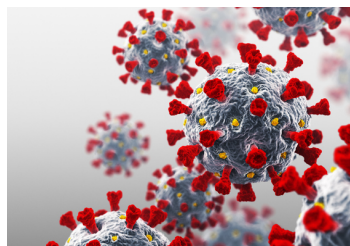


Covid-19 "Vital Signs"

Issue # 277

February 3, 2021



Cases, hospitalizations, and deaths should decline in the US, according to various expert projections:

- The [Covid-19 Forecast Hub](#) publishes ensemble forecasts every Tuesday, drawing from more than 50 independent academic and research organizations; these forecasts cover a rolling four-week time period:
 - New daily cases decline nearly 30% over the next four weeks;
 - Daily deaths drop 23% during this period;
 - Cumulative deaths surpass 500,000 by the end of February.
- The [Institute for Health Metrics and Evaluation \(IHME\)](#) updates its forecasts frequently; its January 28 forecast extends out to May 1:
 - New infections plummet 60% over the next thirteen weeks;
 - Covid-19 inpatient census drops 64% during that time;
 - Daily deaths slip lower this week, then fall by two-thirds from mid-February to late-April.
- [Youyang Gu](#) revises his Covid-19 infection model daily:
 - Estimated infections shrunk by 30% in January, and will shrink by another 50% in February;
 - Estimated infections hold steady in March and April, before falling by another two-thirds in May.

New cases are falling across the world, including areas tied to the new variants:

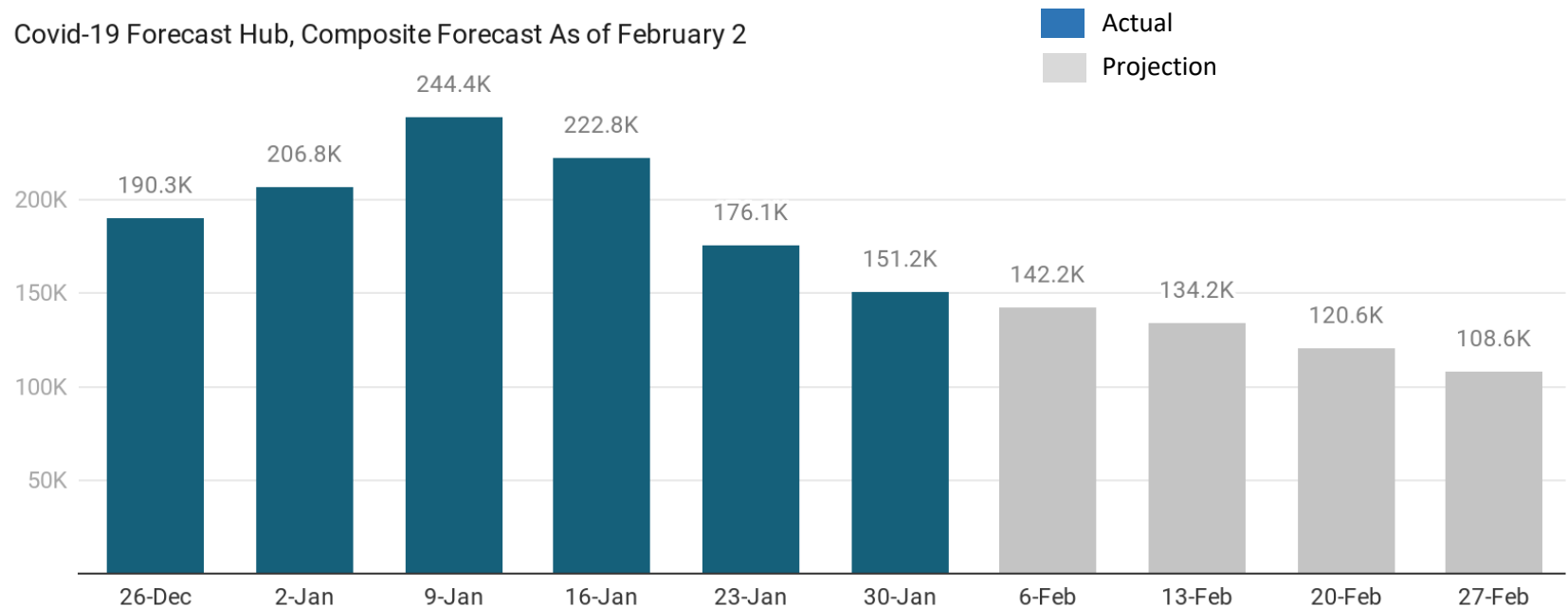
- Fifty-two countries benefited from declining case rates over the past two weeks; only twenty-one countries suffered increasing rates (among countries of 1 million or more population; with a rate change greater than 10 daily per 1 million). The rate changes were larger for those countries experiencing declining rates than for those experiencing increasing rates;
- Case rates fell during this two-week period in fifteen of the twenty countries with the highest rates in the world; Portugal was the most notable exception; its rate increased despite already being the highest in the world;
- Rates are dropping in South Africa, the United Kingdom, and the US, each of which is associated with a new variant of the virus; the Brazilian rate has held steady, despite concerns of a new variant in that country.

Covid-19 Cases: Ensemble Forecast

Projected new cases drop each week during the four-week forecast period

Newly-Detected Cases Per Day

Covid-19 Forecast Hub, Composite Forecast As of February 2



For the week ending on the date shown

Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

<https://viz.covid19forecasthub.org>

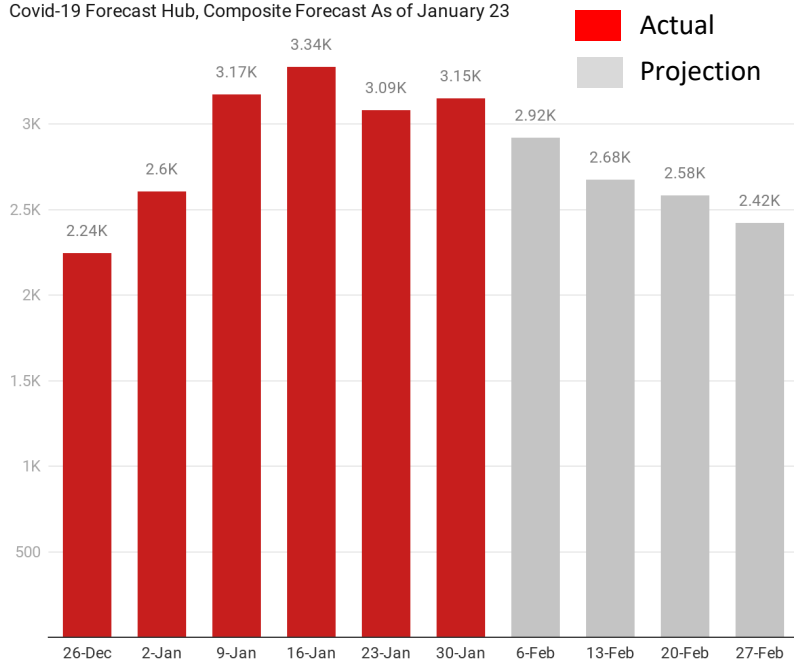
Covid-19 "Vital Signs"

