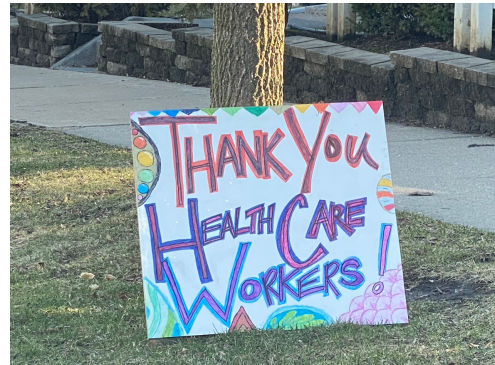
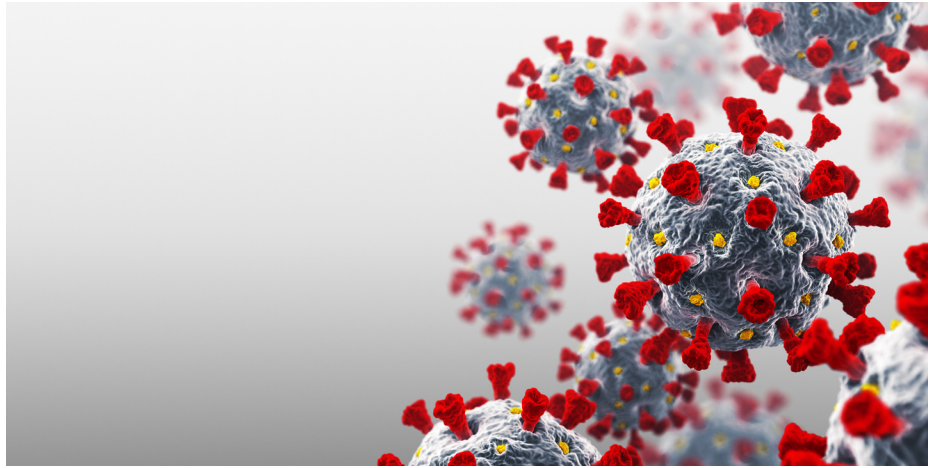
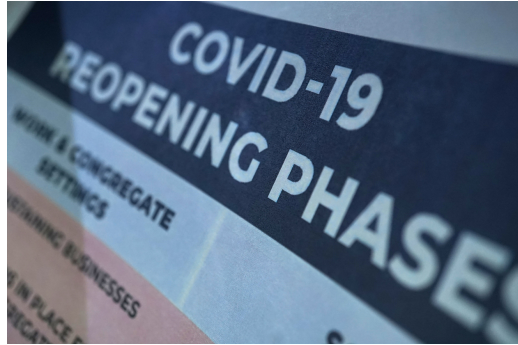




COVID-19 Report

Issue # 153

Thursday, September 3, 2020

- As promised yesterday, we re-visit our review of new infection rates in selected metro areas that are home to major universities. Our aim is to monitor the impact of returns-to-campus on infection spread
 - **What is happening in Iowa? Story County, home of the Iowa State Cyclones, and Johnson County, home of the University of Iowa Hawkeyes, experienced steep spikes in infection rates this week. These have the highest current rates of the 32 metro areas included in this analysis**
 - Other areas of concern host the campuses for Alabama, Georgia, Kansas, Kansas State, Mississippi, Mississippi State, Missouri and Texas A&M
 - **Metro areas home to Michigan, Michigan State, Penn State, West Virginia, Wisconsin and Virginia are keeping rates under control**
- After remaining level for eight consecutive days, **the new infection rate for the United States dropped yesterday. This rate is now as low as it has been since June 28**
- **The locus of the infection spread continued its shift from the Southeast and West to the Heartland/Upper Midwest; Iowa and the Dakotas in particular, are experiencing high infection rates**
- New cases have declined by 5.4% week-over-week
- New cases yesterday were the lowest for a Wednesday in the past ten weeks. Still, these were 2x what they were on Wednesdays in early June
- **There were fewer deaths were reported yesterday than any of the prior six Wednesdays. On a 7-day average basis, deaths have been declining for three weeks and are now at their lowest rate in six weeks**
- Hospital census of COVID-19 patients was up <1% yesterday yet, it remains 40% lower than it was in late-July; ICU census dropped yesterday, continuing a trend that started in mid-July
- ER visits for COVID-19-like illnesses continued to decline; it is now ~1/3 of its early-July rate. ER visits for influenza-like illnesses remain low

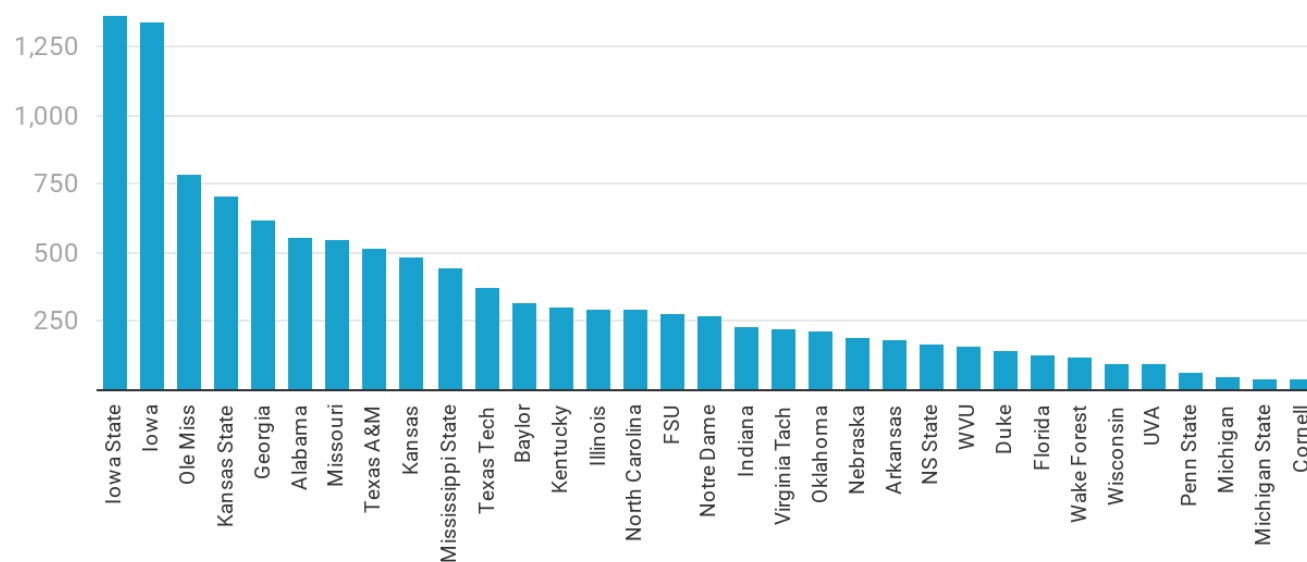
Back-to-Campus – Impact on Metro Infection Rates

