

Covid-19 Report

Issue # 255

January 8, 2021

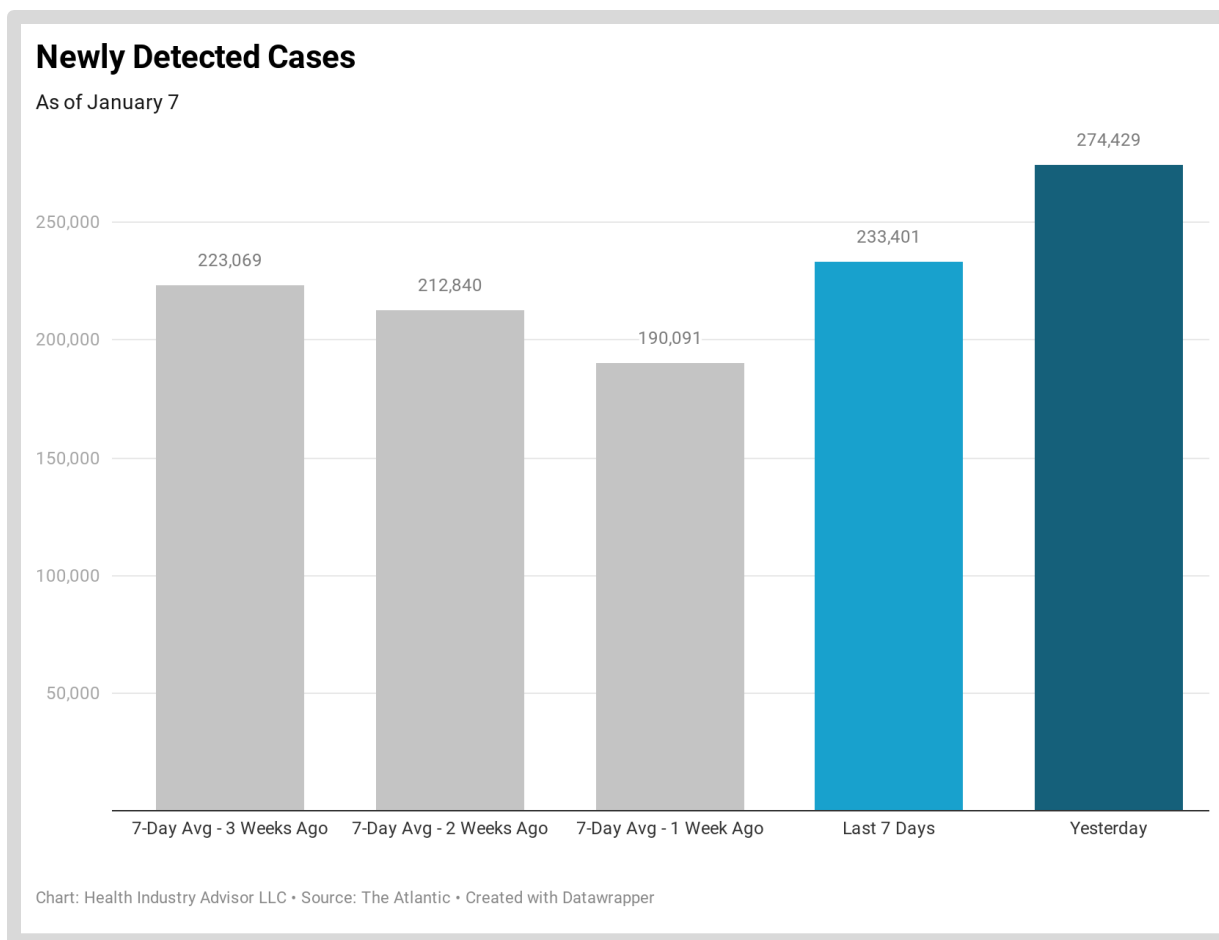
Covid-19 Highlights

- **Newly detected cases and reported deaths with coronavirus in the US have been high each of the past three days.** While this may partially be due to a catch-up in reporting from the extended holiday period, it likely reflects an increasing infection rate in this country
- New case rates are currently highest among states in the Southwest, followed by New York, New Jersey and states in the South; this pattern extends down to the county or metro area level
 - There are 23 Large Central Metro Areas with new case rates above the national average; 4 of these are in California and another 4 in Texas; 3 are in New Jersey
 - Among the 30 Large Fringe Metro Areas with the highest current new case rates, 11 are in New Jersey, and 6 are in Texas
- Supporting the view of an increased infection rate, **models from both Youyang Gu and the Yale School of Public Health estimate that infection rates have been rising since at least mid-December and are currently higher than at any point during the pandemic.** Gu's model, however, hints at a possible easing in the rate of growth just before Christmas
- With the number of vaccinations to date and estimates of persons already infected, **the US is at a point where 1-in-5 Americans could already be immune from the virus; in North and South Dakota, immunity may have reached 2-in-5 residents. For herd immunity, this may need to be 3-in-5 or 4-in-5** Sufficient doses have now been distributed to the state to provide first doses to everyone designated for Phase 1a (20 million people)
- Hospitalizations continue to be one of the most significant challenges of the pandemic. Covid-19 hospital census, however, showed an unusual decline yesterday - hospital census typically peaks on Thursdays. The "pain" is not uniformly distributed across the country - Arizona, California and Nevada face the most significant challenge, followed by Connecticut, Georgia and New York. Midwestern and Pacific Northwest states are in significantly better situations at this time
- Testing volume had been relatively low (by recent standards) throughout the holiday season. Yesterday, volume returned closer to the pre-holiday level. Test-positive rates continue to be significantly higher than pre-Christmas levels

