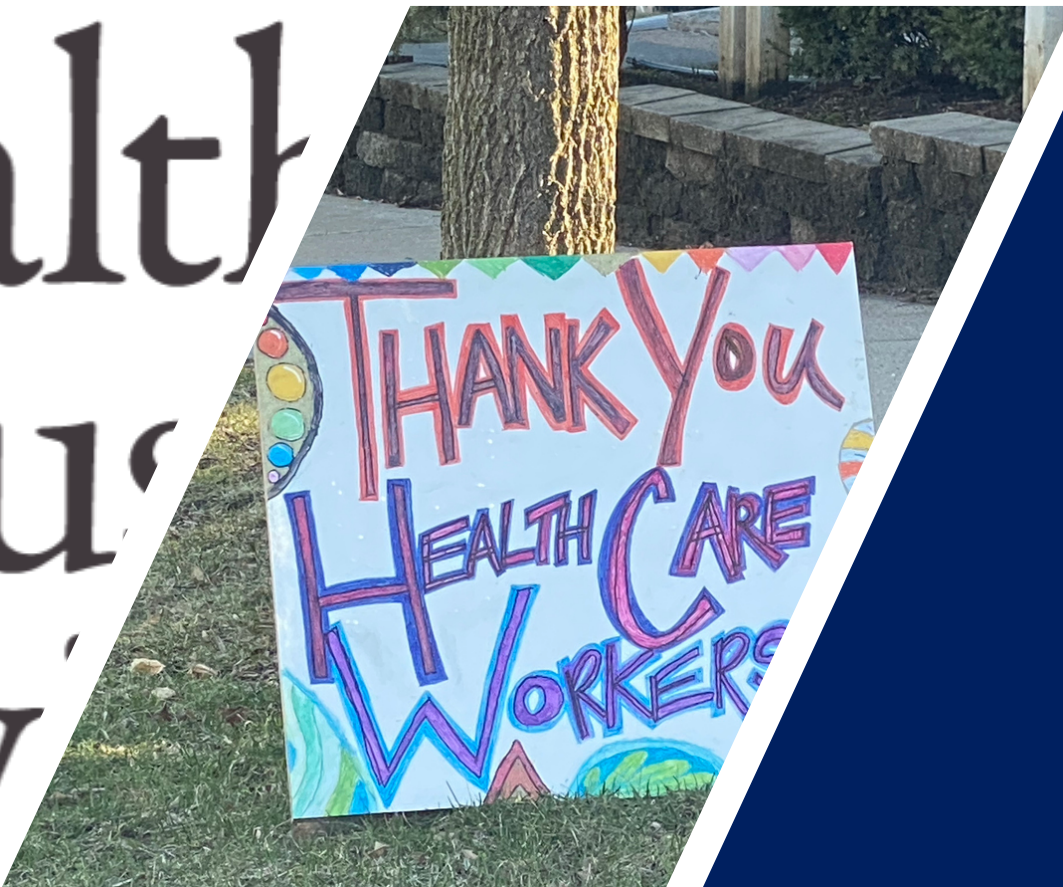




Health
Industry
Adv



Issue # 202
Tuesday, November 3, 2020
COVID-19
Report

Highlights

- **New cases worldwide are now averaging > 500k per day**
- The U.S rate of week-over-week changes in new cases has followed a strikingly-similar pattern as the rate worldwide - though the U.S rate tends to have more pronounced peaks and valleys
 - This rate tends to be a harbinger of new daily infections per capita: the week-over-week change in new cases must go negative before the new infection rate can begin to fall
 - Of note, **the worldwide rate (week-over-week changes in new cases) has now eased for five consecutive days; will the U.S. continue its correlation to the worldwide rate and soon follow suit?**
- **Europe continues to be at the epicenter of the new infection spread worldwide.** Among countries with > 1 million population:
 - **Thirteen of the seventeen countries worldwide with the highest infection rates per capita over the past 7 days are on the European continent**
 - **Belgium has the highest rate worldwide - more than 5.7 x the U.S. rate; Belgium's rate has nearly doubled in the past two weeks**
 - Other European countries with high and increasing rates: Czechia, France, Luxembourg, Slovenia and Switzerland
 - In contrast, **Israel, which had ranked high in new infections just two weeks ago, has since seen its rate cut by more than 1/2;** Argentina, Bahrain, Iceland and Ireland also have experienced marked declines in rates over the past two weeks
- The incidence of the virus in the U.S continues to increase yet, measures of severity are improving:
 - There were more new cases reported yesterday than on any Monday since the pandemic began
 - **Covid-19 hospital census continues to increase; on a same-day, prior-week basis, this census has increased every day since September 23**
 - **This increase in Covid-19 census, however, is falling further behind the growth in new cases: As of yesterday, the average census for the past week dropped to 53 per 100 new cases; This rate has been steadily declining since September 12, when the average census was 88 per 100 new cases**
 - ER visits for Covid-19 like illnesses is now on a five-day pattern of decline
 - **Deaths per new case (with a 4-week lag assumed from case detection to death) has declined slightly over the past week, and has been nearly halved since early-June**
- Testing for the virus infection in the U.S. continues to increase, with another record 7-day volume posted yesterday; the test-positive rate, however, is increasing as well

Worldwide, we are experiencing >500k new cases each day

For the first time in quite some time, this rate declined slightly yesterday

* - 7-day moving average basis

Newly Detected Daily Cases - Worldwide

7-Day Moving Average, As of November 2



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

Newly-detected cases in the U.S. follows a similar pattern as newly-detected cases worldwide - although the peaks and valleys are more pronounced in the U.S.

Worldwide, the rate of growth slowed over the past week – will the U.S. follow?

