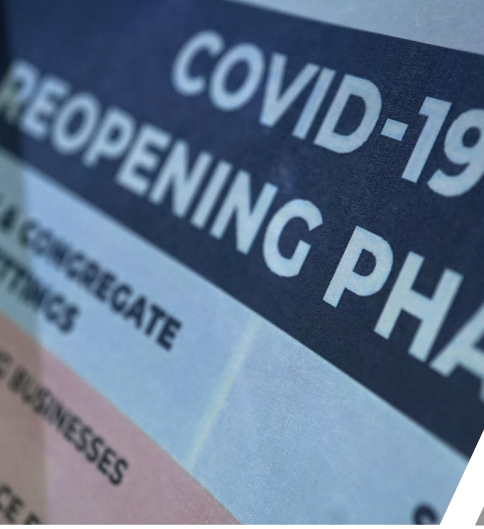
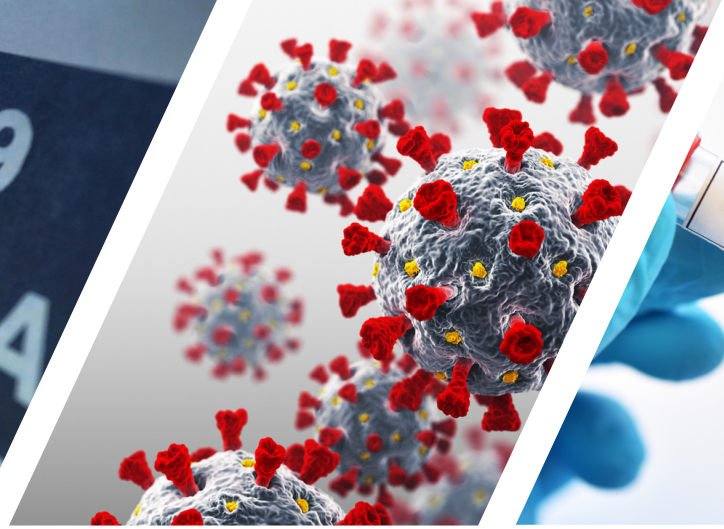
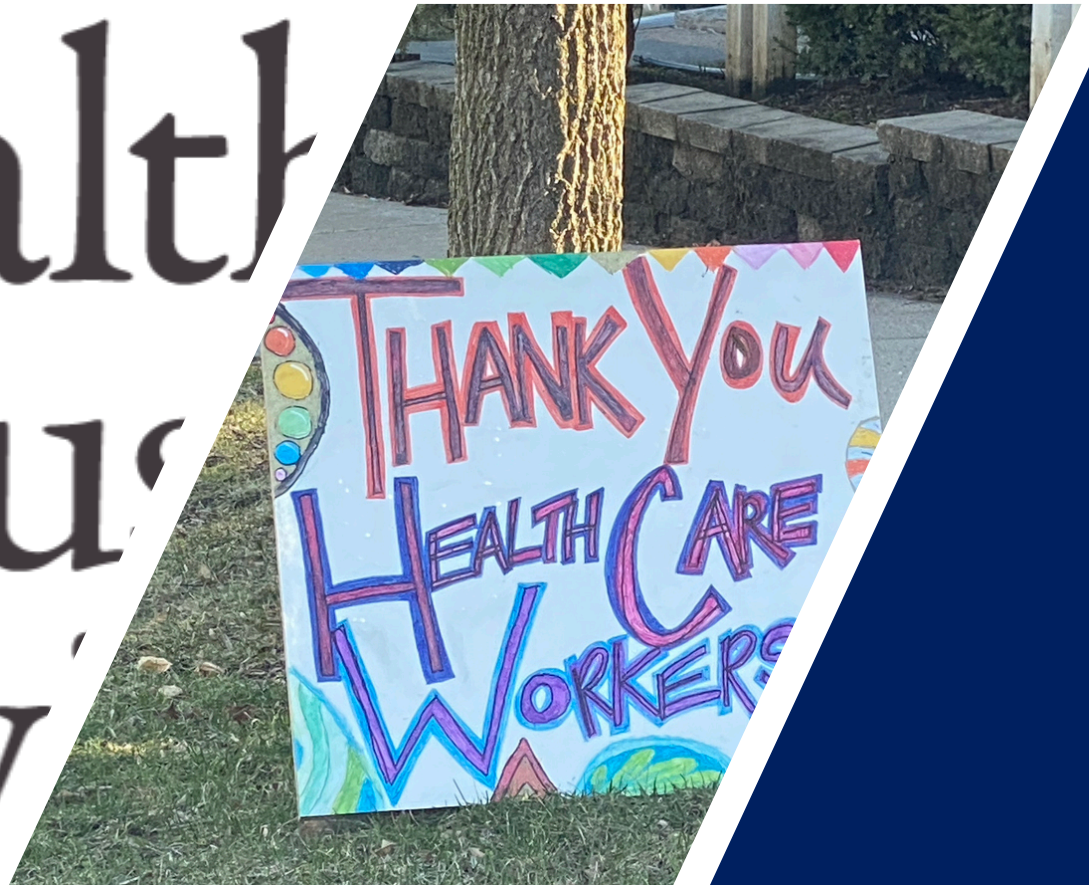