Metro areas home to Iowa and Iowa State have the highest rates of new infections, followed by Alabama, Georgia, Kansas, Kansas State, Mississippi, Mississippi State, Missouri and Texas A&M

Several Big Ten Campuses, UVA and Cornell are in areas with low infection rates

New Daily Infections / Million

Trailing 7-Day Moving Average, as of September 1



Rates reflect the metro area that houses the University's main campus

Chart: Health Industry Advisor LLC • Created with Datawrapper

Back-to-Campus – Impact on Metro Infection Rates

Metro areas home to Iowa and Iowa State have seen large spikes in new infections; Other areas of concern are homes to Alabama, Georgia, Kansas, Kansas State, Mississippi, Mississippi State, Missouri and Texas A&M

Metro areas home to Michigan, Michigan State, Penn State, West Virginia, Wisconsin and Virginia are keeping rates under control

New Daily Infections / Million: Metro Areas Encompassing Major Universities

<100 New Cases / Million, Trailing 7-Day Moving Average

Graphs depict the weekly new infection rate per million for the metro area that includes the named University

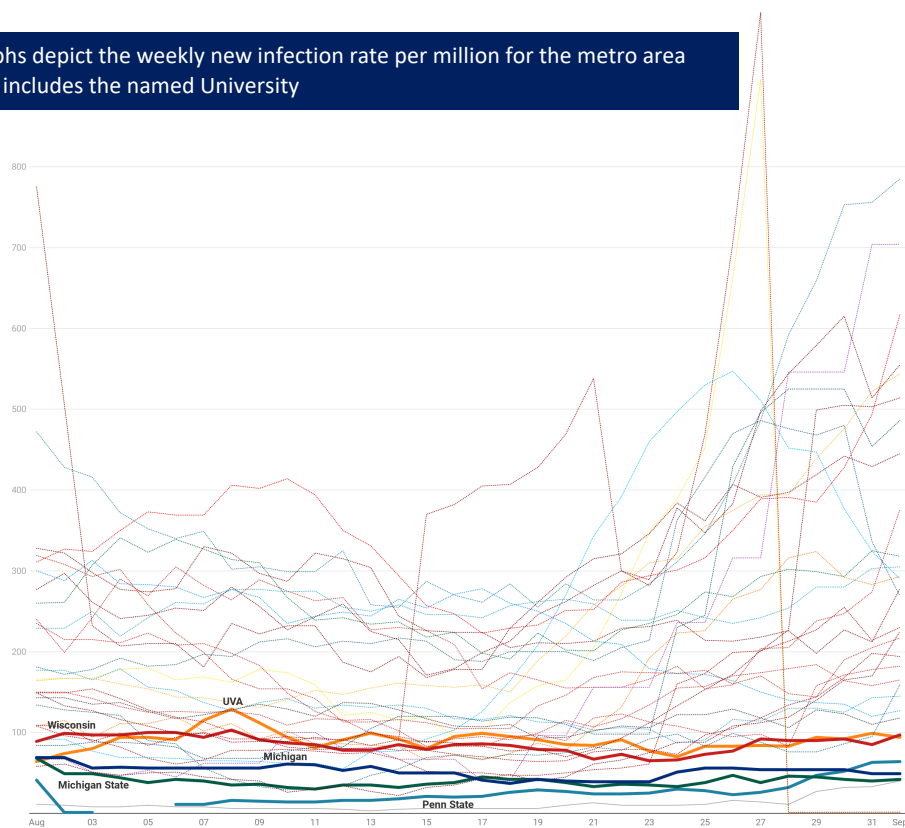


Chart: Health Industry Advisor LLC • Created with Datawrapper

New Daily Infections / Million: Metro Areas Encompassing Major Universities

>300 New Cases / Million, Trailing 7-Day Moving Average

Graphs depict the weekly new infection rate per million for the metro area that includes the named University

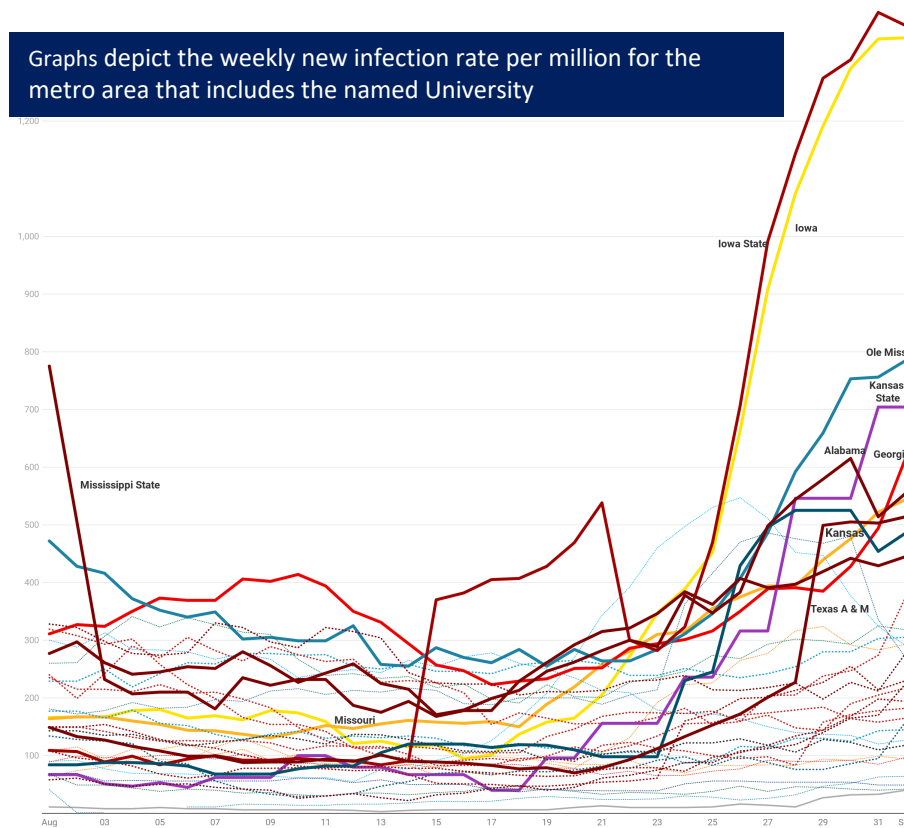
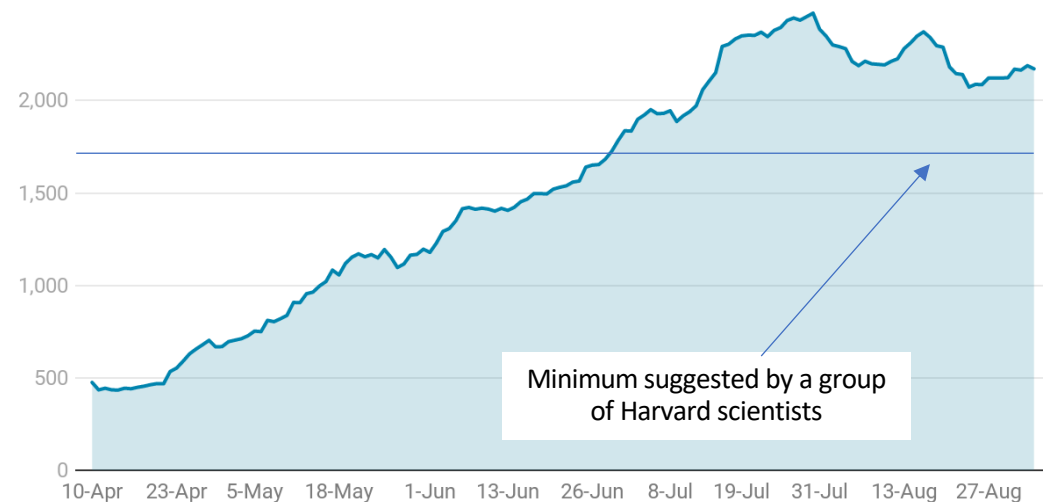


