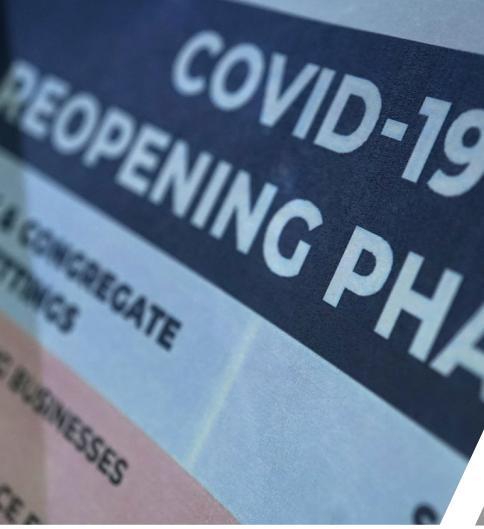

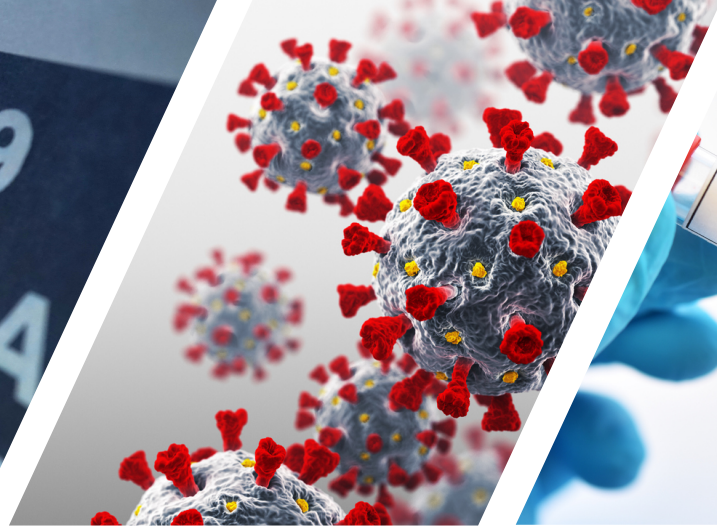

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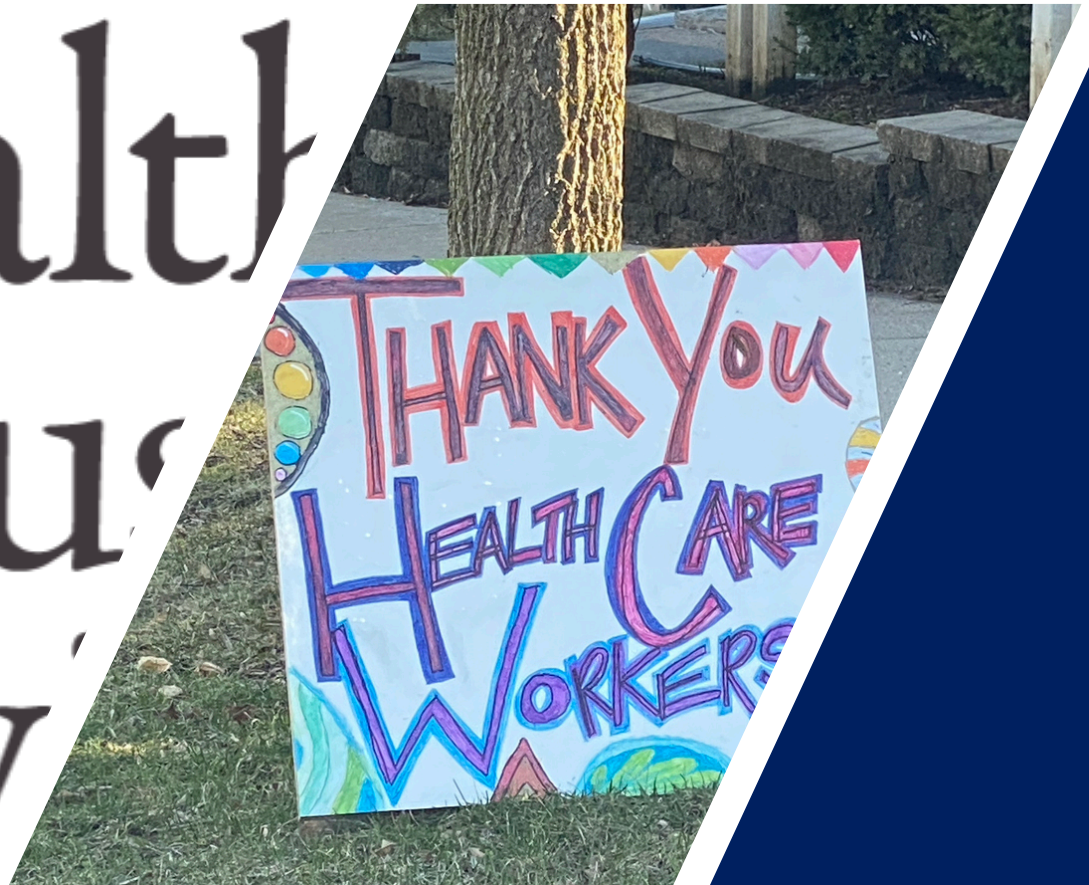


Issue # 183

Saturday, October 10, 2020

COVID-19 Report

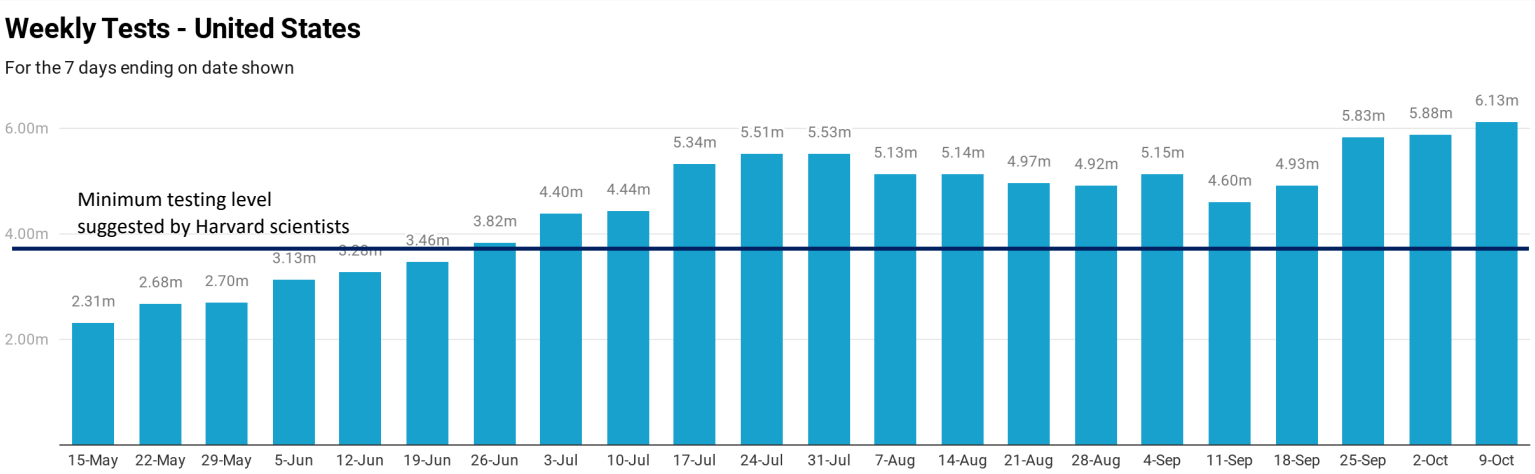
Highlights

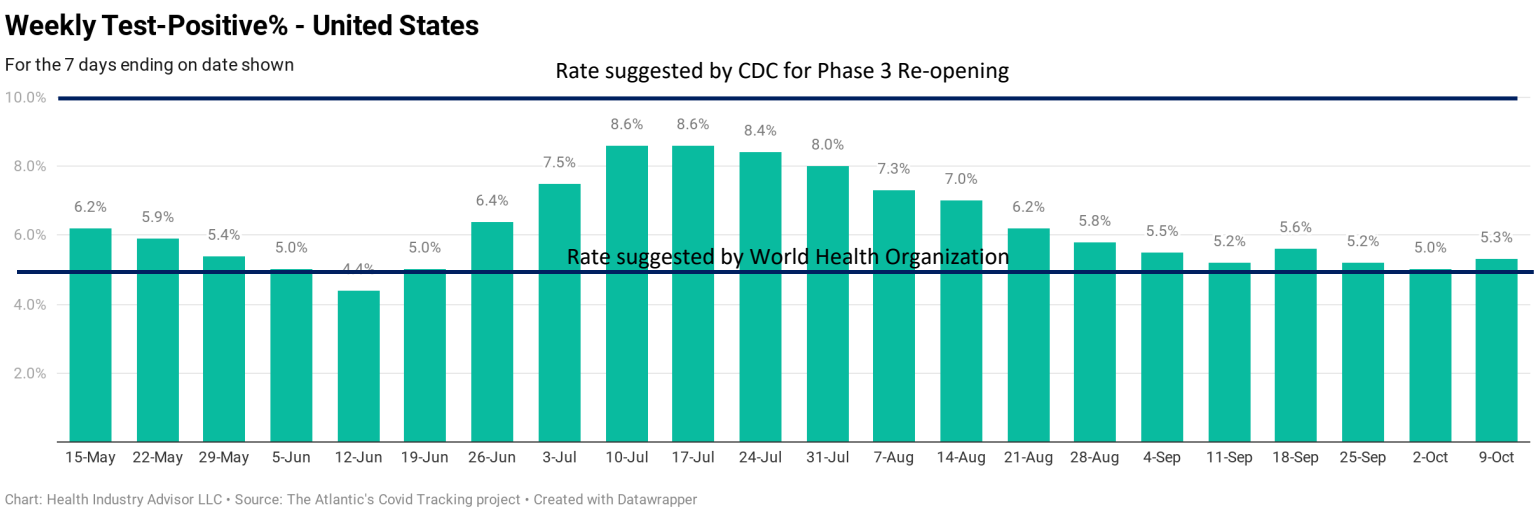
- **Testing volume set a record high for the third consecutive week**. Test-positive rate was modestly higher than each of the past two weeks but, remains just higher than the World Health Organization target and well below the CDC target for Phase 3 re-opening
- **Newly-detected cases rose sharply last week - the fourth consecutive week-over-week increase**. These new cases are now higher than experienced during any comparable 7-day period since August 8-14. They were, however, 30% lower than during week of July 18-24
- We are adopting the use of *detected cases* to designate those infections that are reported based on testing, as opposed to total estimated cases (or, infections)
  - The CDC has reported that actual infections are several times greater than detected cases
  - We have been tracking two sources that use models to estimate total infections - Youyang Gu's (which he has unfortunately discontinued updating) and Oliver Wyman's model
  - Using their results, true infections are currently estimated at 4-5.7x detected cases
- **Estimated infections (detected plus estimated undetected) increased for the third consecutive week (based on Gu's model). These infections are approaching levels reached in late-March, during the Northeast surge in infections but, remain more than 30% lower than during the mid-July surge**

