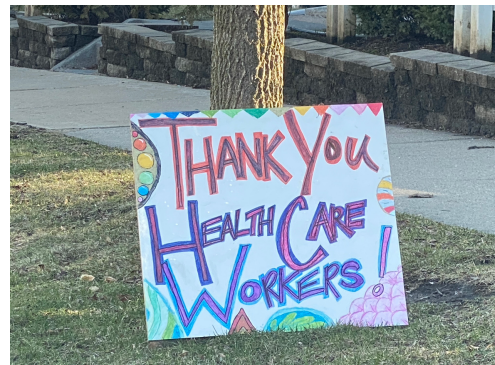
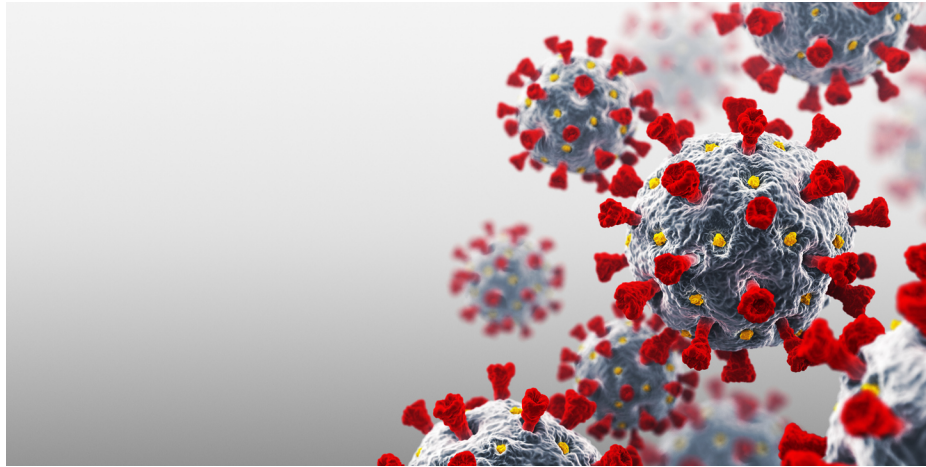
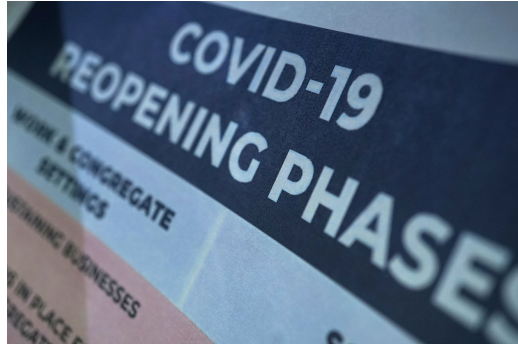




COVID-19 Report

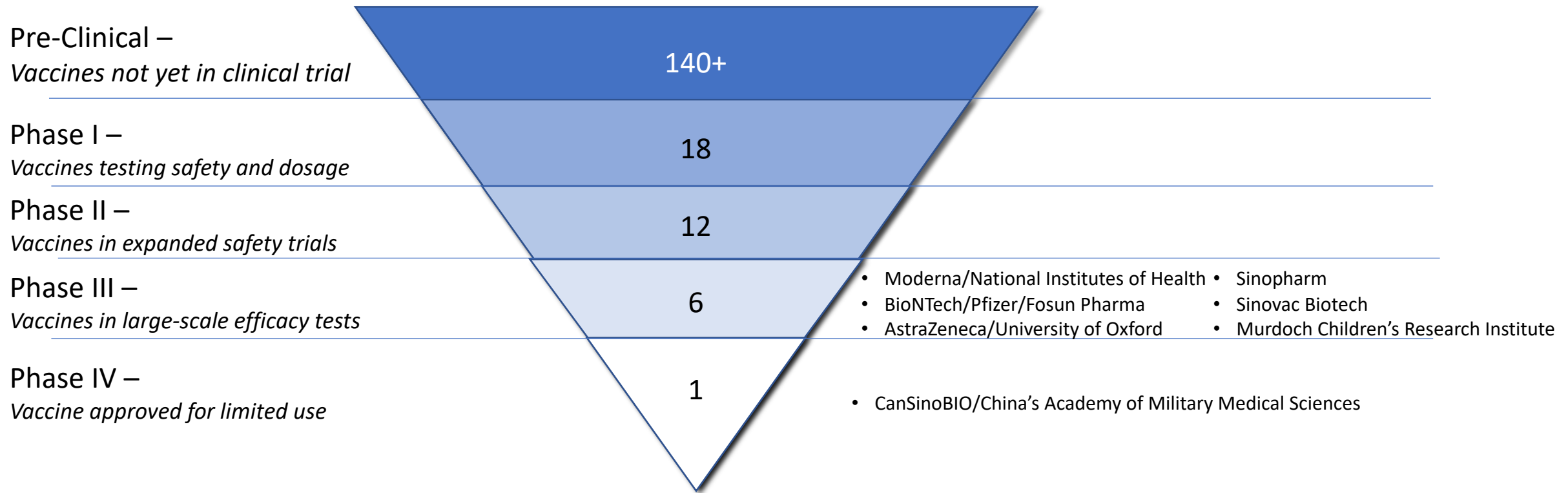
Issue # 126

Wednesday, August 5, 2020

- There are at least 165 vaccines under development, according to a New York Times tracker:
 - One - by the Chinese company CanSino Biologics in conjunction with the Academy of Military Medical Sciences was approved on June 25 for limited use
 - Six have moved to Phase III - large-scale efficacy tests
 - Moderna, in partnership with the National Institute of Health launched their Phase III trial on July 27
 - BioNTech, in collaboration with Pfizer and Fosun Pharma announced the launch of a combined Phase II/II trial on July 27
 - AstraZeneca, in development with the University of Oxford is in Phase II/II trial in England and Phase III in Brazil and South Africa
 - Sinopharm launched a Phase III trial in the UAE in July
 - Sinovach Biotech launched a Phase III trial in Brazil in July
 - Murdoch Children's Research Institute is conducting a Phase III trial in Australia
 - Under Operation Warp Speed, the U.S. government is funding the Moderna, AstraZeneca/Oxford and BioNTech/Pfizer trials
- Worldwide, new infection rates seem to be easing somewhat, with a few notable exceptions:
 - New infection "hot-spots", where rates are increasing in recent weeks include Brazil, Columbia, Maldives and Peru
 - Rates in India, albeit low per capita, have been consistently increasing for some time
 - Infection rates have eased in earlier hot-spots Kyrgyzstan and Montenegro
 - Rates are also easing in the U.S and French Guiana
- Trends in infection rates in the U.S continue to be favorable:
 - New daily cases declined 11.8% in the past week
 - New daily infections per capita, on a 7-day moving average basis, have declined for ten consecutive days. Yesterday's rate is its lowest since July 11
- There appears to be no distinction in infection rates for urban v rural areas:
 - Instead, geography plays a role, with high infection rates currently concentrated in the Southeast and parts of the West
- At the state level too, we seem to be turning the corner on new infection rates:
 - Hawaii is the only state that has posted its highest infection rate to-date within the past three days - doing so yesterday
 - Forty states have gone at least a week since their peak infection rate
 - Thirty-four states are at 85% or less than their peak rate; seven are at less than 1/3 peak
- Testing is problematic:
 - In many areas, testing is restricted to those with obvious symptoms - despite calls for testing before traveling to other states or returning to school
 - Test results are taking 1-2 weeks, in any cases
 - Test volume yesterday was the lowest it has been since July 13
 - Thirteen states have test-positive rates > 10% for the past week; eight of these saw increases in this rate on a week-over-week basis
 - For the U.S overall, test-positive rates seem to be stable at about 7.8%
- Pressure on the U.S. healthcare system continues to ease:
 - COVID-19 census declined yesterday for the 6th consecutive day; it is now at its lowest level since July 12
 - This census declined week-over-week in each of the recently hard-hit states - Arizona, California, Florida, Georgia and Texas
 - With the lower census, a higher % of patients (although not more patients in total) are being managed in the ICU
 - ER visits for COVID-19 illnesses, on a % basis, have been declining since July 8; these are now lower than any day since June 16