Health
Indus
Adv



Issue # 230

Monday, December 7, 2020

COVID-19 Report

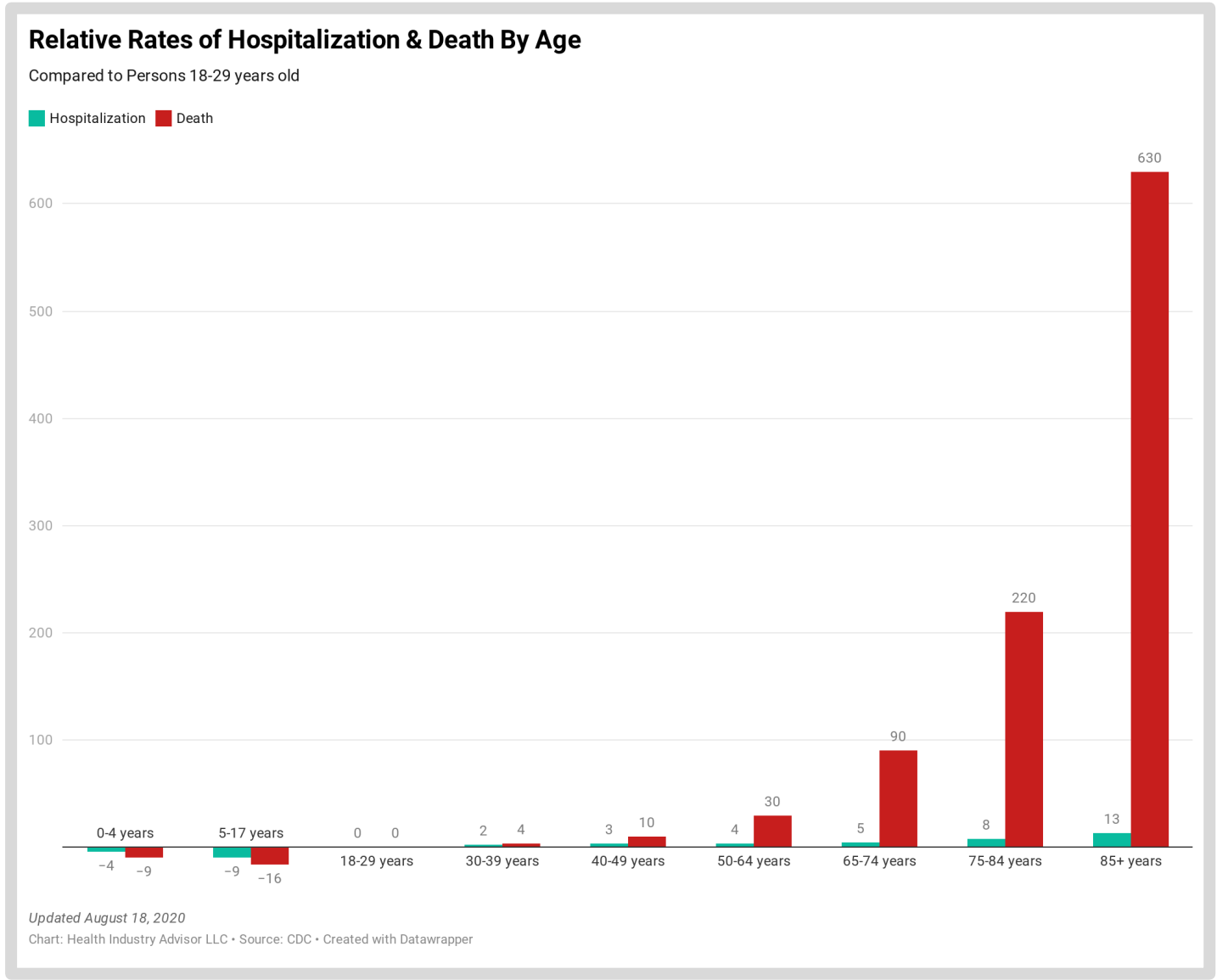
Highlights

- Disproportionate impact of Covid-19 on the elderly and certain racial and ethnic groups:
  - **The incidence of hospitalizations and deaths per capita increase with age**:
    - Persons 65-74 years old are 5x more likely to be hospitalized and 90x more likely to die with coronavirus than persons 18-29 years old
    - For persons 75-84 years old, this rises to 8x and 220x
    - For persons 85 and older, this rises to 13x and 630x
  - **Residents and staff of long-term care facilities have a high incidence of cases and deaths with the coronavirus**:
    - Long-term care facility (LTCF) residents represent 0.3% of the U.S population
    - LCTF residents and staff, however, represent 6% of Covid-19 cases in the U.S.
    - These residents and staff represent 40% of deaths with coronavirus
    - In Connecticut, New Hampshire and Rhode Island, more than 70% of deaths with coronavirus were residents or staff of LTCFs; In seventeen states, more than 50% of these deaths were among LTCF residents and staff
  - **American Indians/Alaskan Natives, Blacks/African Americans and Hispanic/Latinos also are disproportionally impacted, on a per capita basis**:
    - These groups are ~4x more likely than white, Non-Hispanics to be hospitalized, and
    - They are 2.6-2.8x more likely to die with the virus
- **Hospitals continue to be stressed by increasing Covid-19 patients, however, there is some relative, short-term easing**:
  - **Inpatient Covid-19 census has now exceeded 100,000 each of the past four days**
  - **The day-to-day increase in Covid-19 census, however, has slowed markedly over the past five days**
  - Over the weekend, this census increased by its lowest amount since the October 24-25 weekend
  - **Ten states that have been especially stressed by high occupancy levels, have now experienced a decline in Covid-19 census on a week-over-week basis: Colorado, Illinois, Indiana, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin and Wyoming**
  - **The rate of inpatient census-to-new cases has declined by more than 10% during the past five days**
  - **ER visits for coronavirus-like illnesses have been declining since Thanksgiving**
- The impact of test and case reporting interruptions due to the Thanksgiving holiday now appear to have "washed-through" the data
  - **Test volumes have returned to the point of setting new records on a nearly-daily basis**
  - Coincident with this, the test-positive rate has subsidized somewhat and even stabilized over the past several days
  - **The rate of day-to-day increases in newly-detected cases is back on pace with its pre-Thanksgiving level; Recall that this pre-Thanksgiving rate was showing signs of slowing from the rapid increases experienced early in November**
  - **Given the typical lag from infection-to-symptoms-to-testing-to-reporting, later this week we may start to observe the impact of increased social interaction at Thanksgiving**
- Tragically, we continue to experience increasing deaths with the coronavirus
  - **The 7-day average deaths have increased eight consecutive days in the U.S.**
  - This rate will likely continue to rise for at least the next few weeks

Covid-19 affects the elderly at a much greater rate than younger populations

Compared to persons 18-29 years old, a person 85 or older is 13x more likely to be hospitalized and 630x more likely to die with coronavirus

Persons 65-74 years old are 5x as likely to be hospitalized and 90x more likely to die with coronavirus as a person 18-29 years old

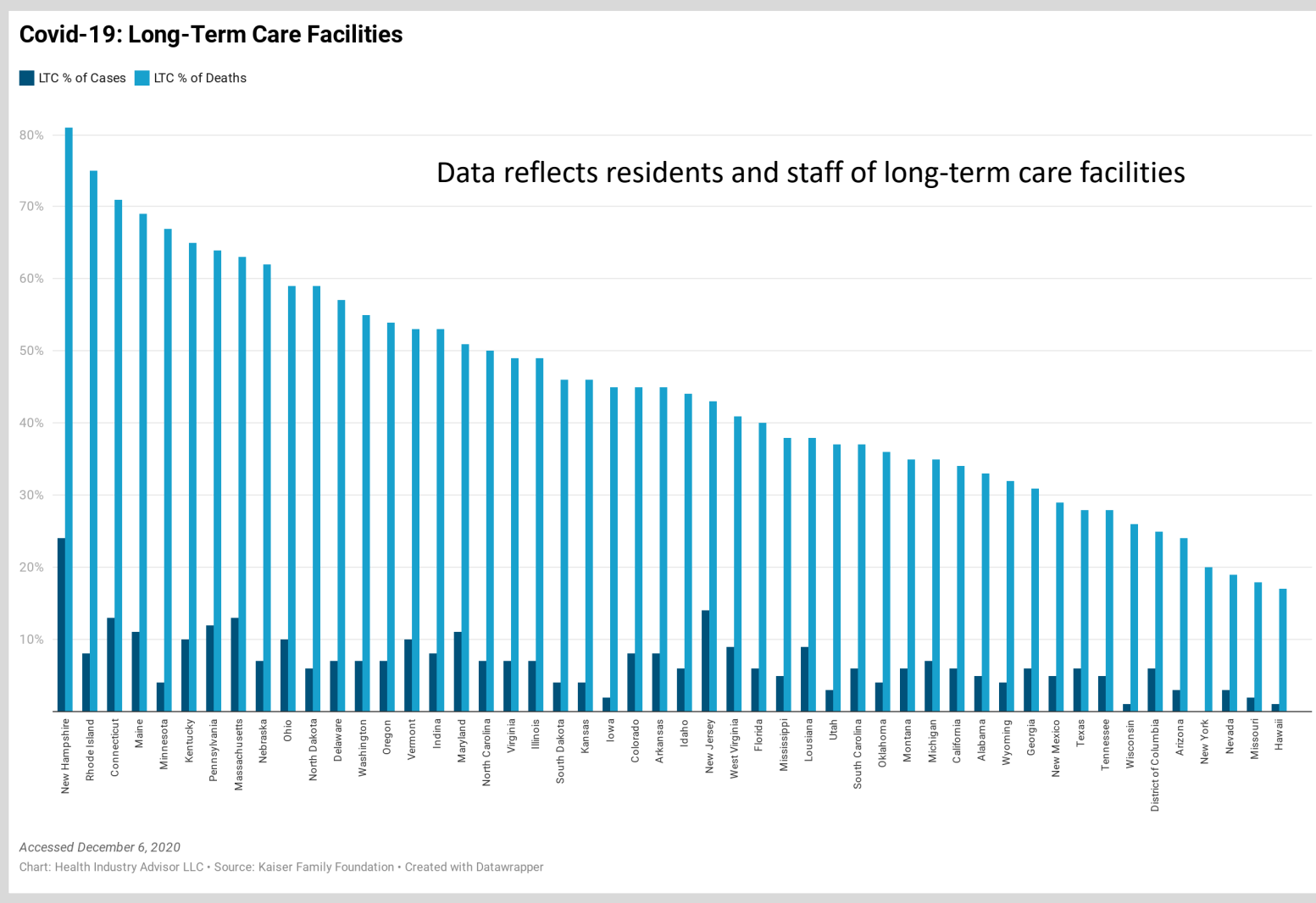


Health Industry Advisor, llc

Residents of Long-Term Care Facilities (LTCF) have borne a disproportionate share of the COVID-19 burden in the U.S.

Representing only 0.3% of the population, these residents have experienced 6% of Covid-19 cases and 40% of deaths in the United States

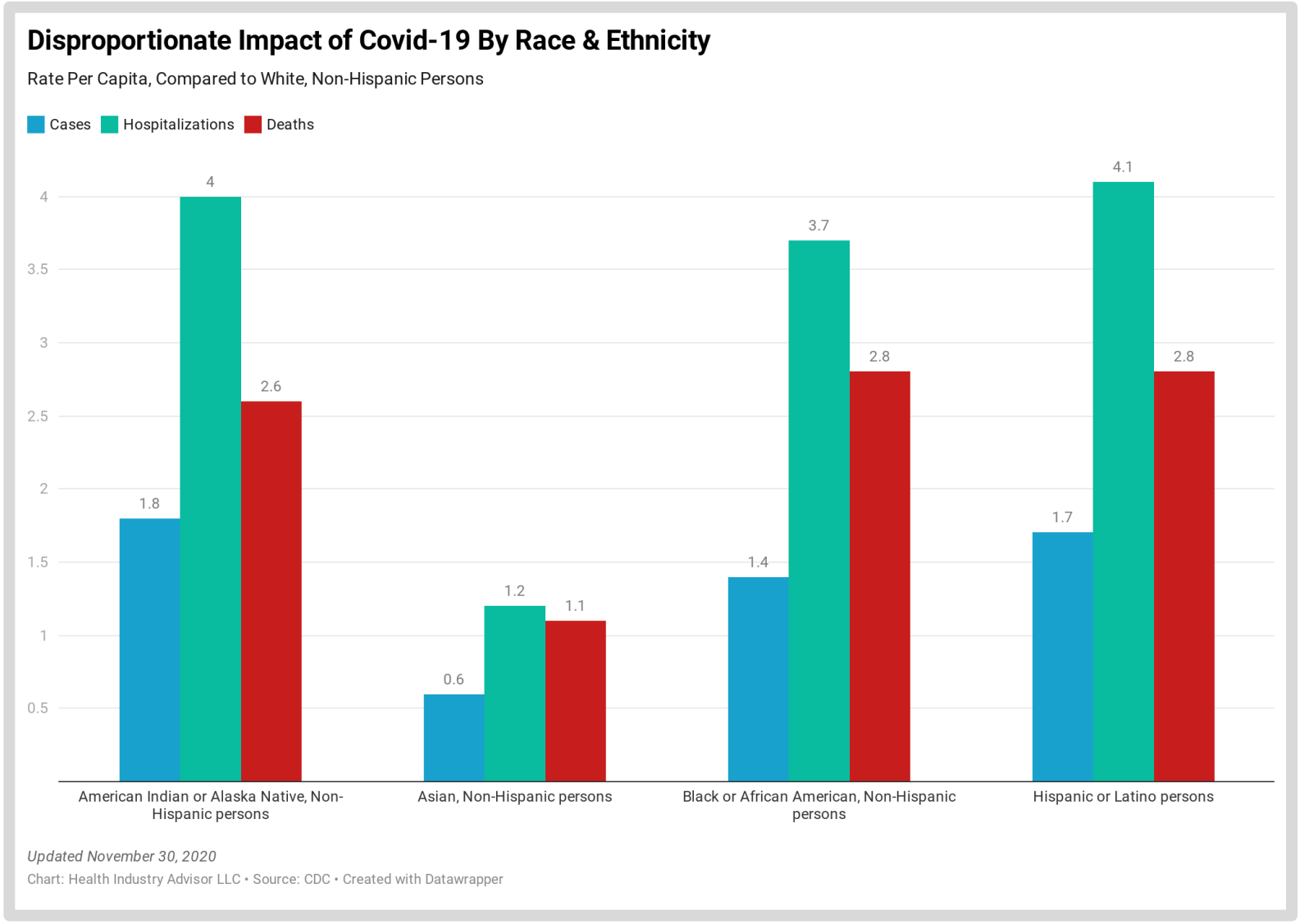
In seventeen states more than ½ of Covid-19 deaths were residents or staff of long-term care facilities