- **Deaths with Covid-19 increased by 6/day this past week versus the prior week. These weekly deaths were more than 1/3 lower than in mid-July and less than 1/2 what they were in mid-May**
- **The weekly census of patients infected by the SARS-CoV-2 virus increased for the second consecutive week**; this census remains just more than 1/2 its late-July level
- **The likelihood of a known, actively-infected person would be in the hospital has been stable for the past four weeks; This likelihood has declined by 60% since mid-July**
- The weekly ICU census of patients infected with the SARS-CoV-2 virus increased for the second consecutive week; This census remains 40% lower than it was in late-July
- **The likelihood of a hospitalized Covid-19 patient would be in the ICU declined for the third consecutive week; Only once during the pandemic has this rate has been lower than what it was last week**
- The weekly census of Covid-19 patients on ventilators increased last week, interrupting a streak of nine consecutive week-over-week declines; Still, this census was 42% lower than it was in late-July
- **The likelihood of a hospitalized Covid-19 patient would be on a ventilator declined for the eighteenth time in the past twenty-two weeks; This likelihood is now 1/2 what it was in mid-May**

Test volume set a record high for the third consecutive week

Test-positive rate was slightly higher than the prior two weeks; it is just above the WHO target and well below the CDC target for Phase 3 re-openings





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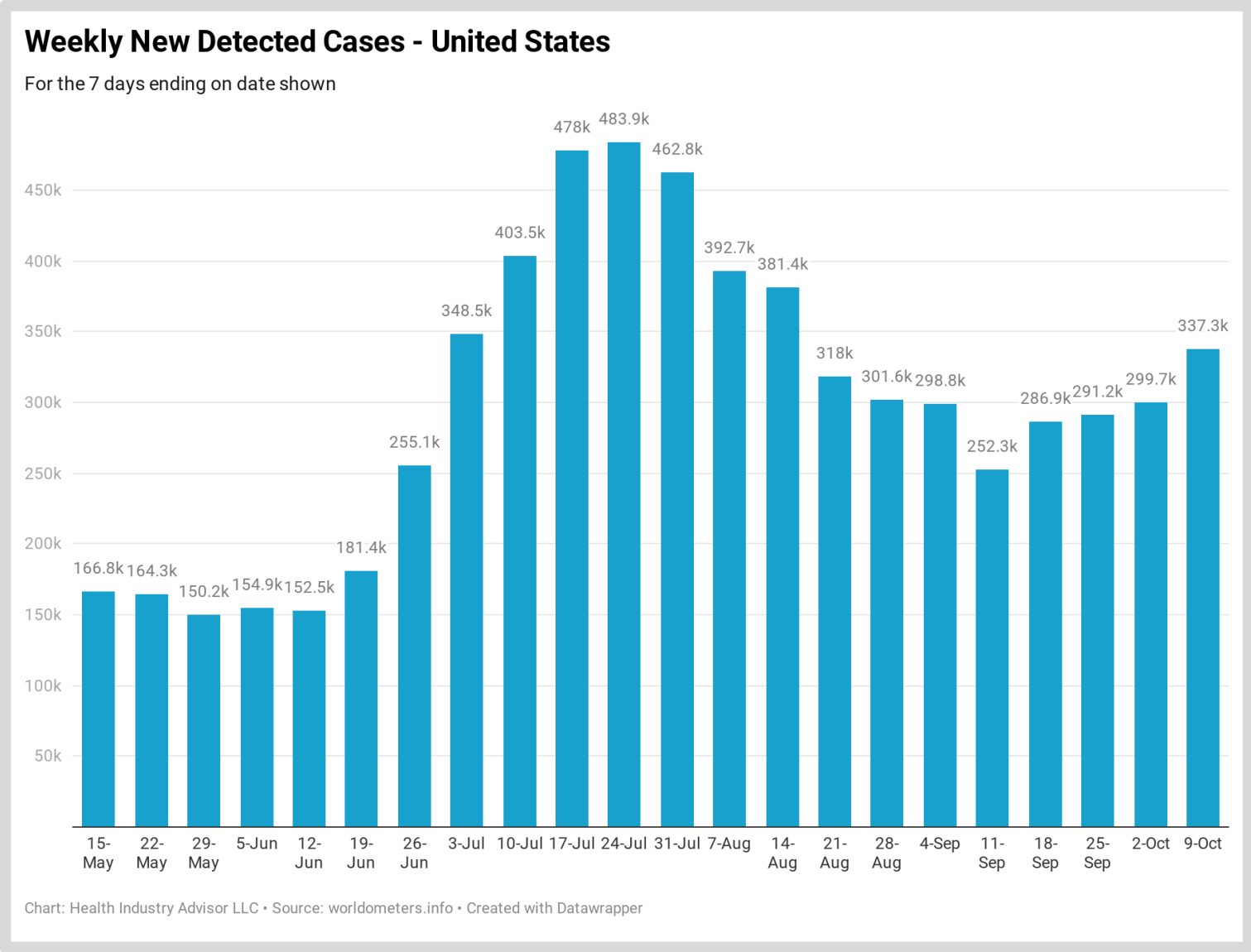
Newly detected cases* increased for the fourth consecutive week (Saturday – Friday)

New cases were higher during this 7-day period than any comparable period since August 8-14

*Newly detected cases are based on test results. These could be underreporting actual infections by 4x (Oliver Wyman current estimate) – 5.7x (based on Youyang Gu estimates)

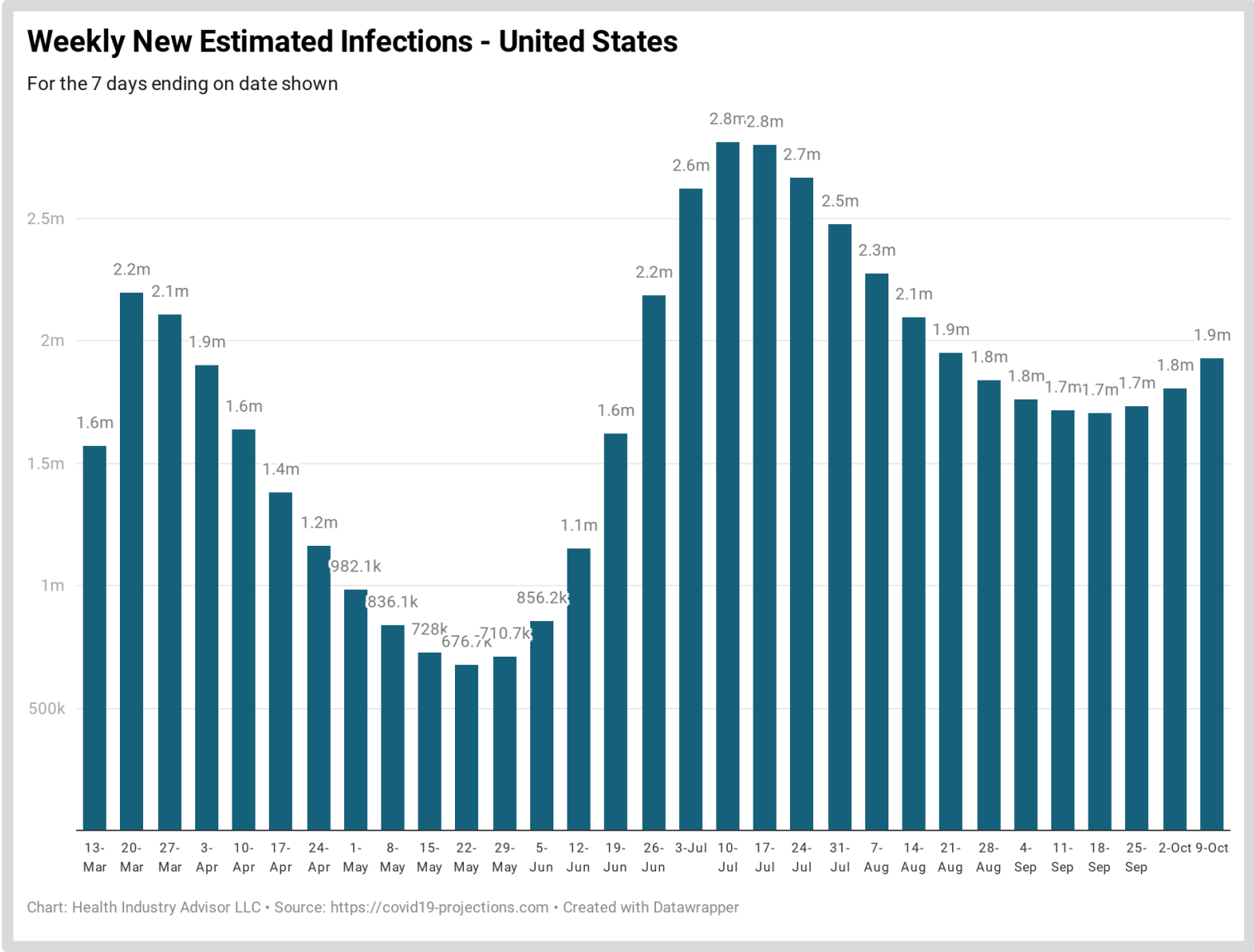


Health Industry Advisor, llc

Estimated new infections* (detected + undetected) rose for the third consecutive week