Covid-19

Newly Detected Cases

There were an unusually high number of newly detected cases reported on each of the past three days - resulting in the highest 7-day average seen since the pandemic began



Covid-19

Deaths Reported With Coronavirus

There were a significant number of deaths reported with coronavirus each of the past three days; the 7-day average is now higher than at any time during the pandemic

Daily Deaths Reported With Coronavirus

As of January 7

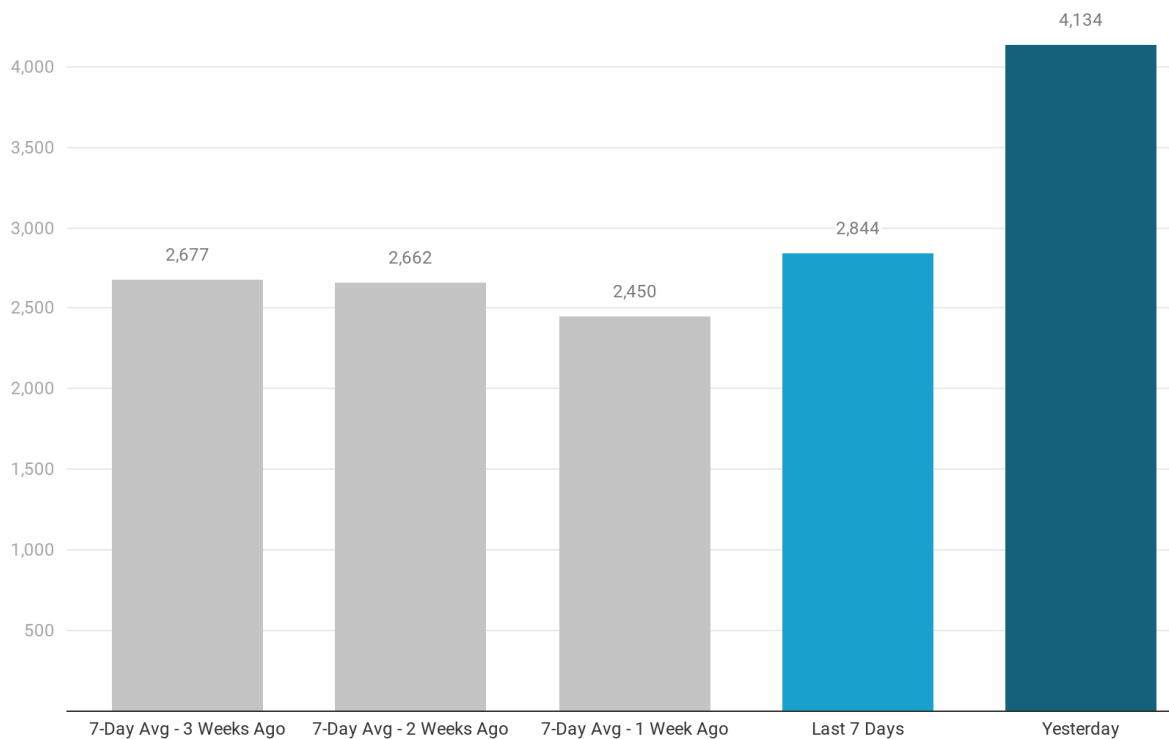


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19

Two Models of Estimated Daily Infections

Models from both Youyang Gu and the Yale School of Public Health suggests that actual infections are rising. Gu estimates however, may hint at a plateauing just before Christmas

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

Estimated Daily Infections

Gu & Yale School of Public Health Models

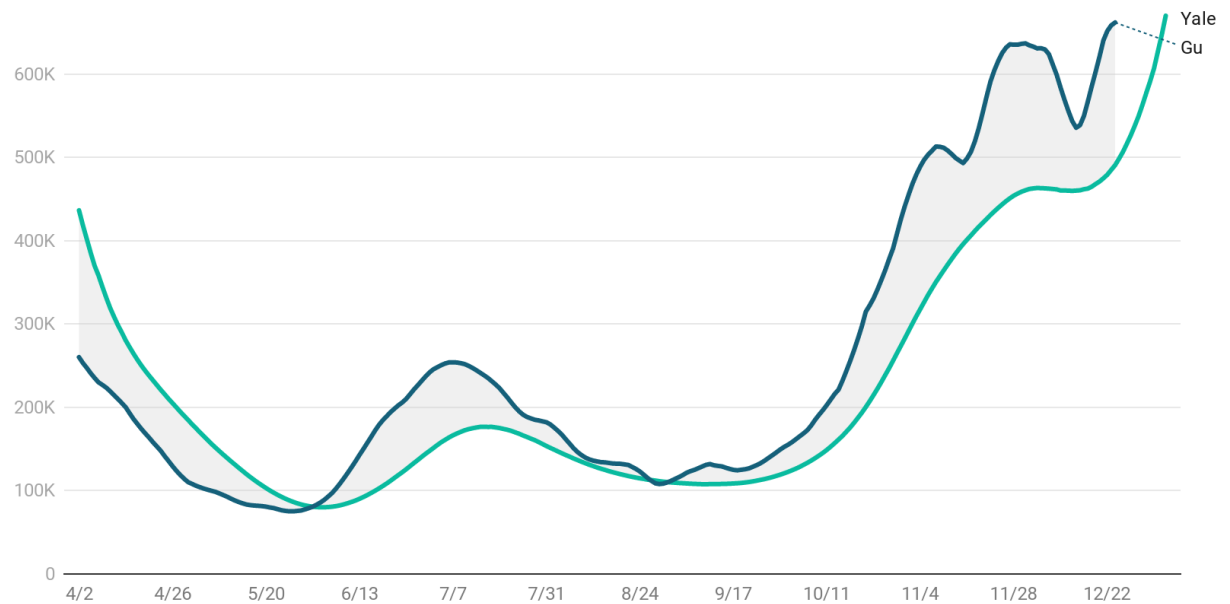
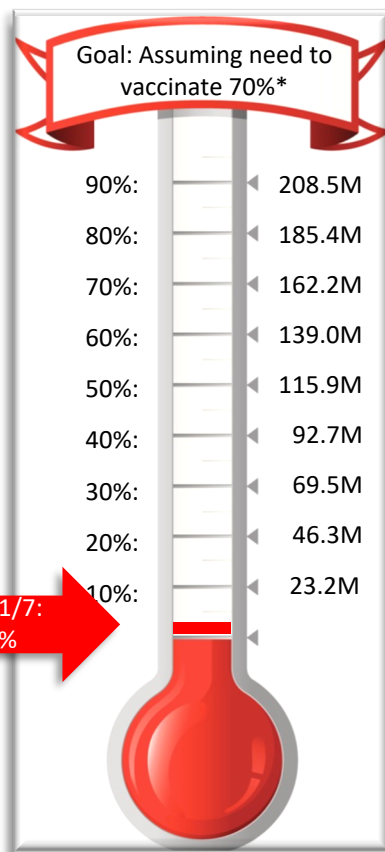


