Health Industry Advisor, llc

"Strategic Advice in an Era of Unprecedented Change"

Covid-19 "Vital Signs"

Issue # 267

January 22, 2021

Covid-19 "Vital Signs"

Highlights

- **Tragically, more deaths were recorded with the coronavirus yesterday and Wednesday than on any other day during the pandemic.** Yet, the 7-day average deaths remain lower than a week ago. With the recent drop in new cases, we (hopefully) could see a reduction in reported deaths in another few weeks.
- **Flu visits continue to lag far behind visits experienced during similar periods during each of the last six flu seasons:**
  - By this, the sixteenth week of the 2020/2021 season, we should be approaching peak visits;
  - **Last week's visits were more than three times lower than during the intense 2019-2020 and 2018-2019 flu seasons.**
- **There were another two million vaccine doses distributed to the states yesterday. More than 1.4 million doses were administered - the most of any day to-date:**
  - To date, 18.4 million doses have been administered; At least 2.4 million people have received two doses;
  - Over the past week, an average 940,000 doses have been administered per day.
- The 7-day average test volume set a new high again yesterday. The 7-day test-positive rate yesterday was as low as it has been since November 11.
- **New cases and estimated true infections continue declining and are projected to fall further through Spring**:
  - The 7-day new case rate has dropped on ten successive days. The current rate is lower than any non-holiday period since December 5;
  - Estimated true infections may have fallen for at least eleven days (Yale/Harvard) and perhaps since December 24 (Gu)
  - Gu estimates that true infections will drop by 10-15% this month, 35% in February, and 25% in March and April.
- **At the state level, new case rates remain high in Arizona, California, and South Carolina:**
  - **These rates dropped week-over-week in every state, except New Hampshire, South Carolina, and Virginia**;
  - Virginia is the only state to have reached a new high in case-rates in the last week; Maine, New Jersey, and Texas are the only other states to have done so in the past eleven days;
  - More than half the states have gone a month or more since setting a peak rate.
- **At the metro/county area, high rates are concentrated in Arizona, southern California, and South Carolina and scattered in parts of Texas, the South, and the Northeast**
  - Among large central metro areas, Los Angeles and Riverside California and Bexar and Tarrant, Texas rank among the five highest in new case rates;
  - Among large fringe areas, five of the six highest rates are counties in Virginia; Virginia and Georgia account for fifteen of the twenty-five highest rates;
  - Among medium metro areas, the Georgia-North Carolina-South Carolina-Virginia region accounts for nineteen of the twenty-five counties with the highest rates;
  - Among the thirty-three areas with major universities that we track closely, all except Wake (North Carolina State University) and Tompkins (Cornell) saw rates drop week-over-week.
- **Covid-19 hospitalizations declined again yesterday - the thirteenth drop in the last fifteen days:**
  - **During this time, Covid-19 census has dropped nearly 10%;**
  - Yesterday's census was comparable to this census on Christmas Eve.

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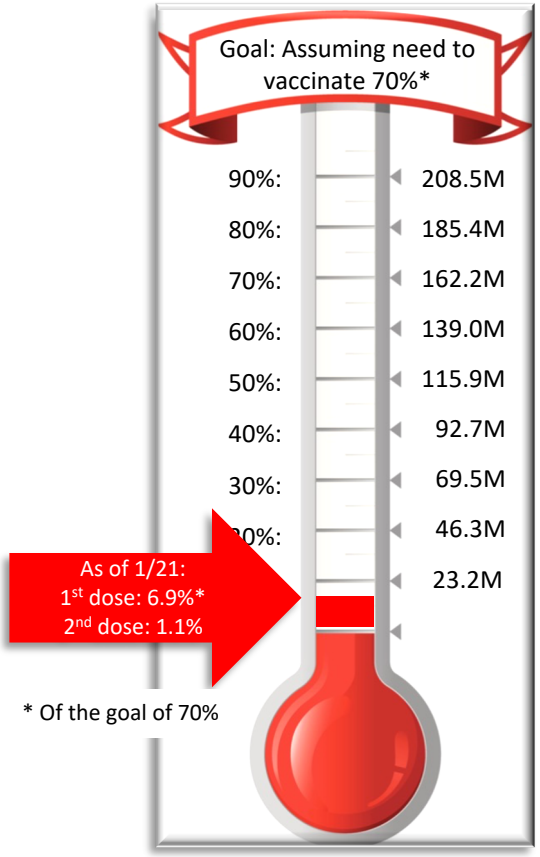
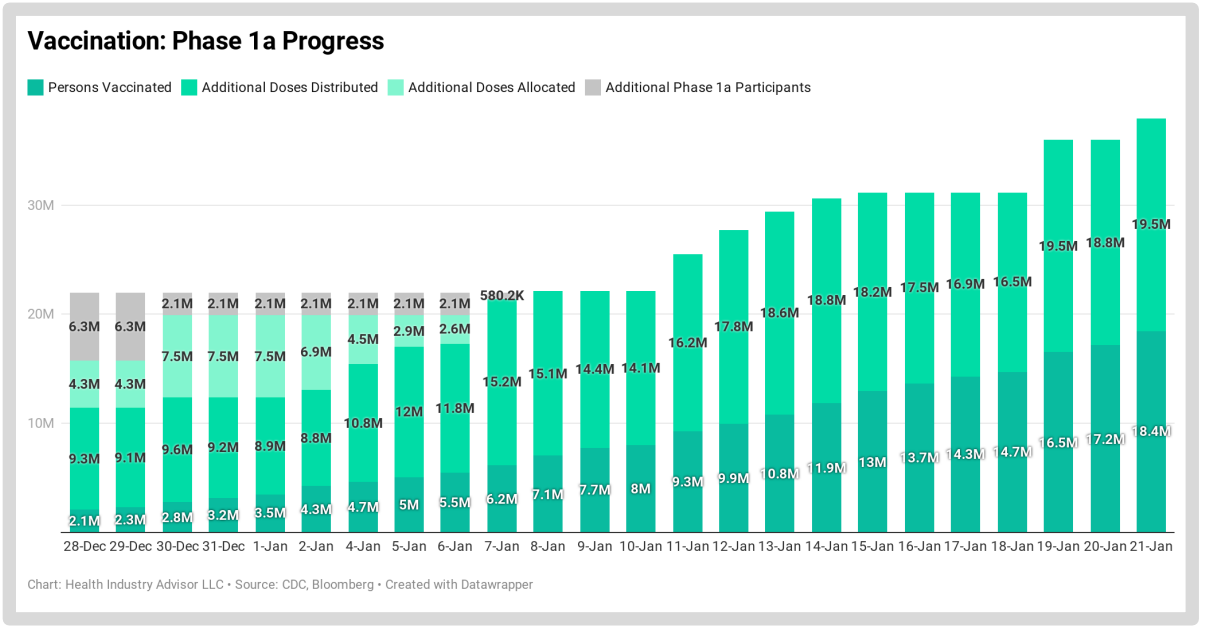
Vaccine Tracking

As of yesterday, about 18.4 million doses were reportedly administered. There were 1.4 million doses administered yesterday and an average of 940,000 daily over the past week. An additional 2 million doses were distributed to the states yesterday.





From the CDC vaccine webpage: "Healthcare providers report doses to state, territorial, and local public health agencies up to 72 hours after administration. There may be additional reporting lag for data to be transmitted from the state, territorial, or local public health agency to CDC."

Vaccine data from: Centers for Disease Control and Prevention and Bloomberg Vaccine Tracker

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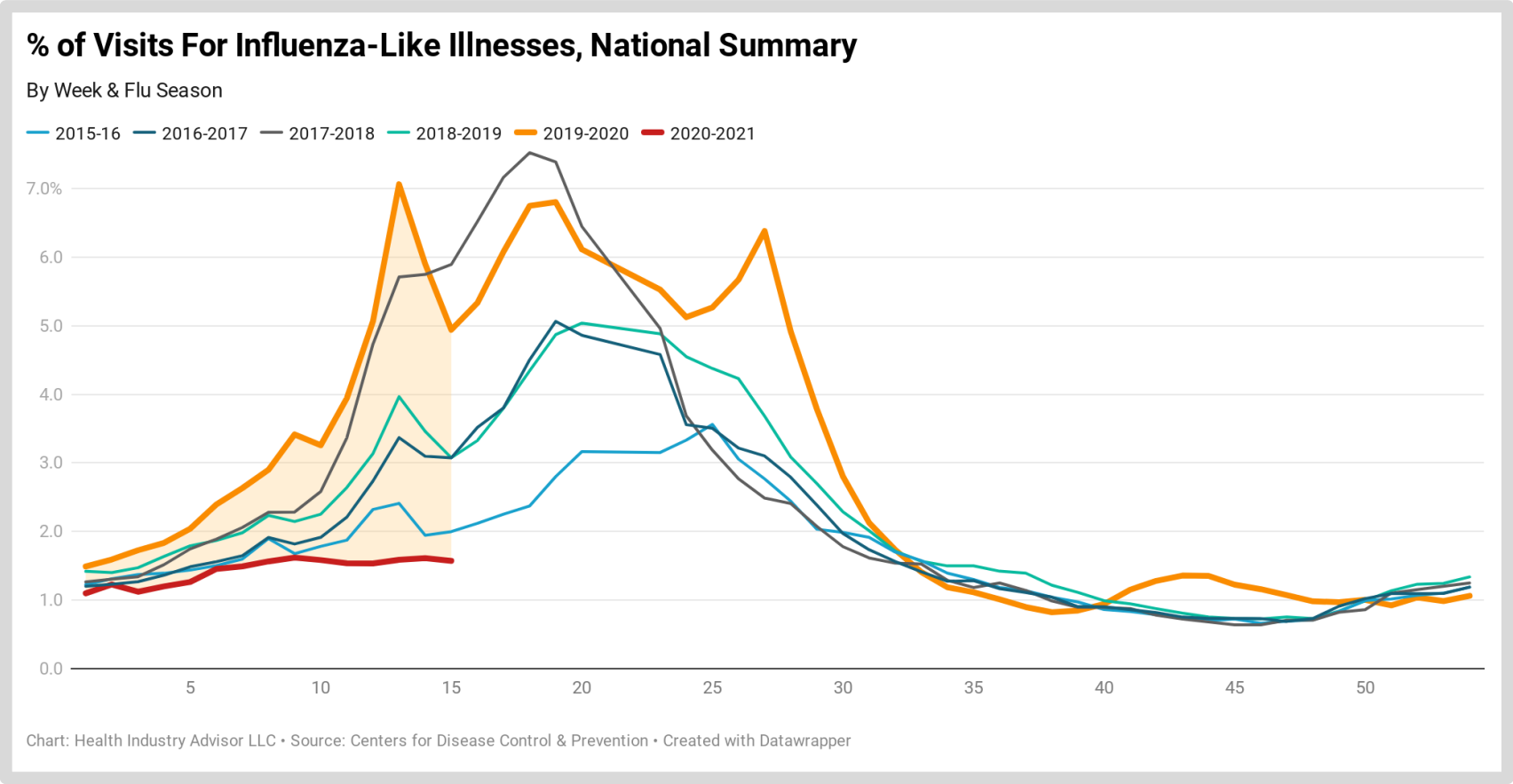
% of Visits Relating to Influenza

