Health Industry Advisor, llc

"Strategic Advice in an Era of Unprecedented Change"

Covid-19 "Vital Signs"

Issue # 269

January 25, 2021

Covid-19 "Vital Signs"

Highlights

- **Despite the increasing alarms about the vaccine rollout process, the US administered another 1.3 million doses yesterday. For the past four days, the US has averaged 1.3 million administered doses per day;**
  - As we have expressed several times, this begs the question about whether the President's "100 million doses in the first 100 days" target is a gross underestimate;
  - From our modeling, we estimate a potential 150-300 million doses by the end of these 100 days, depending on whether the JNJ and AstraZeneca vaccines become available in time and if the current Administration can drive improved efficiencies in the process;
  - As of yesterday, 28.4 million Americans have received at least one vaccine dose; 1.3 million have already received both shots.
- Testing volume receded over the past seven days relative to the prior 7-day period yet, remained higher than any other 7-day period. **The test-positive rate for the past seven days was demonstrably better than in recent weeks**.
- New cases and estimated infections continued to decline in the US:
  - This decline is encouraging, in light of concerns about the emergence of the highly transmissible B.1.1.7 ("UK") variant in the US. Still, this variant could reverse our recent gains;
    - Since we only perform far less of the RNA sequencing needed to isolate this variant, we genuinely do not know or its prevalence or how long it has been in this country;
    - Notably, the UK performed substantially more RNA sequencing and discovered its presence there as early as November. Despite this variant's predominance in the UK, this country has seen declining case rates recently, like what we have been experiencing in the US.
  - **The 7-day new cases per capita have declined fourteen consecutive days**; yesterday's rate was as low as it has been since December 2 - including the recent holiday period
  - **Estimated actual daily infections have been declining day-over-day since late-December**, according to both the Yale/Harvard and Youyang Gu models;
  - Gu's estimate of the reproduction rate (R_t) has declined since December 23 and has been below 1.0 for fifteen consecutive days. **Gu's most recent R_t estimate is as low as it has been since May 2**.
  - **Recently hard-hit states - Arkansas, California, Georgia, New York, Oklahoma, and Utah have seen falling new case rates over the past week**. Rates remain highest in Arizona and South Carolina.
- Covid-19 hospitalizations continue receding:
  - **Covid-19 hospital census has declined thirteen of the past fifteen days, falling nearly 10% during that time;**
  - **Hard-hit states - California, Georgia, and Nevada saw measurable relief in this census week-over-week**. Nonetheless, census levels remain high in these states and Arizona, Connecticut, and New York.
- Deaths reported with coronavirus remain tragically high. Nonetheless, **the most-recent 7-day rate was lower than each of the two preceding weeks**.

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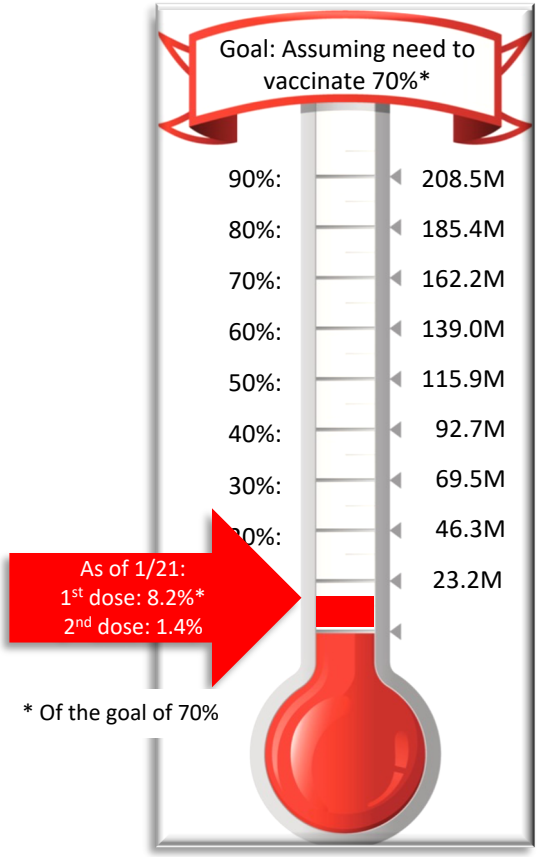
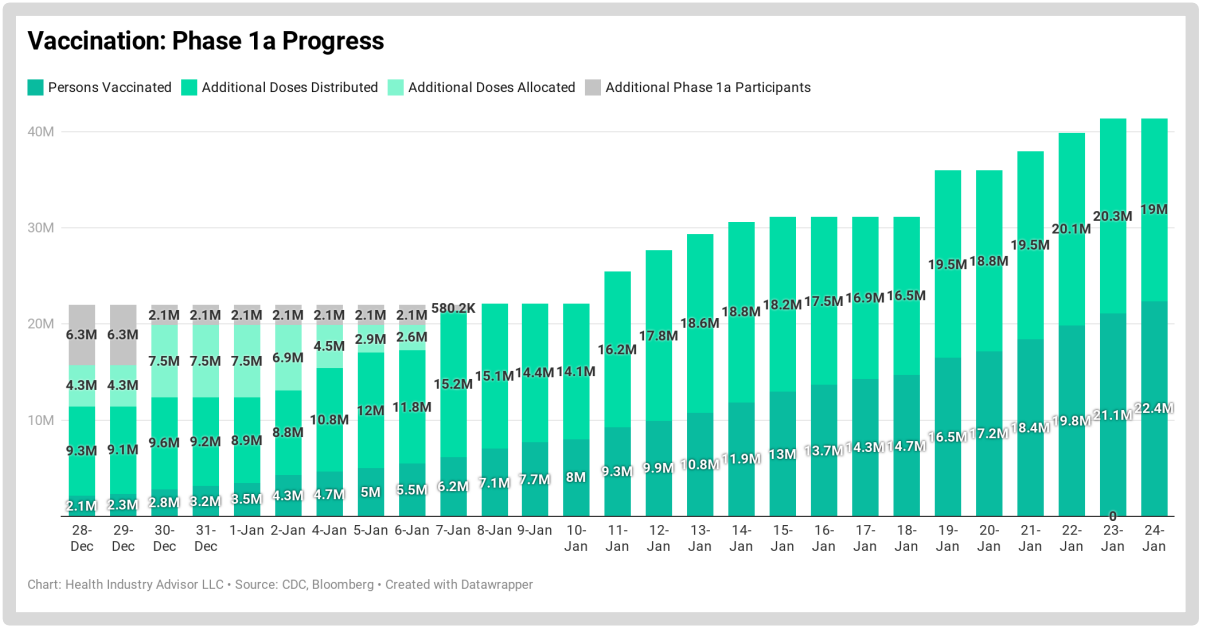
Vaccine Tracking