Chart: Health Industry Advisor LLC • Source: Youyang Gu, Yale School of Public Health • Created with Datawrapper

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Vaccine Tracking

About 30% of the persons included in Phase 1a of the vaccine rollout have received at least the initial dose; Sufficient doses have been distributed to the states to administer one dose to nearly all the Phase 1a target population



Vaccination: Phase 1a Progress

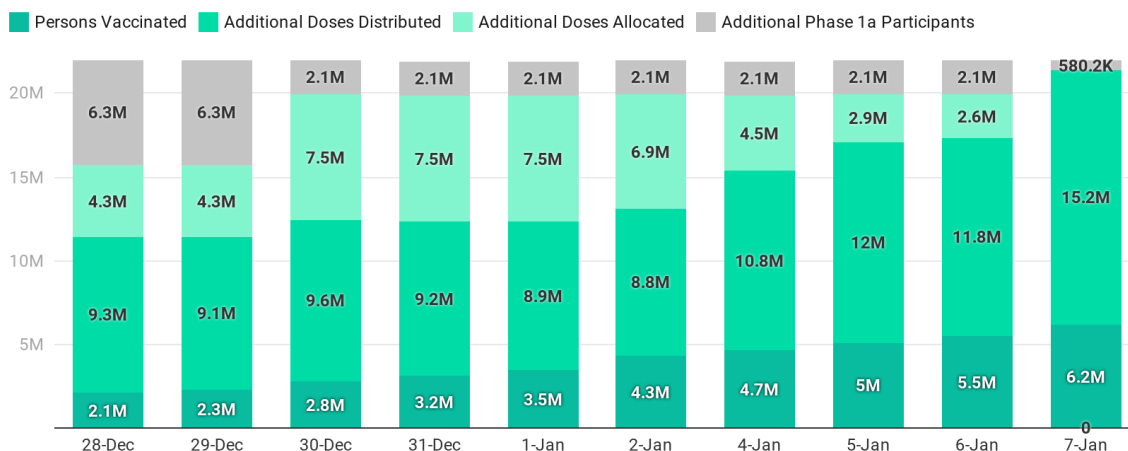


Chart: Health Industry Advisor LLC • Source: CDC, Bloomberg • Created with Datawrapper

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](https://www.cdc.gov/vaccines/imz/downloads/#vaccine-tracker) and [Bloomberg Vaccine Tracker](https://www.bloomberg.com/health/vaccine-tracker/)

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Road To Herd Immunity

More than 1-in-5 Americans may now have immunity, either via infection of vaccination; In North Dakota and South Dakota, the rate may be 2-in-5

Road to Herd Immunity

Infection & Vaccine (First Dose) Prevalence, As of January 7

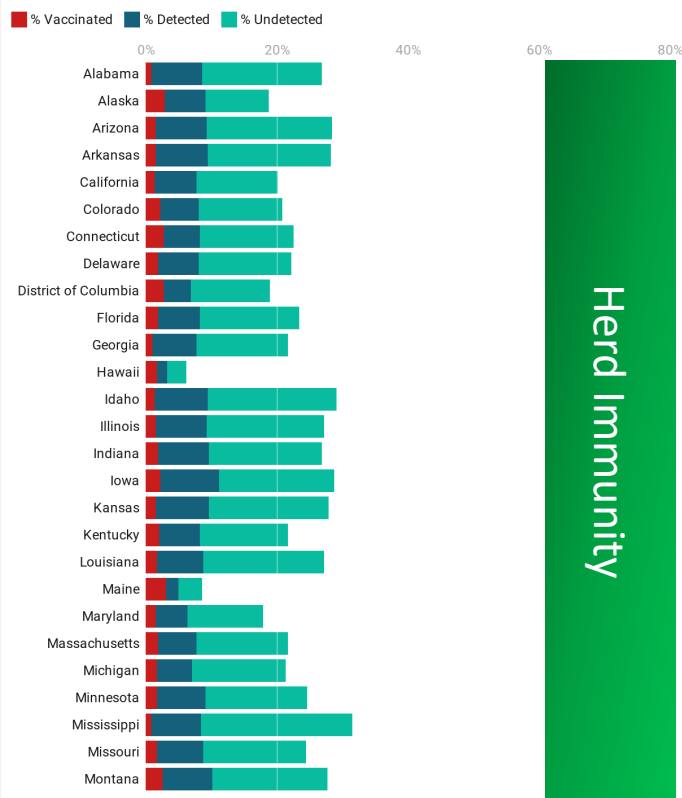


Chart: Health Industry Advisor LLC • Source: Youyang Gu; Bloomberg • Created with Datawrapper