Fifteen weeks into the 2020/21 flu season, we are experiencing a milder season than in each of the past 5 years; Visits during the comparable week last year and during the 2017-2018 seasons were at least 3x than this year



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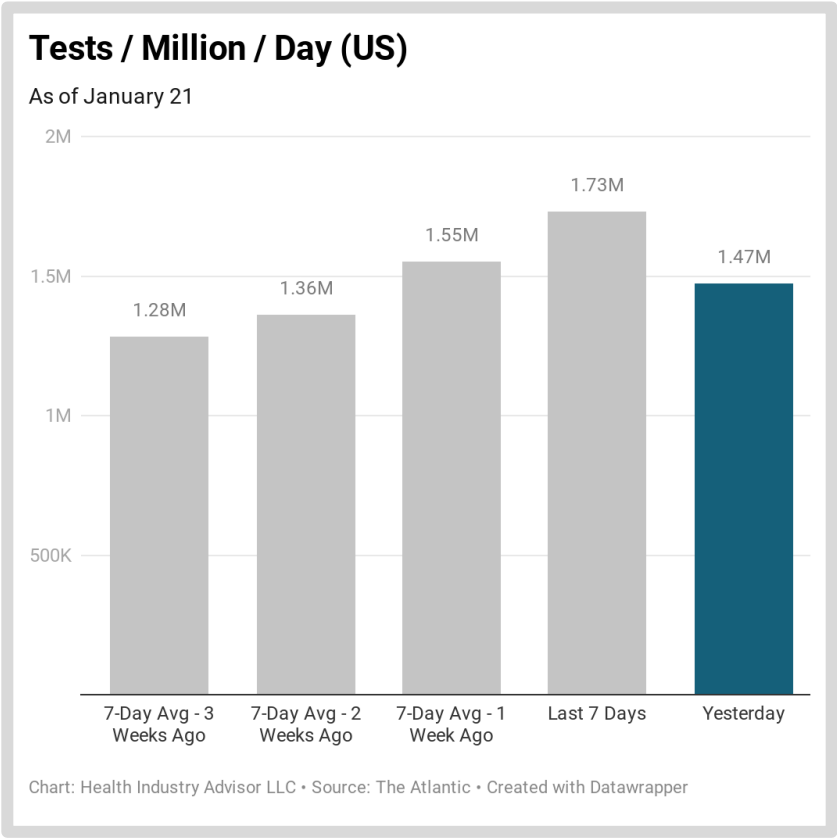
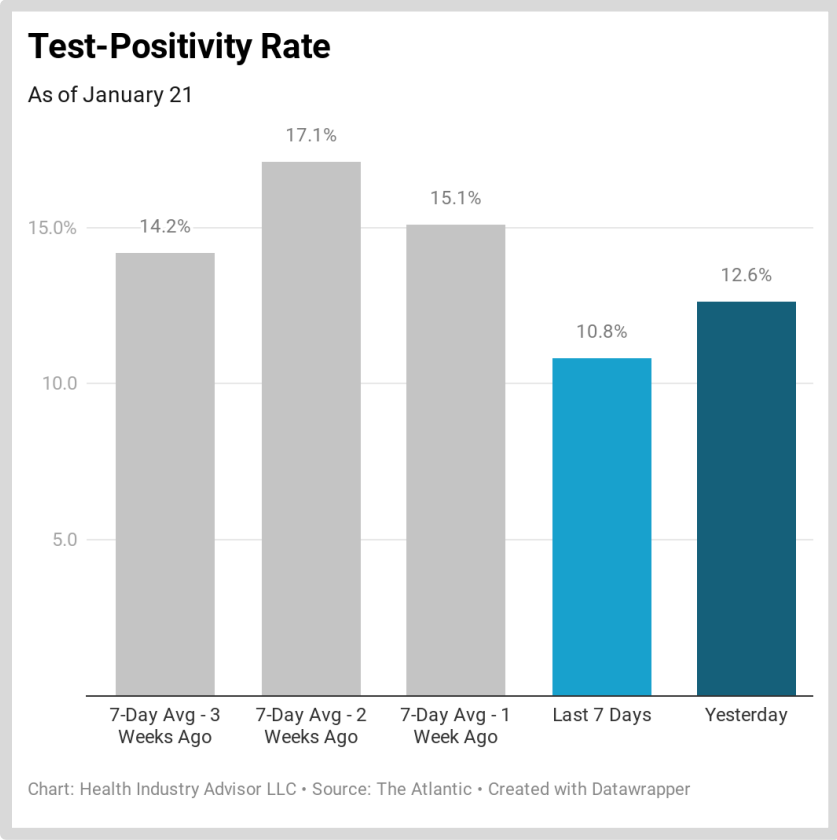
Testing Results - US

The 7-day average test volume set a record high yesterday. With this high volume, the test-positive rate for the day and the past week showed solid improvement – the 7-day rate was as low as it has been since November 11





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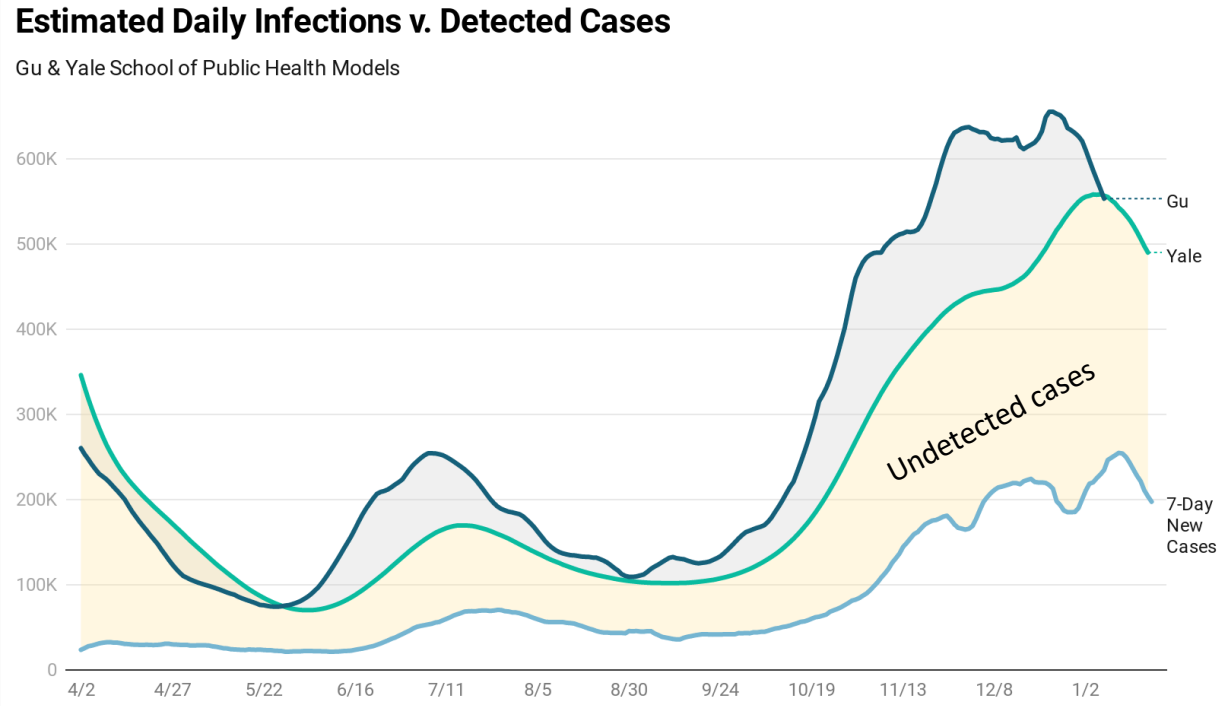
Two Models of Estimated Daily Infections