Death Projections – Ensemble Forecast

Projected daily deaths fall each week of the forecast period; Cumulative deaths with Covid-19 surpass 500k near the end of February

Newly-Reported Deaths Per Day

Covid-19 Forecast Hub, Composite Forecast As of January 23

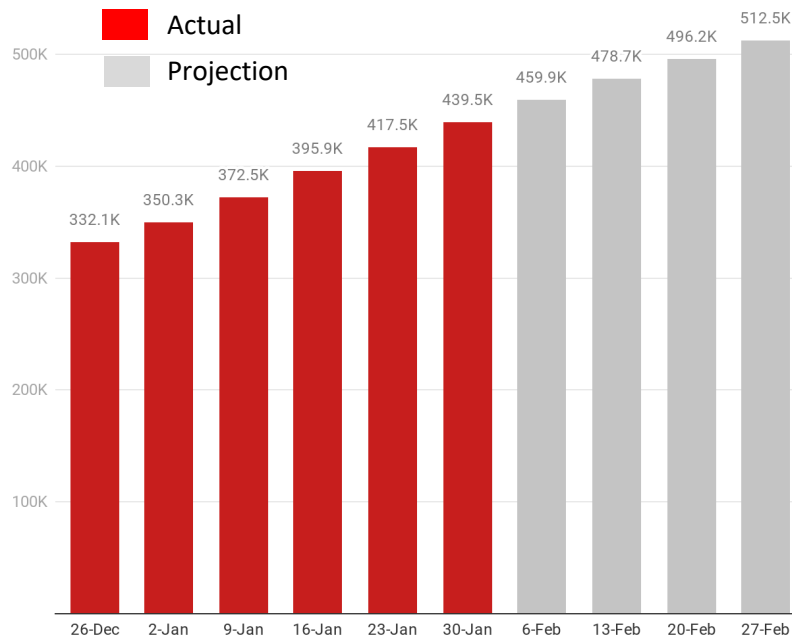


For the week ending on the date shown

Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

Cumulative Deaths

Covid-19 Forecast Hub, Composite Forecast As of February 2



For the week ending on the date shown

Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

<https://viz.covid19forecasthub.org>

Covid-19 "Vital Signs"

Covid-19 New Case Projections - IHME

Daily cases peaked days before Christmas. Projected new cases recede every week through the end of April

Daily Covid-19 Cases

Institute for Health Metrics and Evaluation Projections, As of January 28

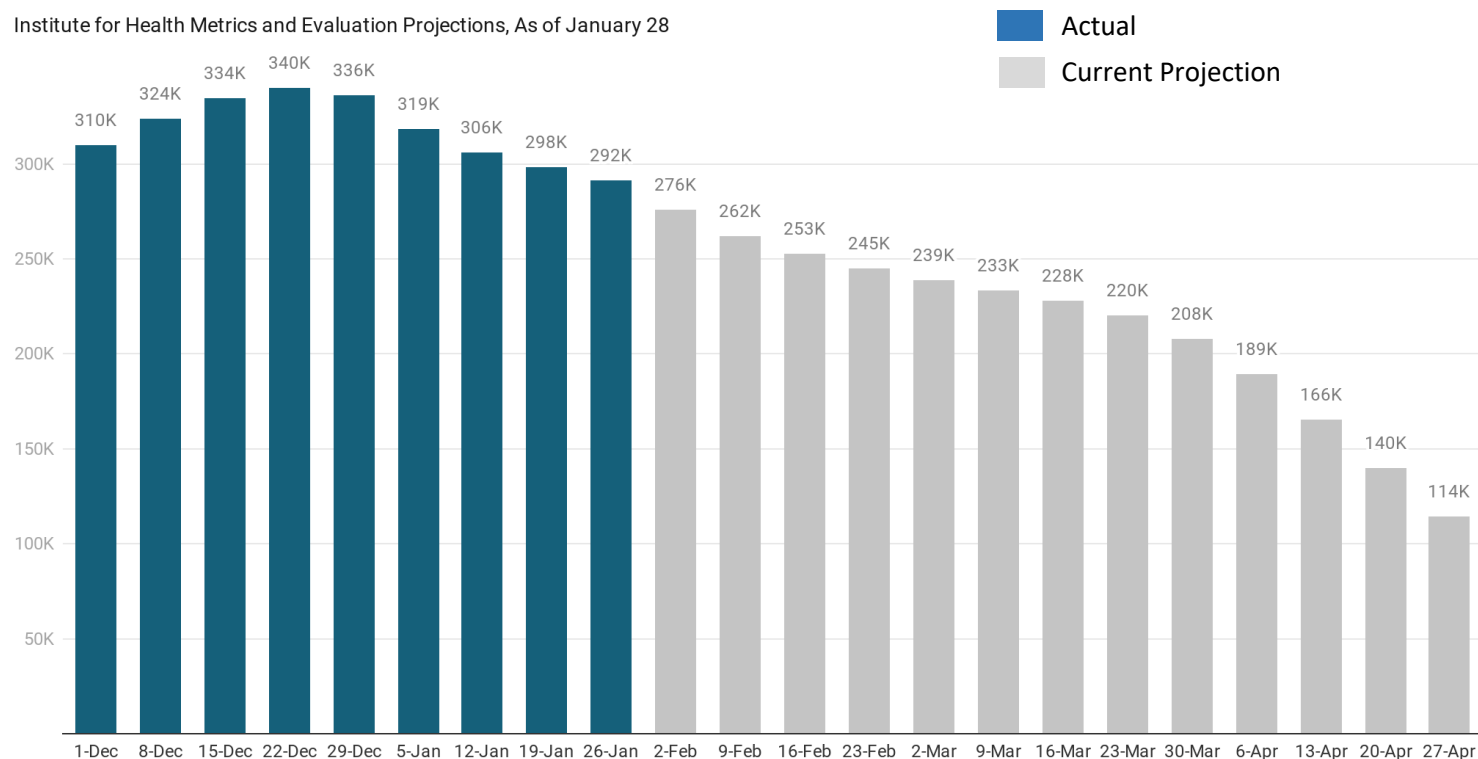


Chart: Health Industry Advisor LLC • Source: IHME • Created with Datawrapper

[Institute for Health Metrics and Evaluation](#)

