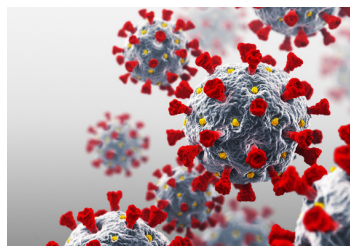


Covid-19 "Vital Signs"

Issue # 353

October 25, 2021



Newly Detected Cases / Million - US

The U.S. 7-day new case rate dropped to a twelve-week low on Friday.

New Daily Cases / Million

7-Day Average

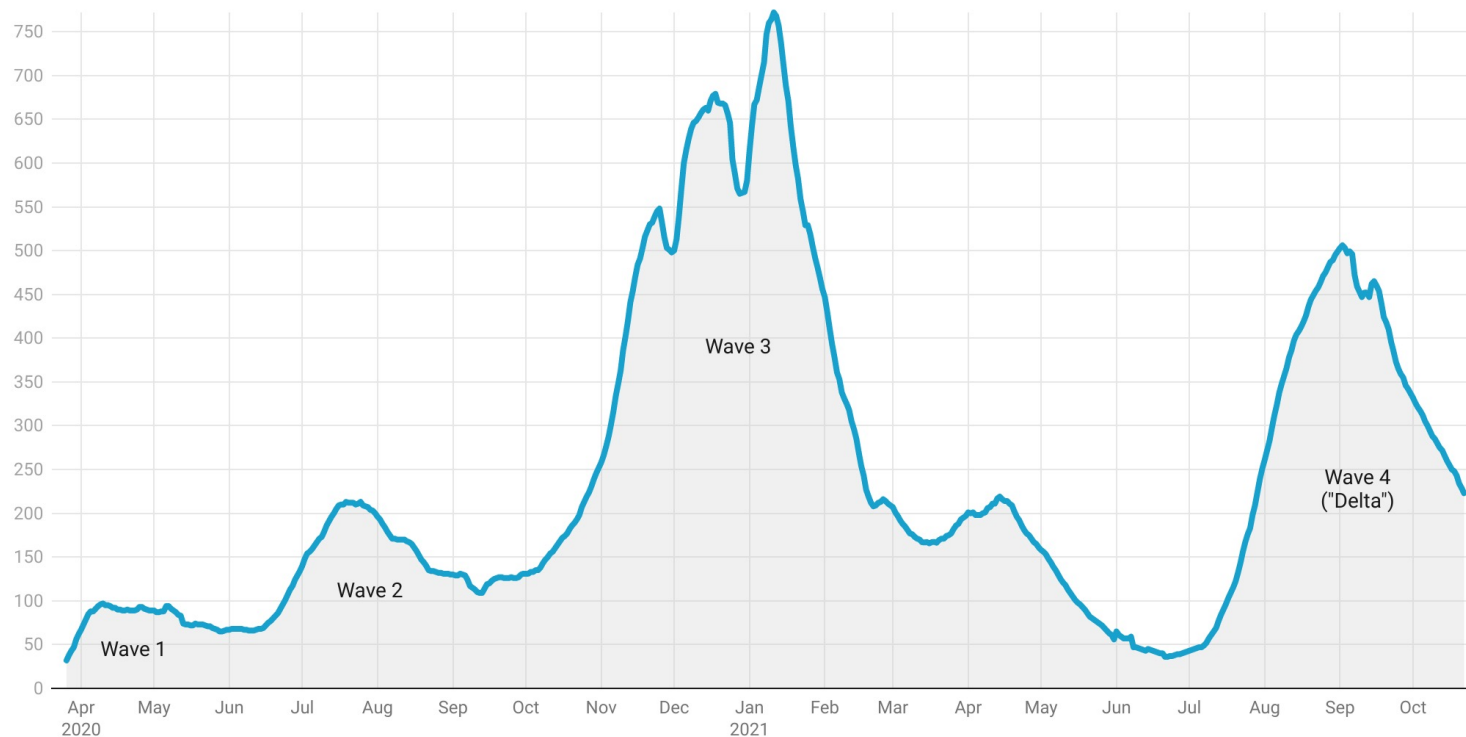
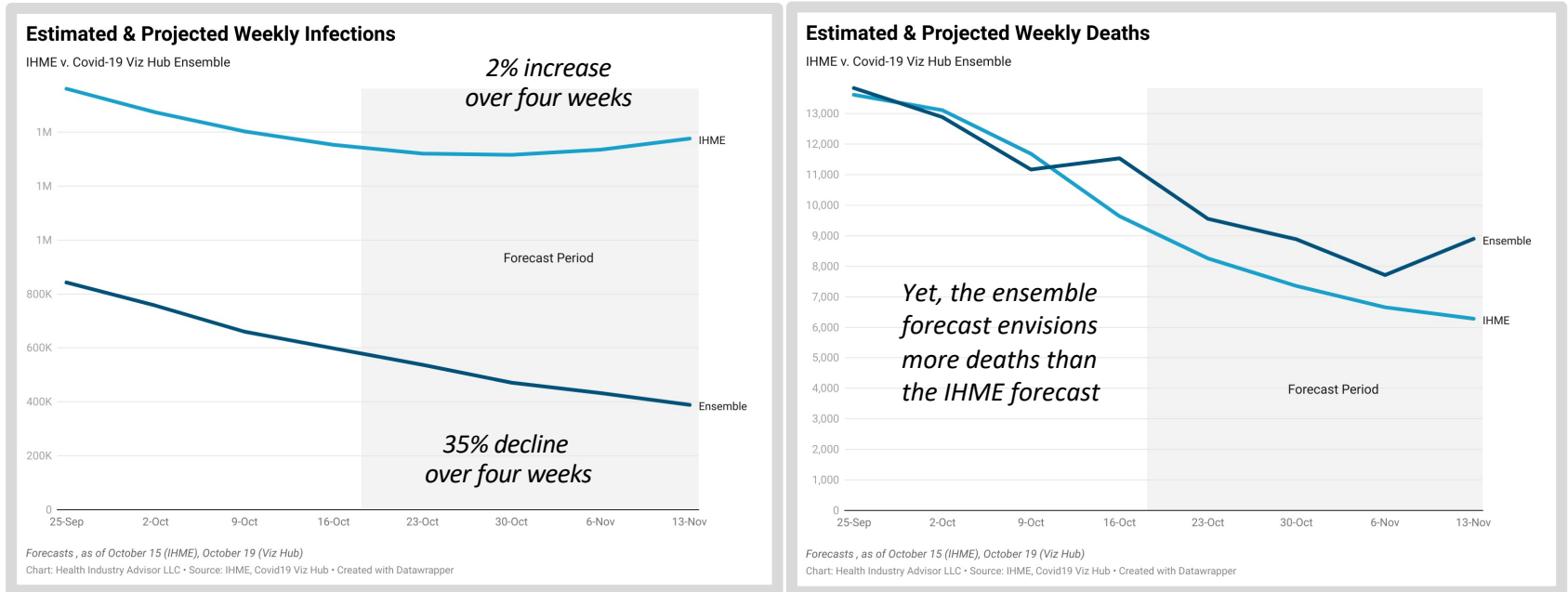


Chart: Health Industry Advisor LLC • Created with Datawrapper

Covid-19 "Vital Signs"

Where Do We Go From Here?

The Institute for Health Metrics and Evaluation (IHME) and an ensemble forecast published by Covid19 Forecast Hub offer conflicting views of how many new people will be infected in the next month.



IHME uses a propriety estimate of actual infections rather than detected cases. The ensemble model more closely resembles reported cases.

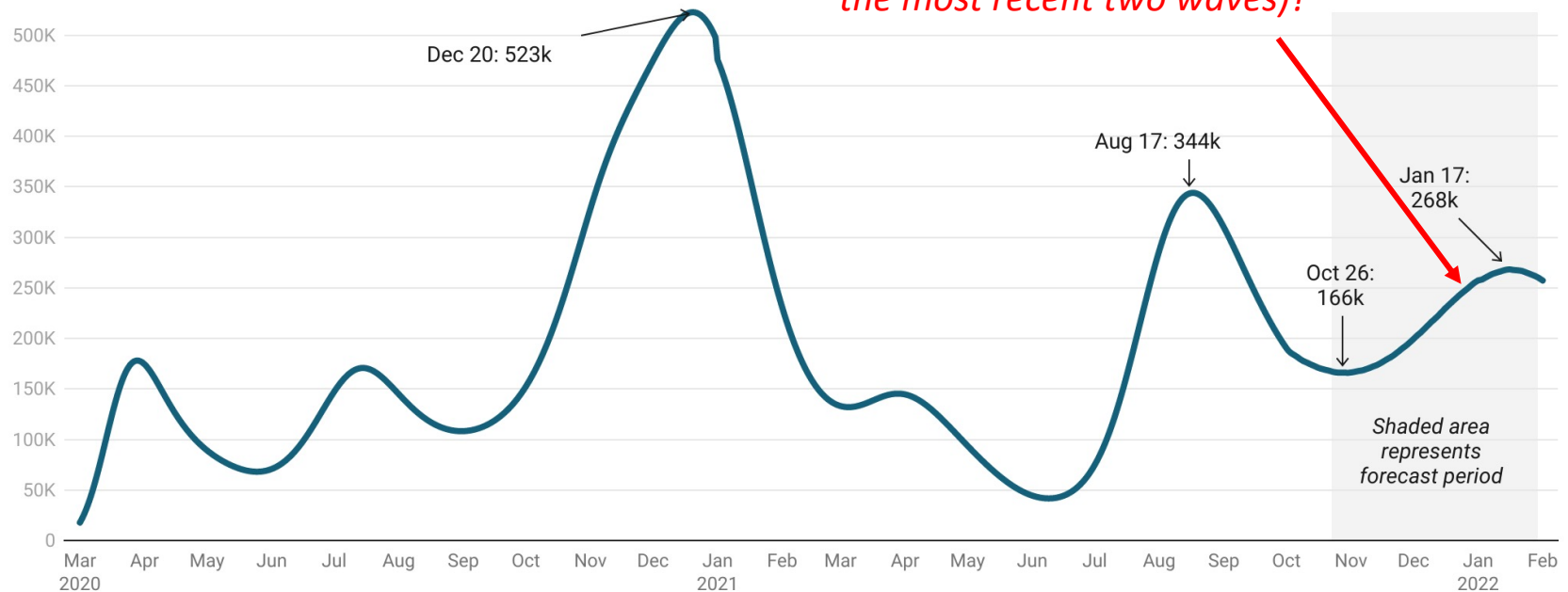
Covid-19 "Vital Signs"

Estimated Infections- IHME Projections

IHME's latest model (published October 22) anticipates that infections will increase starting this week through the middle of January. These are not expected to reach the mid-August peak.