Road to Herd Immunity

Infection & Vaccine (First Dose) Prevalence, As of January 7

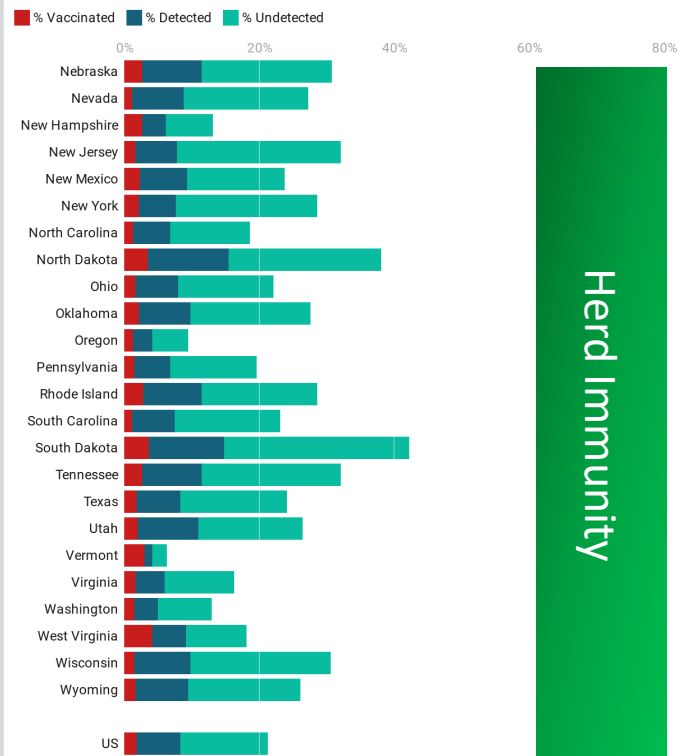


Chart: Health Industry Advisor LLC • Source: Youyang Gu; Bloomberg • Created with Datawrapper

Covid-19 Hospitalizations

Covid-19

Covid-19 hospitalizations continue to rise, although census declined slightly yesterday (unusual for a Thursday); the mix of ICU patients is declining; the mix of ventilator patients is relative stable

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of January 7

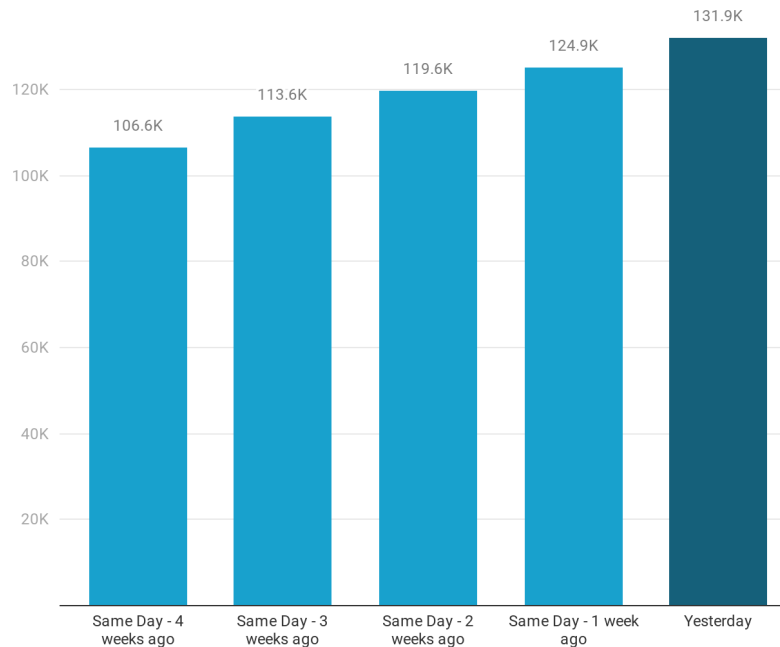


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

% in ICU - Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of January 7

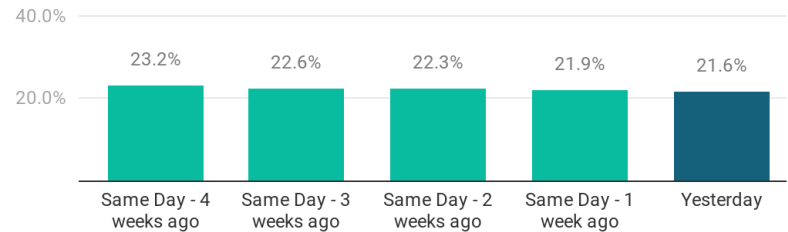


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

% on Ventilators - Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of January 7

