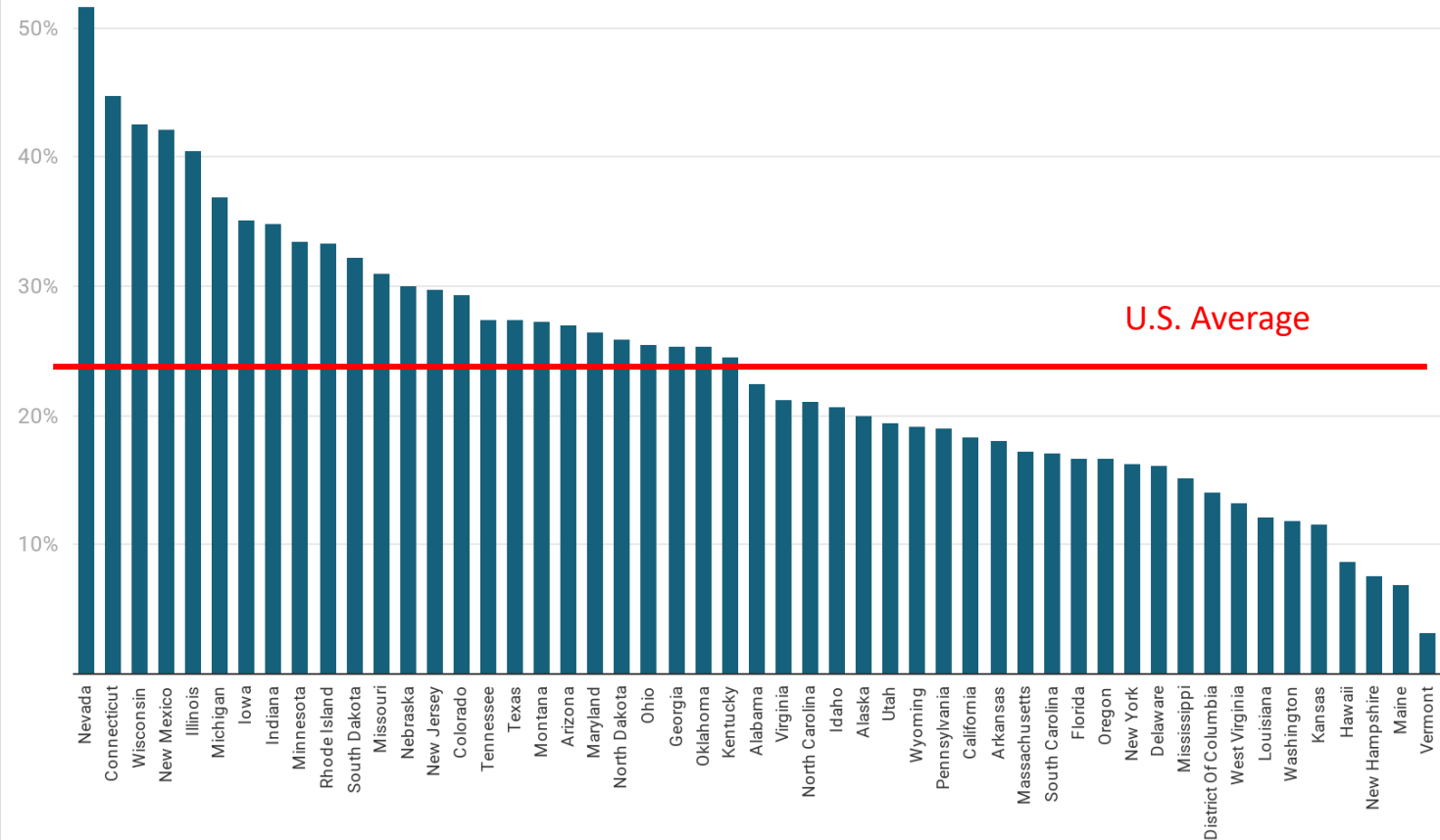


Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking project & worldometers.info • Created with Datawrapper

The highest average census per new case is currently experienced in Hawaii, the District of Columbia, Virginia and Georgia

The lowest rates are found in Utah, New Hampshire, Kansas, Alaska, Minnesota and Vermont

Contrast these rates to those experienced in selected hard-hit states during earlier surges:

- Arizona: 305 (4/20)
- California: 416 (4/17)
- Connecticut: 293 (4/29)
- Massachusetts: 475 (6/21)
- Michigan: 422 (4/21)
- New York: 330 (5/22)

Covid-19 Census / 100 New Cases

7-Day Moving Average, As of November 17

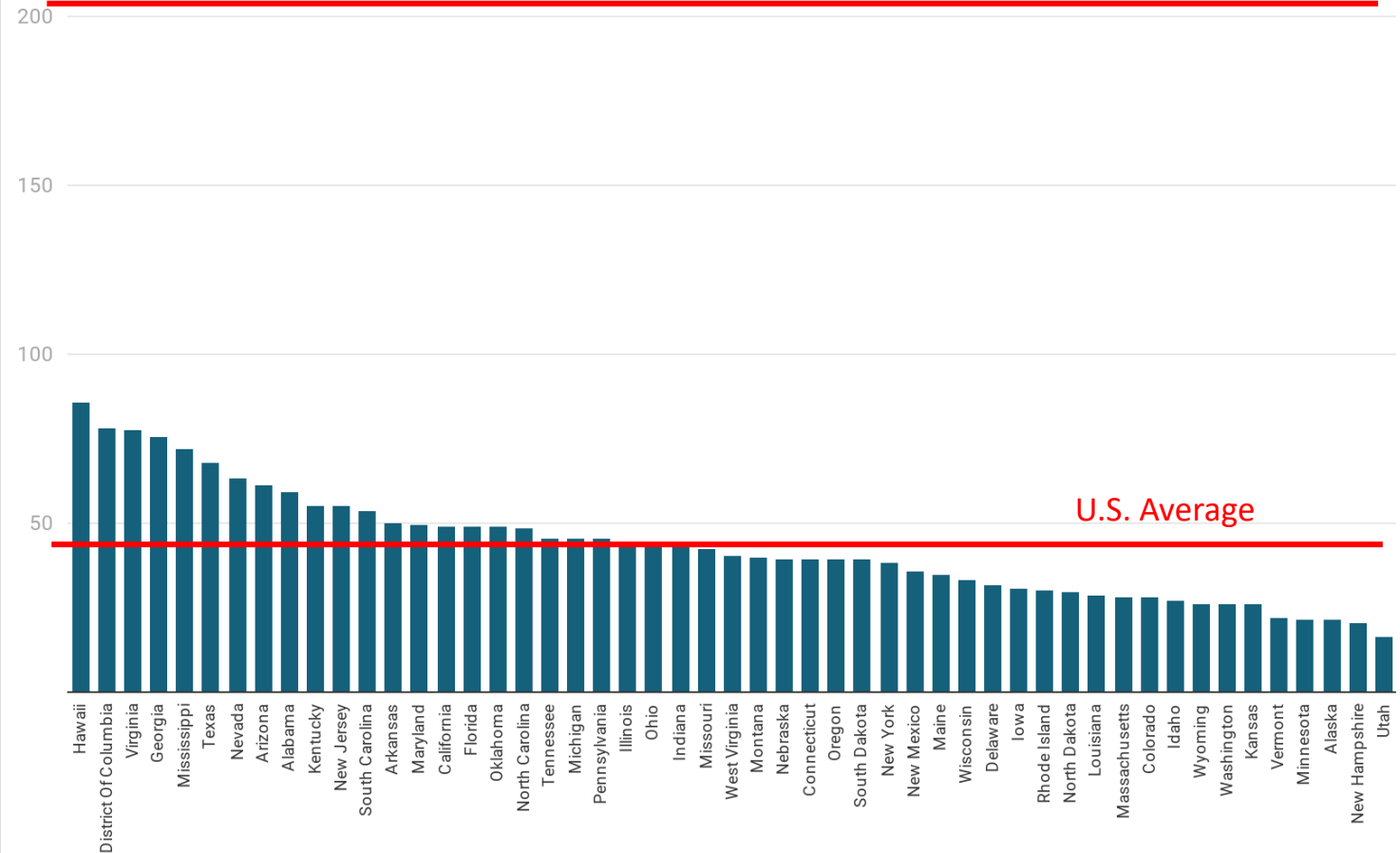


Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid tracking Project & worldometers.info • Created with Datawrapper

Covid-19 Hospitalizations, while increasing, have not kept pace with the increase in newly-detected cases:

The average Covid-19 census per 100 new cases was up slightly yesterday (43.3 v. 42.5), after declining on sixteen consecutive days and twenty-five of the prior twenty-six days

This rate has been reduced by 1/2 since mid-September and by 3/4 since mid-May

Covid-19 Hospital Census / 100 Daily New Detected Cases

7-Day Moving Average, As of November 17

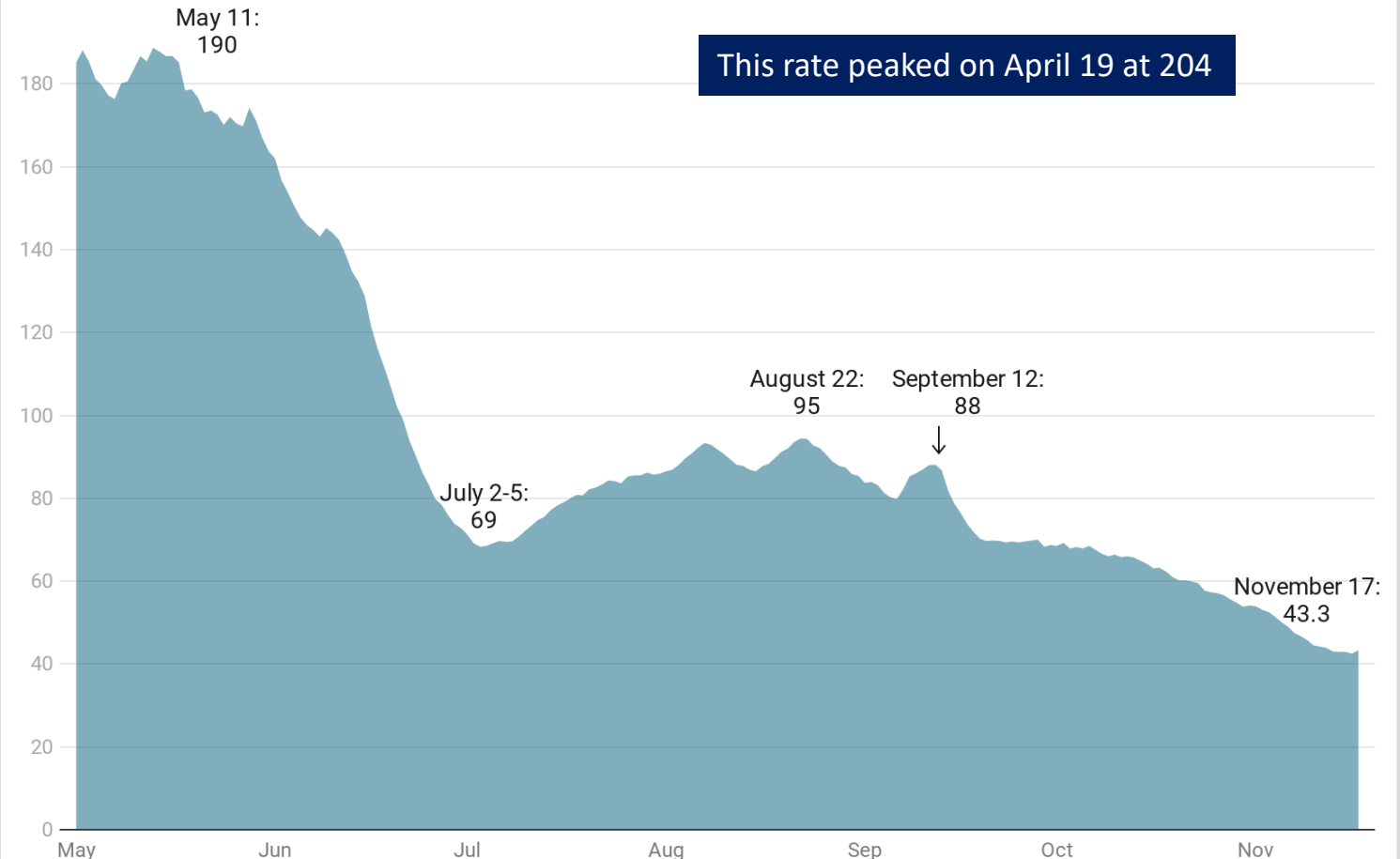


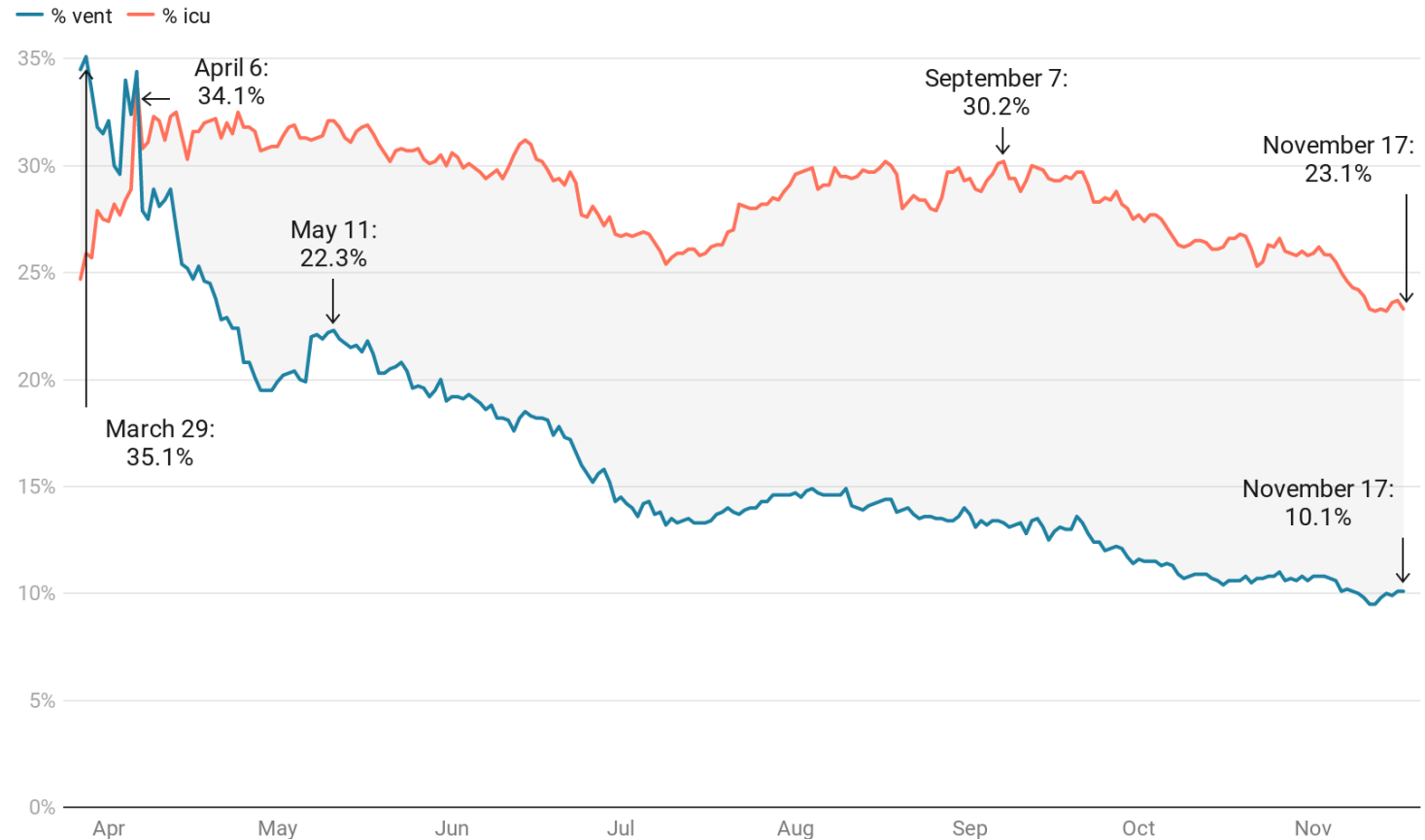
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking project & worldometers.info • Created with Datawrapper

The likelihood of a hospitalized Covid-19 patient would require ICU care has declined 21% since early-September and 32% since early-April

The likelihood of a hospitalized Covid-19 patients would be on a ventilator has reduced by nearly 60% since mid-May and by >70% since March

Severity of Hospitalized Patients

% of patients on ventilators and in the ICU, As of November 17



Health Industry Advisor LLC analysis

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

The % of ER visits for COVID-19-like illnesses (CLI) has declined for six consecutive days, after increasing the preceding six weeks