Estimated and Projected Infections - U.S.

Institute For Health Metrics and Evaluation



Forecast Date: October 22

Chart: Health Industry Advisor LLC • Source: Institute For Health Metrics and Evaluation • Created with Datawrapper

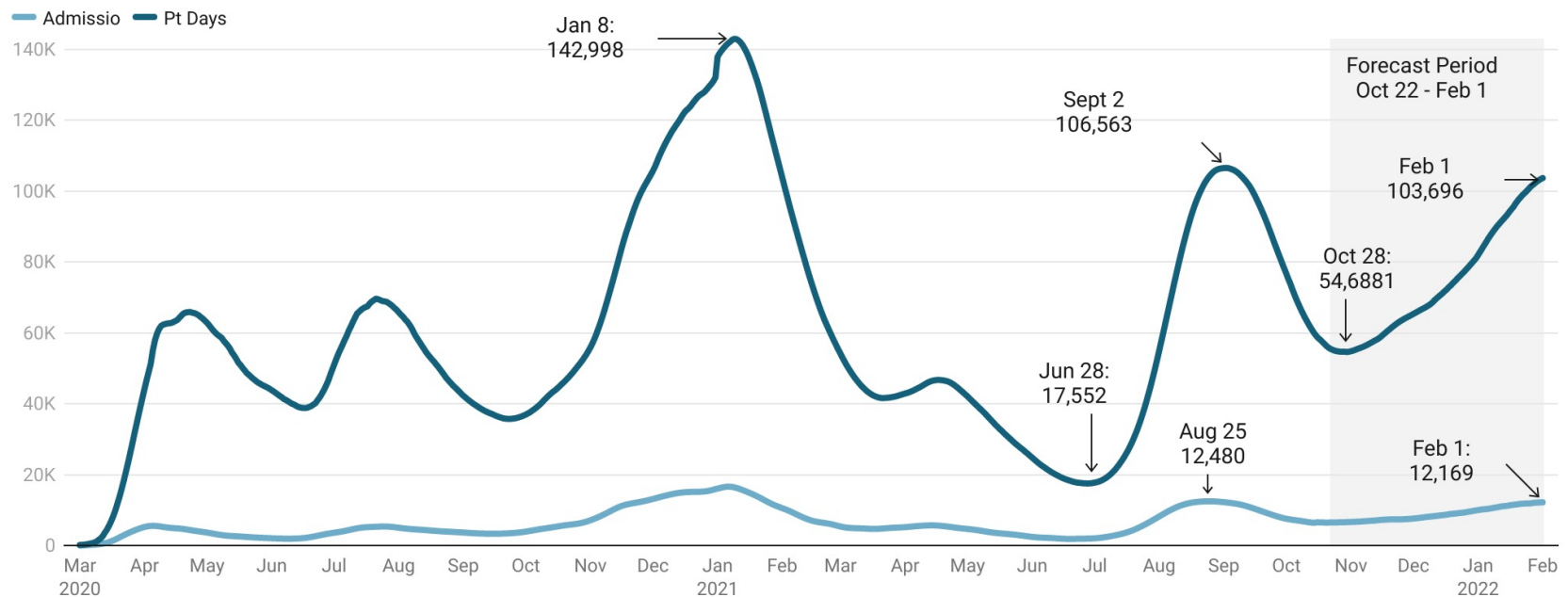
Covid-19 "Vital Signs"

Covid-19 Inpatient Admissions & Census – IHME

IHME suggests that Covid hospital admissions and patient census will rise again, soon. Both measures are projected to near their late summer peaks by the end of January.

Estimated & Projected Hospital Covid-19 Admissions & Patient Days

Institute for Health Metrics and Evaluation



Forecast Date: October 22

Chart: Health Industry Advisor LLC • Source: Institute for Health Metrics and Evaluation • Created with Datawrapper

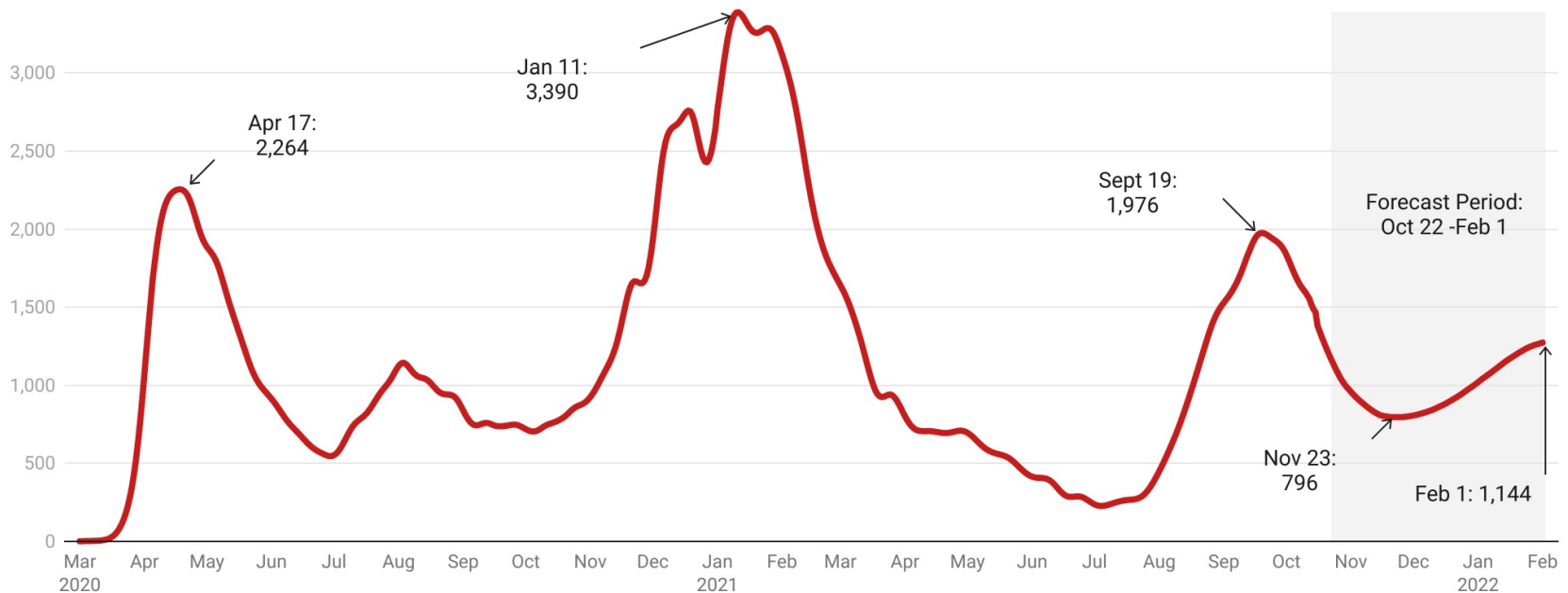
Covid-19 "Vital Signs"

Deaths With Covid-19: IHME Projection

IHME's model suggests that we have seen the peak of daily deaths from the Delta variant. Deaths are expected to drop until Thanksgiving, before rising again through the end of January.

Estimated and Projected Covid Deaths - U.S.

Institute For Health Metrics and Evaluation



Forecast Date: SOctober 22

Chart: Health Industry Advisor LLC • Source: Institute For Health Metrics and Evaluation • Created with Datawrapper

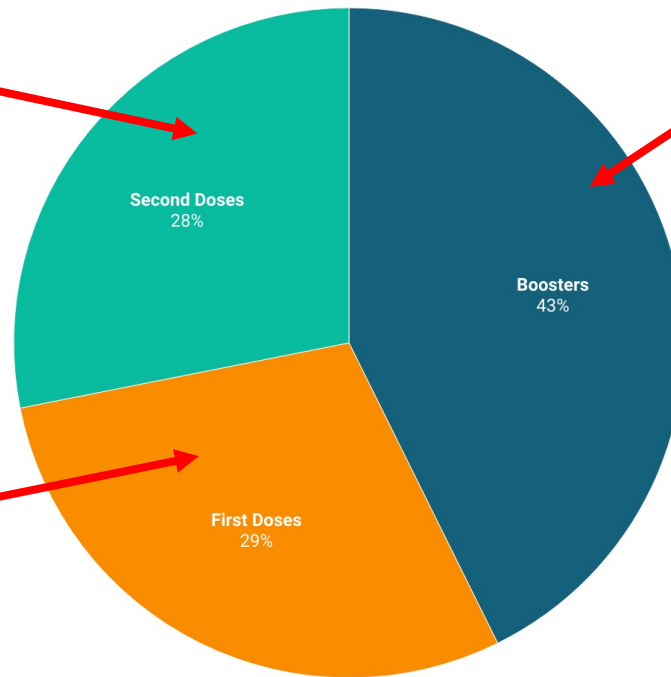
Vaccinations Last Week

Of the 5.4 million doses administered last week, four in ten vaccines were booster shots. Three in ten were initial vaccinations.