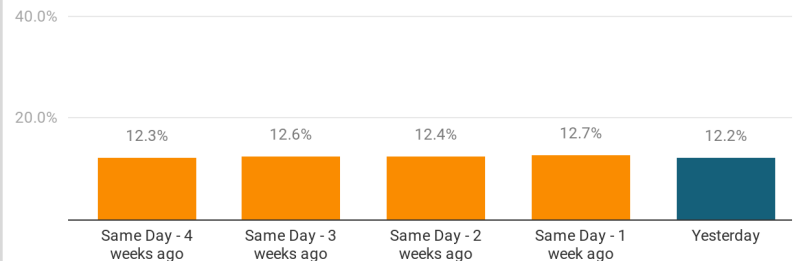


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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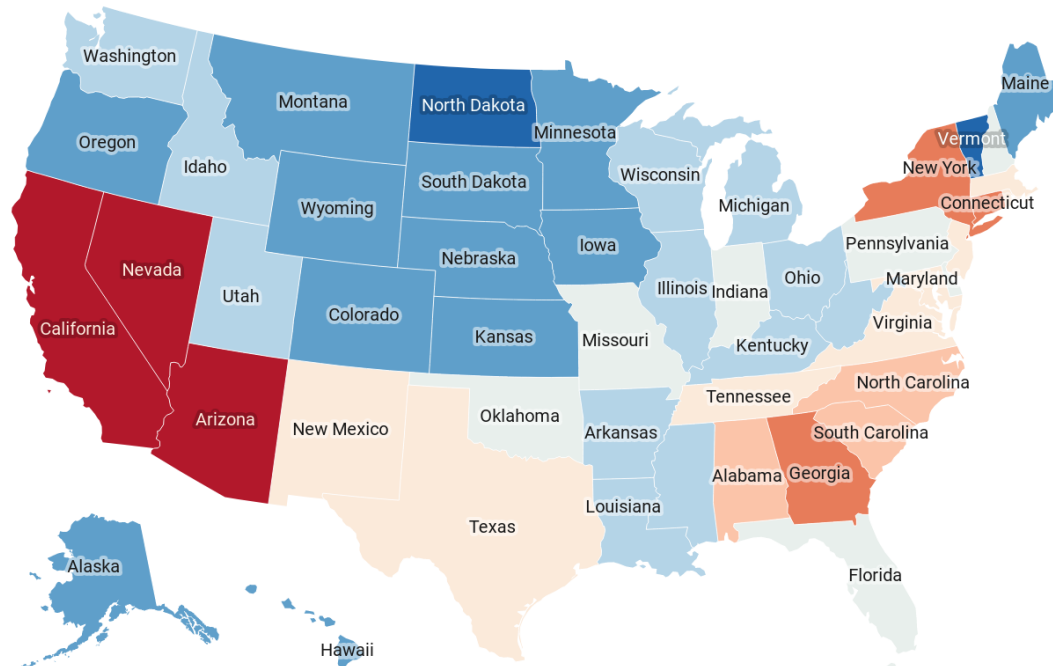
Covid-19 Inpatient Occupancy

Greatest strain on hospital beds continues to be in Arizona, California and Nevada; Situation is also a concern in Connecticut, Georgia and New York

Covid-19 Patients As % of All Inpatient Beds

As of January 7

< 10% **10%–20%** **20%–30%** **30%–40%** **40%–50%** **50%–60%** **60%–70%** **≥ 70%**



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

Covid-19

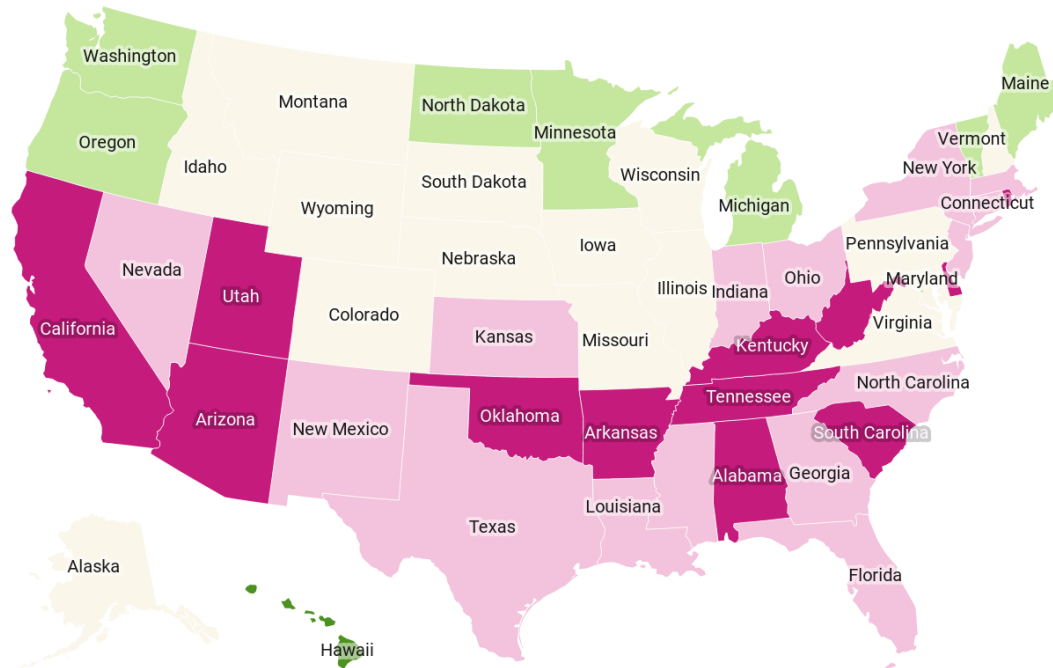
New Case Rate By State

New case rates are highest in the Southwest and parts of the South

New Cases / Million

7-Day Moving Average, As of January 7

< 200 200–400 400–600 600–800 ≥ 800



Map: Health Industry Advisor LLC • Created with Datawrapper

Covid-19

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; Tompkins County (Cornell), the lowest. Only 10 of the 33 areas exceeded the national rate

