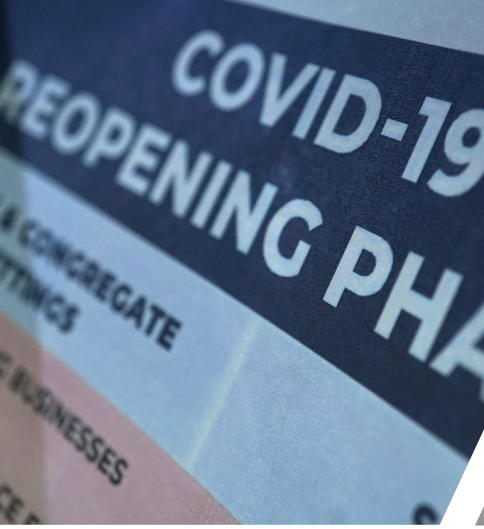


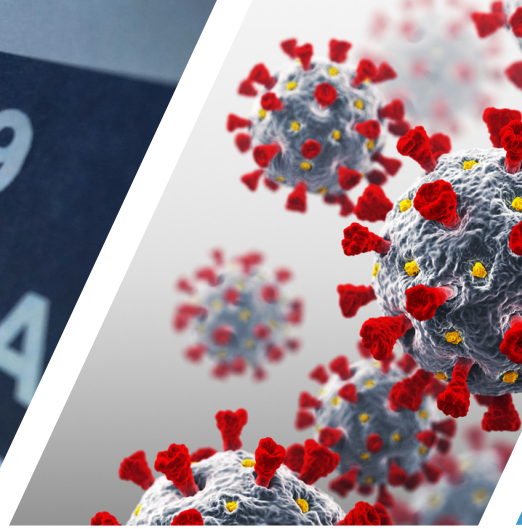


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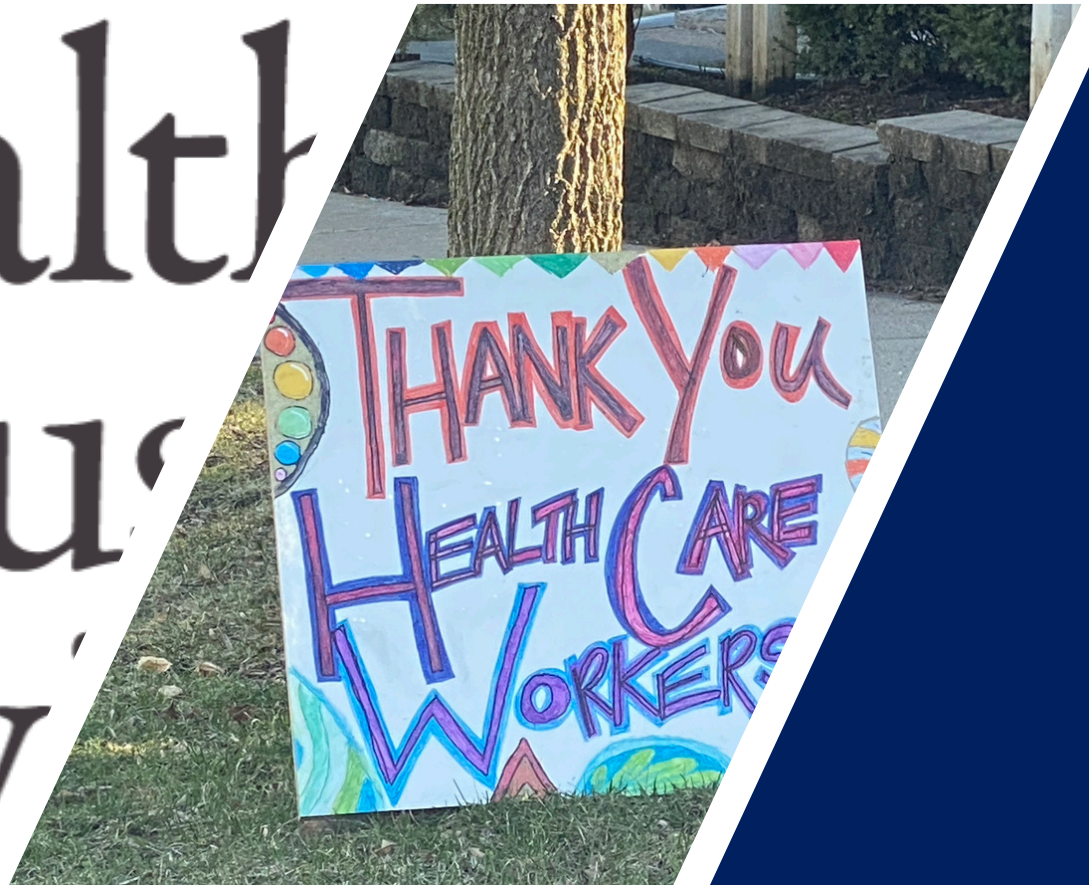