Health Industry Advisor, llc

Covid-19 has had a disproportionate impact on certain races and ethic groups

American Indians or Alaskan Natives, Blacks or African Americans and Hispanic or Latinos are ~4x more likely than Whites to be hospitalized and 2.6-2.8x more likely to die with the virus

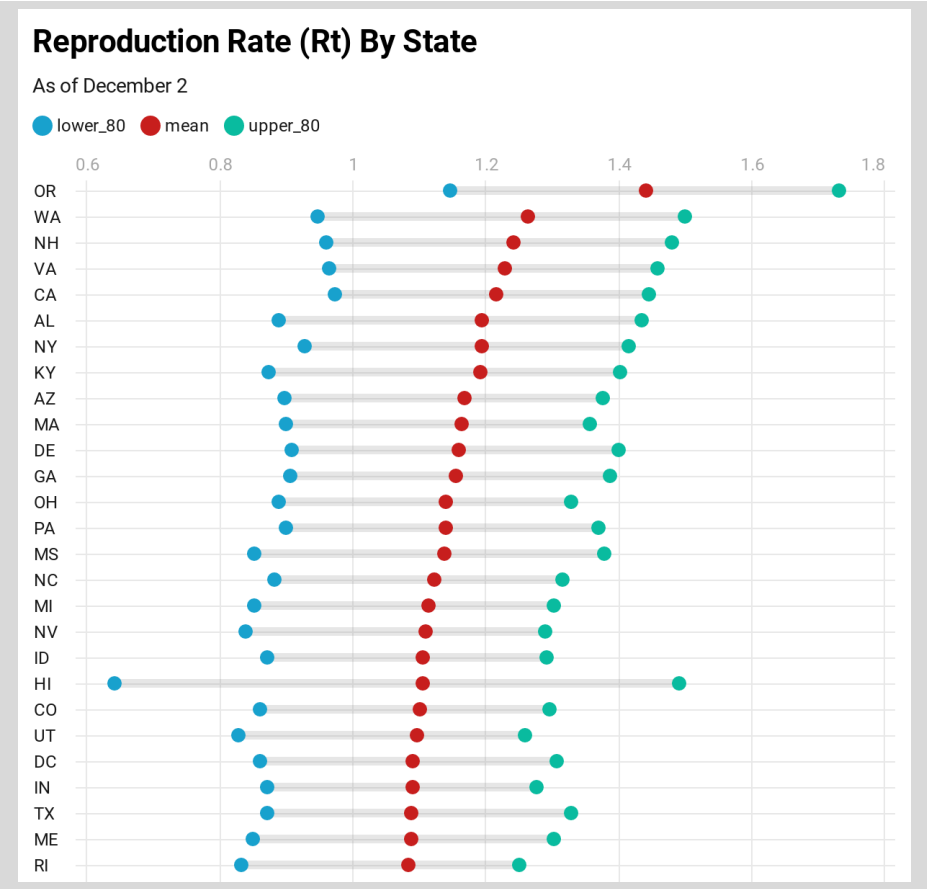


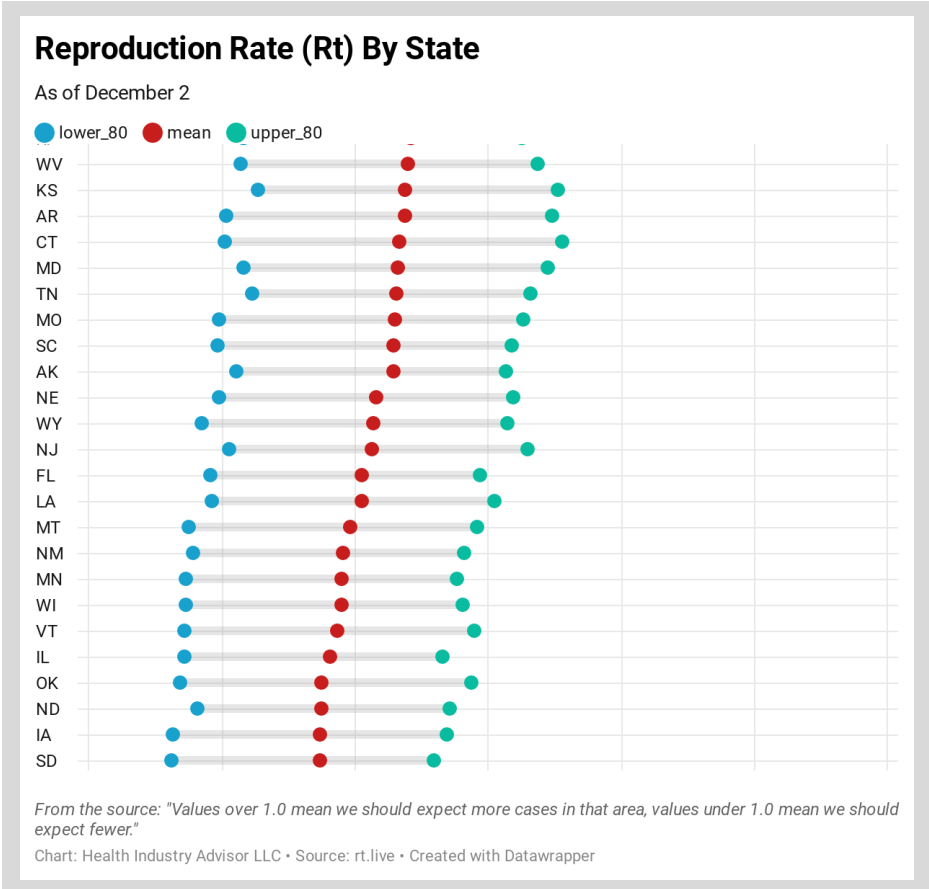
Health Industry Advisor, llc

Reproduction Rate (R_t) – An indication of whether the virus spread is increasing (R_t>1), or decreasing (R_t<1)

As of last Wednesday, the mean estimate R_t was >1 for most states; it is <1 for several states recently hardest-hit: Iowa, Minnesota, North Dakota, South Dakota and Wisconsin

This rate has increased week-over-week in all states except Alaska, Arizona, Mississippi, Ohio and Vermont



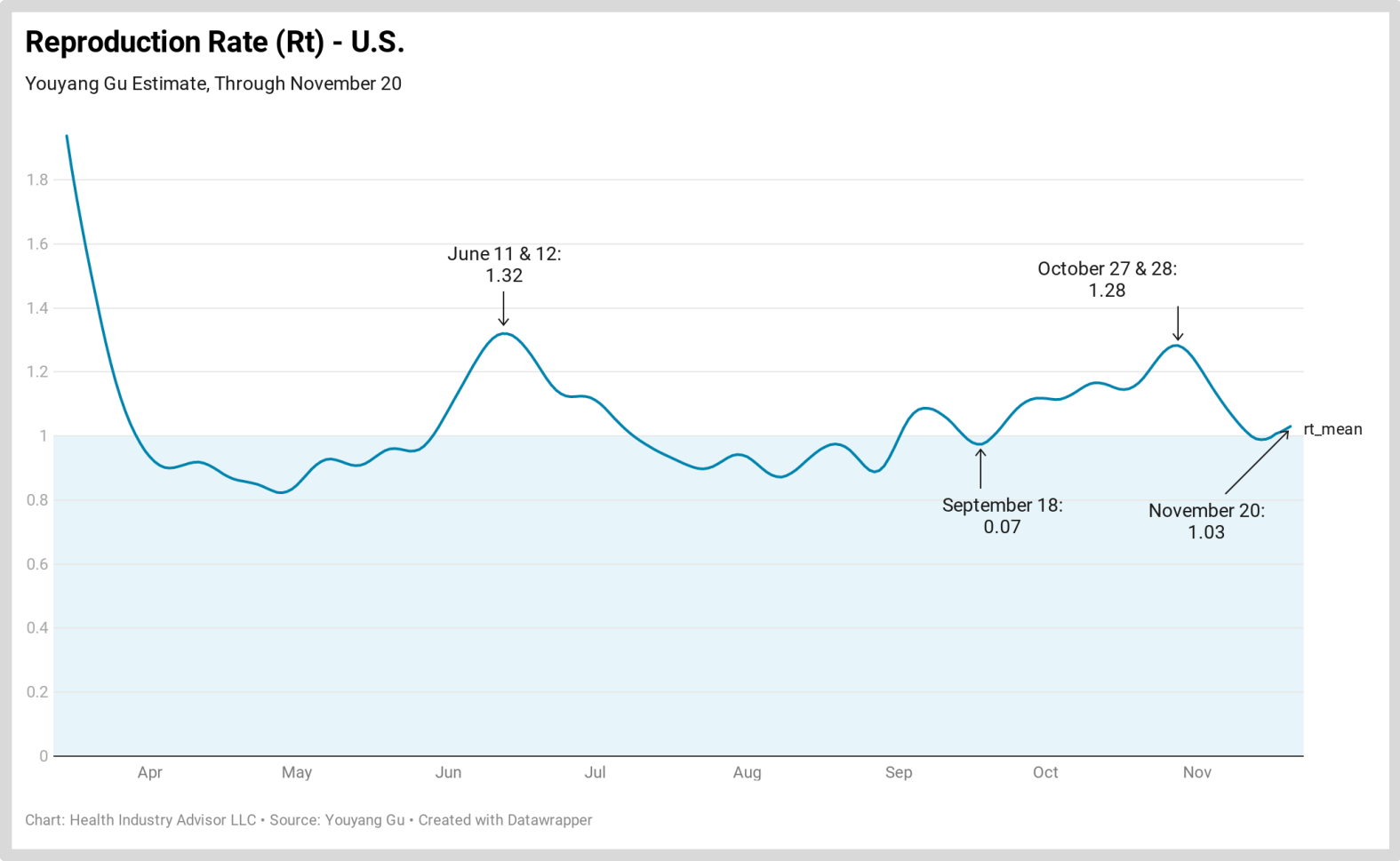


Health Industry Advisor, llc

Youyang Gu publishes estimates of actual infections and the reproduction rate (R_t), using a machine learning model