Metro Areas With Major Universities: New Daily Infections / 1M Population

7-Day Average, As of January 7

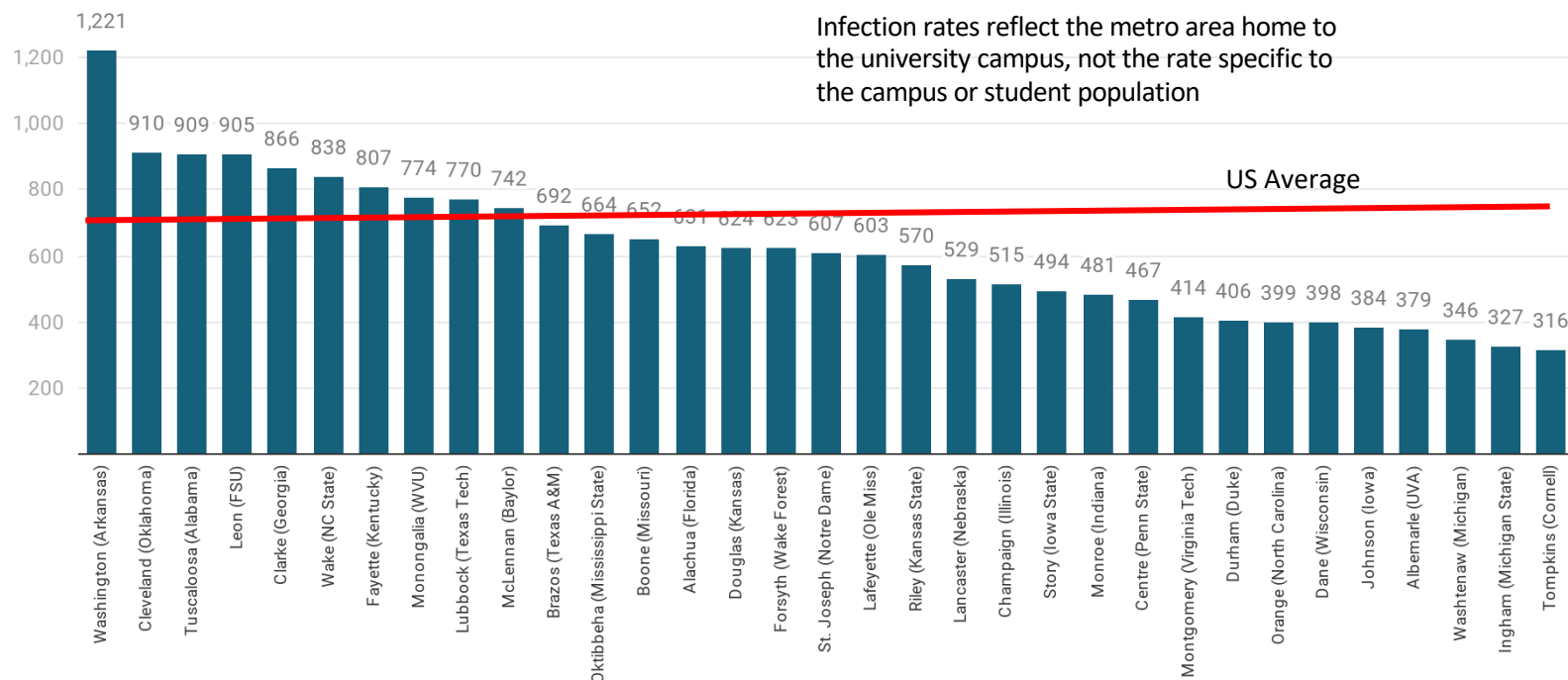


Chart: Health Industry Advisor LLC • Created with Datawrapper

Covid-19

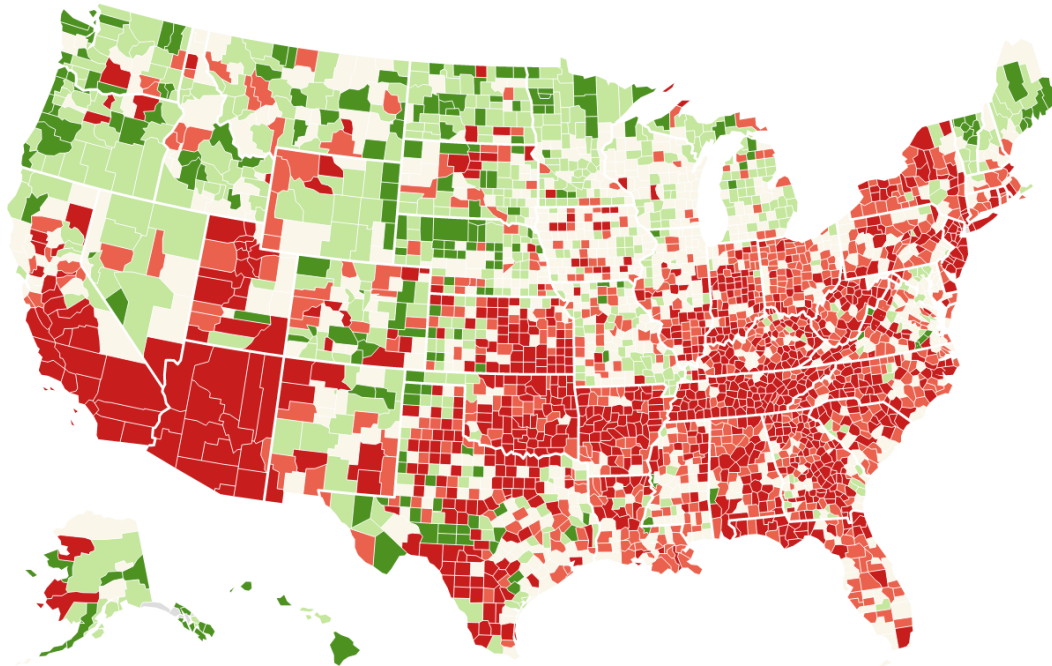
Metro Areas in the US

Newly detected cases per capita are at high rates across the US, although the Midwest and Northwest appear to be doing better than the rest of the country