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

7-Day Moving Average

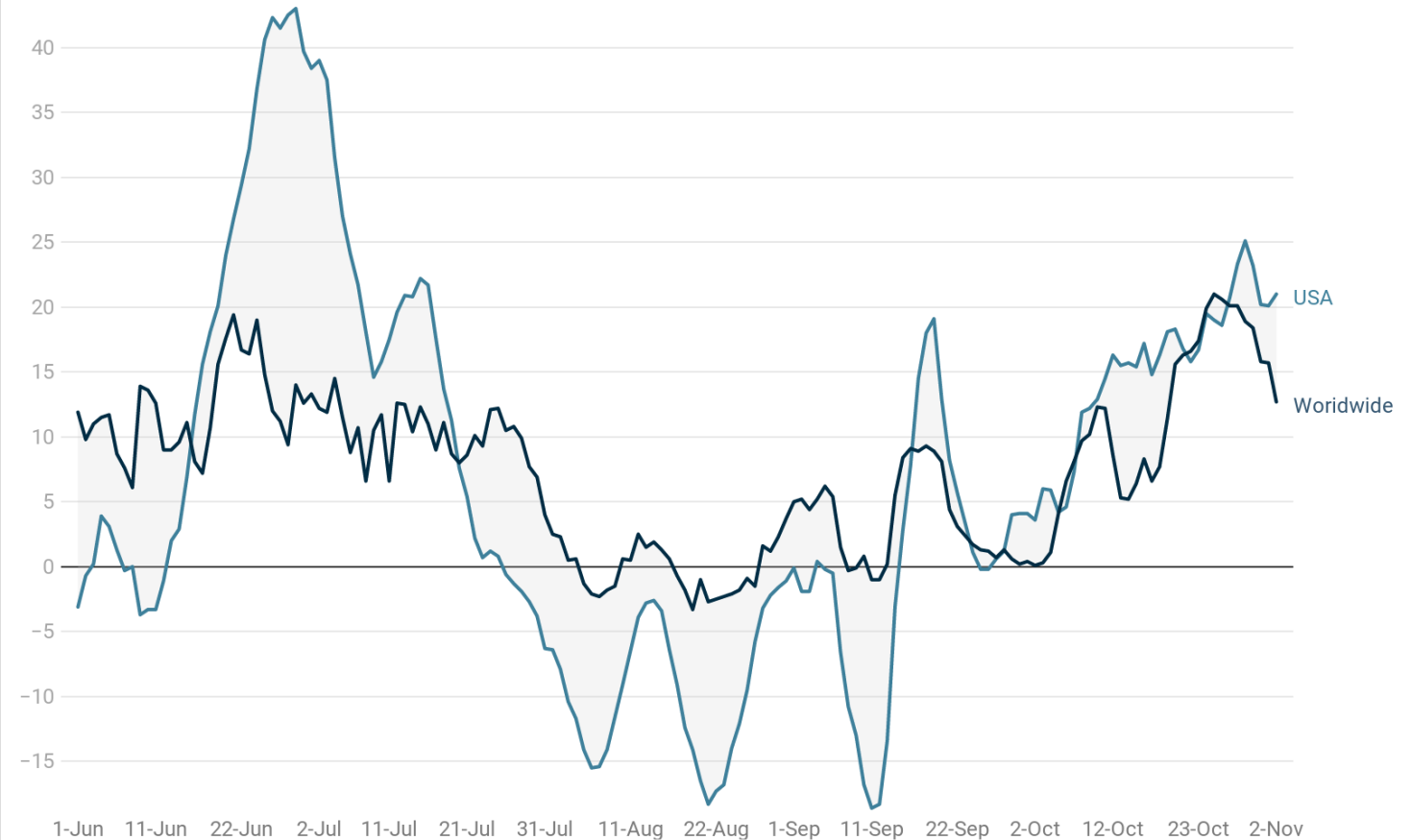


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

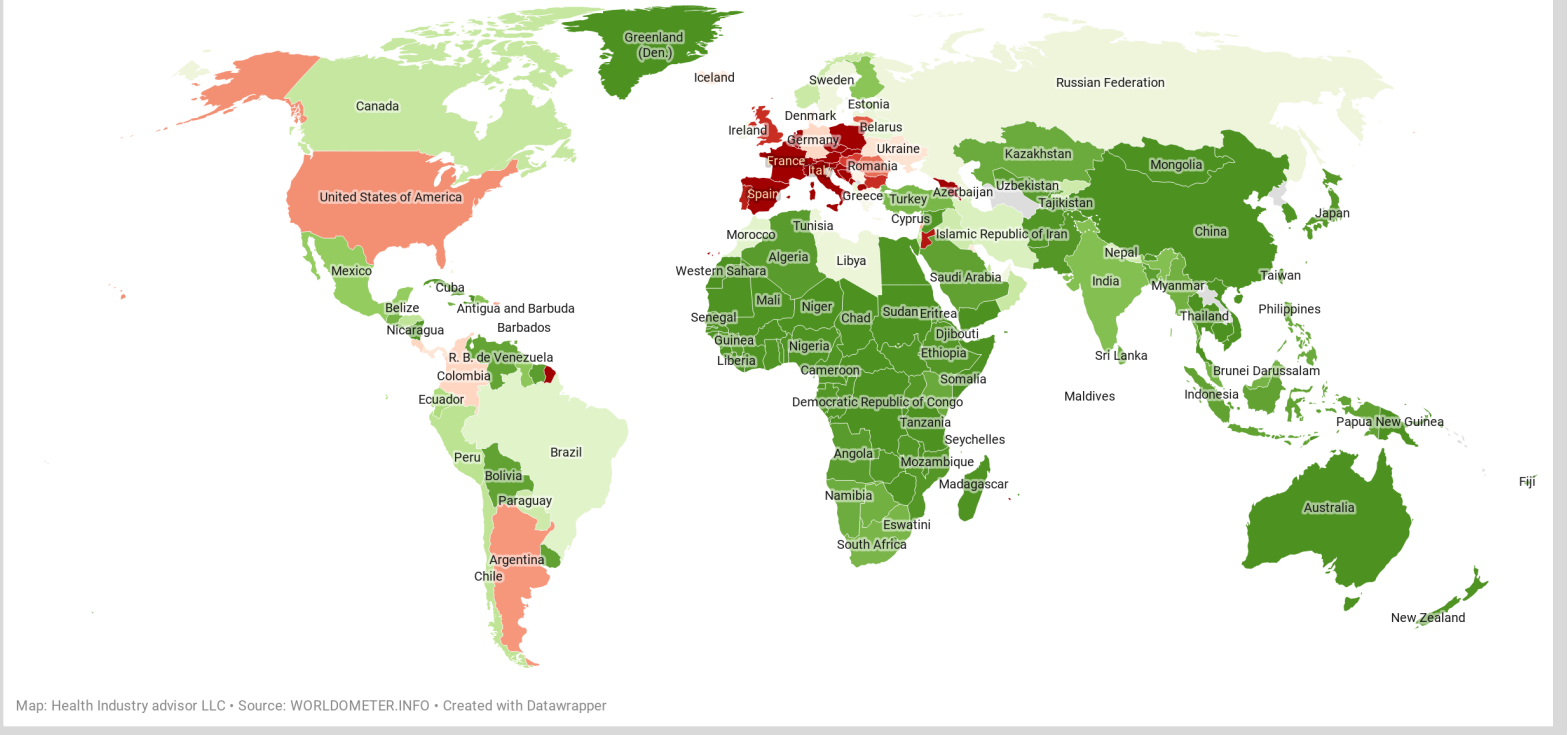
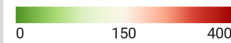
European countries
continue to experience
the highest infection
rates per capita

Argentina and the
United States have lower,
yet still concerning rates

* - 7-day moving average basis

New Infections / Million

7-Day Moving Average, As of November 2

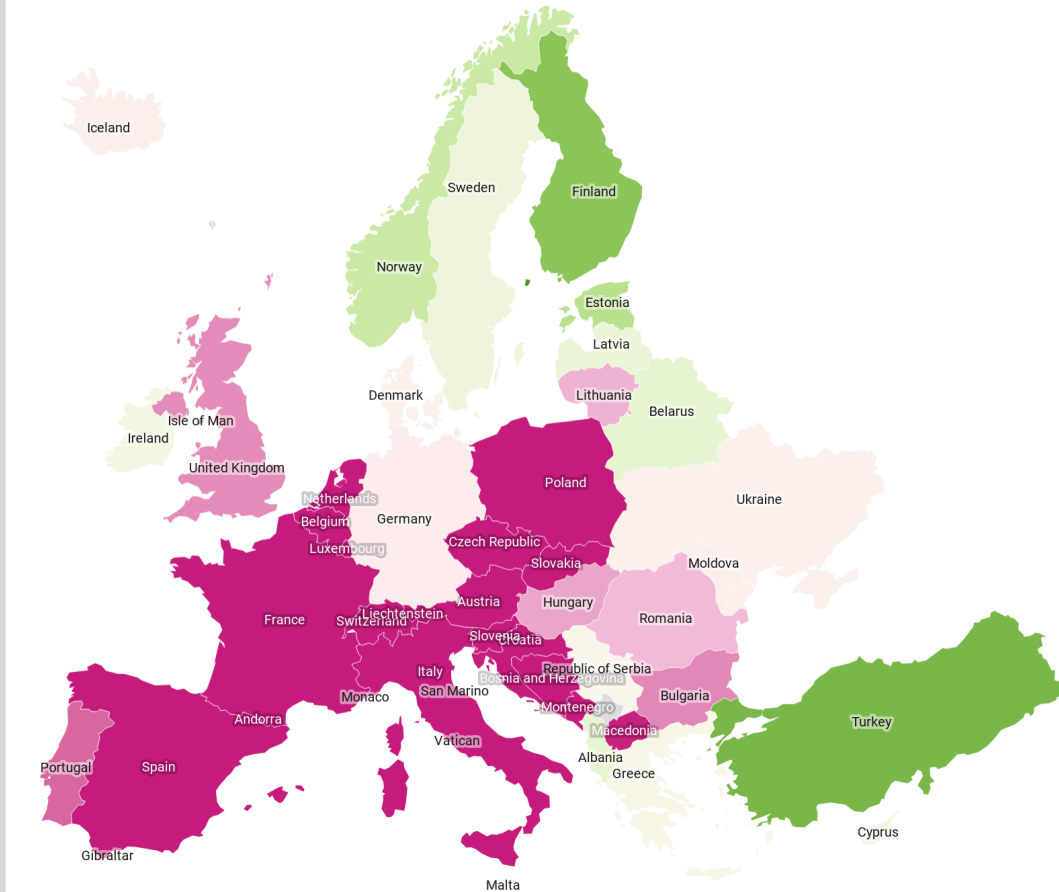
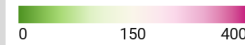