Vaccines

There are more than 165 vaccines under development worldwide. One has received approval for limited use; six other have moved to large scale efficacy tests



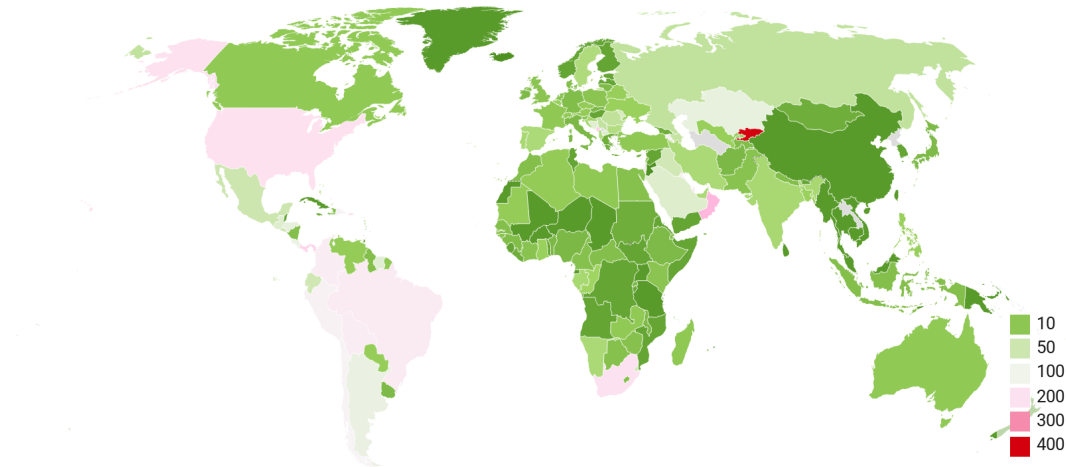
Source: "Coronavirus Vaccine Tracker", New York Times, Updated August 3, 2020
<https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html>

Worldwide

In past 2 weeks, “hot spots” in Kyrgyzstan and Montenegro have calmed, while new infections accelerated in Brazil, Peru, Columbia and Maldives. Intensity has eased somewhat in the U.S. and French Guiana

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of July 21

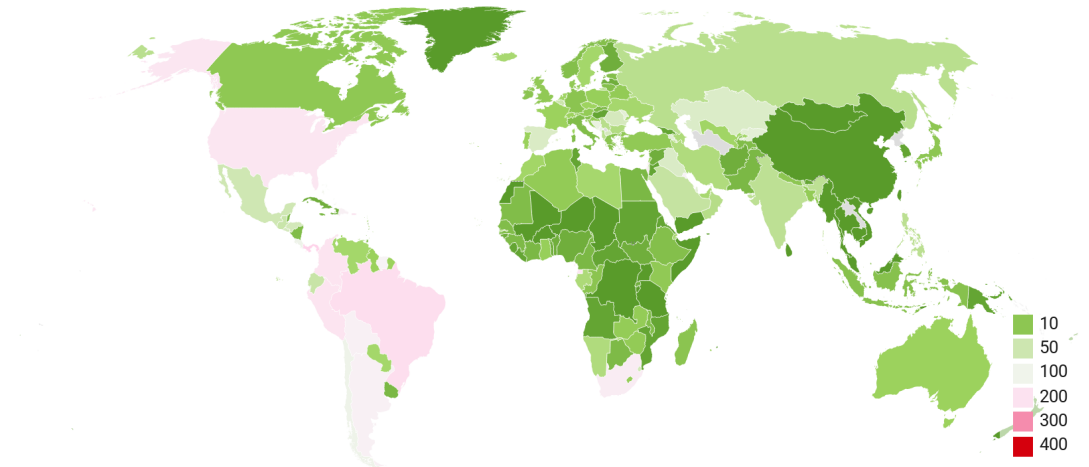


Health Industry Advisor LLC analysis

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

New Daily Infections / 1 Million Population

Trailing 7-Day Moving Average, As of August 4



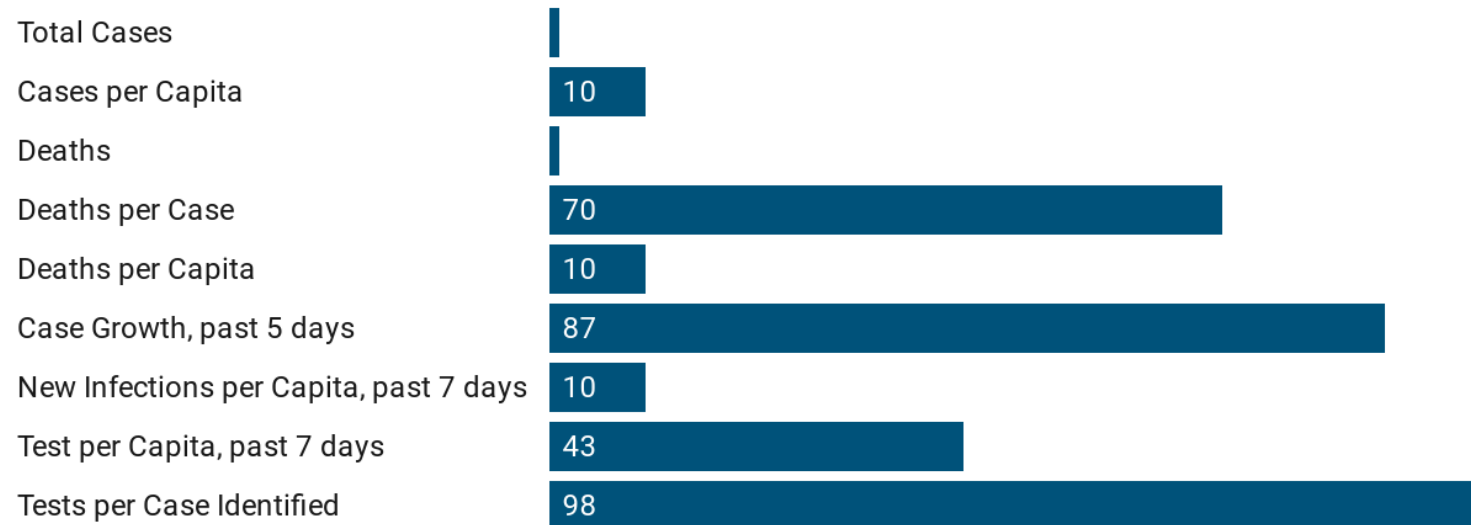
Health Industry Advisor LLC analysis

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

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

U.S. Rankings Among All 216 Countries With Coronavirus Cases

As of July 26



Health Industry Advisor LLC analysis

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

New daily cases in India and Brazil still trending upward; beginning to surpass the United States? Meanwhile, Sweden seems to have brought the virus spread under control