Covid-19 Daily Inpatient Day Projections - IHME

Covid-19 patient census peaked in early January. Projected census declines throughout the projection period

Daily Covid-19 Inpatient Census

Institute for Health Metrics and Evaluation Projections, As of January 28

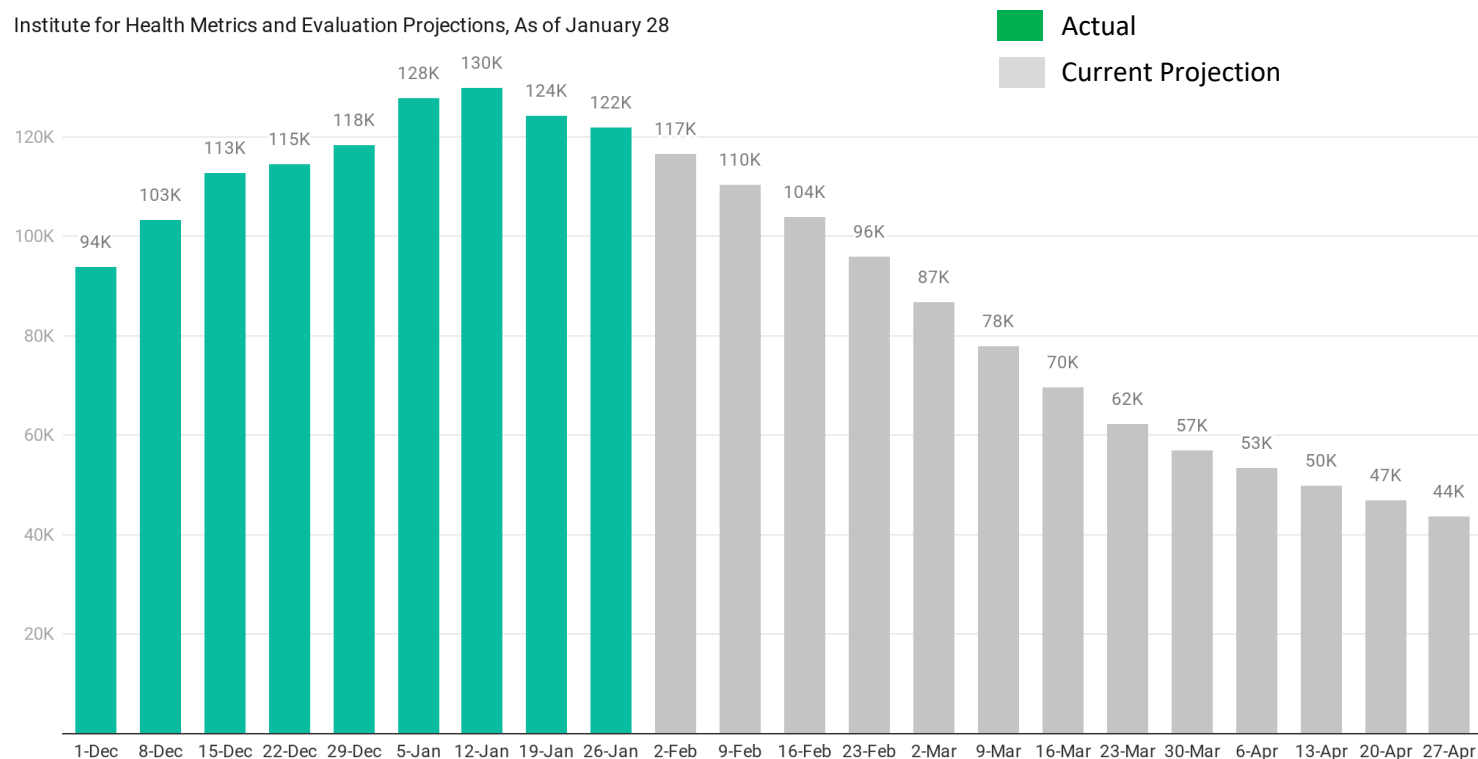


Chart: Health Industry Advisor LLC • Source: IHME • Created with Datawrapper

[Institute for Health Metrics and Evaluation](#)