High rates of new infections are being reported across Europe – with exceptions in the north and eastern parts of the continent

* - 7-day moving average basis

New Daily Infections / Million - Europe

7-Day Moving Average, As of November 2



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

Among countries with > 1 million population, thirty-six countries currently have new daily infection rates/1M* > 175

In order, Belgium, French Polynesia, Czechia, Luxembourg, Switzerland and Slovakia have the highest rates

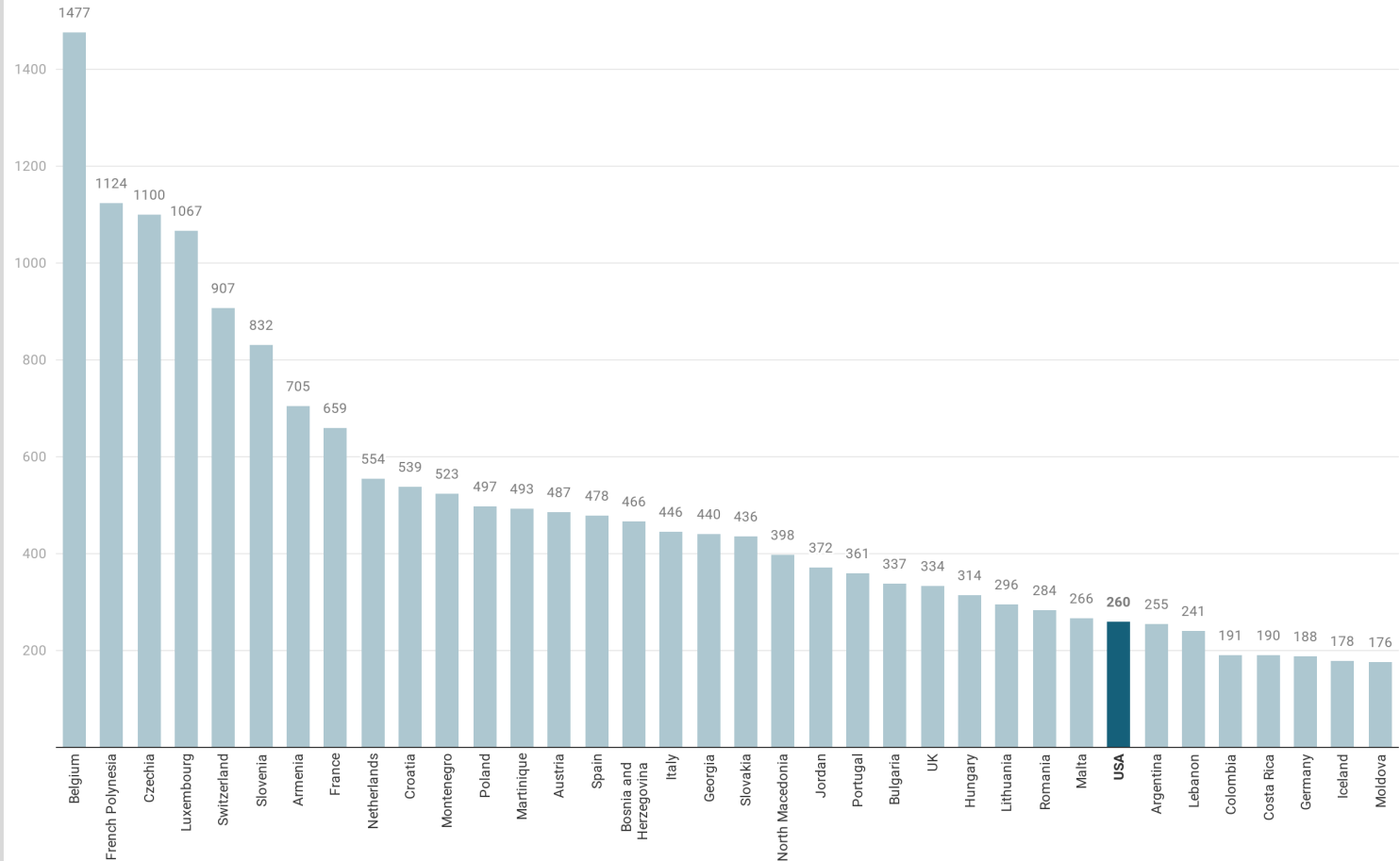
Europe is home to the thirteen of the seventeen countries with the highest rates

The United States ranks twenty-ninth among these countries (Belgium's rate is 5.7x higher than the U.S.).

* - 7-day moving average basis

New Daily Infections / Million Population

Trailing 7-Day Moving Average, As of November 2



Countries with > 1M population

Chart: Health IndustryAdvisor LLC • Source: worlometer.info • Created with Datawrapper

Countries with >1M population:

Across Europe, a number of countries have seen their infection rates increase sharply in the past several weeks

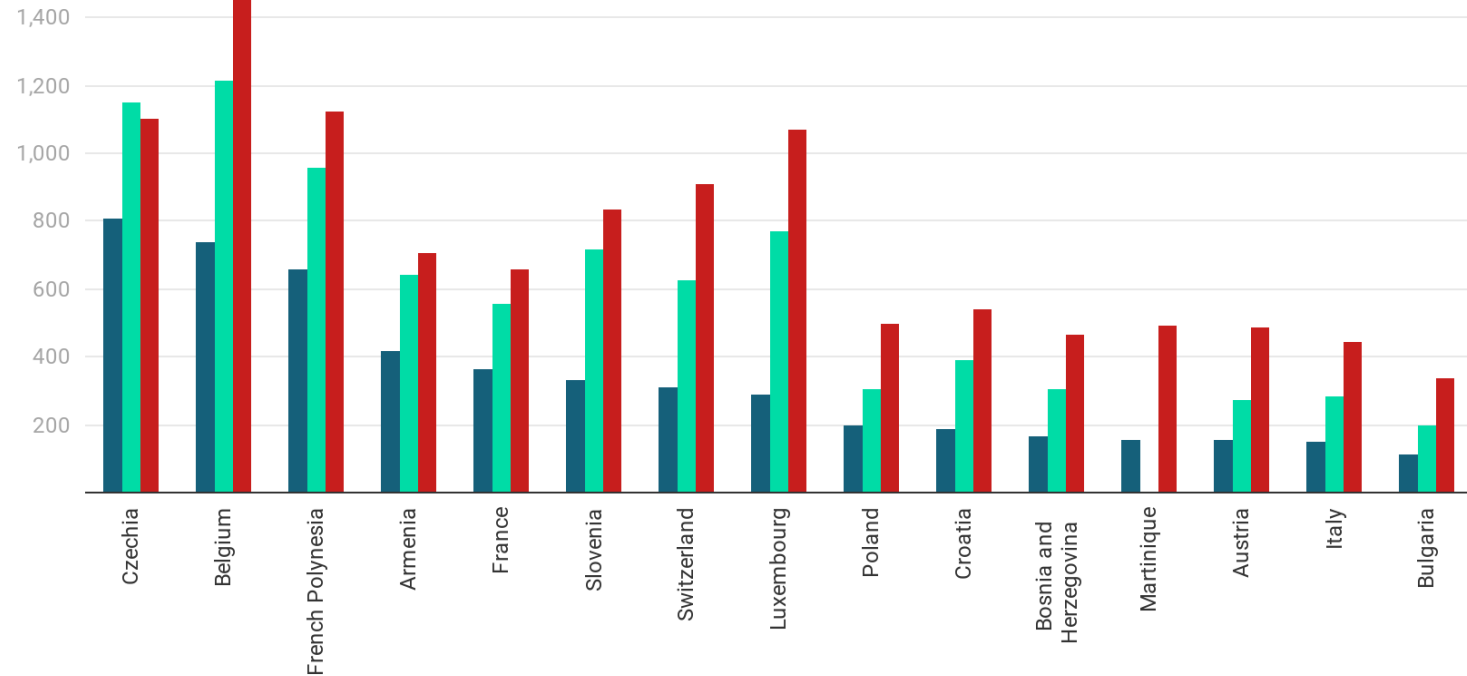
* - Population >1 million

** - 7-day average

Most Significant Increases in Infection Rates in Past Two Weeks

New Daily Infections / Million, 7-Day Moving Averages, As of November 2

■ New Inf/1 M 2 Weeks Ago ■ New Daily Infections - 1 week ago ■ New Daily Infections Per 1M Population (7-Day M.A.)