New Daily Cases

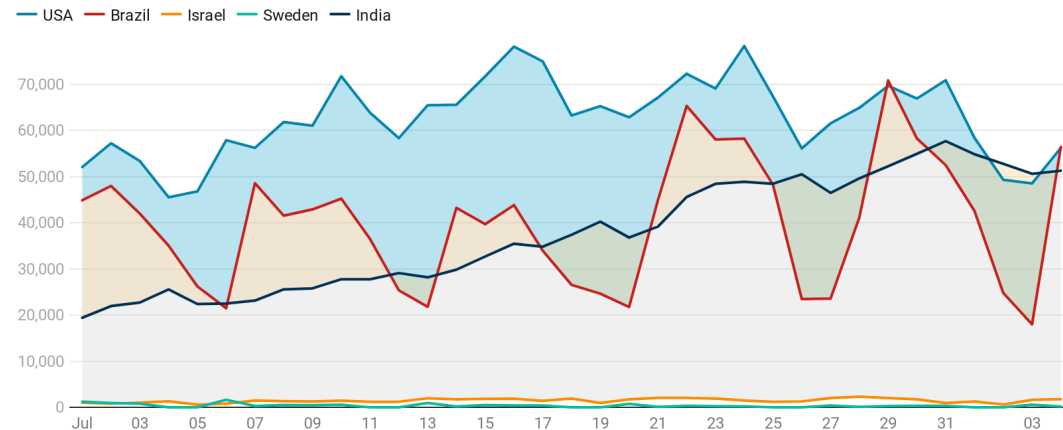


Chart: Health Industry Advisor LLC • Created with Datawrapper

New Daily Infections / Million Population

Trailing 7-Day Moving Average

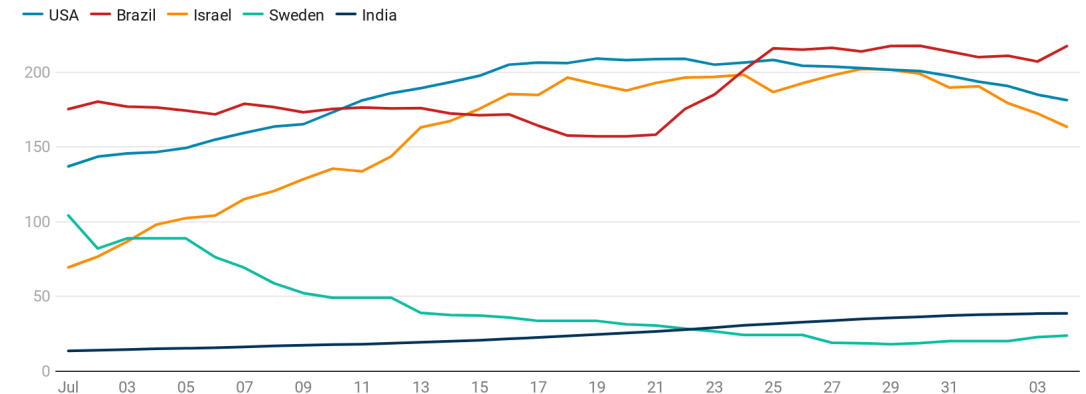


Chart: Health Industry Advisor LLC • Created with Datawrapper

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

New cases increased yesterday but, were 4th lowest of any day since July 5; New cases now down 11.8% on week-over-week basis

New Cases

Through August 4

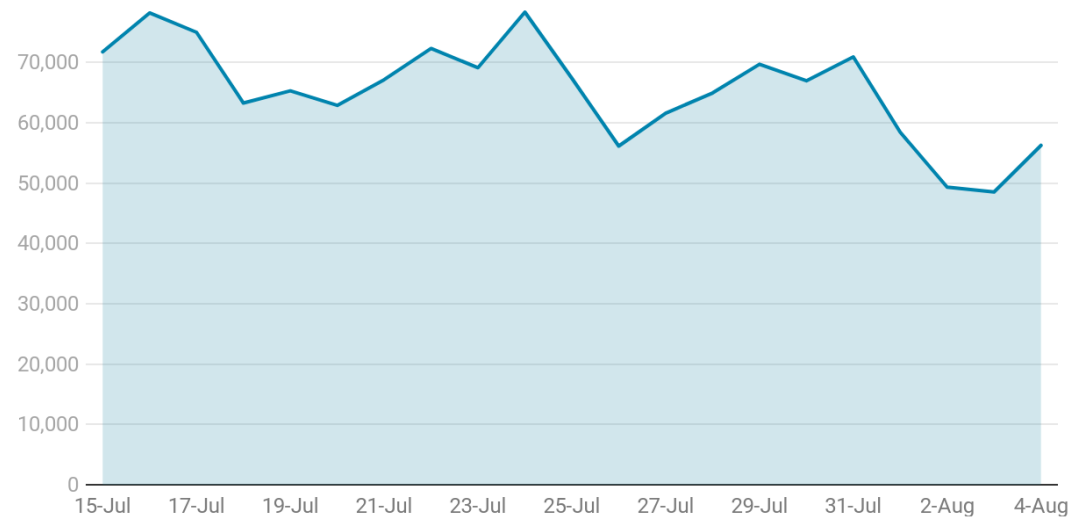
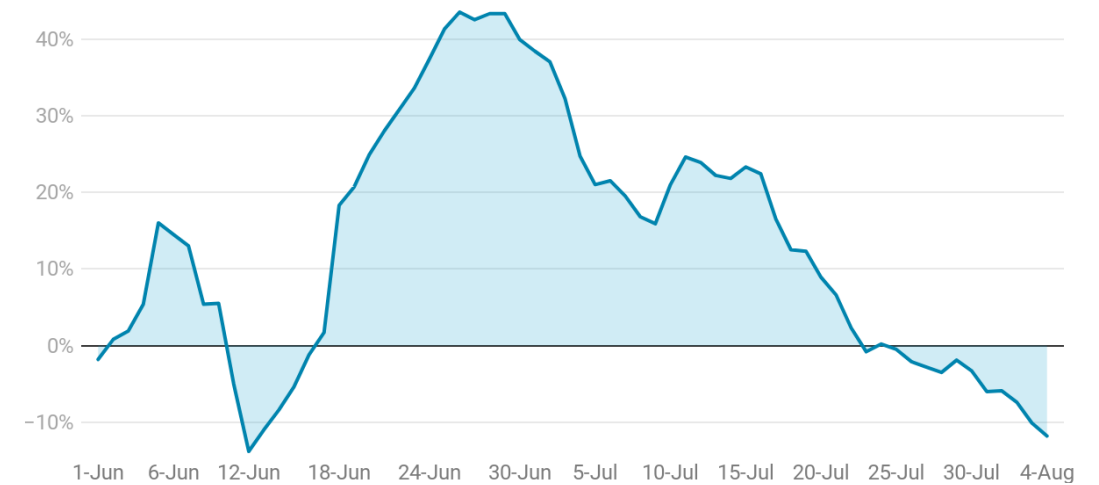


Chart: Health Industry Advisor LLC • Source: eorlometers.info • Created with Datawrapper

Week-Over-Week Change In New Cases

Through August 4



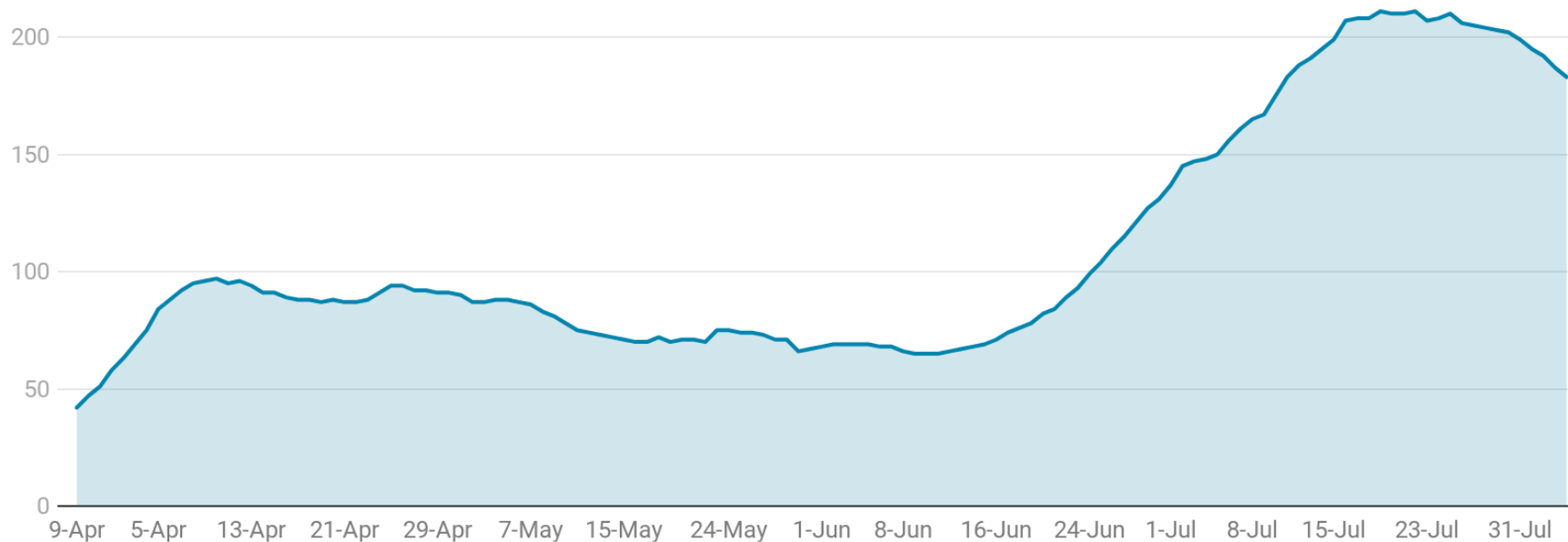
Health Industry Advisor LLC analysis

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

New infections per capita* declined for the 10th consecutive day on Tuesday; At its lowest level since July 11