Chart: Health Industry Advisor LLC • Created with Datawrapper

Testing refers to tests for active infection, as reported via state health agencies; does not reflect antibody testing for prior infection

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of September 2

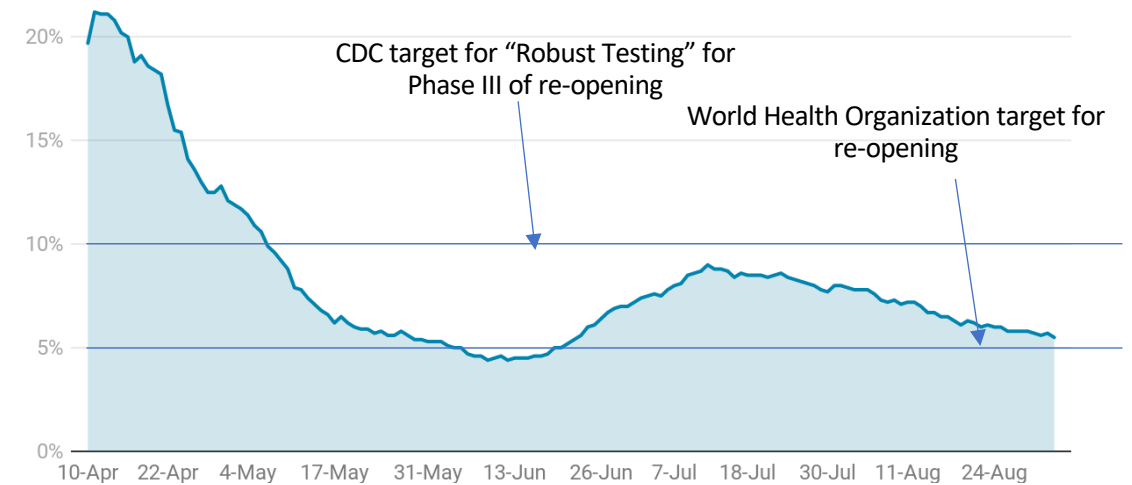


Health Industry Advisor LLC analysis

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 September 2



Health Industry Advisor LLC analysis

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

Note: On August 11, North Carolina made a significant adjustment, removing 220,000 tests from their YTD totals. We manually removed this negative adjustment from the August 11 data to better reflect actual testing for that date

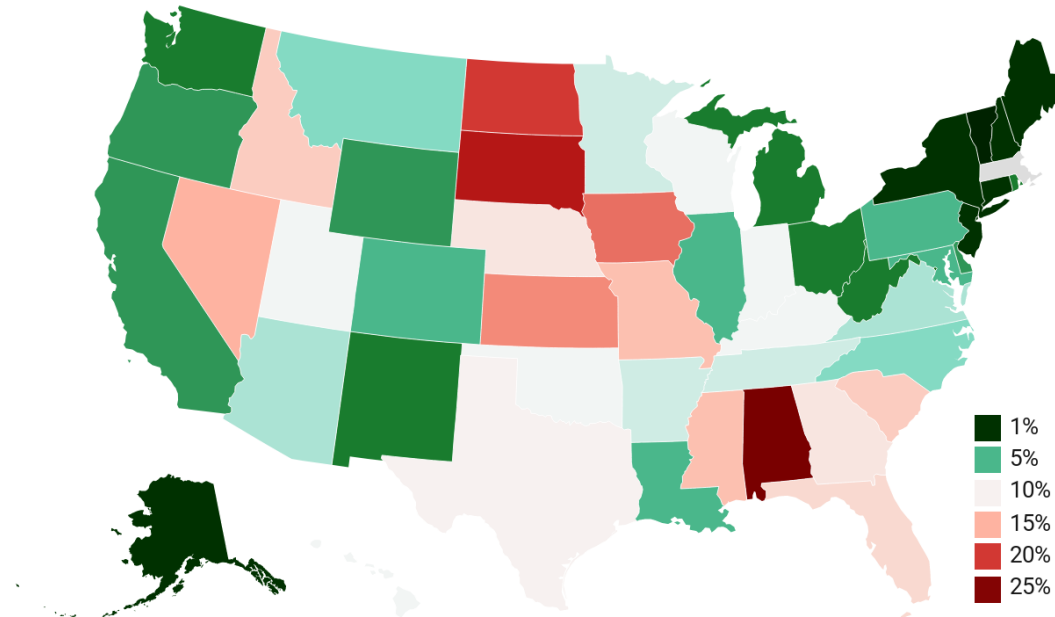
Note: Due to a computer glitch, Washington batch-reported on August 26 all its negative test results from August 1-25. We "smoothed" the data, by applying a constant test-positive rate to estimate the negative tests by day for this period

Thirteen states have test-positive rates above the CDC-target (10%) for Phase III re-opening; Of these, Alabama, Iowa, Kansas and the Dakotas have seen these rates increase v. last week

Testing refers to tests for active infection, as reported via state health agencies; does not reflect antibody testing for prior infection