Issue # 164

Thursday, September 17, 2020

# COVID-19 Report

# Highlights

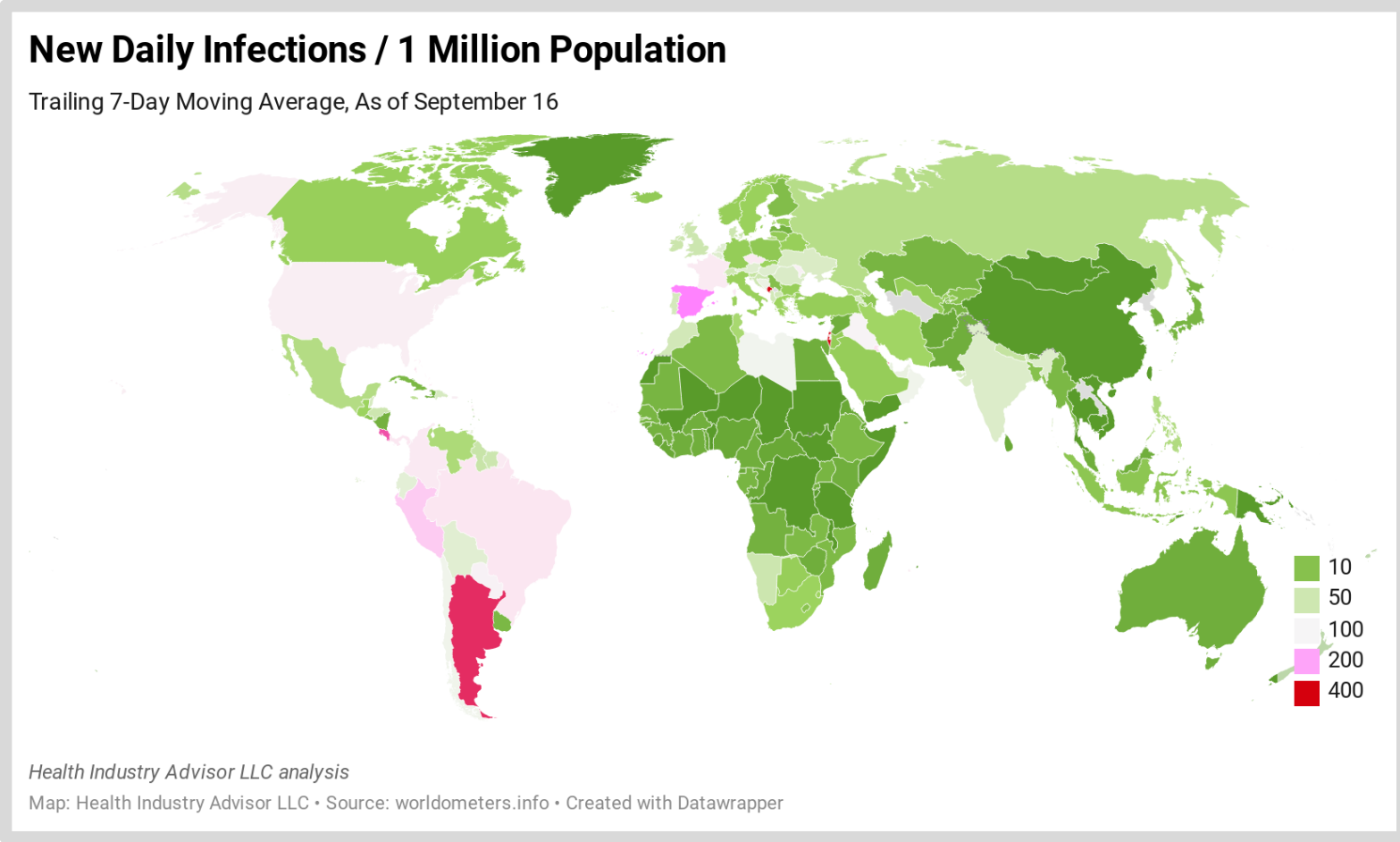
- **The United States is beginning to see the impact of the Labor Day holiday on reported new cases. At this point, it is not clear yet how much of this impact is due to reporting delays in and around the holiday, and how much reflects an increase in infections**
- New cases reported on both Labor Day and the following Tuesday were usually low - a probable artifact of the nature of state health agency hours and reporting practices. This likely resulted in delays in reporting cases and inflated case counts later in the week. It would thereby distort week-over-week comparisons, until such time as the impact of the delays "flush-through" the data - likely by this weekend
- To illustrate this further, **if we use a 14-day average instead of the commonly-used 7-day average, this new infection rate continues to indicate a downward trend throughout this past week**
- **Nonetheless, we are seeing other indications that the easing of new infections we have seen since late-July may be beginning to reverse:**
    - **The 7-day average test-positive rate, which had been trending down since July 22, has now increased for the past several days**; it remains significantly lower, however, than it was in both March/April and June/July when we experienced surging new infections
    - **Inpatient and ICU census of COVID-19 patients, which also had been steadily declining since July, have been essentially flat for the past four days**

- Thirteen states reported test-positive rates higher than the CDC target for Phase 3 re-opening. The two states with the highest rates, North Dakota and Idaho, as well as Mississippi, Wisconsin and Florida saw these rates decline from where they were two weeks ago. Conversely, Alabama, Kansas, Iowa, South Carolina, Missouri, Nebraska and Georgia's rates increased from two weeks ago
- **New cases reported on Wednesday were higher than one week ago but, lower than for any other Wednesday in the past twelve weeks**
- **There are nine states that experienced new infections rates > 200 per day per million population during the past 7 days. Of these, seven saw these rates increase relative to two weeks ago: North Dakota, Arkansas, Missouri, Wisconsin, Oklahoma, Tennessee and South Carolina**; Only South Dakota and Iowa, among these nine states saw rates declining from two weeks ago
- Arkansas posted a new high in its rate of new daily infections per capita; its previous high was set 49 days ago; Montana set a new high 12 days after its previous high; and, West Virginia set a new high 9 days after its previous high
- Despite the plateauing recently of inpatient and ICU use, **ventilator use continues to decline. Additionally the % of ER visits for COVID-19-like illness, pneumonia and shortness-of-breath also continue to decline. Flu visits to the ER have not yet begun to be in evidence**

Aruba reported the highest rate of new infections per capita* worldwide over the past 7 days, followed by Israel, Bahrain and Guadeloupe

Argentina was 8th; Costa Rica, 9th; Spain 10th and Peru, 11th

The United States ranked 25th among all countries worldwide




* - 7-day moving average basis





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State-By-State Comparisons (page 1 of 2):

Alabama, Iowa and Missouri show high rates of new infections and test-positive %'s

Connecticut, Maine and Maryland report low new infection and test-positive rates

## State-By-State Comparisons

As of September 16

| State | Cases per 1M Population | Deaths per 1 Million Population | Tests per 1M Population Past 7 days | Test-Positive % (7-Day Moving Average) | New Daily Cases Per 1M Population (7-Day M.A.) |
|---|---|---|---|---|---|
| Alabama | 28,586 | 488 | 1,235 | 15.7% | 194 |
| Alaska | 8,742 | 60 | 3,247 | 3.5% | 107 |
| Arizona | 28,743 | 738 | 1,163 | 5.7% | 66 |
| Arkansas | 23,645 | 383 | 2,933 | 8.0% | 275 |
| California | 19,452 | 373 | 2,374 | 3.6% | 87 |
| Colorado | 10,783 | 348 | 955 | 6.3% | 69 |
| Connecticut | 15,435 | 1,259 | 4,069 | 1.3% | 52 |
| Delaware | 19,653 | 636 | 1,751 | 7.8% | 136 |
| District Of Columbia | 20,811 | 874 | 4,166 | 1.7% | 72 |
| Florida | 31,141 | 603 | 1,016 | 12.5% | 127 |
| Georgia | 27,957 | 605 | 1,700 | 9.3% | 158 |
| Hawaii | 7,659 | 73 | 2,545 | 3.2% | 83 |
| Idaho | 19,983 | 239 | 885 | 16.5% | 142 |
| Illinois | 21,016 | 679 | 3,794 | 3.8% | 142 |
| Indiana | 15,928 | 516 | 2,204 | 6.1% | 134 |
| Iowa | 23,897 | 392 | 1,518 | 13.6% | 226 |
| Kansas | 17,471 | 201 | 1,119 | 15.2% | 167 |
| Kentucky | 12,982 | 242 | 4,780 | 3.2% | 153 |
| Louisiana | 34,056 | 1,139 | 3,541 | 3.4% | 119 |
| Maine | 3,659 | 103 | 3,450 | 0.6% | 22 |
| Maryland | 19,393 | 638 | 1,593 | 6.4% | 102 |
| Massachusetts | 18,043 | 1,330 | 2,232 | 2.4% | 53 |
| Michigan | 12,513 | 695 | 3,078 | 2.7% | 84 |
| Minnesota | 15,134 | 352 | 1,221 | 8.2% | 100 |
| Mississippi | 30,416 | 926 | 1,108 | 14.8% | 165 |
| Missouri | 17,555 | 306 | 2,176 | 10.8% | 254 |





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State-By-State Comparisons (page 2 of 2):

North and South Dakota show high rates of new infections and test-positive %'s

New Hampshire, New Jersey, New York and Vermont report low new infection and test-positive rates

