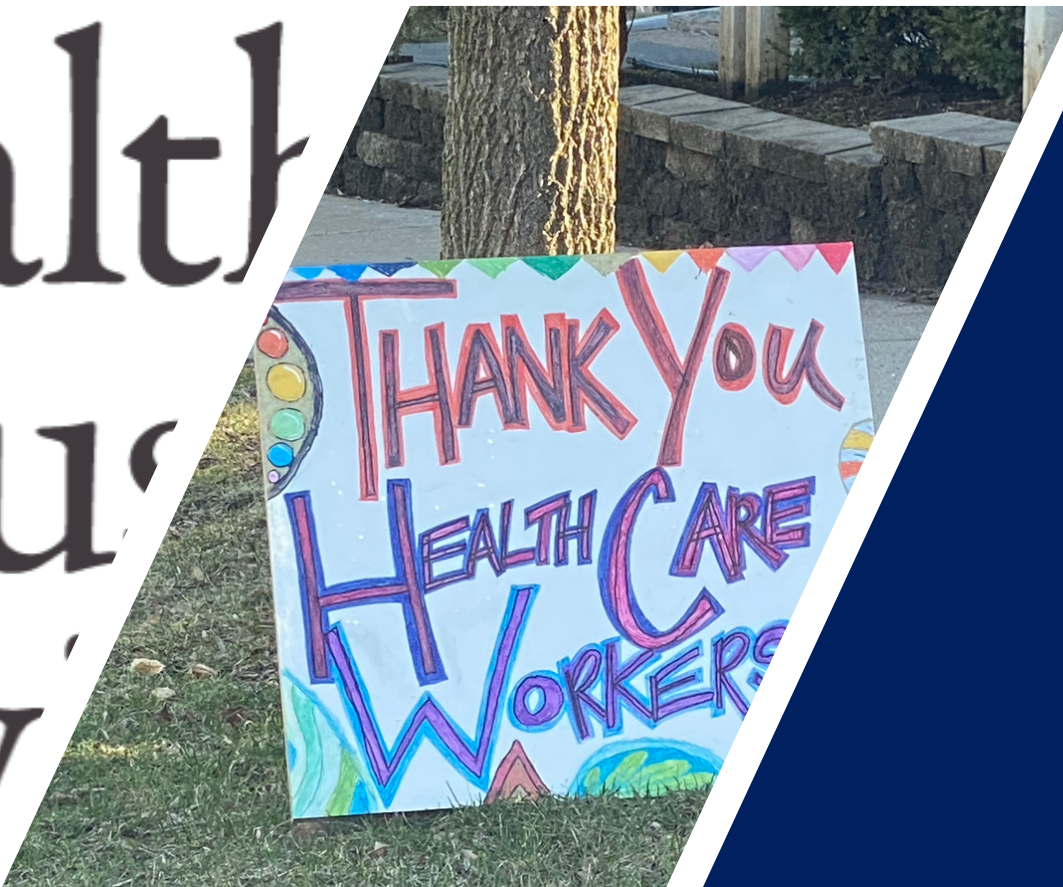




Health
Industry
Adv



Issue # 162
Tuesday, September 15, 2020

COVID-19 Report

Highlights

- Cases, Hospitalizations and Deaths by Age and Comorbidity
 - In both California and Texas, 60% of cases to-date are persons between 18-49 years old
 - In a CDC study of COVID-19 deaths in the U.S., **as of 9/5: Decedents had an average of 2.6 comorbidities**
 - **Influenza & pneumonia was the most common comorbidity, followed by respiratory failure, hypertensive disease, diabetes, cardiac arrest, ischemic heart disease and vascular and unspecified dementia**
 - As of 9/5, the death rate with coronavirus was 54 per 100,000 people
 - **this death rate was 2.25x higher for persons age 65-74**
 - **5.5x higher for age 75-84**
 - **nearly 16x higher for age 85 years old & older**
 - **Nearly 80% of COVID-19 deaths were persons 65 years old or older; persons under 34 years accounted for <1% of COVID-19 deaths**
 - **For each age group over 44 years old, COVID-19 accounted for 9-10% of all deaths during this time**
 - **Persons < 18 years old represent a very small % of hospitalized persons**
 - **Despite recent accounts, persons 18-49 years old have declined since July, in total numbers and as a % of all hospitalizations**
- Worldwide Infection Rates
 - **Among countries with > 1M population: Israel and Bahrain have seen the steepest increase in new infections per capita during the past two weeks**
 - **Other countries with significant increases: Costa Rica, Spain, France, Czechia, Oman and Hungary**
 - **Island nations are seeing some of the highest new daily infection rates per capita, led by Aruba, Guadeloupe, Bahrain and Saint Martin**
 - **Israel, Argentina, Costa Rica and Spain lead large countries, with rates > 200/million**
- **Multi-factor Scorecard of State Infection Status**
 - Uses rates of new infections, case growth, hospitalizations and test-positive % to score each state as Low, Moderate, Moderately High or High Concern
 - Picture has improved dramatically since end of July, particularly out West and in the Ohio River Valley
 - Southeast is improving but, more improvement needed
 - Heartland and Upper Midwest remain a challenge
 - **43% of the U.S. population lives in a state now rated as "Green" – Low Concern**
- New Cases and Infection Rates
 - Other than Labor Day, there were fewer new daily cases on Monday than any other Monday since June 22
 - New infections per capita in the U.S. increased yesterday, on a 7-day moving average basis (are we seeing the beginning of an increase in new infections or, was the reporting of new cases last week delayed by the holiday?)
 - **Through Monday, new cases declined 3.2% week-over-week**
 - North and South Dakota reported the highest rates of new infections per capita over the past 7 days, followed by Arkansas, Missouri, Oklahoma, Iowa and Wisconsin
 - **Over the past two weeks, infection rates declined in many states, however, they increased in Arkansas, Missouri, North Dakota, Oklahoma, South Carolina and Wisconsin**
- Healthcare Resource Demand From COVID-19
 - **Inpatient COVID-19 census declined yesterday, for the 47th time in the past 53 days; it is ½ its July 25 level**
 - ER visits for COVID-19- like illness declined again and are ½ their July rate; flu visits also declined
- Case Status: Active, Recovered, Death
 - **Other than Labor Day, there were fewer deaths reported yesterday than any other Monday since July 13** (which had a one less death reported than yesterday)
 - Deaths have averaged <800 per day since August 28-September 3

Data on cases by age are not consistently available for the U.S. in total

In both California and Texas, 60% of cases to-date are persons between 18-49 years old

New York reported its data on a per capita basis. Note that persons 75 years and older have the highest case rate per capita

Distribution of COVID-19 Cases - California

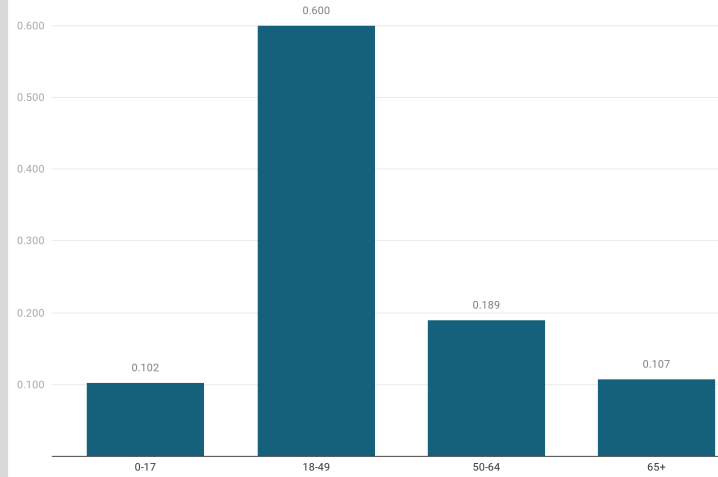


Chart: Health Industry Advisor LLC • Source: State Department of Health Dashboard • Created with Datawrapper

Distribution of COVID-19 Cases By Age - Texas

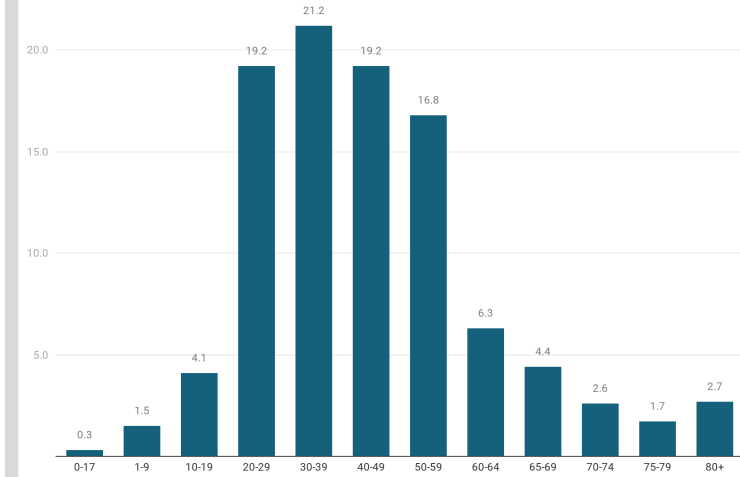


Chart: Health Industry Advisor LLC • Source: State Department of Health Dashboard • Created with Datawrapper