As of yesterday, about 28.4 million doses were reportedly administered. There were 1.3 million doses administered yesterday and an average of 1.3 million daily over the past four days. At least 3.2 million people have received two doses





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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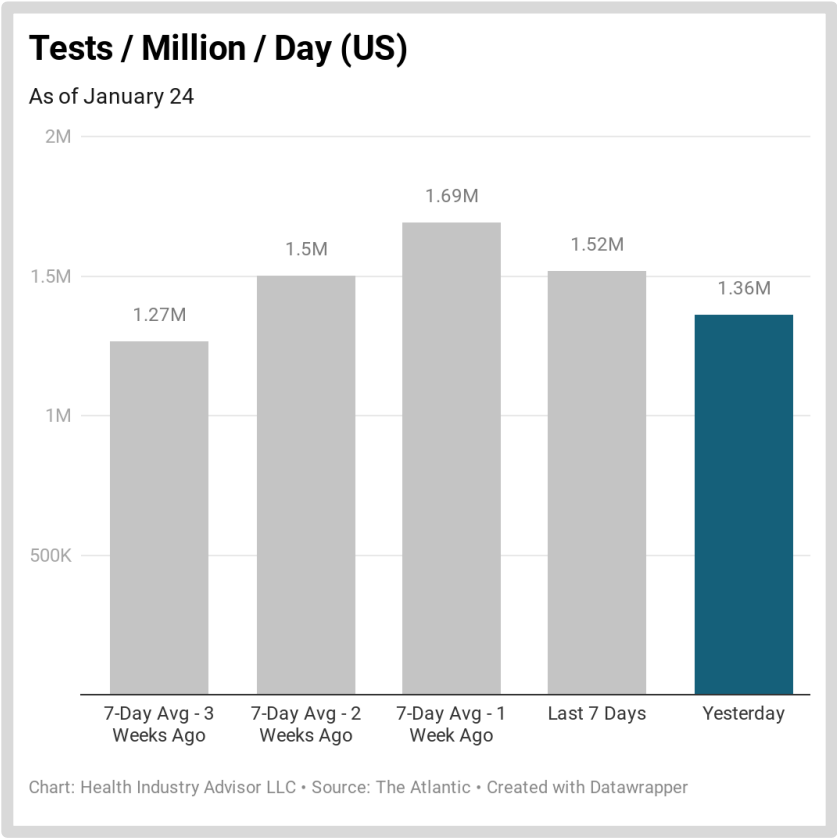
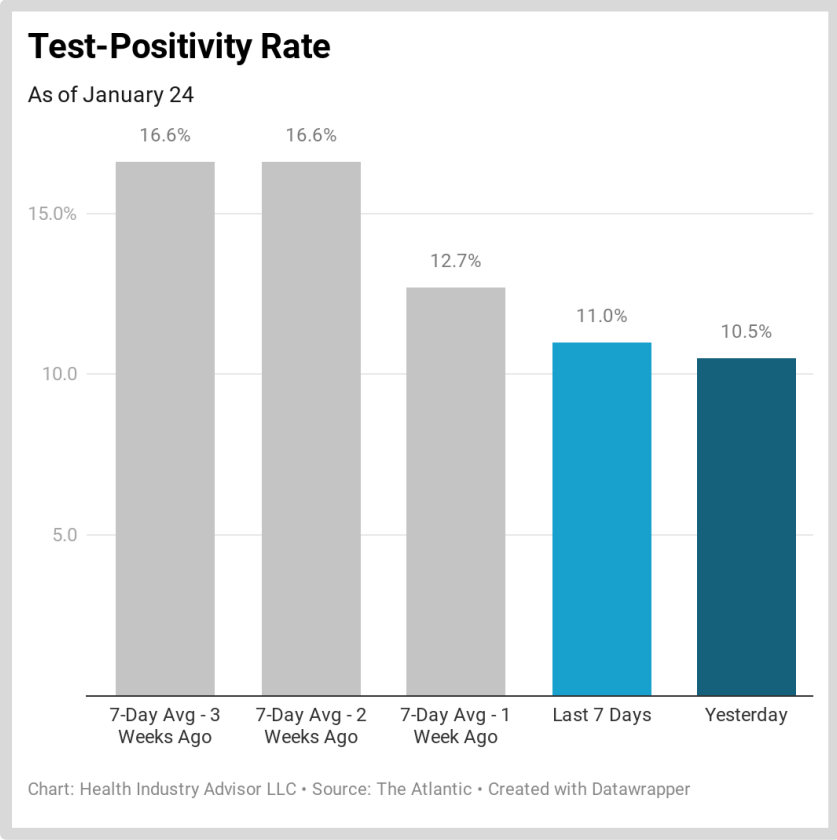
Testing Results - US