## State-By-State Comparisons

As of September 16

| State | Cases per 1M Population | Deaths per 1 Million Population | Tests per 1M Population Past 7 days | Test-Positive % (7-Day Moving Average) | New Daily Cases Per 1M Population (7-Day M.A.) |
|---|---|---|---|---|---|
| Montana | 8,649 | 132 | 2,840 | 4.5% | 129 |
| Nebraska | 20,146 | 227 | 1,744 | 10.6% | 185 |
| Nevada | 24,038 | 485 | 1,144 | 8.1% | 92 |
| New Hampshire | 5,698 | 322 | 1,131 | 2.7% | 28 |
| New Jersey | 22,629 | 1,821 | 2,313 | 1.9% | 46 |
| New Mexico | 12,840 | 397 | 2,202 | 2.3% | 53 |
| New York | 24,632 | 1,704 | 4,070 | 0.9% | 42 |
| North Carolina | 17,819 | 300 | 2,633 | 4.4% | 109 |
| North Dakota | 21,080 | 232 | 1,706 | 24.4% | 417 |
| Ohio | 11,943 | 390 | 2,675 | 3.5% | 92 |
| Oklahoma | 18,022 | 234 | 2,674 | 8.6% | 229 |
| Oregon | 7,033 | 124 | 921 | 5.1% | 47 |
| Pennsylvania | 11,801 | 623 | 984 | 6.5% | 64 |
| Rhode Island | 21,947 | 1,020 | 1,663 | 5.5% | 92 |
| South Carolina | 25,923 | 608 | 1,765 | 12.4% | 219 |
| South Dakota | 19,210 | 217 | 1,900 | 14.6% | 278 |
| Tennessee | 25,644 | 315 | 3,674 | 6.0% | 220 |
| Texas | 24,307 | 513 | | | 154 |
| Utah | 18,403 | 136 | 1,390 | 13.1% | 182 |
| Vermont | 2,728 | 93 | 1,120 | 0.9% | 11 |
| Virginia | 15,876 | 338 | 1,778 | 6.7% | 118 |
| Washington | 10,912 | 265 | 1,741 | 3.0% | 58 |
| West Virginia | 7,261 | 162 | 2,394 | 4.6% | 111 |
| Wisconsin | 15,681 | 211 | 1,644 | 14.7% | 230 |
| Wyoming | 7,668 | 79 | 1,267 | 8.1% | 102 |

Table: Health Industry Advisor LLC • Created with Datawrapper





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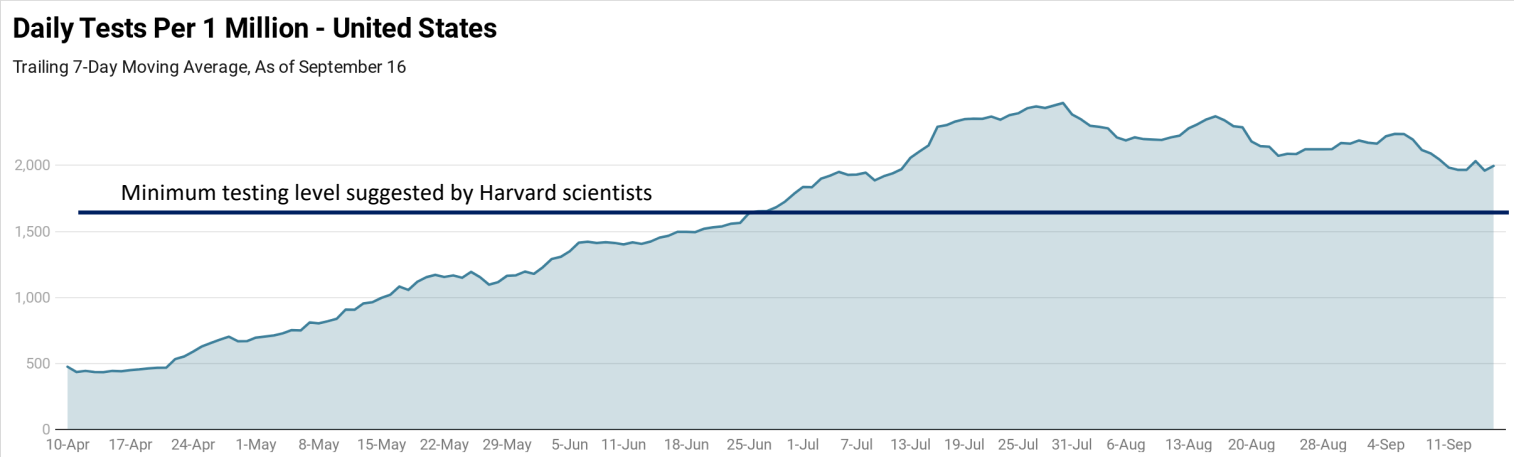
Testing remains above minimum level suggested by Harvard scientists . . . Yet, is ~3% lower than last week

Test-positive rate turned up the past three days, largely influenced by low test volume on Monday. Nonetheless, the rate on Wednesday was higher than most recent days









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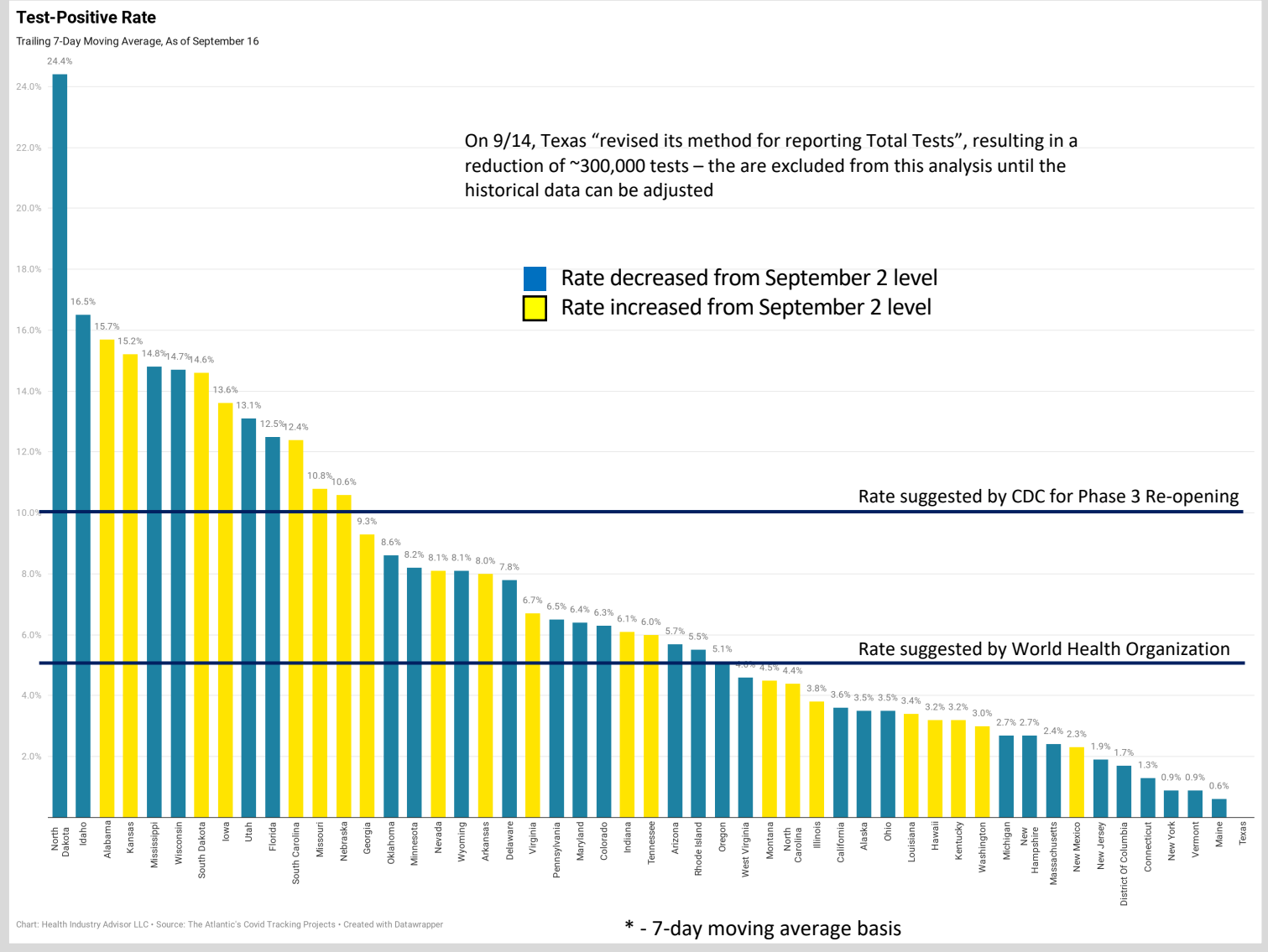
Thirteen states reported test-positive rates for the past 7 days higher than the CDC-target for Phase 3 re-openings