Death Projections - IHME

Projected deaths diminish throughout the forecast period

Daily Deaths With Covid-19

Institute for Health Metrics and Evaluation Projections, As of January 28

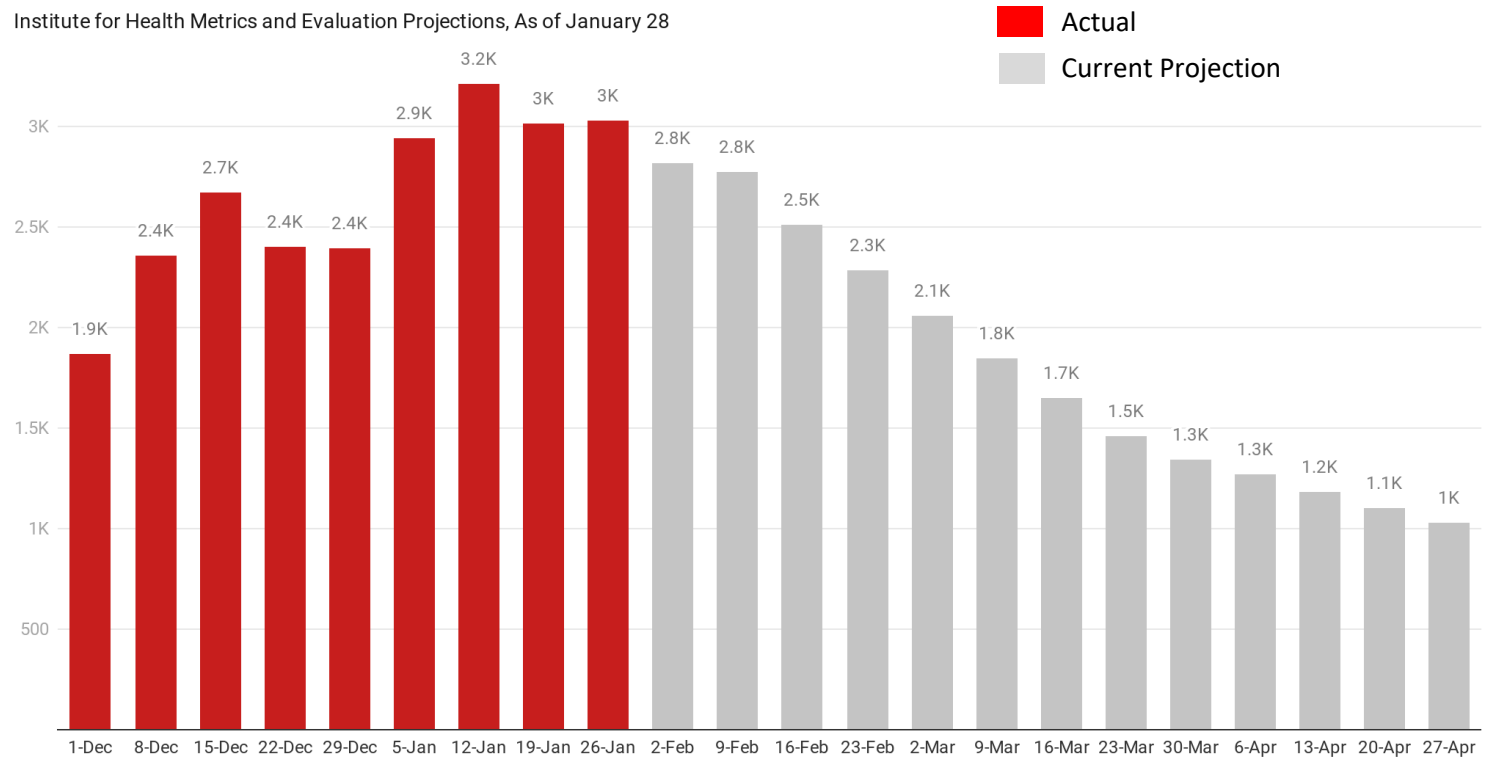


Chart: Health Industry Advisor LLC • Source: IHME • Created with Datawrapper

[Institute for Health Metrics and Evaluation](#)

Estimated New Infections – Gu Model

Estimated new infections plummet in February and again in May

Estimated Monthly Infections

Gu Model, As of February 1

Using data from <https://covid19-projections.com>, accessed February 3, 2021

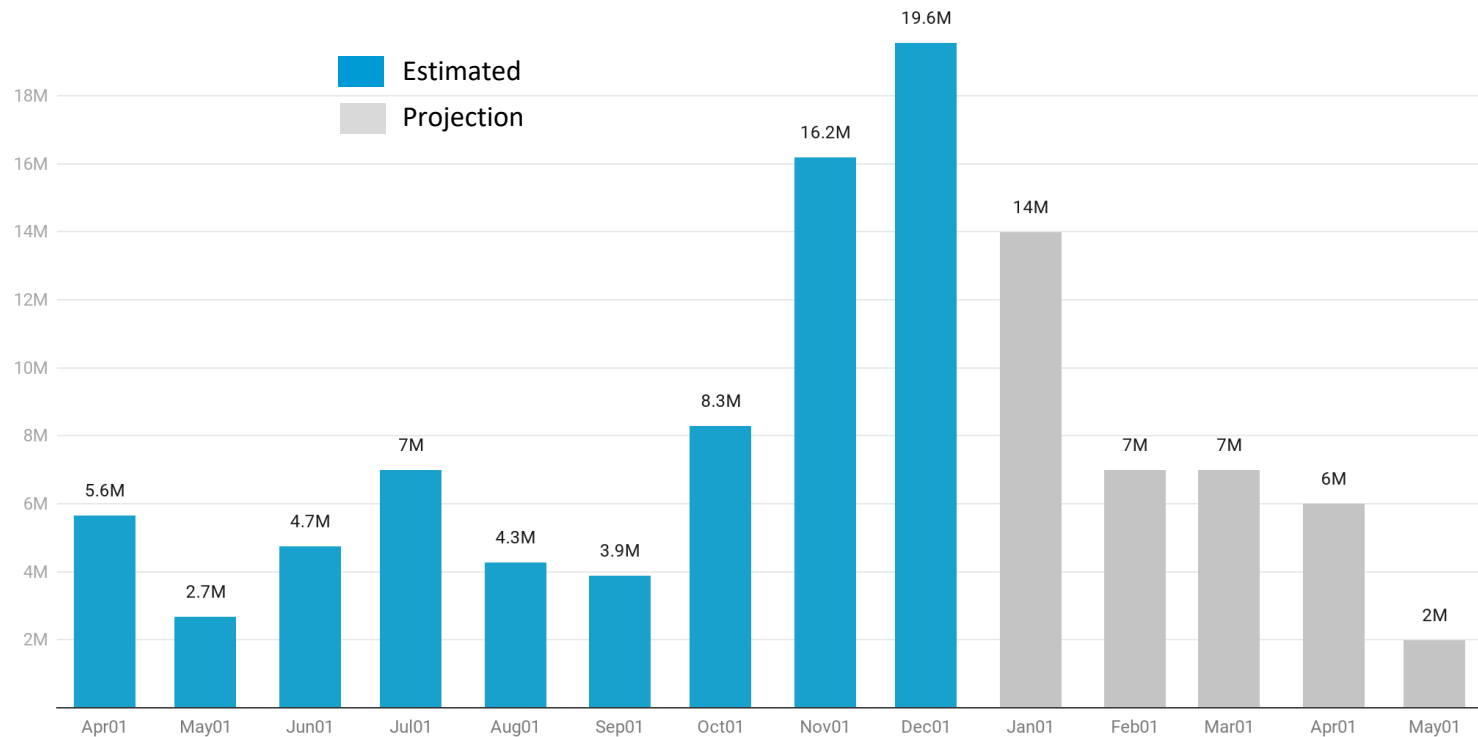


Chart: Health Industry Advisor LLC • Source: Youyang Gu • Created with Datawrapper

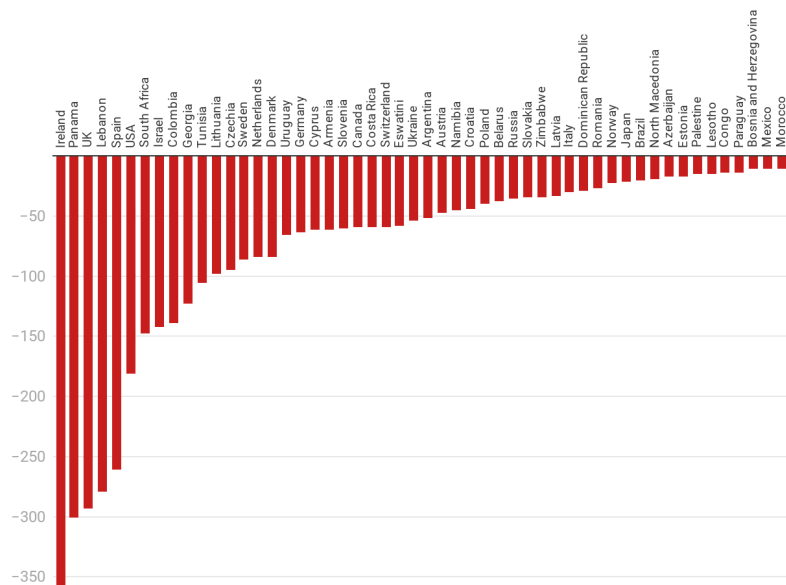
Covid-19 "Vital Signs"