Test-Positive Rate

Trailing 7-Day Moving Average, As of September 2

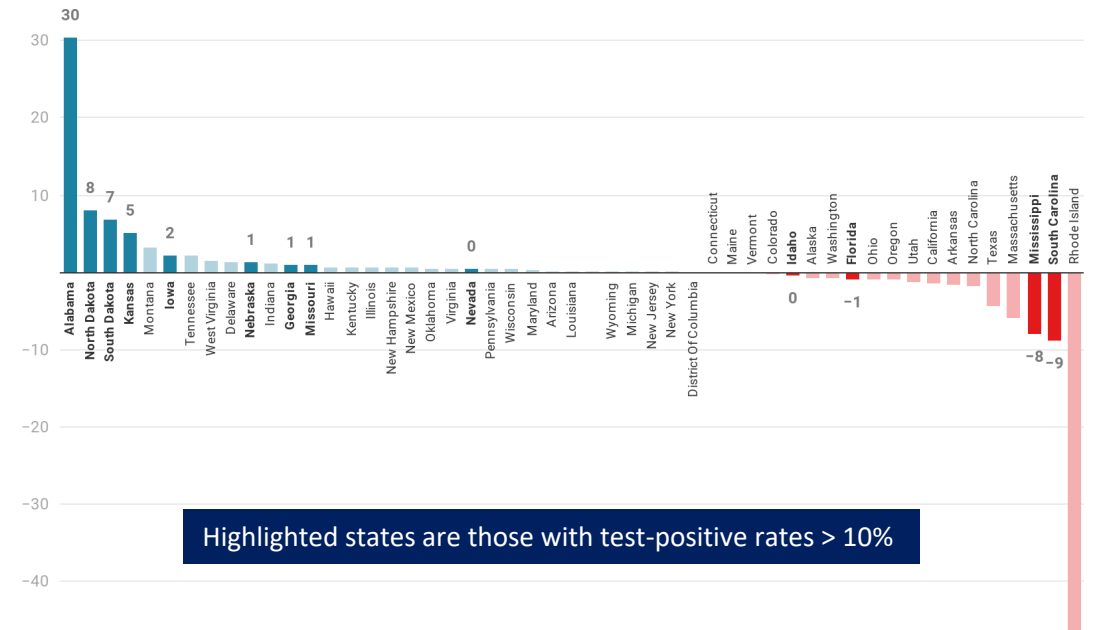


Health Industry Advisor LLC analysis

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

Week-Over-Week Change in Test-Positive Rate

Trailing 7-Day Moving Average, As of September 2 v August 26

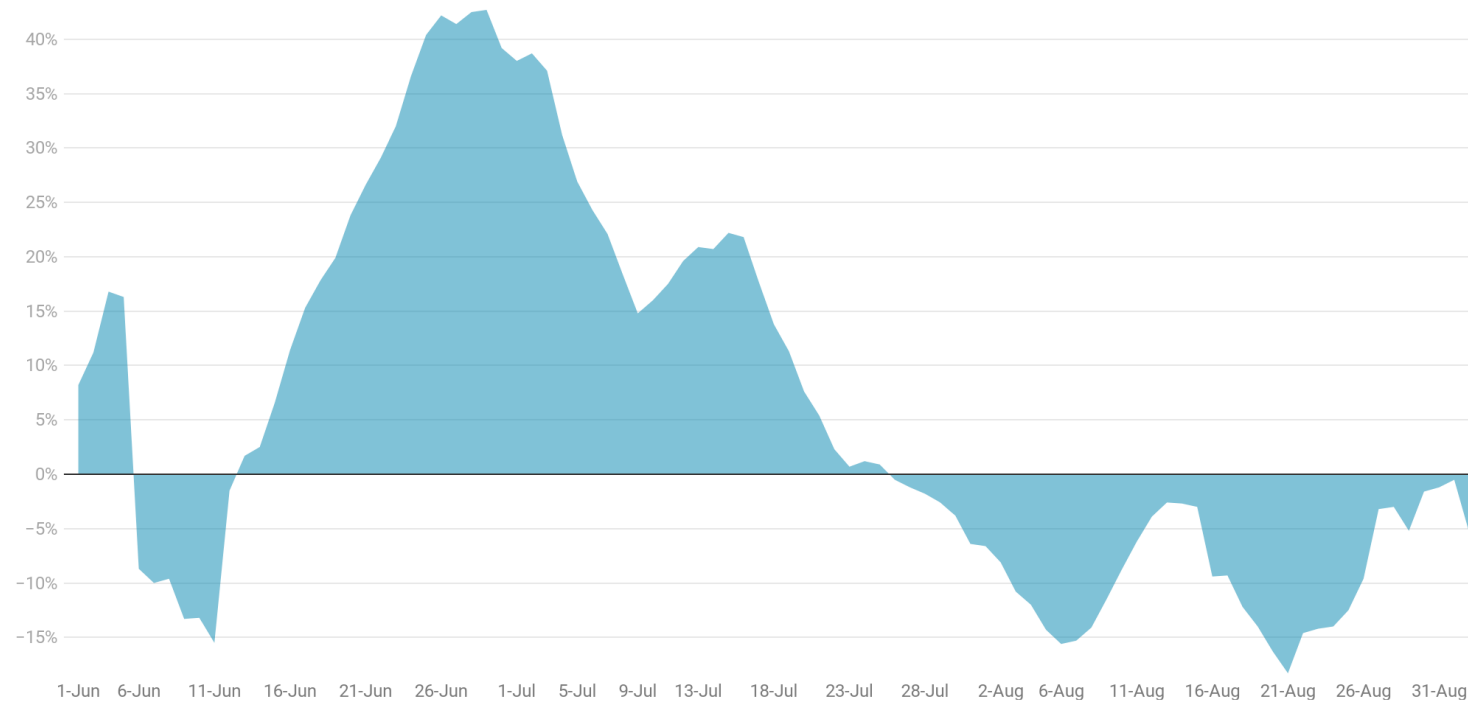


Highlighted states are those with test-positive rates > 10%

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

Week-Over-Week Change In New Cases

Through September 2

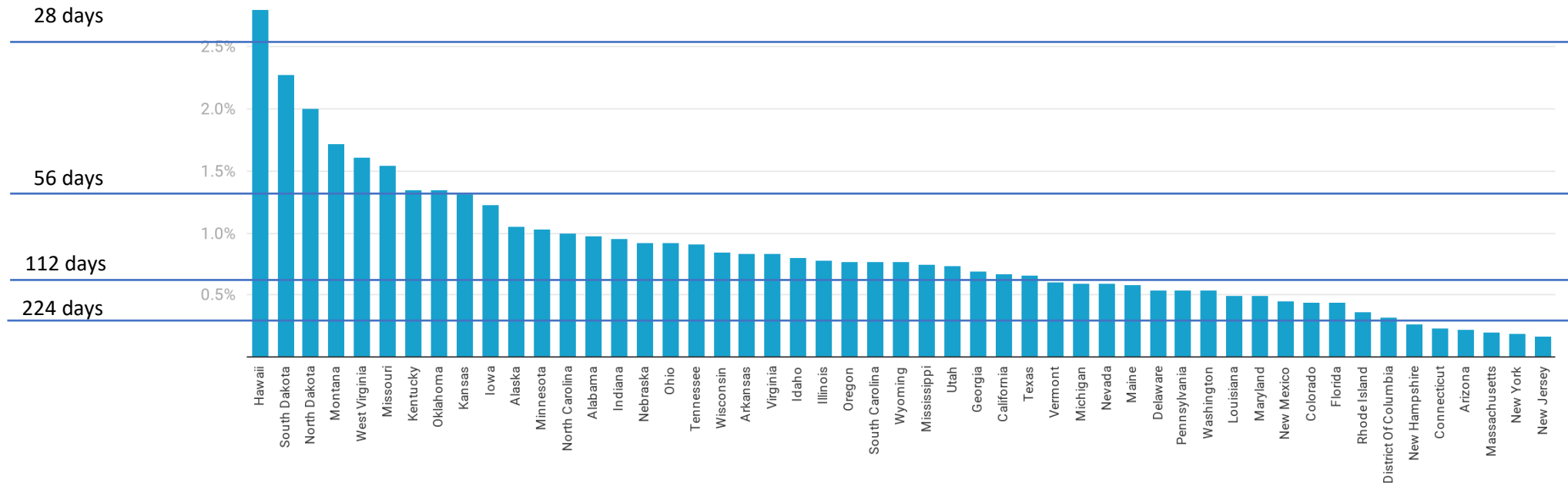


Health Industry Advisor LLC analysis