Another fifteen states reported rates above the stricter WHO-target

North Dakota continues to report the highest rate, although this rate declined in the past two weeks





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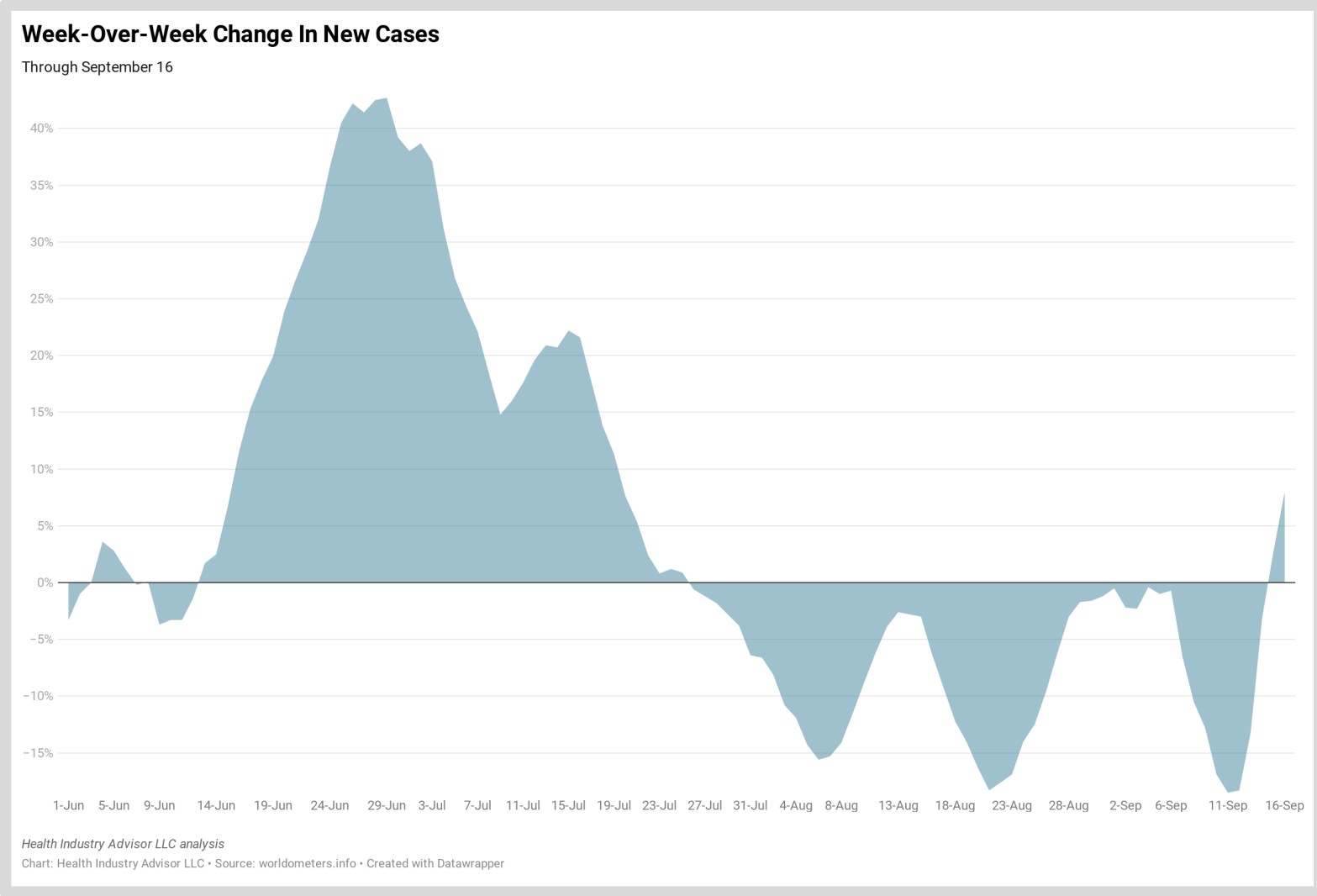
Following a seven-week period of decline, new cases increased on a week-over-week basis (an increase of 8%)

Bearing in mind that the week-to-week comparison includes Labor Day, it is not yet clear how much of the increase is due to timing issues of reporting cases during the holiday, and how much is the result of rise in new infections