The 7-day average test volume has receded recently. Nonetheless, the test-positive rate for the day and the past week showed solid improvement





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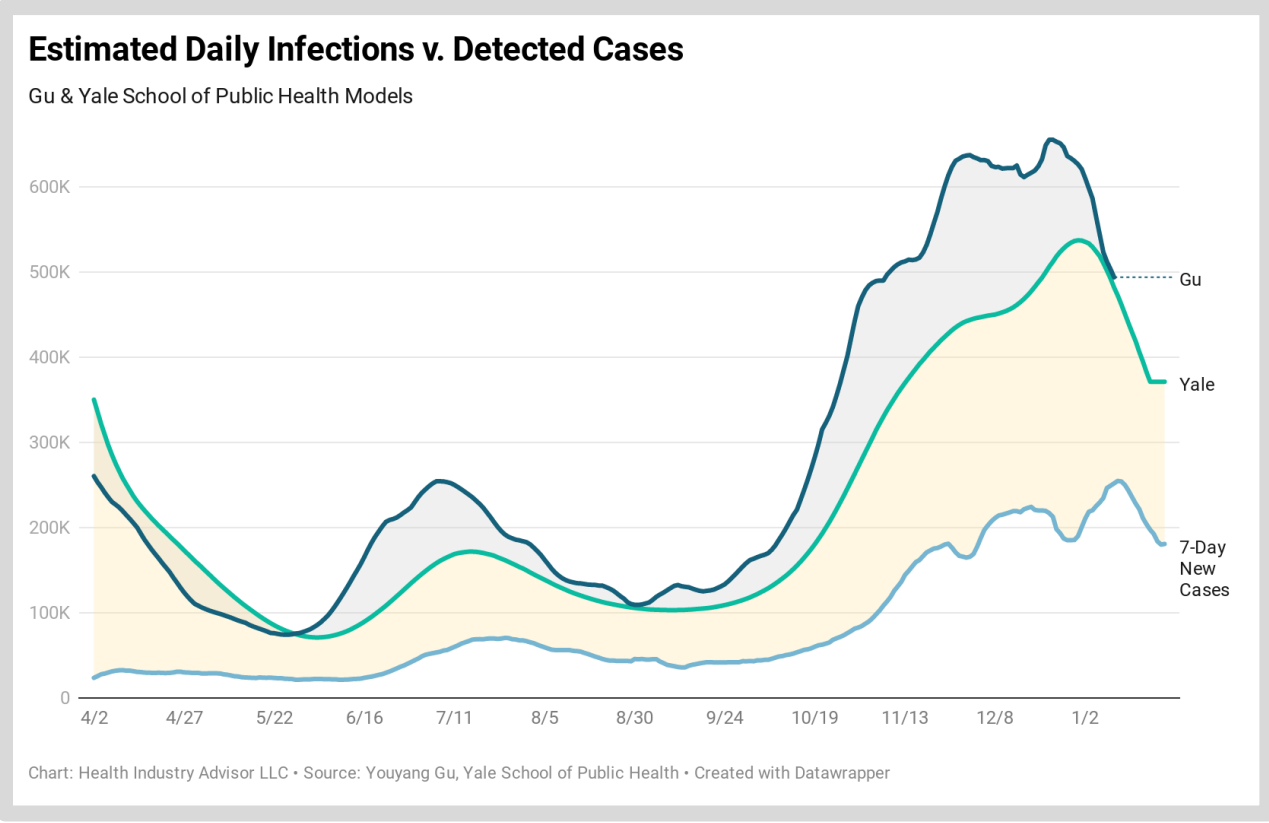
Two Models of Estimated Daily Infections

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 December 31. By comparison, the 7-day new case rate peaked on January 4-11

