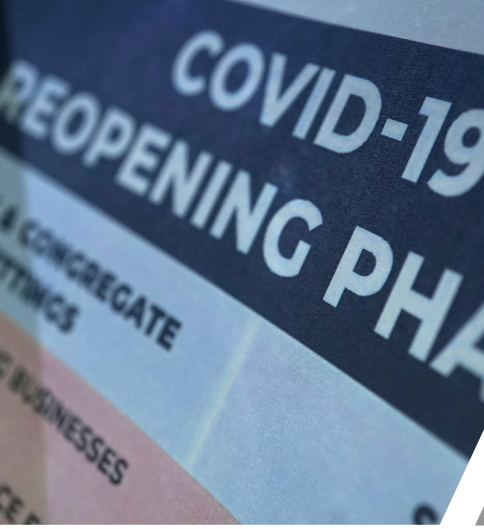

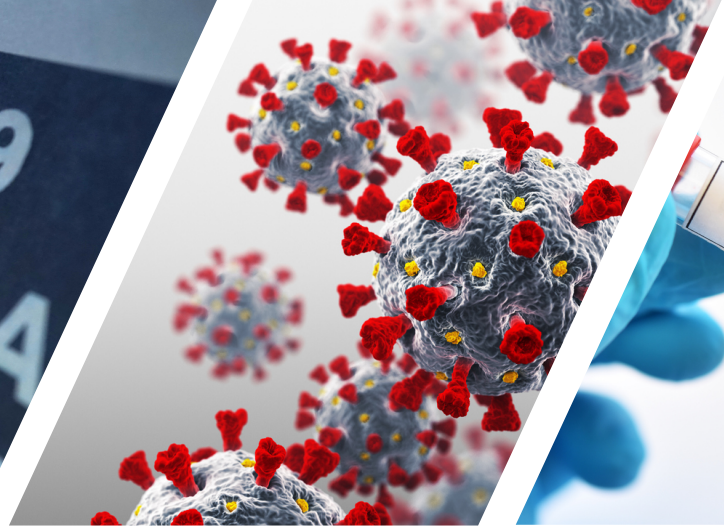

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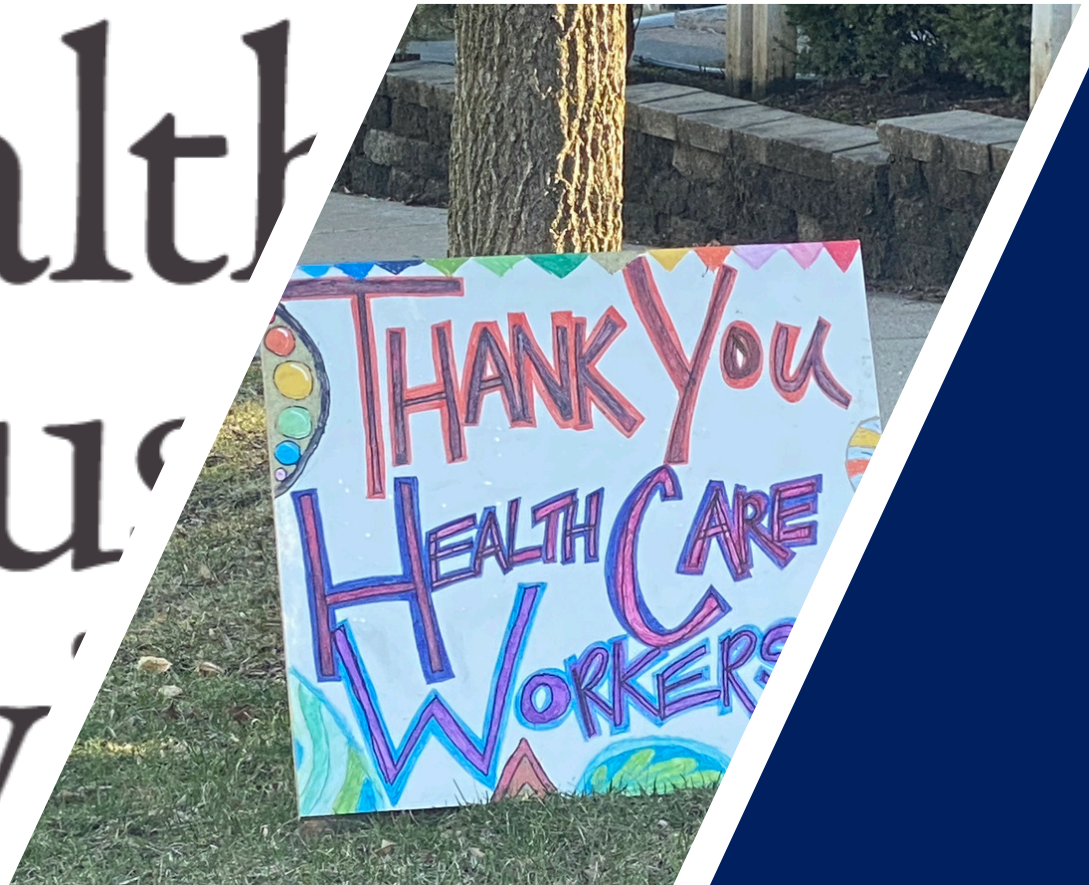


Issue # 170

Friday, September 25, 2020

COVID-19 Report

Highlights

- Metro Areas Home to Major Universities
  - Each Friday, we refresh our analysis of thirty-three Metro Areas that are home to major universities. Please note this analysis reflects the metro area (typically, a county), not specially the campus
  - **Twenty-five of these thirty-three areas experienced new daily infection rates higher than the U.S. average for the past 7 days**
    - **The Metro Areas home to Penn State University, the University of Florida and Kansas State University experienced the highest infection rates per capita during the past week among the thirty-three areas in our analysis; Metro Areas home to North Carolina State, Virginia, Michigan, Wake Forest, North Carolina and Cornell experienced the lowest rates**
    - Six Metro Areas - those home to the University of Florida, Florida State University, Michigan State University, Penn State University, Virginia Tech and the University of Wisconsin - experienced infection rates through yesterday significantly higher than on September 1. In each case, however, these rates have declined in the past week
    - **Four Metro Areas - those home to Kansas State University, the University of Notre Dame and the University of Oklahoma - experienced significantly higher infection rates this past week relative to the prior week**
    - **Metro Areas - those home to the University of Georgia, University of Iowa, Iowa State University, University of Mississippi, Mississippi State University and the University of Missouri - have experienced significant declines in new infection rates since the beginning of September**