Countries with population > 1M

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

Countries with >1M population:

Some degree of relief from high infection rates can be found in several countries, including: Argentina, Ireland, Bahrain and Israel

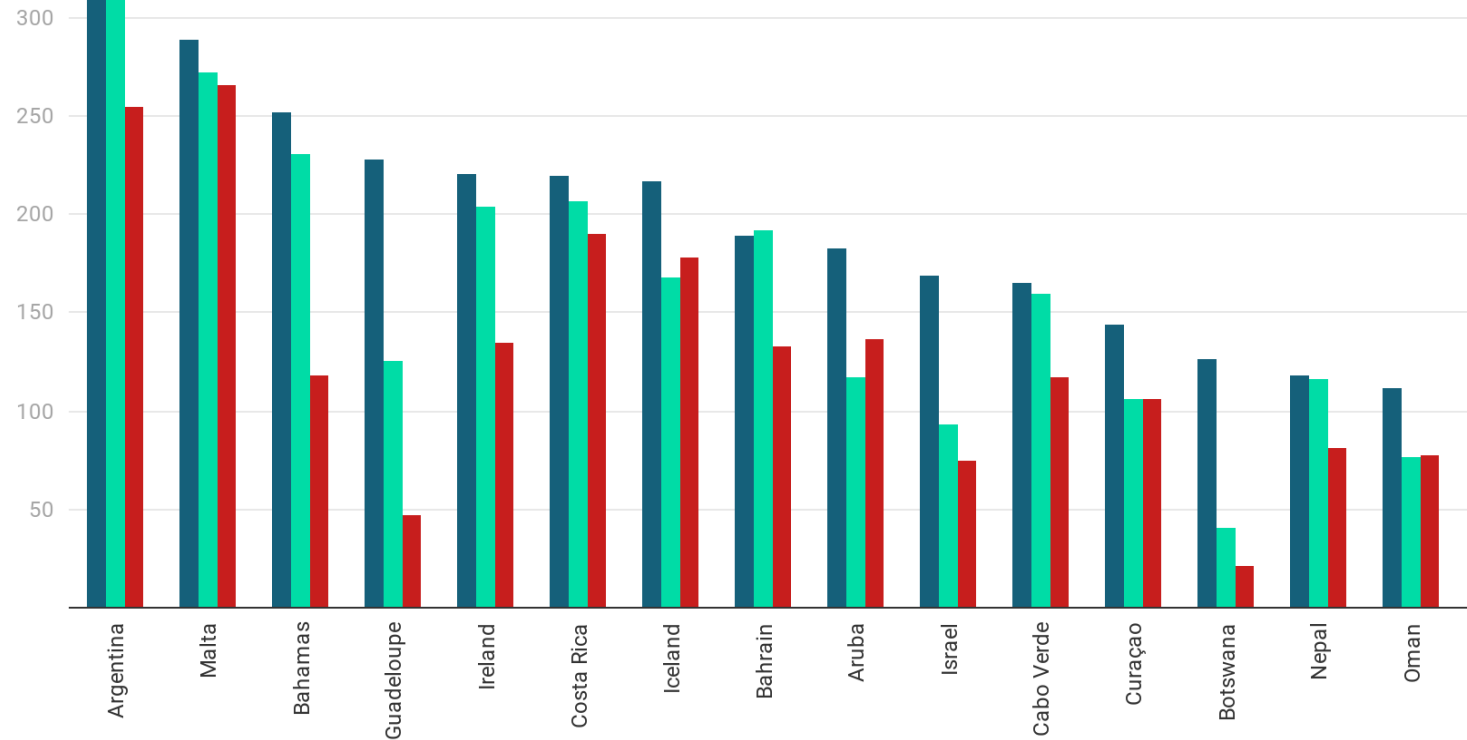
* - Population >1 million

** - 7-day average

Most Significant Declines in Infection Rates in Past Two Weeks

New Daily Infections / Million, 7-Day Moving Averages, As of November 2

■ New Inf/1 M 2 Weeks Ago ■ New Daily Infections - 1 week ago ■ New Daily Infections Per 1M Population (7-Day M.A.)



Countries with population > 1M

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

Belgium, Czechia and Switzerland have experienced sizable increases in new infection rates since at least early-October

A number of other European countries also have seen large increase in this time

The U.S. increase, while concerning, is relatively tempered compared to these countries

* - Population >1 million

** - 7-day average

Selected Countries Trending Higher in New Infection Rates

New Daily Infections / Million, 7-Day Moving Average, As of November 2

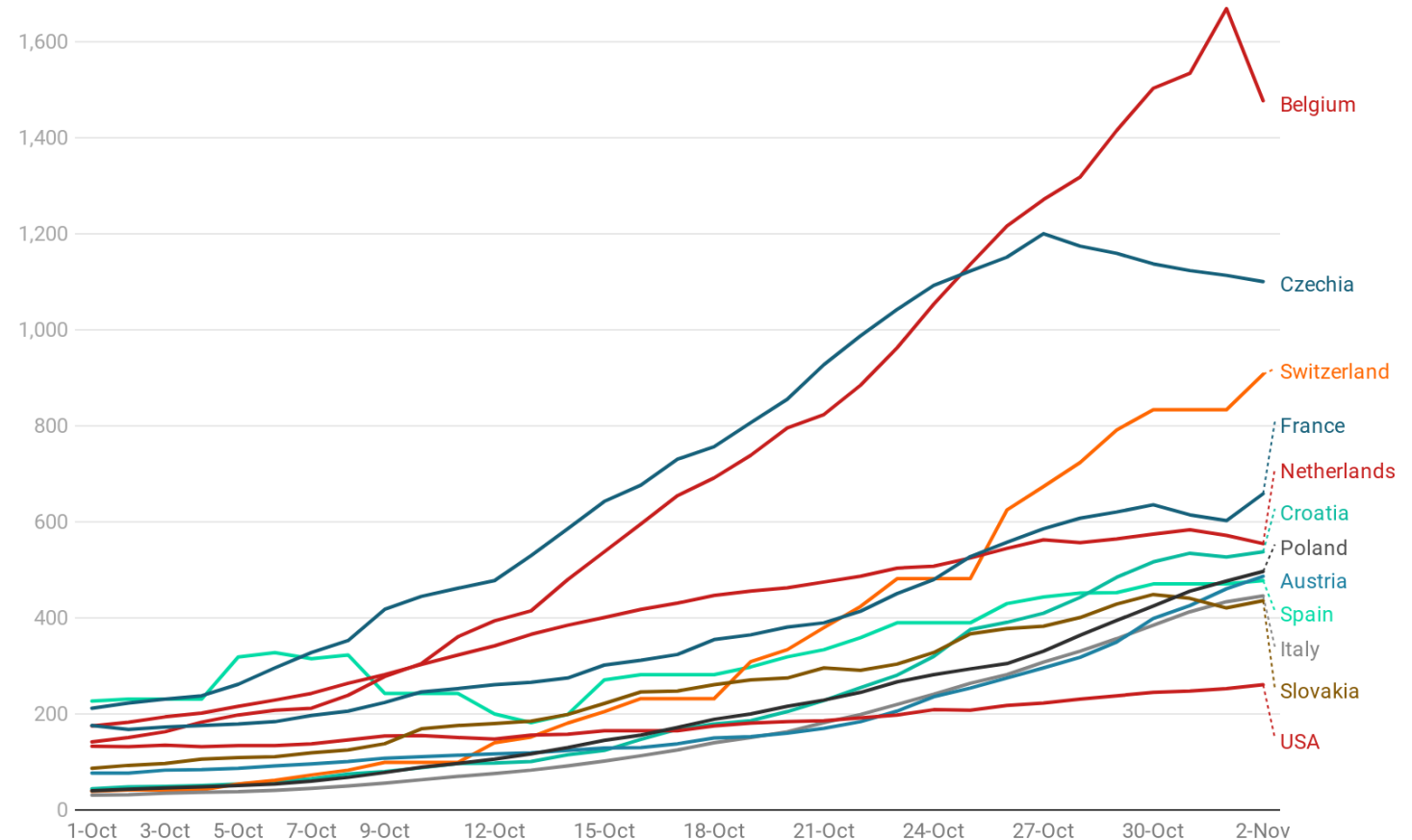


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Israel, in particular, has experienced significant relief in new infection rates since early October