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

Growth Rate in Total Cases

Trailing 5-Day Moving Average, Through September 2



Health Industry Advisor LLC analysis

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

New Daily Cases

Through September 2

Wednesdays Highlighted

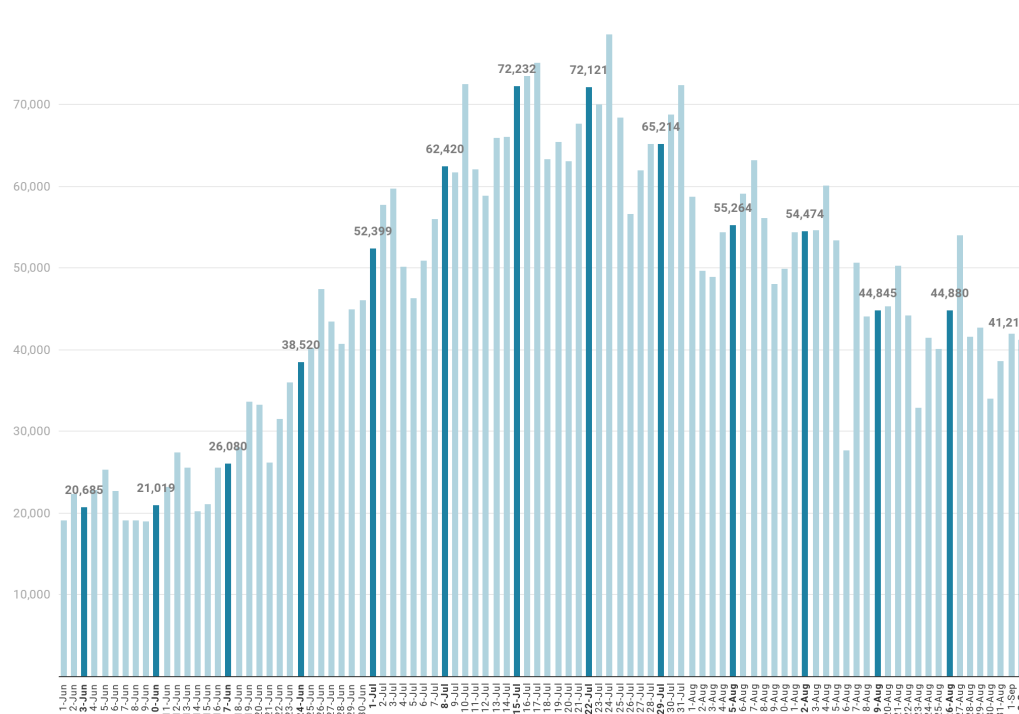


Chart: Health Industry Advisor LLC • Source: eoridometers.info • Created with Datawrapper

Newly Reported Deaths

Through September 2

Wednesdays Highlighted

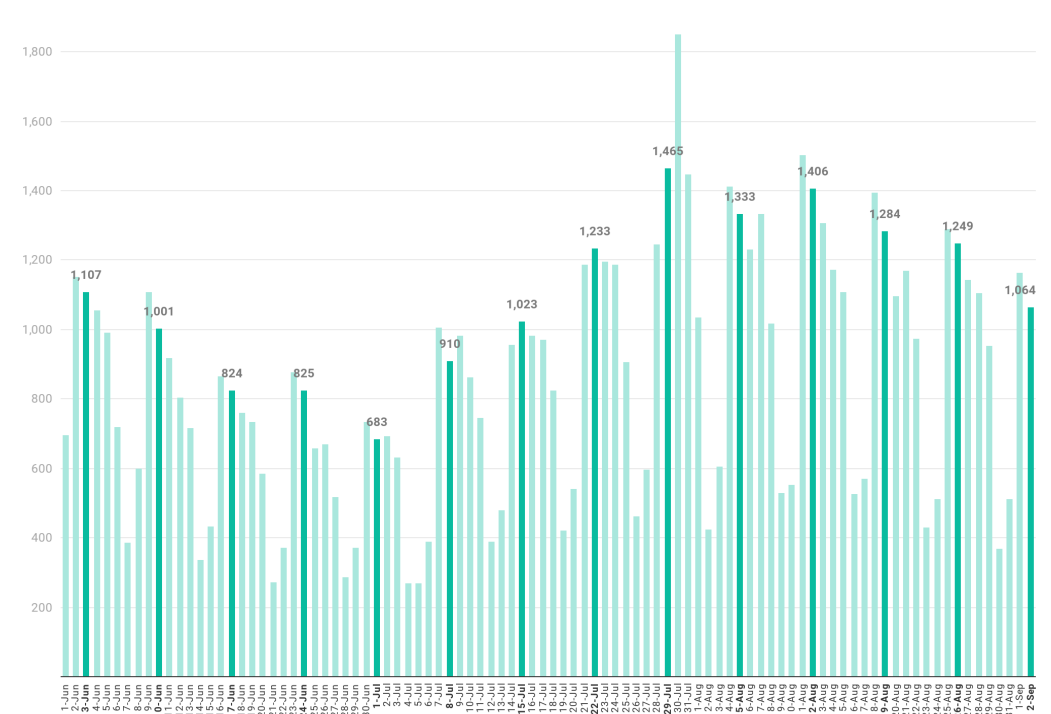


Chart: Health Industry Advisor LLC • Source: eoridometers.info • Created with Datawrapper