These weekly estimated infections remain below the level reached from June 20-26 to August 8-14 but, are approaching levels reached during the late-March surge in the Northeast

* Based on Youyang Gu's Covid Projection Model



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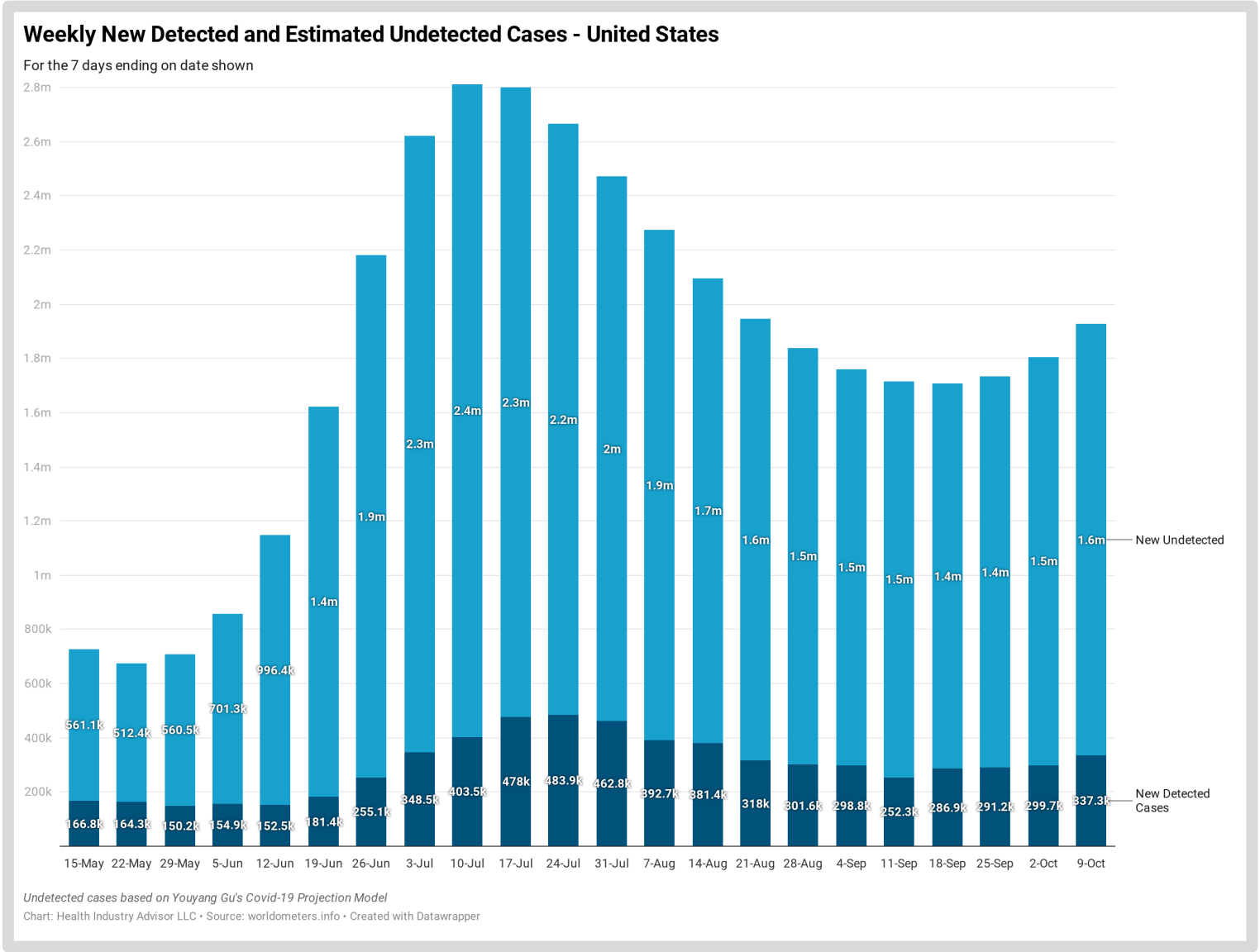
Undetected cases are significantly greater than cases detected via testing



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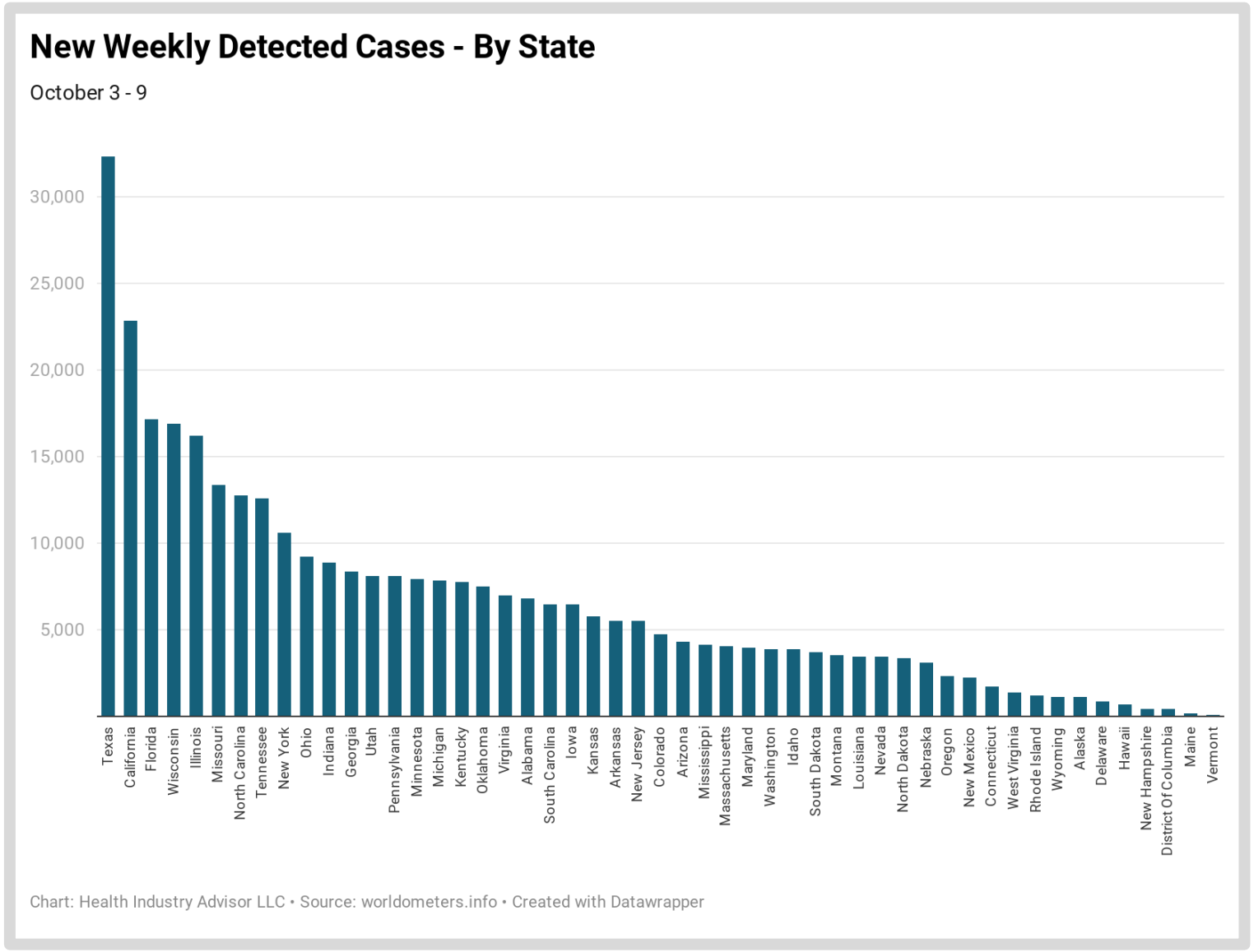
Texas, California and Florida, in order, recorded the highest number of newly detected cases over the past seven days

This is correlated with population: Of the ten states with the most newly-detected cases, seven ranked in the top nine by population