Doses Administered

October 14-21, 2021

Boosters First Doses Second Doses



First doses:

- 71% to 18–49-year-olds
- 21% to 65+
- 9% to 12-17-year-olds

Boosters:

- 57% to seniors
- 43% to non-seniors

Second doses:

- 77% to 18–49-year-olds
- 12% to 65+
- 11% to 12-17-year-olds

Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Vaccination Status By Age – United States

14.2% of seniors have received a booster shot already. This is nearly 4x the number of seniors that remain unvaccinated. 40.9% of eligible teens and 25.1% of non-senior adults are unvaccinated.

Vaccination Status By Age

As of October 22

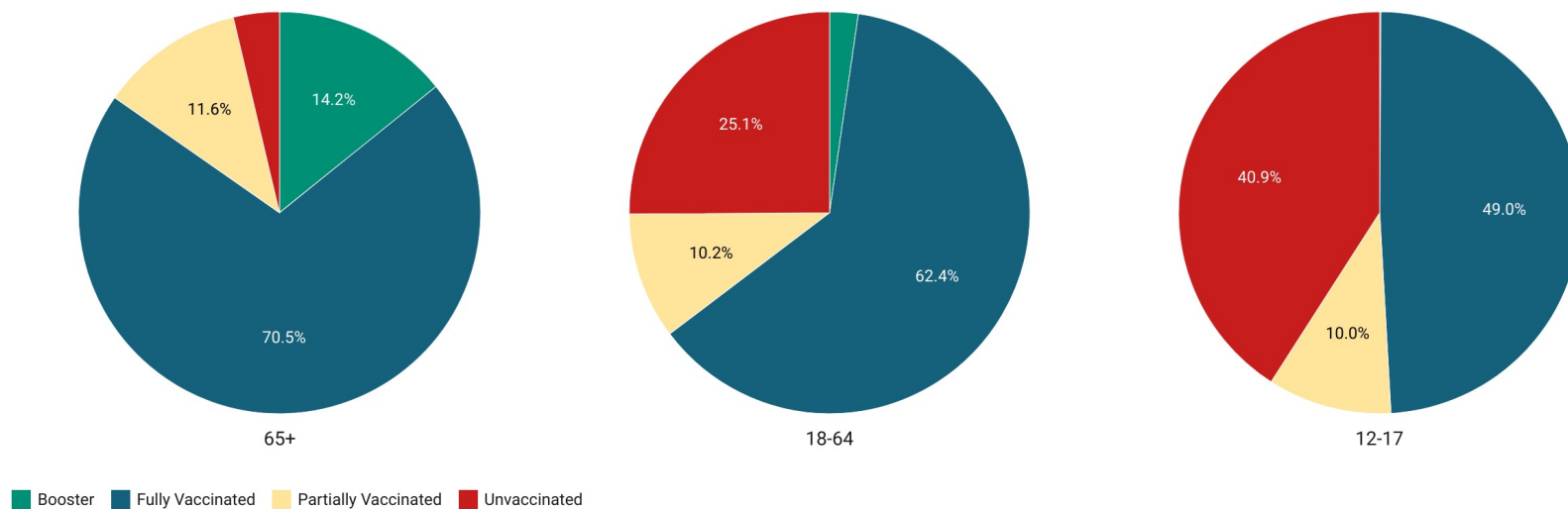


Chart: Health Industry Advisor LLC • Source: CDC • Created with Datawrapper

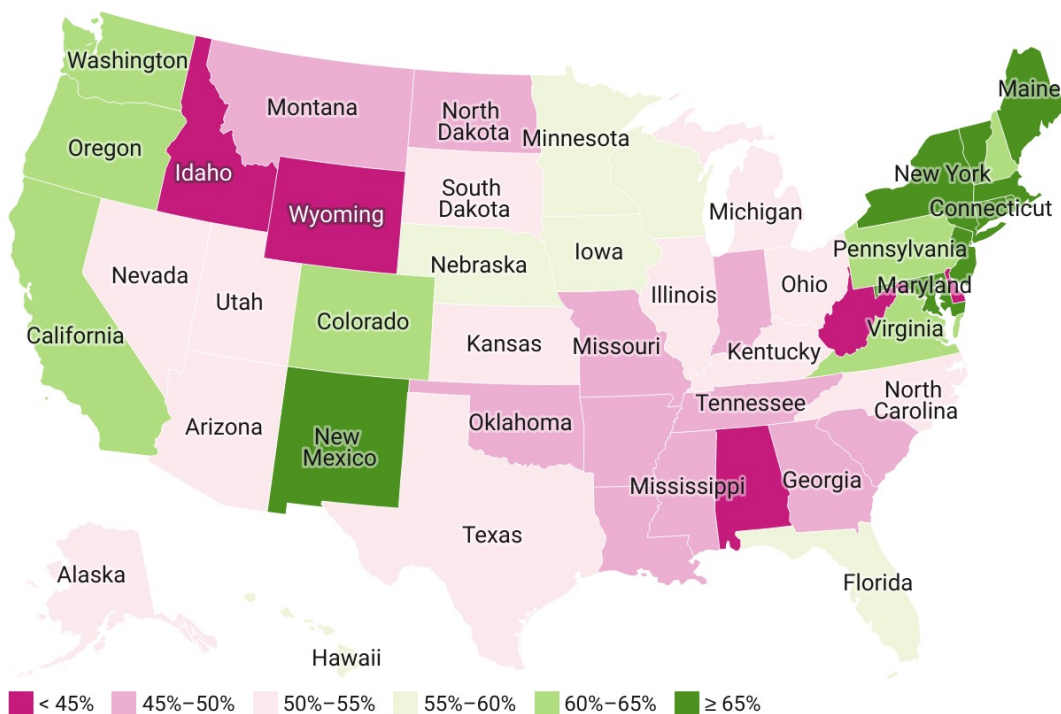
Vaccine Tracking - % of Population Vaccinated

The United States still has a long way to go in getting enough people vaccinated against Covid-19.

- Alabama, Delaware, Idaho, West Virginia, and Wyoming trail the rest of the country in vaccination rates.
- Other states that have vaccinated fewer than half of their citizens: Arkansas, Georgia, Indiana, Louisiana, Mississippi, Missouri, Montana, North Dakota, Oklahoma, South Carolina, and Tennessee.
- Connecticut, Maine, Maryland, Massachusetts, New Jersey, New Mexico, New York, Rhode Island, and Vermont have done the best job of vaccinating citizens.
- Other states that have vaccinated at least 60% of their citizens: California, Colorado, New Hampshire, Oregon, Pennsylvania, Virginia, and Washington.