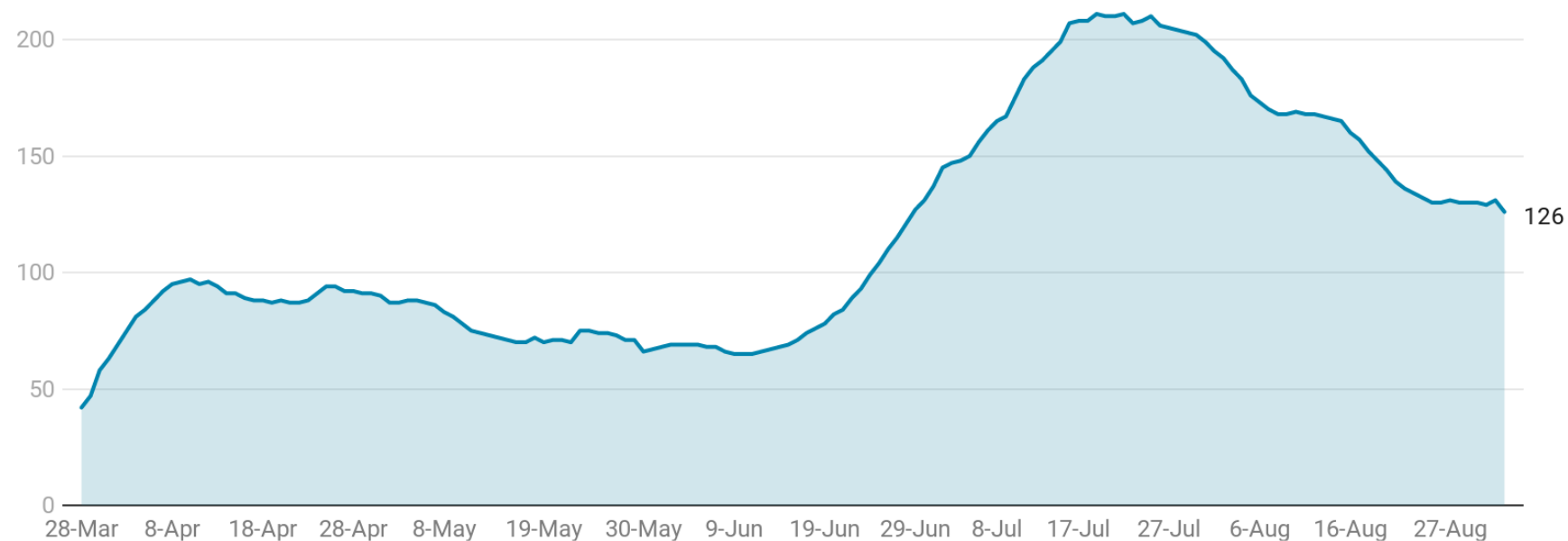
Note the daily pattern: new cases are typically low on Sunday, then increase each day through the week. While we have been noting this for the past few weeks, researchers from MIT, Boston University and Harvard Medical School confirmed this in [a report published by CIDRAP on August 17](#)

New infections per capita* dropped yesterday, after being essentially flat for the prior 8 days

Rate has dropped 40% since July 22

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, Through September 2



Health Industry Advisor LLC analysis

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

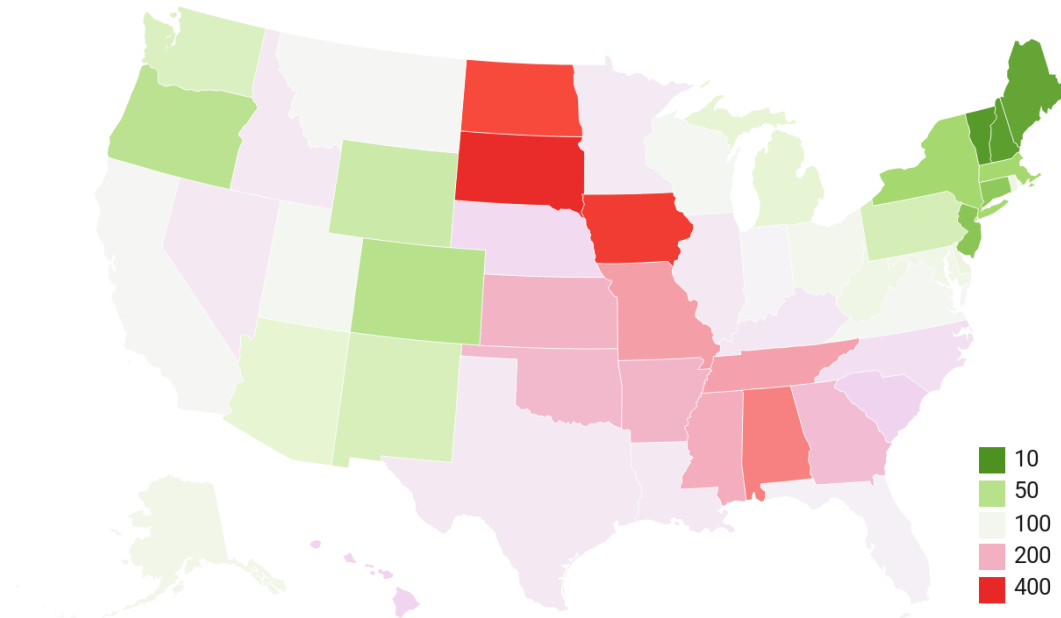
* - per million per day, trailing 7-day moving average

State-By-State – New Infections per Capita

As infection rates* have eased across the Southeast and West, the Upper Midwest is now experiencing accelerating infections. Rates are particularly high and increasing in Iowa and the Dakotas - More than doubled last week in South Dakota