This rate remains than it was in in March/April, and the rate of influenza visits remains low

% of ER Visits For Covid-19-Like Illnesses (CLI); Influenza-Like Illnesses (ILI); Shortness-of-Breath (SoB) and Pneumonia

As of November 14

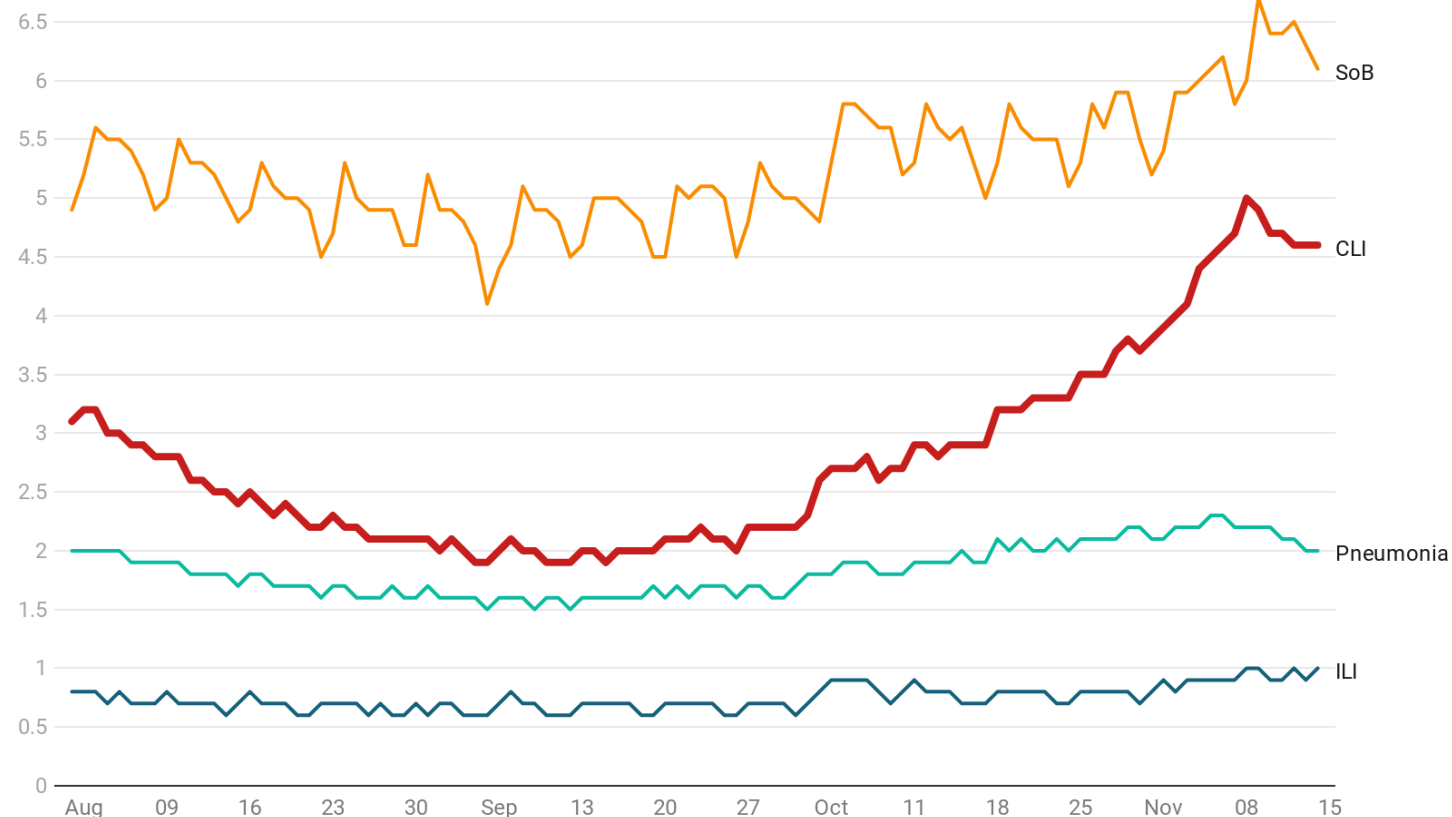


Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

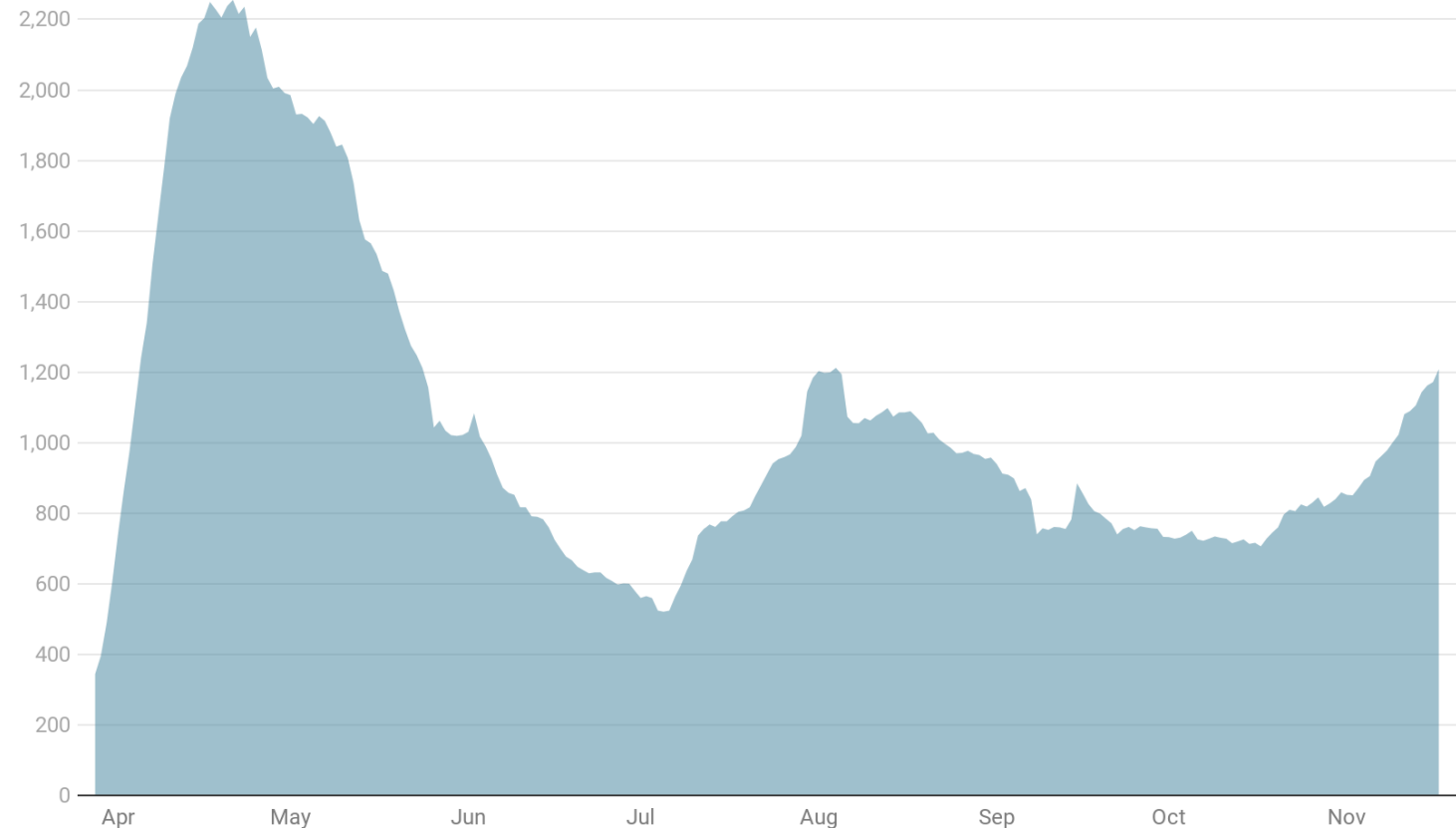
The recent uptick in newly-detected cases is resulting in increased deaths:

The 7-day average deaths per day has increased fifteen consecutive days

This rate now matches where it peaked in early-August

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of November 17



Health Industry Advisor LLC analysis

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

Deaths with coronavirus,
relative to new cases
(lagged 4 weeks) have
moved within a narrow
range for the past month