% of Population Fully Vaccinated

As of October 22

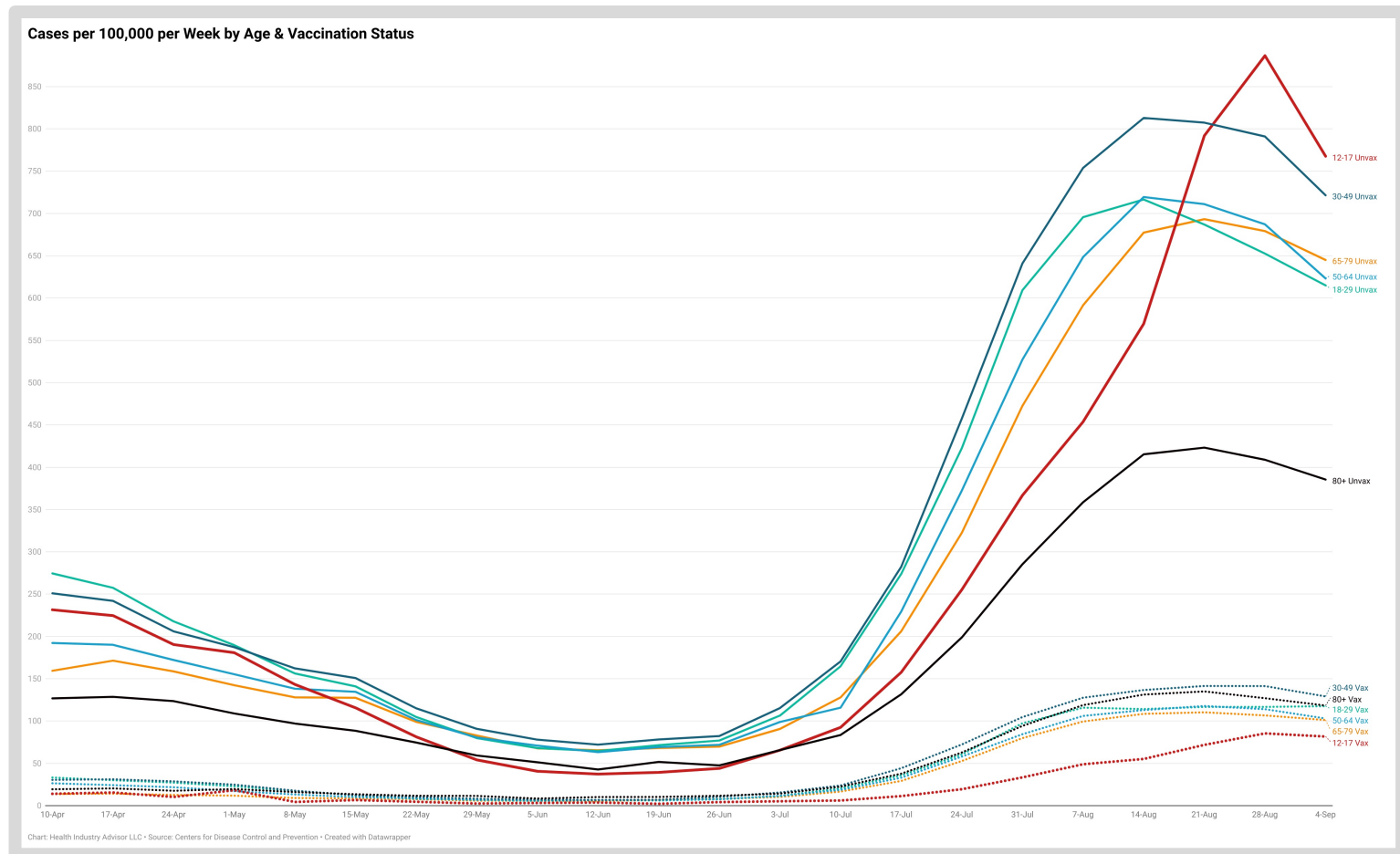


Map: Health Industry Advisor LLC • Source: Bloomberg • Created with Datawrapper

Covid-19 "Vital Signs"

Cases per Capita by Age and Vaccination Status

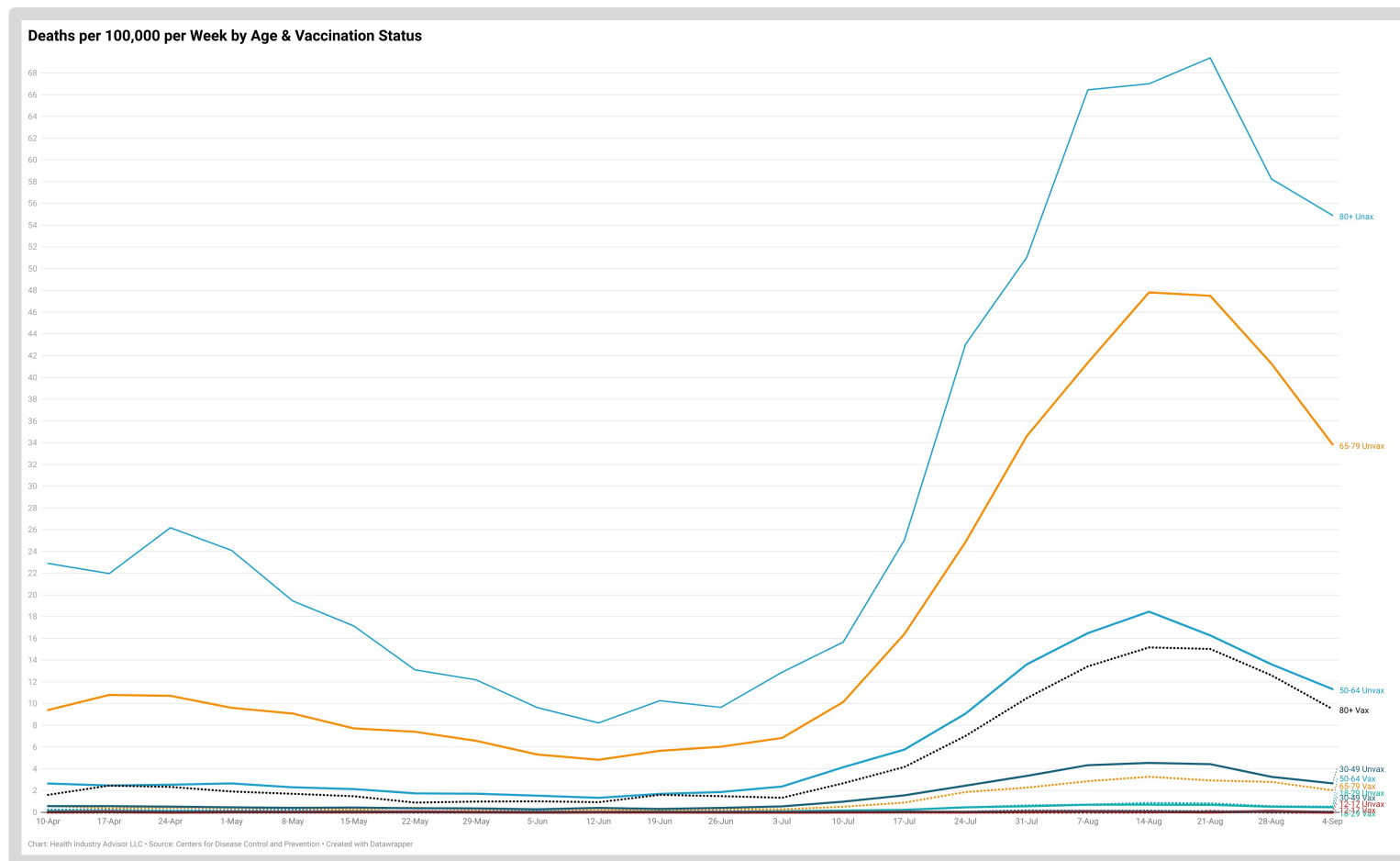
For several consecutive weeks, vaccinated 12–17-year-olds have seen the fewest new cases per capita while their unvaccinated peers have suffered the highest new case rate.



Covid-19 “Vital Signs”

Deaths per Capita by Age and Vaccination Status

*Unvaccinated seniors suffer a significantly higher death rate than any other age group.
Death rates are relatively low for persons under fifty regardless of vaccination status.*



Deaths per Capita by Age and Vaccination Status

*Unvaccinated seniors experience the highest hospitalization rate of any age group.
Vaccinated persons report relatively low hospitalization rates across all age groups.*

Hospitalizations per 100,000 per Week by Age & Vaccination Status

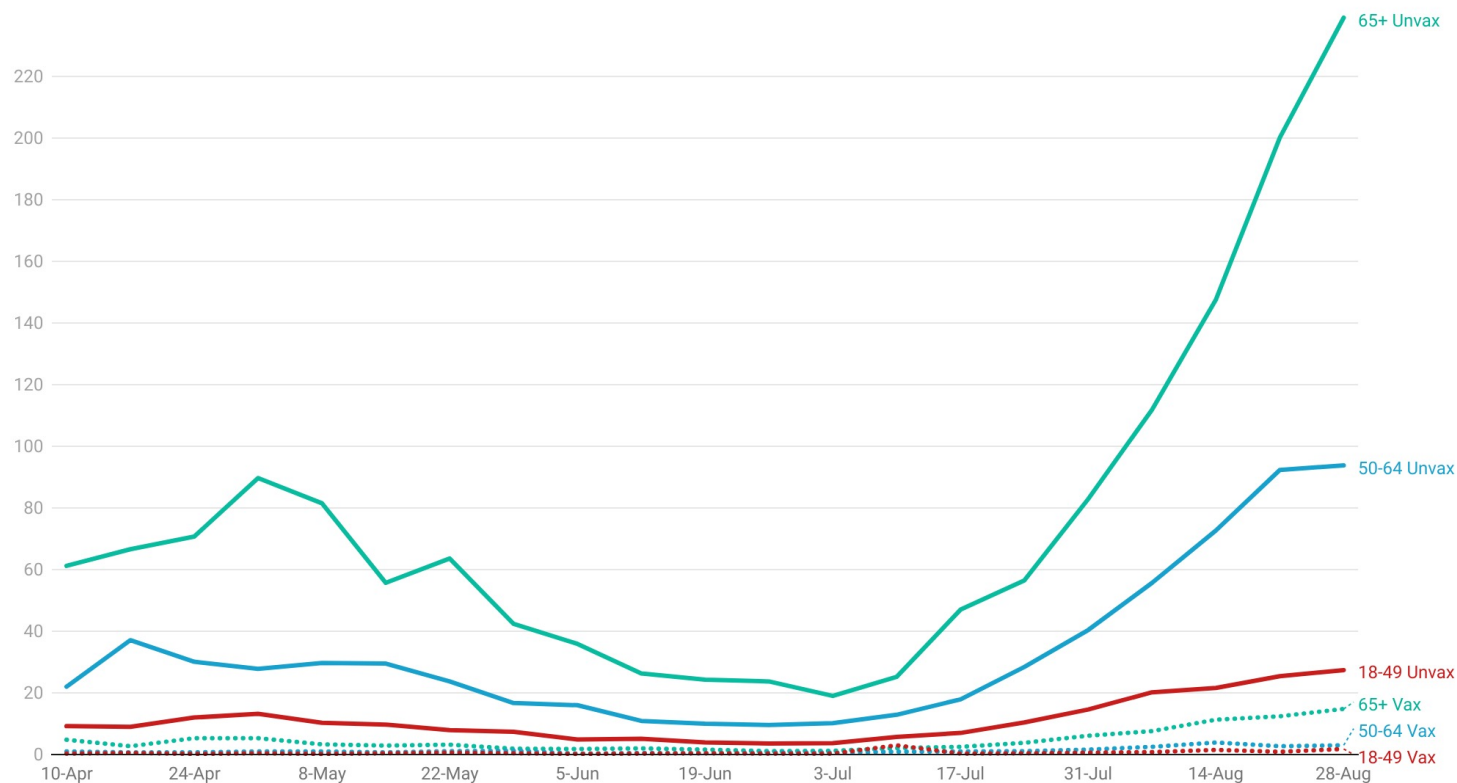


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Increased Risk of Infection for Unvaccinated Persons, By Age

Unvaccinated persons have a 6x higher risk of infection across most age groups. The risk increases to 10.5 x for 12-to-17-year-olds.