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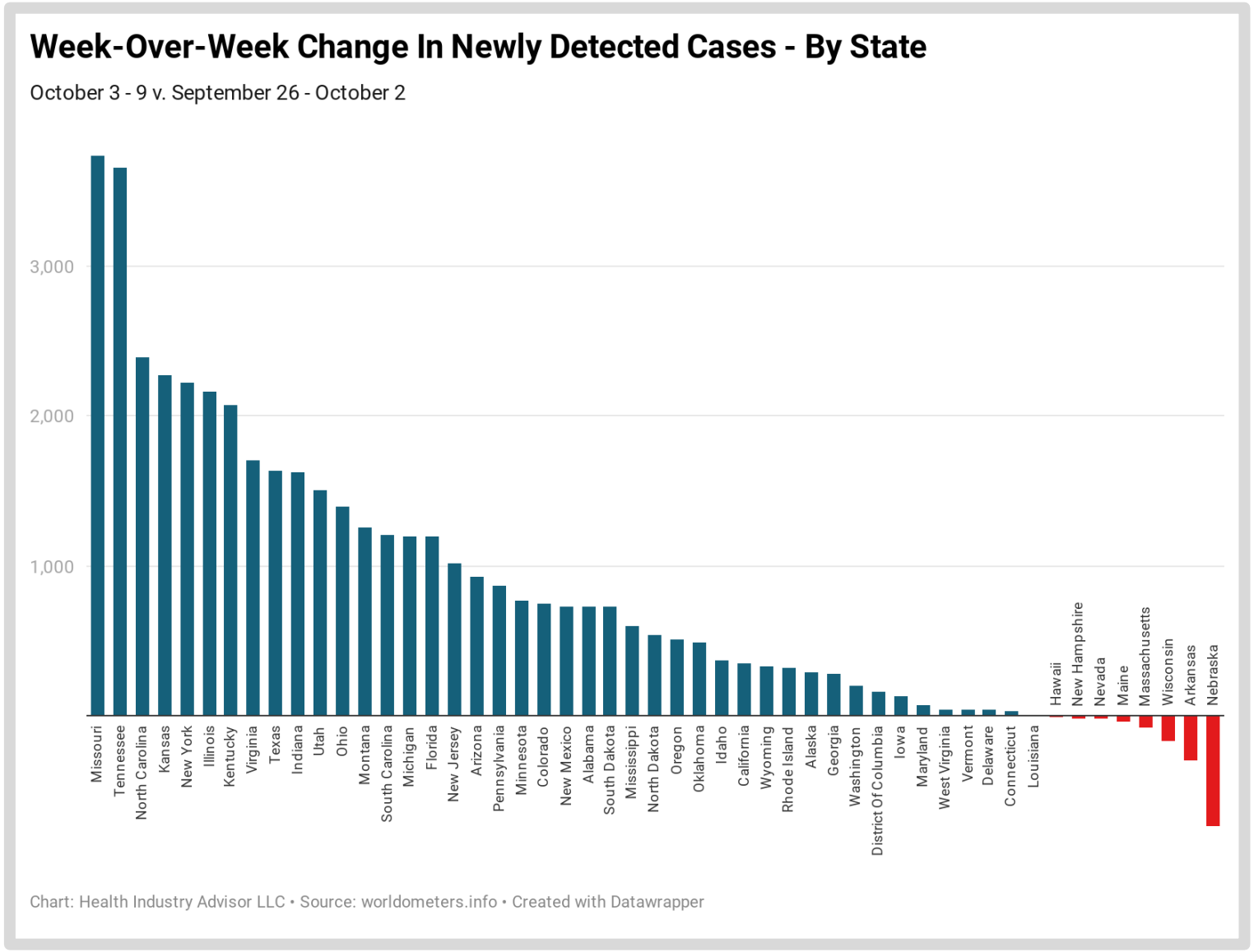
Week-over-week increases in newly-detected cases was significantly higher in Missouri and Tennessee than other states

North Carolina, Kansas, New York, Illinois and Kentucky also experienced large increases week-over-week in newly-detected cases

Nebraska experienced the largest decline week-over-week in newly-detected cases; Wisconsin, which has been hard-hit of late, also experienced a week-over-week decline in newly-detected cases



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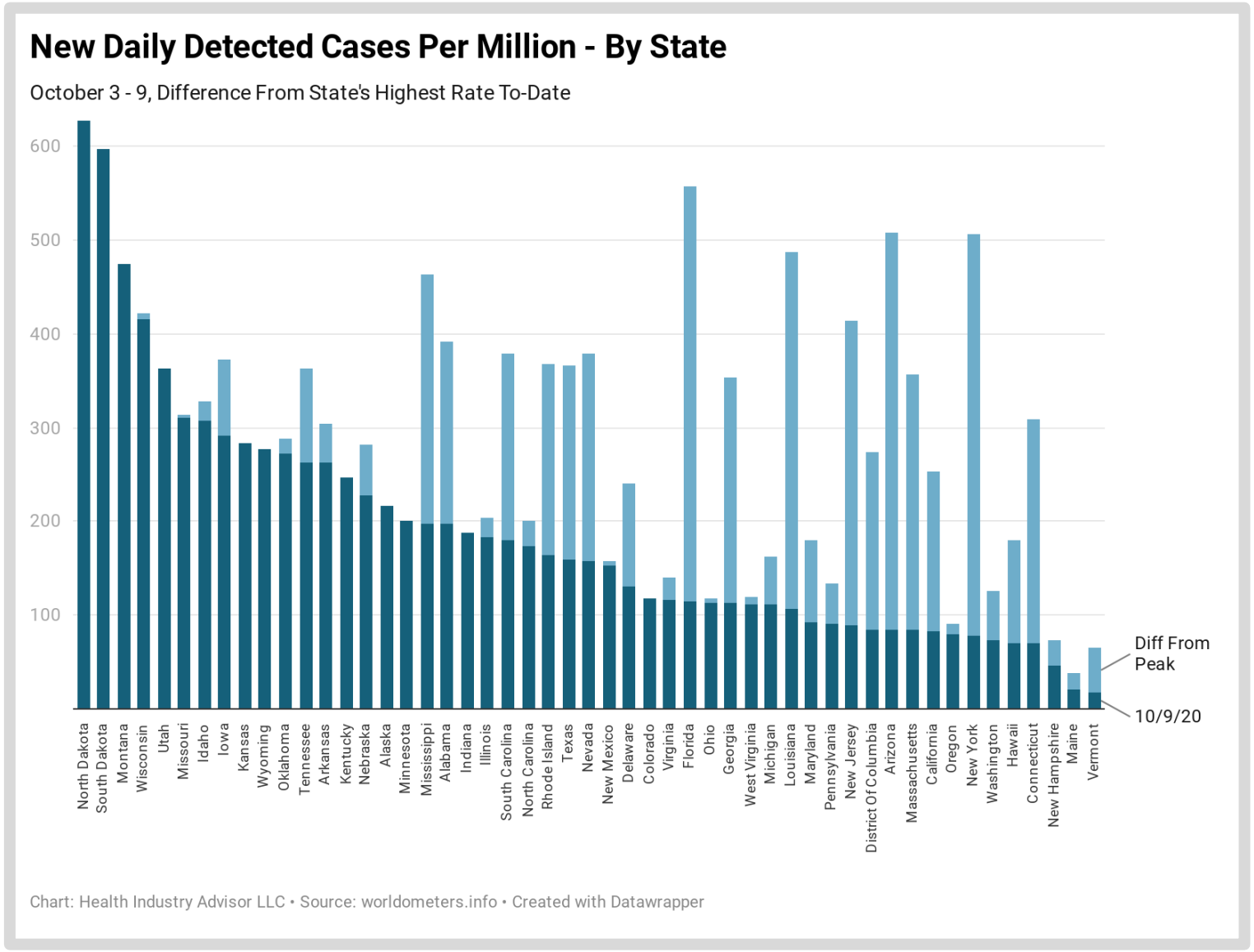
North and South Dakota have experienced the highest rates of newly-detected cases per capita over the past week; Also, these 7-day rates are higher than experienced by any state at any time during the pandemic

The states that experienced the next highest rates of newly-detected cases per capita during the past seven days – Montana, Wisconsin, Utah, Missouri and Idaho – are at or near highs that each have experienced during the pandemic

Florida, Arizona, New York and Louisiana , which rank 3rd-6th in peak levels of this rate, are now experiencing rates significantly below their peaks



