

Covid-19 "Vital Signs"

Issue # 290

February 24, 2021

Covid-19 "Vital Signs"

Ensemble Forecasts Revised Downward

Last week's new cases and deaths fell far short of recent ensemble forecasts. The January 26th forecast called for 151k new cases for the week ended February 20; subsequent forecasts were revised downward to 121k, 96k, and 83k; actual new cases came in at 71k. Deaths came in ~25% below recent forecasts.

New Daily Infections

Viz Hub Forecasts and Actual Infections for Week of February 20

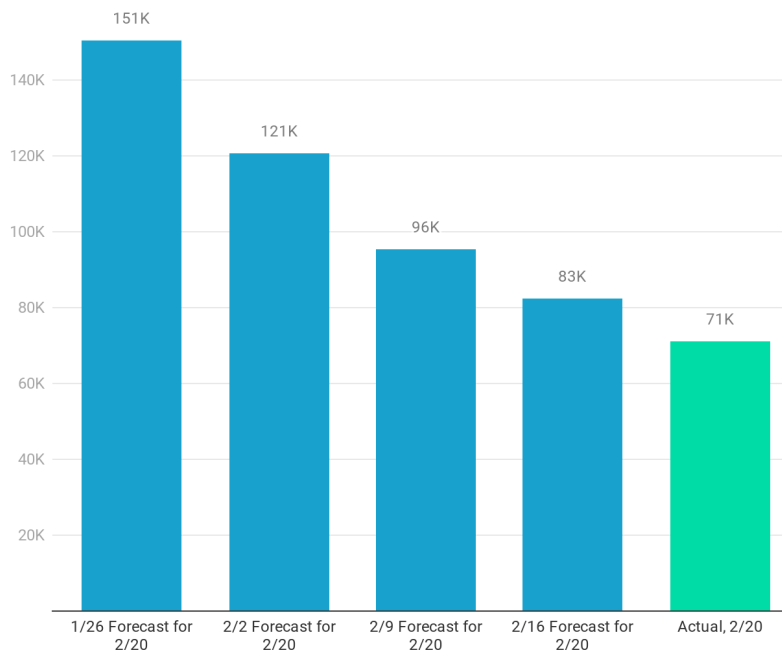


Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

Daily Deaths

Viz Hub Forecasts and Actual Deaths for Week of February 20

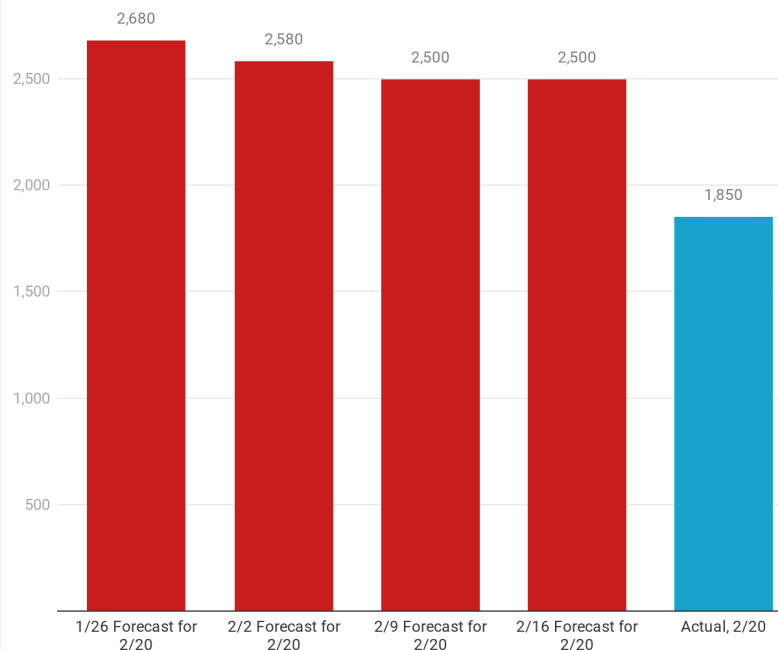


Chart: Health Industry Advisor LLC • Source: Covid-19 Forecast Hub • Created with Datawrapper

<https://viz.covid19forecasthub.org>

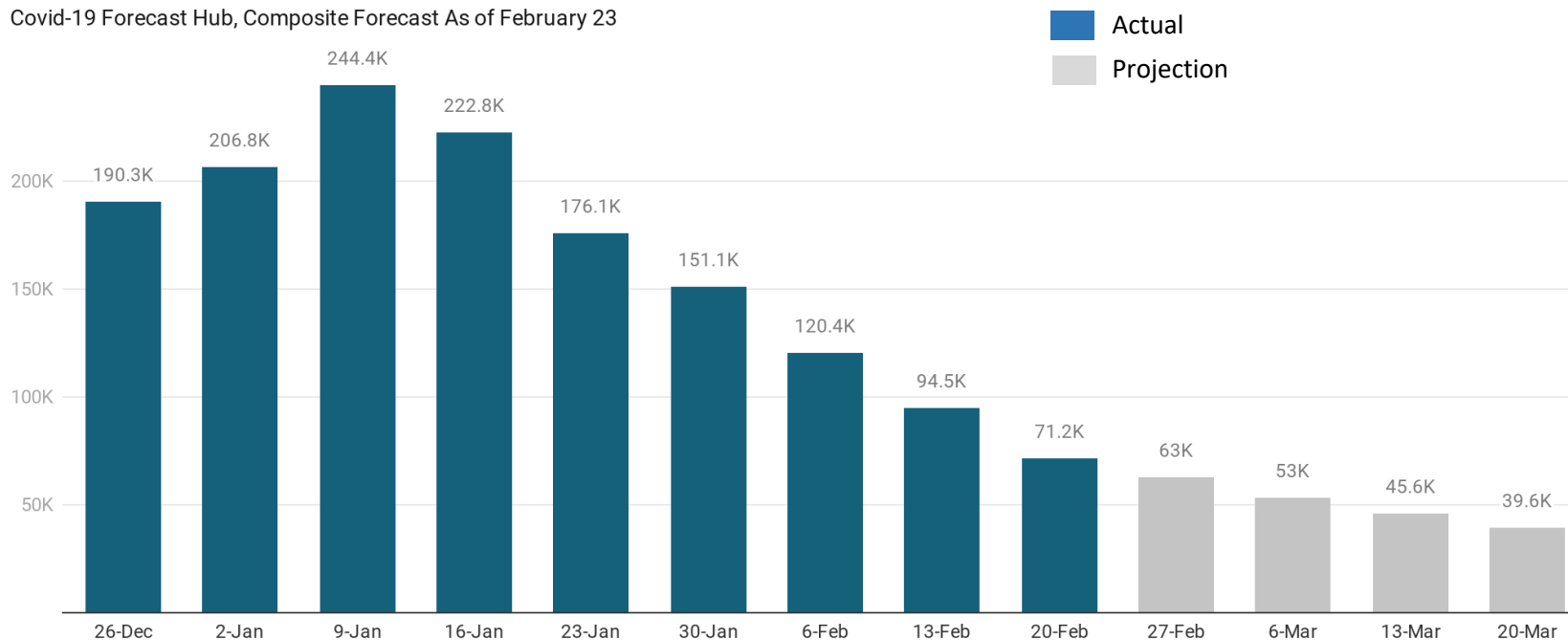
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Covid-19 Cases: Ensemble Forecast

The most recent ensemble forecast lowers projected new cases by 9-12% from the previous forecast. By the third week of March, projected new cases drop to the lowest level since September 5.