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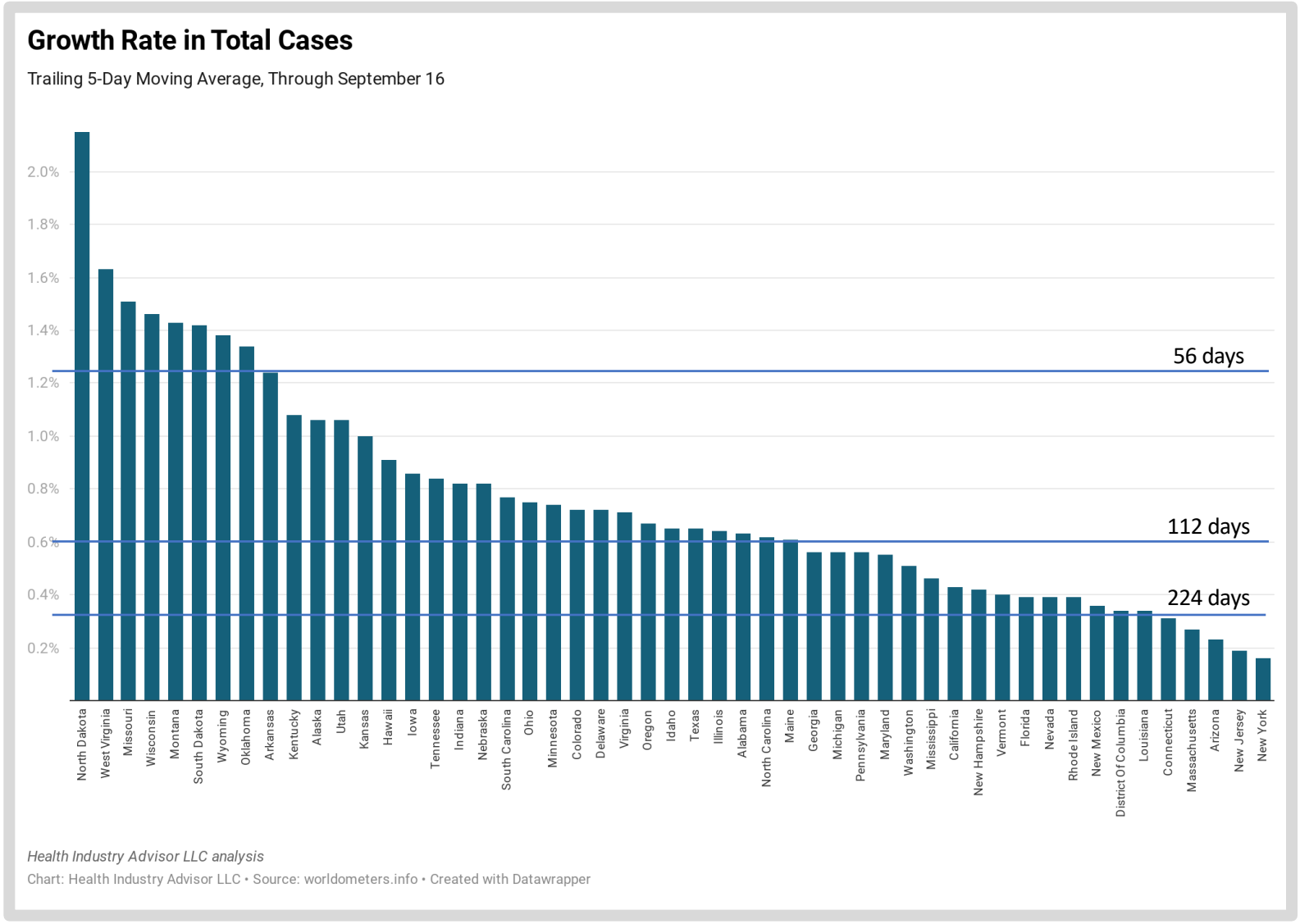
Case growth:

At current rates, cases are doubling every 32-33 days in North Dakota

Every 426 days in New York

Every 125 days for the United States overall





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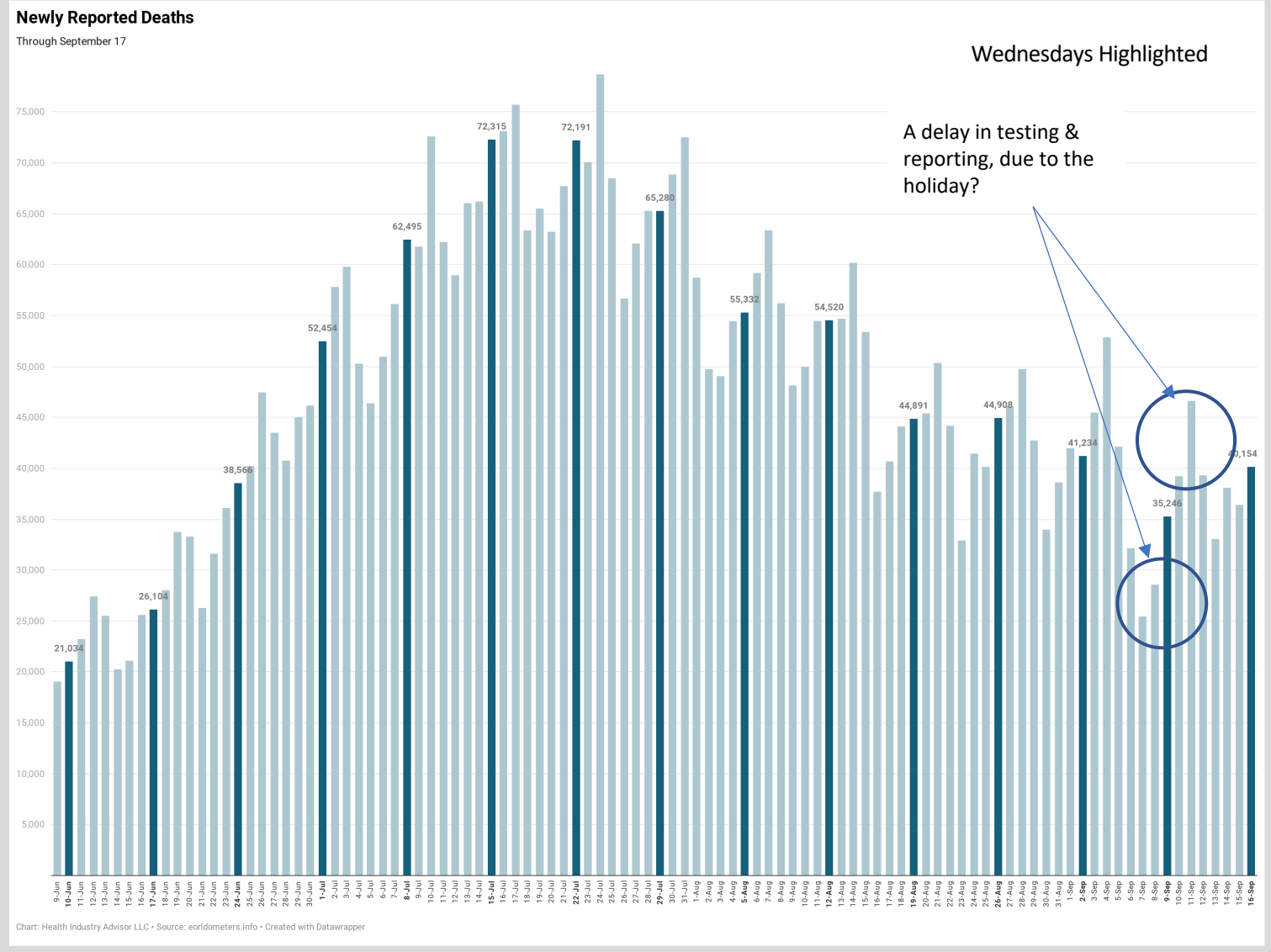
Other than the day-after-Labor Day, there were fewer new daily cases on Wednesday than any other Wednesday in twelve weeks

Note the spike in new cases last Thursday and Friday. Were these an artifact of reporting delays coming out of the holiday? New cases today and Friday will provide better insight about whether infection rates are indeed increasing