COVID-19 Cases per 100,000 - New York

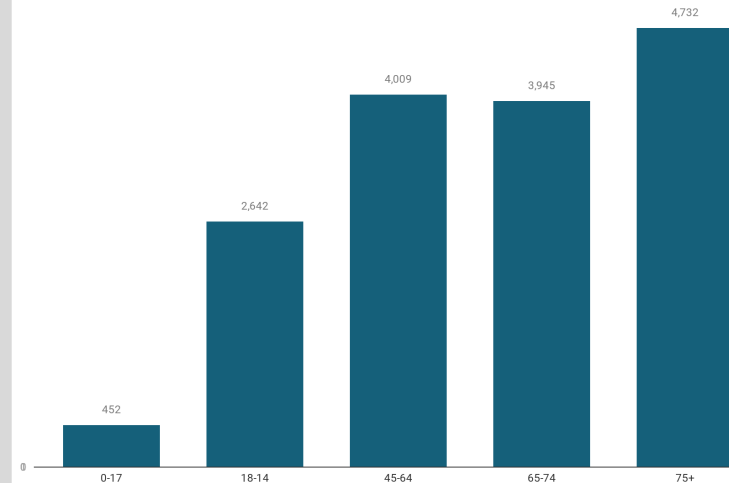


Chart: Health Industry Advisor LLC • Source: State Department of Health Dashboard • Created with Datawrapper

In a CDC study of COVID-19 deaths in the U.S., as of 9/5:

Decedents had an average of 2.6 comorbidities

Influenza & pneumonia was the most common comorbidity, followed by respiratory failure, hypertensive disease, diabetes, cardiac arrest, ischemic heart disease and vascular and unspecified dementia

COVID-19 Deaths By Comorbidity - All Ages

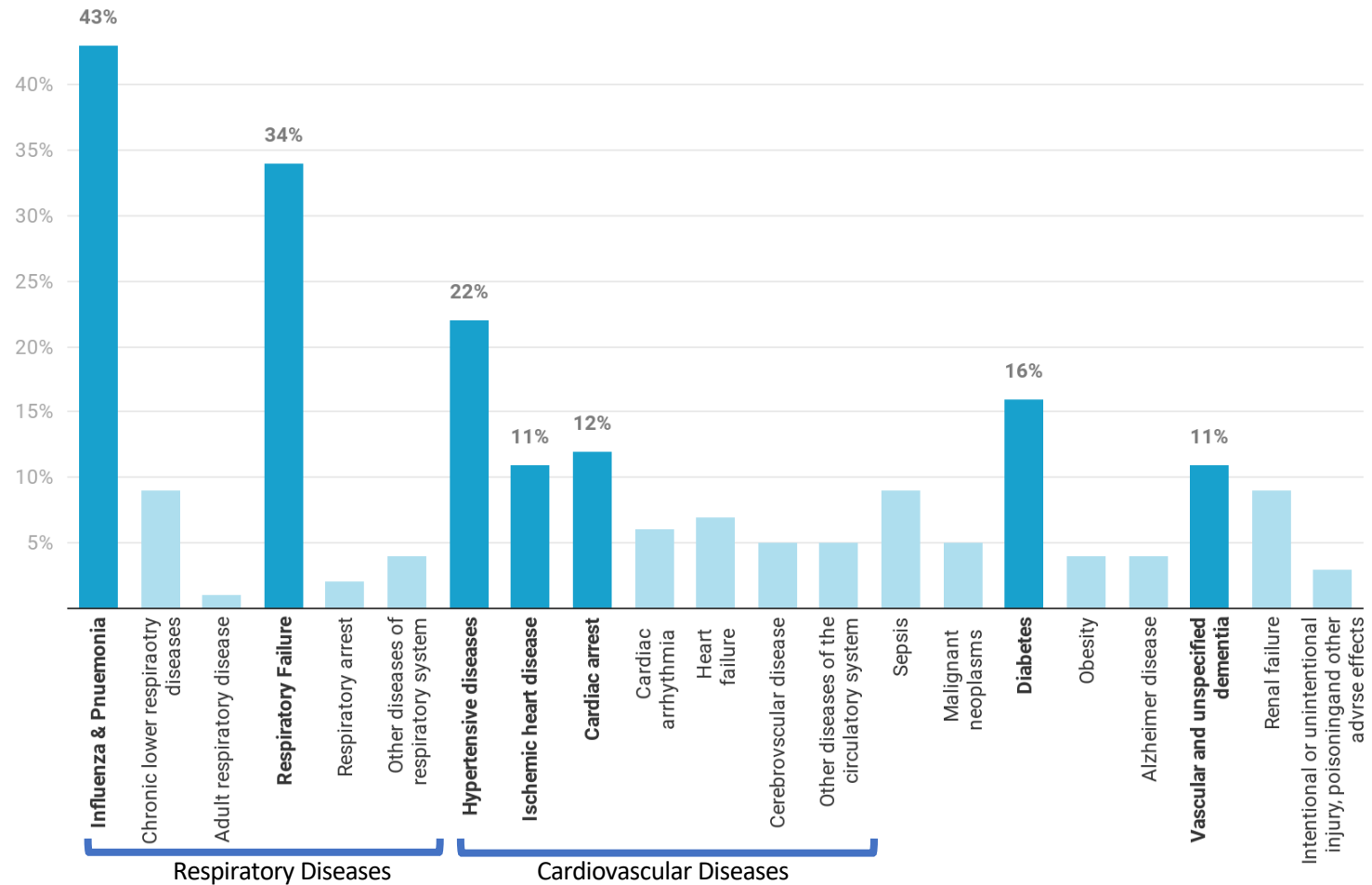
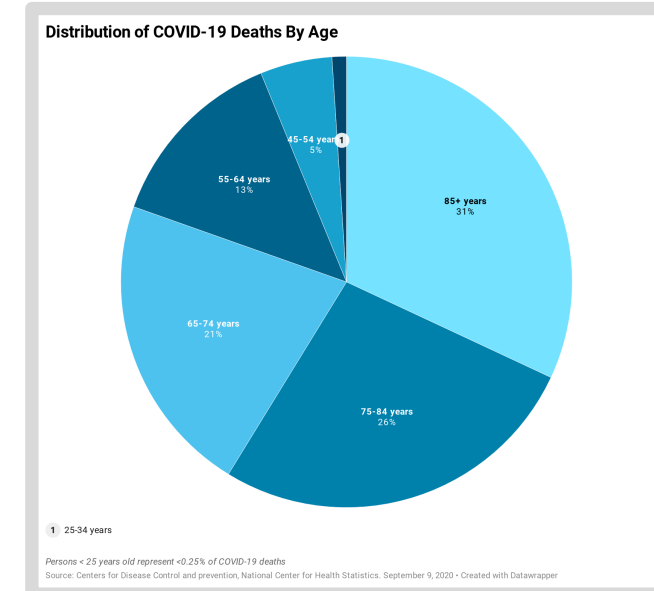
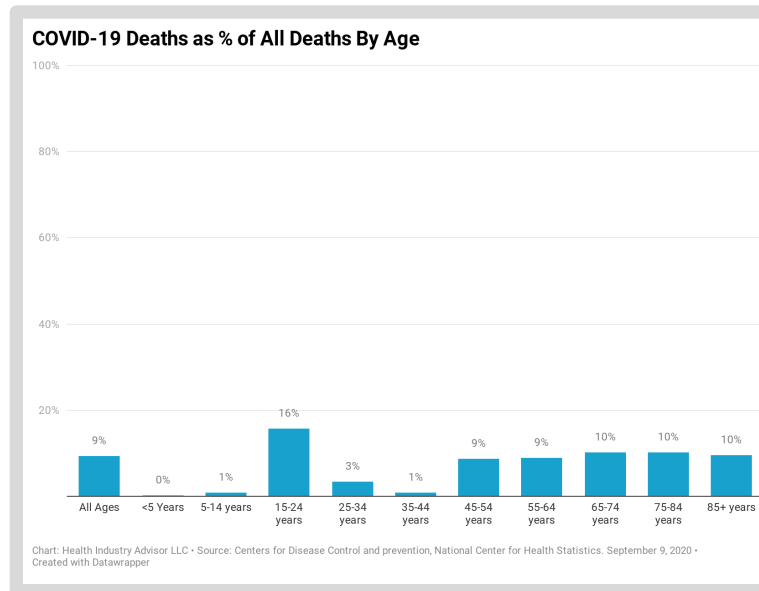
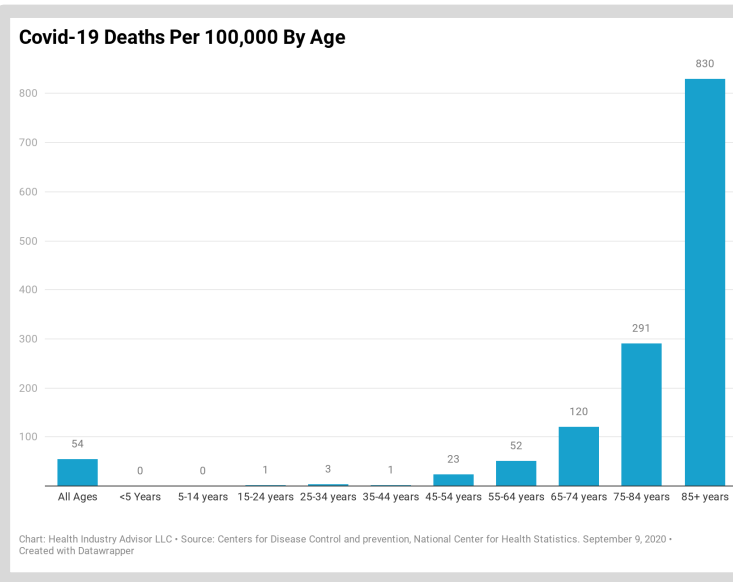