Newly-Detected Cases Per Day

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



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>

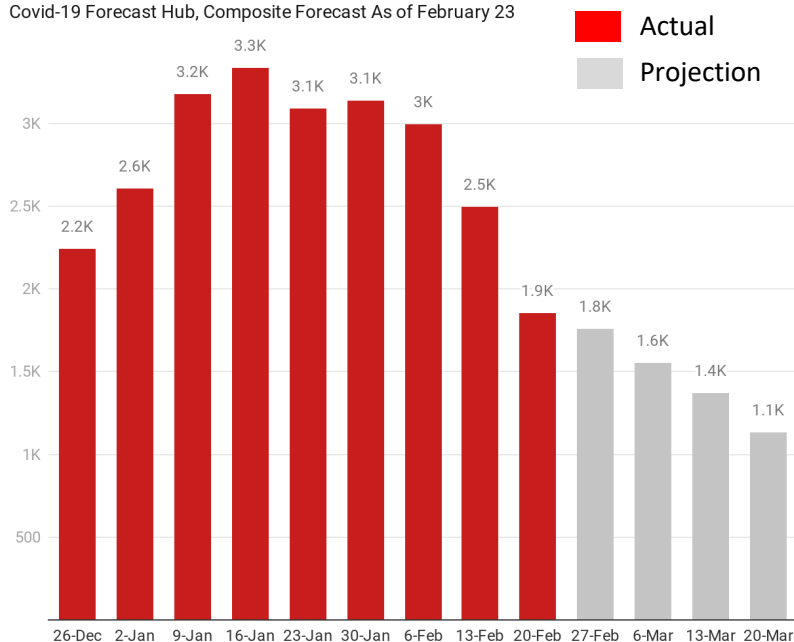
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Death Projections – Ensemble Forecast

Projected daily deaths fall each week of the forecast period; By the third week of March, experts predict deaths will be one-third of what they were in mid-January.

Newly-Reported Deaths Per Day

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

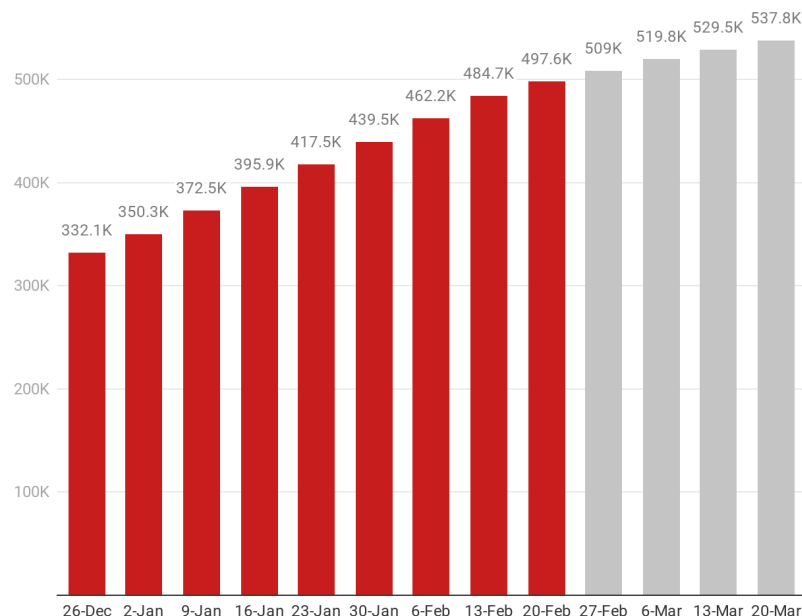


For the week ending on the date shown

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

Cumulative Deaths

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



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”

Estimated Infections IHME Projection

IHME lowered its estimated infection forecast for at least the second straight week. The latest forecast removes the March-April case resurgence that IHME previously anticipated. By late-May, projected infections fall to the lowest point of the pandemic.