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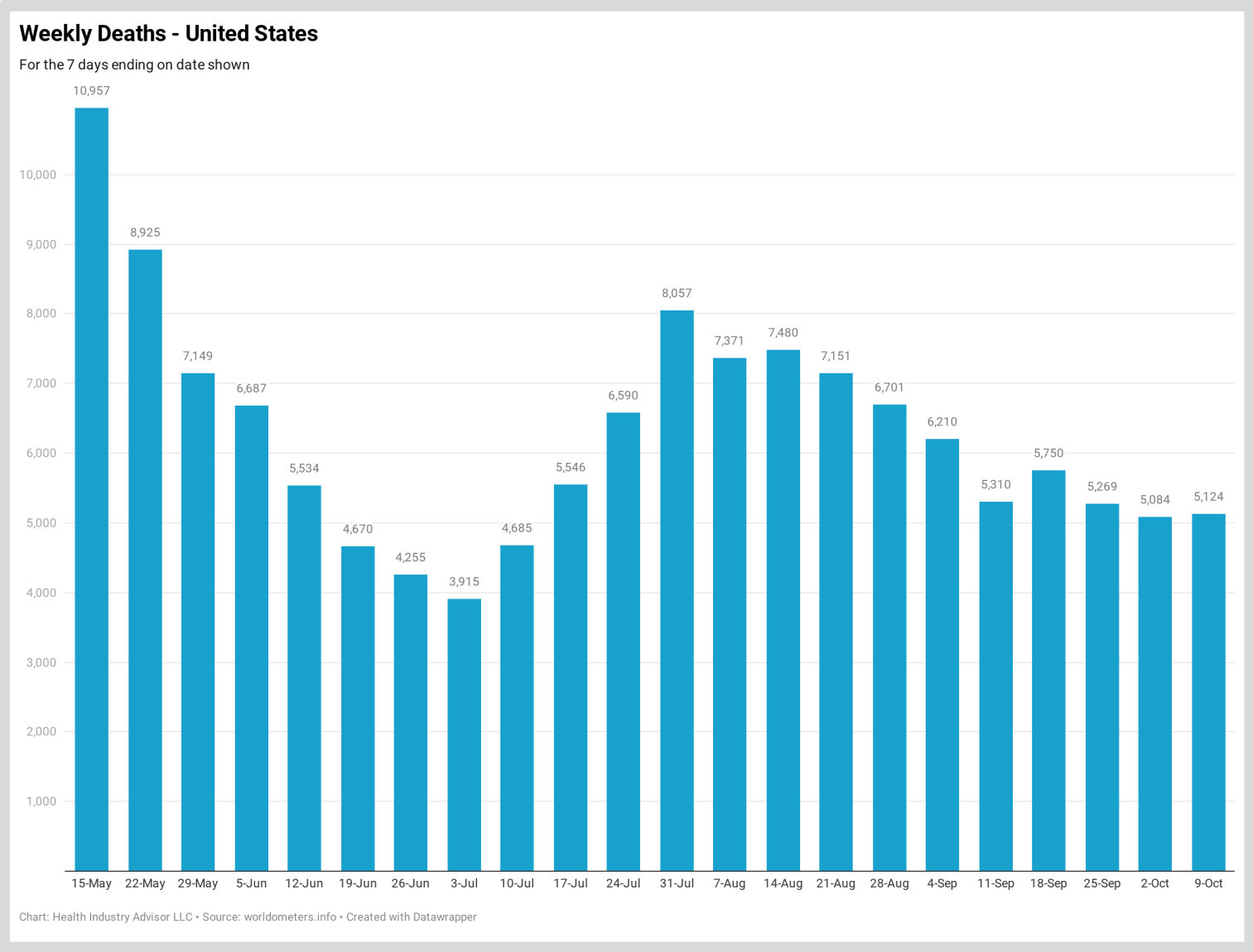
Deaths reported with the coronavirus in the U.S. increased slightly (<6/day) over the past week

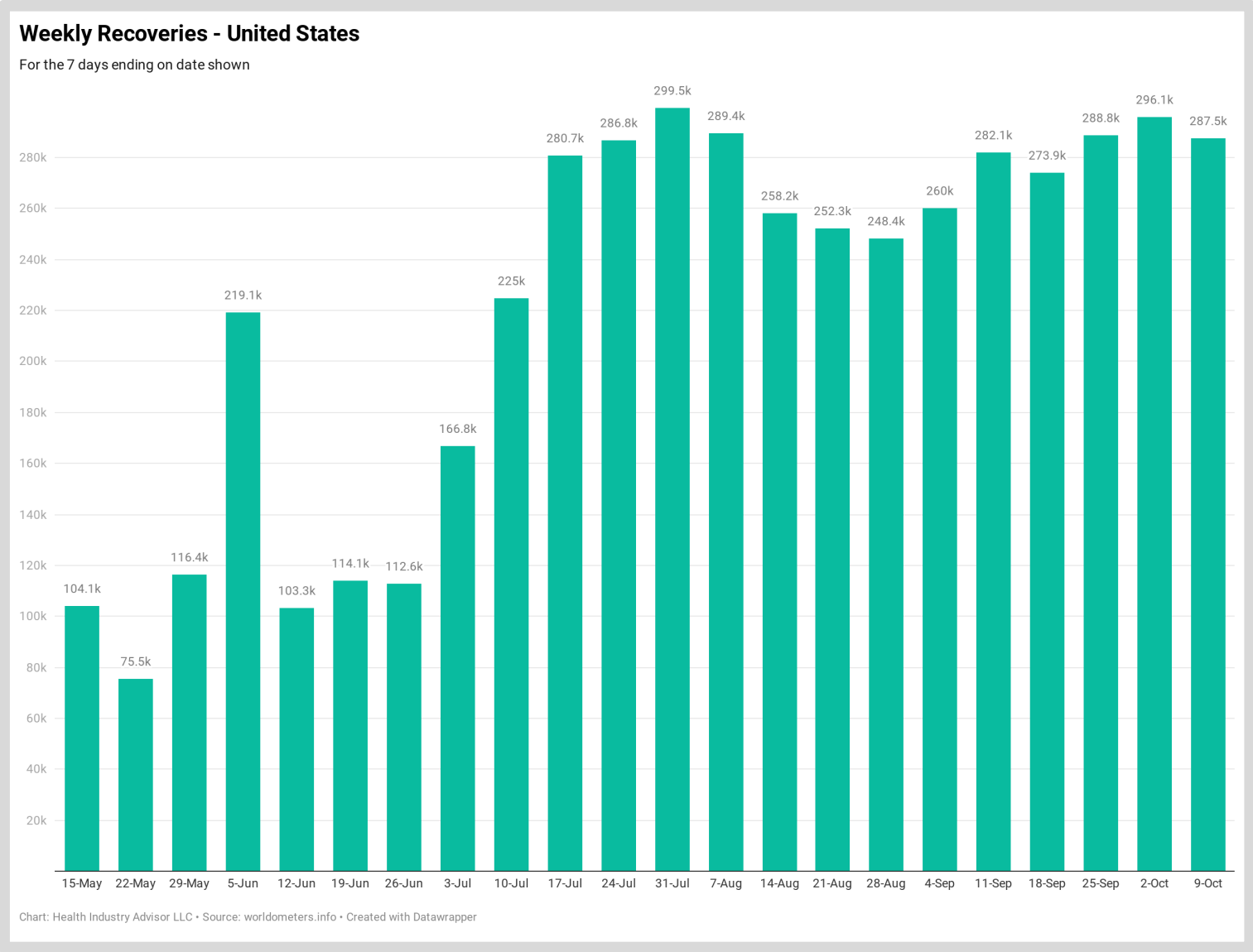
Since reaching a secondary peak on July 25-31, reported deaths were down 36% last week (53% since a primary peak on May 9-15)



Health Industry Advisor, llc

Recoveries from detected infections in the U.S. declined slightly from the prior week

More than 5M people in the U.S. have recovered from a detected SARS-CoV-2 infection



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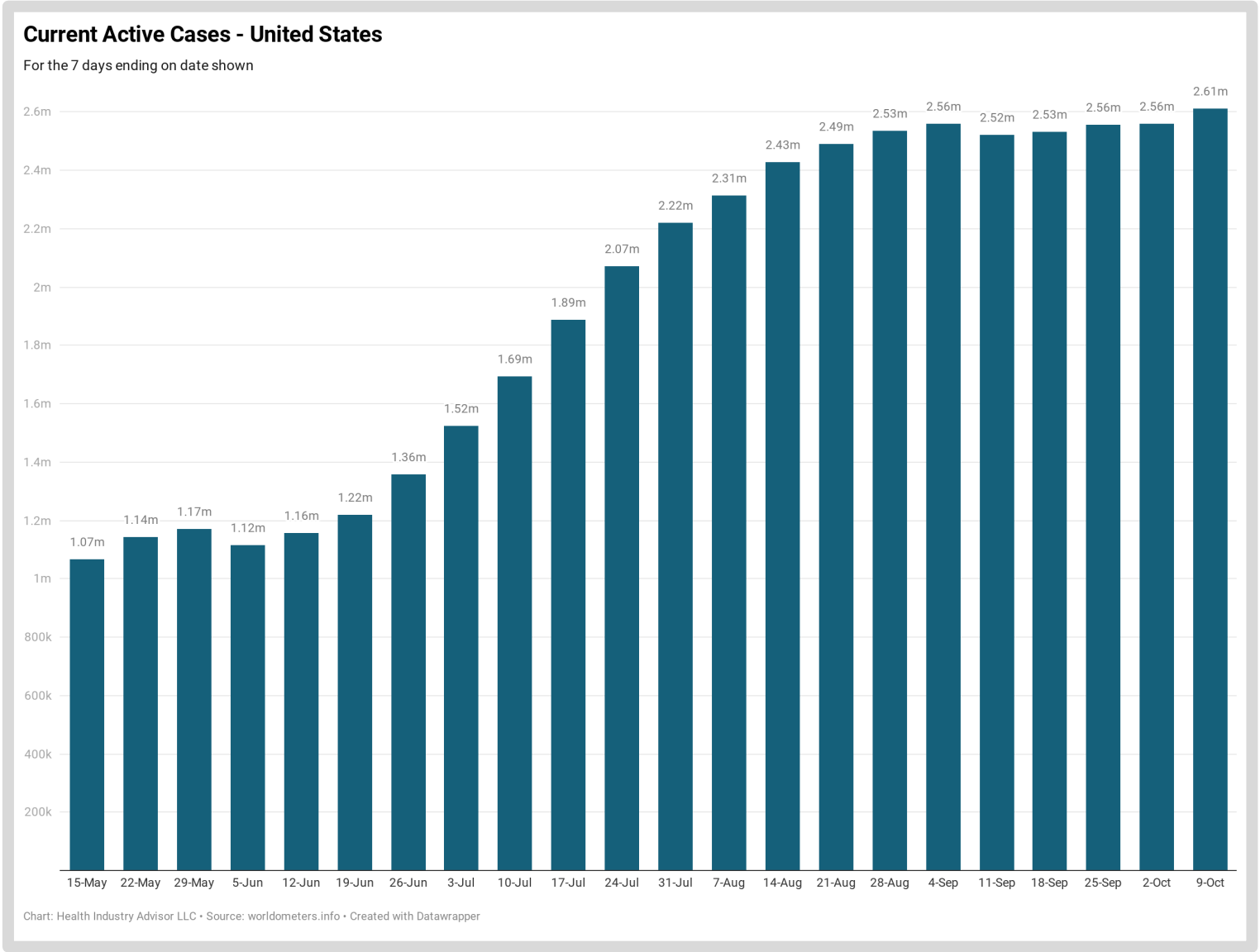
The estimated number of active, detected cases in the U.S. increased slightly on a week-over-week basis