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and prevention, National Center for Health Statistics. September 9, 2020 • Created with Datawrapper

As of 9/5, the death rate with coronavirus was 54 per 100,000 people; this rate was 2.25x higher for persons age 65-74; 5.5x higher for age 75-84; and nearly 16x higher for age 85 years old & older

Nearly 80% of COVID-19 deaths were persons 65 years old or older; persons under 34 years accounted for <1% of COVID-19 deaths

For each age group over 44 years old, COVID-19 accounted for 9-10% of all deaths during this time

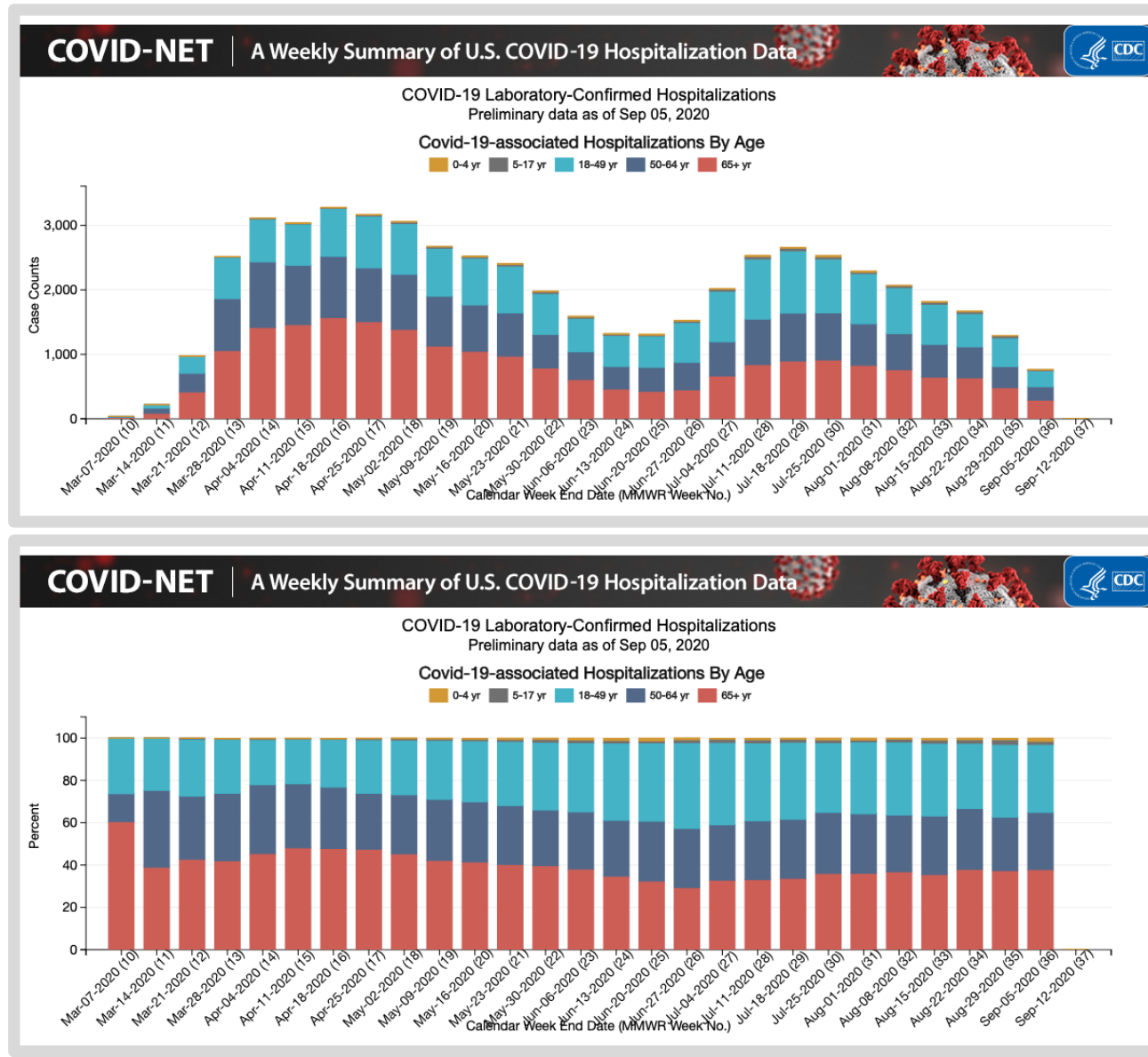


CDC reports hospitalization data via its COVID-NET site

Hospitalizations have declined since mid-June

Persons < 18 years old represent a very small % of hospitalized persons

Despite recent press accounts, persons 18-49 years old have declined since July, in total numbers and as a % of all hospitalizations



Hospitalizations
By Age

%
By Age

Among countries with > 1M population:

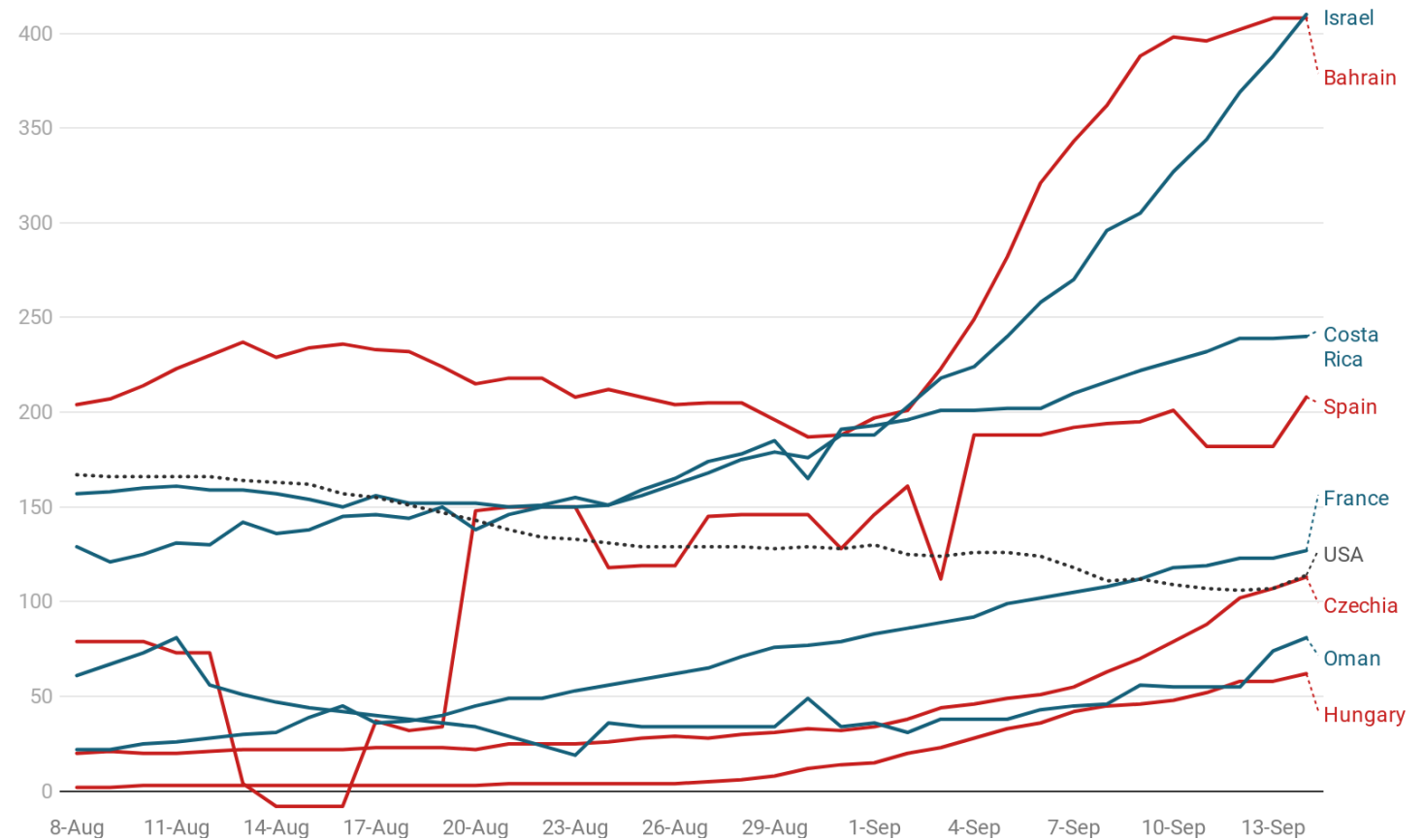
Israel and Bahrain have seen the steepest increase in new infections per capita during the past two weeks