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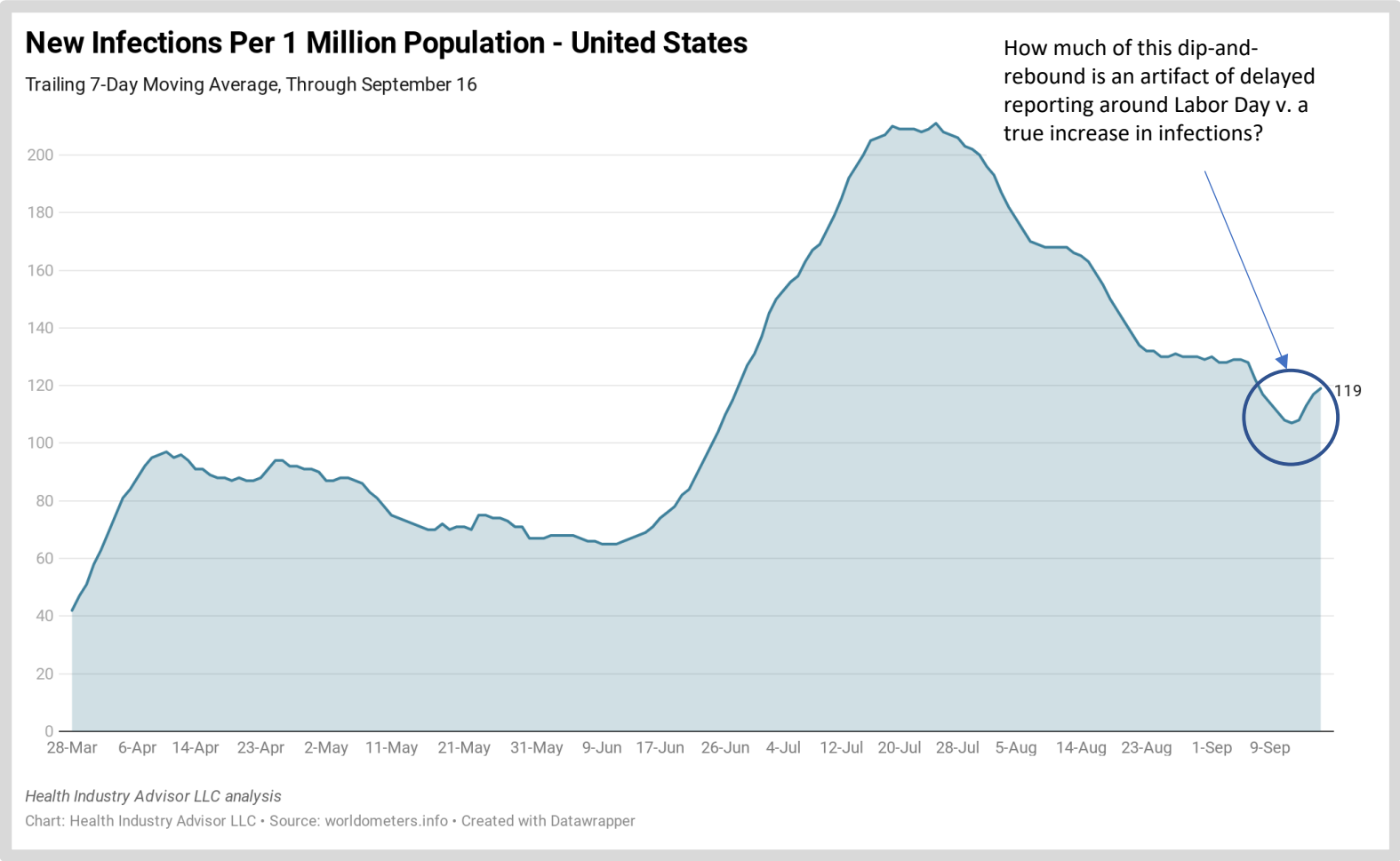
New infections per capita in the U.S.* increased since last week

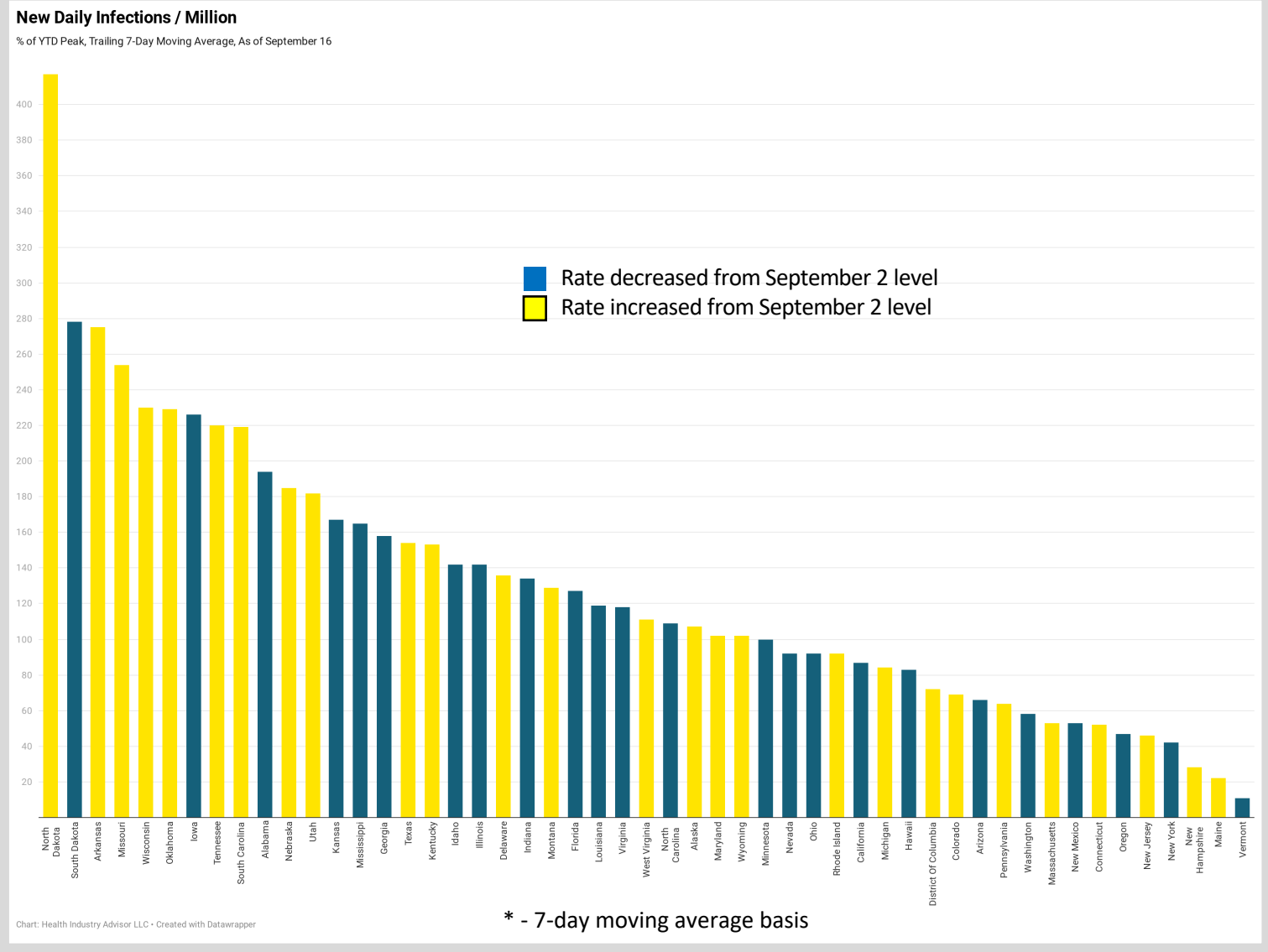
Likely a Labor Day impact due to: timeliness of reporting, surge in new cases, or both?




