Chronicles of a Pandemic

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October 1, 2020
COVID- 19 Report | Issue # 175

Highlights

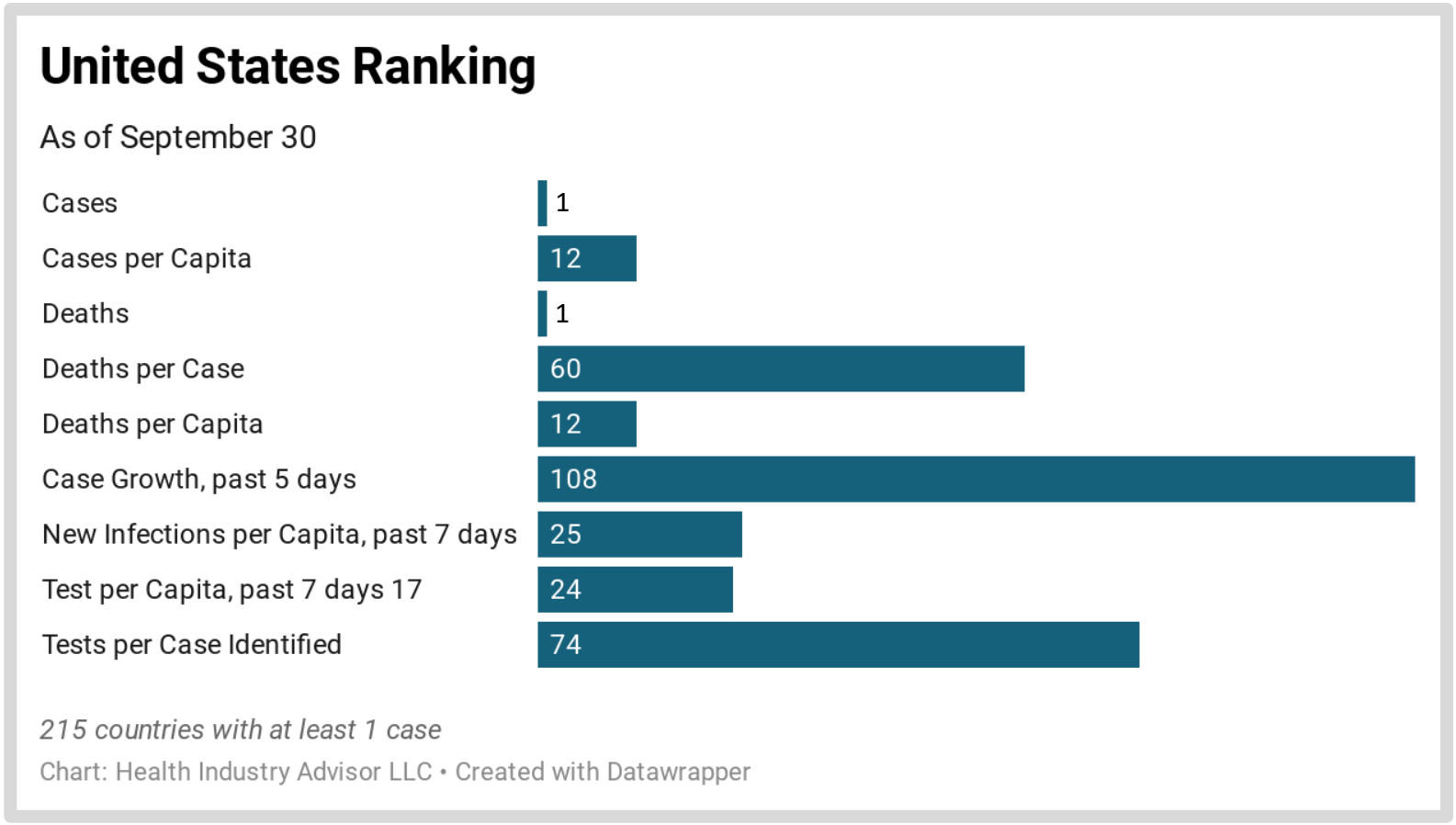
- **The virus spread is now most intense in the center of the country, and has eased on the coasts**
  - North and South Dakota, Wisconsin, Utah, Iowa and Montana have the highest infection rates over the past week; these same states - less Iowa and adding Wyoming - also have the highest largest increase in infection rates over the past two weeks. In other words, the intensity is high in these sates and going higher
  - Most of the states that experienced spikes in either March/April or June/July now have infection rates below the national average - suggesting a pattern that many states now have or are experiencing - a period of intense infection spread, followed by a period of relative "calm". Only one state, Louisiana, has experienced two spikes thus far. These spikes, however, impacted different parishes
- **Overall, its not yet clear that the country is in a period of increasing infections**
  - The overall US new infection rate rose and fell with the April/May and June/July localized spikes and the May and August respites
  - **Other than a dip and subsequent rebound in this rate around Labor Day - likely due in significant part to holiday reporting issues - the US rate for the past two weeks is at about the same level and, perhaps slightly lower it was for the second half of August. At that time, as well as now, this rate has fluctuated in a narrow band**
  - How is it that the current spike in the center of the country isn't driving up the US infection rate? Population. Whereas the first two spikes involved many of the most-populous states, the current spike is being experienced in more sparsely-populated parts of the country
  - **Of the ten states with the highest rate of new infections, only Wisconsin has more than 4 million residents; Of the ten most-populated states, Seven have infection rates below the national average**
  - **Of the ten states with the largest increases in new infection rates over the past two weeks, seven have fewer than 4 million residents**
- **Hospital use for treating COVID-19 patients may have bottomed out and is increasing in certain states**
  - Inpatient, ICU and ventilator use for COVID-19 patients are each down significantly from peak levels in July (50%, 40% and 46%, respectively)
  - While ventilator use continues to decline, inpatient and ICU days seem to have stabilized over the past week or so
  - In certain states, most notably, Wisconsin, Texas, Indian and Missouri, inpatient days have increased over the past two weeks
- **Deaths with the virus are trending down again**
  - **The 7-day average deaths declined yesterday, to a level reached only one other time since July 10**
  - There were fewer deaths reported yesterday than on any other Wednesday since July 8
  - As deaths have declined and active cases have stabilized, recoveries from the virus have continued to increase. These recoveries now out-number deaths by >22:1; There are nearly 2x as many recoveries and active cases