Other countries with significant increases: Costa Rica, Spain, France, Czechia, Oman and Hungary

U.S. had a declining infection rate during this period

New Daily Infections / Million - Countries With Largest Increase In 2 Weeks

Countries >1 Million Population, Trailing 7-Day Moving Average, As of September 14



8 countries with largest increase in new infection rate over 2 weeks, plus USA

Chart: Health Industry Advisor LLC • Created with Datawrapper

Twenty-six countries currently have new infection rates/1M > 100

Island nations are seeing some of the highest new infection rates per capita, led by Aruba, Guadeloupe, Bahrain and Saint Martin

Israel, Argentina, Costa Rica and Spain lead large countries, with rates > 200

New Infections / Million - Countries With Highest Current Rates

Trailing 7-Day Moving Average, As of September 14

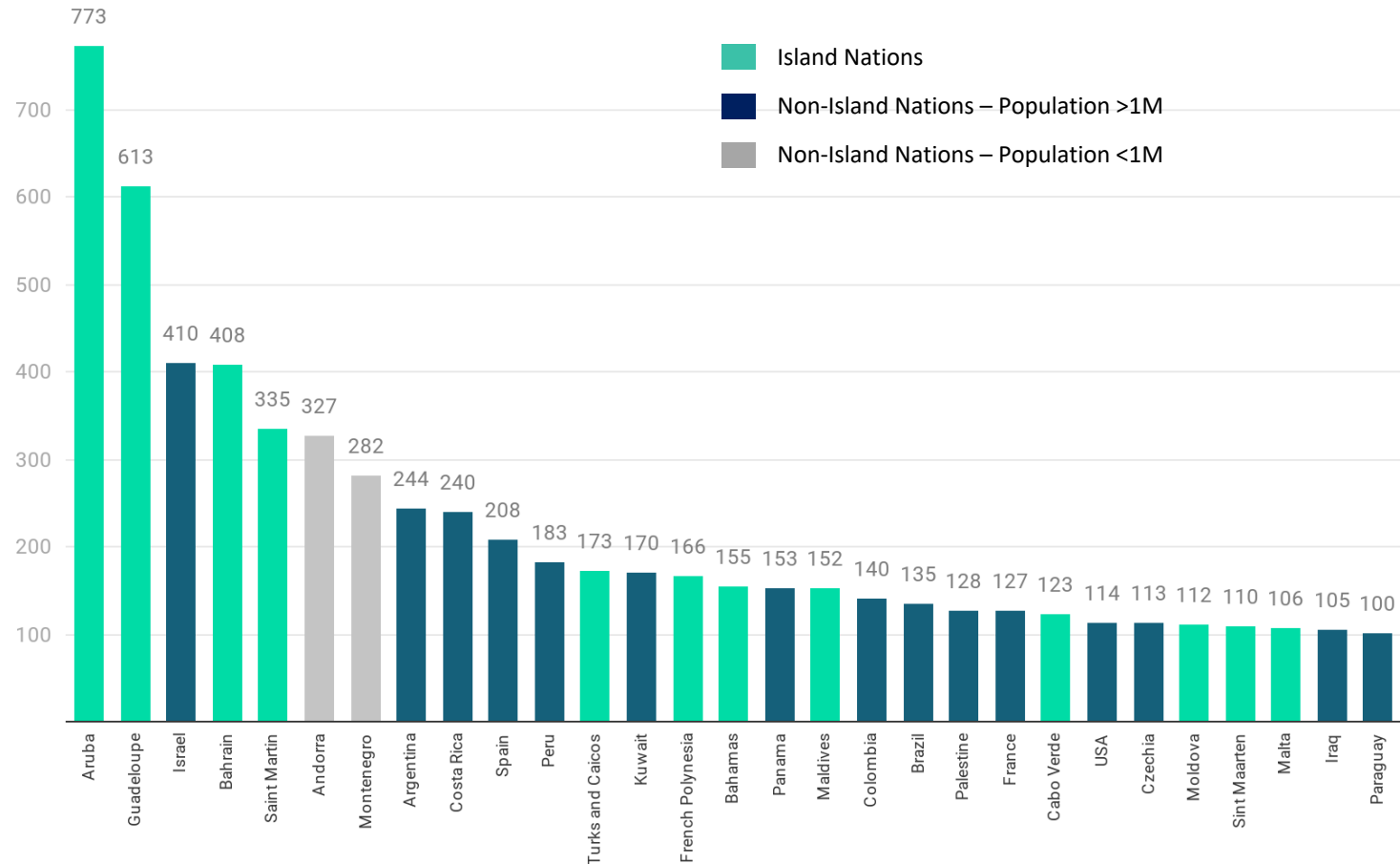


Chart: Health Industry Advisor LLC • Created with Datawrapper

Picture has improved dramatically since end of July, particularly out West and in the Ohio River Valley

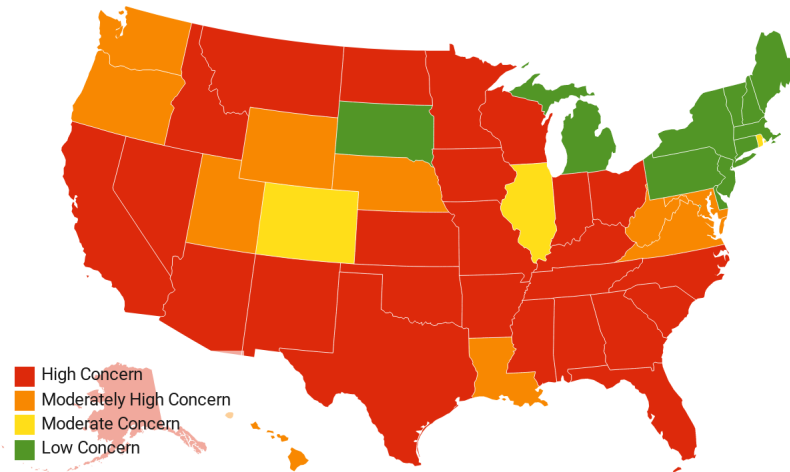
Southeast is improving but, more improvement needed

Heartland and Upper Midwest remain a challenge

43% of the U.S. population lives in a state now rated as “Green” – Low Concern

Scorecard

As of July 31



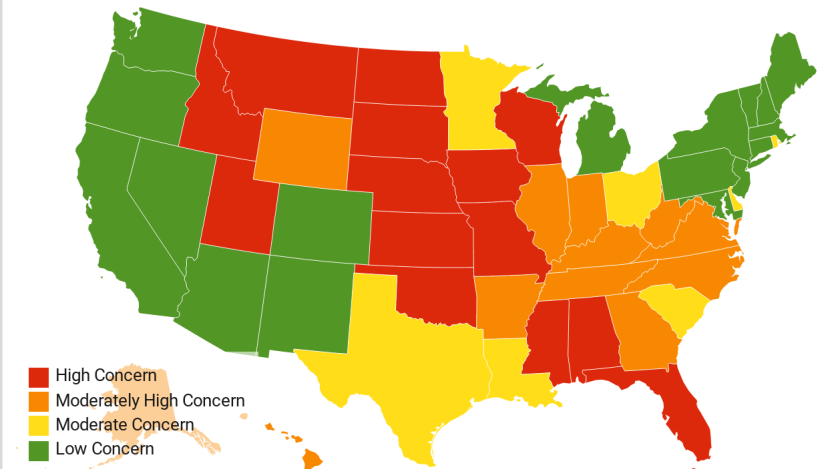
July 31

Multi-factor scorecard, considering rates of new infections, case growth, test-positives and hospitalizations