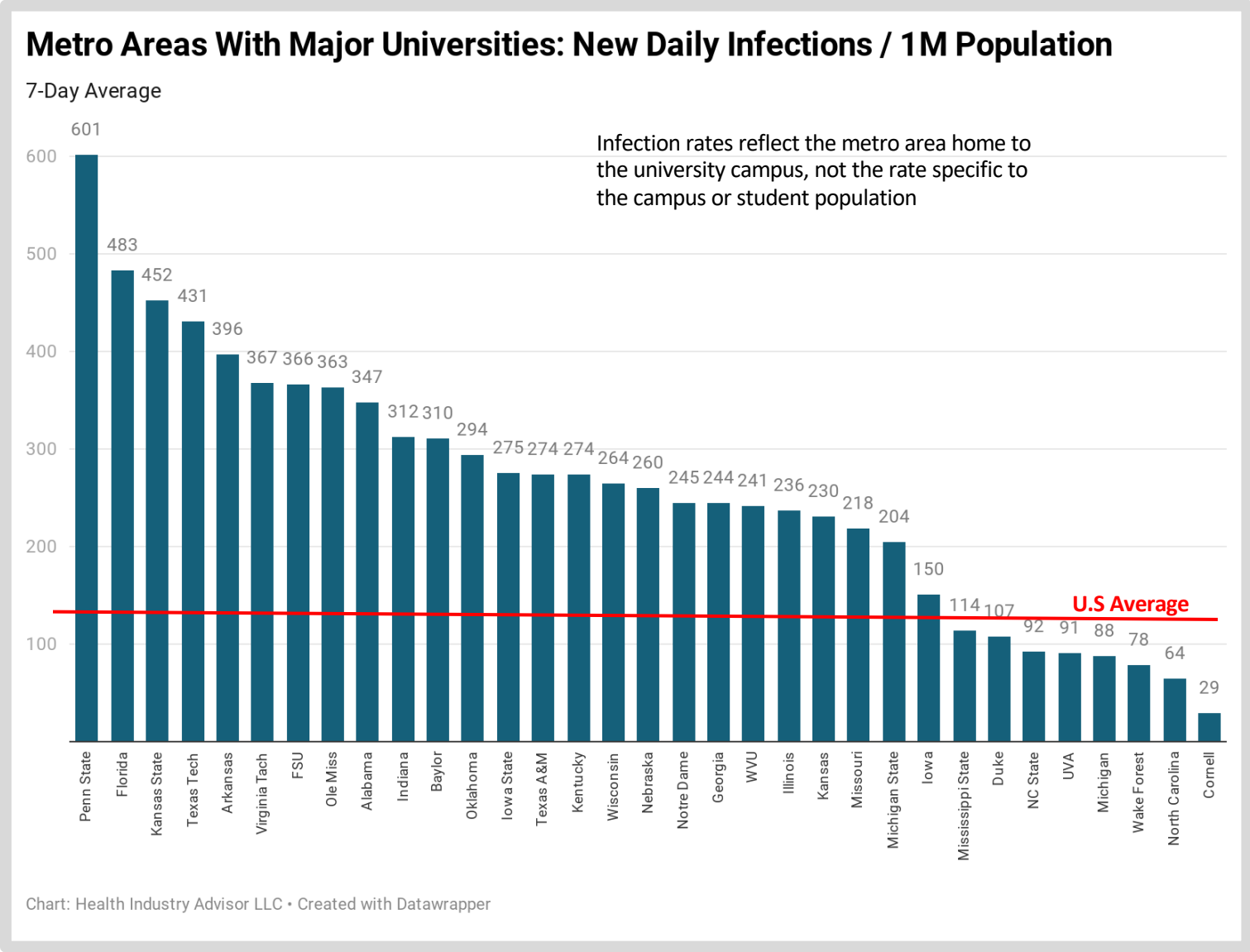
- New Infection Rates For the U.S., By State and Metro Area
  - **The new daily infection rate per capita for the U.S. has now been essentially flat for the past week**
  - **New cases are up just 1% week-over-week; this rate of increase has been falling for the past five consecutive days**
  - There were fewer new cases yesterday than any Thursday since June, except for the week of Labor Day
  - **New daily infection rates are highest in North and South Dakota, Wisconsin, Utah, Oklahoma, Iowa and Arkansas; rates are lowest in Vermont, New Hampshire and Maine**
  - There are thirty-two Large Central and Large Fringe (U.S. Census Bureau definitions) that experienced > 250 new daily infections per million for the past seven days; Seven of these are in Texas, including three of the four with the highest overall rates; four are in Tennessee and Oklahoma; and three are in Illinois and Wisconsin
- Healthcare Resource Use for COVID-19
  - **Both inpatient and ICU census of COVID-19 patients reached lows and September 20 and have increased since (5% and 2.6%, respectively); these remain significantly lower than mid-July peaks**
  - **As a % of ER visits, visits for COVID-19 like illness continued to decline**
  - Ventilator use continued to decline, as a % of hospitalized COVD-19 patients
- Deaths With Coronavirus
  - The 7-day average daily deaths increased slightly yesterday
  - There were 80 more deaths reported yesterday than last Thursday; nevertheless, these were fewer than the number of deaths reports on the previous nine Thursdays

Metro Areas Home to Major Universities:

Of the 33 major areas in our sample, 25 are experiencing infection rates higher the the national average

Areas home to Mississippi State, Duke, North Carolina State, Virginia, Michigan, Wake Forest, North Carolina and Cornell are faring better than the national average

* 7-day average



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Metro Areas Home to Major Universities:

Metro areas home to the Kansas State, Oklahoma, Notre Dame and West Virginia have experienced worsening infection rates over the past week

Metro areas home to the Florida, Florida State, Michigan State, Penn State, Virginia Tech and Wisconsin experienced higher infection rates than at the beginning of the month but, have improved in the past week

* 7-day average

New Daily Infections / Million: Metro Areas Encompassing Major Universities - Trending Worse Over Past 7 Days or in September

Trailing 7-Day Moving Average

Infection rates reflect the metro area home to the university campus, not the rate specific to the campus or student population

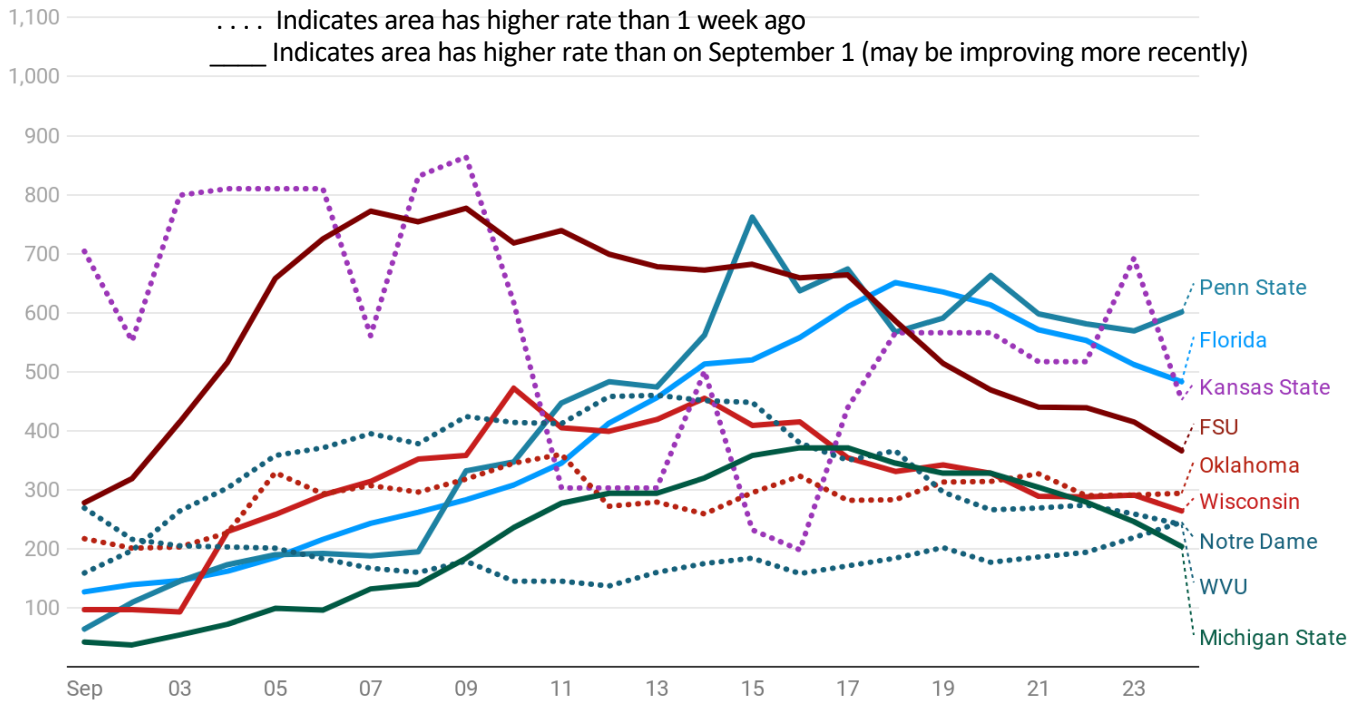

Chart: Health Industry Advisor LLC • Created with Datawrapper

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Metro Areas Home to Major Universities:

Metro areas home to the Universities of Florida State, Indiana, Michigan State and Virginia Tech have experienced declining infection rates over the past week; these remain higher than at the beginning of the month

Metro areas home to the Universities of Missouri, Georgia, Mississippi and Mississippi State have experienced declining rates for most of the month

* 7-day average

New Daily Infections / Million: Metro Areas Encompassing Major Universities - Trending Better Over Past 7 Days or in September