Increased Incidence of Infection - Unvaccinated v. Vaccinated Persons by Age

June 27 - September 4

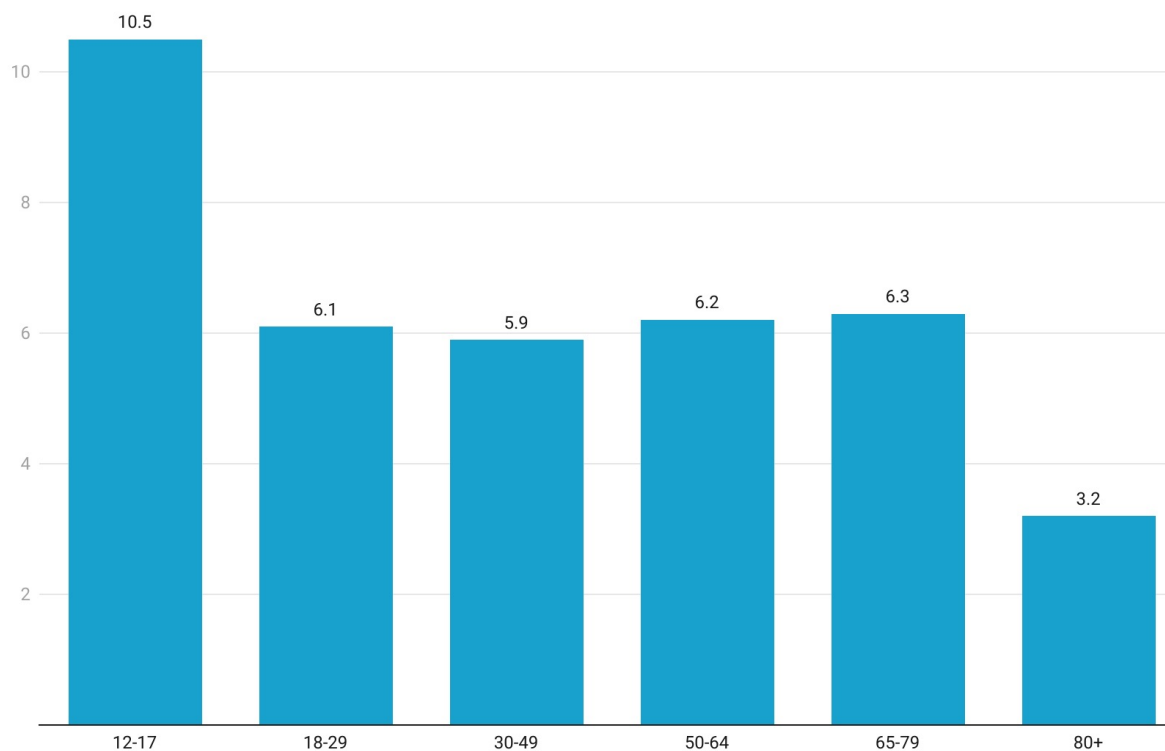


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Increased Risk of Death for Unvaccinated Persons, By Age

Unvaccinated persons 18-to-49-years ago faced an incredible 73x greater risk of death than their vaccinated peers during the Delta surge. Unvaccinated 30-to-49-year-olds have a 30x higher risk and unvaccinated 50-64-year-olds a 21.8x higher risk.

Increased Incidence of Death - Unvaccinated v. Vaccinated Persons by Age

June 27 - September 4

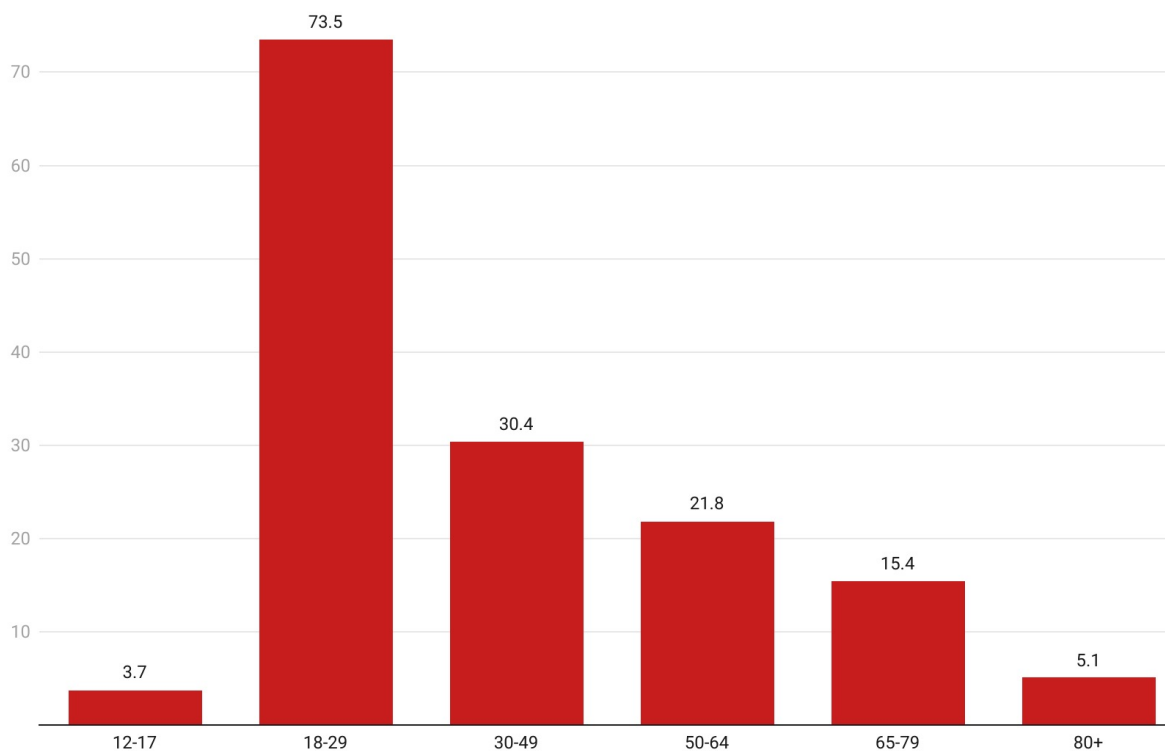


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Increased Risk of Hospitalization for Unvaccinated Persons, By Age

Covid-19 "Vital Signs"

Unvaccinated adults face a significantly higher risk of hospitalization than their vaccinated peers.

Increased Incidence of Hospitalization - Unvaccinated v. Vaccinated Persons by Age