Gu presumes in his model a two-week lag from the date of infection to the date that a case is reported

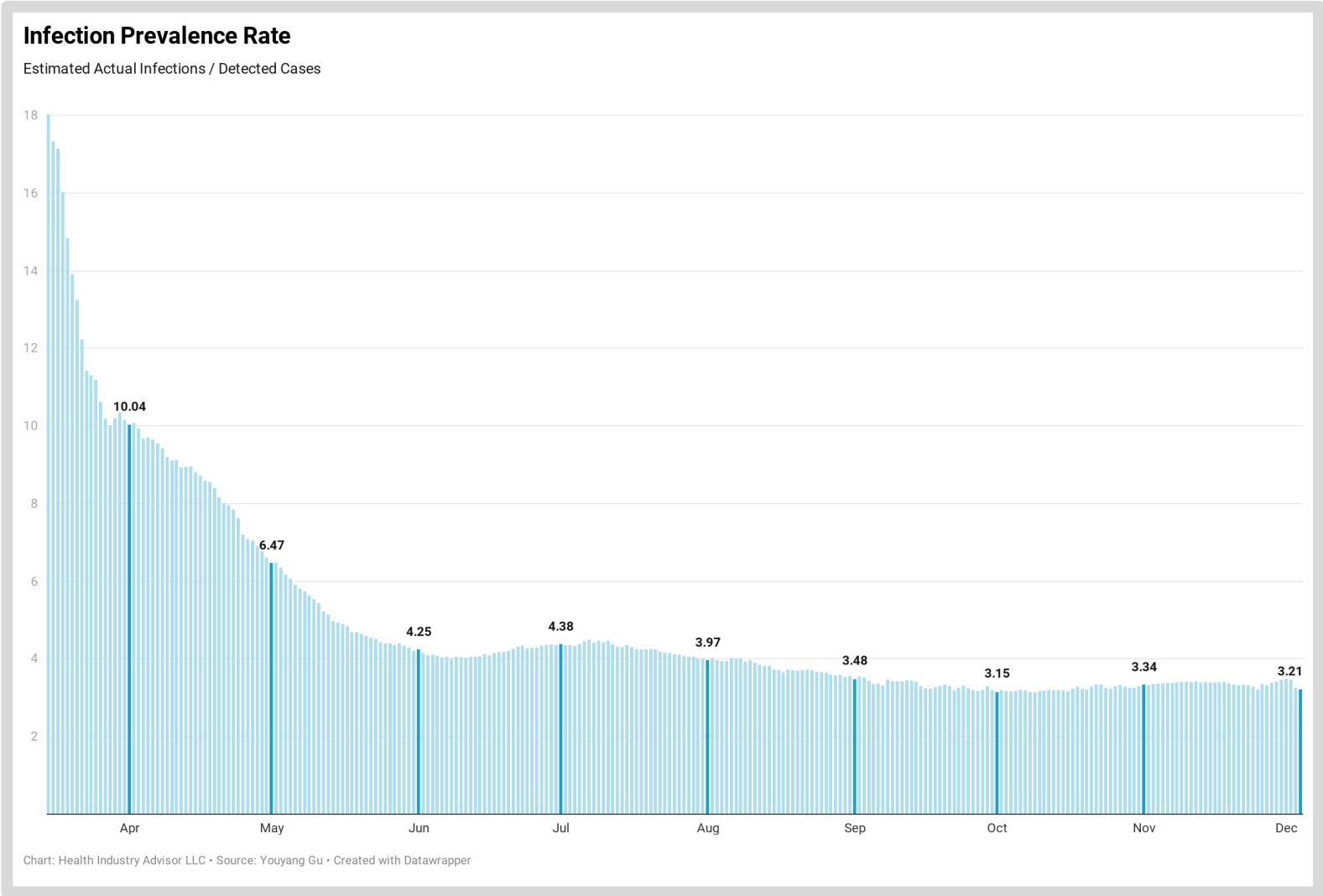
Consistent with our previously-reported view that the new case growth rate began slowing in early-November, Gu estimates R_t declined from late October to mid-November. Gu now indicates a rising R_t



Health Industry Advisor, llc

With increased testing, we have improved our detection of infections

However, by Gu's estimates, total infections still outnumbered detected cases by 3.21 on Friday



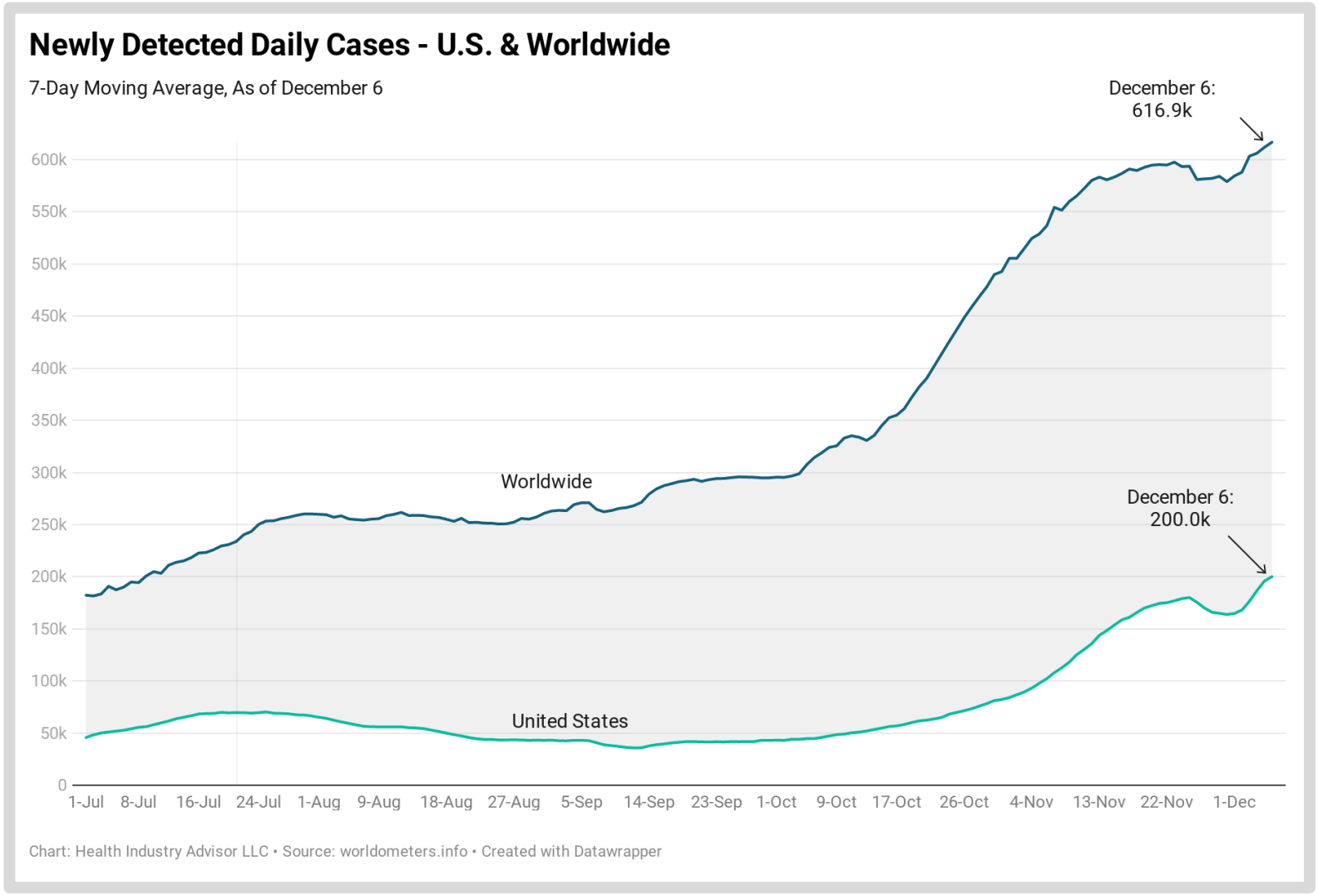
Health Industry Advisor, llc

We are experiencing a “dip-and-rebound” in new infection rates, caused in significant part by report-interruptions around the Thanksgiving holiday (a similar pattern occurred around the Labor Dy holiday)