New Daily Infections Per 1 Million Population

Trailing 7-Day Moving Average, As of September 2



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

Week-Over-Week Change in New Daily Infections / Million

Trailing 7-Day Moving Average, September 2 v. August 26

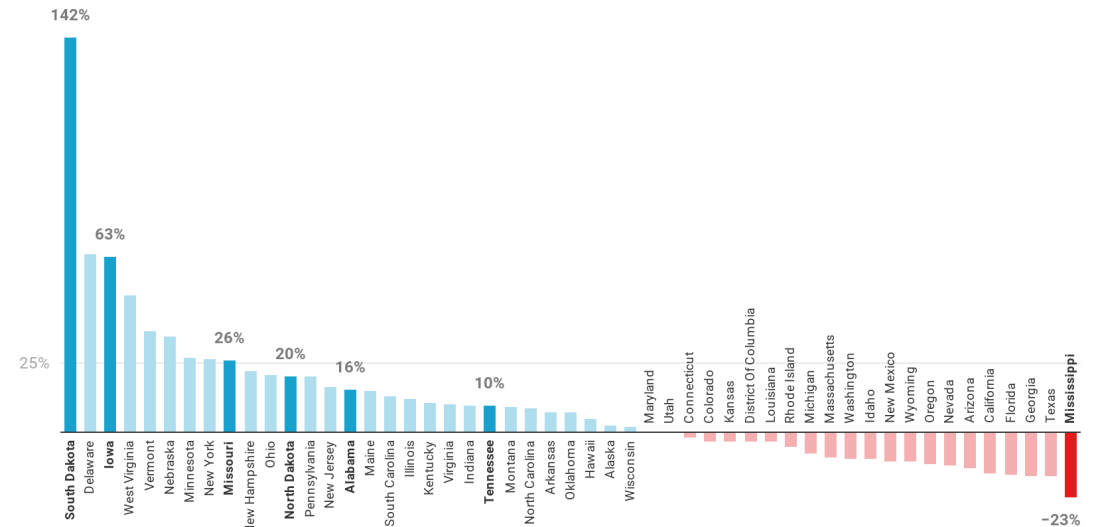


Chart: Health Industry Advisor LLC • Created with Datawrapper

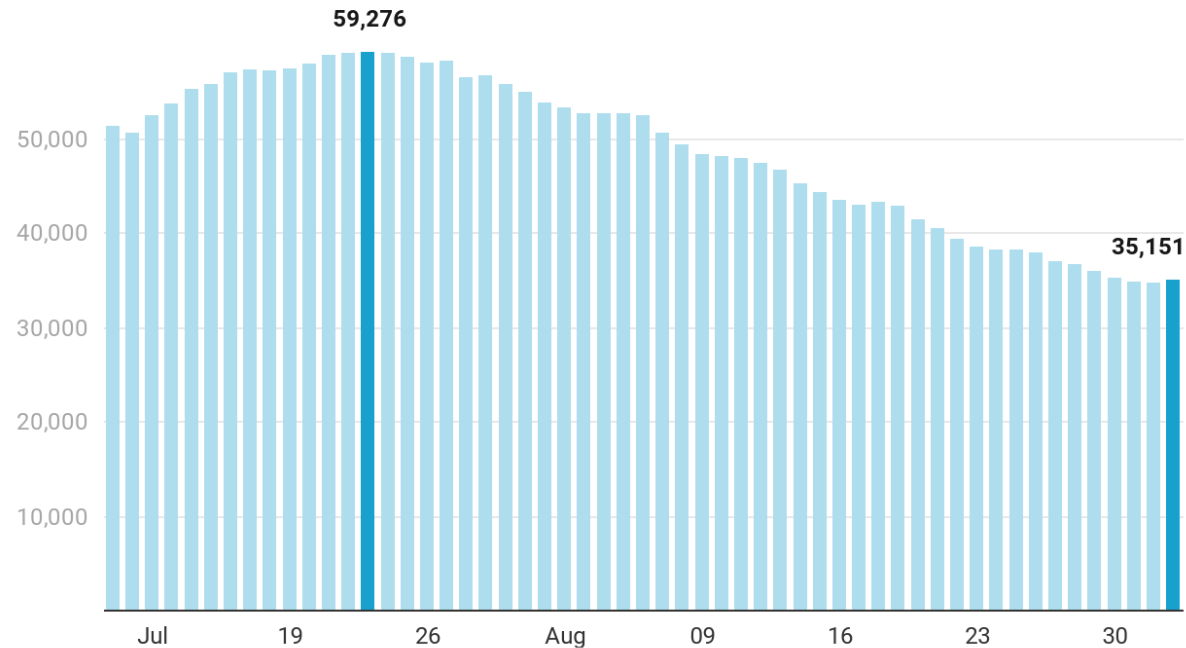
* - per million per day, trailing 7-day moving average

United States

COVID-19 inpatient increased yesterday, for only the 6th time in 41 days
This census has dropped 40% during this time

Hospital Census: COVID-19 Patients

As of September 2



Florida data first available on July 10

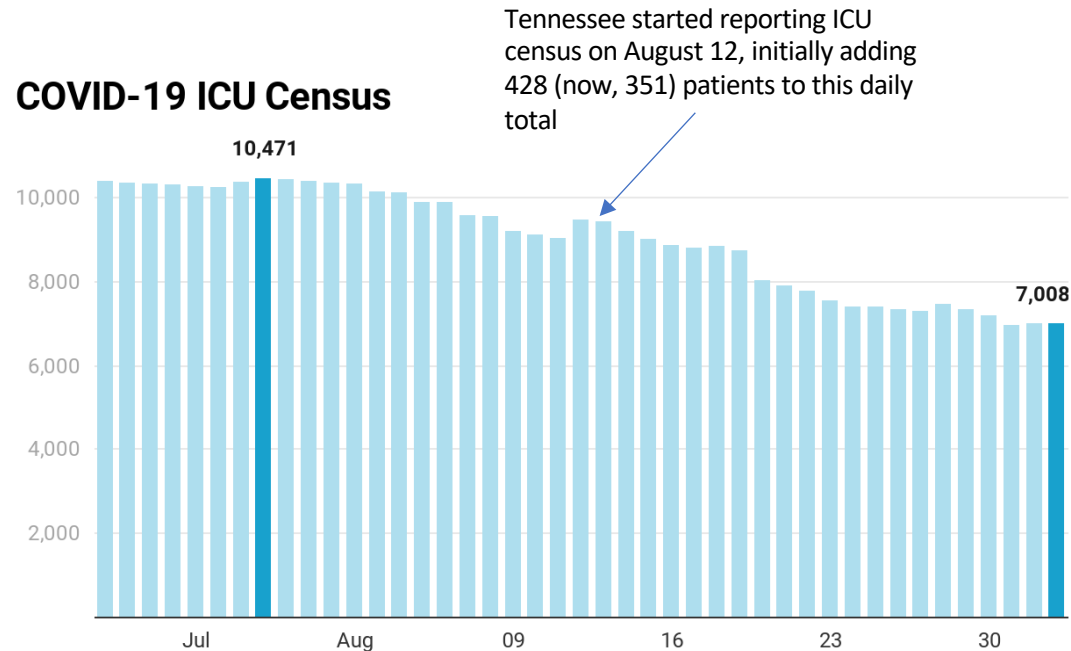
Chart: Health Industry Advisor LLC • Source: the Atlantic's Covid Tracking Project • Created with Datawrapper

Stress on ICU beds and ventilators continues to ease:

Daily ICU census has declined >30% since mid-July

Recently, % of inpatients in the ICU or on ventilators are both steady or decreasing
... even as census declines