- 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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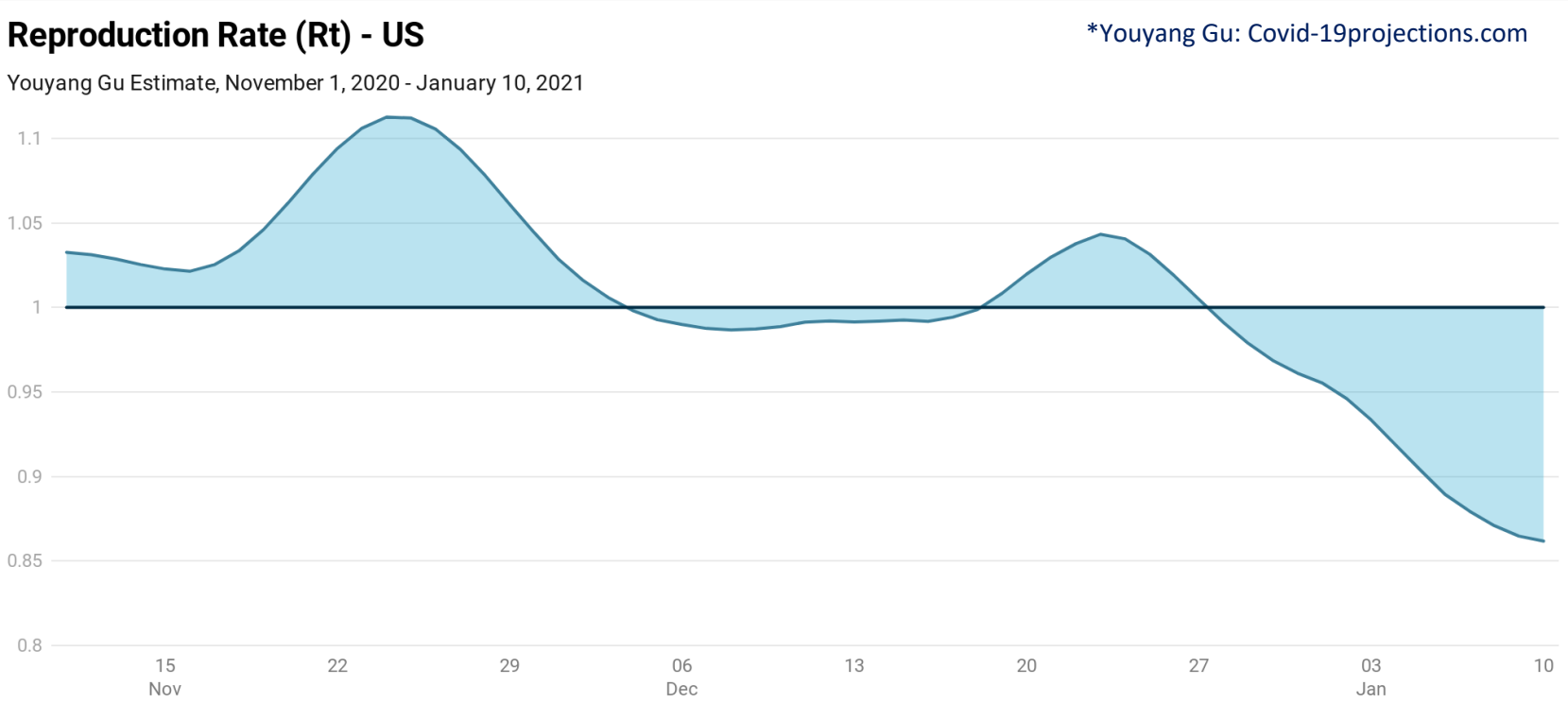
Reproduction Rate (R_t) – Gu* Model

Gu's estimate of R_t continues to decline and has been below 1.0 for fifteen successive days. The most-recent estimate is lower than it has been since May 2. Notably, the recent peaks occurred two days before Thanksgiving and Christmas



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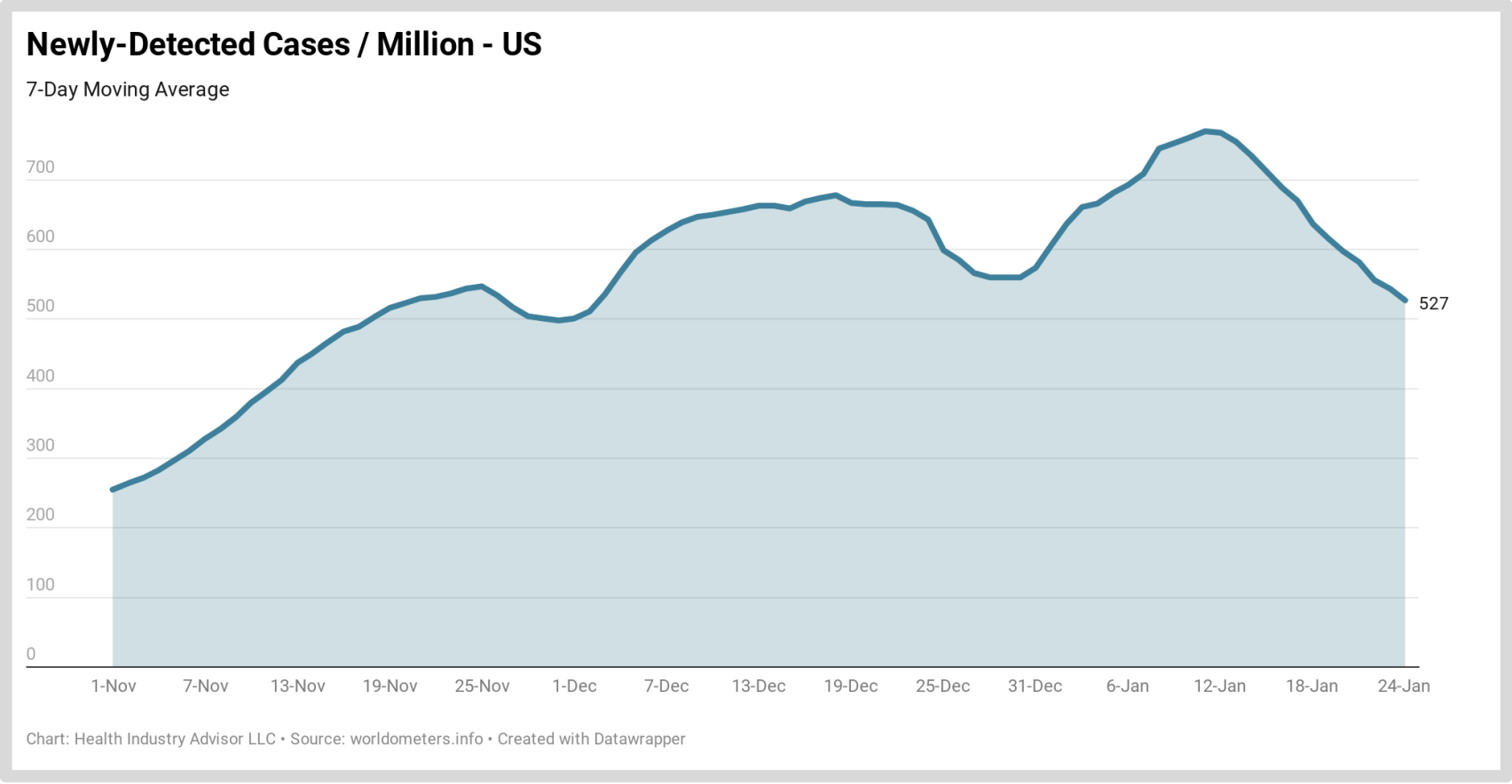
Newly Detected Cases / Million - US