There were ~616.9k new cases worldwide each day, as of Wednesday

The United States is now averaging 200k new cases each day

* - 7-day moving average basis

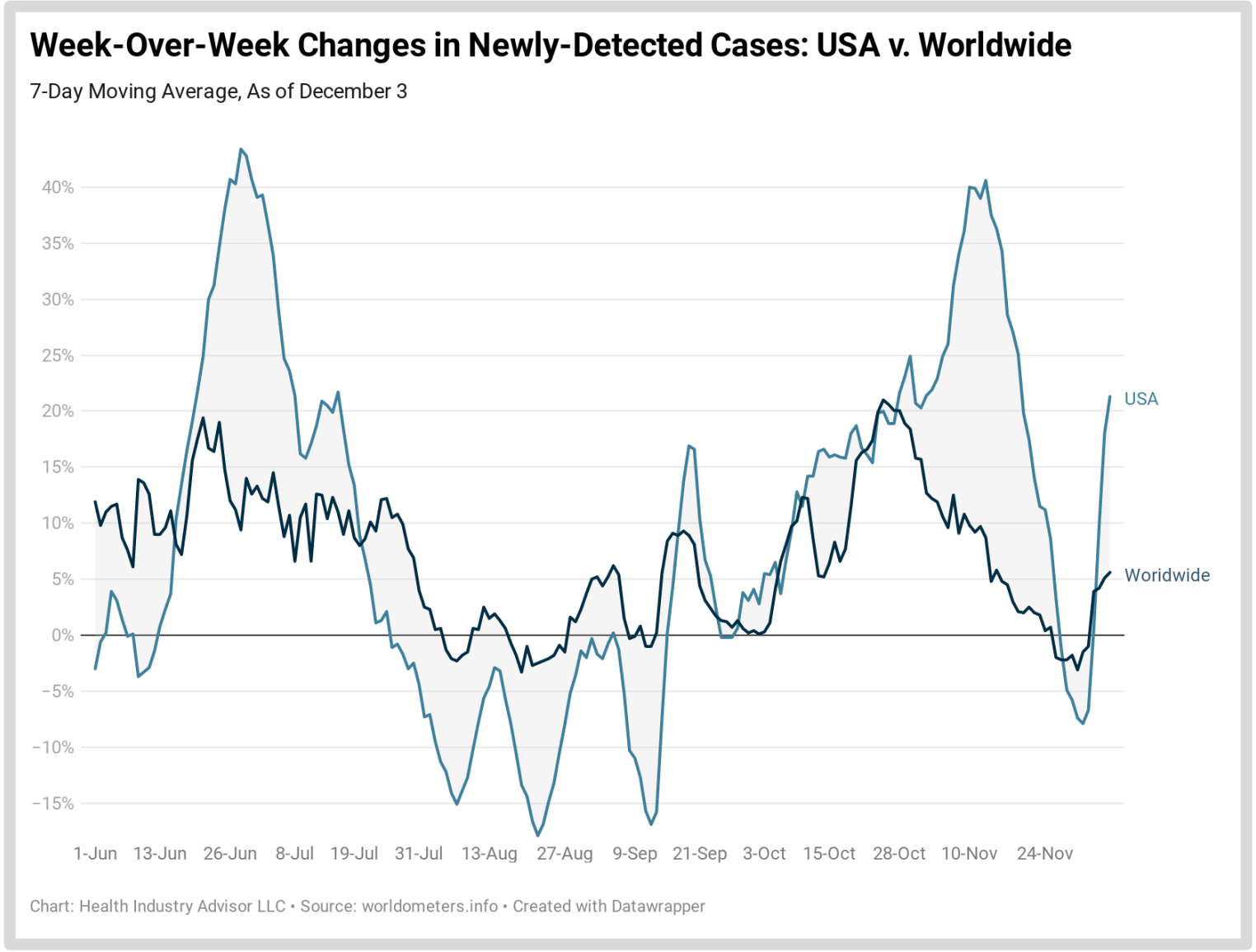


Health Industry Advisor, llc

The rate of increase in new cases, both worldwide and in the United States, had been easing for an extended period

Reporting interruptions around the Thanksgiving holiday caused this rate to go negative

This rate has turned back up, due in significant part to the unfavorable comparative effect of the reporting interruptions and subsequent catch-up



Health Industry Advisor, llc

The rate of new infections per capita* are showing a dip-and-rebound pattern like that observed around Labor Day (tied to reporting interruptions)

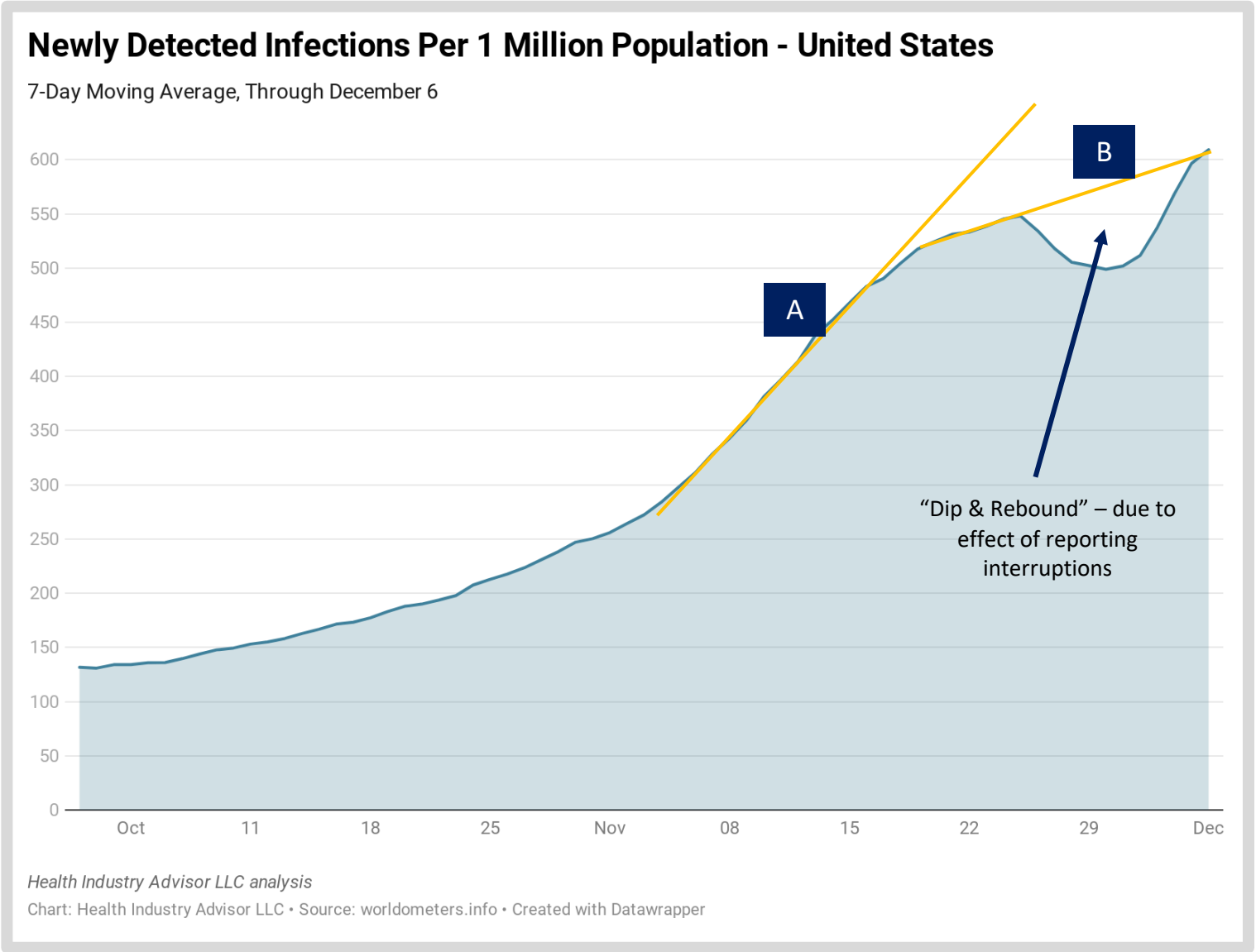
Rate was on a steep incline early in November (see slope “A”)

Then slowed in mid-November (see slope “B”)

Looking beyond the effect of reporting interruptions, the rate of increase is back to that experienced in mid-November

Any impact of increased social interactions during Thanksgiving and into the Holidays will not be evident for several days