June 27 - August 28

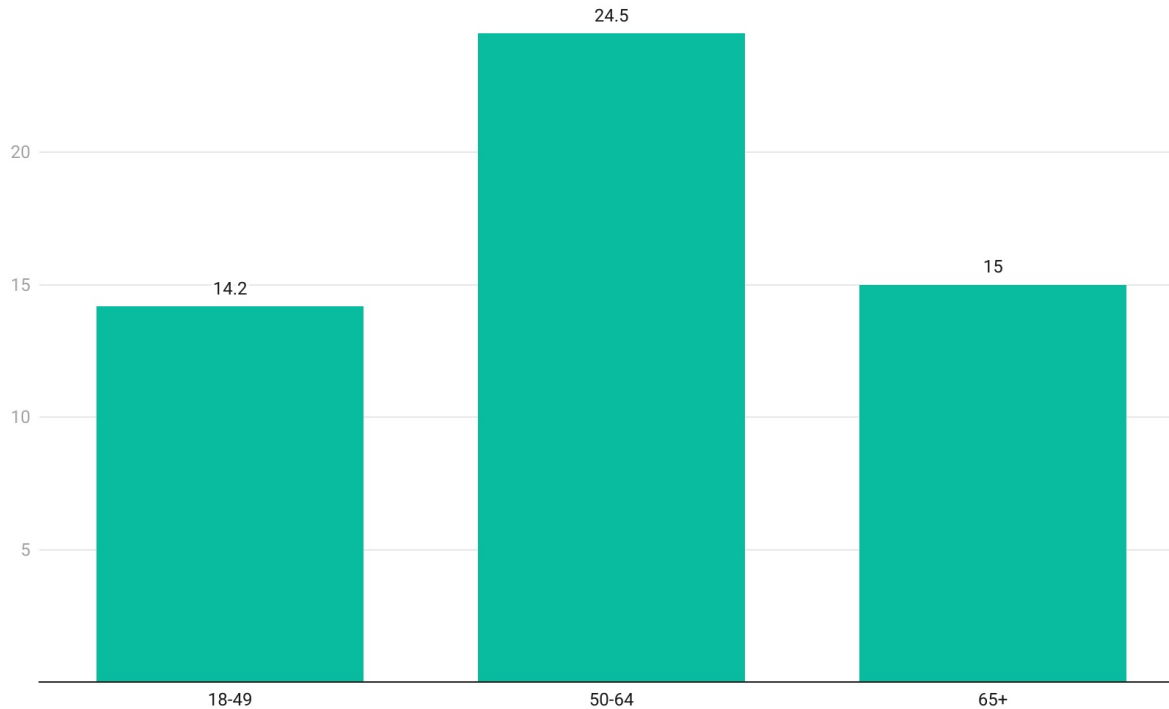


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

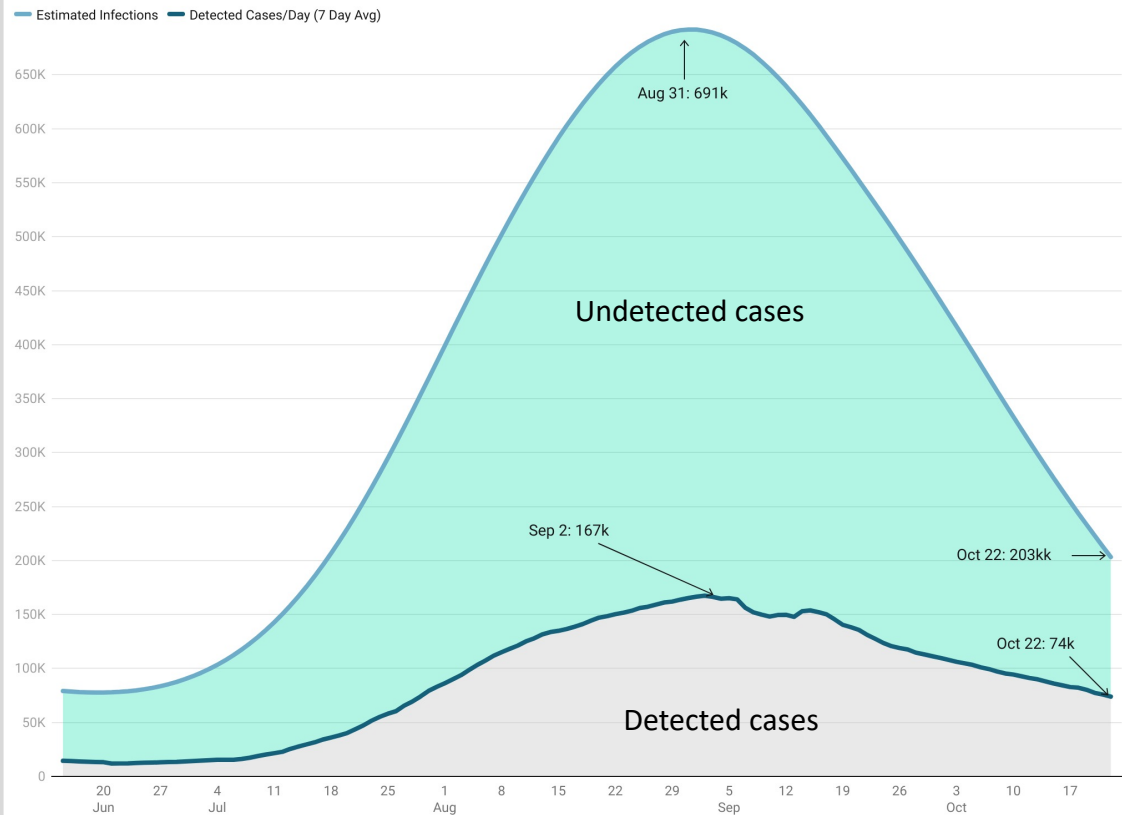
Covid-19 "Vital Signs"

Estimated Daily Infections & New Case Rates

Estimated infections are falling even faster than detected cases.

- Estimated new daily infection peaked on August 31
- Since then, these infections plunged 70%
- Infections are lower than they have been in nearly fourteen weeks
- New daily reported cases peaked on September 2
- Since then, new daily cases plunged 56%
- These cases are now at a twelve-week low.

Estimated Daily Infections v. Detected Cases



New Daily Cases Per Capita By State

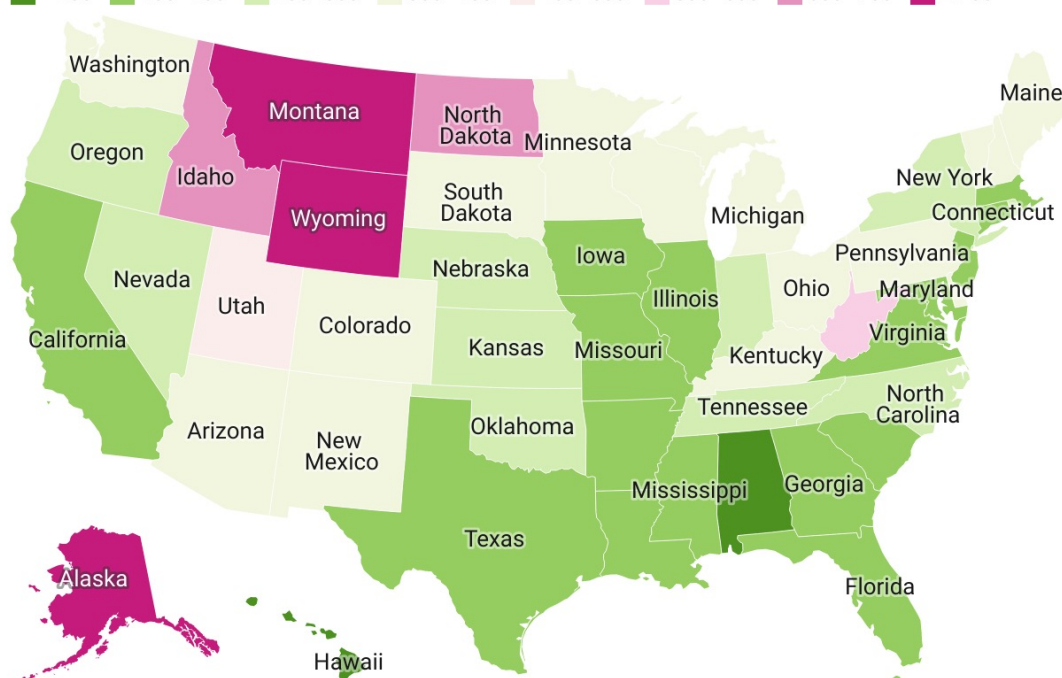
Pockets of high case rates are found across the country.

- Alaska, Idaho, Montana, North Dakota, West Virginia, and Wyoming posted the highest rates of new cases per capita, as of Friday
- Alabama, Arkansas, California, Connecticut, Florida, Georgia, Hawaii, Illinois, Iowa, Louisiana, Maryland, Mississippi, Missouri, New Jersey, South Carolina, Texas and Virginia have the lowest rates in the country.

New Cases / Million

7-Day Average, As of October 22

■ < 100
 ■ 100–200
 ■ 200–300
 ■ 300–400
 ■ 400–500
 ■ 500–600
 ■ 600–700
 ■ ≥ 700



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

Covid-19 "Vital Signs"

Inpatient Covid Admissions and Census

Inpatient census and admissions are declining for the United States in total. Admissions have dropped 55% since late August. Census has declined 50% since early September.