Argentina, Bahrain and Ireland have seen some relief more recently

* - Population >1 million

** - 7-day average

USA and Selected Countries Trending Lower in New Infection Rates

New Daily Infections / Million, 7-Day Moving Average, As of November 2

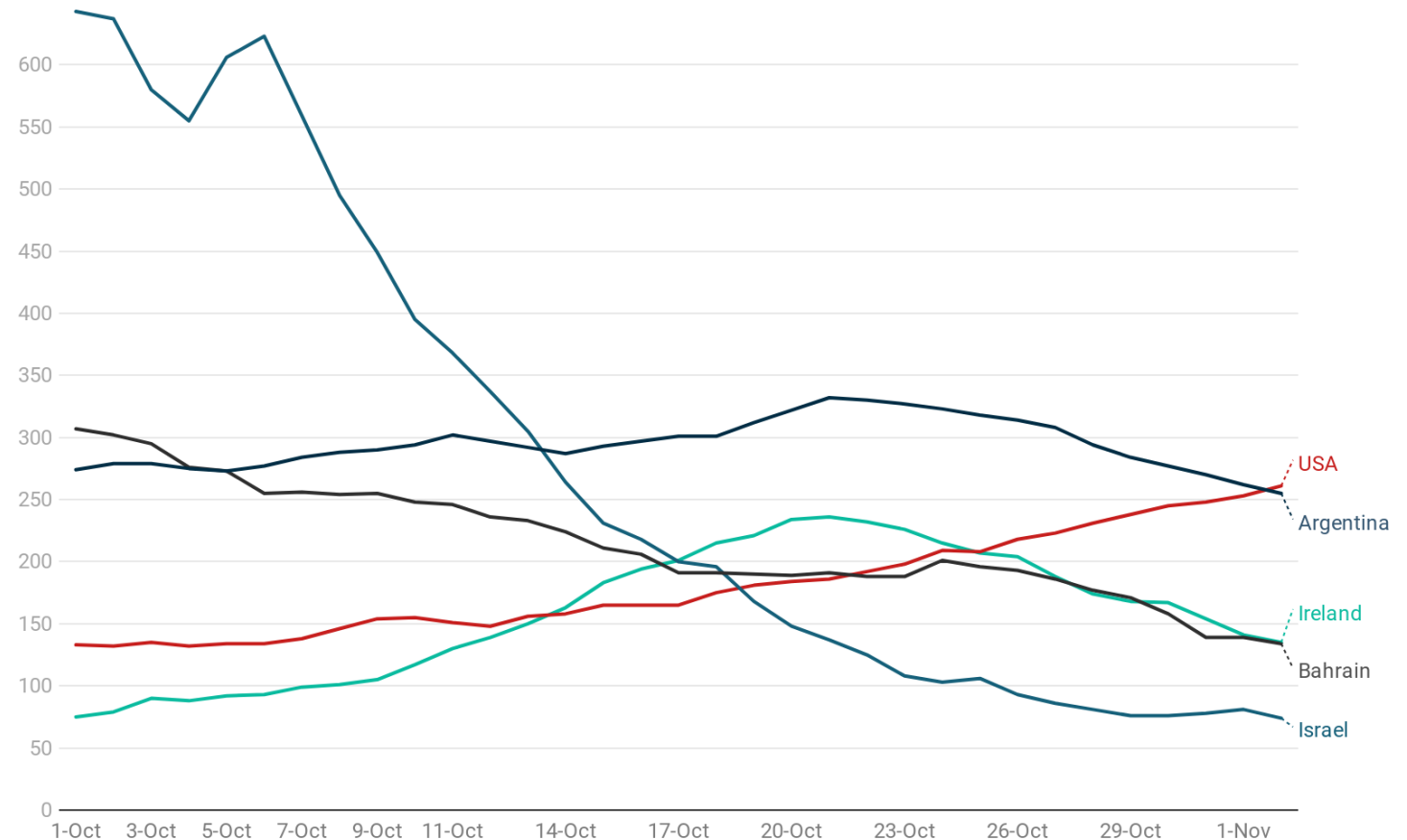
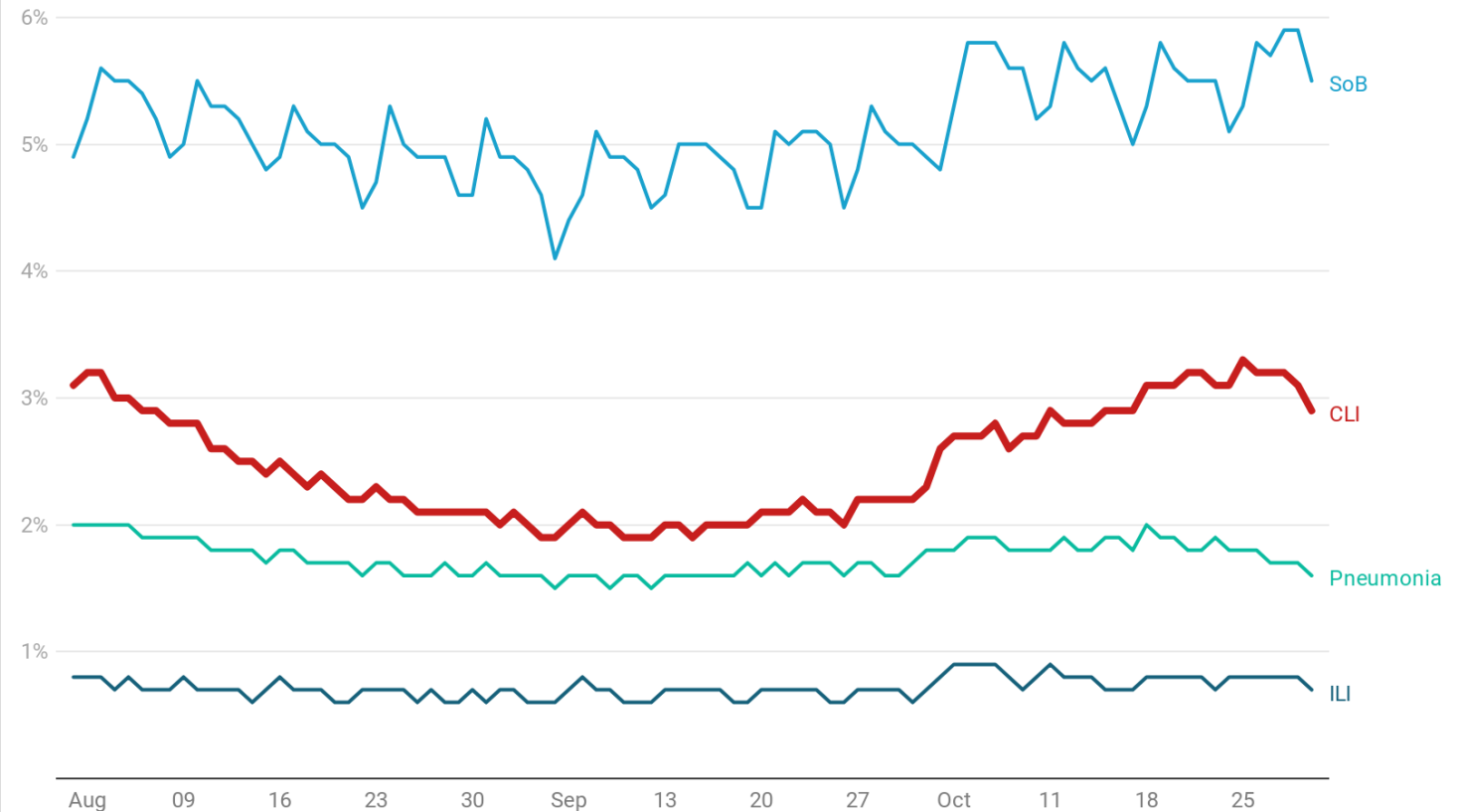


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

The % of ER visits for COVID-19-like illnesses (CLI) has eased over the past five days; it had been increasing throughout October