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, Through August 4



Health Industry Advisor LLC analysis

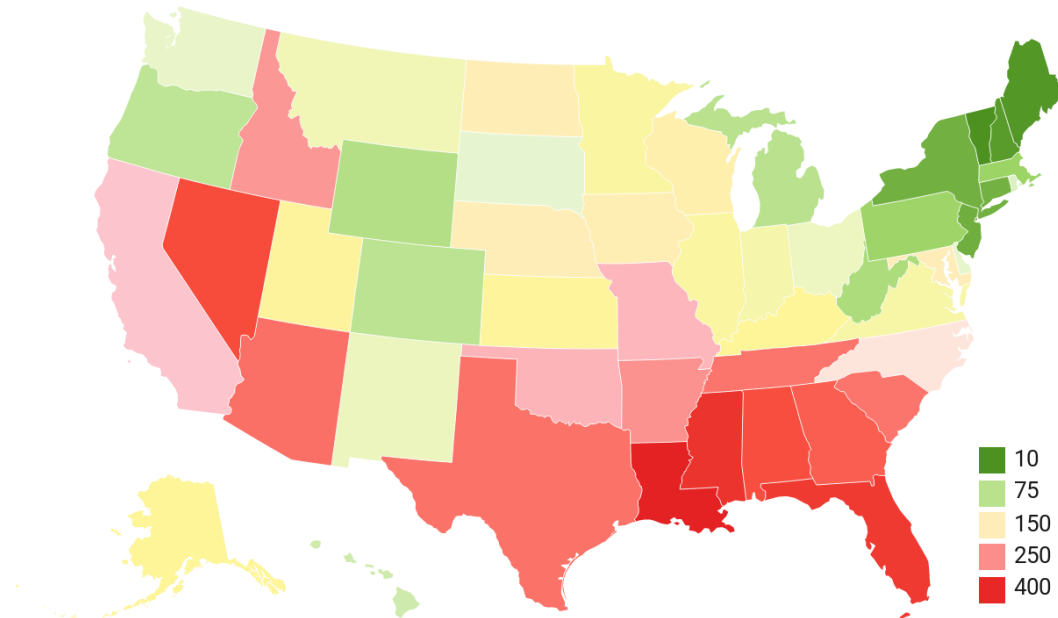
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

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

The new daily infection rates are found throughout most counties in the Southeast, scattered throughout the West

New Daily Infections Per 1 Million Population

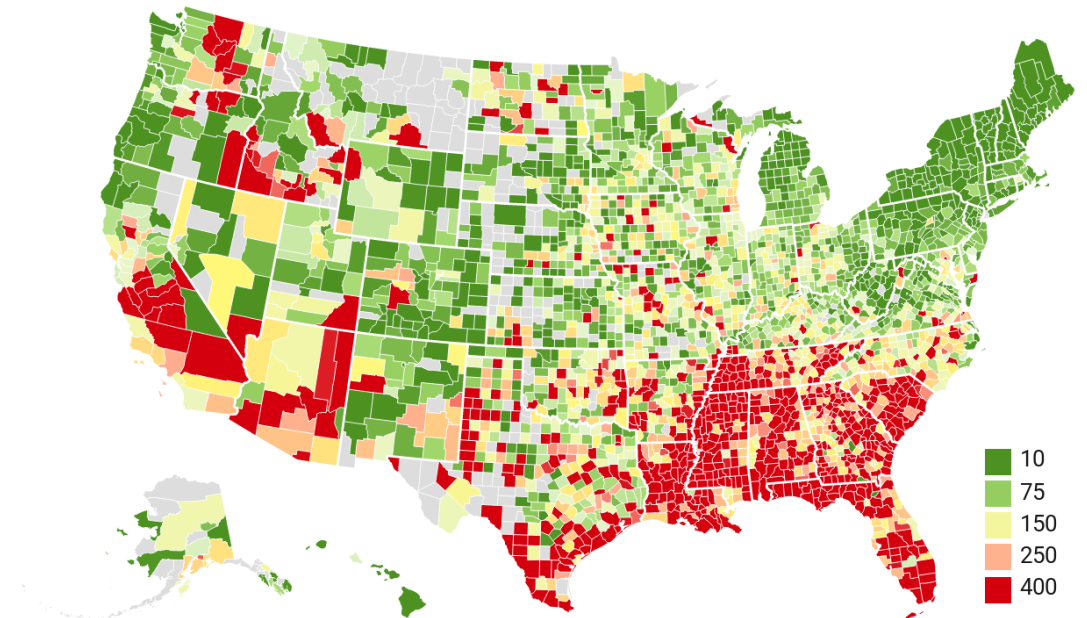
Trailing 7-Day Moving Average, As of August 4



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

New Daily Infections / Million Population

Trailing 7-Day Moving Average, As of August 3

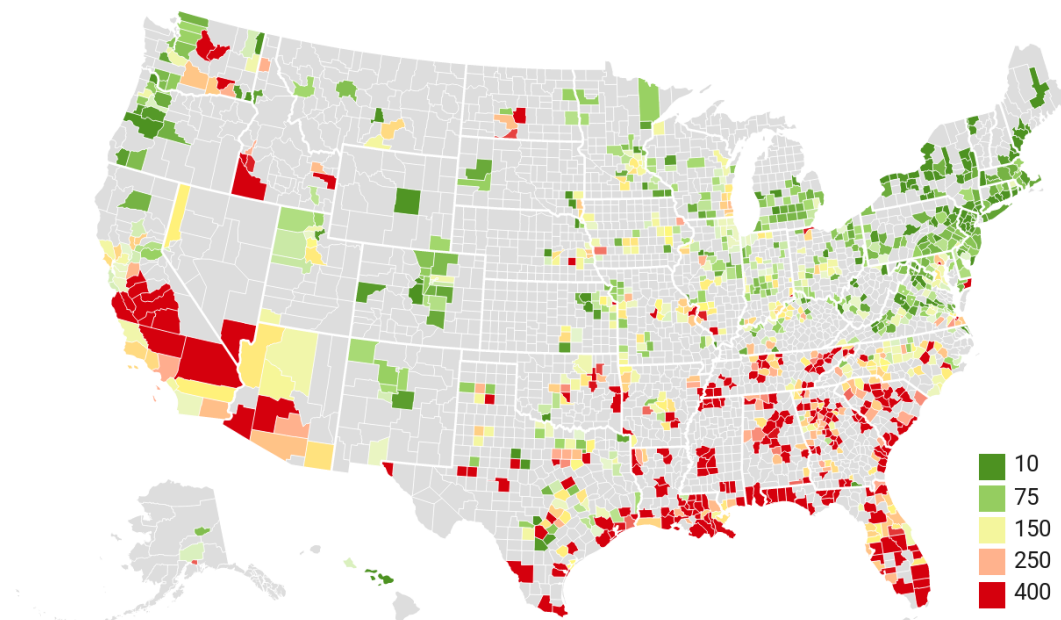


Map: Health Industry Advisor LLC • Created with Datawrapper

Urban v Rural: High infection rates are impervious to community size; geographical experience is similar for dense and sparsely-populated areas