Covid-19 Admissions & Inpatient Census

As of October 22

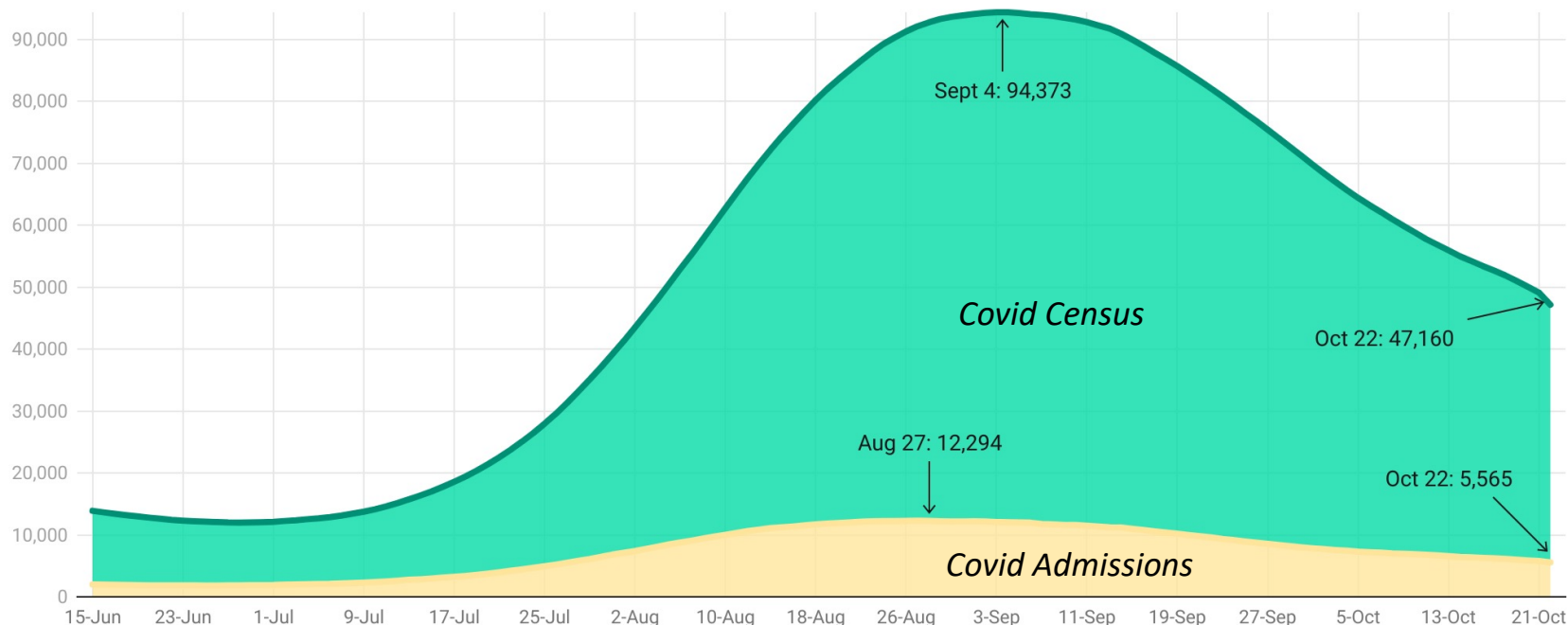


Chart: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

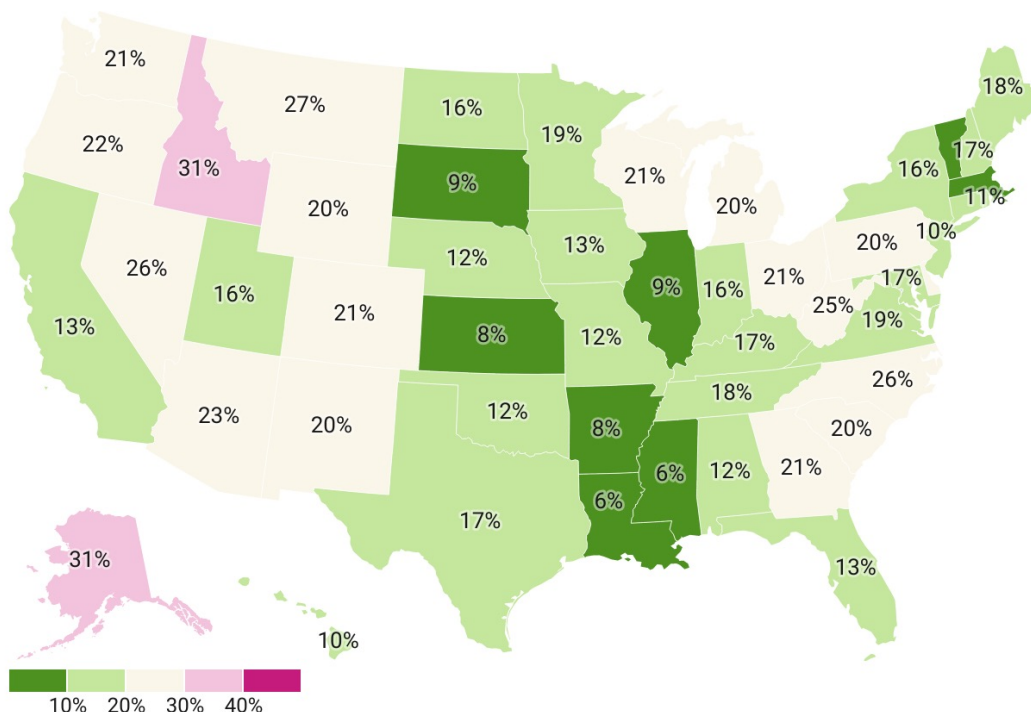
Covid Hospital Occupancy By State

Covid inpatient census is falling but, remains too high in Alaska and Idaho.

- Covid patients account for three of every ten beds in Alaska and Idaho,
- In Arkansas, Hawaii, Illinois, Kansas, Louisiana, Massachusetts, Mississippi, South Dakota, and Vermont, Covid patients occupy fewer than 10% of available beds

Covid-19 Patients As % of All Inpatient Beds

As of October 20



Map: Health Industry Advisor LLC • Source: Centers for Disease Control and Prevention • Created with Datawrapper

Covid-19 "Vital Signs"

Deaths with Covid-19

Adjusting for an apparent reporting update by Oklahoma last week, deaths appear to continuing a month-long decline.

Deaths With Coronavirus

7-Day Average, Through October 22

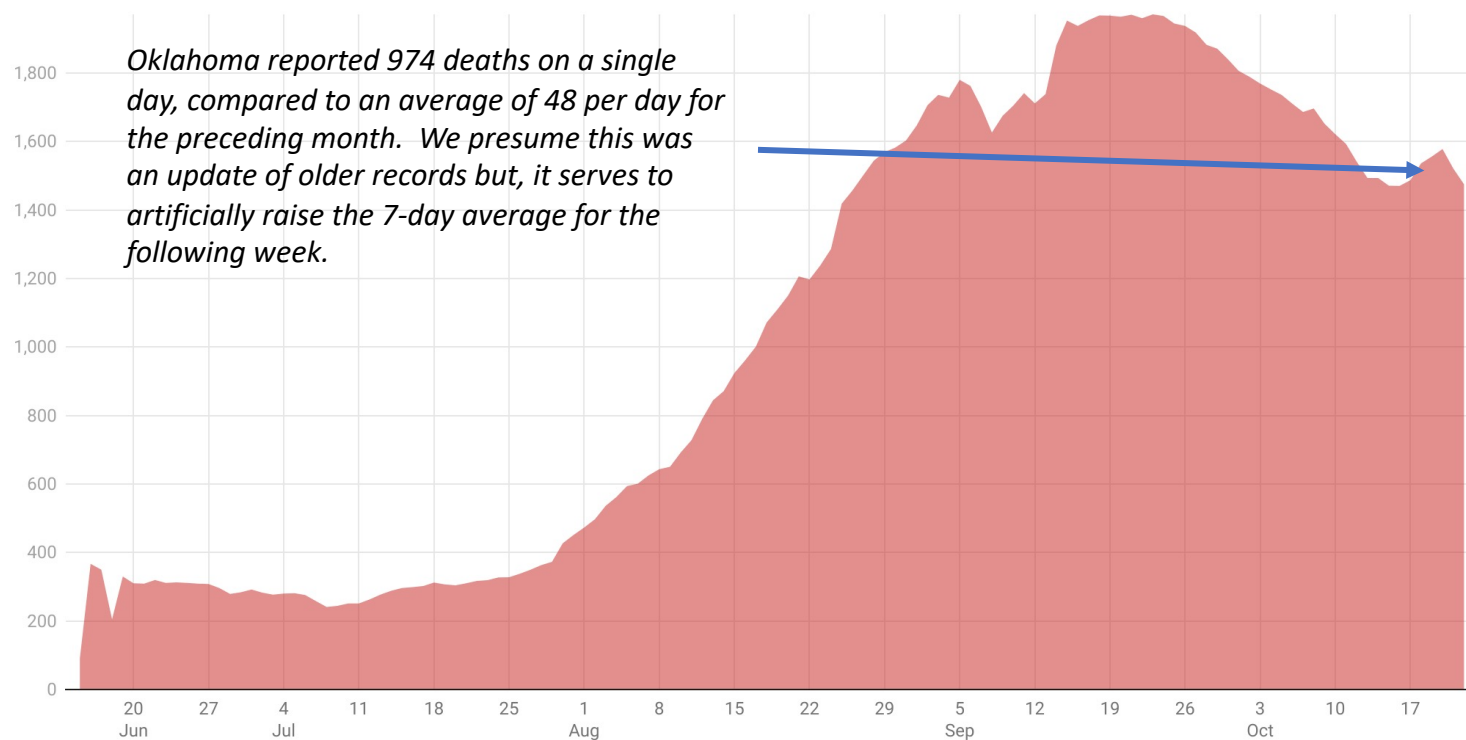


Chart: Health Industry Advisor LLC • Created with Datawrapper

Test-Positive Rate

The test-positive rate continues to drop. This rate is now as low as it has been since mid-July.