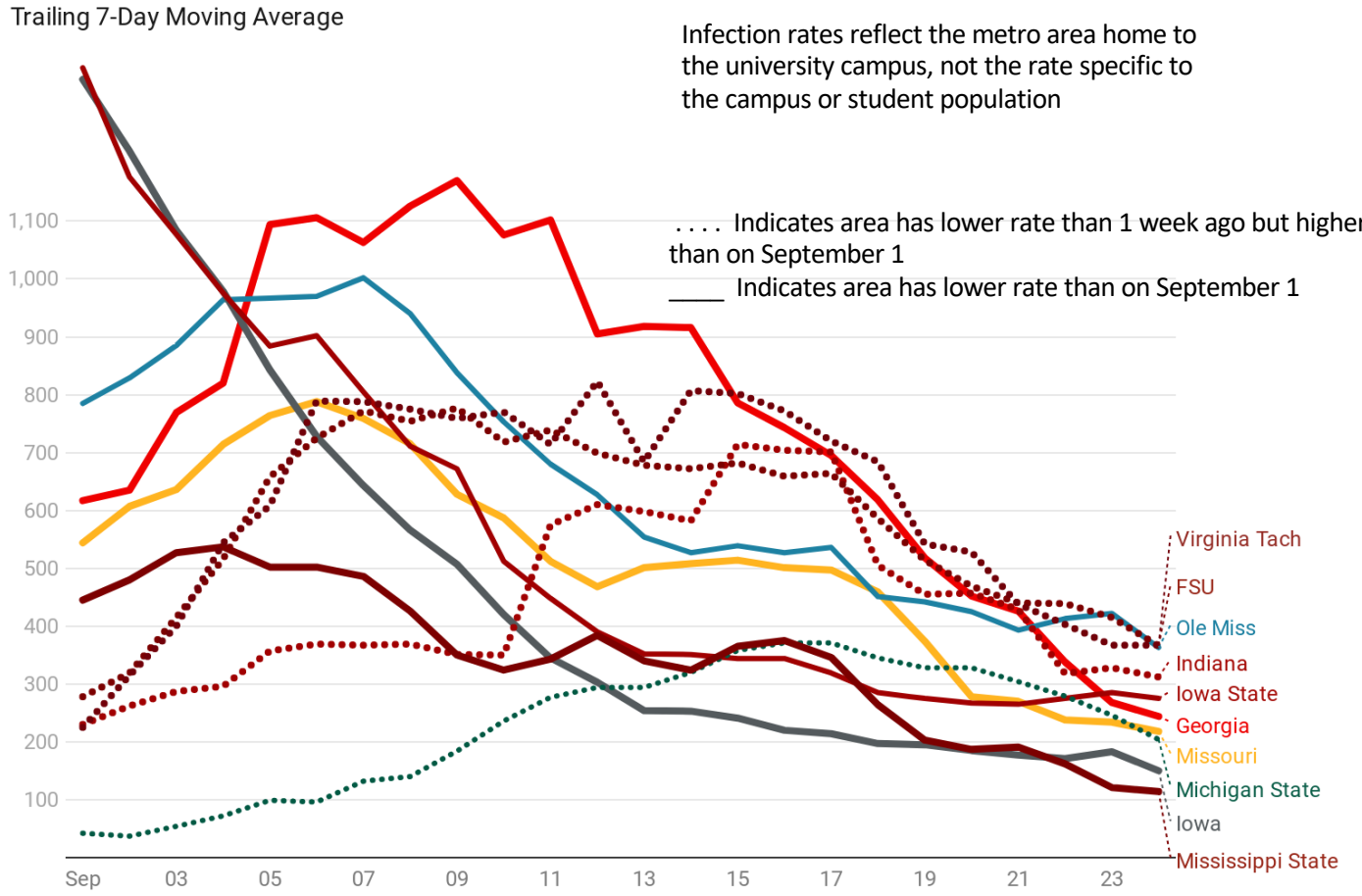

Chart: Health Industry Advisor LLC • Created with Datawrapper

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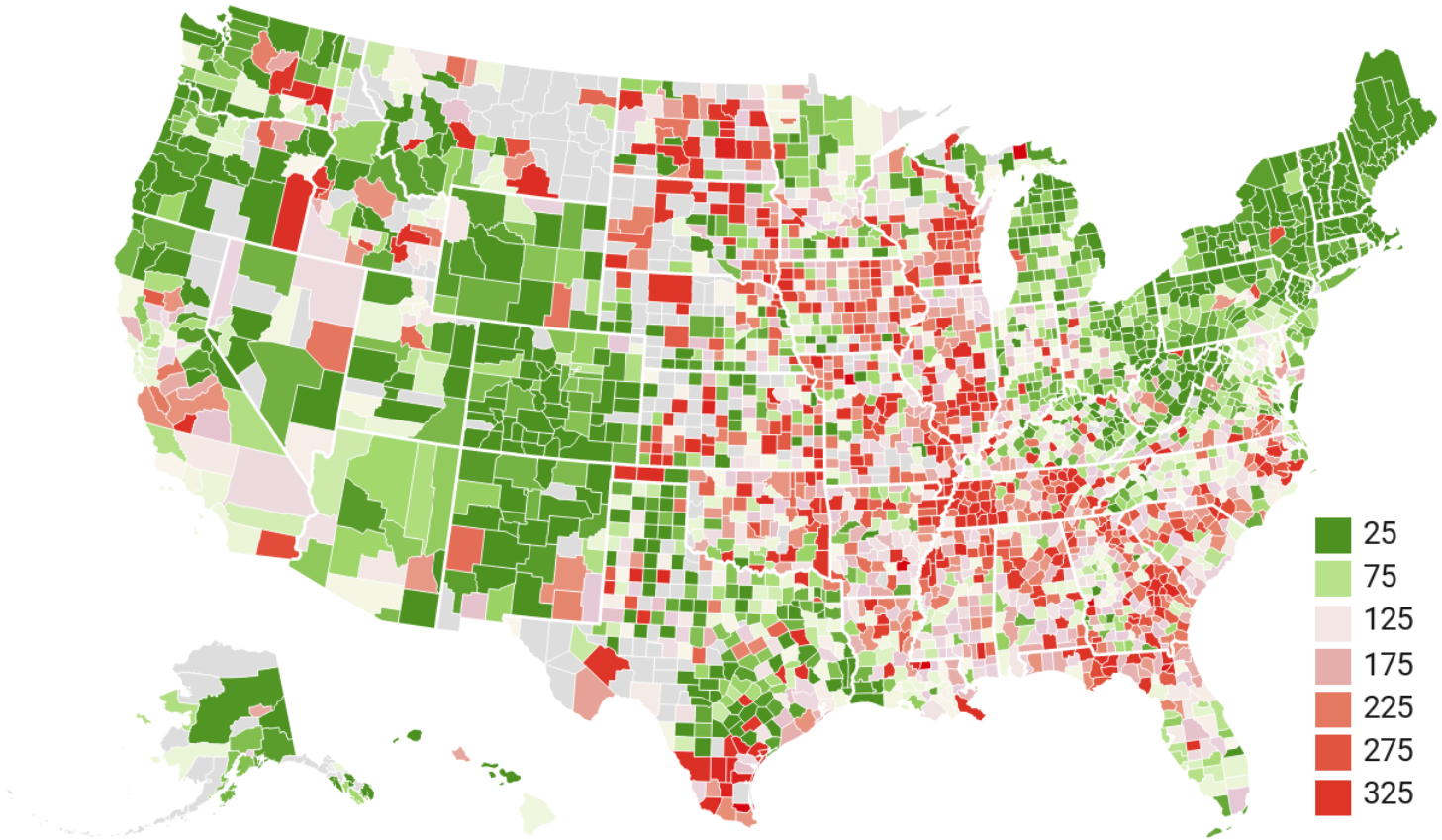
Highest rates of new daily infections* are concentrated in metro areas in the center of the country, as well as parts of the Southeast