Changes in New Case Rates Over Last Two Weeks

Case rates dropped in most countries over the past two weeks. Fifty-two countries reported declining rates; Twenty-one reported increasing rates, with most being relatively small increases

Countries With Declining Covid-19 Case Rates

Change in Two Weeks, 7-Day Average: Daily Cases/M, As of February 2

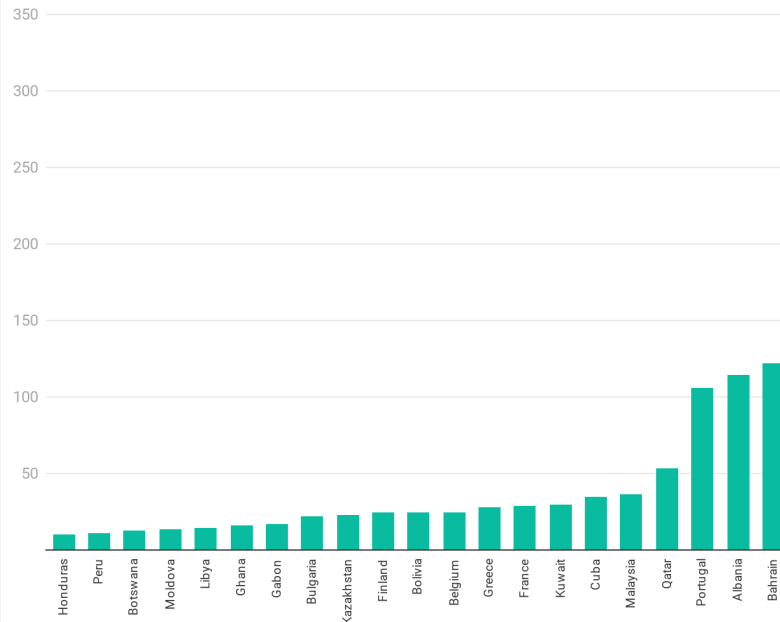


Countries with 1 M or greater population. Change in case rate > 10 daily cases / M

Chart: Health Industry Advisor LLC • Created with Datawrapper

Countries With Declining Covid-19 Case Rates

Change in Two Weeks, 7-Day Average: Daily Cases/M, As of February 2



Countries with 1 M or greater population. Change in case rate > 10 daily cases / M

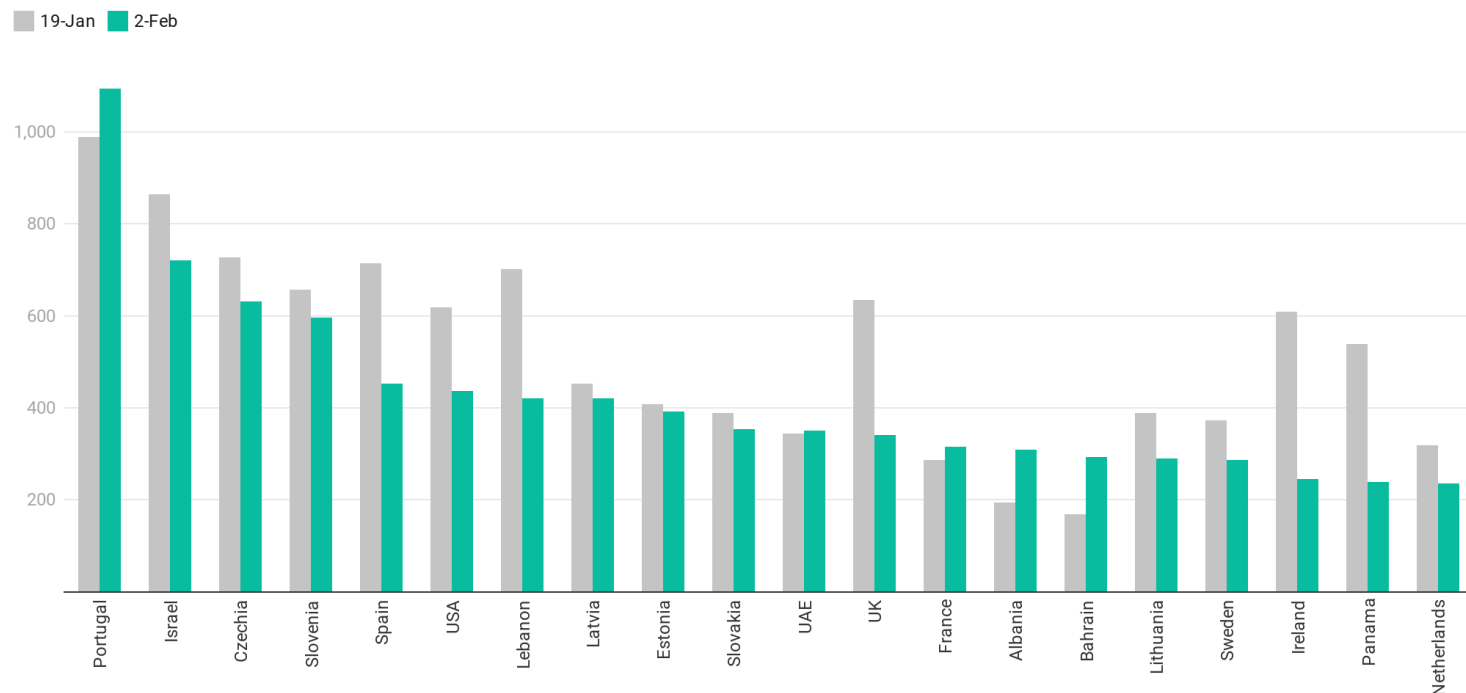
Chart: Health Industry Advisor LLC • Created with Datawrapper

Changes in New Case Rates Over Last Two Weeks

Case rates fell in fifteen of the twenty countries with the highest case rates in the world. Portugal is the notable exception

Countries With Highest Case Rate (Top 20)

Daily Cases/M, 7-Day Average, As of January 18 & February 2



Countries with 1M or more population

Chart: Health Industry Advisor LLC • Created with Datawrapper

Case Trends – Countries Tied to New Variants

Case rates have declined in three countries tied to new variants – South Africa, United Kingdom and the US; rates are stable in Brazil