Test-Positivity Rate

7-Day Average, Through October 17

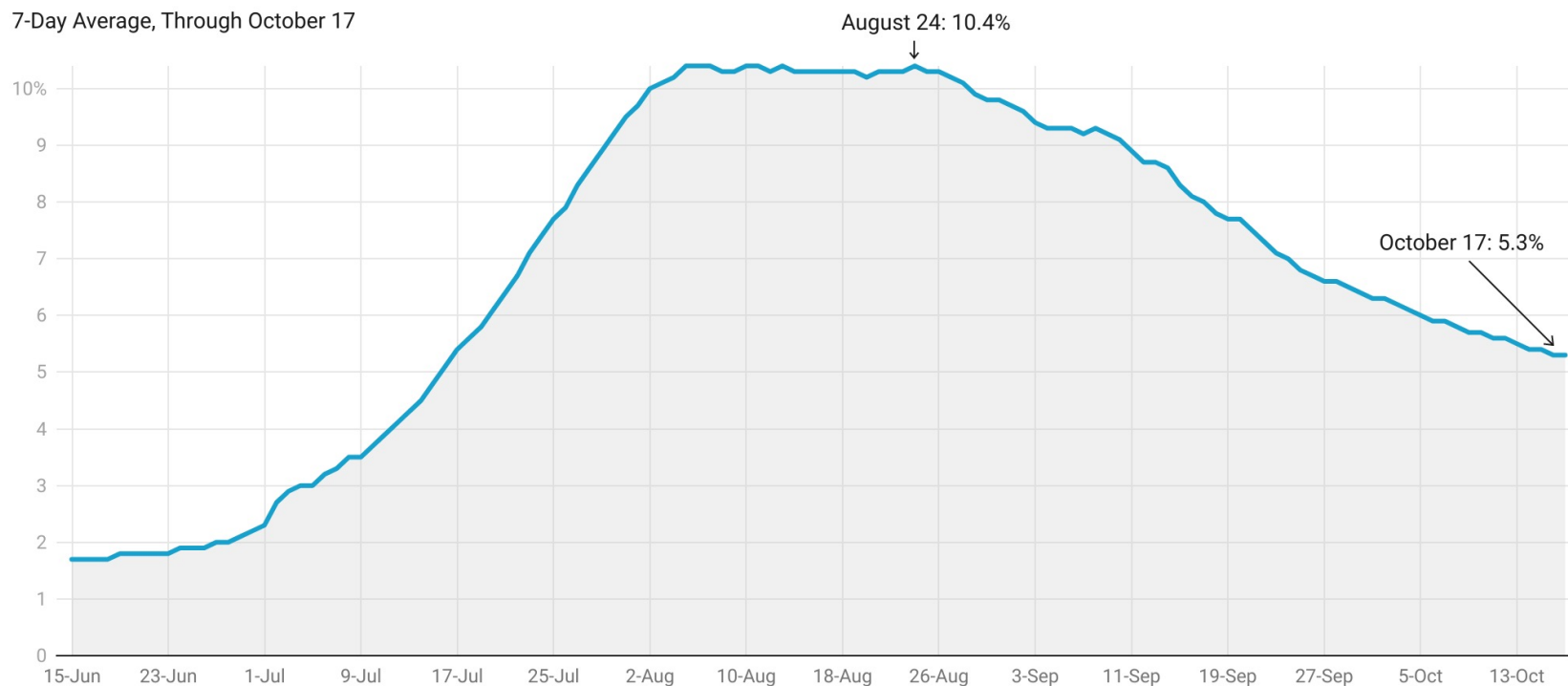


Chart: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

7-Day Average Test-Positivity %

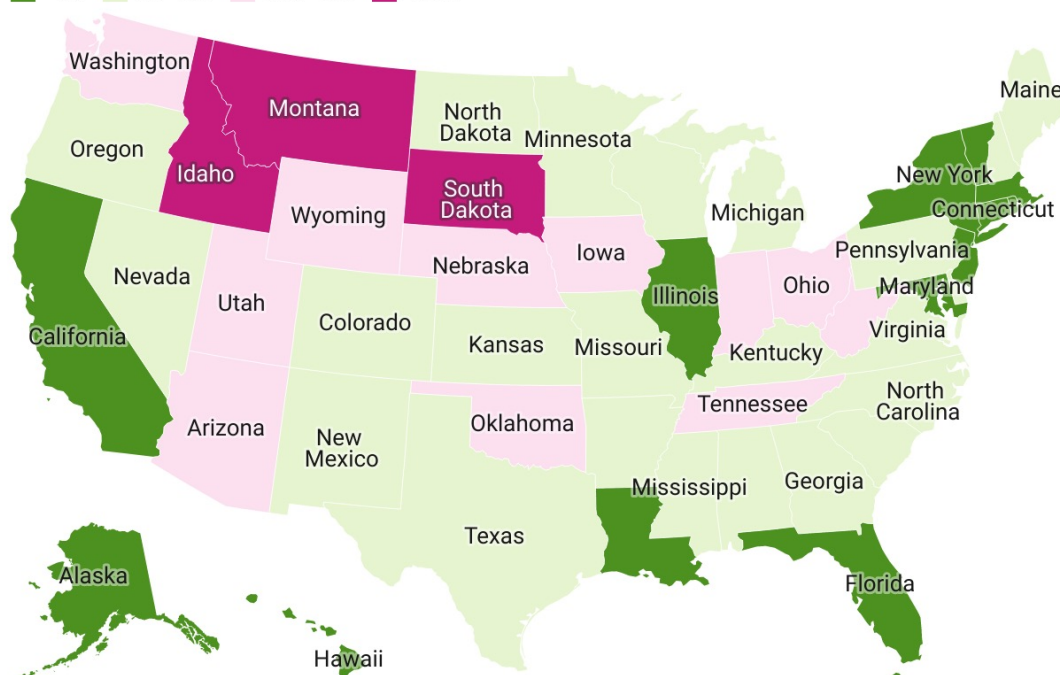
Test-positivity rates are improving but, still higher than recommended by public health officials.

- Several states continue to post high test-positive rates (>15%):
 - Idaho, Montana, and South Dakota
- Several states report rates that beat recommended targets (<5%):
 - Alaska, California, Connecticut, Florida, Hawaii, Illinois, Louisiana, Maryland, Massachusetts, New Jersey, New York, Rhode Island, and Vermont.

Test Positivity %

7-Day Average, As of October 17

■ < 5% ■ 5%–10% ■ 10%–15% ■ ≥ 15%



Map: Health Industry Advisor LLC • Source: U.S. Department of Health & Human Services • Created with Datawrapper

Covid-19 "Vital Signs"

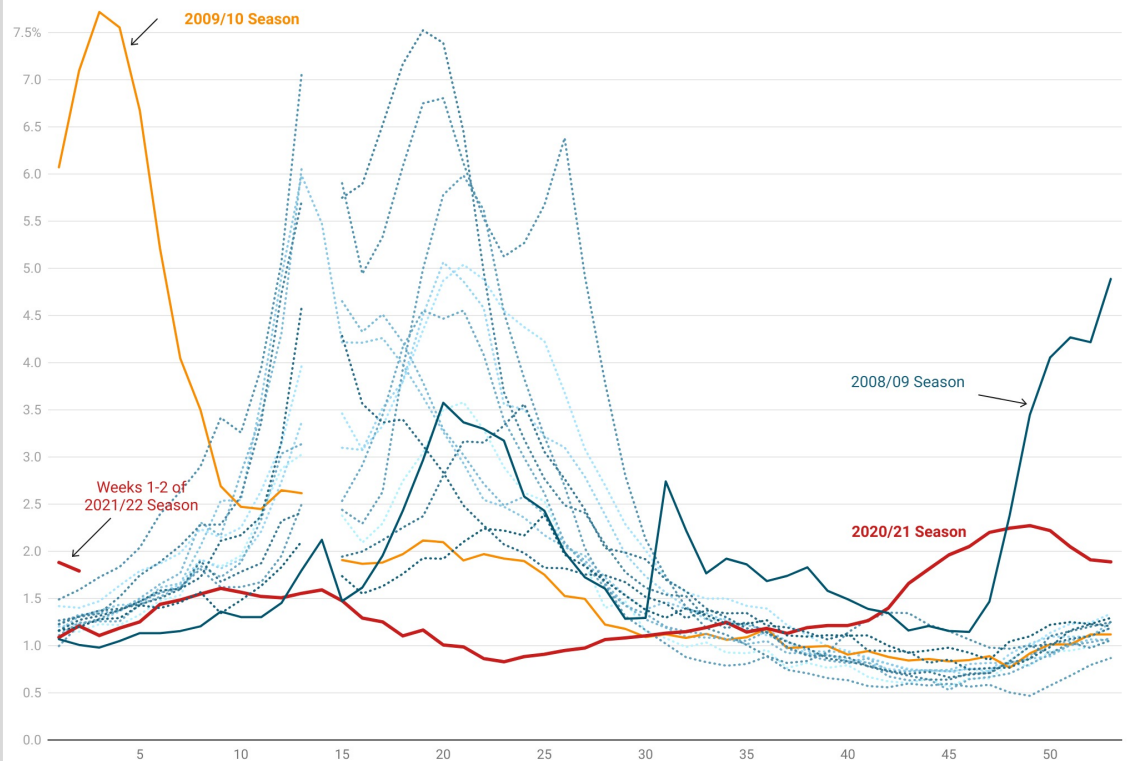
Comparison of Flu Seasons

After a concerning run-up in flu cases last month, these visits have slowed in recent weeks. However, they remain higher than experienced last winter.

- Last Winter, we enjoyed the mildest flu experience in at least fifteen years
- However, as the 2021/22 season, begins we need to be vigilant of the possibility of a severe season this Winter:
 - We are still seeing more visits than during the peak of the season last Winter
 - We are experiencing a higher flu visit rate than every season in the past fifteen years, except for the 2009/2010 season.
 - This 2009/10 season reached peak earlier than in any other season

Percentage Visits for Influenza-Like Illness, National Summary

Comparison of Last Fifteen Seasons



Reported by: U.S. WHO/NREVSS Collaborating Laboratories and ILINet

Chart: Health Industry Advisor LLC • Source: Centers For Disease Control and Prevention • Created with Datawrapper

Sources

The following data sources are accessed on a daily or weekly basis

- U.S. Department of Health & Human Services: <https://healthdata.gov/dataset/covid-19-estimated-patient-impact-and-hospital-capacity-state>
- U.S. Department of Health & Human Services <https://beta.healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb>
- 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>
- Our World In Data, <https://ourworldindata.org/covid-vaccinations>
- Covid-19 Forecast Hub, <https://viz.covid19forecasthub.org>
- 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=Z0b6TmH>