* 7-day average

New Daily Infections / 1M Population

7-day moving average, as of September 24



Map: Health Industry Advisor LLC • Created with Datawrapper

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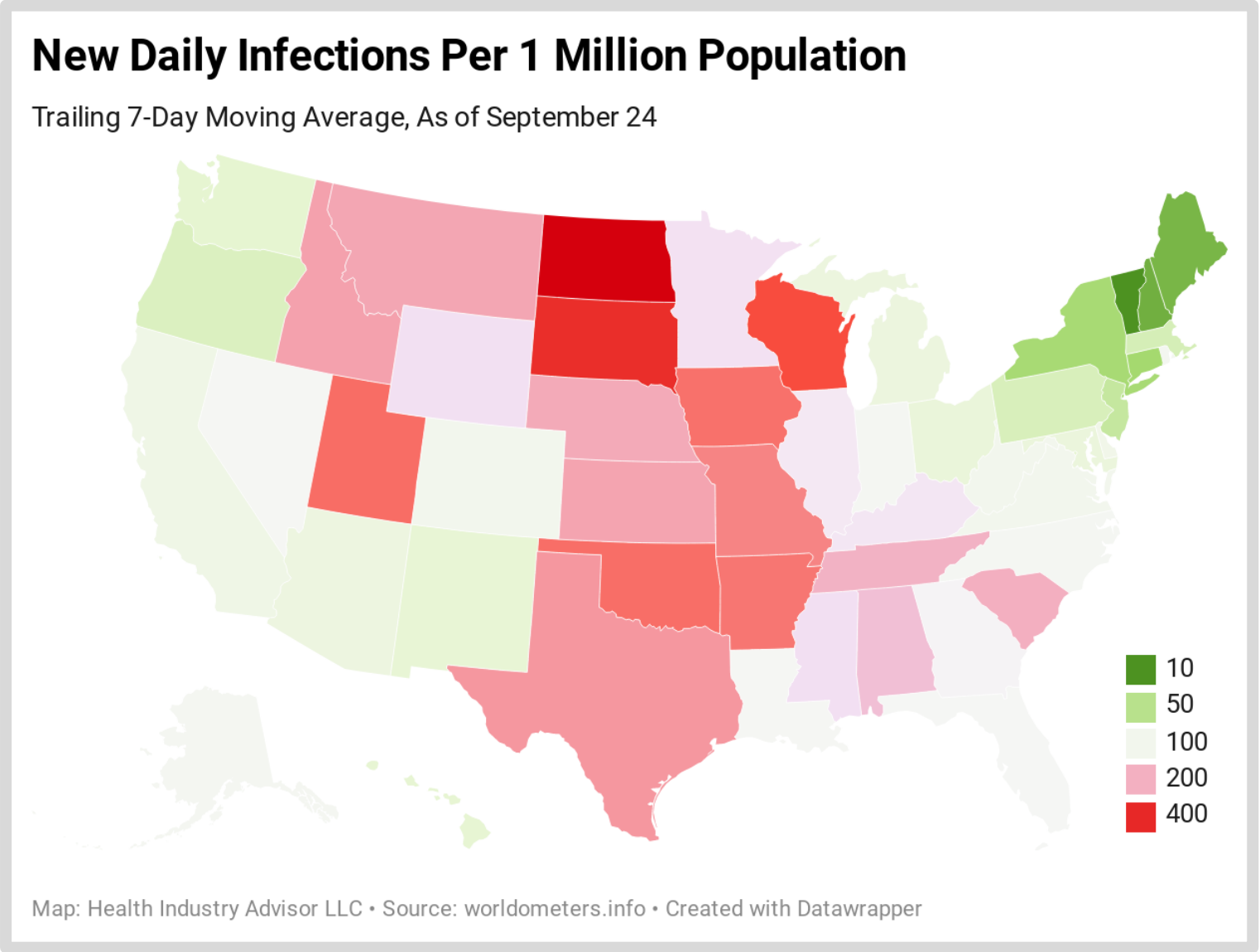
Infection rates* are highest in the North and South Dakota and Wisconsin, Utah, Oklahoma, Iowa and Arkansas (each >275/M per day

Eighteen states and the District of Columbia experienced rates < 100

Vermont's rate has the lowest rate: 4 new daily infections per million; New Hampshire and Maine are the next lowest, at 24 and 27 respectively



* - 7-day moving average basis

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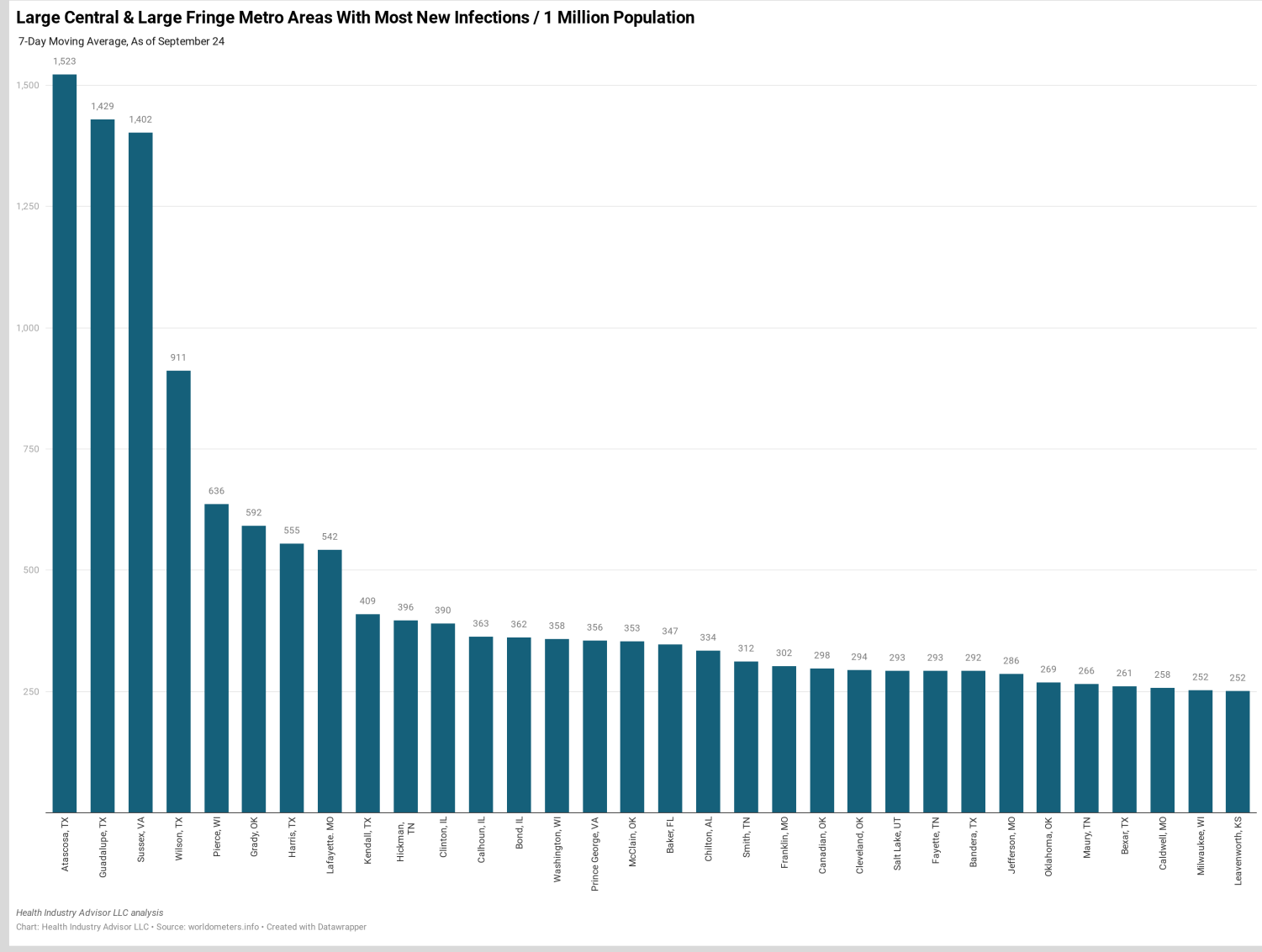
There are 32 Large Central and Large Fringe Metro Areas with new daily infections per million* > 250