Where does the United States rank in the world?

Most cases and deaths of any country

12th on both cases and deaths per capita

25th in new infections per capita past week



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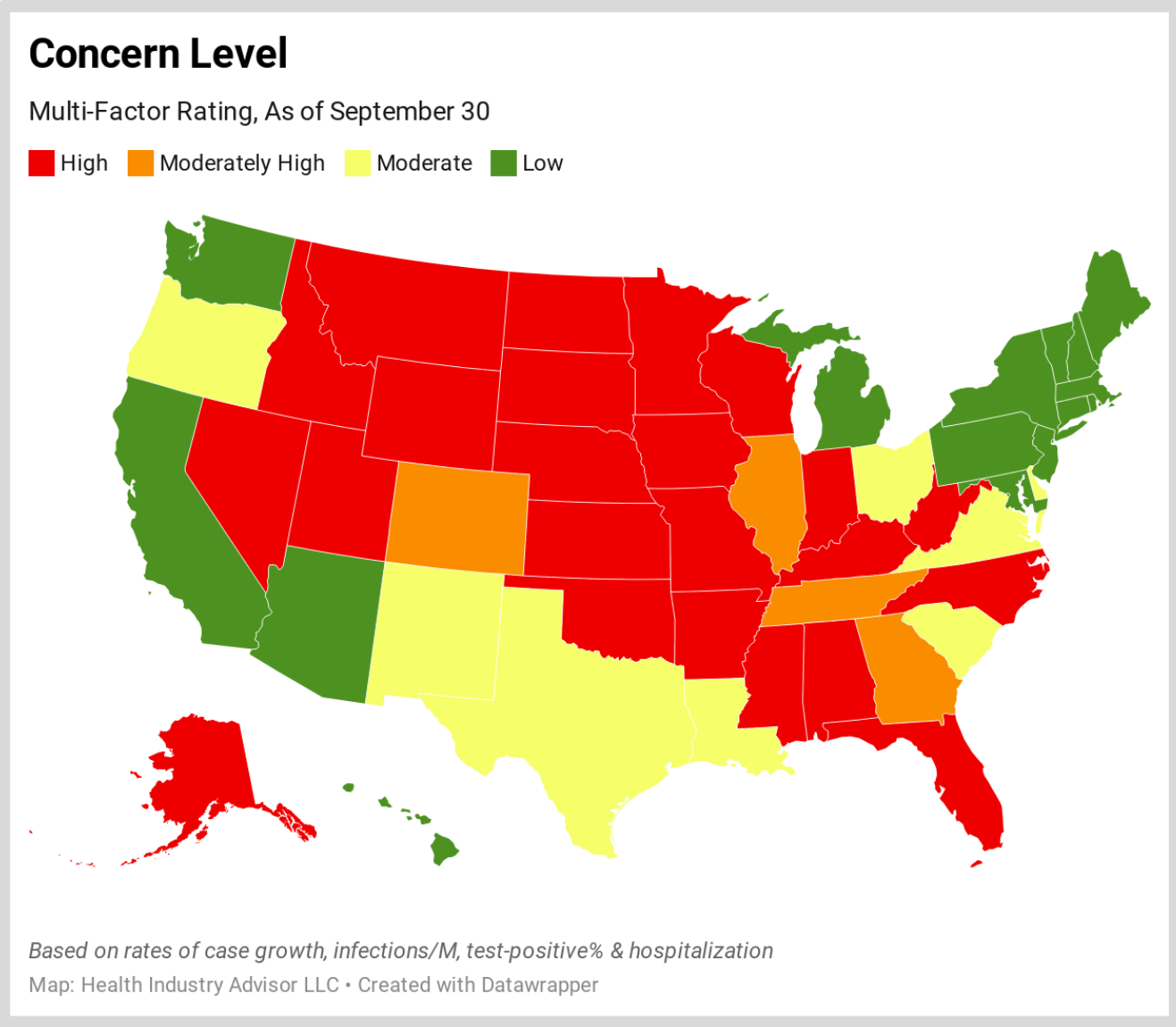
The virus remains a concern across the U.S.