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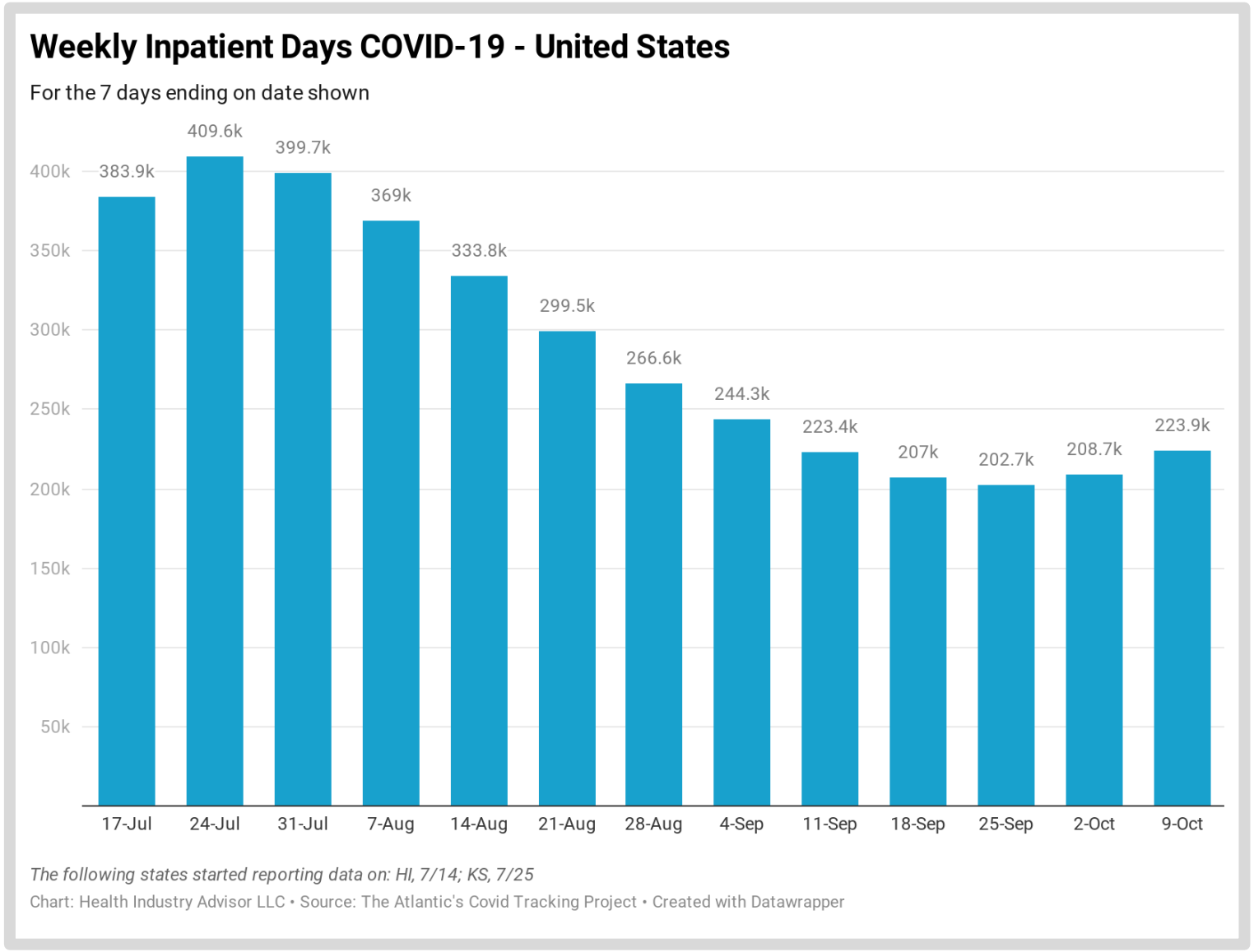
Inpatient COVID-19 census increased last week, for the second consecutive week

This census remains just more than ½ its July 18-24 level



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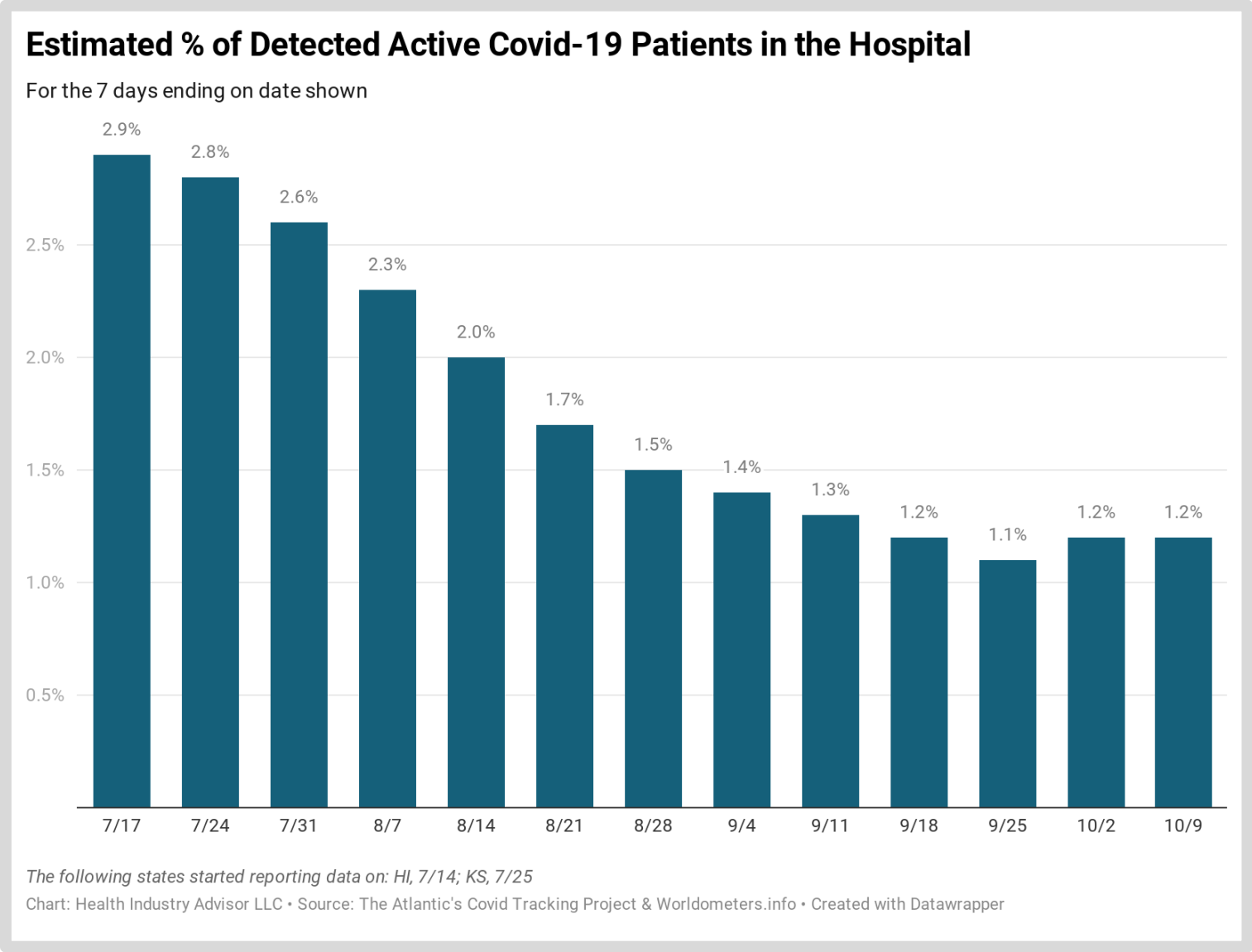
Despite the recent increase in Covid-19 inpatients , the likelihood of a detected & actively-infected person being in the hospital has been stable for the past four weeks