Newly detected cases (7-day average) in the US have now declined on fourteen successive days. -dropping 32% in that time. This rate is as low as it has been since December 2, including the holiday period



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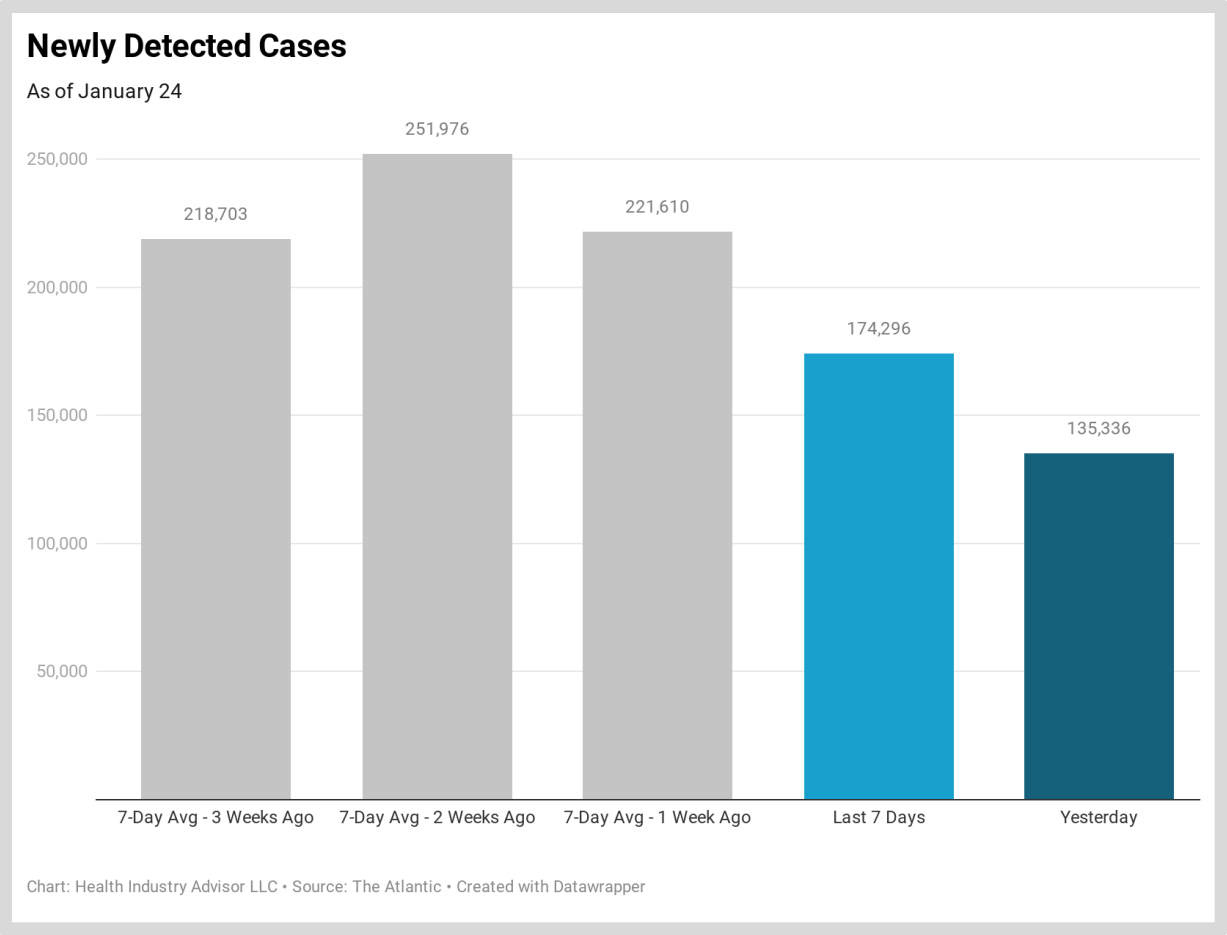
Newly Detected Cases Per Day

Reported new cases in the US yesterday were low, typical for a Sunday. Still, new cases for the past week dropped significantly from comparable periods from the prior three weeks – even the periods that included Christmas and New Year's Eve.