New Daily Infections / Million Population

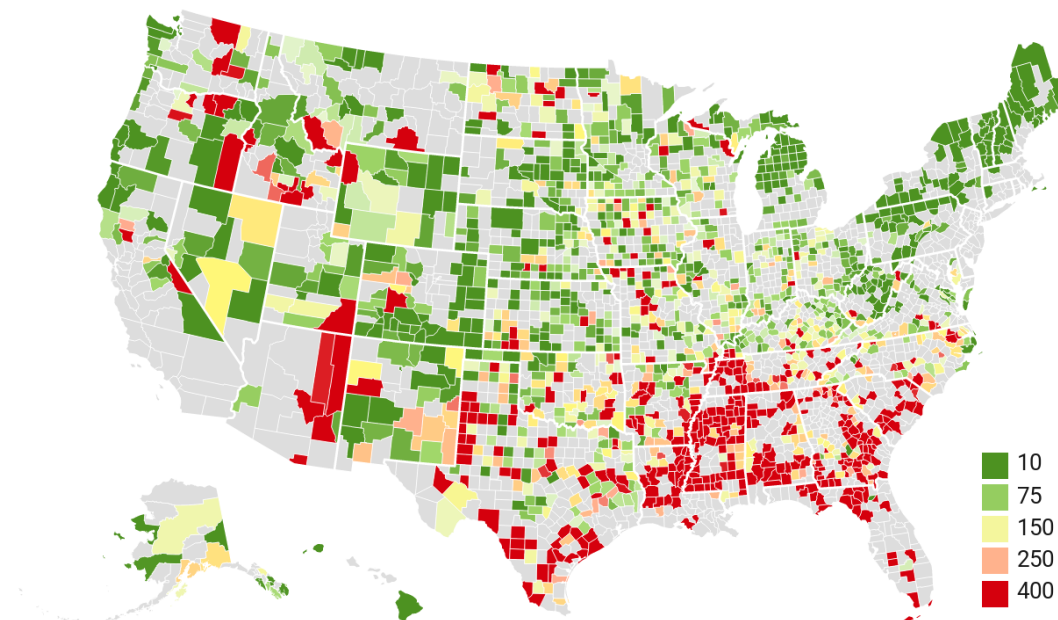
Large Central, Large Fringe, Medium & Small Metro Areas, Trailing 7-Day Moving Average, As of August 3



Map: Health Industry Advisor LLC • Created with Datawrapper

New Daily Infections / Million Population

Micropolitan and Noncore Areas, Trailing 7-Day Moving Average, As of August 3



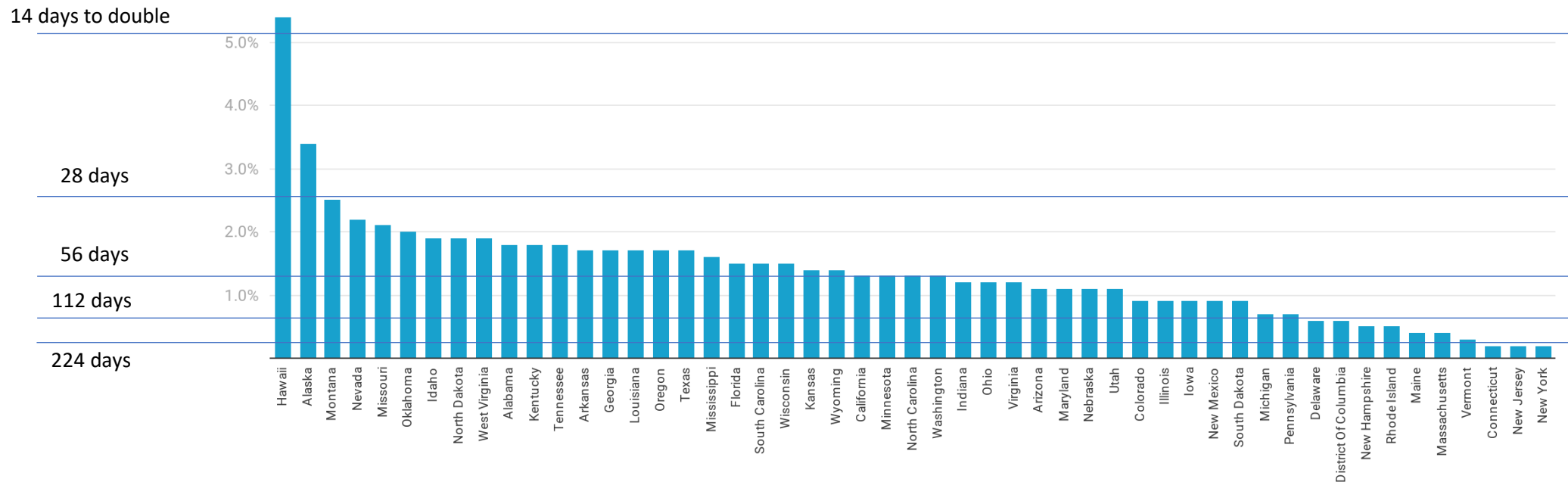
Map: Health Industry Advisor LLC • Created with Datawrapper

State-By-State

Case growth is slowing but, Hawaii remains a concern here. At current rates, cases are doubling every 13-14 days in Hawaii; every 416 days in New York; 58-59 for the United States overall

Growth Rate in Total Cases

Trailing 5-Day Moving Average, Through August 4



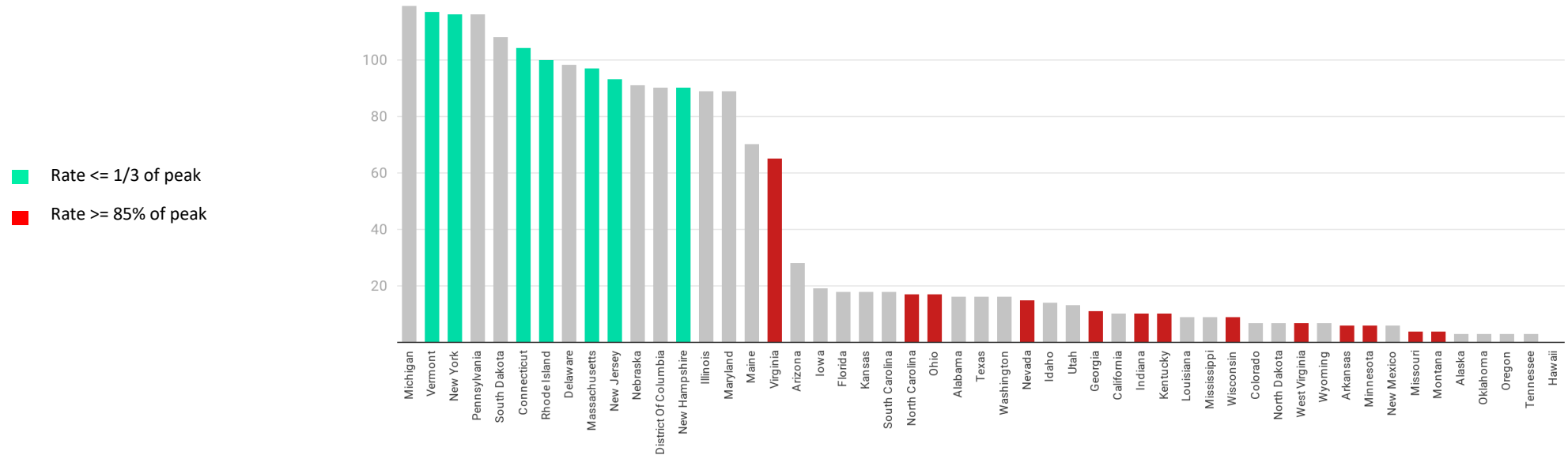
Health Industry Advisor LLC analysis

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

New Infections – Are we turning a corner? Only Hawaii has posted its highest rate during the past 3 days; Thirty-four states at less than 85% of peak, 7 at less than 1/3 of peak