Estimated Infections

Institute for Health Metrics and Evaluation (IHME) Model, as of February 20

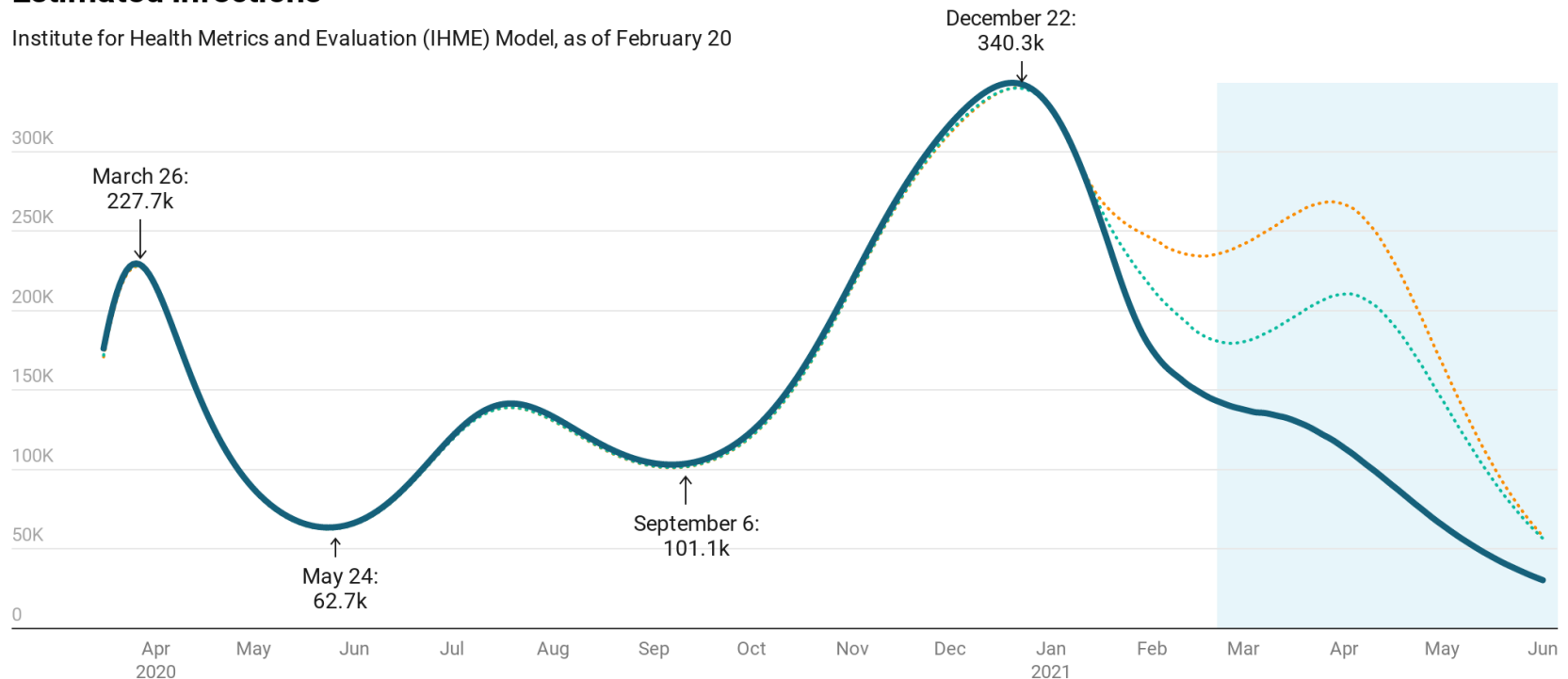


Chart: Health Industry Advisor LLC • Source: IHME • Created with Datawrapper

Covid-19 "Vital Signs"

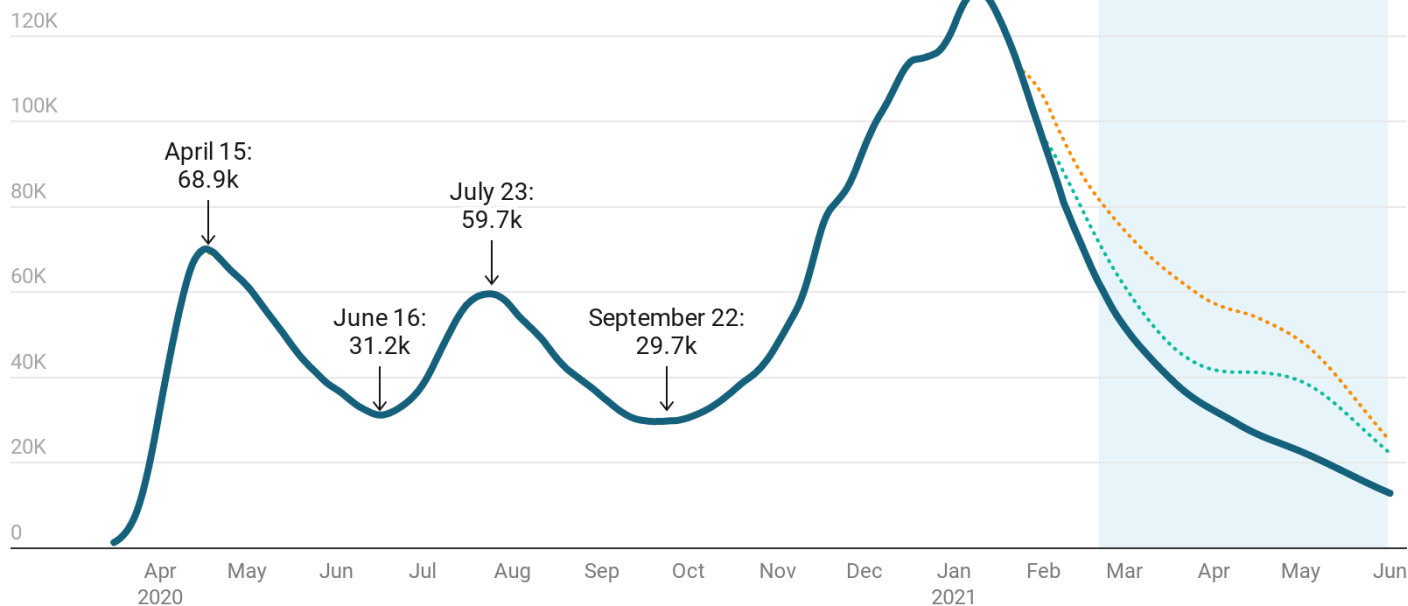
Covid-19 Inpatients – IHME Projections

Like its infection estimate, IHME lowered its Covid-19 hospitalization forecast from its February 12th and 4th projections. By May, projected daily census is lower than it has been since last March.

Covid-19 Inpatient Beds

Institute for Health Metrics and Evaluation (IHME) Model, as of February 20

--- 2/4 Estimate - - - 2/12 Estimate — 2/20 Estimate



Dashed line reflects February 4th forecast

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

Covid-19 "Vital Signs"

Deaths With Covid-19: IHME Projection

Deaths with Covid-19 fell sharply last week from recent highs. IHME predicts deaths will continue falling through the end of May. By that point projected deaths are as low as any point during the pandemic.

Covid-19 Deaths

Institute for Health Metrics and Evaluation, As of February 20

..... 2/4 Forecast 2/12 Forecast — 2/20 Forecast



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

Covid-19 "Vital Signs"

Week-Over-Week Changes in New Cases

New cases in the US and Worldwide have declined week-over-week for more than five weeks. The rate of decline in the US remains high but, is easing.