% of Emergency Department Visits for COVID-Like Illness (CLI), Influenza-Like Illness (ILI), Pneumonia & Shortness-of-Breath (SoB)

As of October 30



Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: Centers for Disease Control • Created with Datawrapper

There were more newly-reported cases on Monday than on any Monday since the pandemic began

Newly-Detected Cases

Through November 2

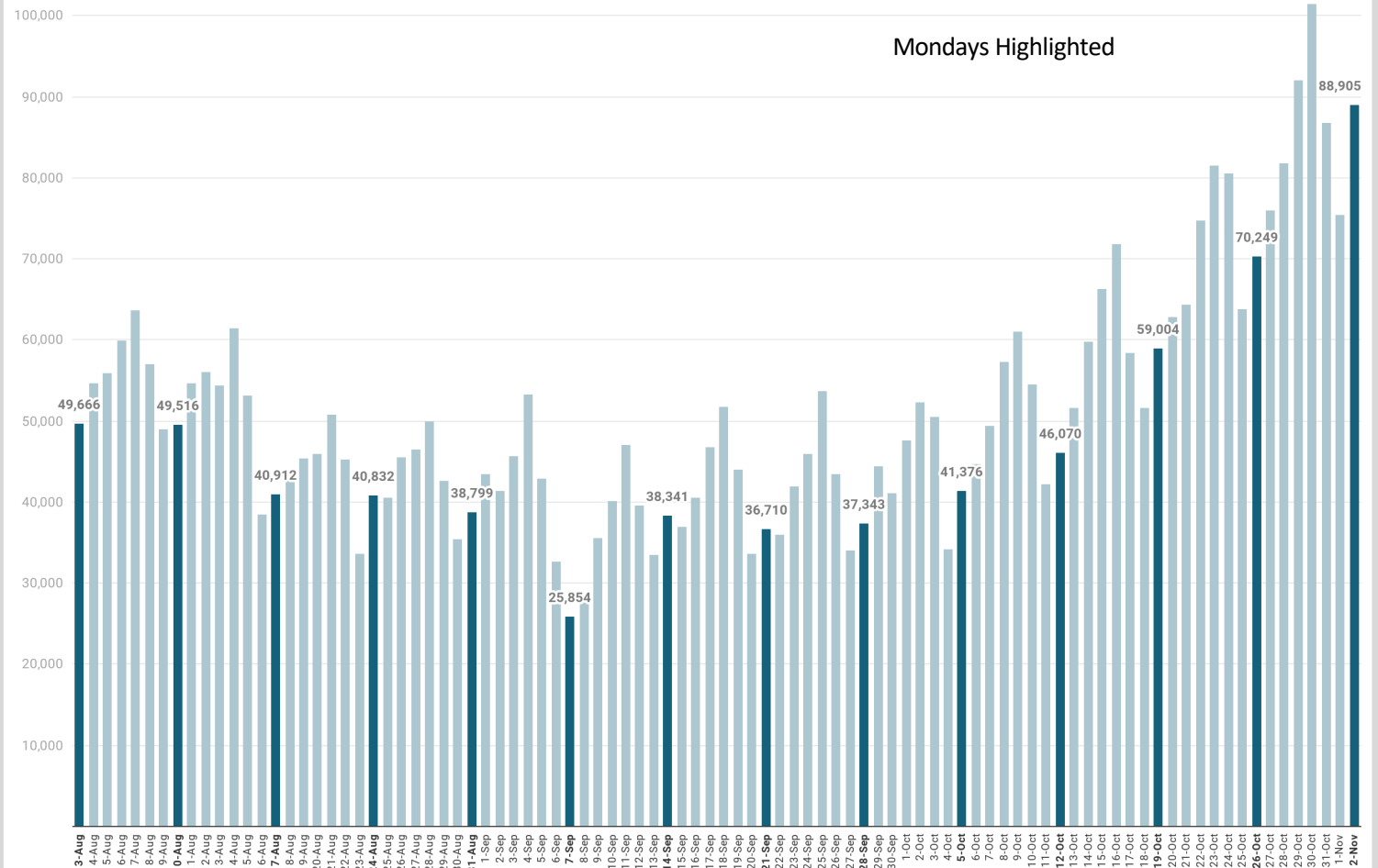
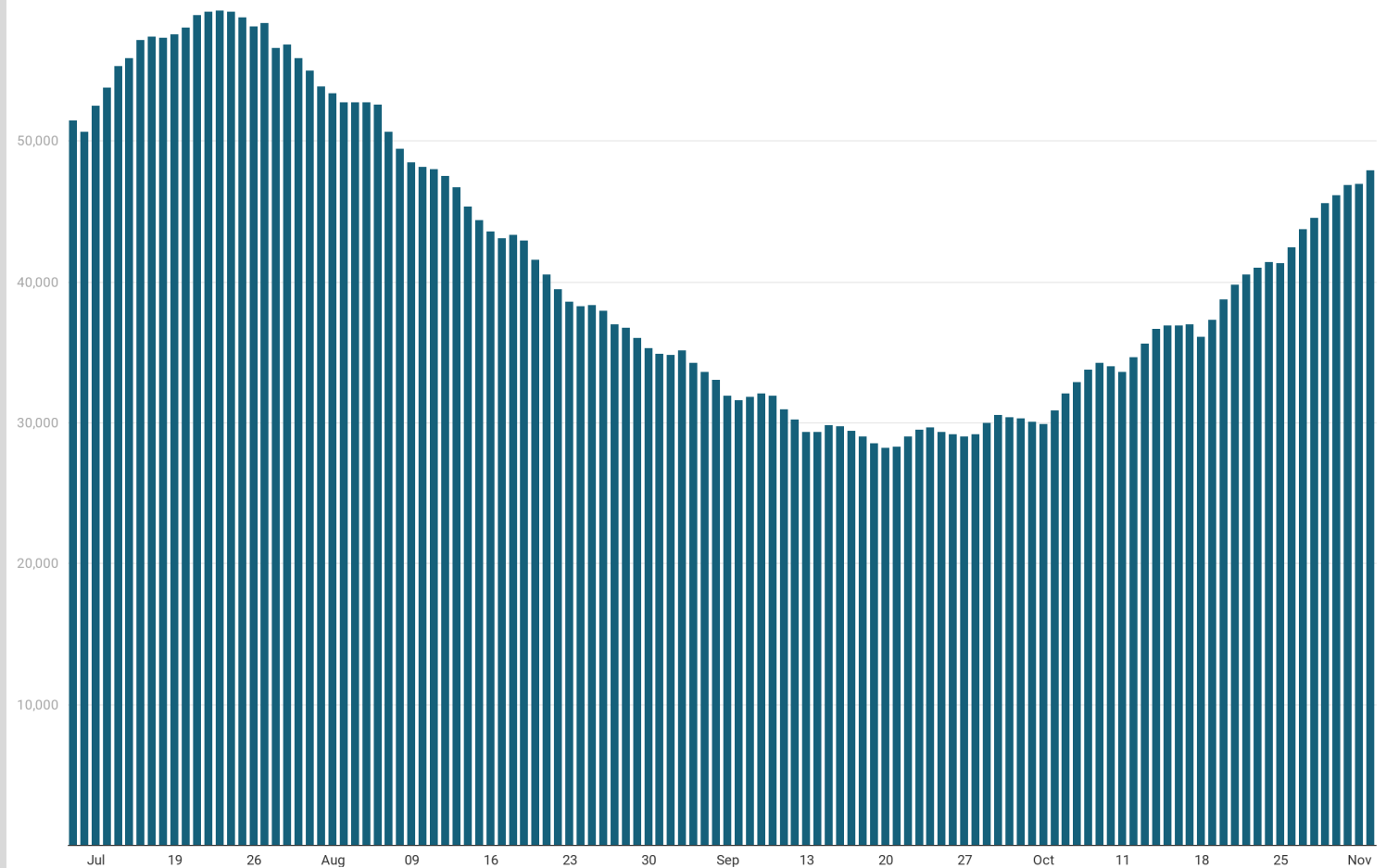


Chart: Health Industry Advisor LLC • Source: eorlometers.info • Created with Datawrapper

On a same-day, prior-week basis, inpatient Covid-19 census increased every day since September 23