Models from both Youyang Gu and the Yale School of Public Health suggest that new infections may have peaked, following nearly three-month surge. Gu estimates these peaked on December 24; Yale on January 6. By comparison, the 7-day new case rate peaked on January 10

- Two models:
  - Youyang Gu: https://covid19-projections.com
  - Yale School of Public Health: https://covidestim.org
- Gu model lags by two weeks



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Estimated New Infections – US (Gu Model)

The US experienced a surge in estimated new infections, beginning in November. Infections began to decline this month and are projected to fall quickly until reaching near zero in June

Estimated True Infections - US

Using data from https://covid19-projections.com, accessed January 22, 2021

Gu Model, As of January 22

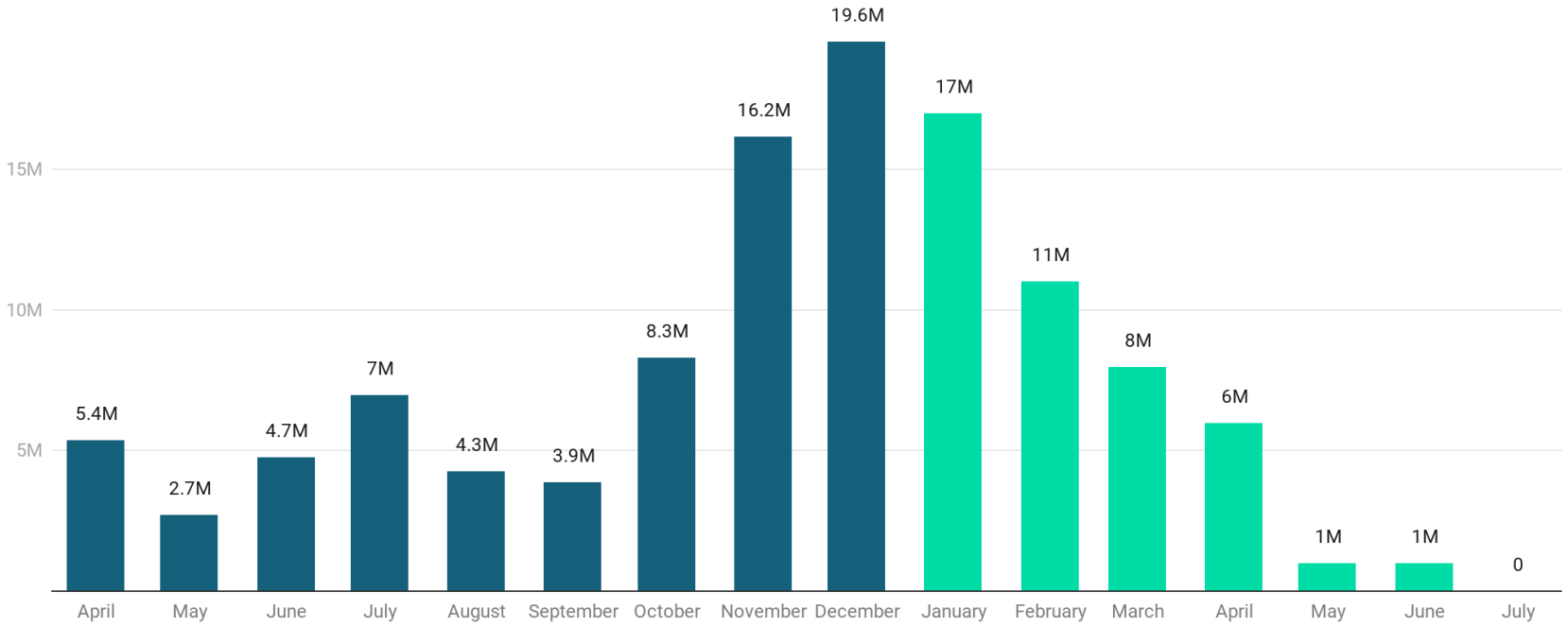

Chart: Health Industry Advisor LLC • Source: Youyang Gu • Created with Datawrapper

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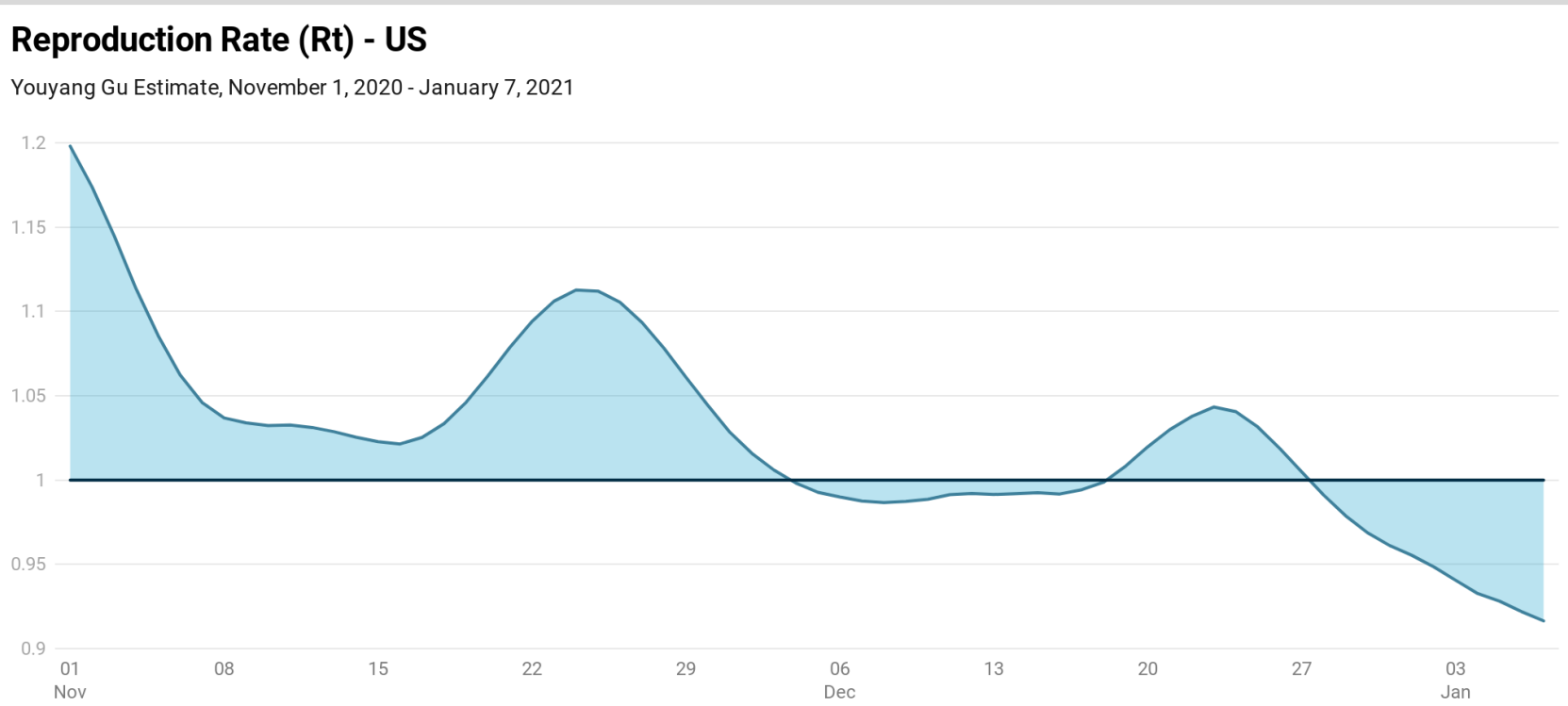
Reproduction Rate (R_t) – Gu* Model

Gu's estimate of R_t continues to decline and has been below 1.0 for eleven successive days. The most-recent estimate is lower than it has been since the end of August. Notably, the recent peaks occurred two days before Thanksgiving and Christmas