Week-Over-Week Changes in Newly-Detected Cases: USA v. Worldwide

7-Day Moving Average, As of February 23



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

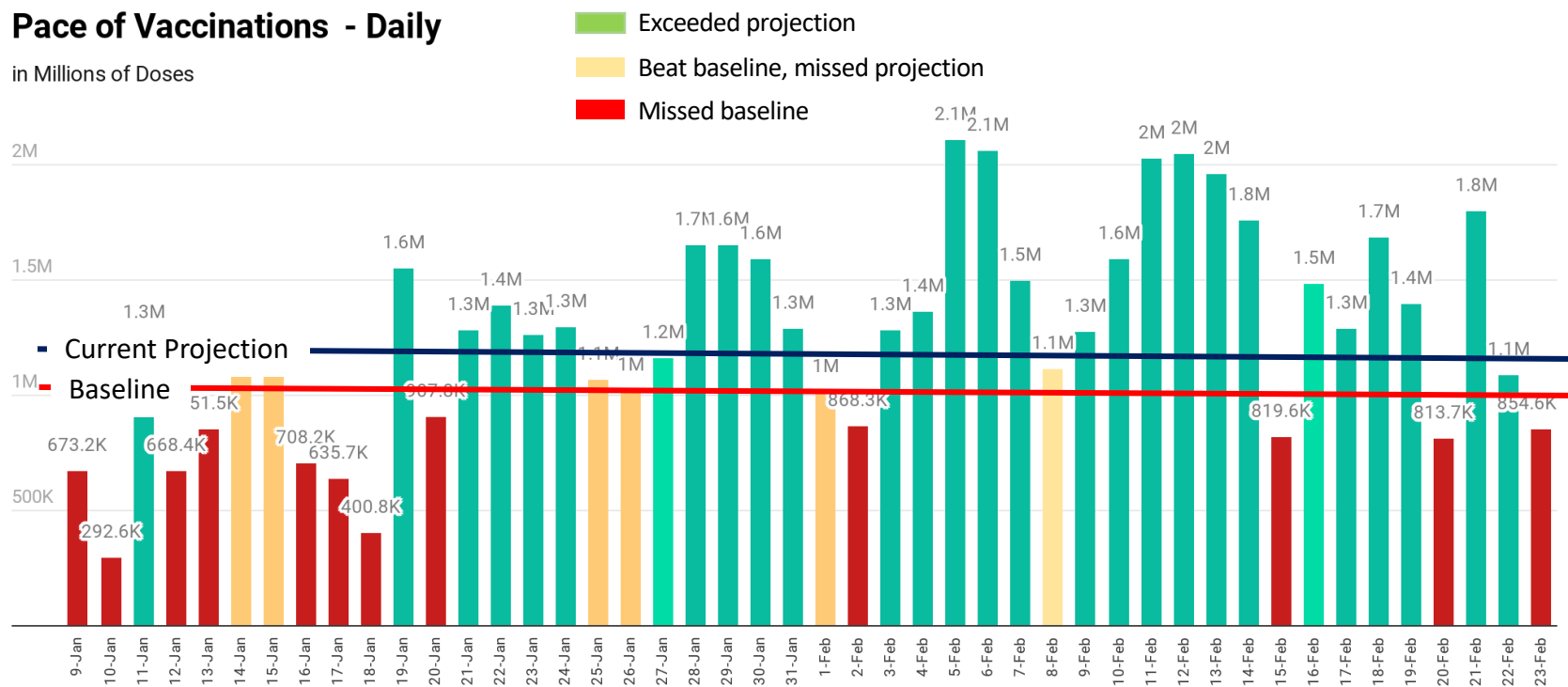
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Pace of Vaccinations

The US jabbed fewer than a million citizens yesterday, as it recovers from last week's distribution challenges.

Pace of Vaccinations - Daily

in Millions of Doses



Baseline: 100 Million Doses in 100 Days Current Projection: Ramped-Up Vaccinations; Additional 100M Pfizer and Moderna doses; and JNJ vaccine available on 3/1

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

“Current projection” is from Health Industry Advisor’s vaccination model, reflecting recent developments: increase pace of vaccinations; increase in Pfizer and Moderna doses to 300 million each; and anticipated availability of JNJ vaccine



Vaccine Tracking

To date, the US has administered 65 million doses, with 19.7 million people jabbed twice.

Vaccination Progress

Most Recent Four Weeks

■ First Doses ■ Second Doses

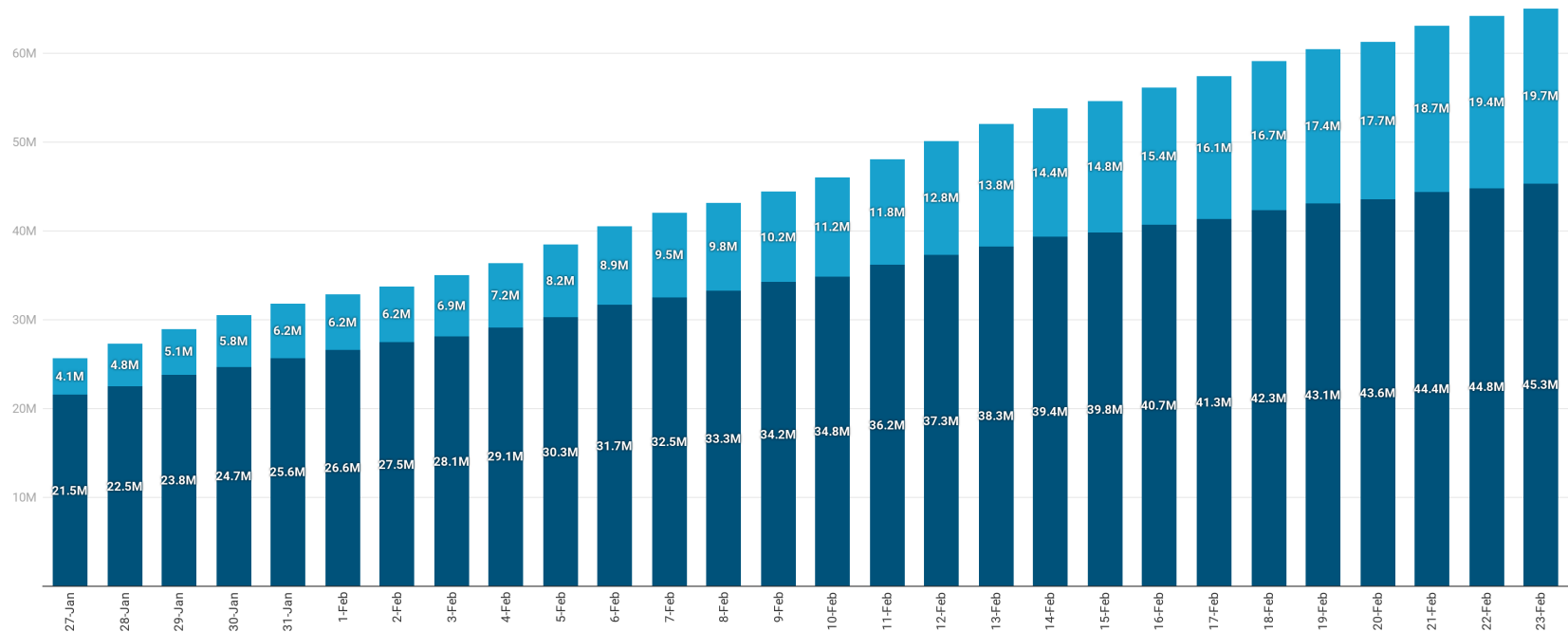


Chart: Health Industry Advisor LLC • Source: CDC, Bloomberg • Created with Datawrapper

Vaccine data from: [Centers for Disease Control and Prevention](#) and [Bloomberg Vaccine Tracker](#)



Vaccines Distributed v. Unused

The US distributed an astounding 6.9 million additional doses yesterday, setting up the likelihood of strong vaccine administration over the next several days.