New Daily Infections / Million

7-Day Moving Average, As of January 7

< 200 200-400 400-600 600-800 ≥ 800



Map: Health Industry Advisor LLC • Created with Datawrapper

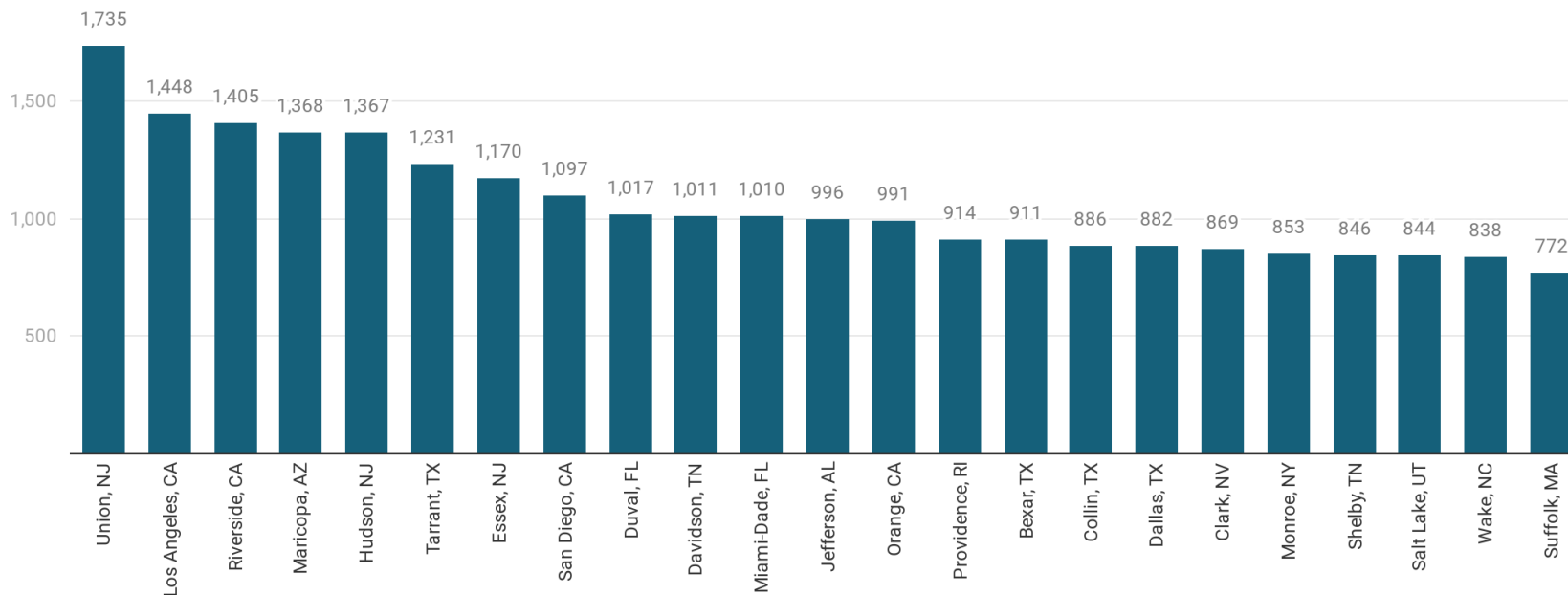
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Large Central Metro Areas in the US

Only 23 Large Central Metro Areas have newly detected cases per capita above the national average; 4 of these are in California and 4 in Texas

New Daily Infections / Million Population - Large Central Metro Areas

7-Day Moving Average, As of January 7



Health Industry Advisor LLC analysis

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

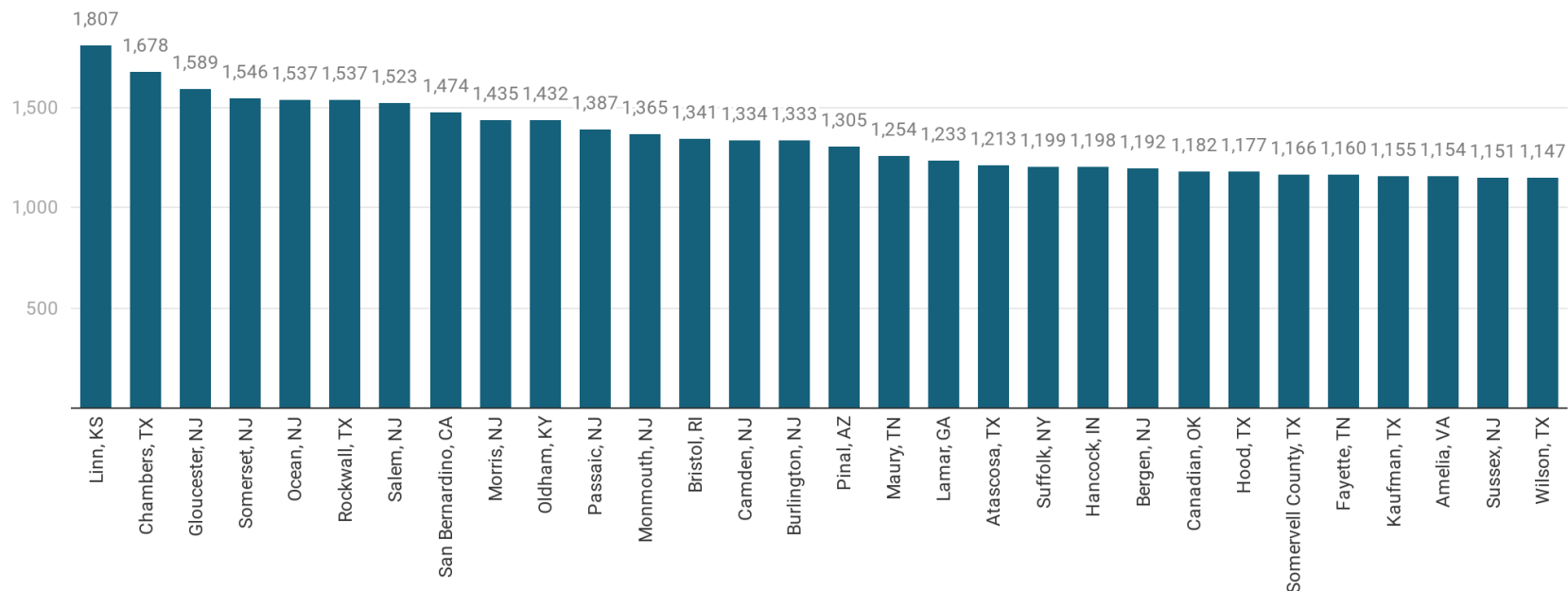
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Large Fringe Metro Areas in the US