This rate declined rapidly in
July and August

7-day Average Deaths / 7-Day Average New Cases (4-Week Lag)

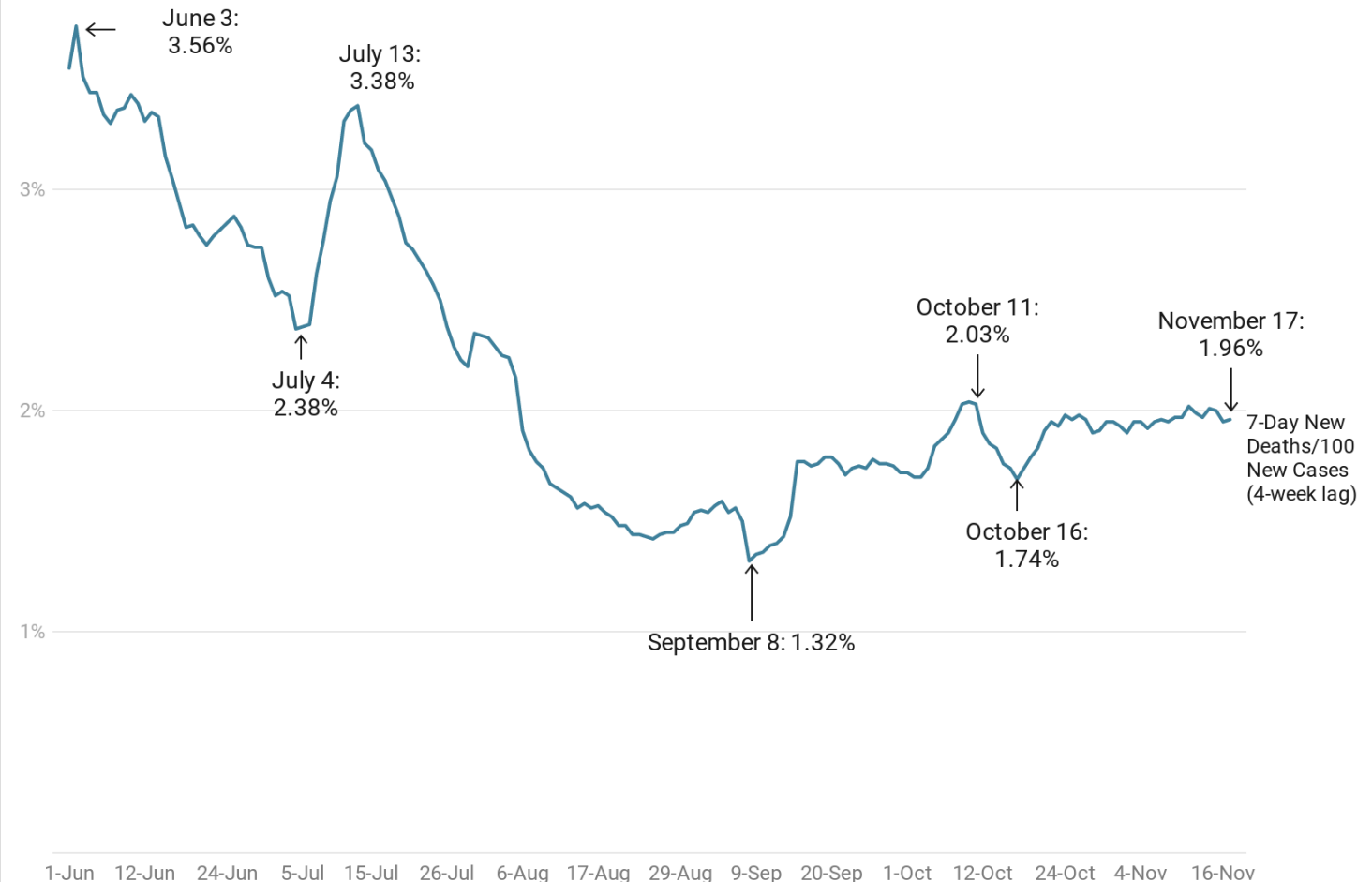


Chart: Health Industry Advisor LLC • Source: worlometers.info • Created with Datawrapper

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>
- Oliver Wyman Pandemic Navigator, <https://pandemicnavigator.oliverwyman.com/forecast?mode=country®ion=United%20States&panel=mortality>