Countries Noted For Variants: Newly Detected Cases Per Million

7-Day Moving Average

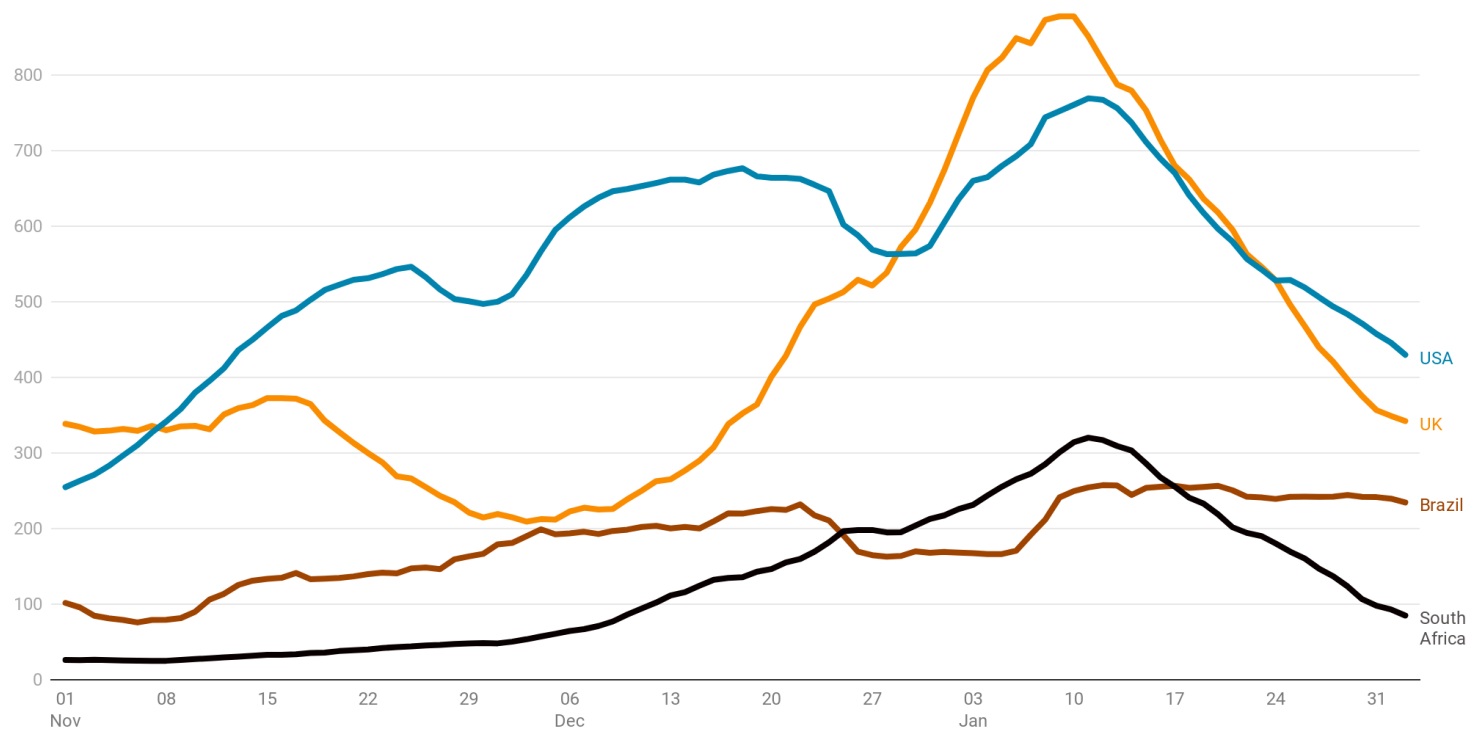


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Covid-19 “Vital Signs”

Estimated Daily Infections & New Case Rates

New cases and infections are plummeting in the US

- 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 v. Detected Cases

Gu & Yale School of Public Health Models

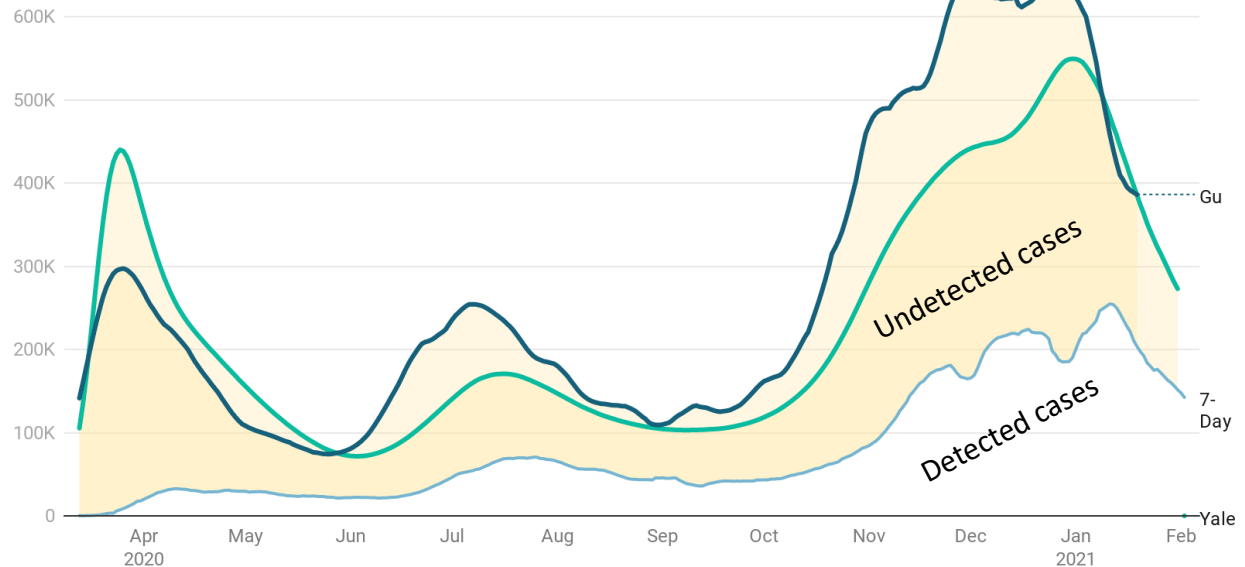


Chart: Health Industry Advisor LLC • Source: Youyang Gu, Yale School of Public Health • Created with Datawrapper

Newly Detected Cases Per Day

The US 7-day new case rate plunged by 44% over the past three weeks; This rate reached its lowest point since November 12. The rate outside the US dropped 25% during this three-week period