Further, this likelihood is nearly 60% lower now than it was in mid-July



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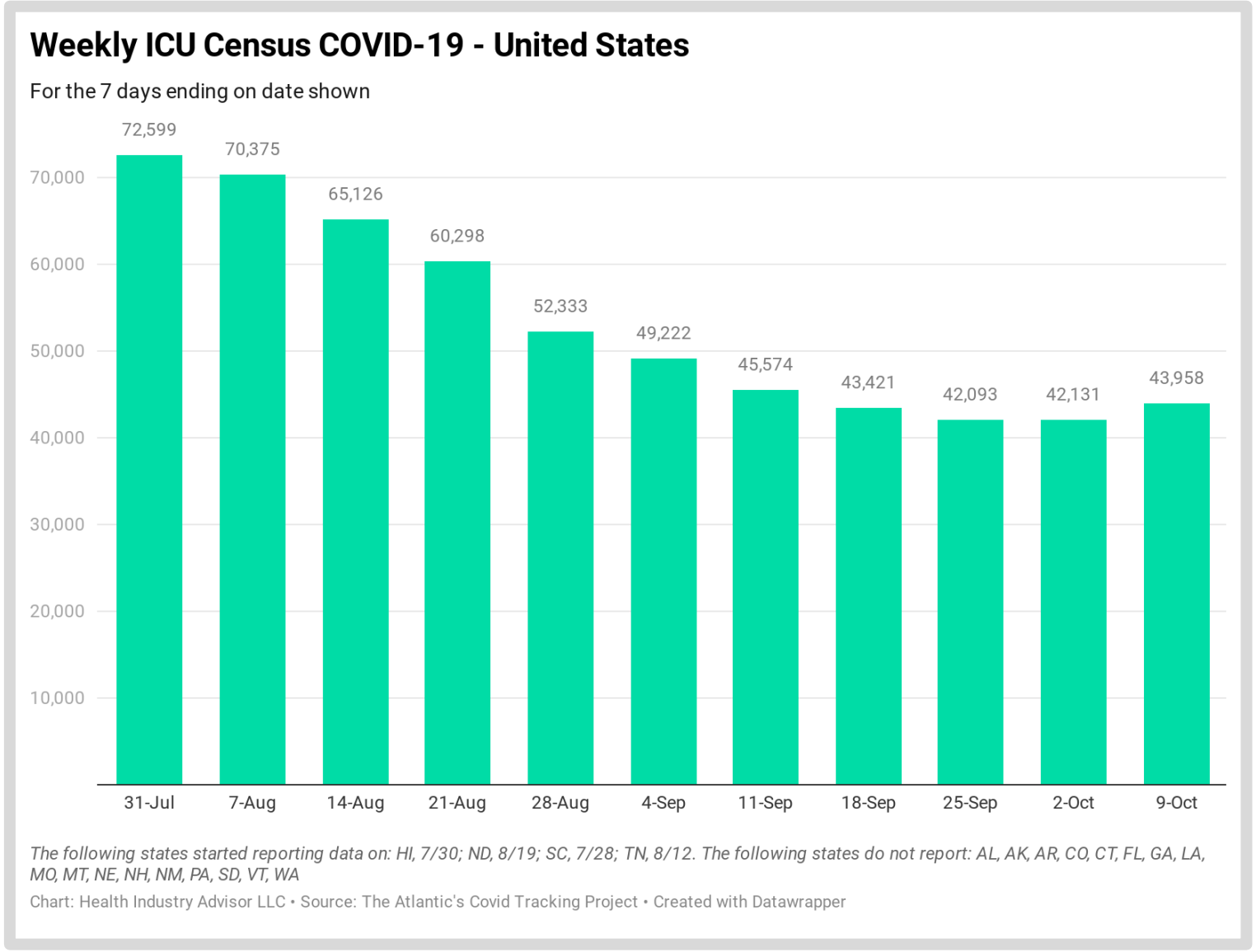
ICU census of COVID-19 patients increased on two consecutive weeks

This census is ~40% lower than the week of July 25-31



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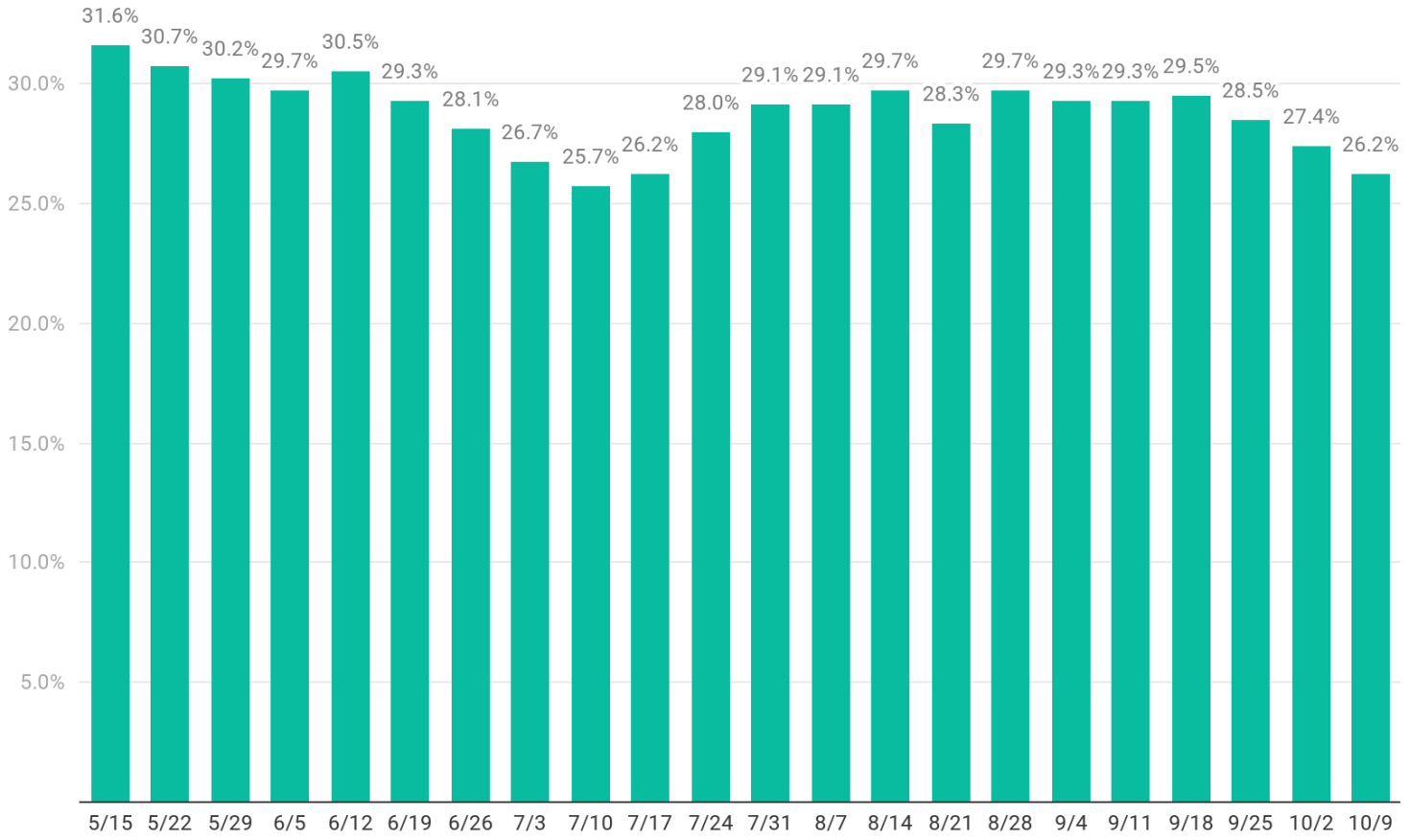
The likelihood of a patient hospitalized a a SARS-CoV-2 infection would be in the ICU declined for the third consecutive week

This likelihood has only been lower once since mid-May

Weekly Comparison of the % of Hospitalized Covid-19 Patients in the ICU

For the date shown



The following states started reporting data on: HI, 7/14; KS, 7/25

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

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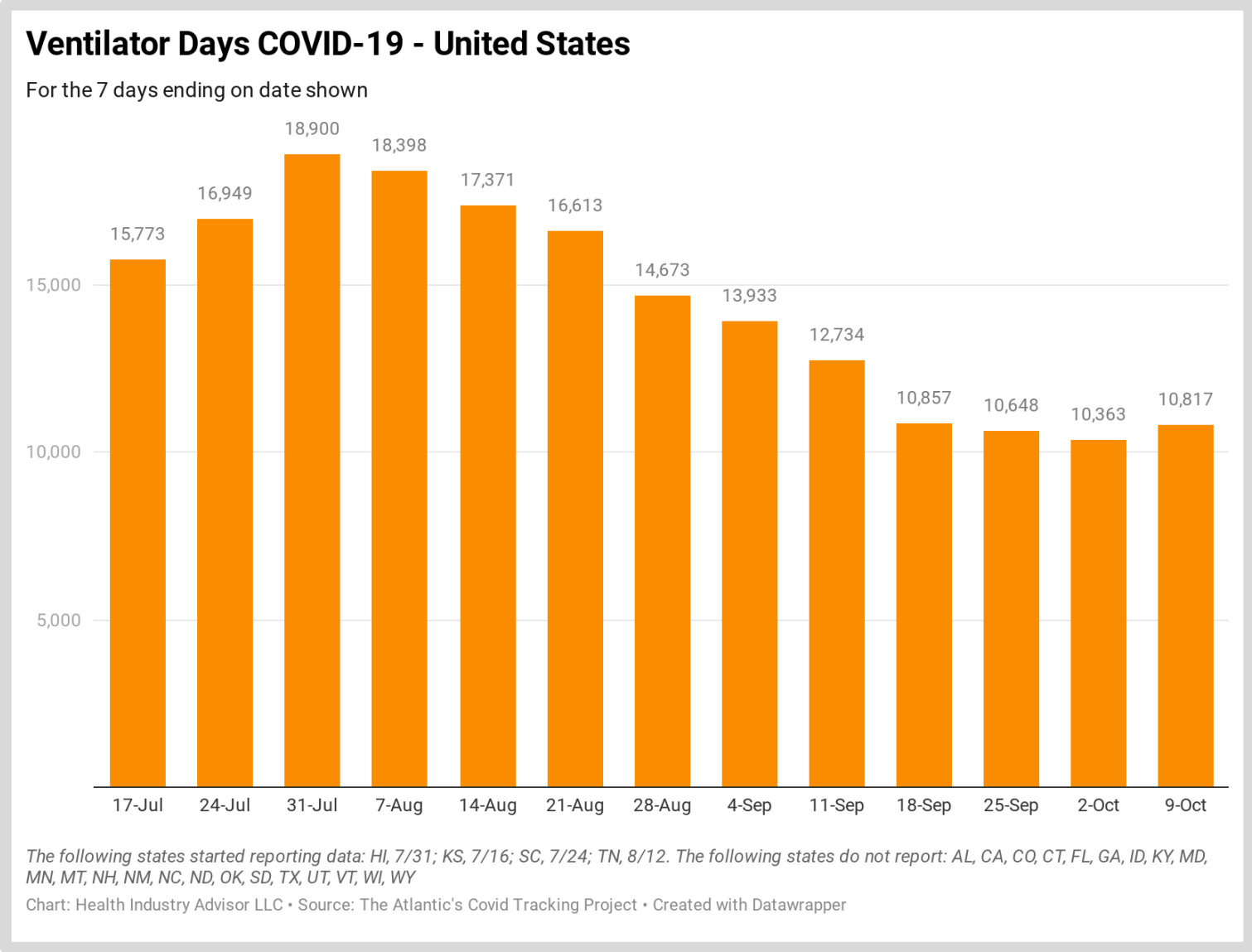
Census of COVID-19 patients on ventilators increased last week, interrupting a string of 9th consecutive week-over-week declines