* - 7-day moving average basis

North and South Dakota reported the highest rates of new infections per capita* over the past 7 days, followed by Arkansas, Missouri, Oklahoma and Wisconsin

Of the nine states with the highest rates, seven saw their rates increase from levels two weeks ago. North Dakota, Arkansas, Missouri, Wisconsin and Oklahoma are most concerning in this regard. South Dakota and Iowa have shown improvement




* - 7-day moving average basis





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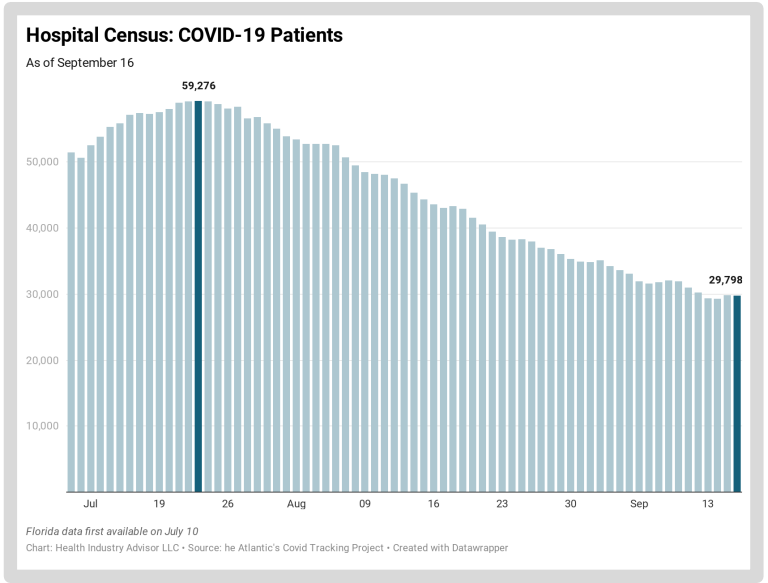
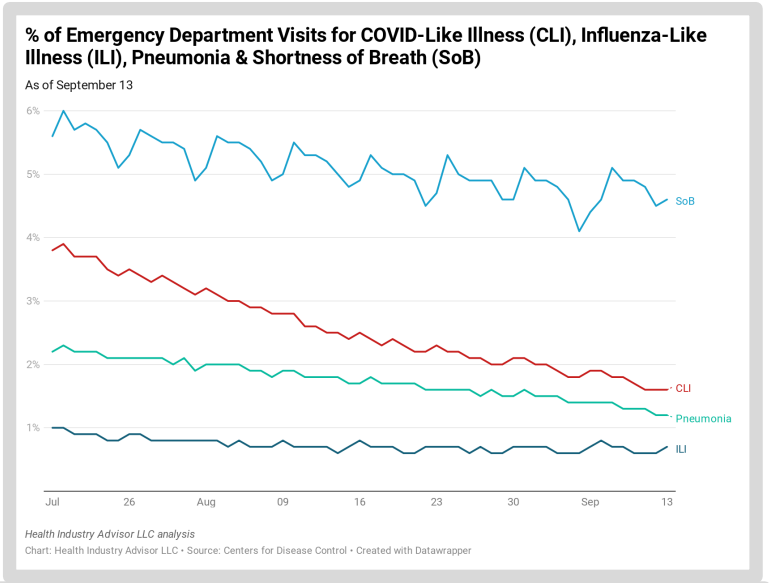
COVID-19's demand on healthcare resources had been easing for months; is it now beginning to plateau?

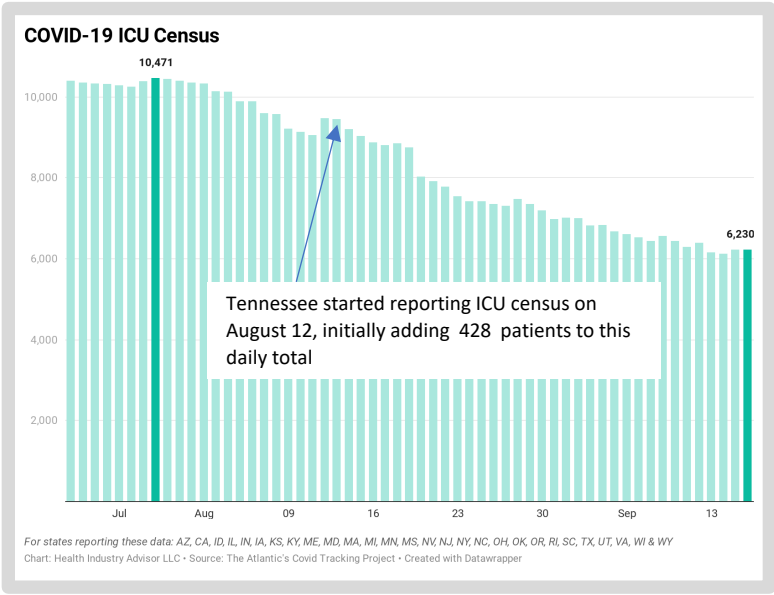
Inpatient and ICU COVID-19 census has been relatively flat for past 4 days

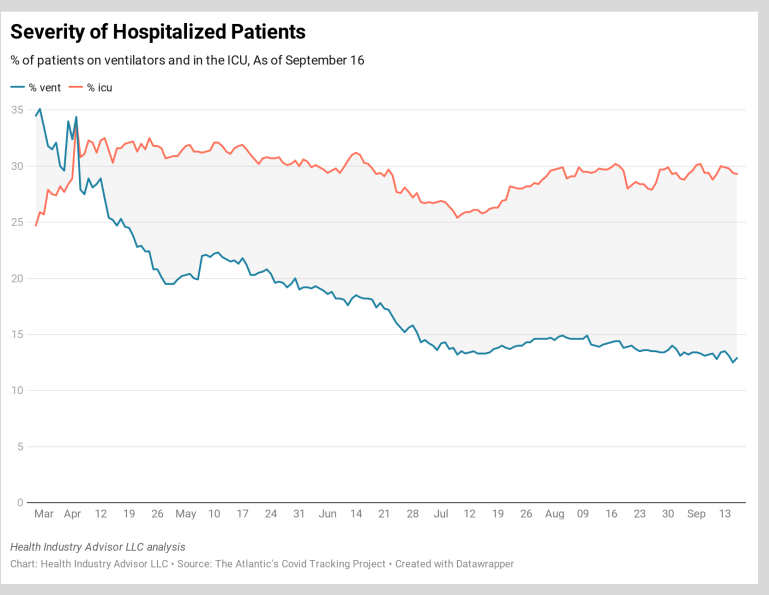
Ventilator use has been steadily declining