Newly Detected Cases

As of February 2

United States Outside the US

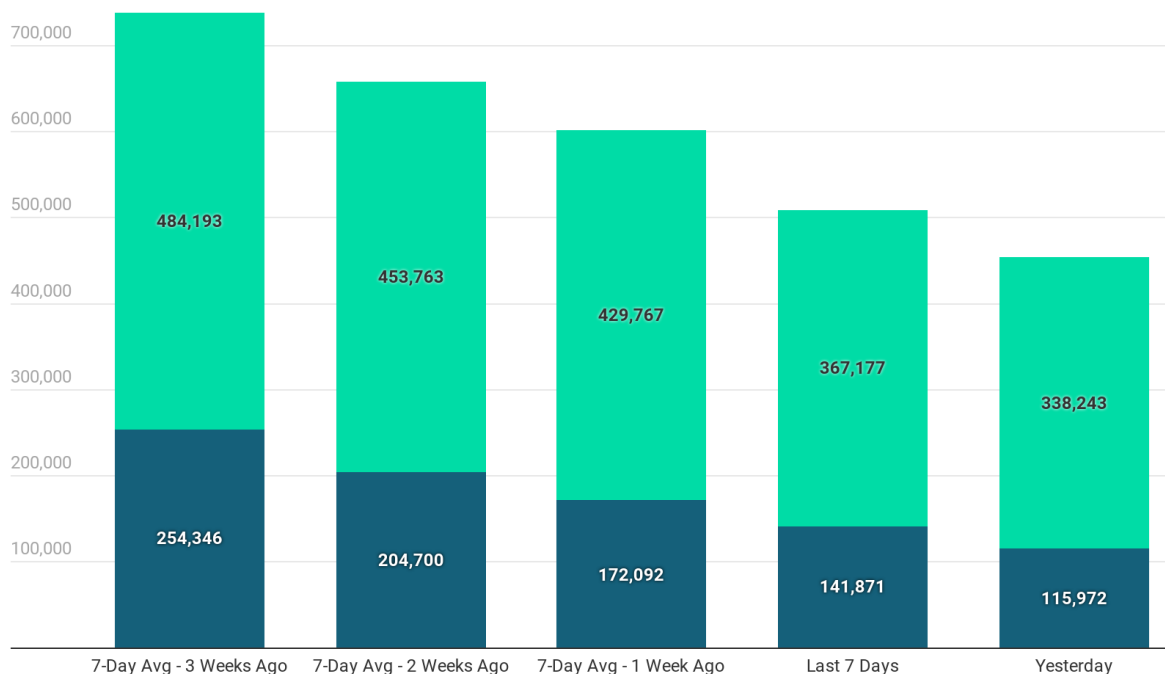


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Covid-19 Hospitalizations

Covid-19 hospitalizations are plunging, with nearly 40k fewer patients yesterday than on January 6 (30%). Yesterday's Covid-19 census was lower than any day since November 28

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of February 2

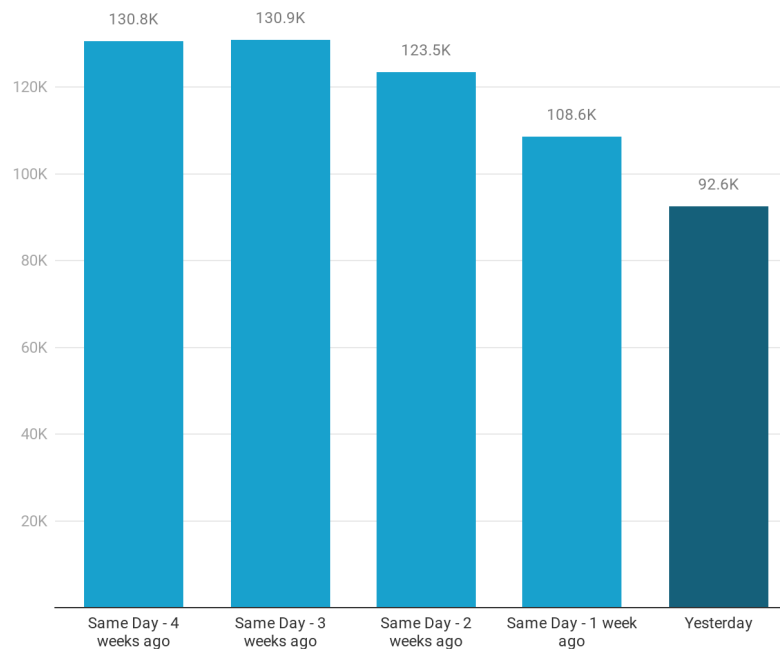


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

% in ICU - Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of February 2

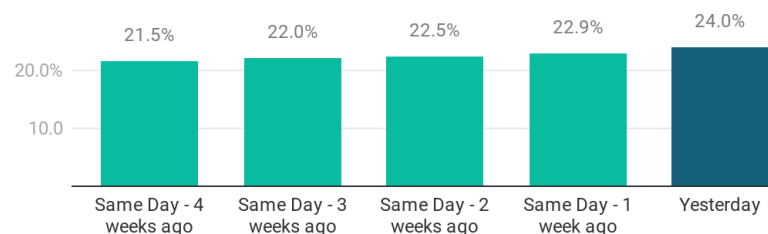


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

% on Ventilators - Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of February 2

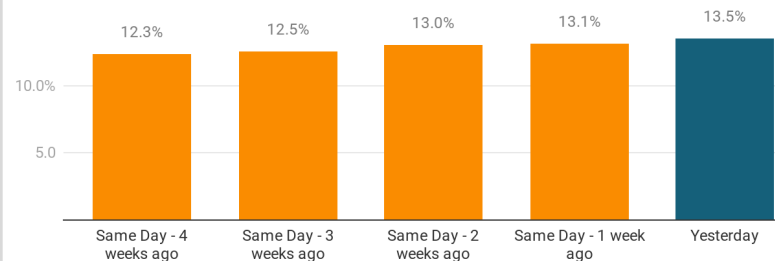


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Testing (US)

Test volume for the past seven days dropped from each of the prior three weeks – are fewer people fearing a recent exposure? The test-positive rate improved over the three preceding weeks

Tests / Million / Day (US)