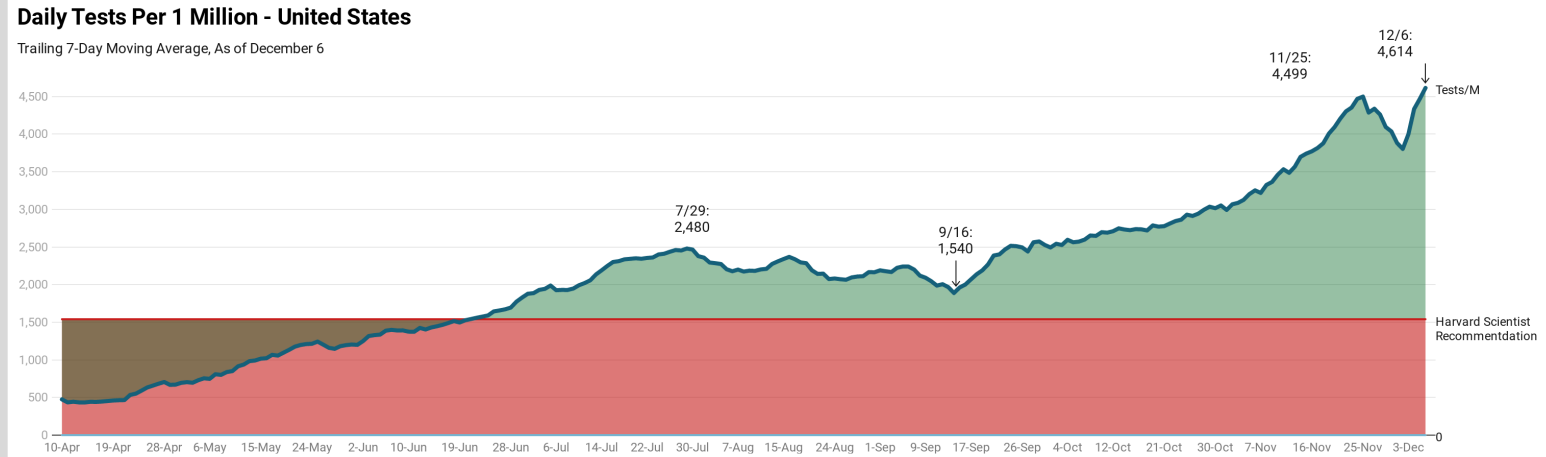
* - 7-day moving average basis

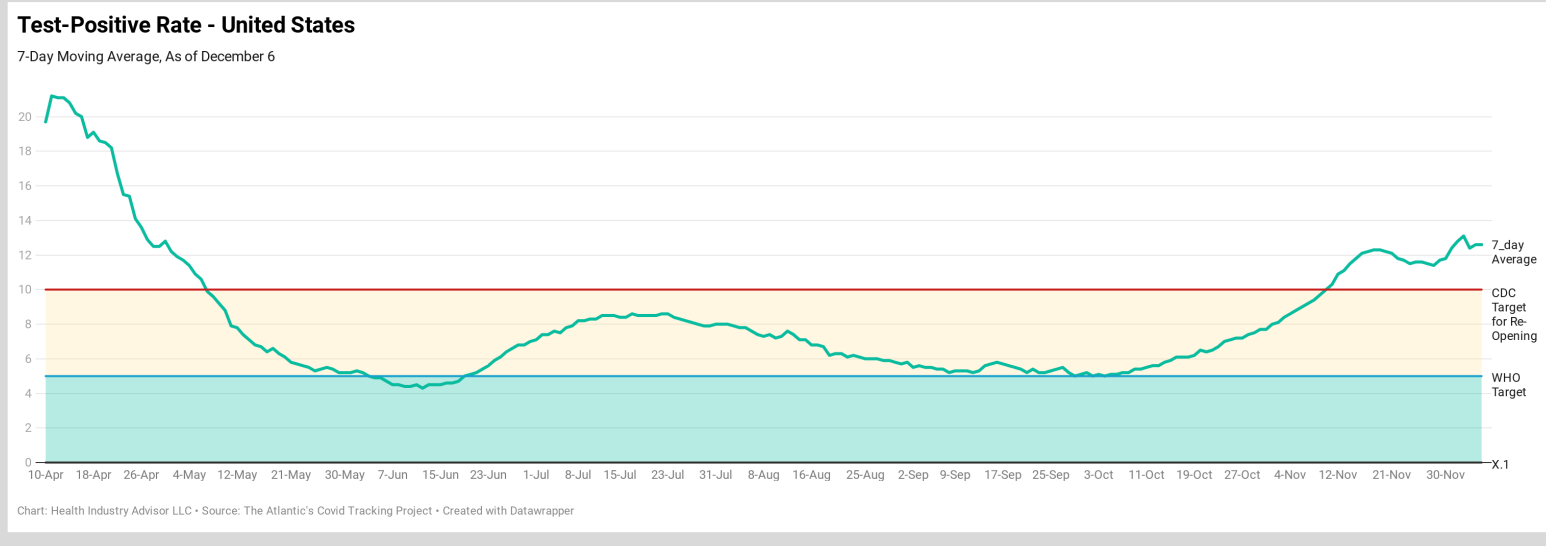


Health Industry Advisor, llc

Testing volumes have now returned to record-setting levels

Coincident with this return to relatively-high testing levels, the test-positive rate seems to have stabilized in the past few days

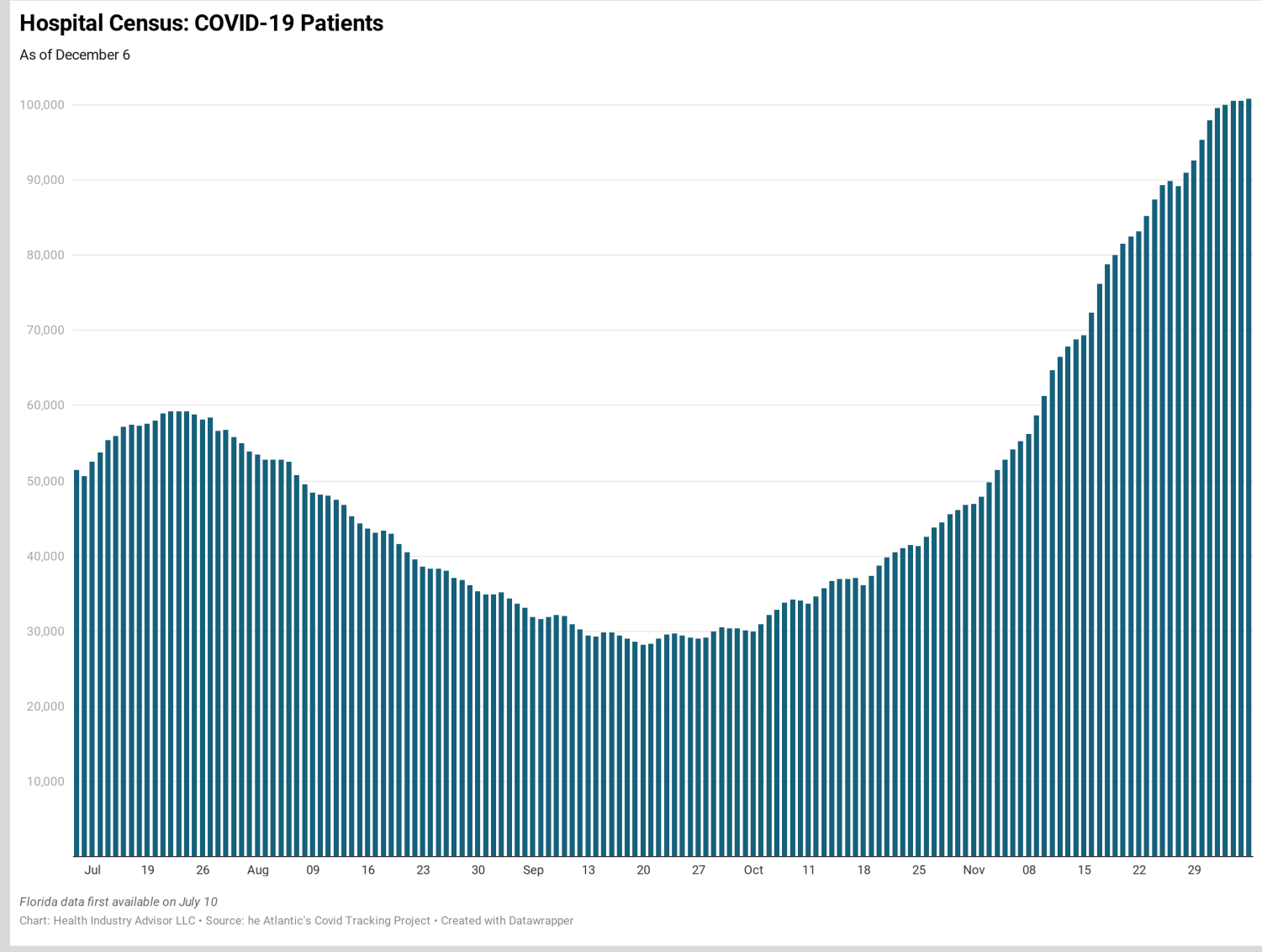




There were more than 100,000 Covid-19 patients in U.S. hospitals for the fourth consecutive day

Nevertheless, the daily increases in hospitalizations seem to have slowed over the past five days

This weekend, for example, saw the smallest increase in Covid-19 patients since October 24-25