% of Doses Distributed & % Unused - Cumulative

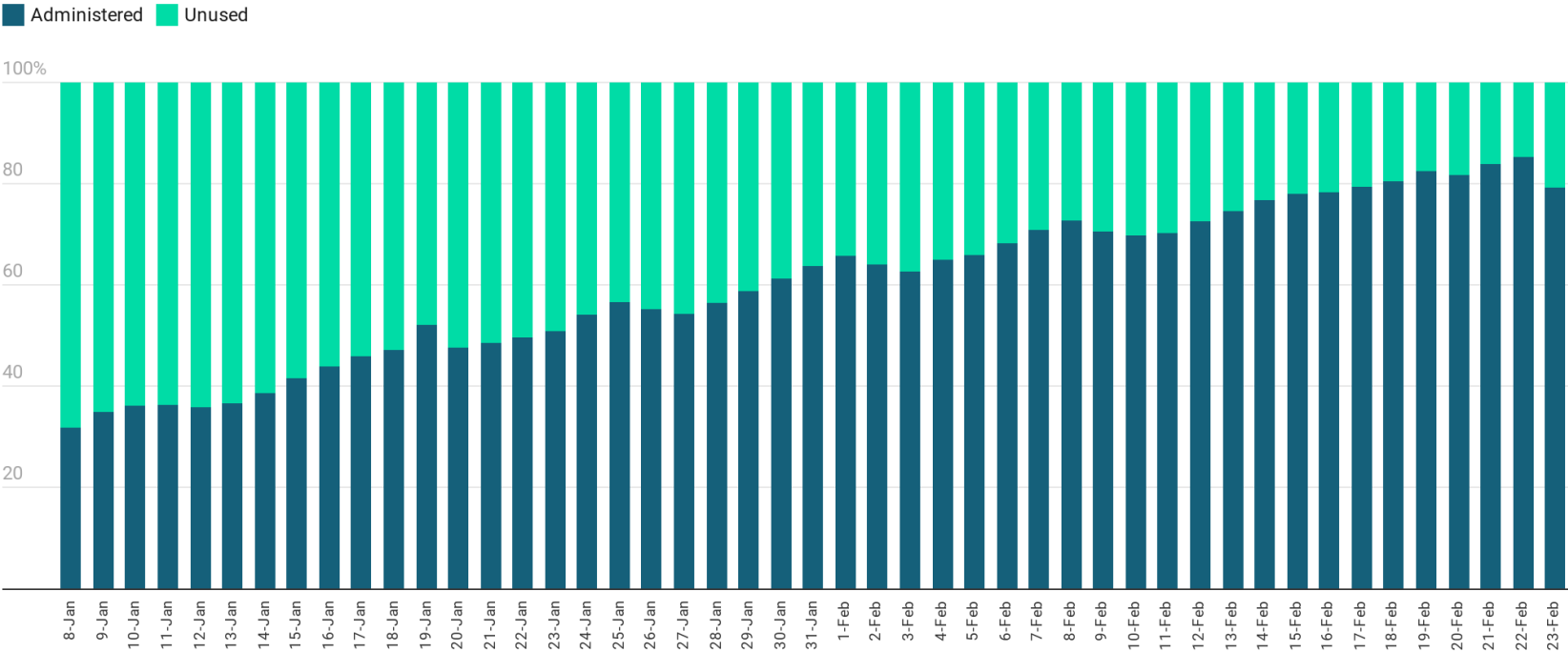


Chart: Health Industry Advisor LLC • Source: Bloomberg • Created with Datawrapper

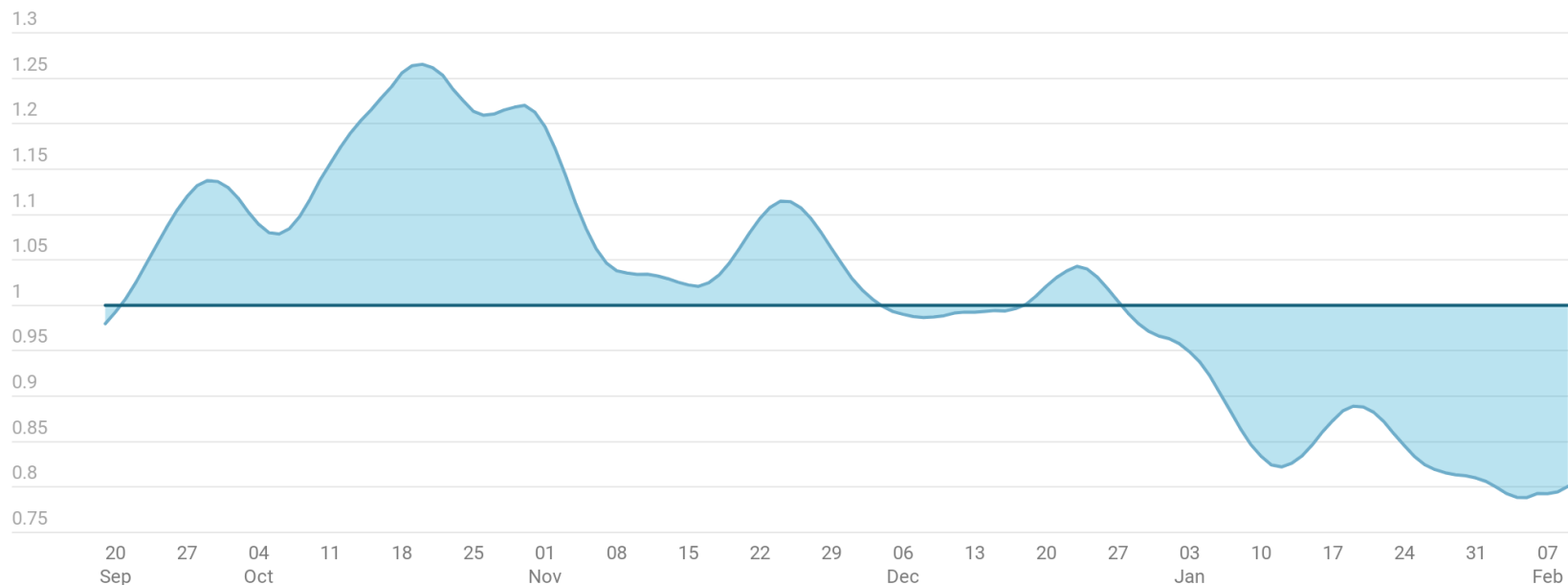
Reproduction Rate (R_t) – Gu* Model

Gu's R_t estimate signals a prolonged slowdown in infection spread.

Reproduction Rate (R_t) - US

*Youyang Gu: Covid-19projections.com

Youyang Gu Estimate, September 20, 2020 - February 9, 2021



R_t is an estimate of how many additional people a single person will infect

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

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Newly Detected Cases / Million - US

Newly detected cases (7-day average) are freefalling from a January 11th peak. Cases plunged an astonishing 73% in just over six weeks. This rate has not been this low since the third week of October.