Hospital Census: COVID-19 Patients

As of November 1



Florida data first available on July 10

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

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

Indeed, the average Covid-19 census for the past week per 100 new cases is lower than it has been since at least April

Covid-19 Hospital Census / 100 Daily New Detected Cases

7-Day Moving Average, As of November 1

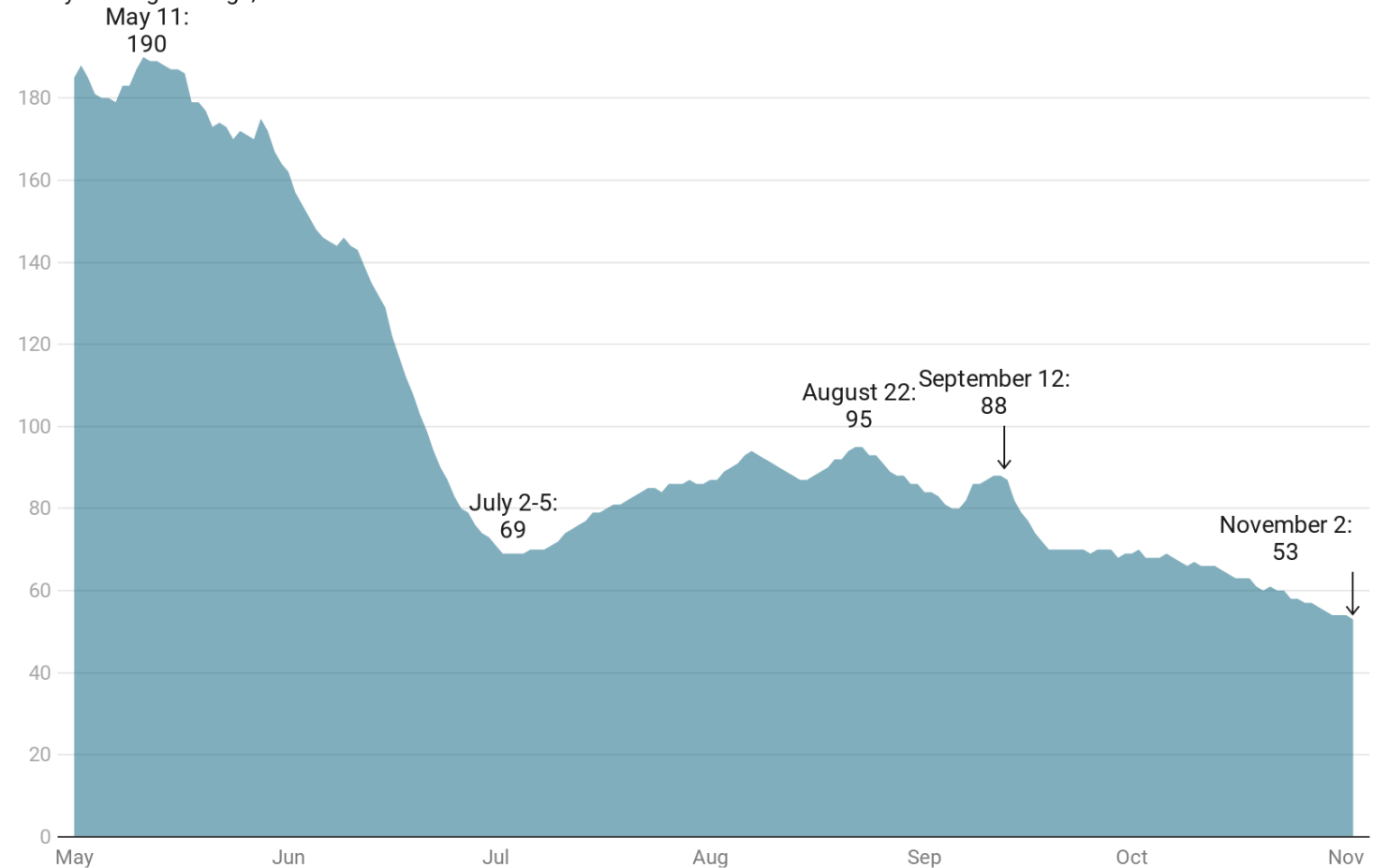


Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking project & worldometers.info • Created with Datawrapper

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

The 7-day average deaths per day has generally been higher from mid-October to now than from early-September through early October

Nevertheless, this rate has declined slightly for three consecutive days

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of November 2



Health Industry Advisor LLC analysis

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

There were fewer newly reported deaths on Monday than a week ago

Nevertheless, these were higher than reported on any other Monday since early-September

Newly Reported Deaths

Through November 2

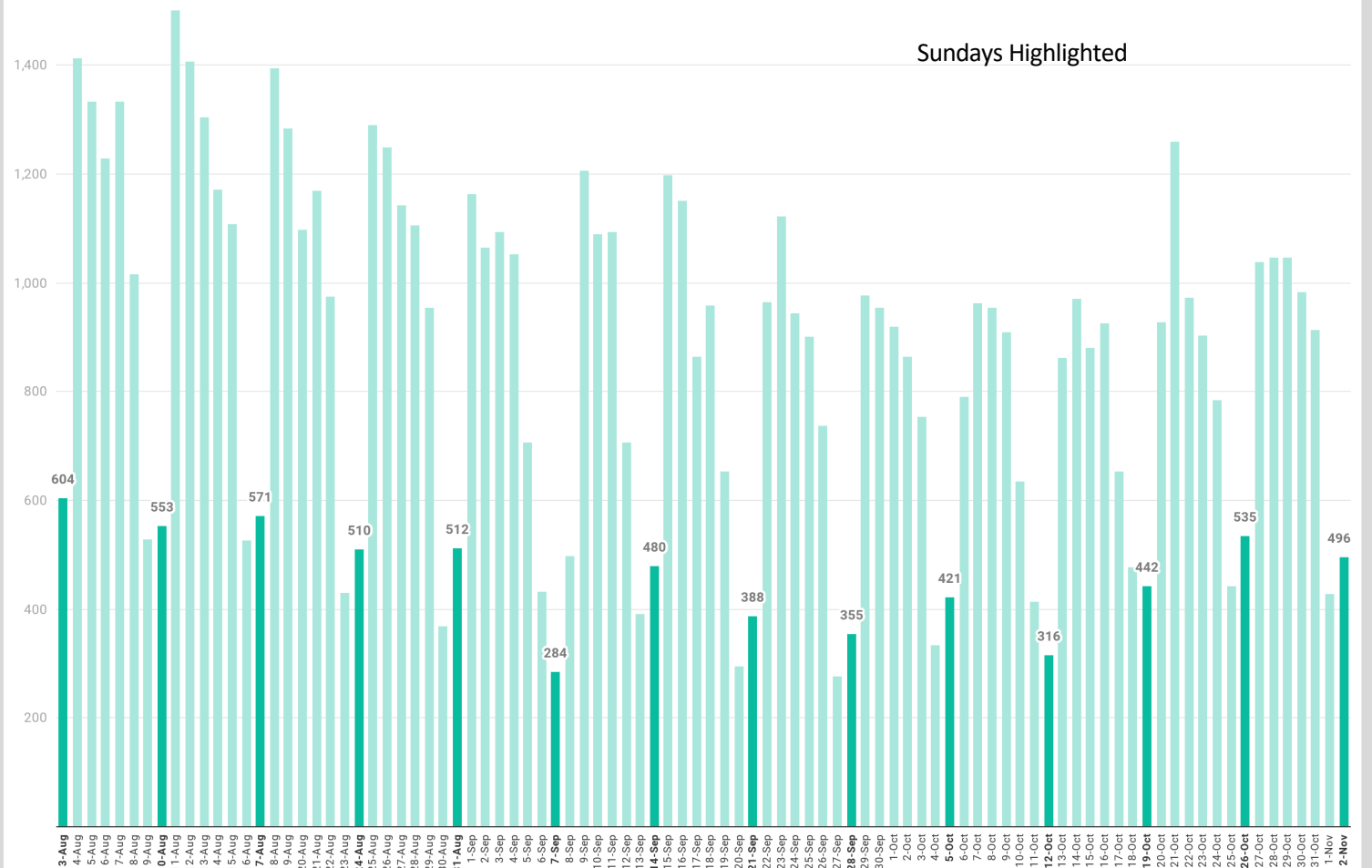


Chart: Health Industry Advisor LLC • Source: eorlometers.info • Created with Datawrapper