ER visits for COVID-19-like illness, pneumonia and shortness-of-breath continue to decline; Flu visits have not yet picked up



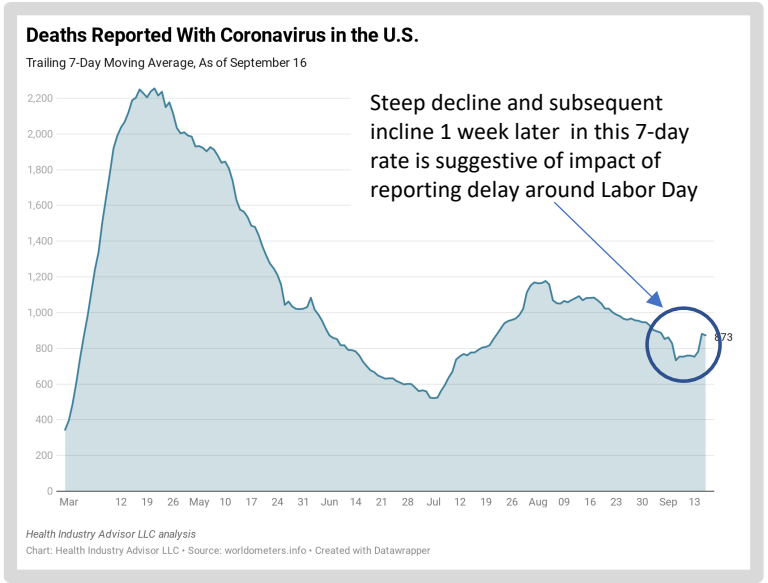



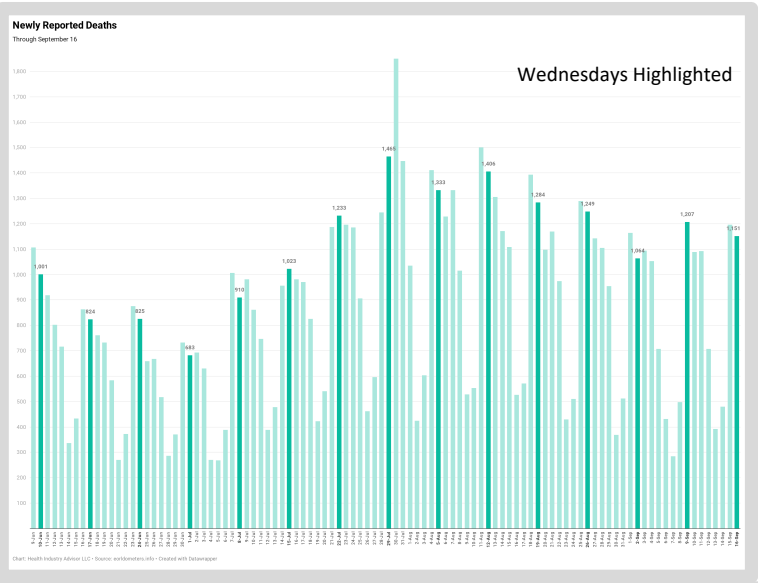
Deaths are up over last week - some of this may be due to timeliness of reporting around the Labor Day holiday

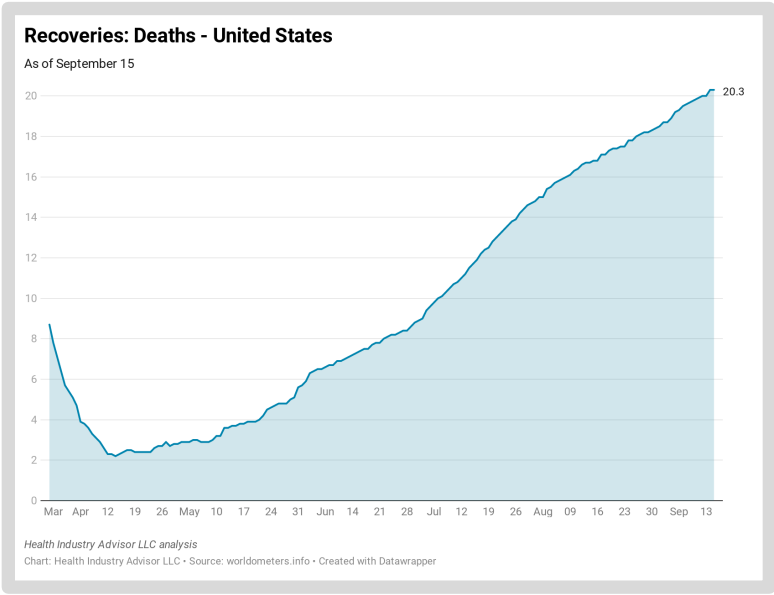
Deaths reported yesterday were on par or lower than all but one Wednesday in the past eight weeks

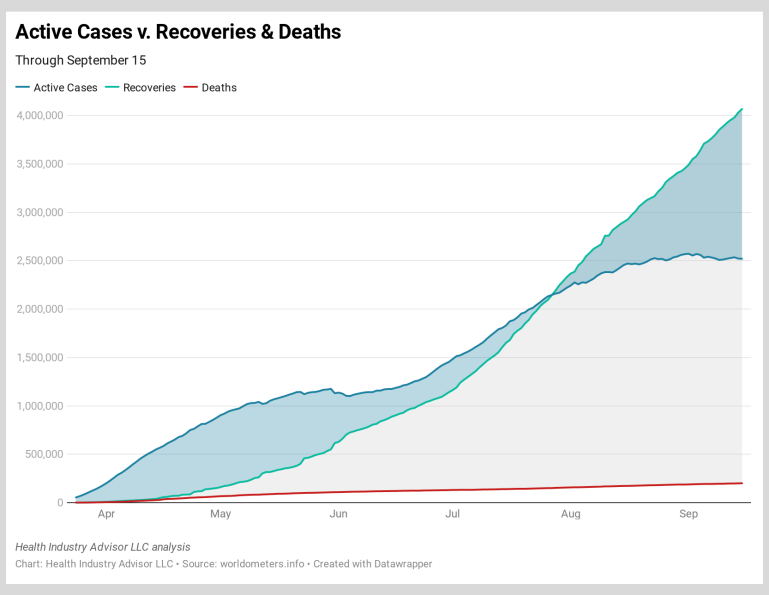
Nonetheless, deaths seem to remain high, given the decline in new cases since mid-July

Active cases tapering off, while recoveries are increasing steadily



# Data 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, National, Regional, and State Level Outpatient Illness and Viral Surveillance https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html
- Centers for Disease Control, COVID-19 Laboratory-Confirmed Hospitalizations https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
- Centers for Disease Control, COVID Data Tracker https://www.cdc.gov/covid-data-tracker/index.html#mobility
- 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