As of February 2

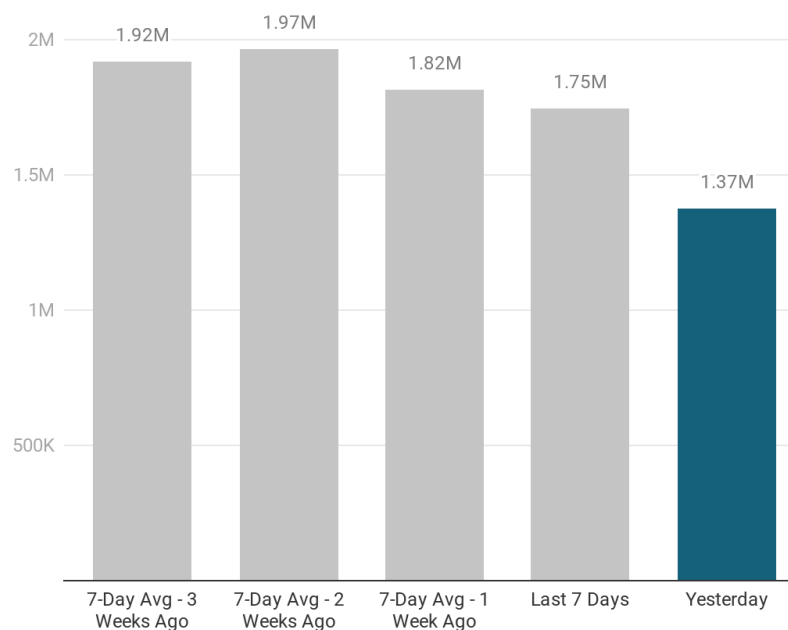


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Test-Positivity Rate

As of February 2

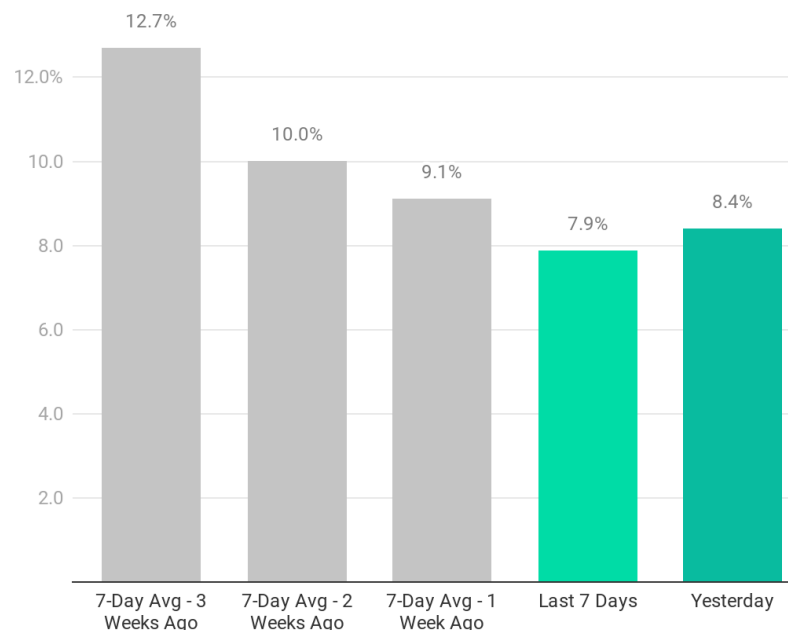
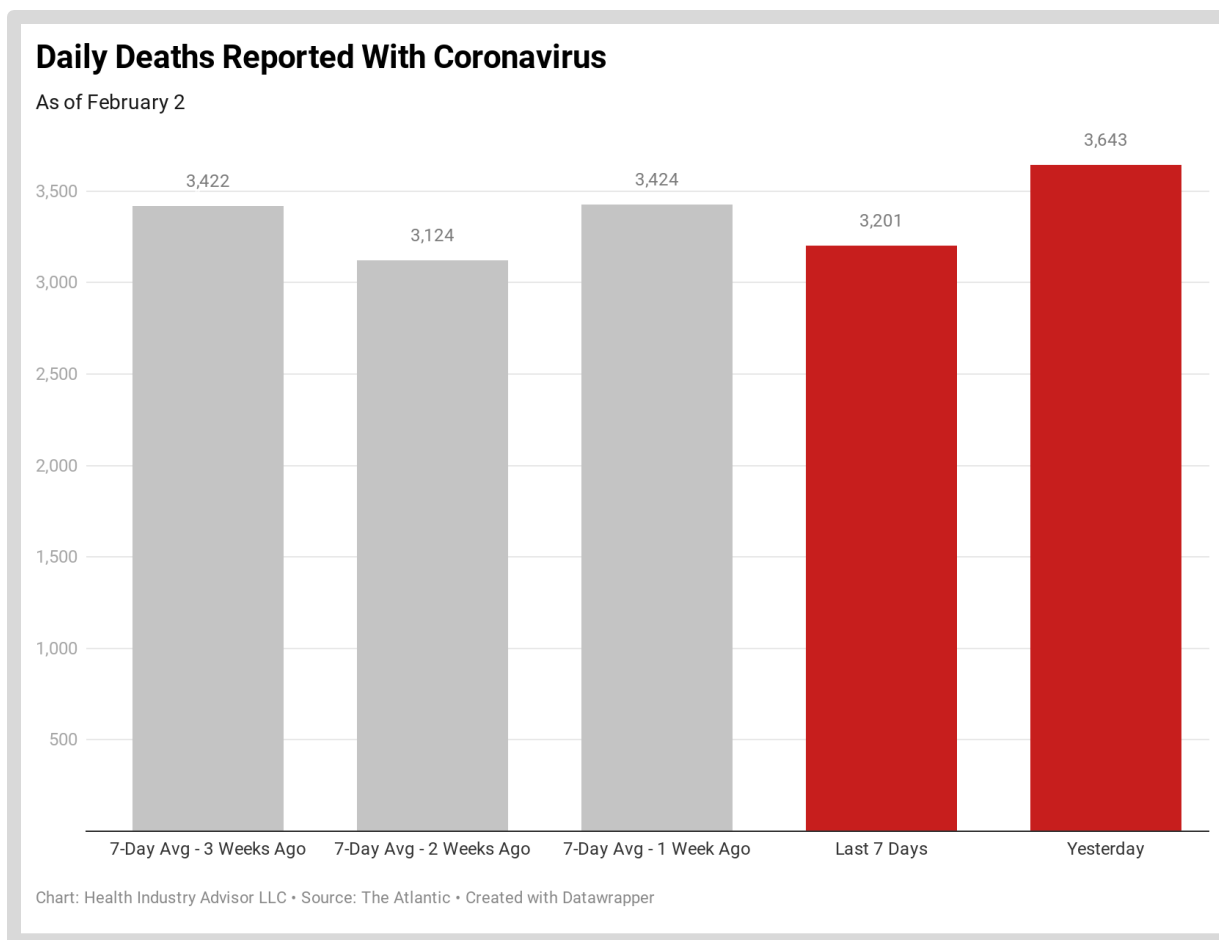


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Deaths Reported With Coronavirus

The 7-day average death rate inched lower compared to one week ago



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®ion=United%20States&panel=mortality>
- [Rt.live](https://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>