163 Large Fringe Metro Areas have newly detected cases per capita above the national average; Of the 30 highest, 11 are in New Jersey and 6 in Texas

New Daily Infections / Million Population - Large Fringe Metro Areas

7-Day Moving Average, As of January 7



Health Industry Advisor LLC analysis

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

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Testing Results - US

Test volume had been low the past week, resulting in higher test-positive rates; With higher volume yesterday, the test-positive rate was lower than its average for the prior three weeks

Tests / Million / Day (US)

As of January 7

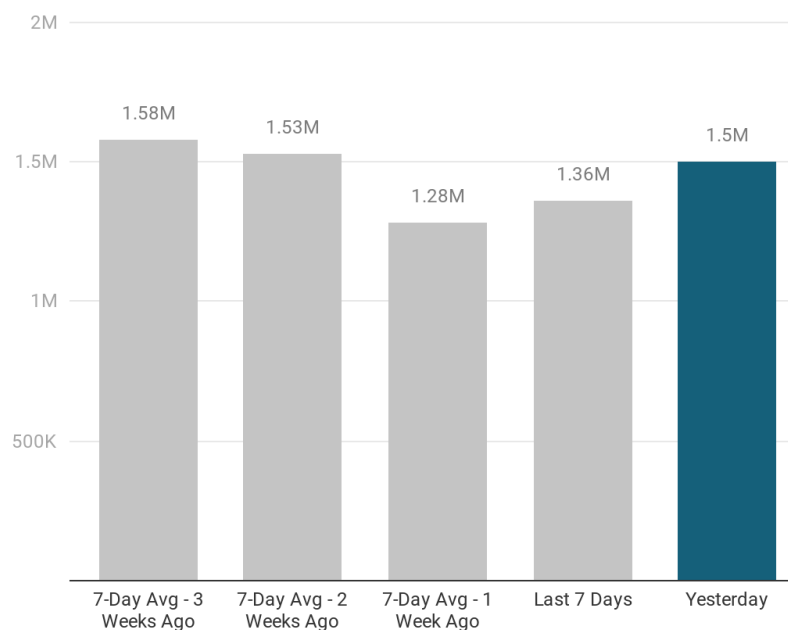


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Test-Positivity Rate

As of January 7

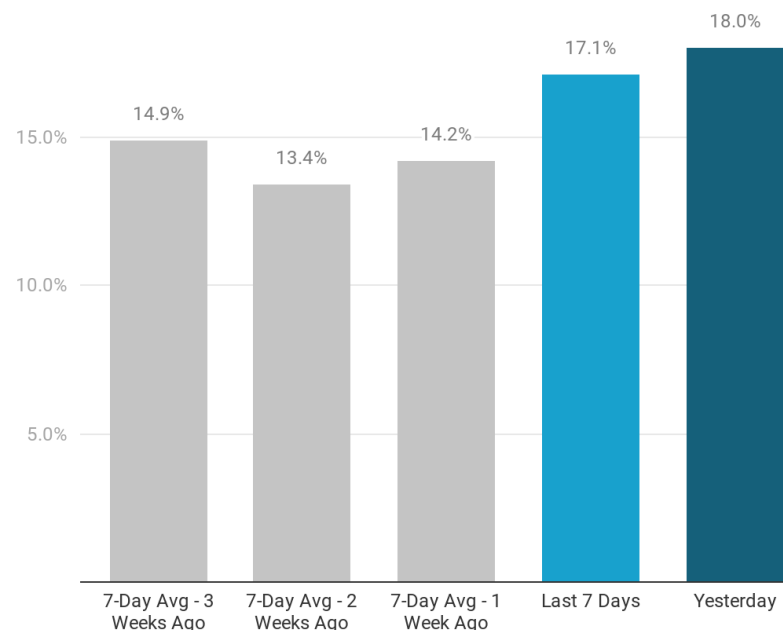


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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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>
- Oliver Wyman Pandemic Navigator, <https://pandemicnavigator.oliverwyman.com/forecast?mode=country®ion=United%20States&panel=mortality>
- Bloomberg Vaccine Trackers, <https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?sref=Z0b6TmHW>