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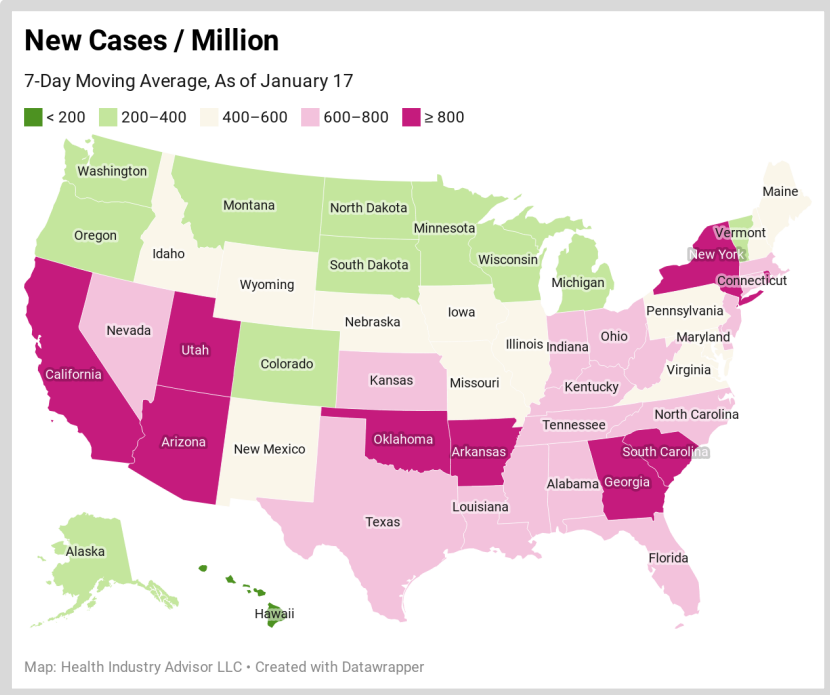
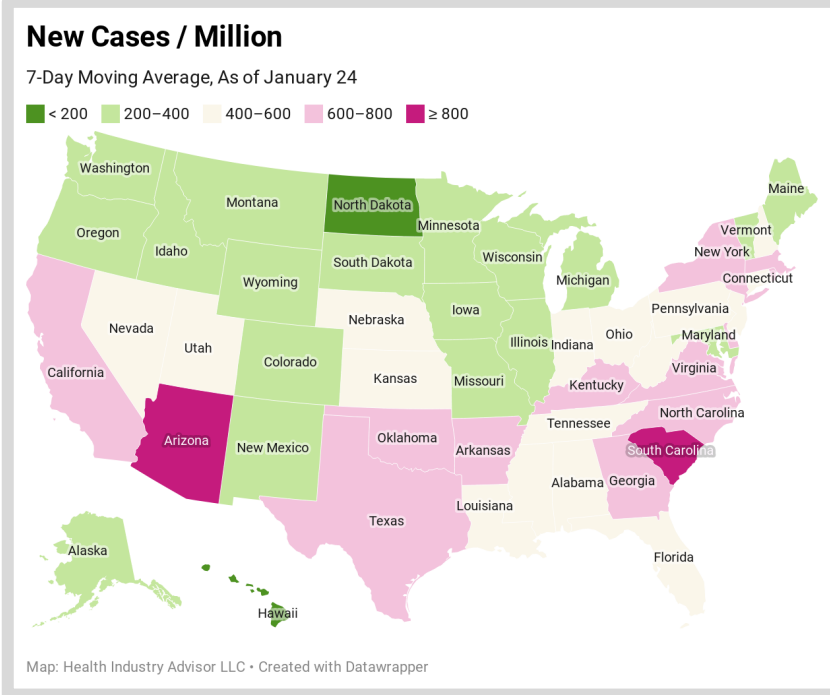
New Cases / Million