September 14

Scorecard

As of September 14

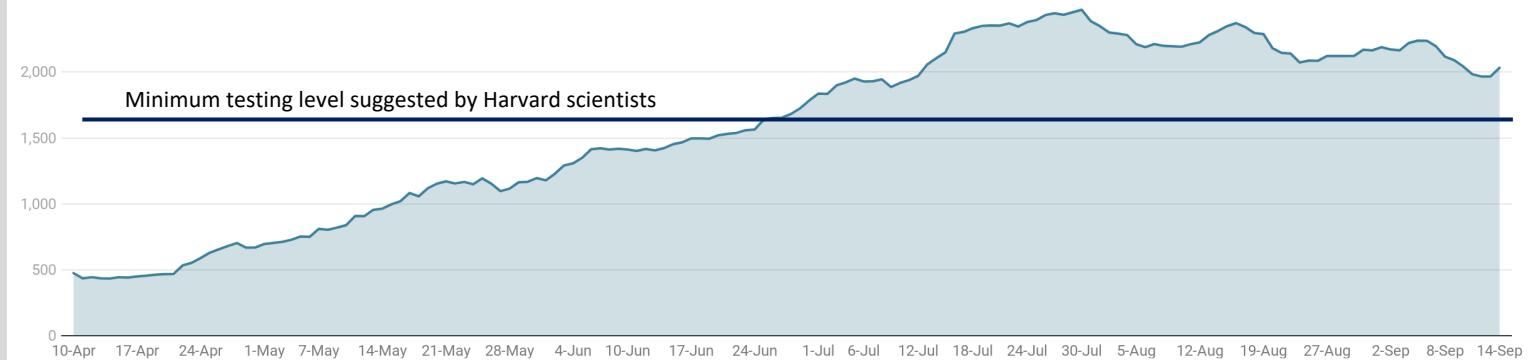


Testing remains above minimum level suggested by Harvard scientists . . . Yet, is <4% lower than last week

Test-positive rate continued to decline and is fractionally above WHO-targeted level. Current 7-day rate is at its lowest level since June 19

Daily Tests Per 1 Million - United States

Trailing 7-Day Moving Average, As of September 14

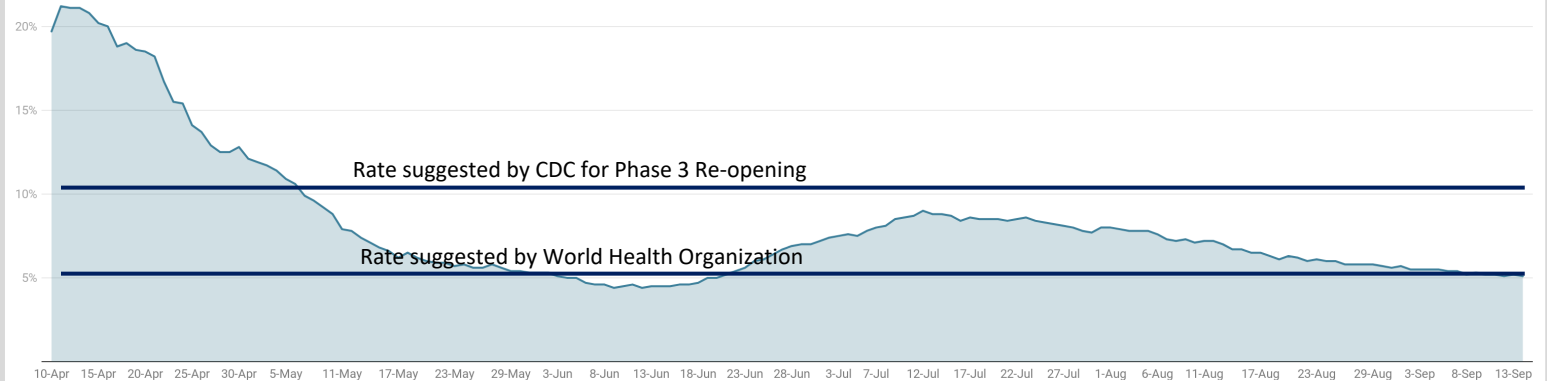


Health Industry Advisor LLC analysis

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 14



Health Industry Advisor LLC analysis

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

Ten states reported test-positive rates for the past 7 days higher than the CDC-target for Phase 3 re-openings

Another seventeen states reported rates above the stricter WHO-target

Fifteen of the twenty-seven states above the WHO-target did see a declining in this rate during the past two weeks

Test-Positive Rate

Trailing 7-Day Moving Average, August 31 v. September 14

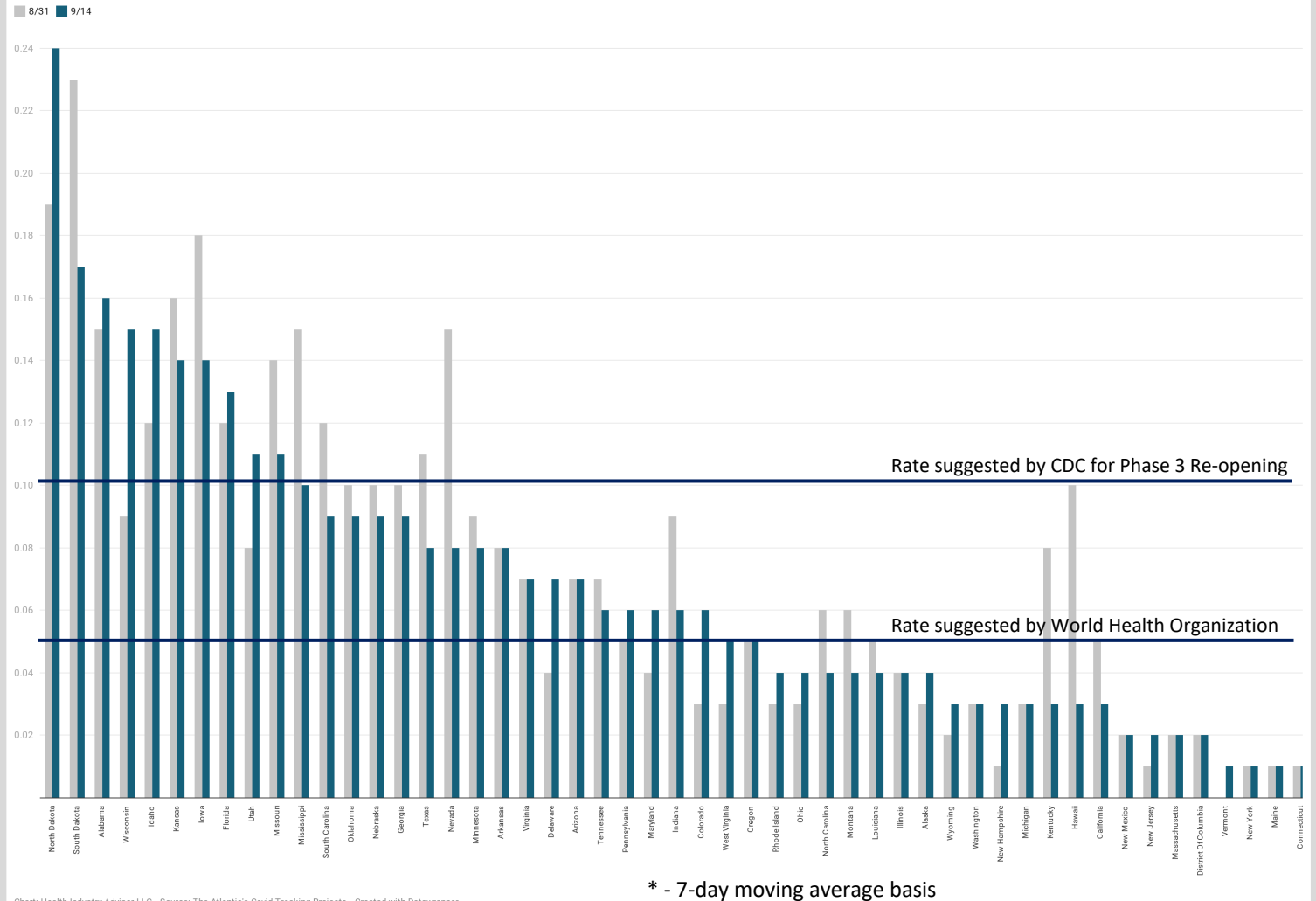


Chart: Health Industry Advisor LLC • Source: The Atlantic's Covid Tracking Projects • Created with Datawrapper