Newly-Detected Cases / Million - US

7-Day Moving Average

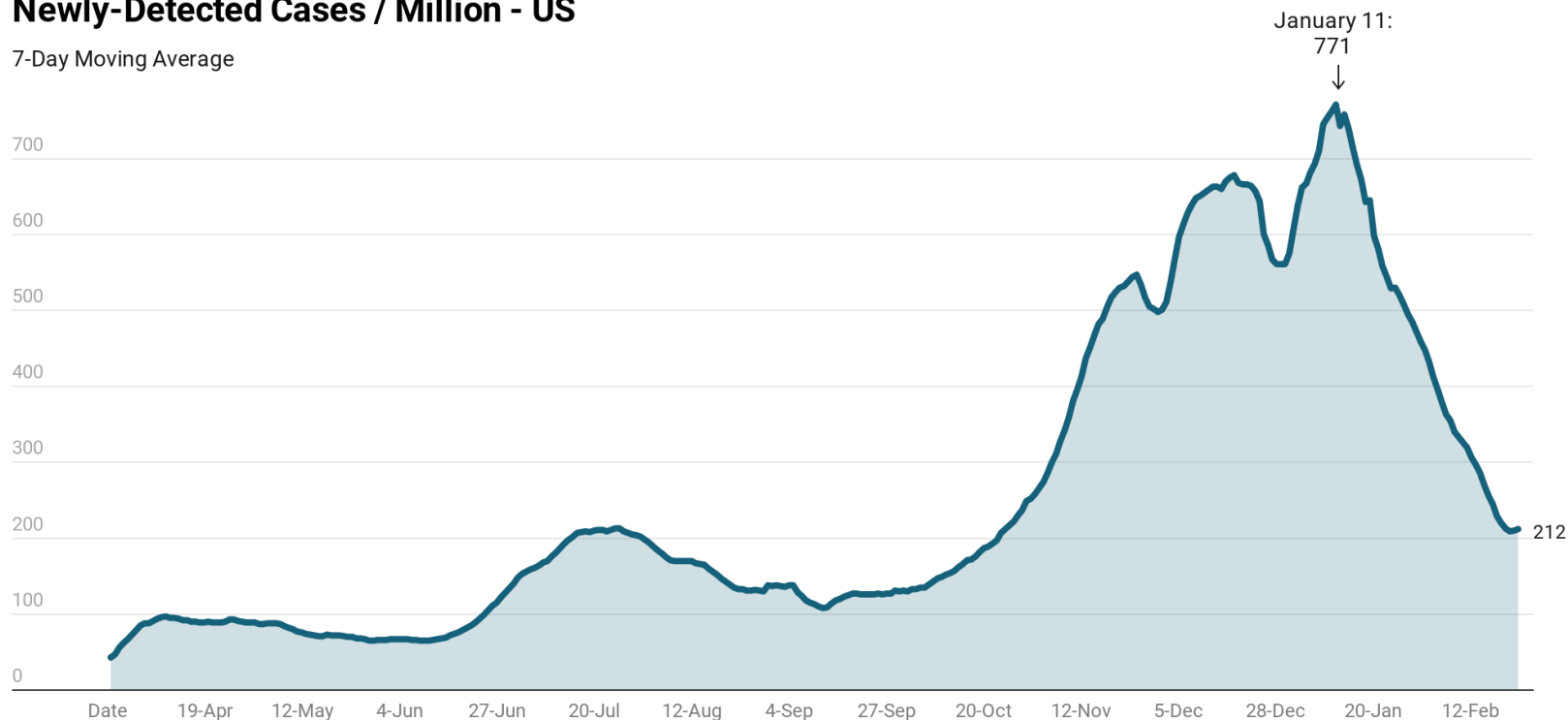


Chart: Health Industry Advisor LLC • Source: worldometers.info • Created with Datawrapper

Covid-19 “Vital Signs”

Estimated Daily Infections & New Case Rates

Estimated new infections and reported cases are plunging in the US. The Yale/Harvard model suggests that the infections have plummeted 87% since peaking in early-January; Gu estimates a 75% decline

Estimated Daily Infections v. Detected Cases

Gu & Yale/Harvard Schools of Public Health Models

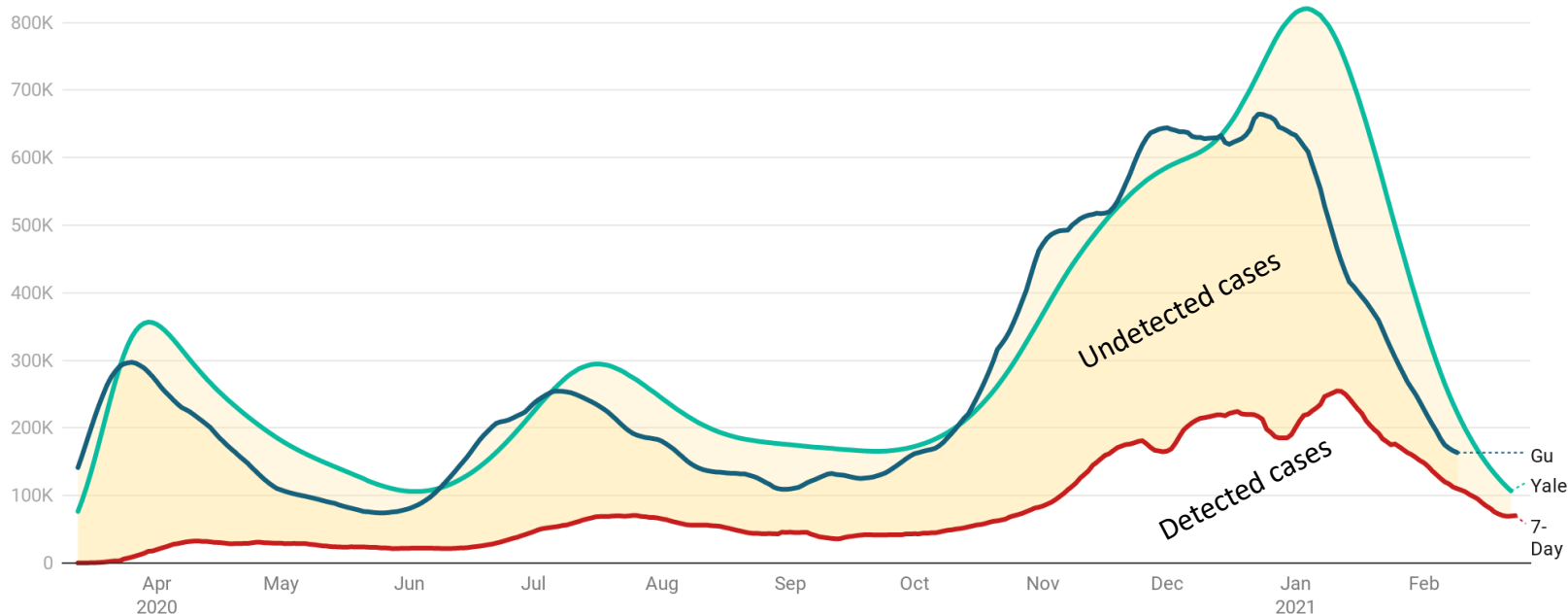


Chart: Health Industry Advisor LLC • Source: Youyang Gu, Yale School of Public Health • Created with Datawrapper

Two models:

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

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Newly Detected Cases Per Day

In the US, 7-day new case rates dropped during each of the past three weeks, plunging 50% during that time. Outside the US, rates increased slightly week-over-week.