This census is 42% lower than during it's late-July peak



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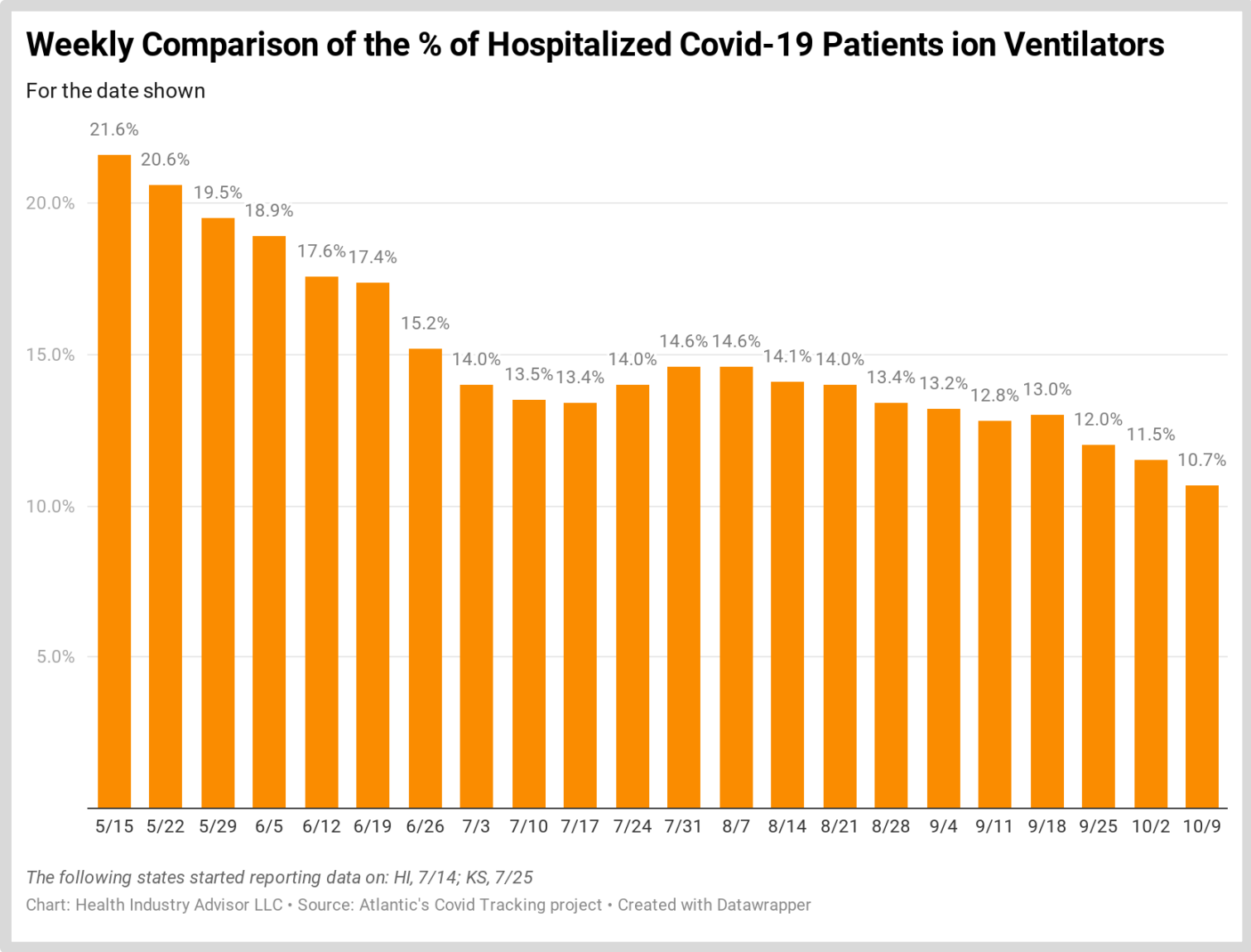
A reflection of changing treatment protocols, the likelihood of a person hospitalized with a SARS-CoV-2 infection declined again last week. As it has done for eighteen of the past twenty-two weeks

During these twenty-two weeks, the likelihood of COVID patient requiring a ventilator has been cut by more than 1/2



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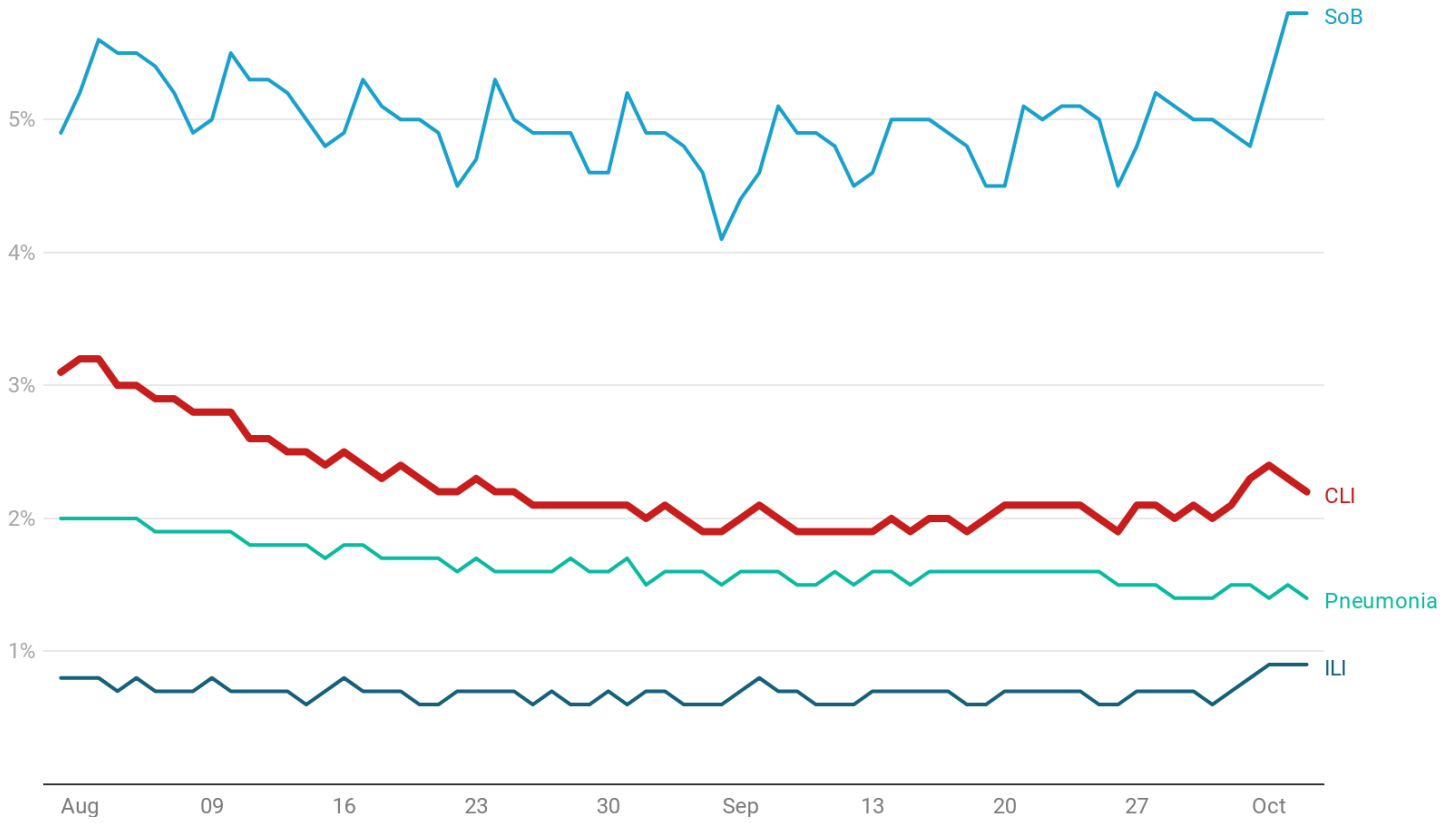
The % of ER visits for COVID-19-like illnesses (CLI) showed a modest increase foe a few days past week, before easing later in the week; this rate remains less than ½ of what it was in mid-July

Flu season is not in evidence yet, based on the current low rate of influenza-like illness (ILI) visits to the ER

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

As of October 6



Health Industry Advisor LLC analysis

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