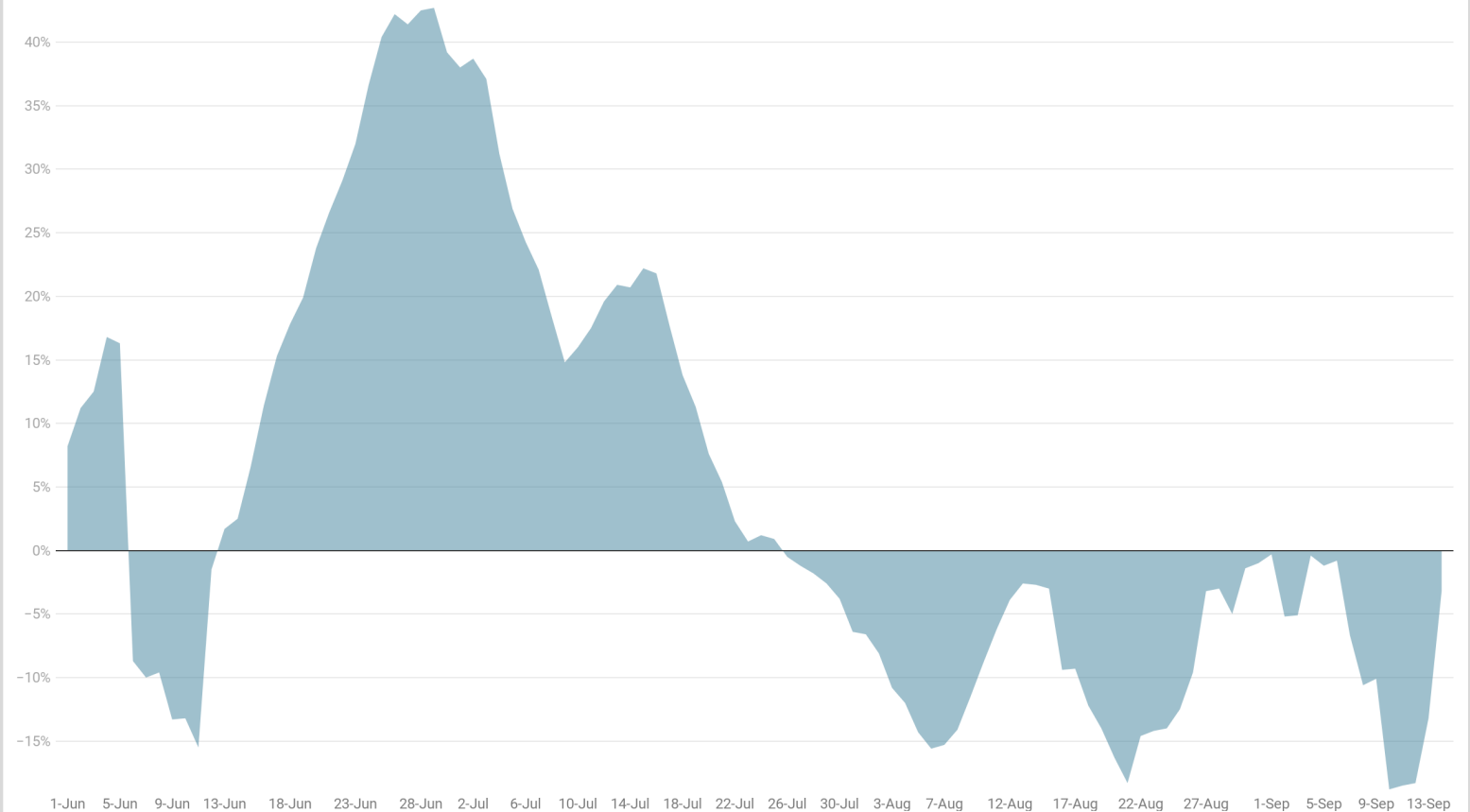
After spiking from mid-June to mid-July, new cases per week have not increased in seven weeks

During this time, average daily new cases are declined by ~50%

Through Monday, new cases declined 3.2% week-over-week

Week-Over-Week Change In New Cases

Through September 14



Health Industry Advisor LLC analysis

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

Case growth is slowing:

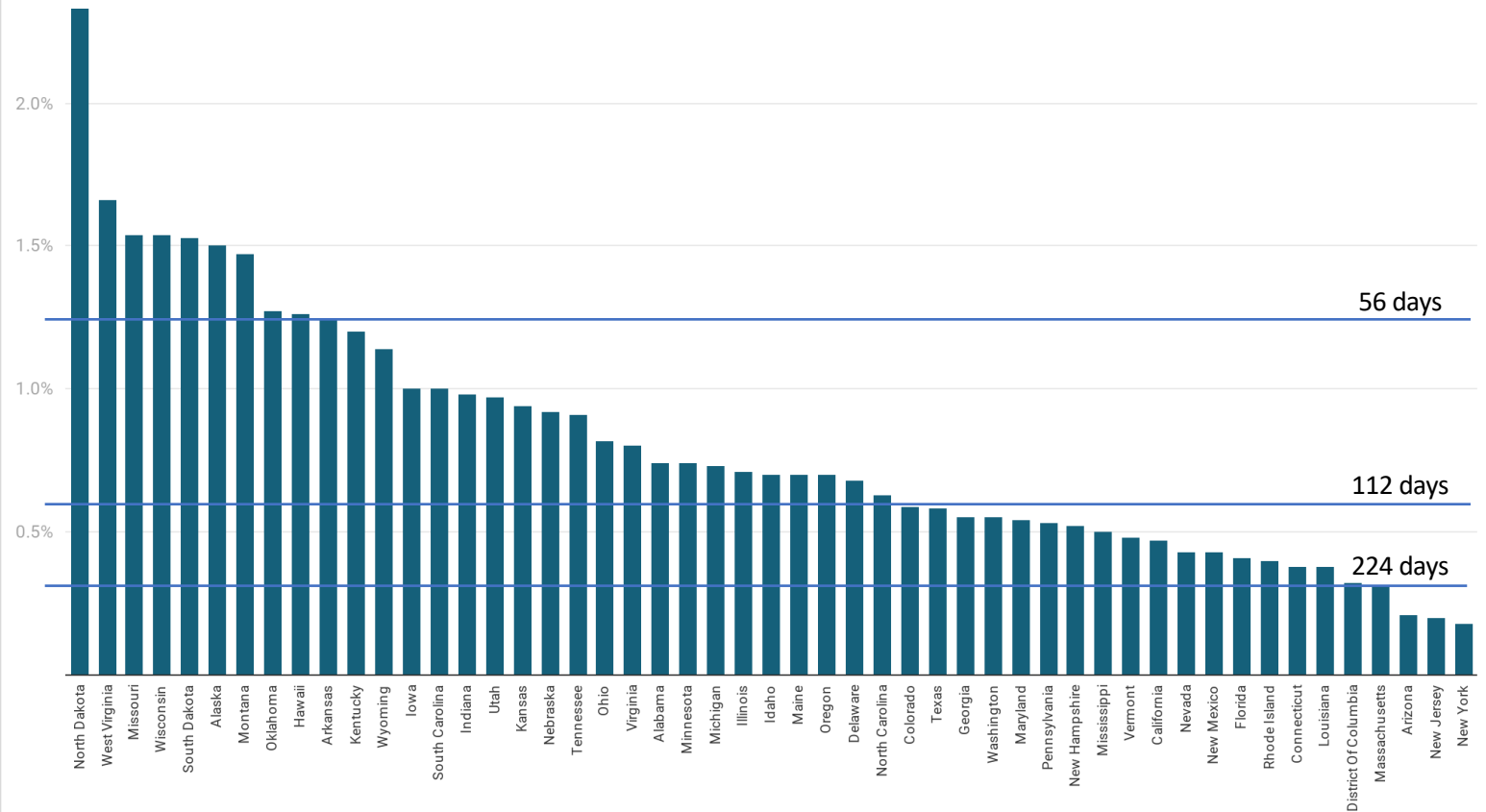
At current rates, cases are doubling every 30 days in North Dakota

Every 395 days in New York

Every 115 days for the United States overall

Growth Rate in Total Cases

Trailing 5-Day Moving Average, Through September 14



Health Industry Advisor LLC analysis

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

Other than Labor Day,
there were fewer new
daily cases on
Monday than any
other Monday since
June 22