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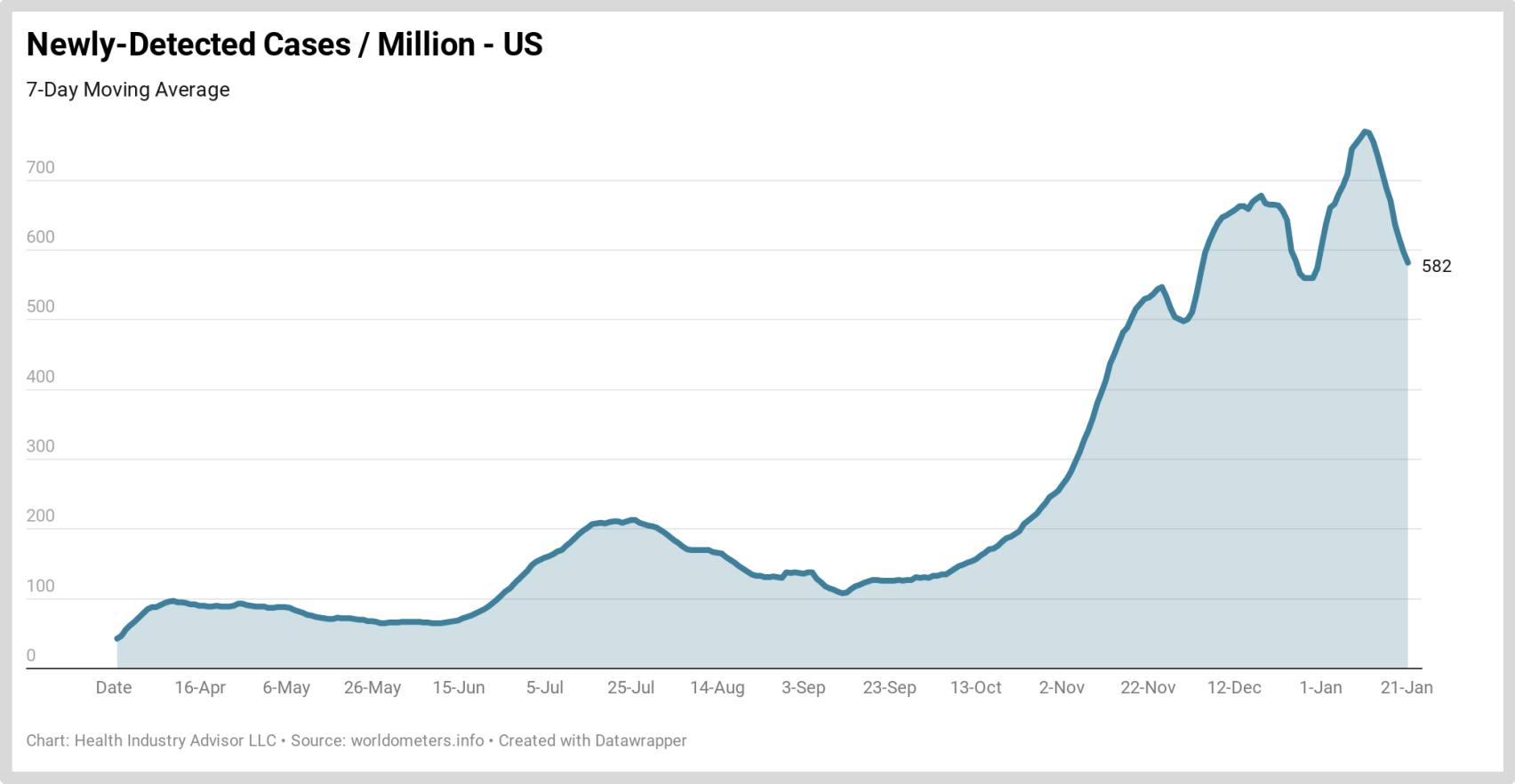
Newly Detected Cases / Million - US

Newly detected cases (7-day average) in the US have now declined on ten successive days. Other the the recent holiday period – with its reporting interruptions – this rate is as low as it has been since December 5



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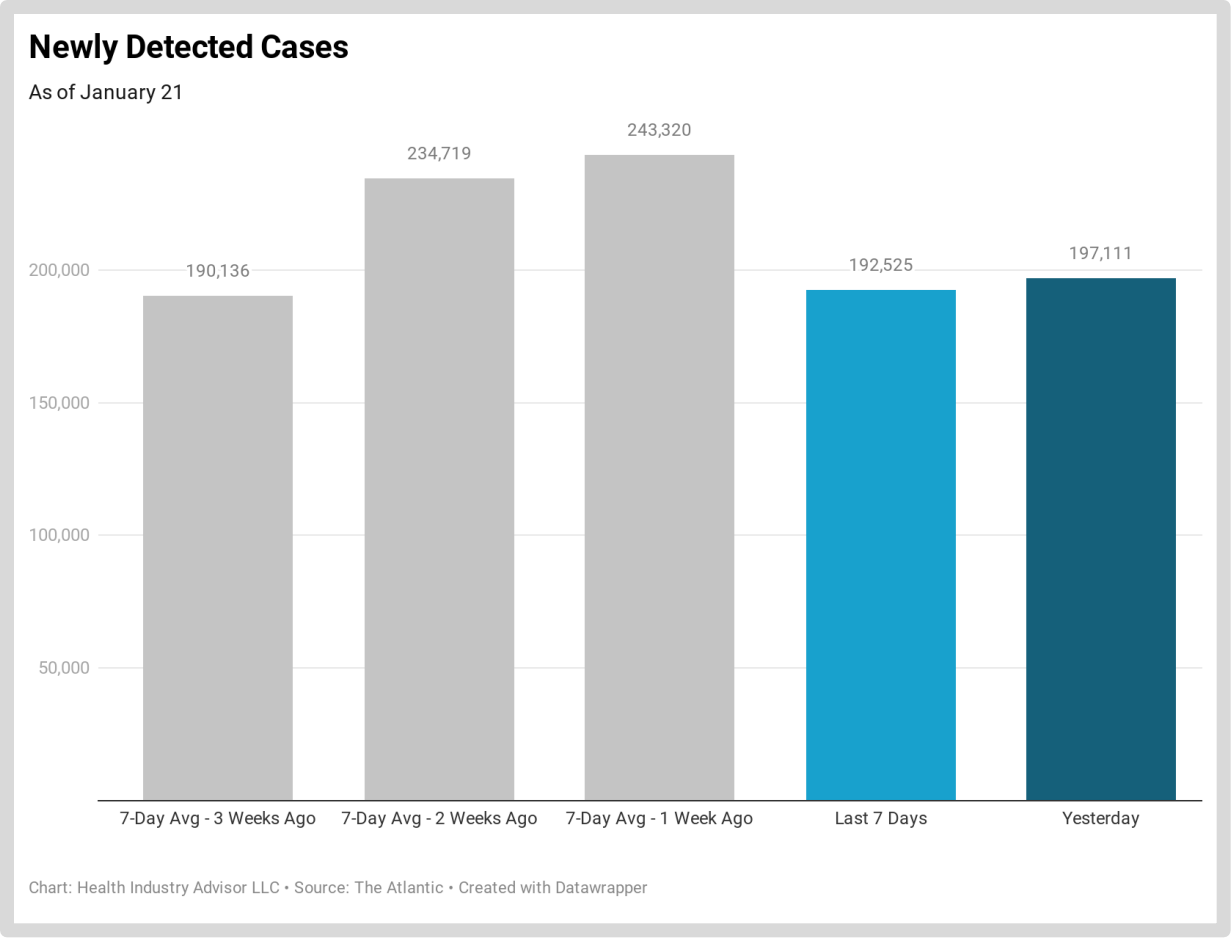
Newly Detected Cases Per Day

New cases in the US last week were lower than both the past two weeks and are comparable to the level reported three weeks ago – a period that included Christmas and New Year's Eve.



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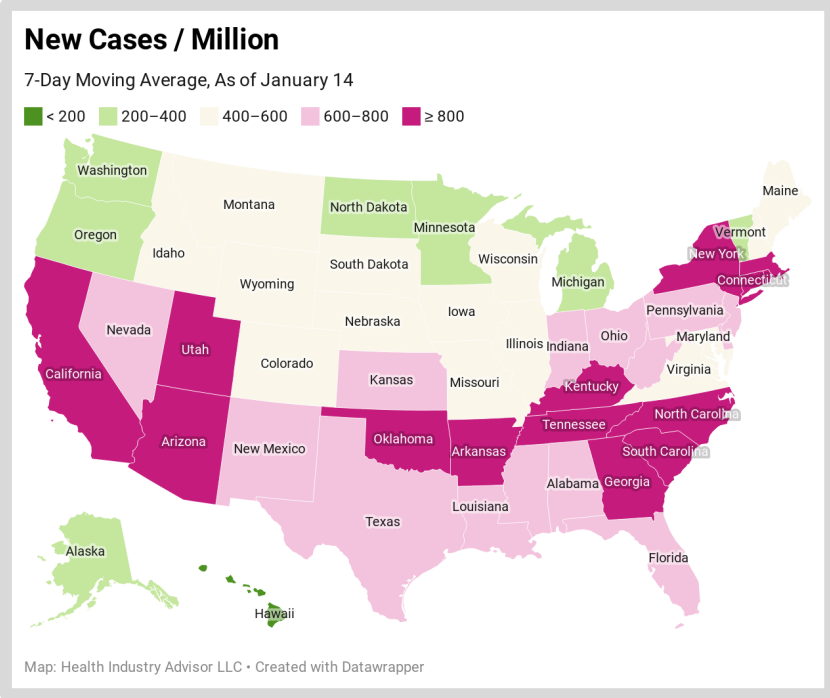
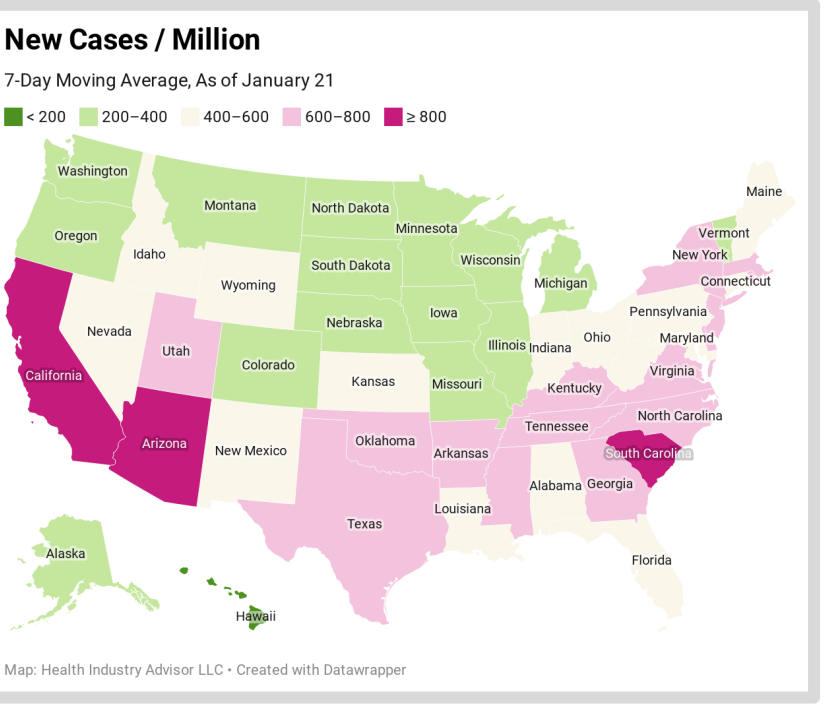
New Cases / Million