Texas leads this list with 7, including three of the four highest

Tennessee and Oklahoma each of four on this list

Wisconsin and Illinois each have 3

* 7-day average



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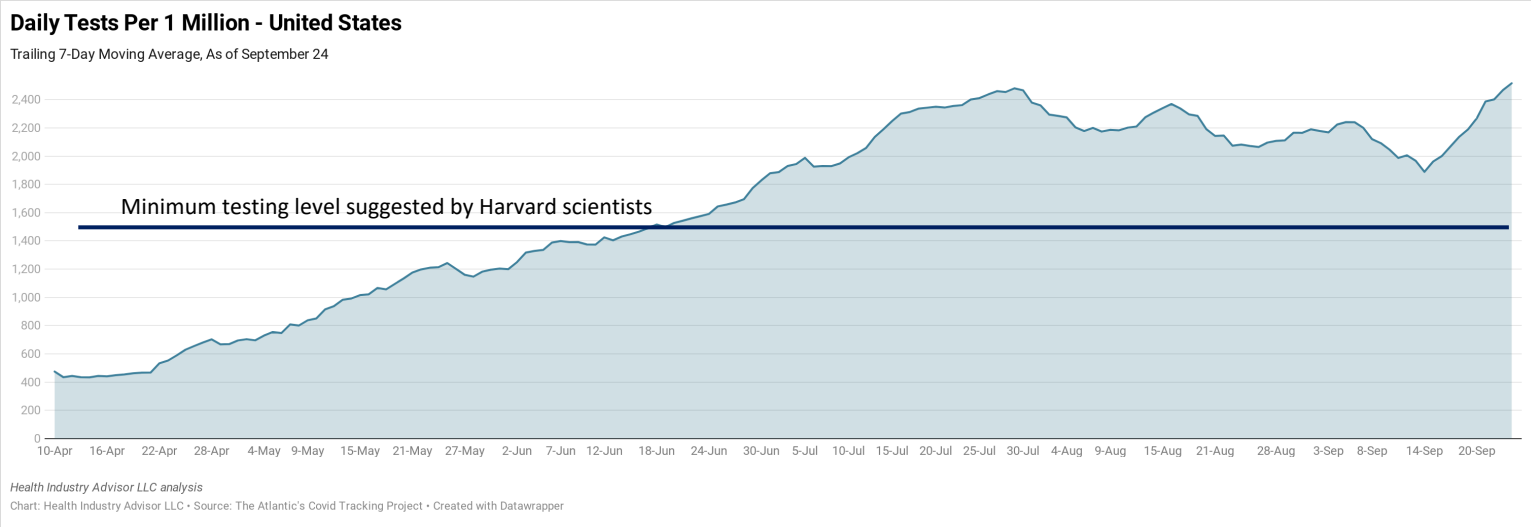
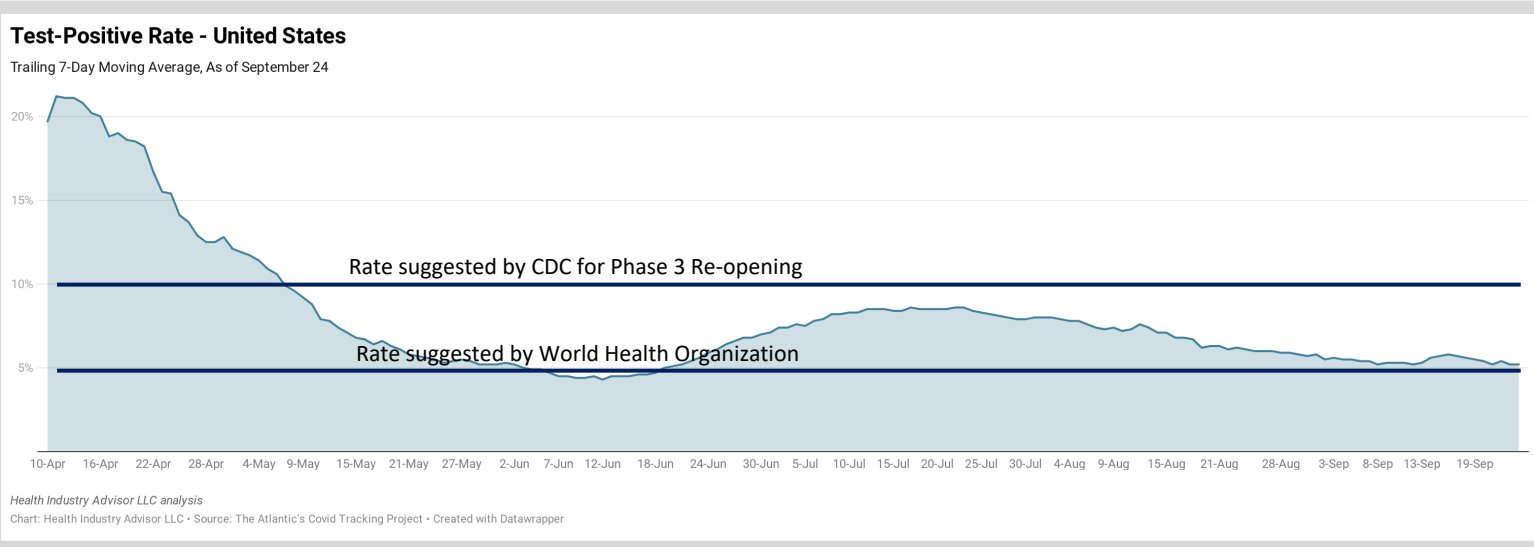
7-day average daily test volume as of yesterday was highest volume to-date; this rate has increased 21% week-over-week

The test-positive rate was at or below 5% on both Wednesday and Thursday; the 7-day average test-positive rate is as low as it has been since June 27





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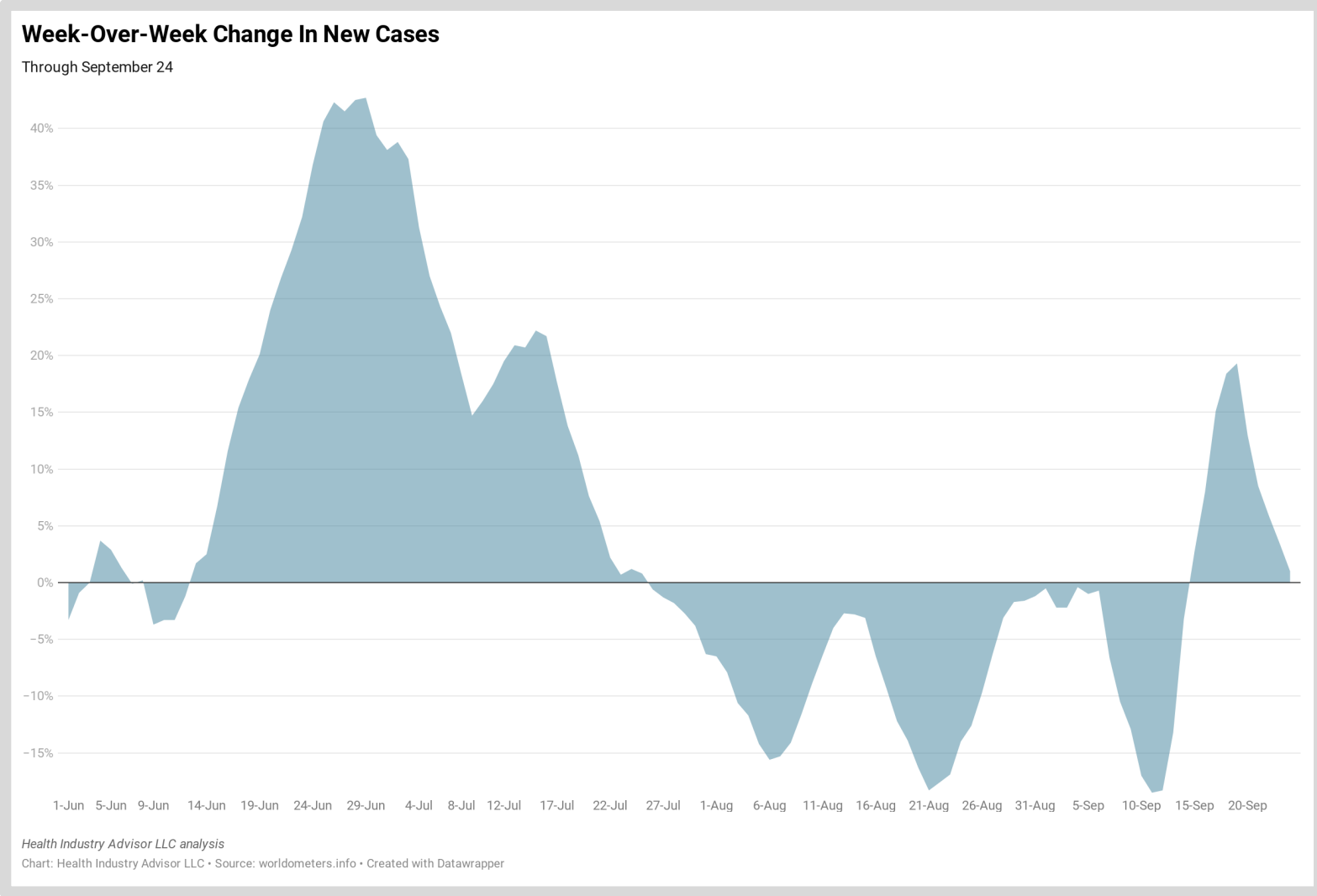
Following a seven-week period of decline, new cases began increasing on a week-over-week basis nine days ago.