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)

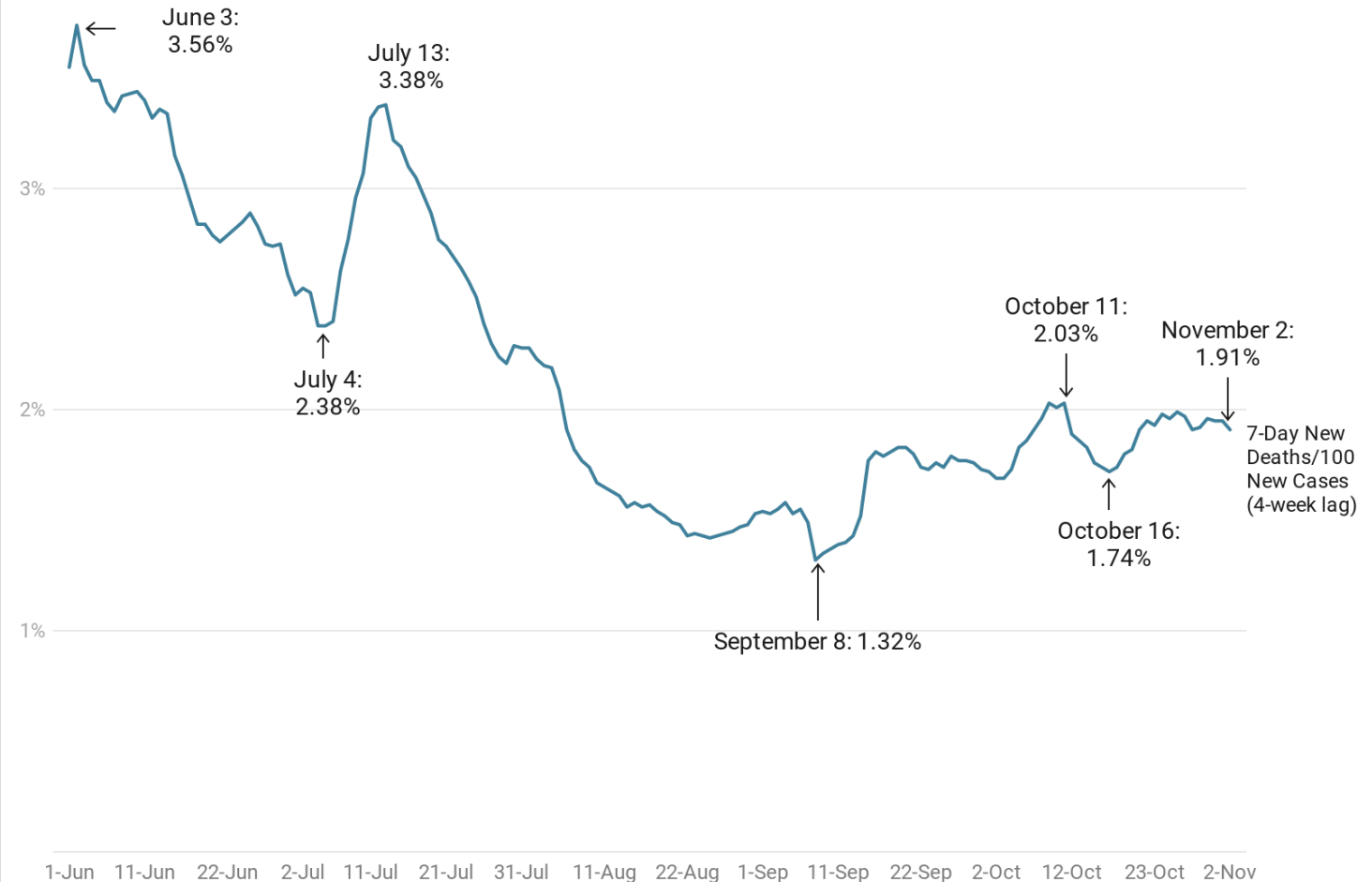


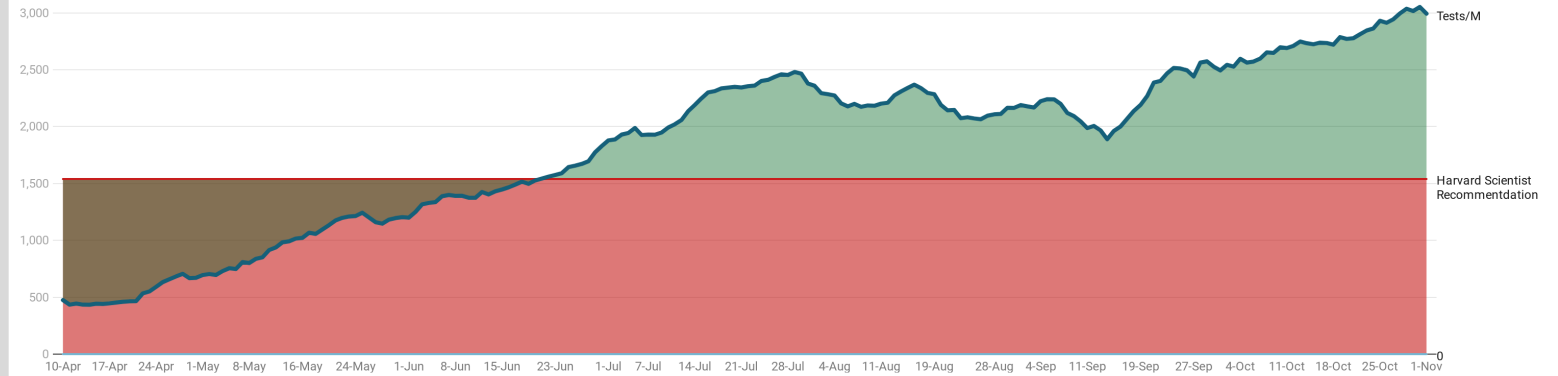
Chart: Health Industry Advisor LLC • Source: worlometers.info • Created with Datawrapper

The 7-day average testing volume set another new high on Monday

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 November 1

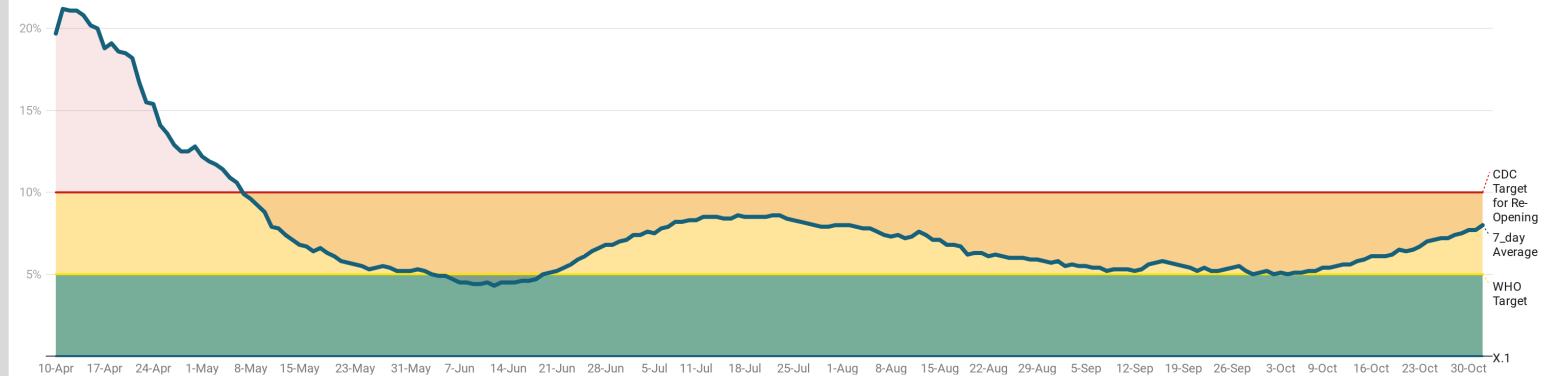


Health Industry Advisor LLC analysis

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 1



Health Industry Advisor LLC analysis

Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Project • 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>