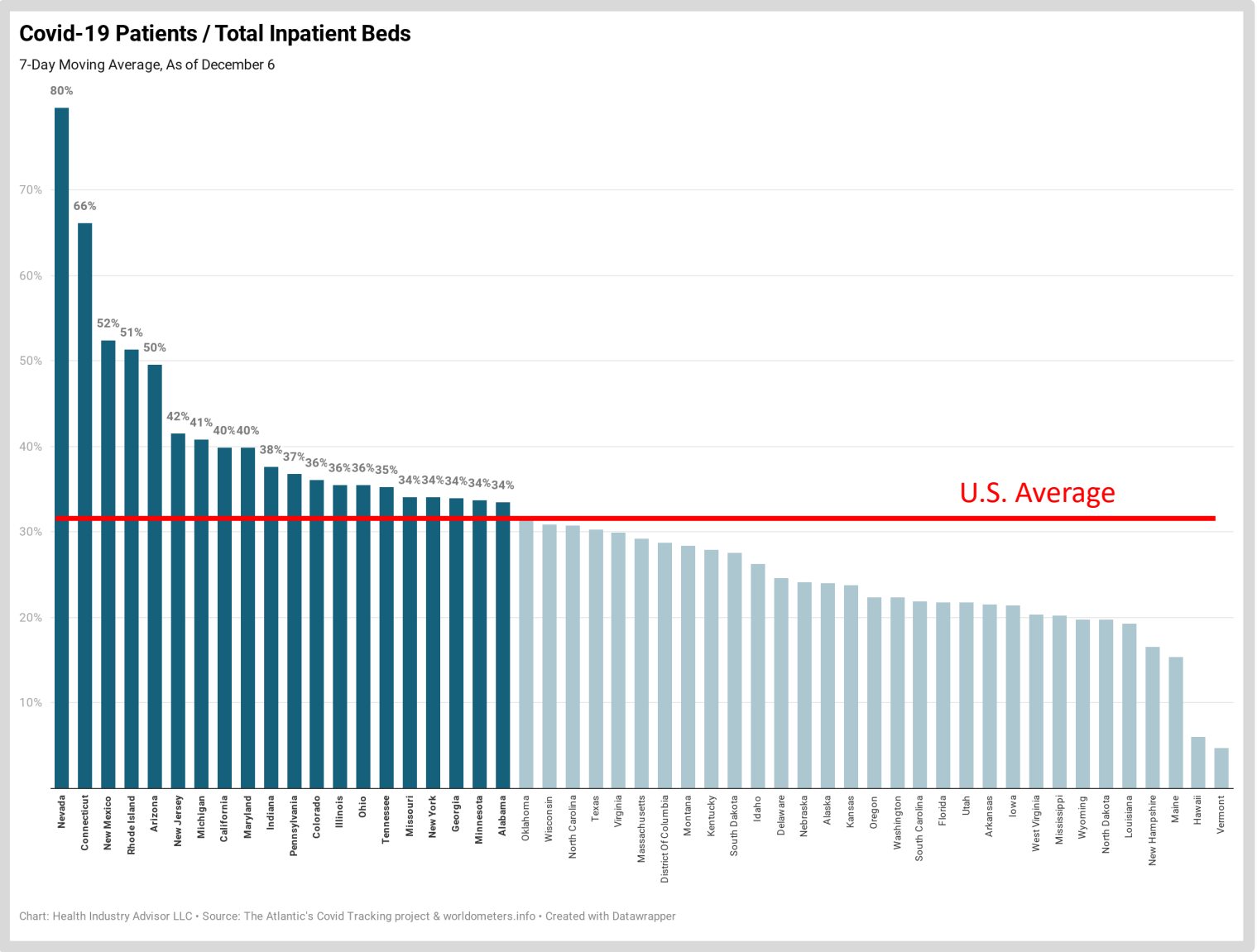
Health Industry Advisor, llc

In Nevada, 80% of all inpatient beds are occupied by Covid-19 patients; In Connecticut, its 66%; and in Arizona, New Mexico and Rhode Island, it's 50% or higher

In California, Maryland, Michigan and New Jersey, 40% of inpatient beds

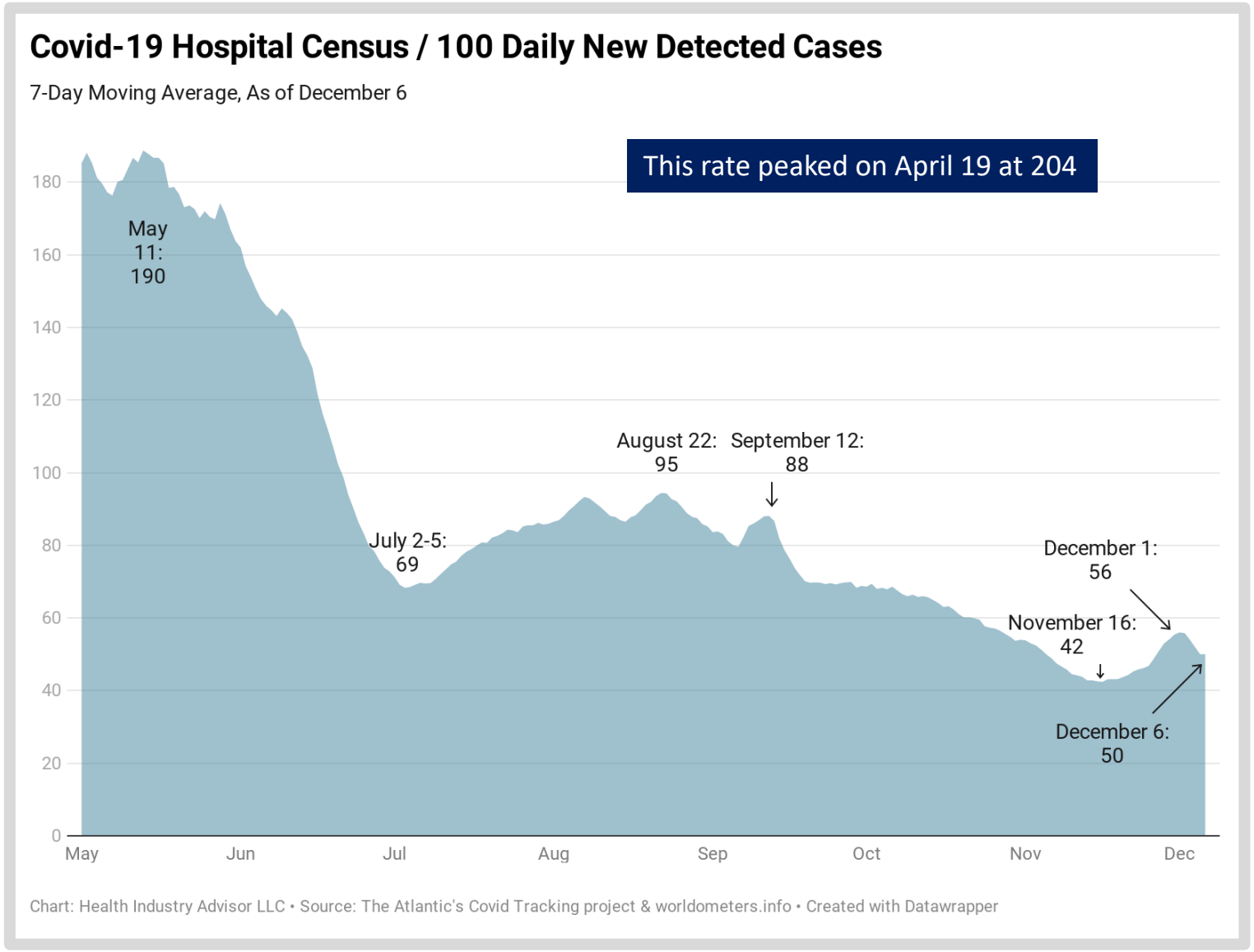
For the U.S. overall, it has been steady at 32% for the past five days

Covid-19 hospital census declined week-over-week in Colorado, Illinois, Indiana, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin and Wyoming



Health Industry Advisor, llc

The average Covid-19 census per 100 new-cases declined for the fifth consecutive day



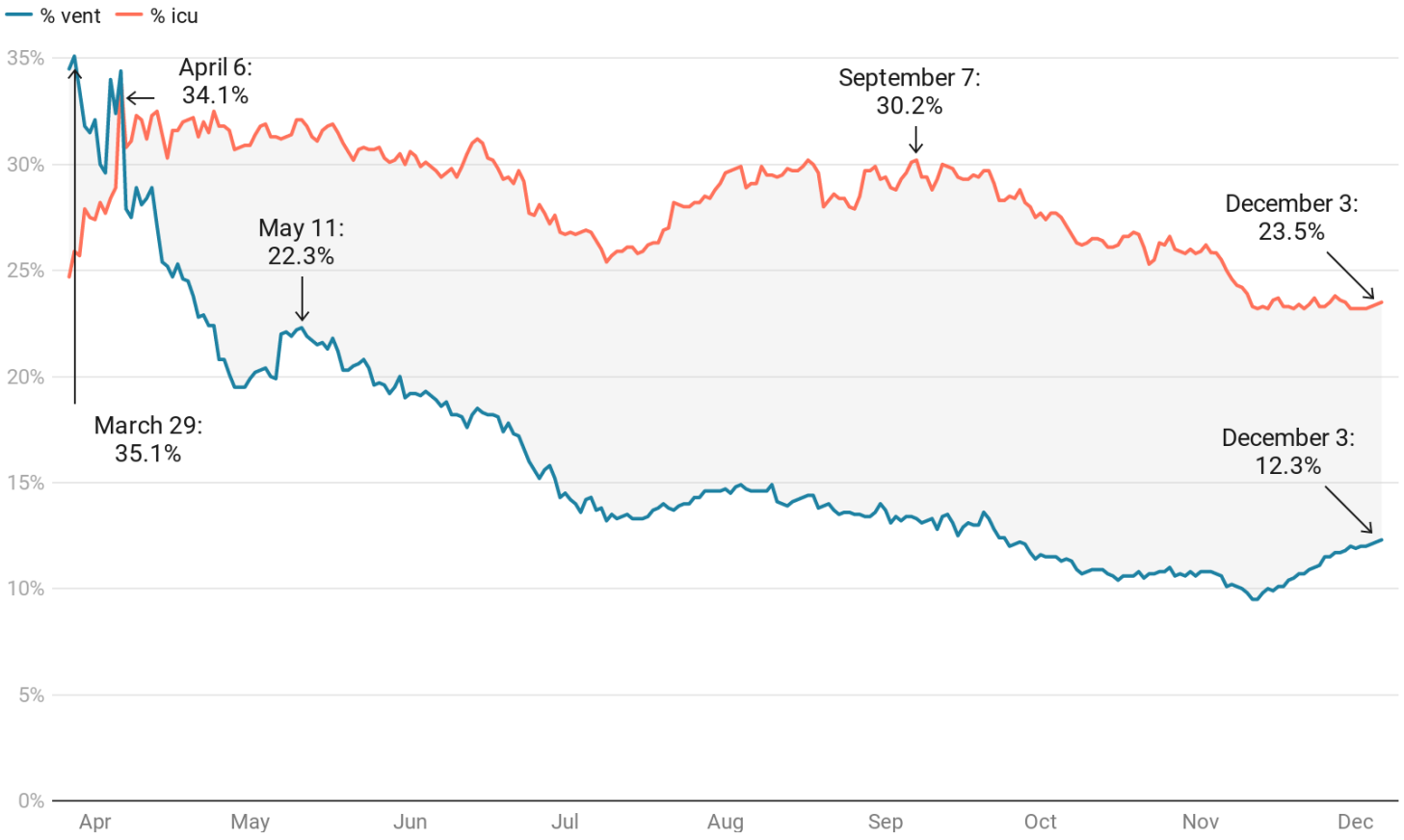
Health Industry Advisor, llc

The likelihood of a hospitalized Covid-19 patient would require ICU care has been lower throughout November and into December than at any time during the pandemic