Yesterday, this rate was up just 1% versus a week ago (although the rate of increase has declined each of the past five days)



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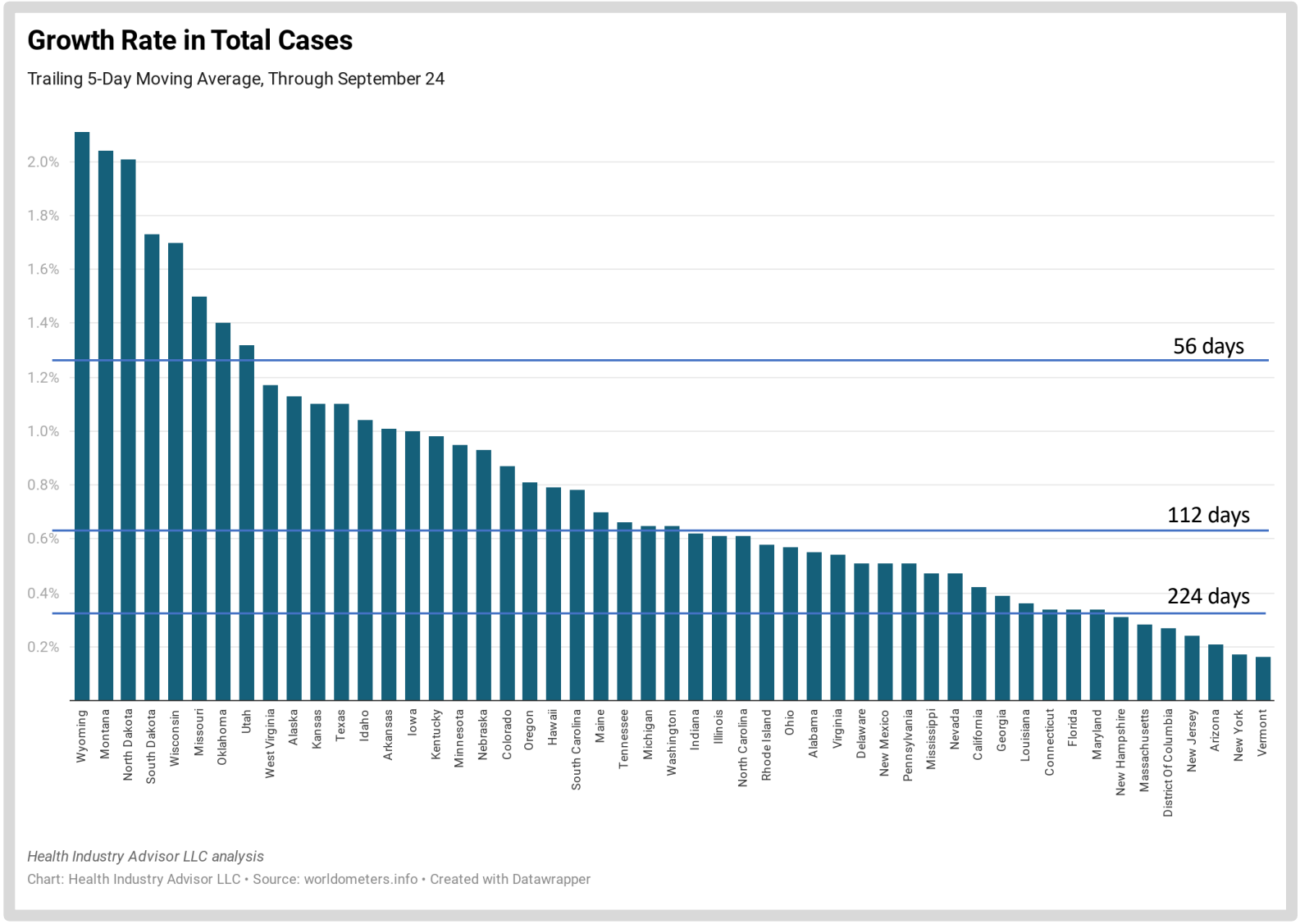
Case growth:

At current rates, cases are doubling every 33-34 days in Wyoming

Every 425 days in Vermont

Every 127-128 days for the United States overall



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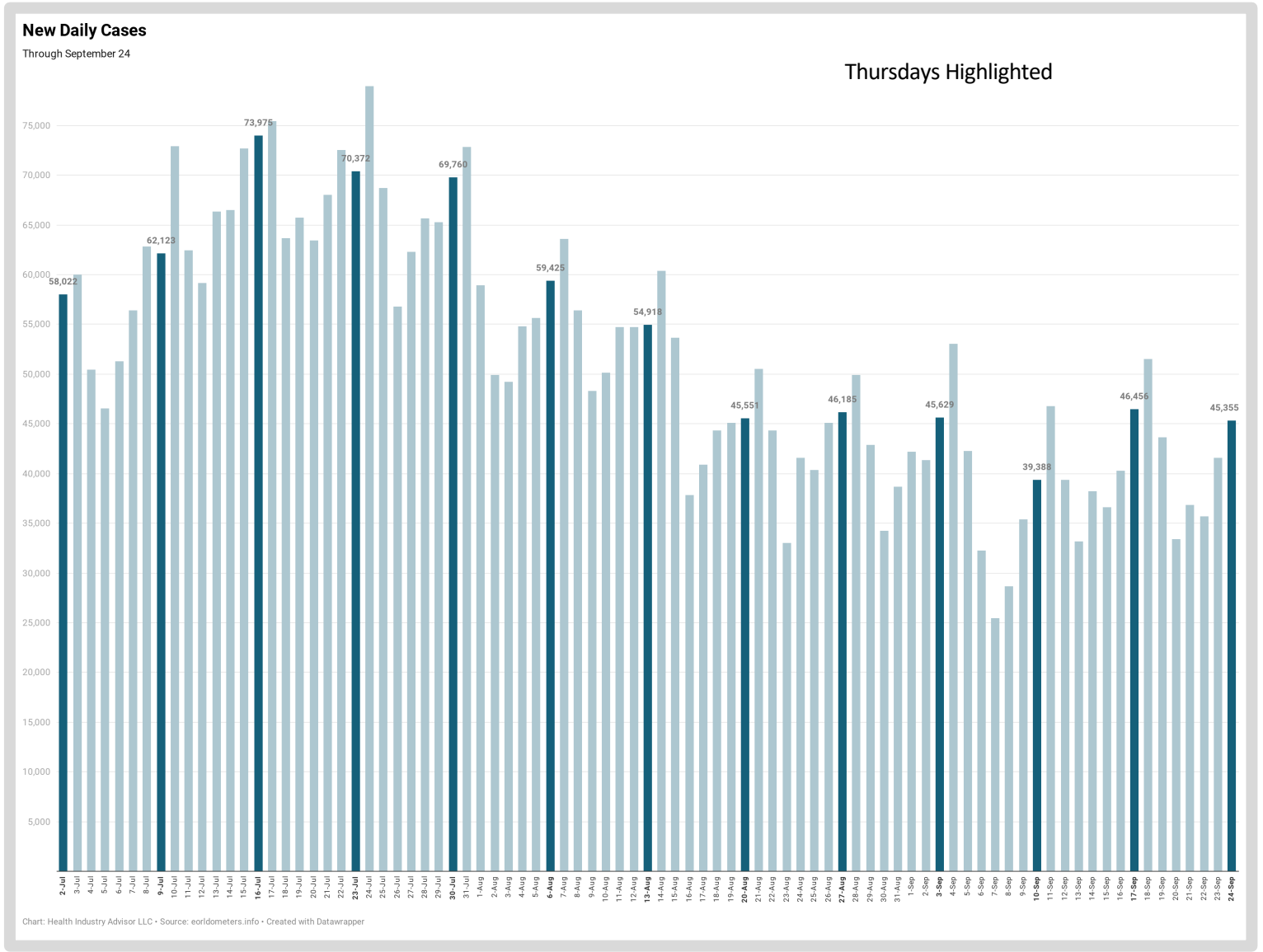
There were fewer new cases on Thursday than any Thursday since June, with the exception of Labor Day week