New Daily Cases

Through September 14

Mondays Highlighted

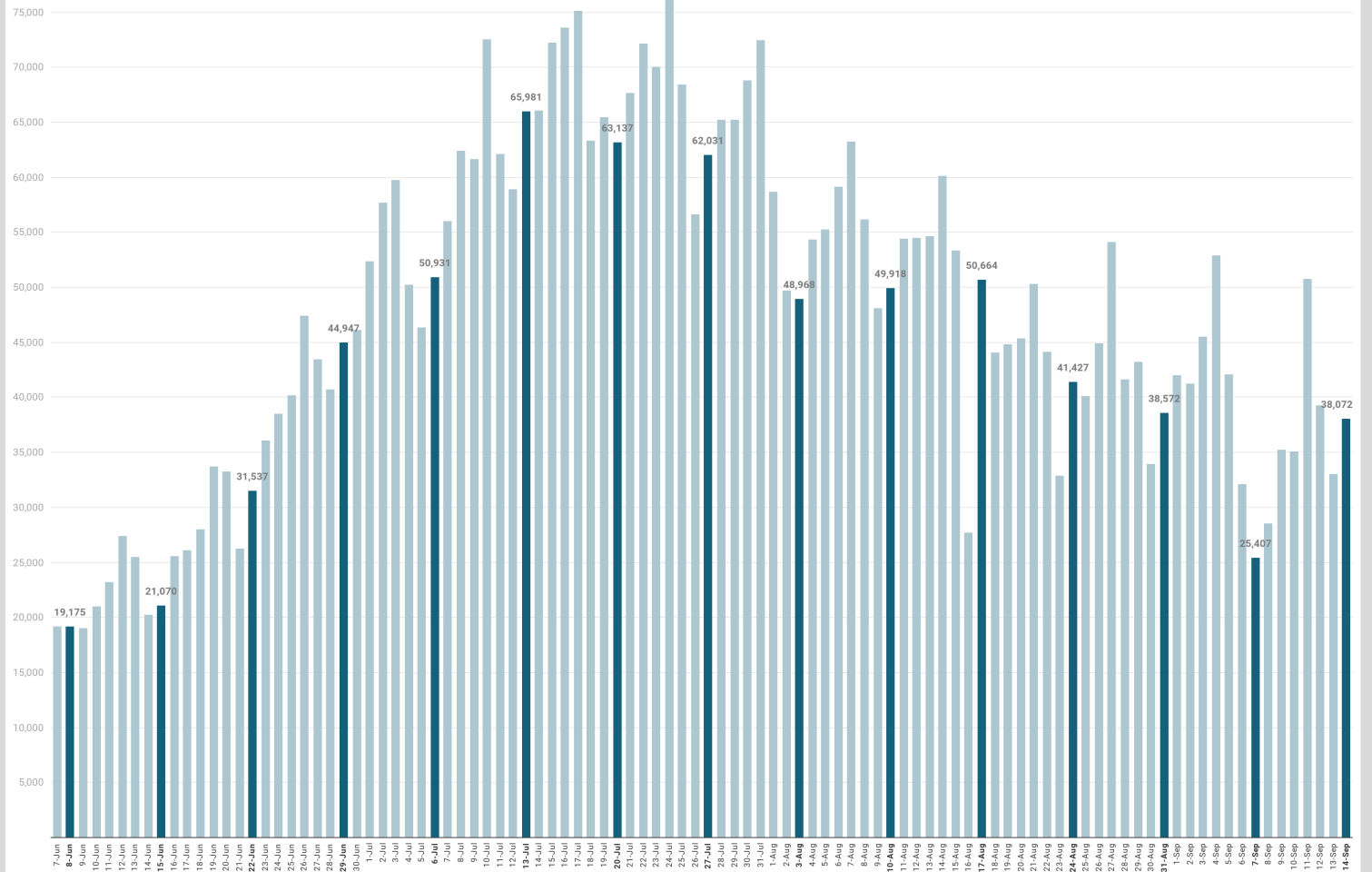
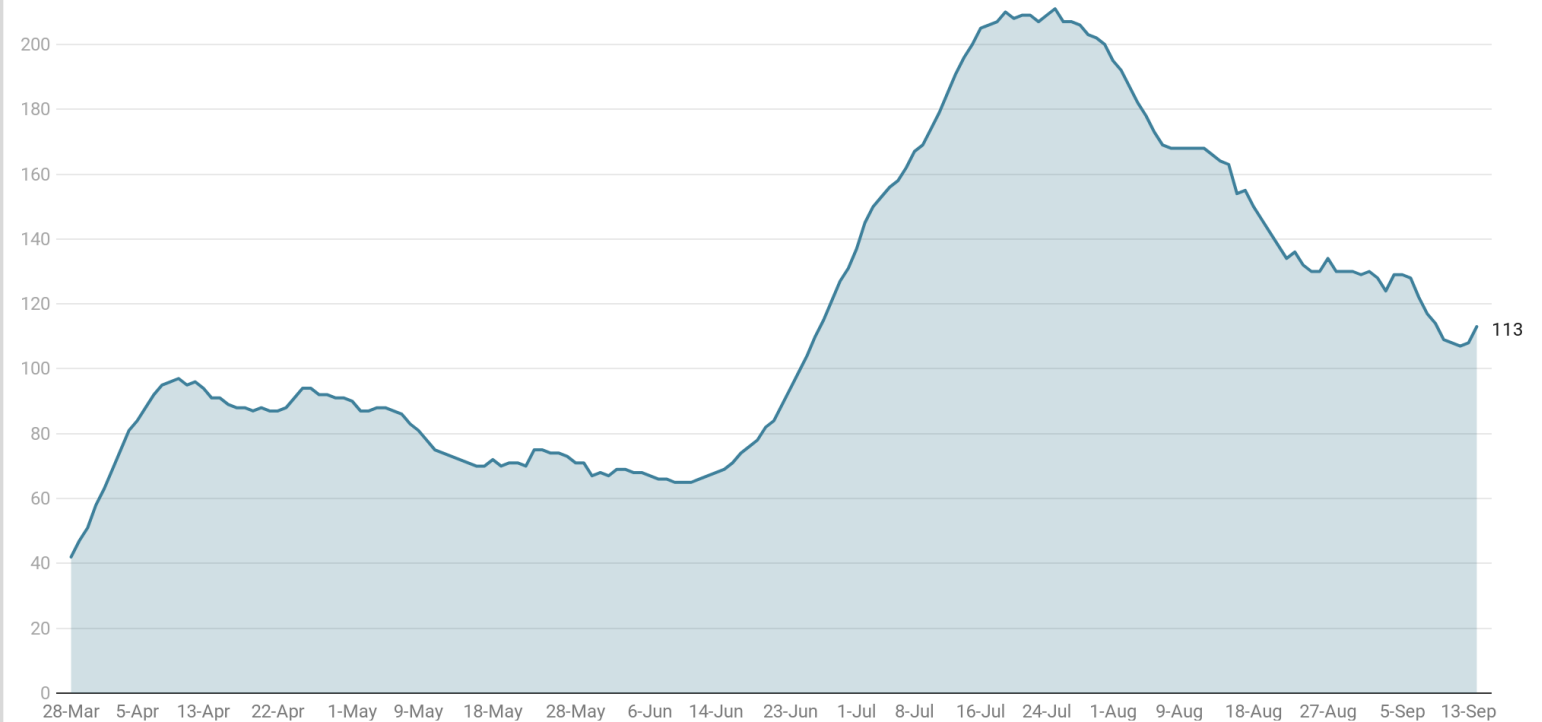


Chart: Health Industry Advisor LLC - Source: eoridometers.info - Created with Datawrapper

New infections per capita in the U.S.* increased yesterday – Labor Day impact on timeliness of reporting or on actual cases?

New Infections Per 1 Million Population - United States

Trailing 7-Day Moving Average, Through September 14



Health Industry Advisor LLC analysis

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

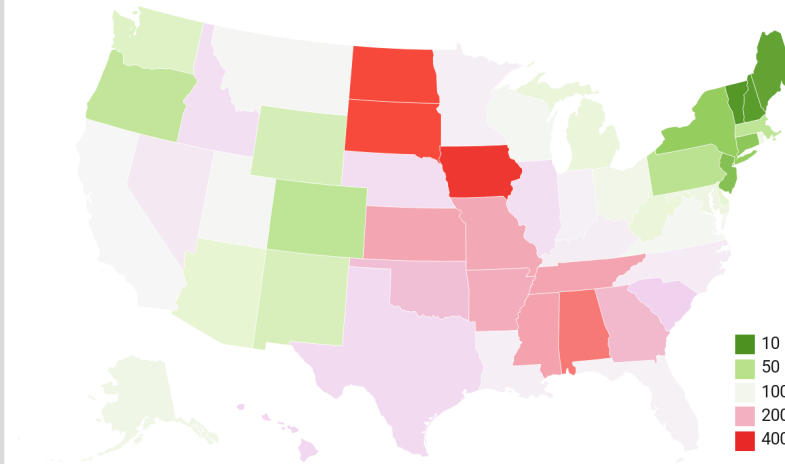
* - 7-day moving average basis

North and South Dakota reported the highest rates of new infections per capita* over the past 7 days, followed by Arkansas, Missouri, Oklahoma, Iowa and Wisconsin

Over the past two weeks, infection rates declined in many states, however, they increased in Arkansas, Missouri, North Dakota, Oklahoma, South Carolina and Wisconsin

New Daily Infections Per 1 Million Population

Trailing 7-Day Moving Average, As of August 31



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

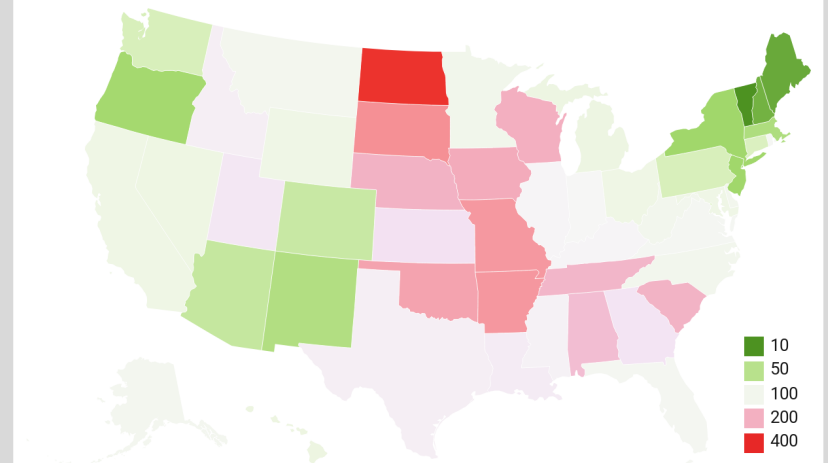
August 31

* - 7-day moving average basis

September 14

New Daily Infections Per 1 Million Population

Trailing 7-Day Moving Average, As of September 14



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

COVID-19's demand on healthcare resources has been easing for months:

Inpatient COVID-19 census has declined 47 of the past 53 days and is ½ its July 25 level

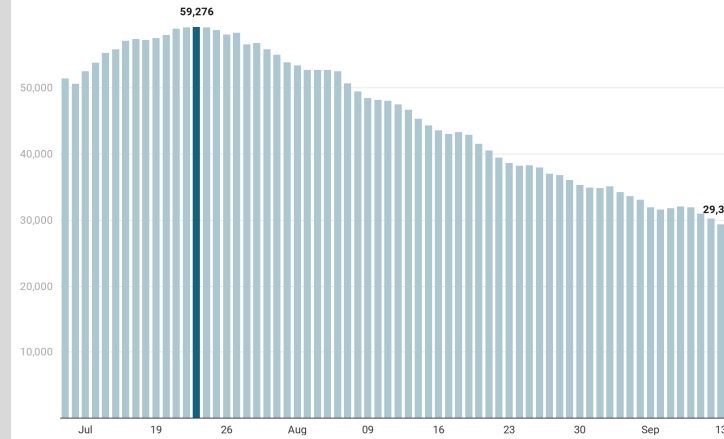
ICU COVID-19 census is down 40% since late-June

Ventilator use among hospitalized patients is ½ its level from the Spring

ER visits for COVID-19- like illness are ½ their July rate; flu visits have not yet picked up

Hospital Census: COVID-19 Patients

As of September 14

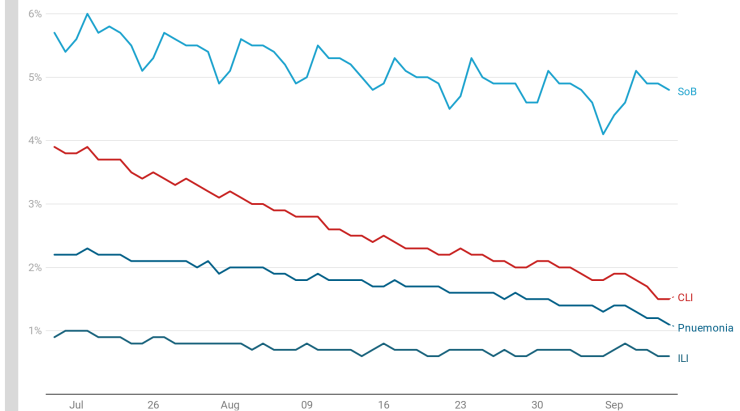


Florida data first available on July 10

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

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

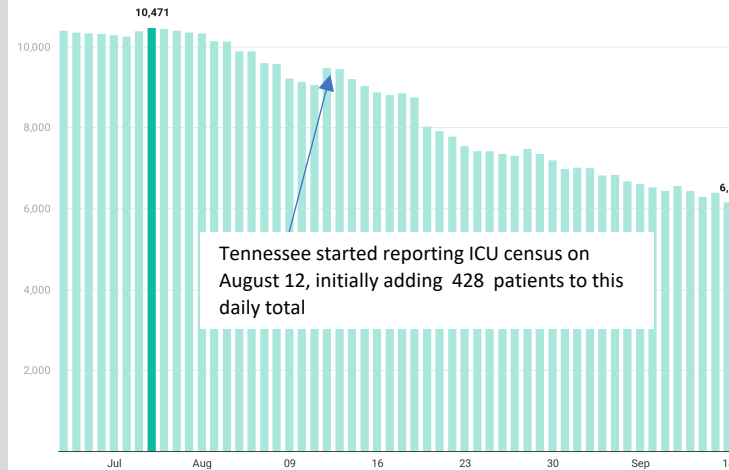
As of September 11



Health Industry Advisor LLC analysis

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

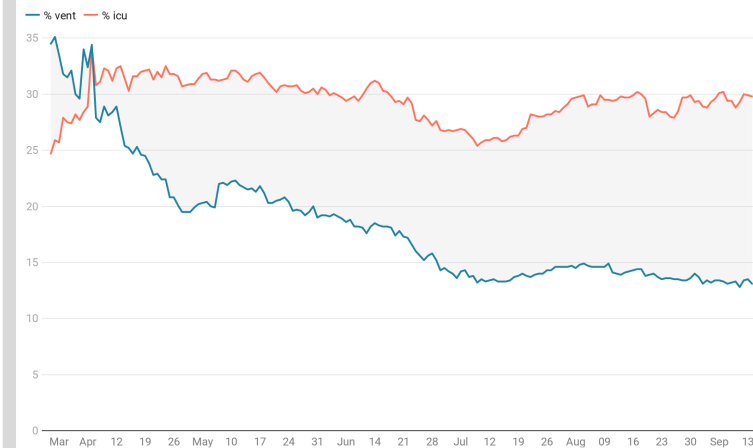
COVID-19 ICU Census



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 14



Health Industry Advisor LLC analysis

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

Other than Labor Day, there were fewer deaths reported yesterday than any other Monday since July 13 (which had a one less death reported than yesterday)

Deaths have averaged <800 per day since August 28-September 3

There are 20 persons recovered from the virus for each death

There are ~60% more recovered persons than active cases

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of September 14



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

Newly Reported Deaths

Through September 14

Mondays Highlighted

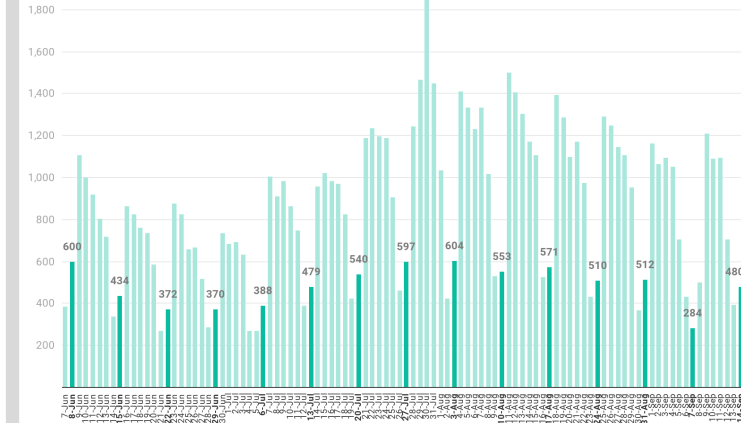
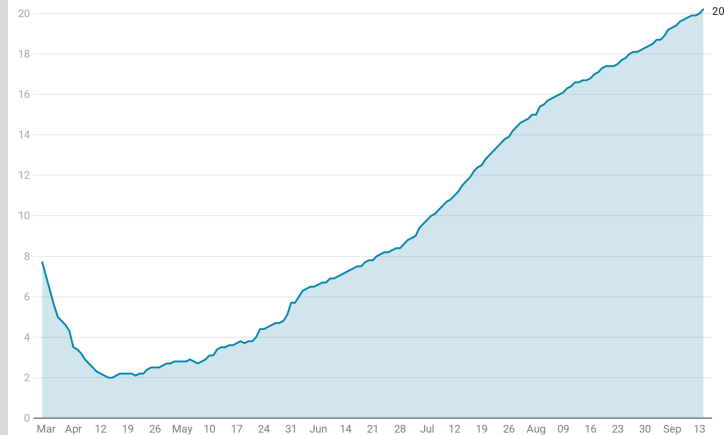


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Recoveries: Deaths - United States

As of September 14

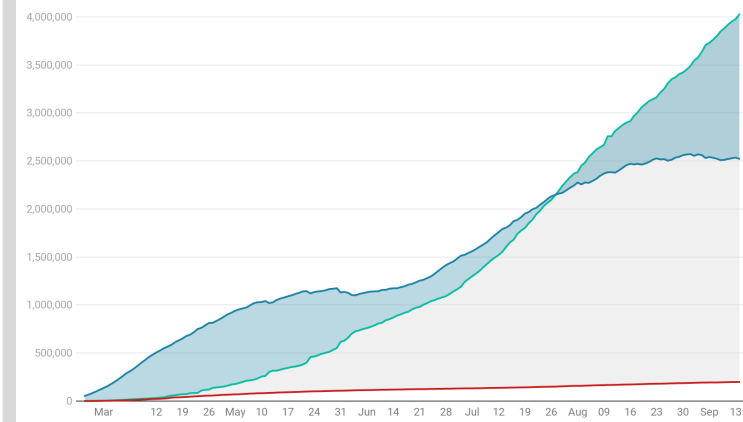


Health Industry Advisor LLC analysis
Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Active Cases v. Recoveries & Deaths

Through September 14

Active Cases Recoveries Deaths



Health Industry Advisor LLC analysis
Chart: Health Industry Advisor LLC • Source: worldometers.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>