The likelihood of a hospitalized Covid-19 patients would be on a ventilator, however, has been trending up for several weeks

Severity of Hospitalized Patients

% of patients on ventilators and in the ICU, As of December 6



Health Industry Advisor LLC analysis

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

Health Industry Advisor, llc

The % of ER visits for COVID-19-like illnesses (CLI) seems to have waned since Thanksgiving

The rate of influenza visits remains low given where we are in the flu season

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

As of December 3

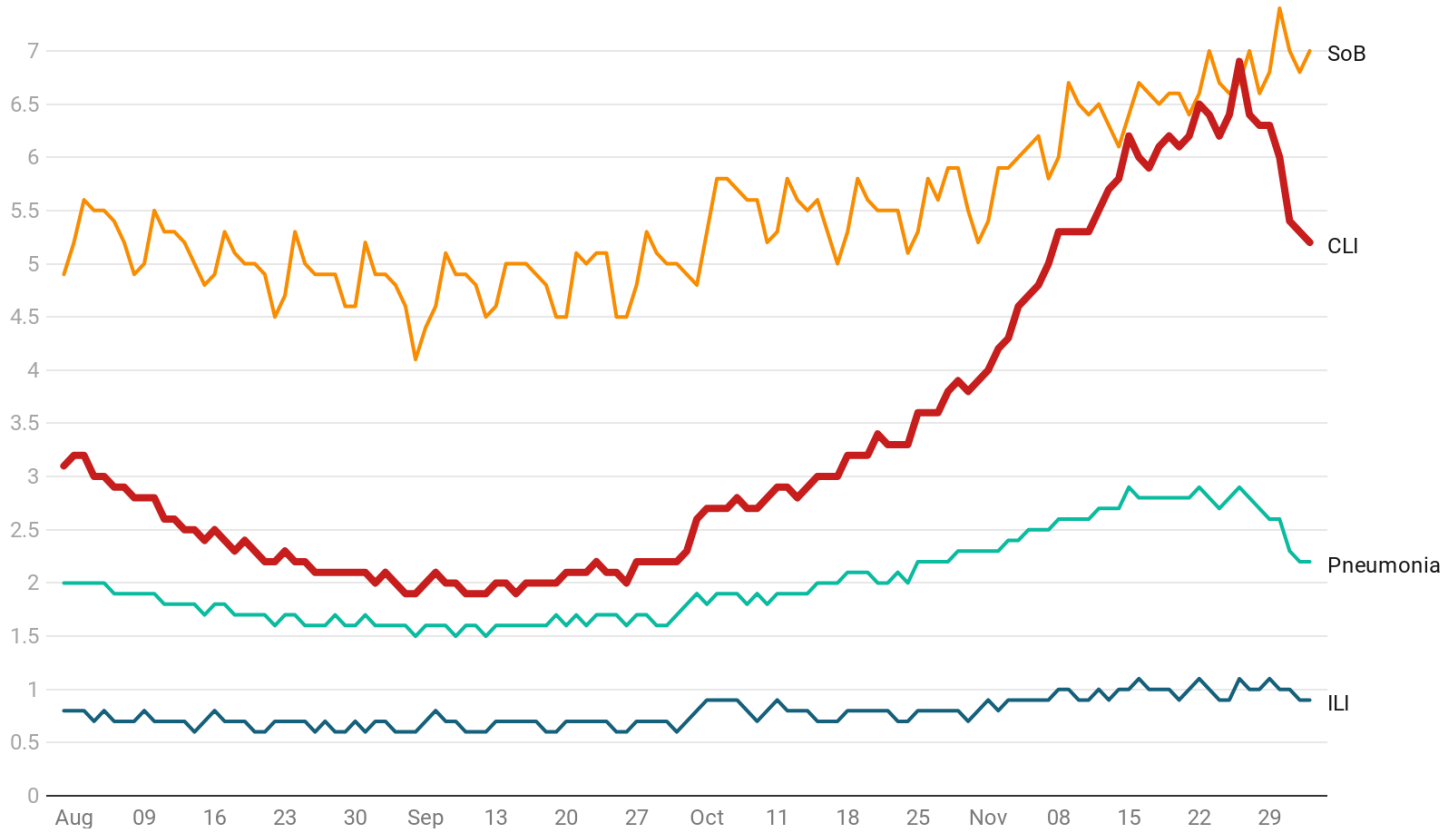


Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

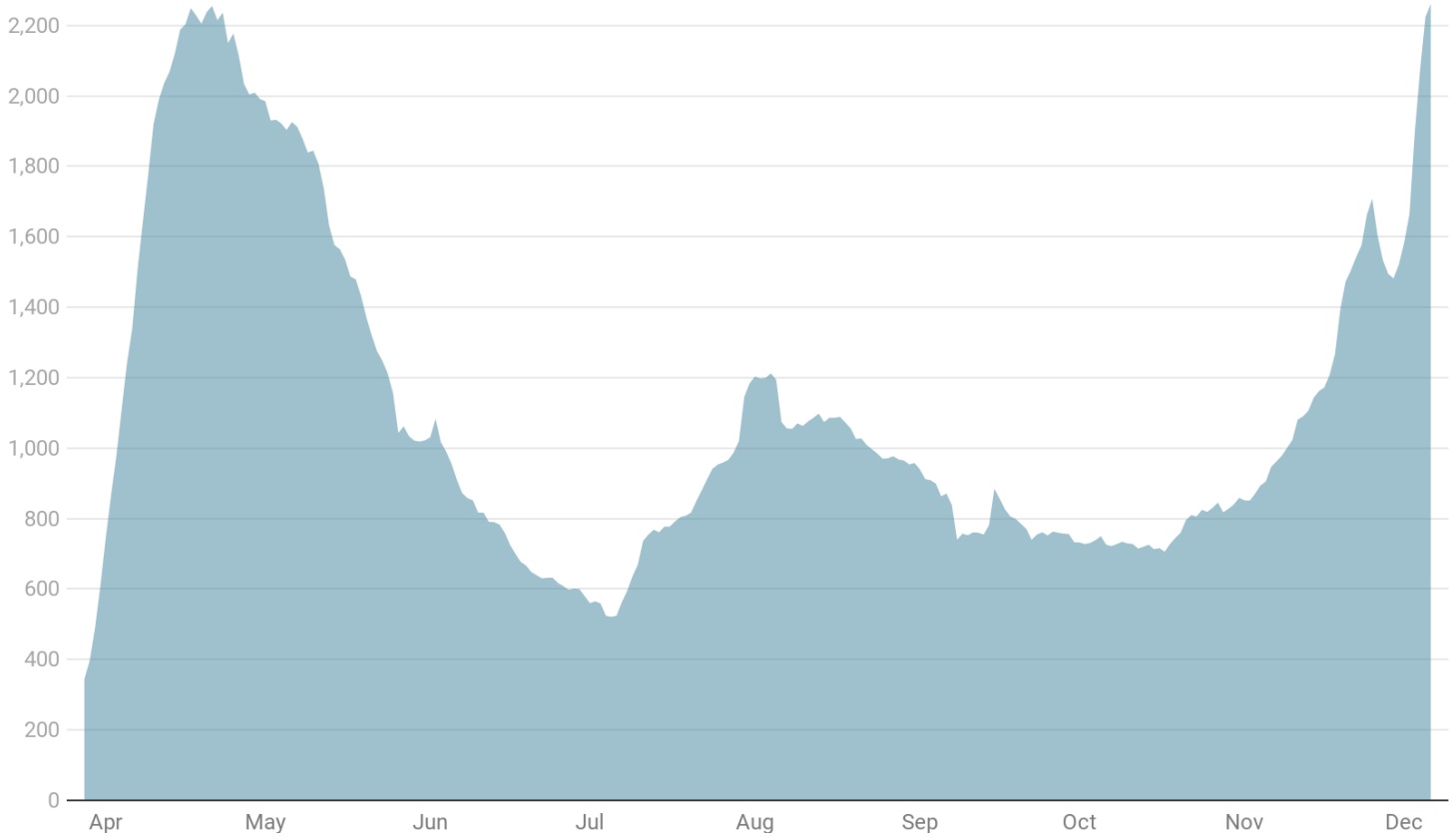
Health Industry Advisor, llc

After a relative respite in the 7-day average deaths since Thanksgiving Day, these have now increased eight consecutive days

This rate now exceeds the pre-Thanksgiving peak . . . And will likely continue rising for at least the next few weeks

Deaths Reported With Coronavirus in the U.S.

Trailing 7-Day Moving Average, As of December 6



Health Industry Advisor LLC analysis

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

Health Industry Advisor, llc

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&region=United%20States&panel=mortality