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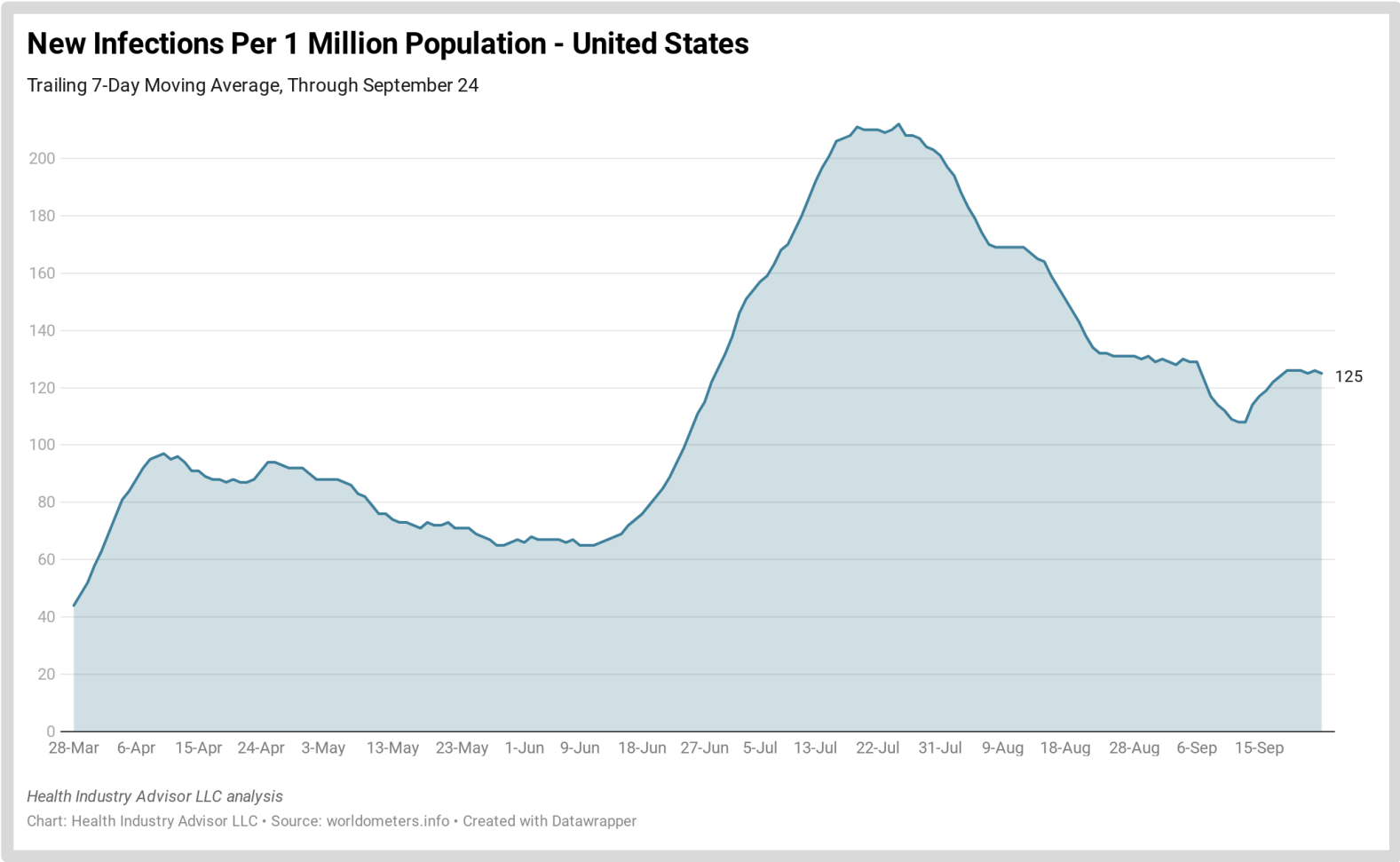
New infections per capita in the U.S.* bottomed-out on September 12 then increased through the end of last week

The current rate has been essentially flat for the past week



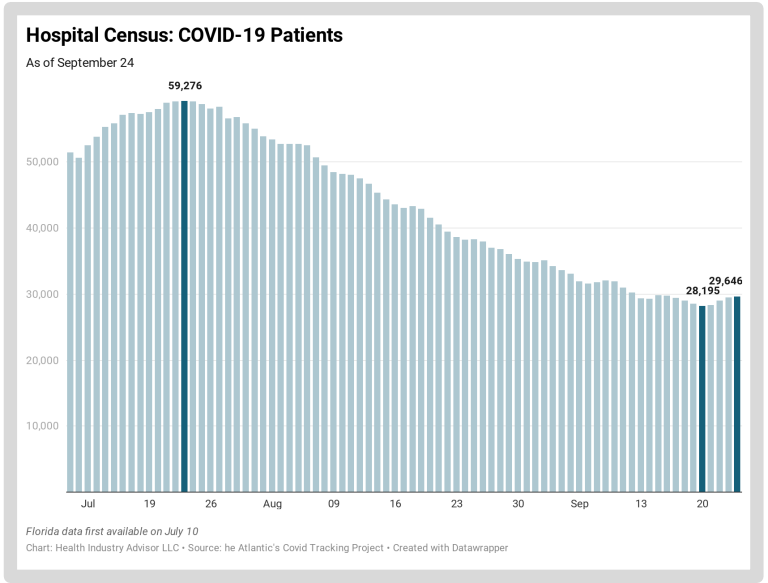
* - 7-day moving average basis

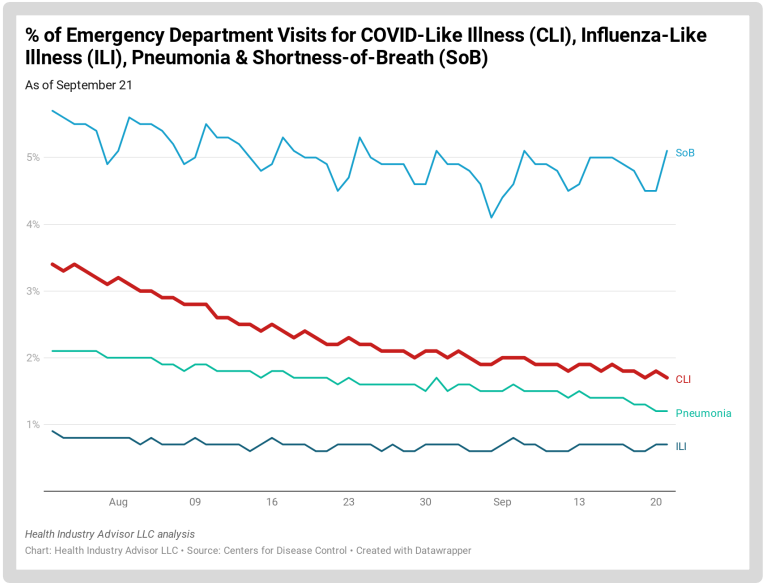
Inpatient and ICU COVID-19 census both reached lows on September 20 and have increased slightly since