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

January 17	January 24





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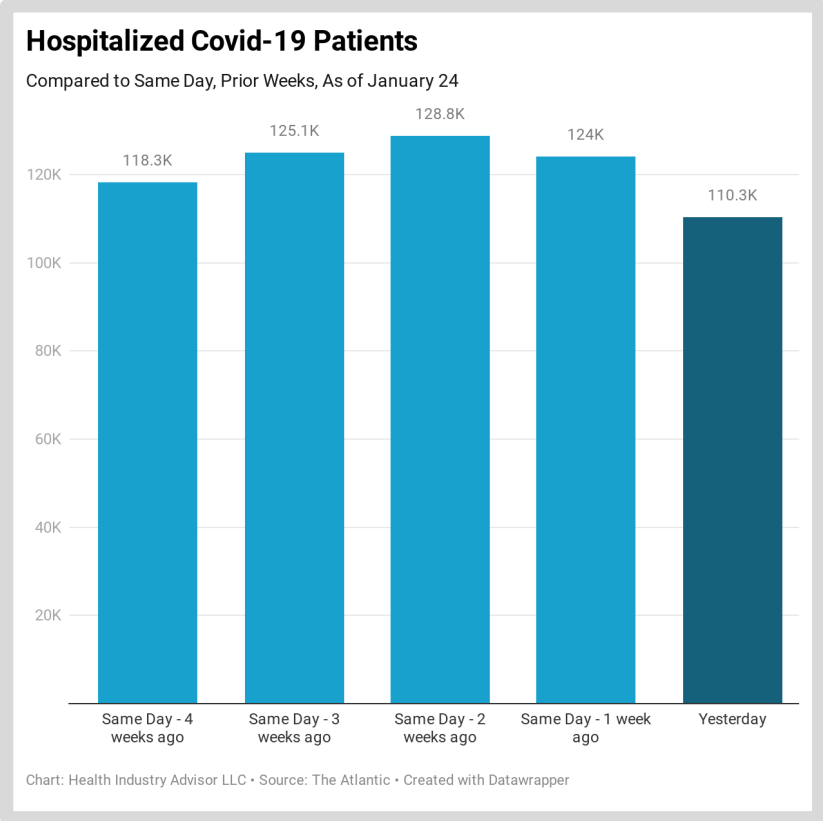
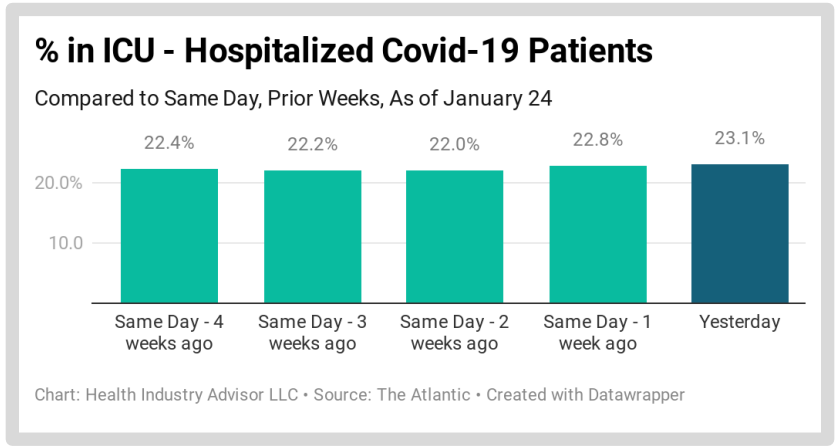
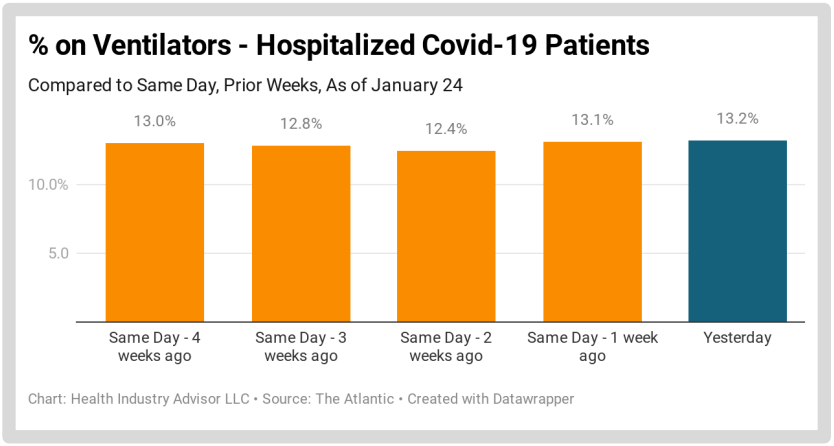
Covid-19 Hospitalizations

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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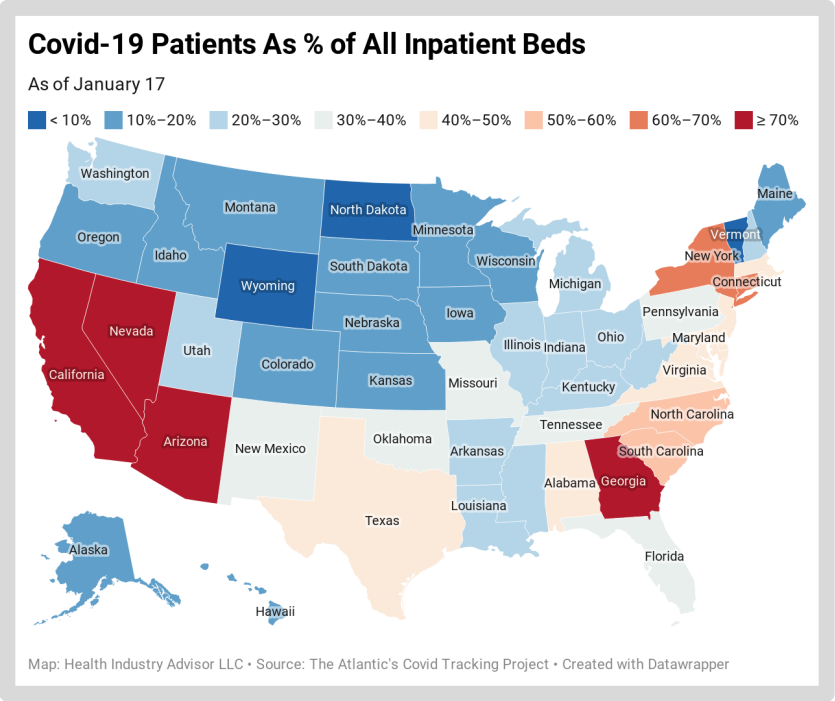
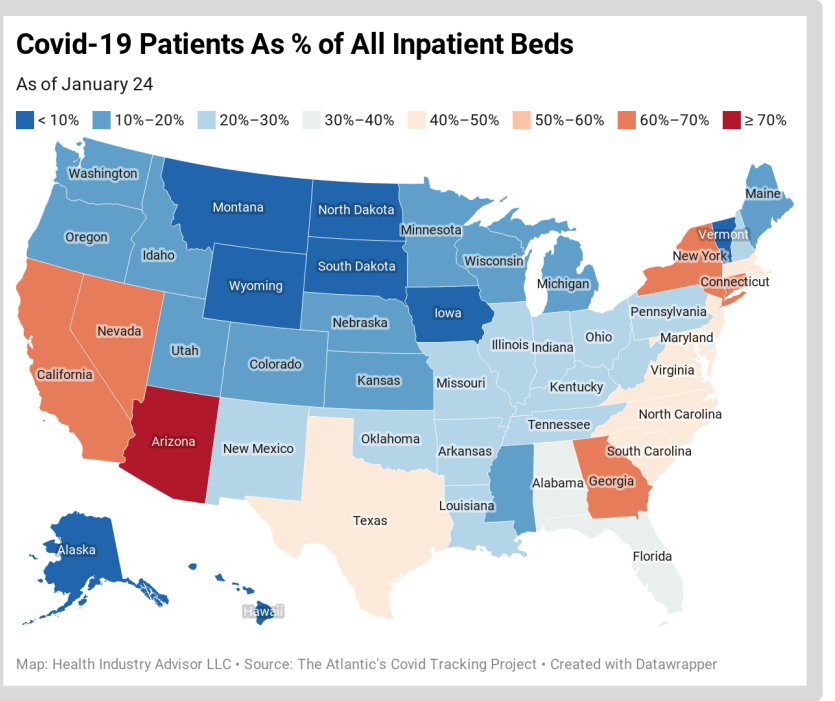
Covid-19 Hospitalizations