COVID-19 ICU Census

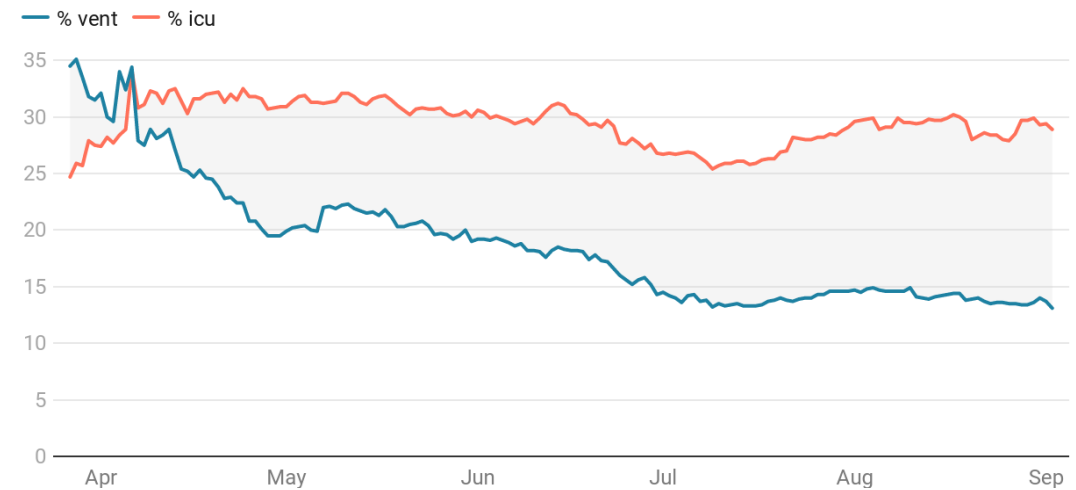


For states reporting these data: AZ, CA, ID, IL, IN, IA, KS, KY, ME, MD, MA, MI, MN, MS, NV, NJ, NY, NC, OH, OK, OR, RI, SC, TX, UT, VA, WI & WY

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

Severity of Hospitalized Patients

% of patients on ventilators and in the ICU, As of September 2

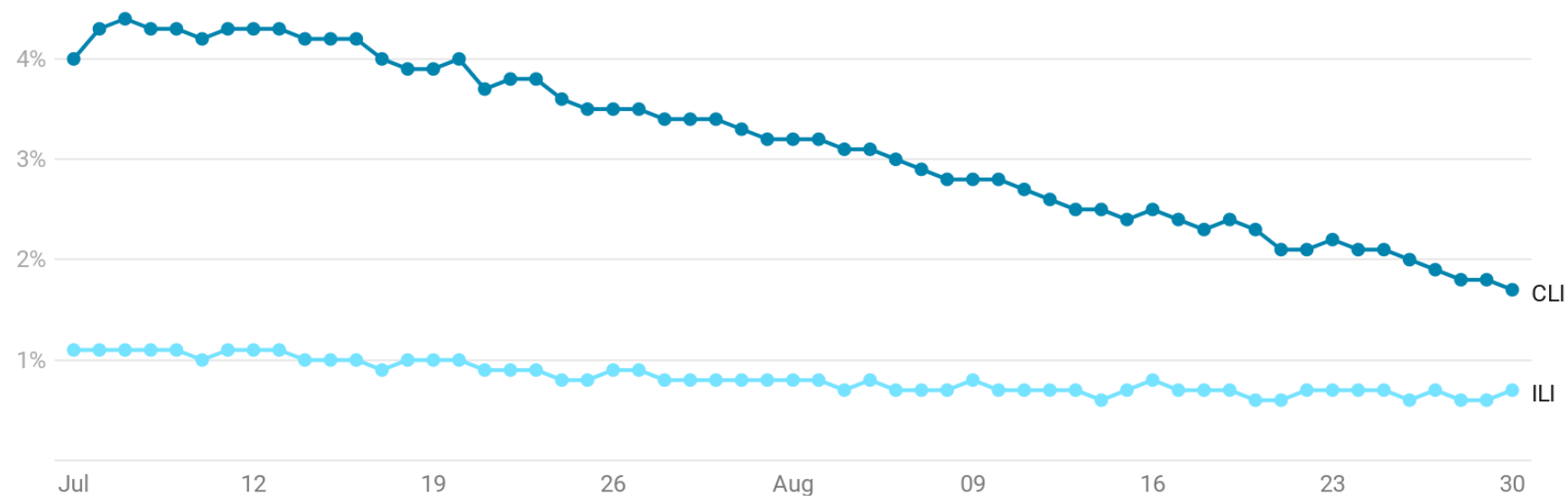


Health Industry Advisor LLC analysis

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

% of Emergency Department Visits for COVID-Like Illness (CLI) and Influenza-Like Illness (ILI)

As of August 30



Health Industry Advisor LLC analysis

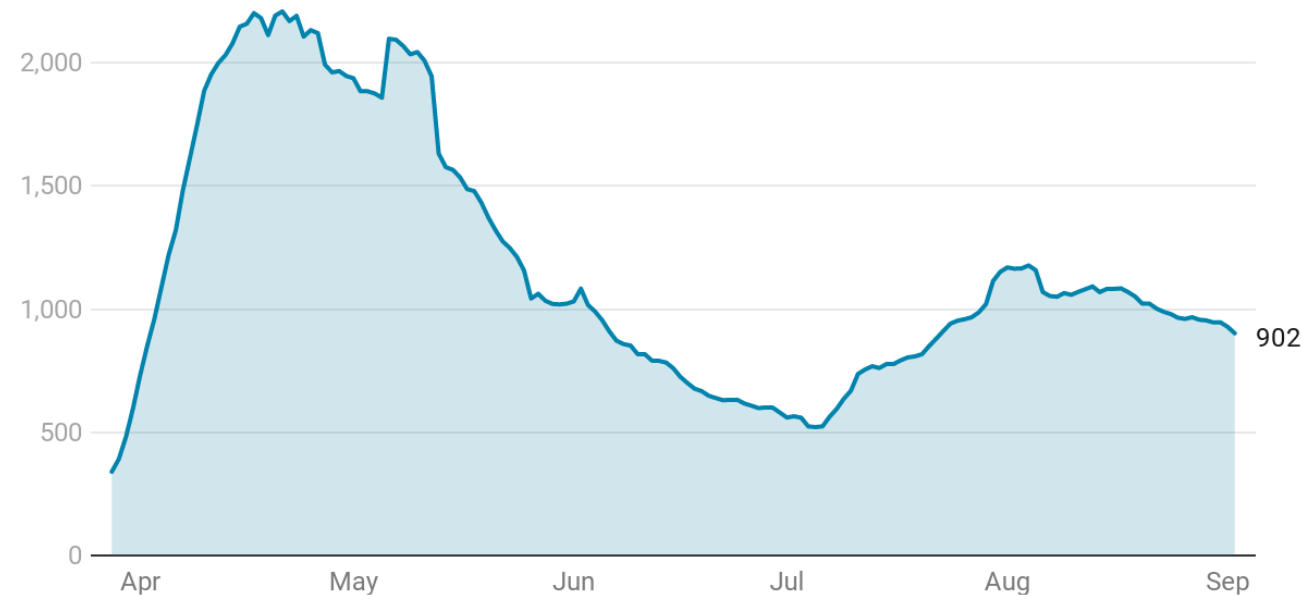
Chart: Health Industry Advisor LLC • Source: Centers for Disease Control • Created with Datawrapper

United States – Deaths with Coronavirus

7-day average deaths have been declining for past three weeks –
now, at lowest 7-day average rate in six weeks

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of September 2



Health Industry Advisor LLC analysis

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

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>