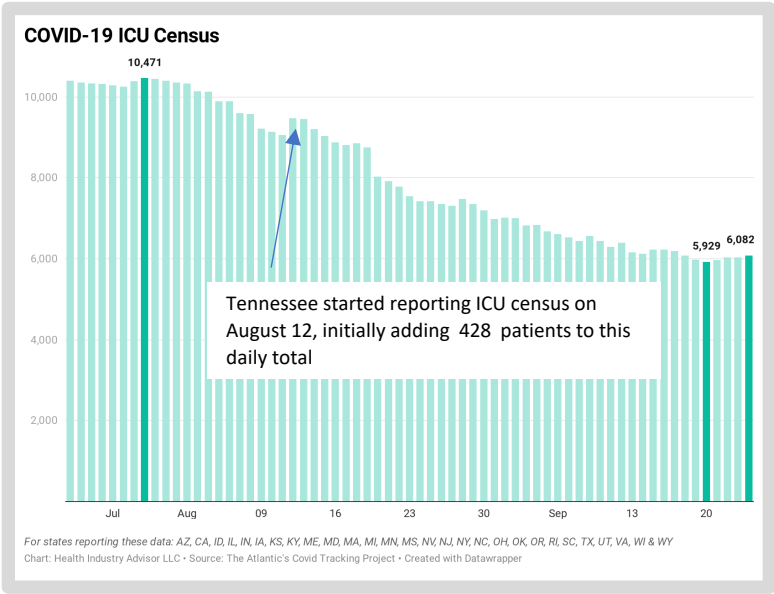
Ventilator use continues to decline as a % of patients

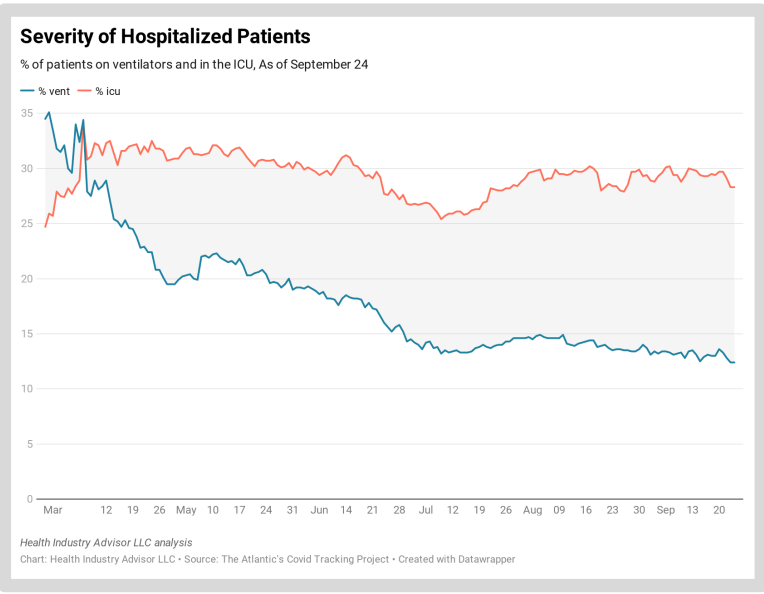
ER visits for COVID-19-like illness, pneumonia and shortness-of-breath as a % of all ER visits each have declined since early July

No discernable start yet to the impact of flu season



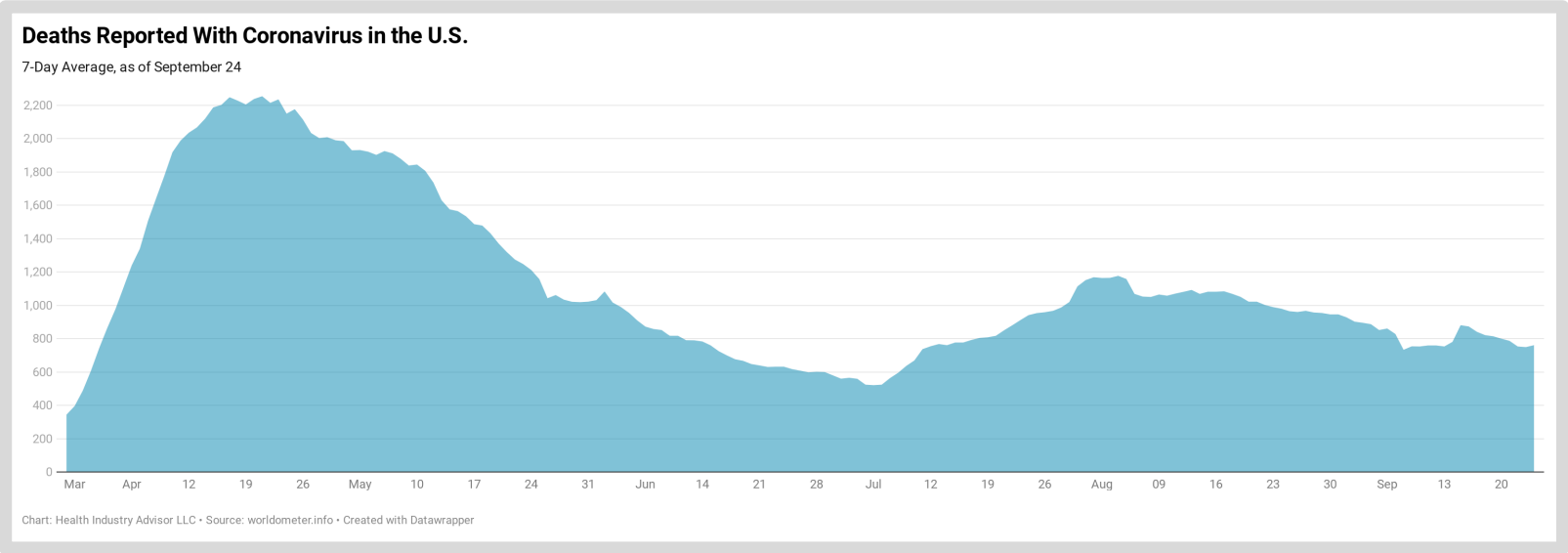


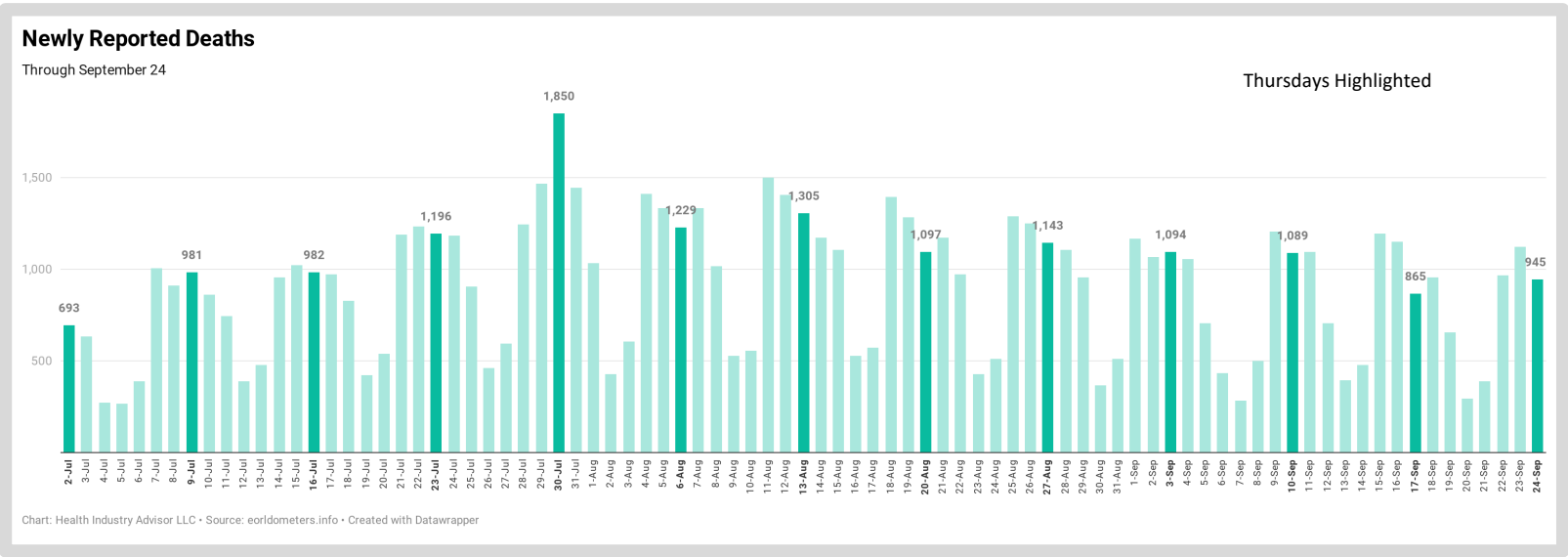




7-day average daily deaths increased slightly yesterday, after several days of decline

There were more deaths reported on Thursday than last Thursday but, fewer than any of the nine previous Thursdays





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