In the past week, new case rates have eased in many of the "hot-spot" states; still, rates Arizona, California and South Carolina remain too high

January 14	January 21





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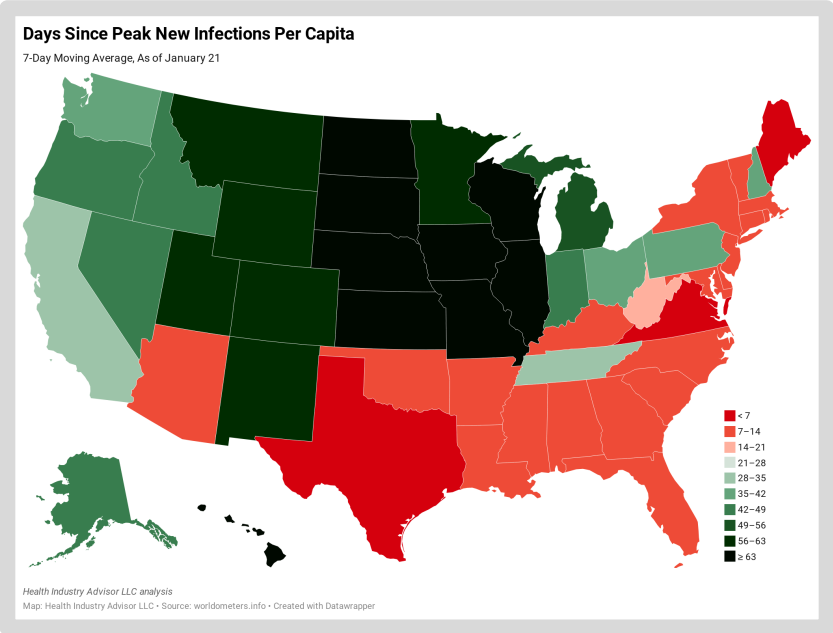
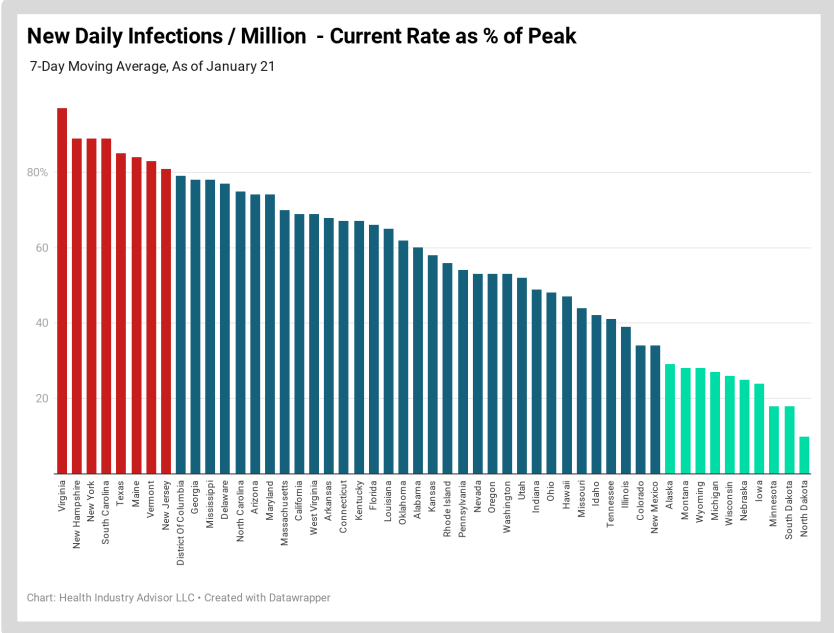
New Case Rate v. Peak Rates

Virginia is the only state to record a new peak case rate in the past week; Maine, New Jersey, and Texas are the only other states to do so in the past eleven days. Rates in only eight states are 80% or higher of the peak rate





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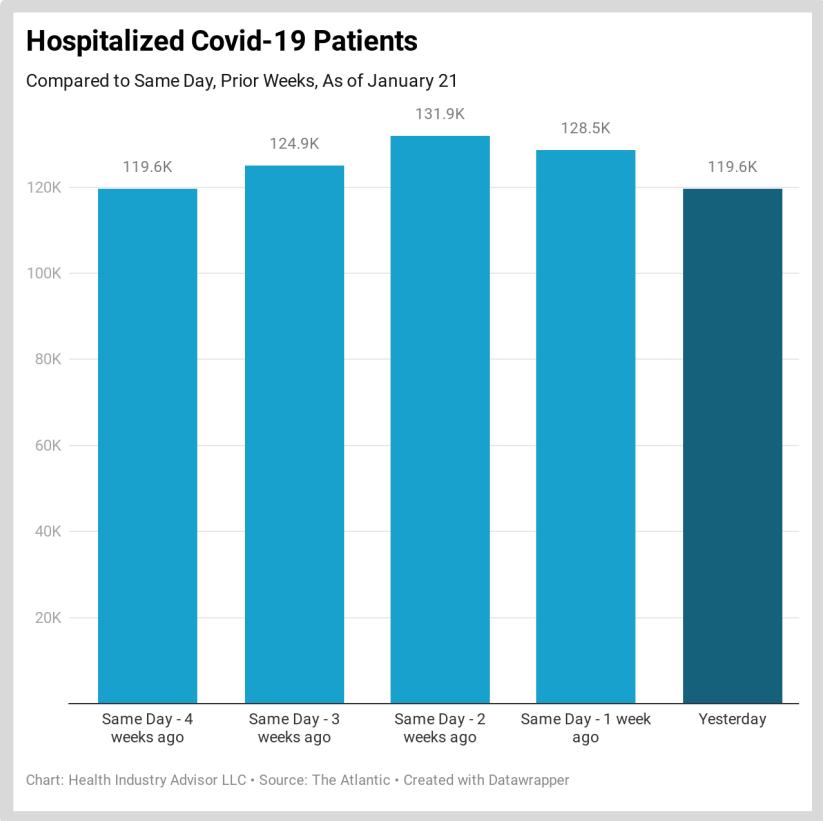
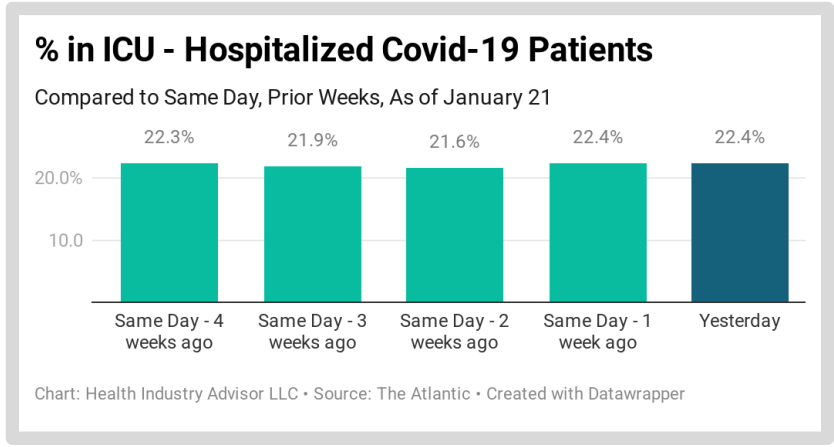
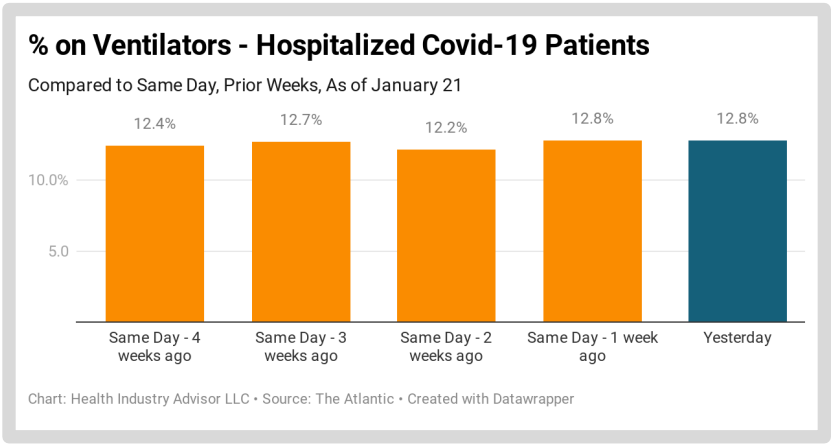
Covid-19 Hospitalizations

Hospitalizations have declined thirteen of the past fifteen days, dropping nearly 10% in that time. Yesterday's Covid-19 census was comparable to this census on Christmas Eve