Hospitalization rates improved week-over-week in hard-hit California, Georgia, and Nevada. Rates remain high in these states, however, as well as Arizona, Connecticut and New York





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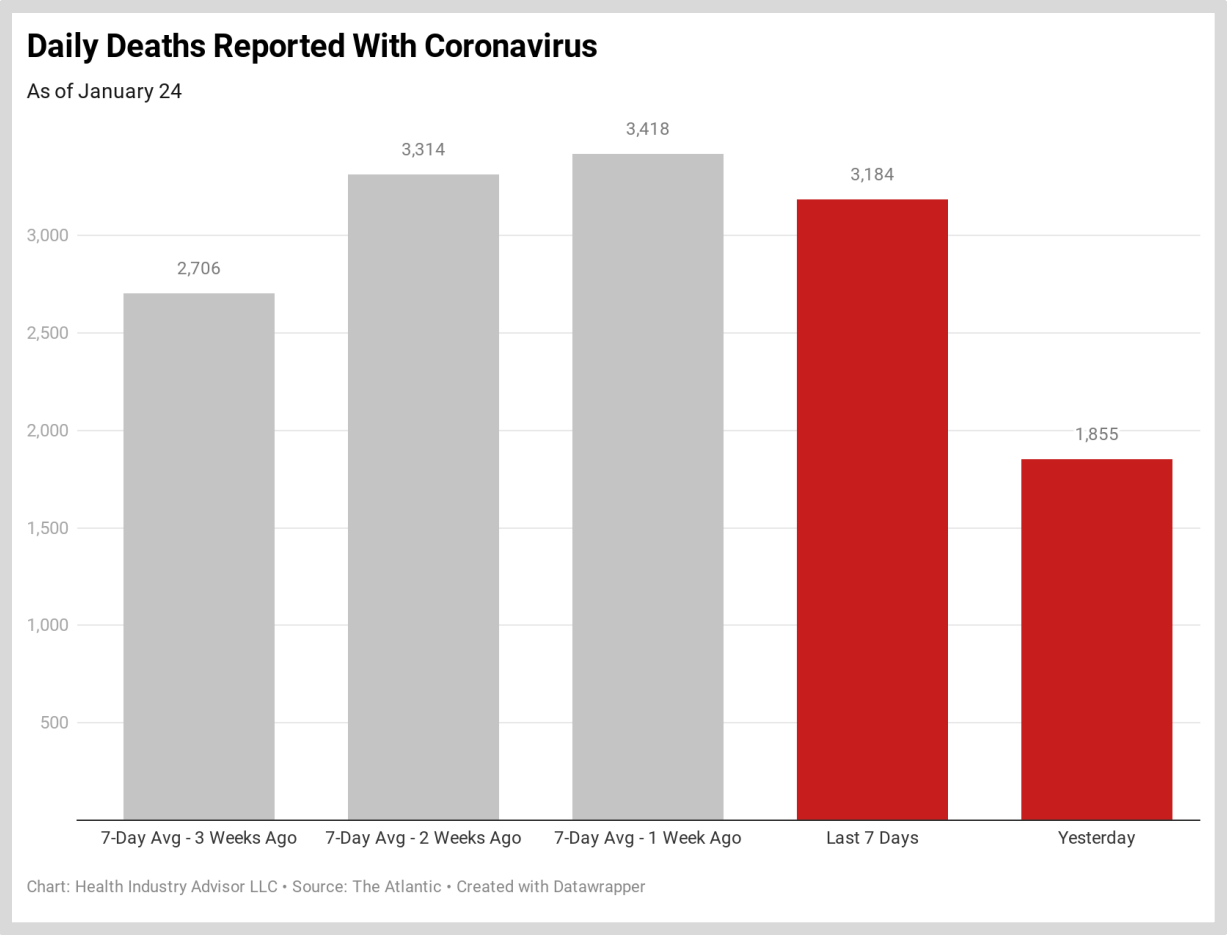
Deaths Reported With Coronavirus

Typically for a Sunday, there were fewer deaths reported with coronavirus than on recent days. The 7-day average death rate was lower than each of the prior two comparable 7-day periods



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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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