Days Since Peak New Infection Rate

Trailing 7-Day Moving Average, As of August 2



Health Industry Advisor LLC analysis

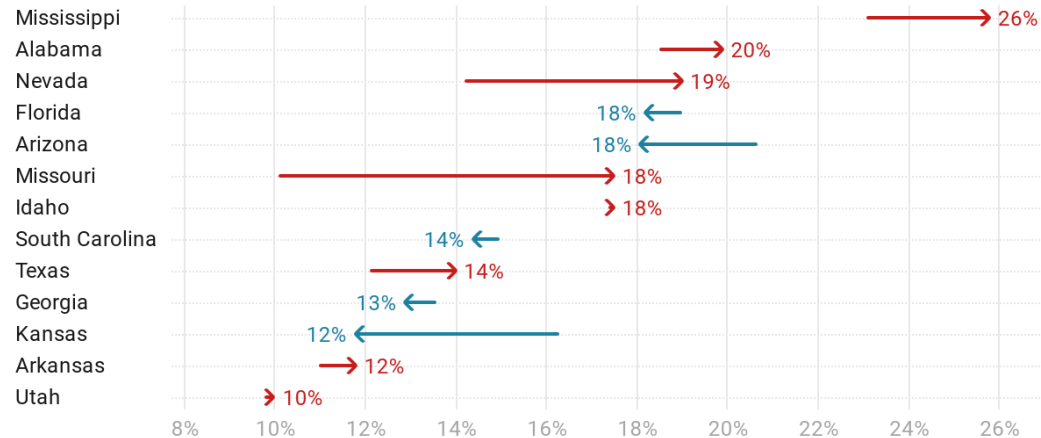
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Test-Positive rates are >10% in 13 states - eight of these saw their rates increase this week: Mississippi, Alabama and Nevada lead the pack

States with rates >10%

Test-Positive Rates

Trailing 7-Day Moving Average, July 28 v August 4



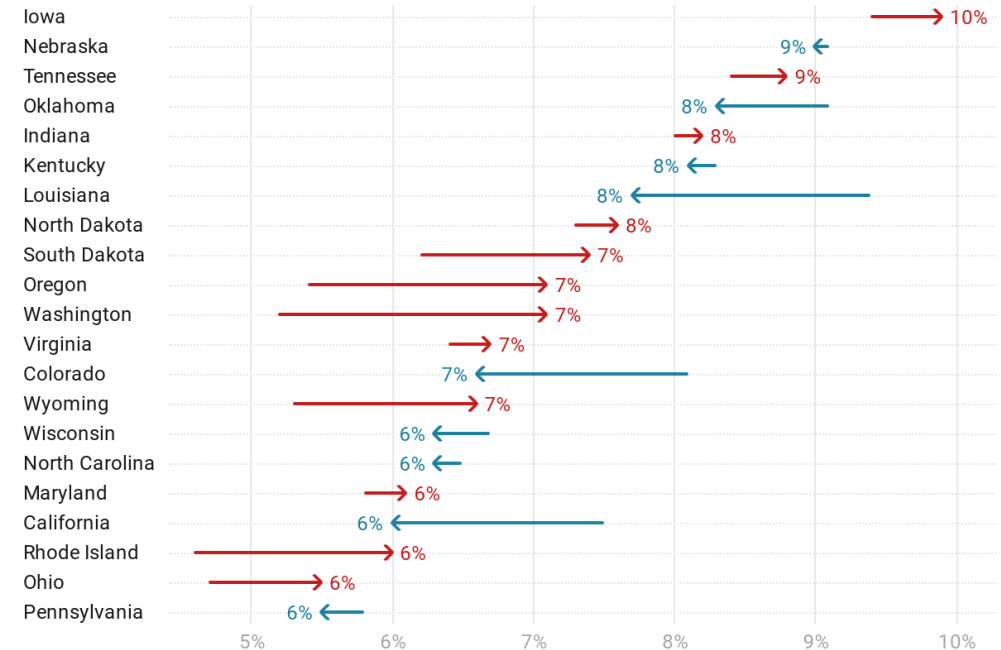
Health Industry Advisor LLC analysis

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

States with rates >5%

Test-Positive Rates

Trailing 7-Day Moving Average, July 28 v August 4



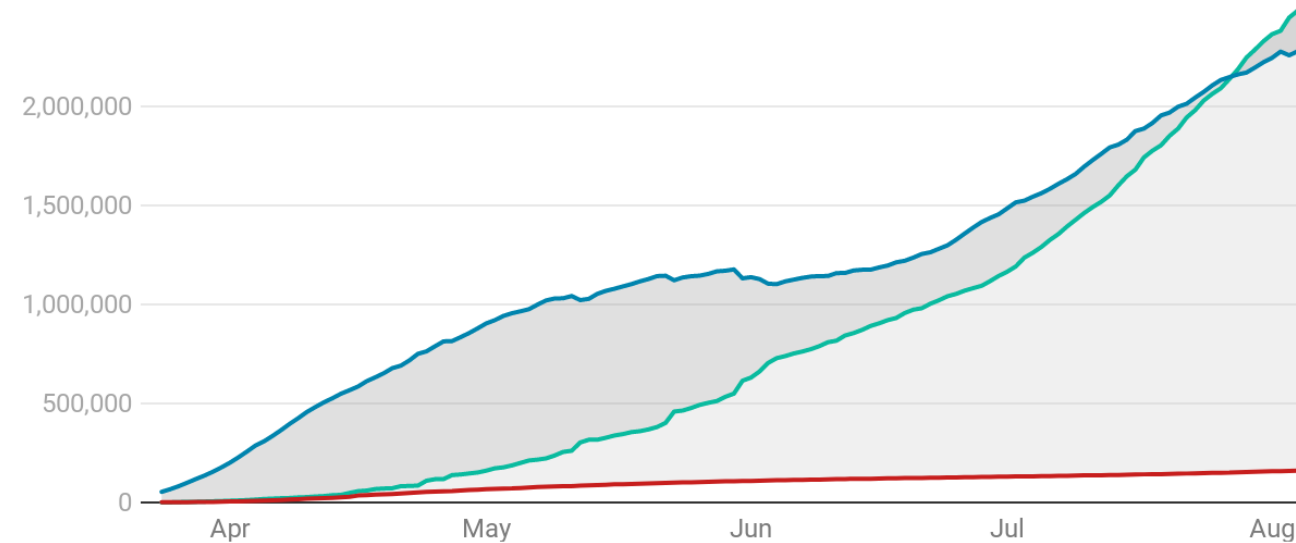
Health Industry Advisor LLC analysis

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

Active Cases v. Recoveries & Deaths

Through August 4

— Active Cases — Recoveries — Deaths



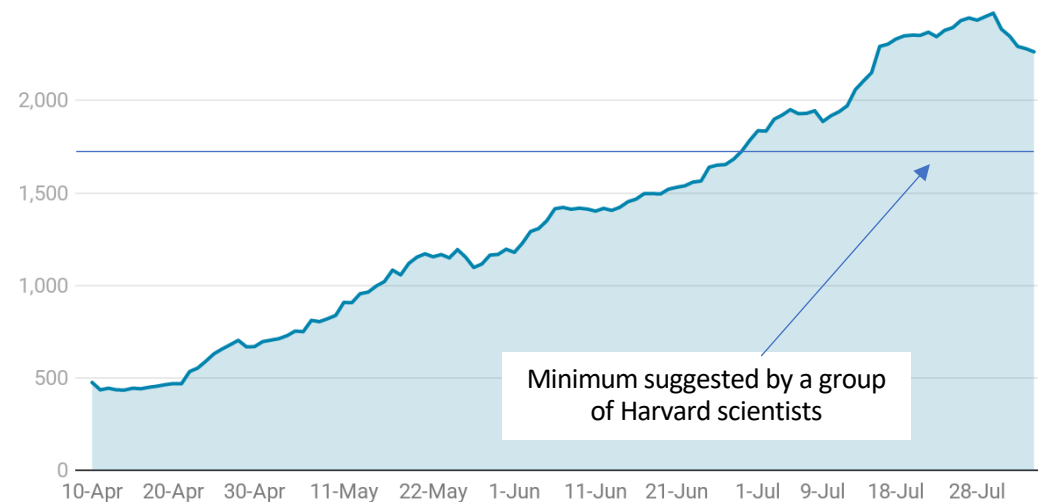
Health Industry Advisor LLC analysis

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

Test volume yesterday was lowest since July 13; Volume continues to decline week-over-week. Test-positive rate, however, is stable