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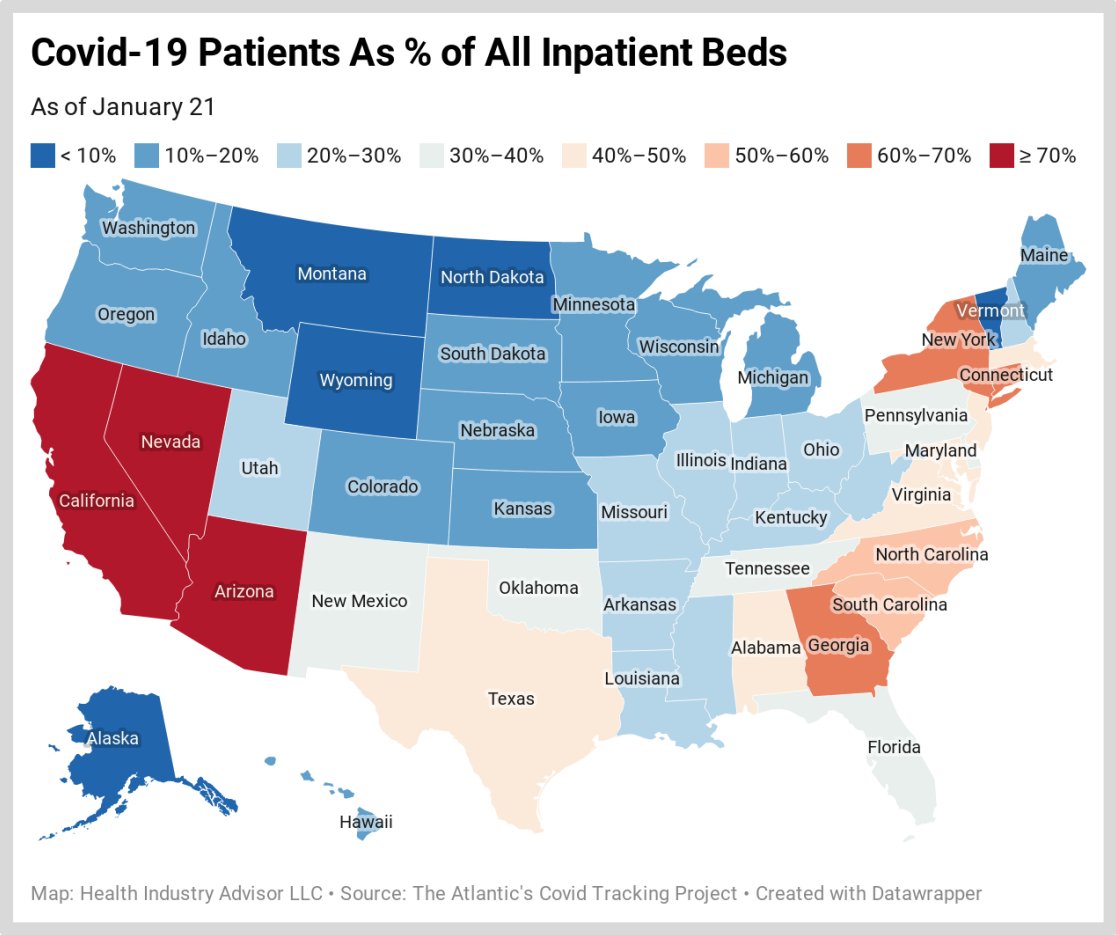
Covid-19 Hospitalizations

Hospitalization rates remain high in Arizona, California, and Nevada; rates in Connecticut, Georgia, and New York are also of concern. Large swaths of the US are in a far better position



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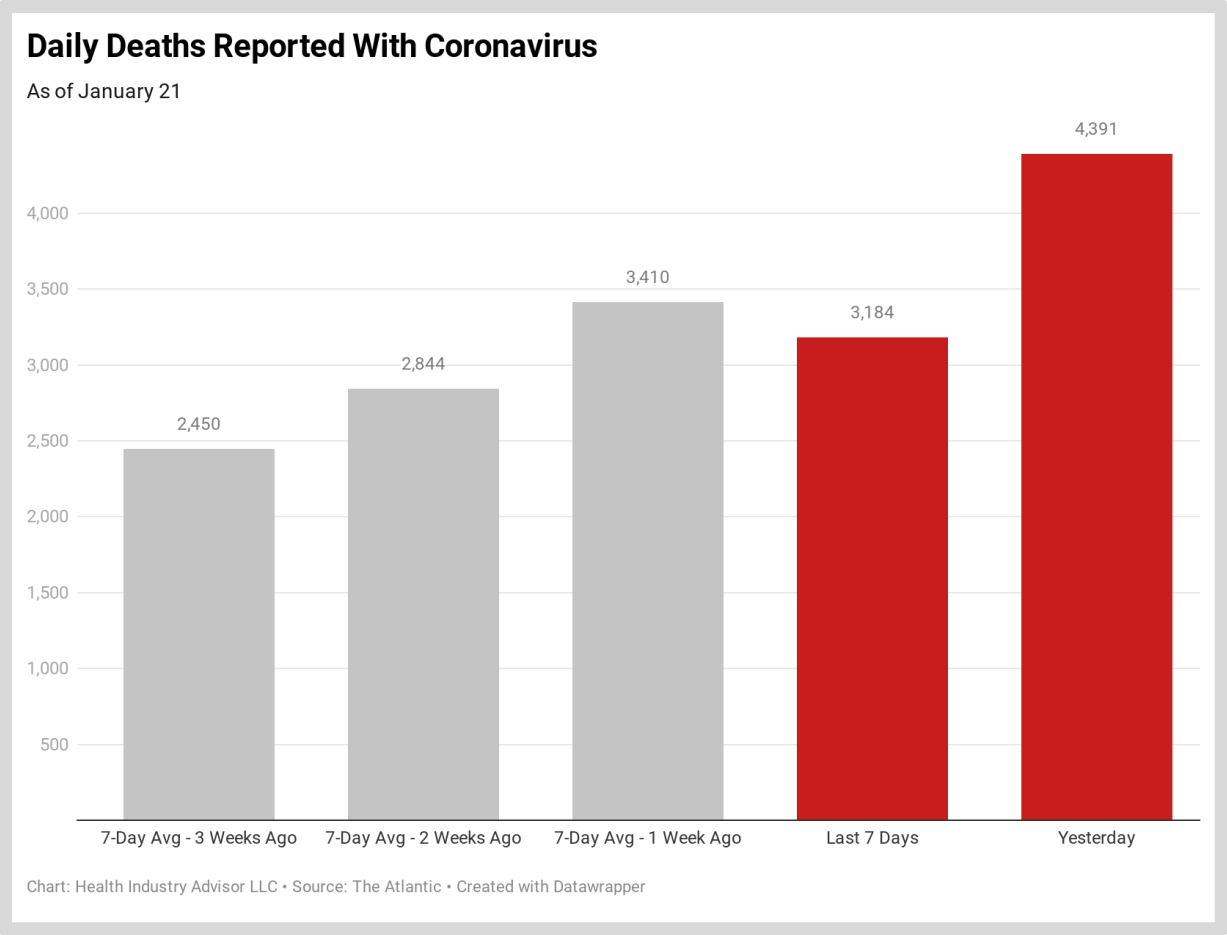
Deaths Reported With Coronavirus

Tragically, there were more deaths with coronavirus each of the past two days than on any other day during the pandemic. Still, the 7-day average deaths remained lower than the than the previous seven day-period



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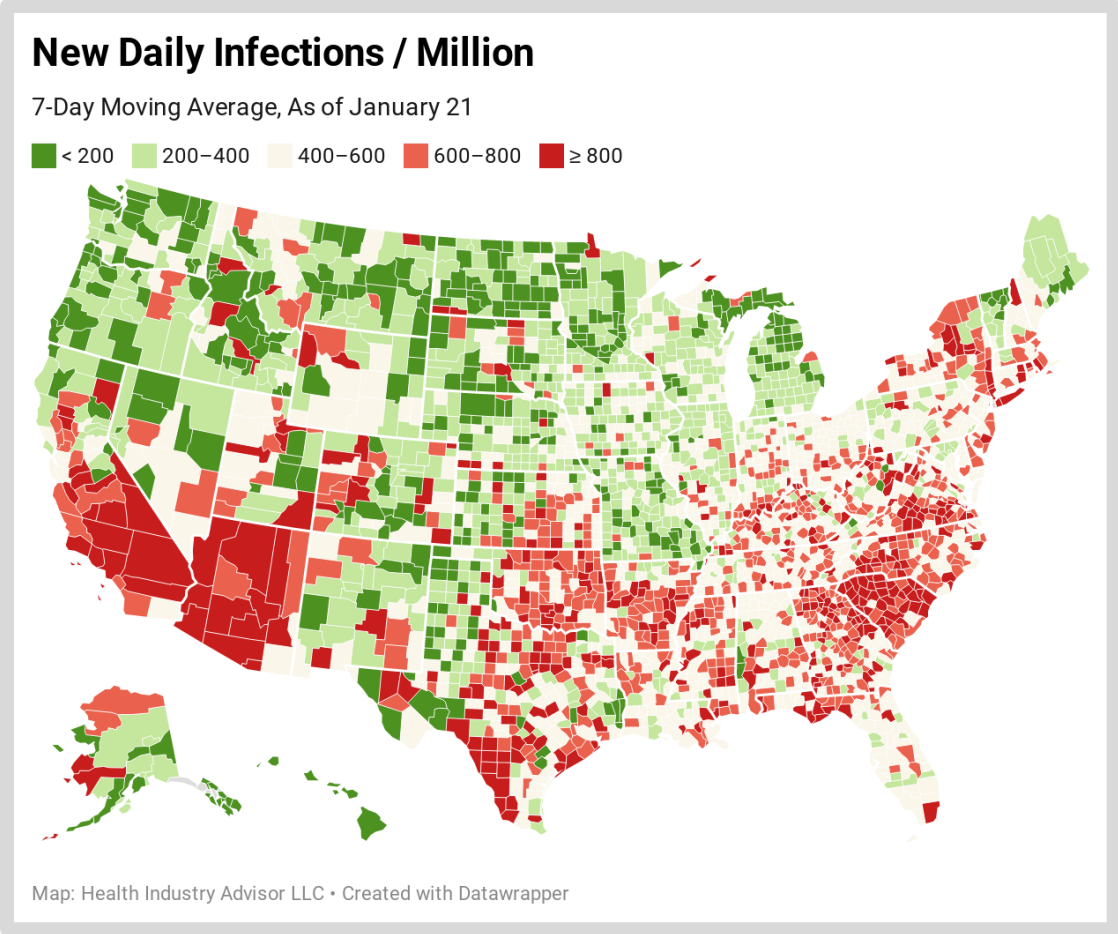
Metro Areas in the US