Newly Detected Cases

As of February 23

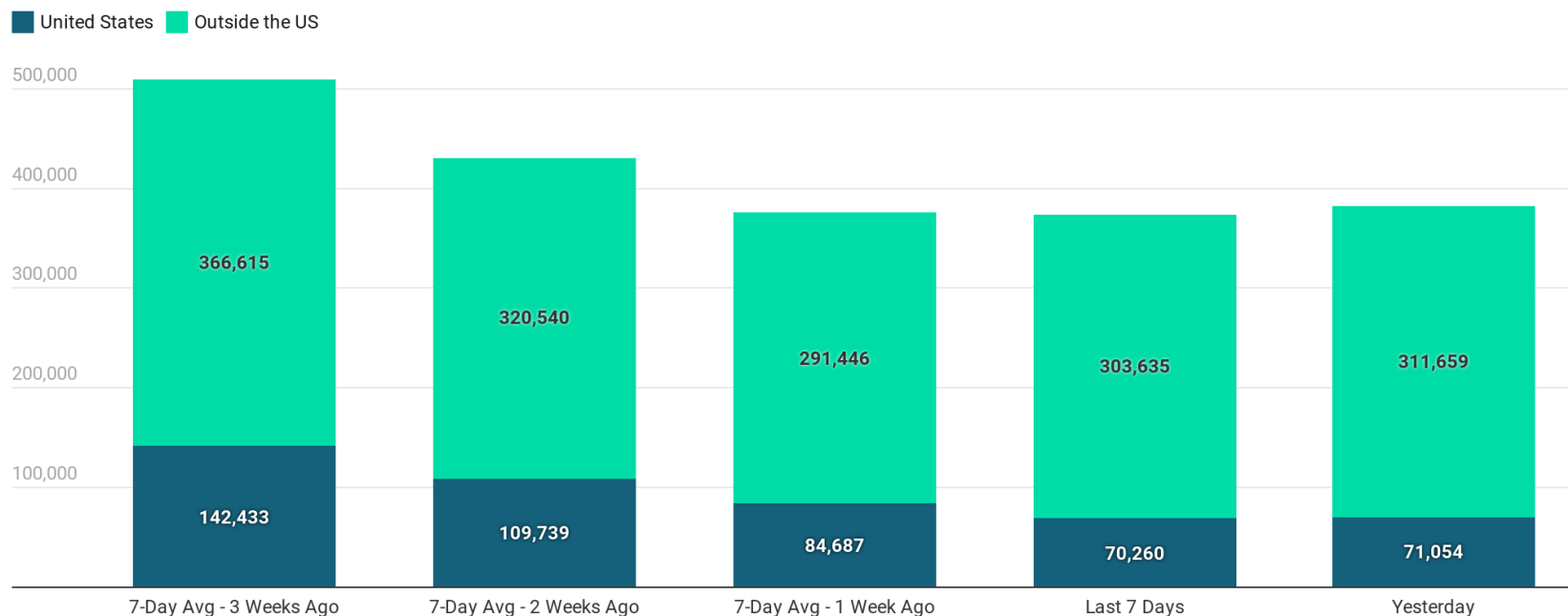


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 "Vital Signs"

Covid-19 Hospitalizations

Covid-19 hospitalizations plunged over the past month, with 77,400 fewer patients yesterday than on January 6 (58% decline). ICU and ventilator days declined each of the past three weeks.

Hospitalized Covid-19 Patients

Compared to Same Day, Prior Weeks, As of February 23

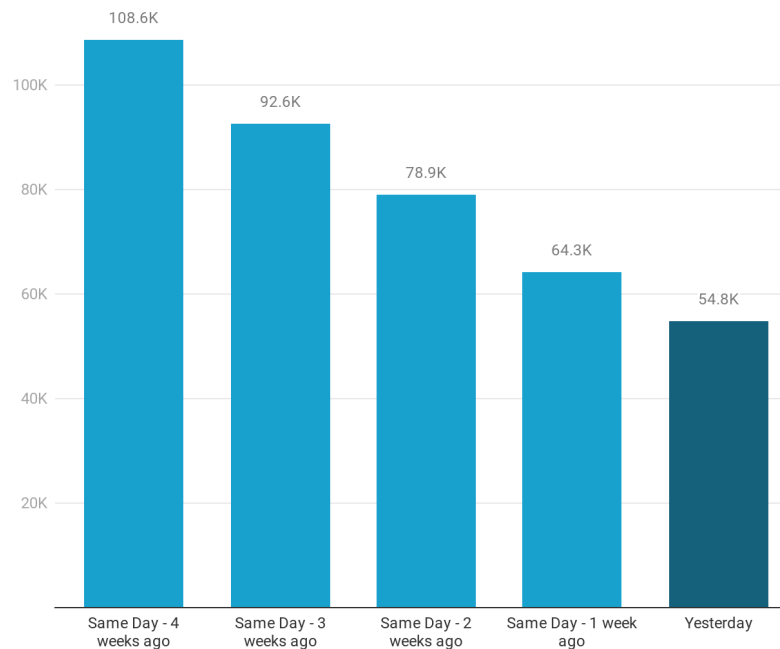


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 Patients in the ICU

Compared to Same Day, Prior Weeks, As of February 21

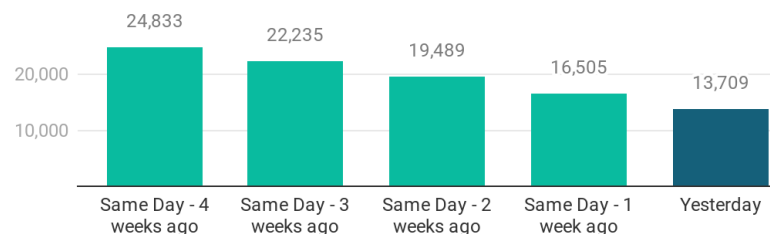


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Covid-19 Patients on Ventilators

Compared to Same Day, Prior Weeks, As of February 23

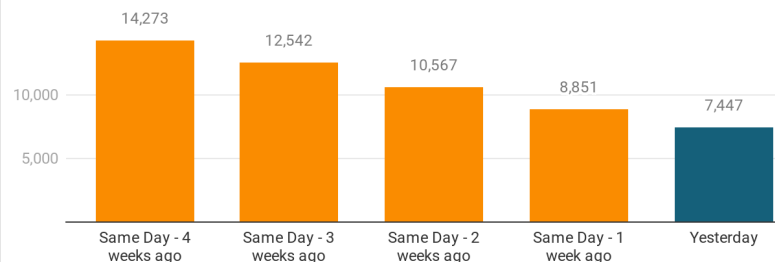


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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Testing (US)

Test volume continues sliding, as fewer people seem to be concerned about recent exposure. The test-positive rate improved over the three preceding weeks, reinforcing the belief that actual infections are waning. Test-positivity is now below the WHO guideline.