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of August 3

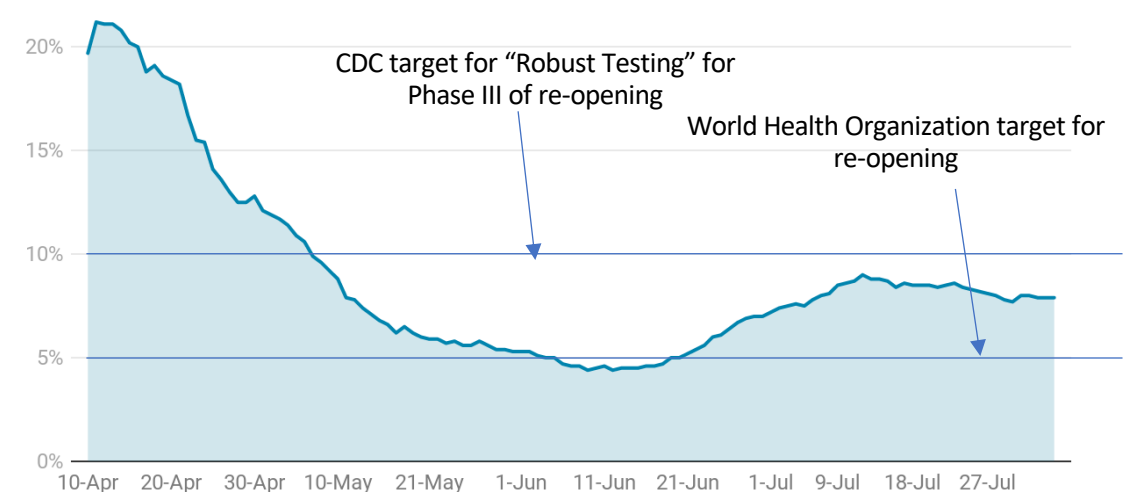


Health Industry Advisor LLC analysis

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 August 4



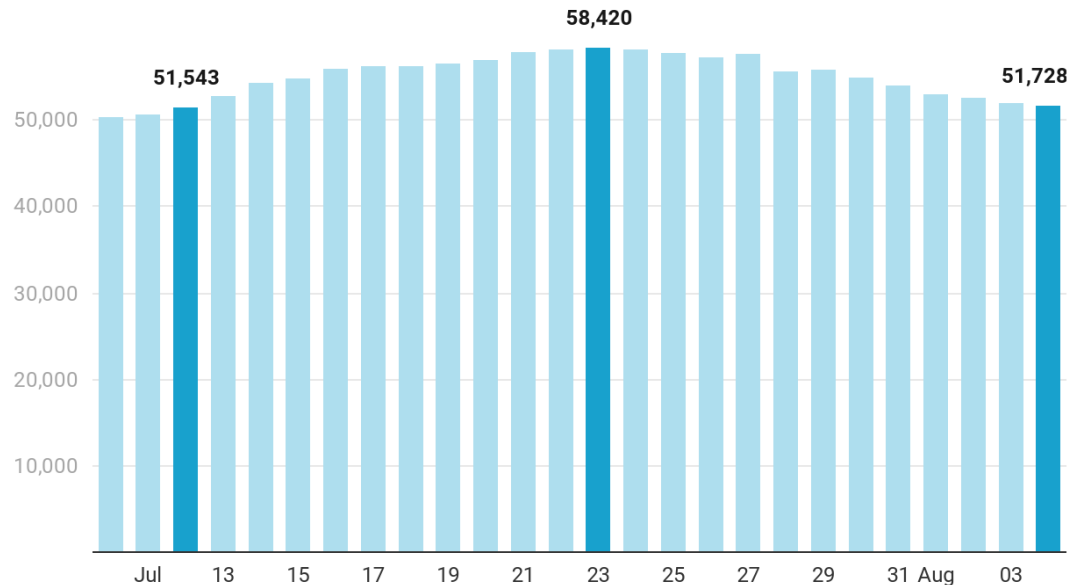
Health Industry Advisor LLC analysis

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

COVID-19 hospital census has declined six consecutive days; is down 11.5% since July 23; and at lowest point since July 12th. Census down in recently hard-hit Arizona, California, Florida, Georgia and Texas

Hospital Census: COVID-19 Patients

As of August 4



Florida data first available on July 10

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

Week-Over-Week Change in COVID-19 Hospital Census

As of August 4

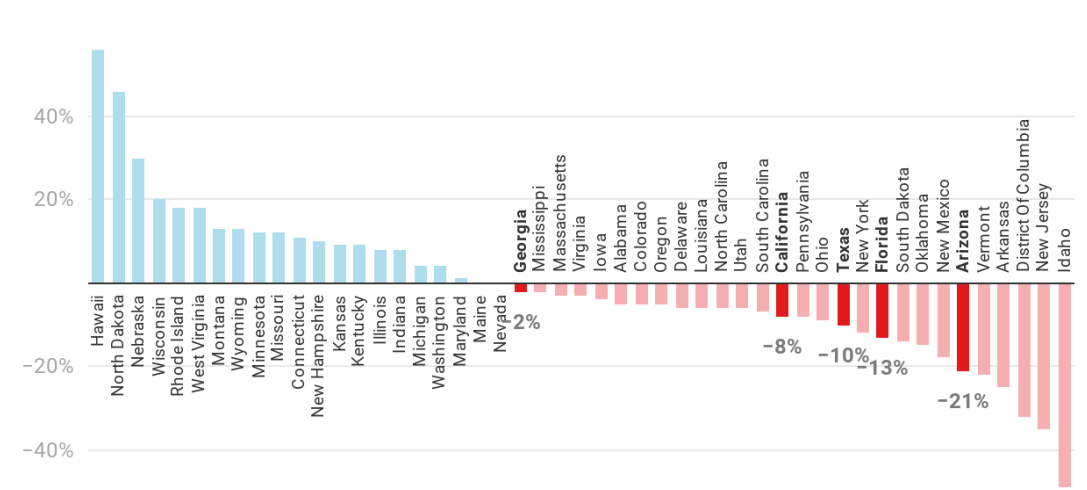


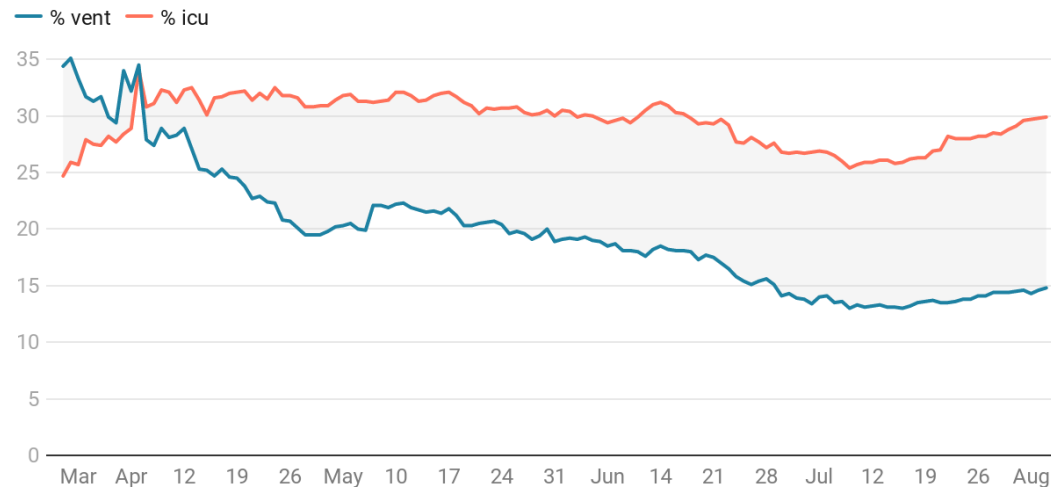
Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid tracking Project • Created with Datawrapper

As hospital census declined, the % of patients in the ICU has increased; the % of ER visits related to COVID-19 illnesses is declined to mid-June levels