High rates of newly detected cases per capita are heavily-concentrates in Arizona, Southern California and South Carolina; high rates are more scattered in Texas and the South and Northeast



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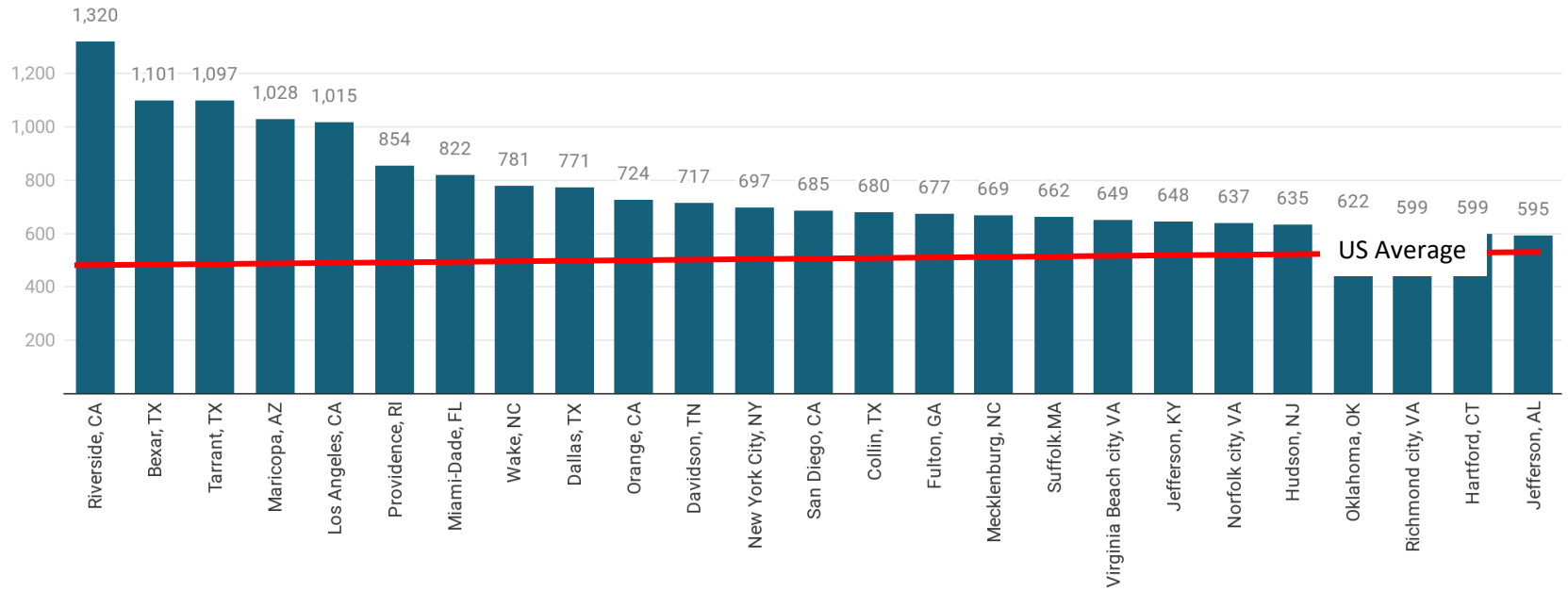
Large Central Metro Areas in the US

Riverside and Los Angeles counties in California have the 1st and 5th highest 7-day new case rates among all large central metro areas in the US; Bexar and Tarrant counties in Texas rank 2nd and 3rd



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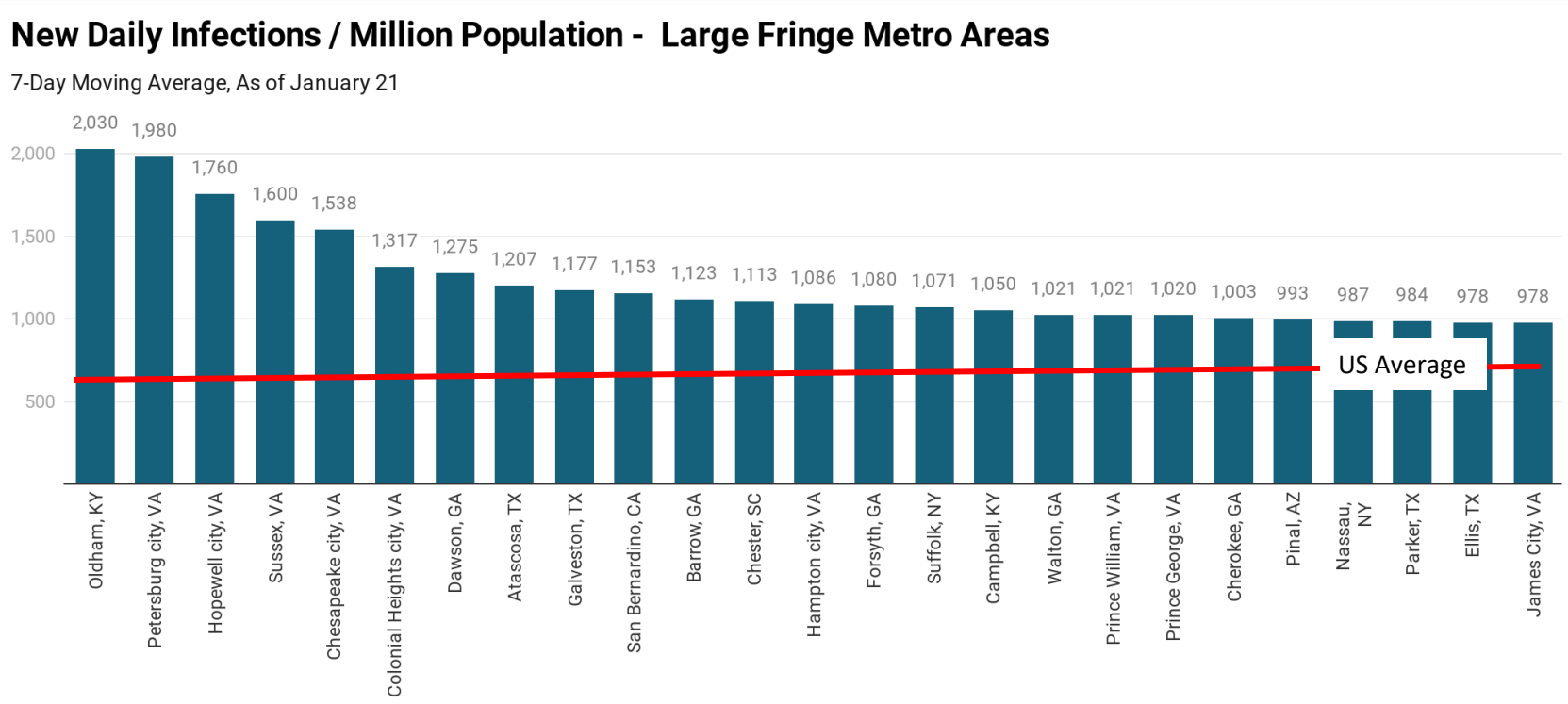
Large Fringe Metro Areas in the US

Virginia is home to five of the six large fringe metro areas with the highest 7-day new case rates; Virginia and Georgia account for fifteen of the top twenty-five



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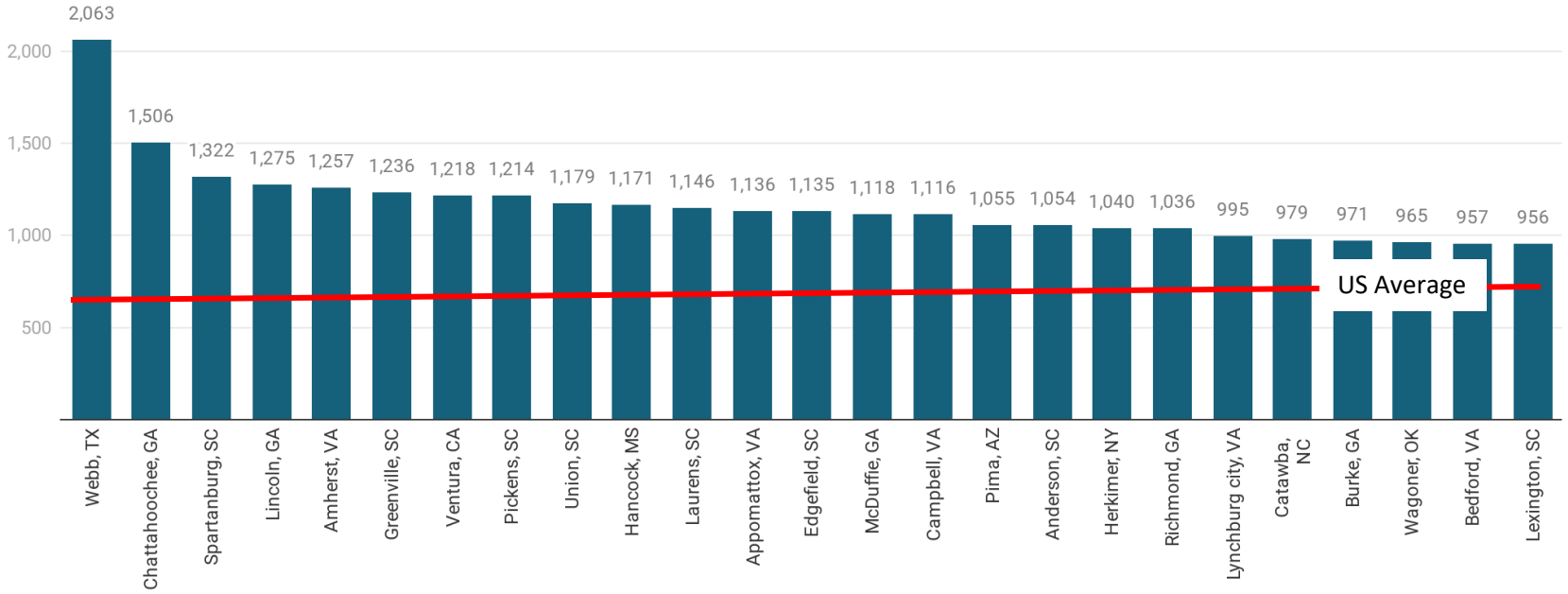
Medium Metro Areas in the US