Tests / Million / Day (US)

As of February 23

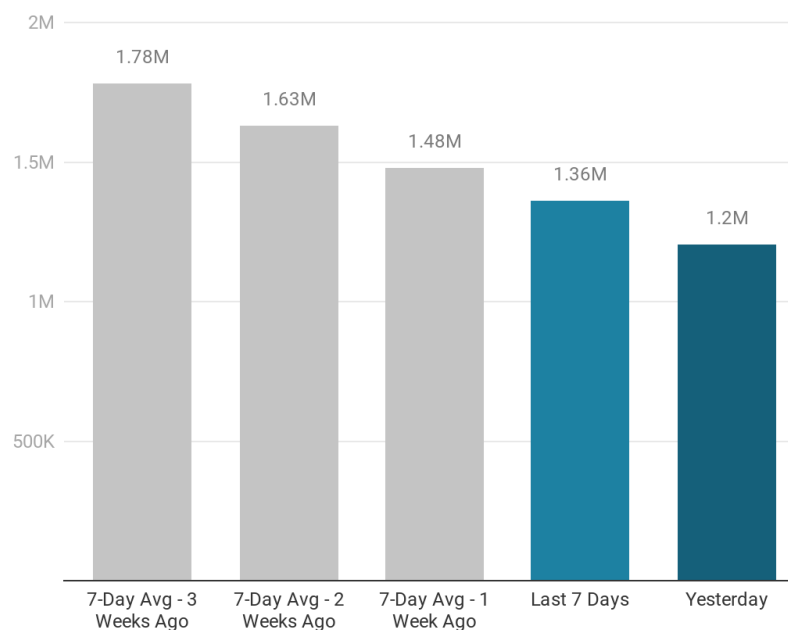


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Test-Positivity Rate

As of February 23

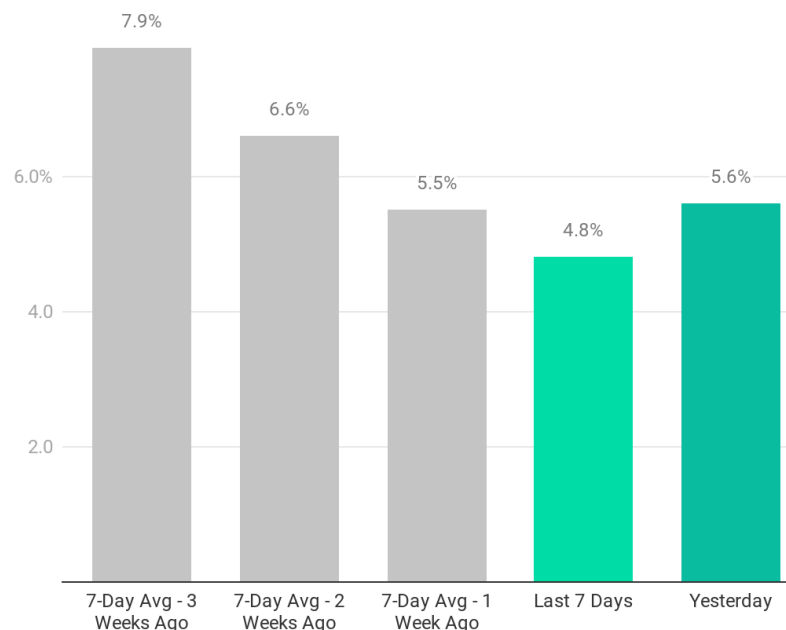


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

Deaths Reported With Coronavirus

The 7-day average death rate fell each of the past three weeks.

Daily Deaths Reported With Coronavirus

As of February 23

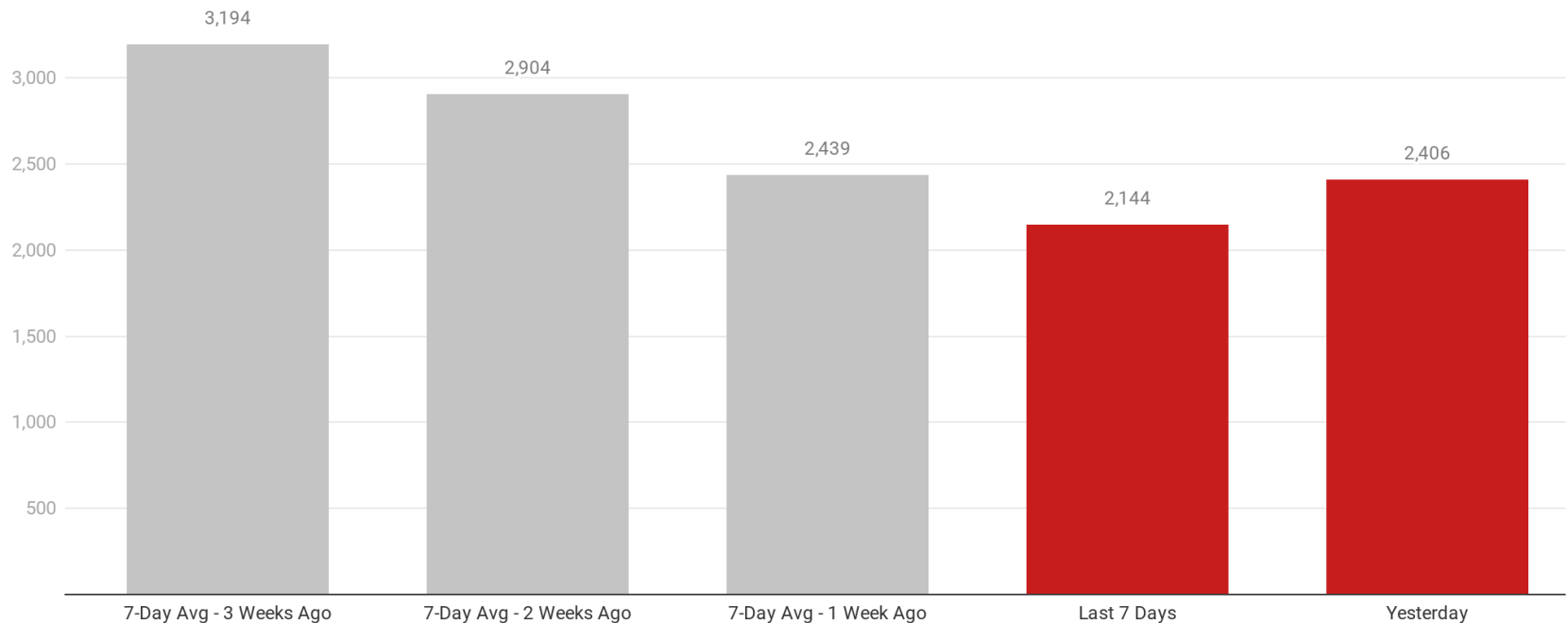


Chart: Health Industry Advisor LLC • Source: The Atlantic • Created with Datawrapper

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>