A greater % of patients are in the ICU

Severity of Hospitalized Patients

% of patients on ventilators and in the ICU, As of August 4



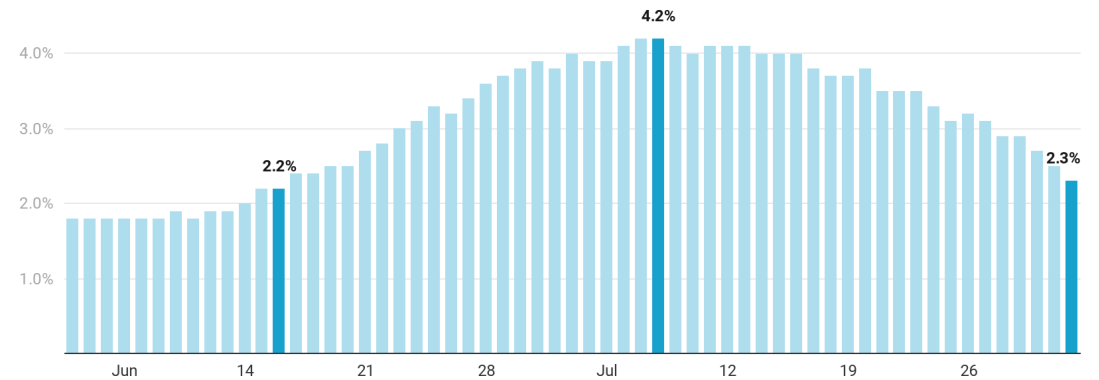
Health Industry Advisor LLC analysis

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

Stress on ERs from COVID-19 cases is diminishing

% of Emergency Department Visits for COVID-Like Illness

As of August 1



Health Industry Advisor LLC analysis

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

Deaths were higher for 3rd consecutive day; still increasing on a week-over-week basis. Deaths per case, however, still declining

Deaths Recorded With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of August 4

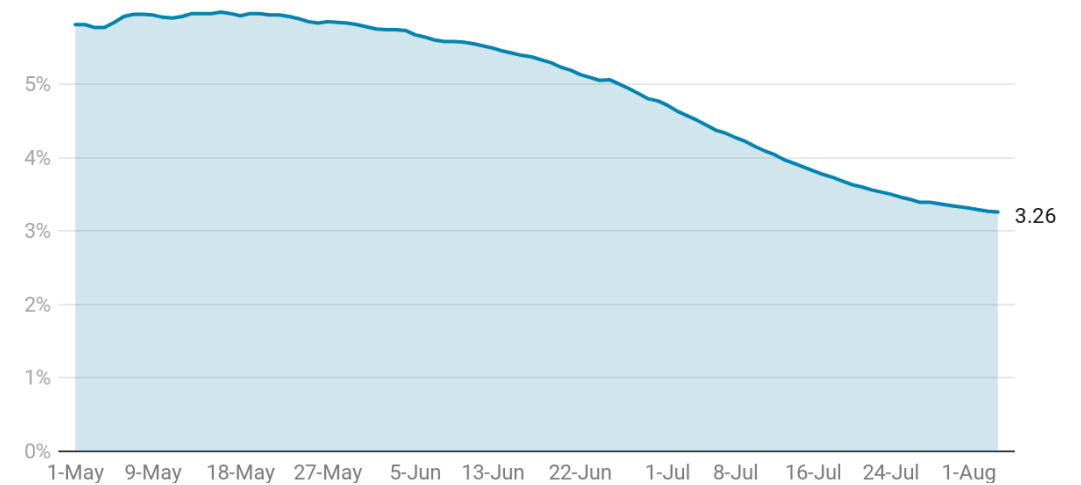


Health Industry Advisor LLC analysis

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

Deaths Per Case

As of August 4



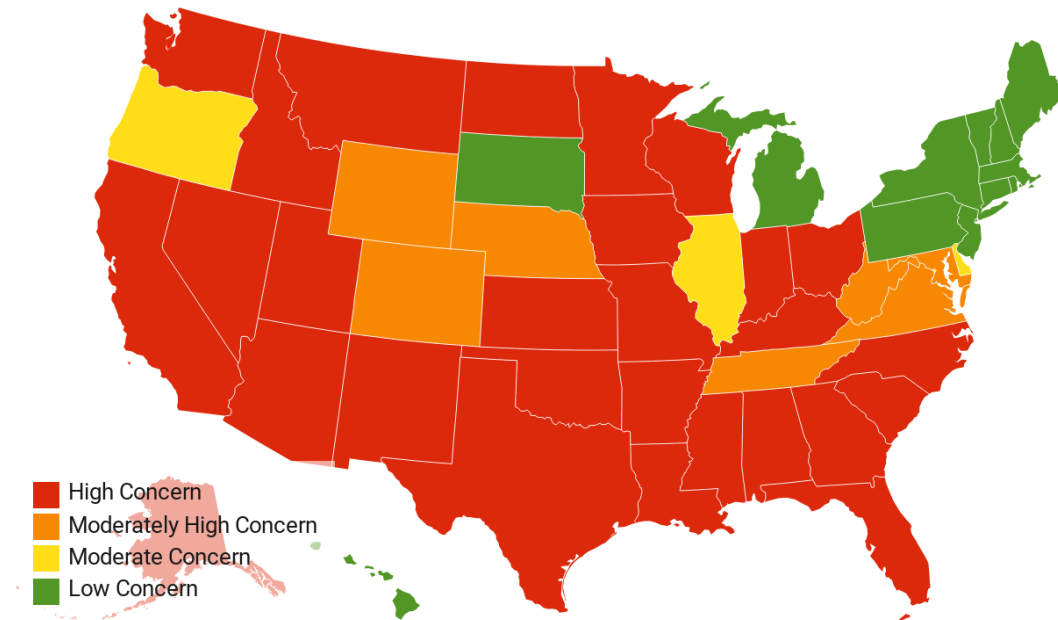
Health Industry Advisor LLC analysis

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

Bottom Line: Situation remains concerning, as $\frac{3}{4}$ of the country's population resides in a state we consider of "High" or "Moderately High" concern

Scorecard

As of July 25

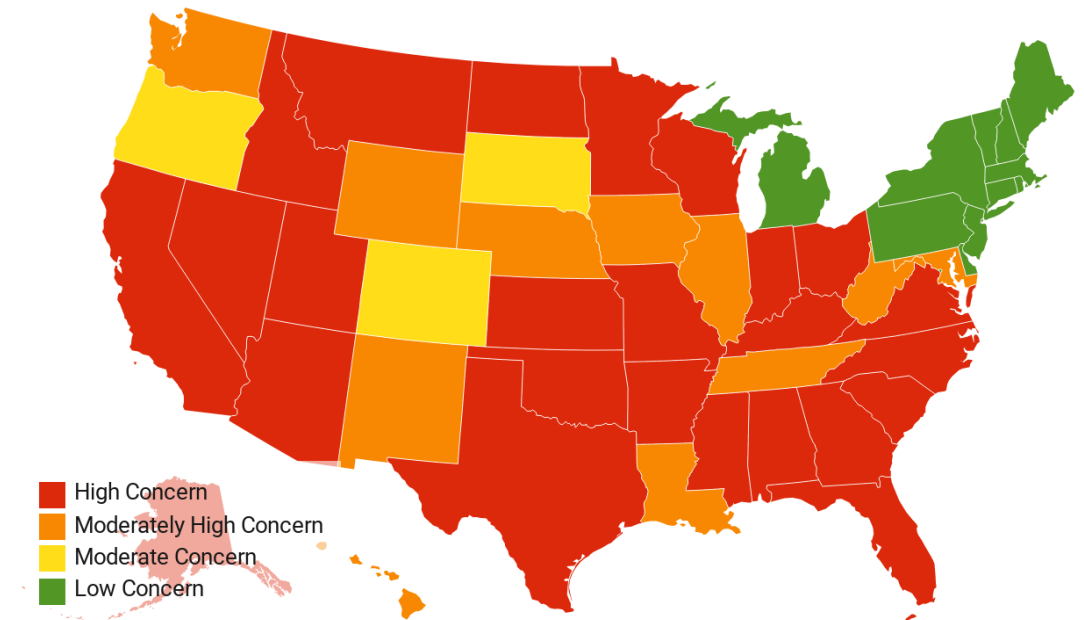


Scoring based on new infection, test-positive, hospitalization and case growth rates

Map: Health Industry Advisor LLC • Created with Datawrapper

Scorecard

As of August 4



Scoring based on new infection, test-positive, hospitalization and case growth rates

Map: Health Industry Advisor LLC • 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>