The Georgia-North Carolina-South Carolina-Virginia region accounted for nineteen of the twenty-five medium metro areas with the highest 7-day new case rates



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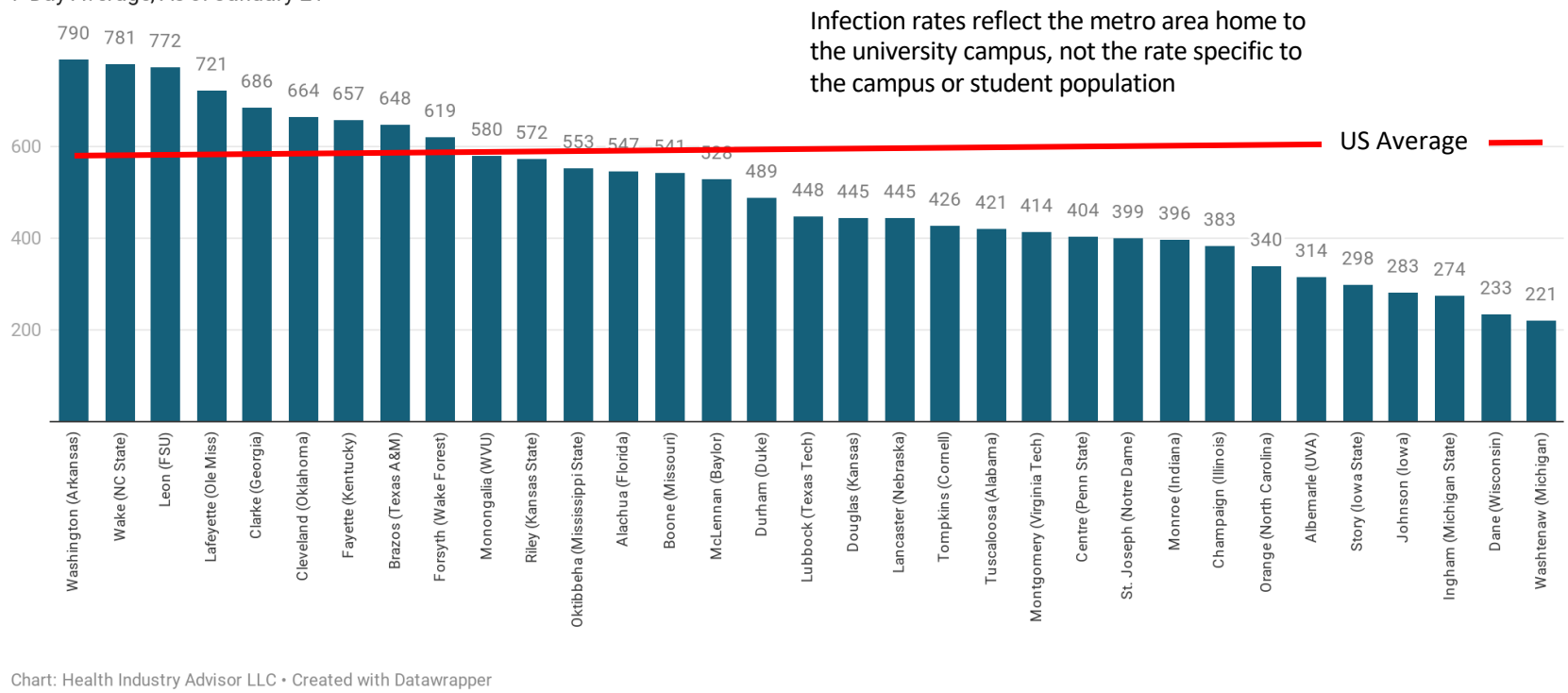
Metro Areas With Major Universities

Washington County, home to the University of Arkansas, reported the highest new case rate of the 33 such areas we track; Washtenaw County (University of Michigan), the lowest. Only 9 of the 33 areas exceeded the national rate



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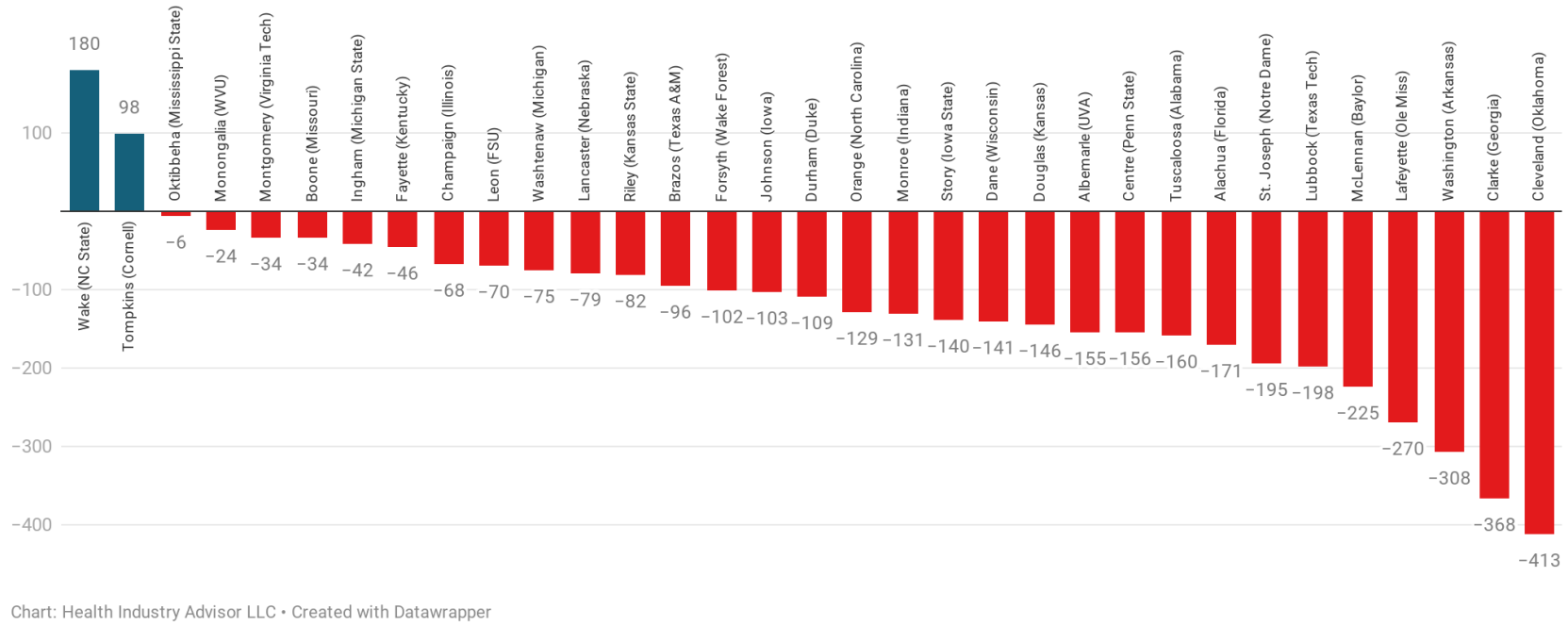
Metro Areas With Major Universities

Following the national pattern, new case rates declined week-over-week in thirty-one of the thirty-three metro areas that we track. Wake County, home of the North Carolina State University and Tomkins County, home to Cornell, were the only areas to record an increase in this rate



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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 and Prevention, National, Regional, and State Level Outpatient Illness and Viral Surveillance https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html
- Centers for Disease Control and Prevention, COVID-19 Laboratory-Confirmed Hospitalizations https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control and Prevention, COVID Data Tracker https://www.cdc.gov/covid-data-tracker/index.html#mobility
- Centers for Disease Control and Prevention, Vaccines, https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html
- 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
- Covid-19 Forecast Hub, https://viz.covid19forecasthub.org
- Oliver Wyman Pandemic Navigator, https://pandemicnavigator.oliverwyman.com/forecast?mode=country&region=United%20States&panel=mortality
- Rt.live
- Yale School of Public Health & Harvard TH Chan School of Public Health, https://covidestim.org
- Bloomberg Vaccine Trackers, https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?sref=Z0b6TmHW

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