Greatest concern is in the middle of the country

Concern is easing in Southwest and West

The “red” states on this map represent 30% of the population of the country; the “green” states represent 39%



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State-By-State Comparisons (page 1 of 3):

Arkansas has high infection rate yet, low test-positive %

Idaho, Iowa and Kansas show high rates of new infections and test-positive %'s

Connecticut and D.C. report low new infection and test-positive rates

Connecticut and D.C. are most efficient in their testing (highest ratio of tests per new case identified)

State-By-State Comparisons

As of September 30

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.)	Tests / New Case
Alabama	31,317	518	1,852	11.9%	220	8
Alaska	10,554	77	4,689	3.5%	160	29
Arizona	29,976	776	1,026	6.2%	63	16
Arkansas	27,422	454	5,848	4.6%	271	22
California	20,659	402	2,986	2.8%	82	36
Colorado	12,160	356	1,539	6.4%	96	16
Connecticut	16,080	1,264	4,171	1.2%	49	84
Delaware	21,084	653	1,543	7.4%	115	13
District Of Columbia	21,679	888	4,941	1.1%	56	88
Florida	32,805	667	966	11.0%	107	9
Georgia	29,791	661	1,755	6.4%	112	16
Hawaii	8,680	96	1,254	6.2%	73	17
Idaho	23,121	262	1,199	20.5%	263	5
Illinois	23,161	704	4,436	3.7%	163	27
Indiana	17,686	539	1,210	11.7%	142	9
Iowa	27,781	427	1,495	17.2%	293	5
Kansas	20,531	233	1,430	15.5%	173	8

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State-By-State Comparisons (page 2 of 3):

Montana has high infection rate yet, a moderate test-positive %

Missouri and Nebraska show high rates of new infections and test-positive %'s

Maine, Massachusetts, New Hampshire, New Jersey, New Mexico and New York report low new infection and test-positive rates

Maine, New Hampshire and New York are most efficient in their testing (highest ratio of tests per new case identified)

State-By-State Comparisons

As of September 30

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.)	Tests / New Case
Kentucky	15,188	263	5,131	3.3%	170	30
Louisiana	35,627	1,185	3,030	3.6%	104	29
Maine	3,970	105	5,214	0.4%	23	223
Maryland	20,562	653	1,557	5.2%	81	19
Massachusetts	18,934	1,361	2,658	3.2%	74	36
Michigan	13,700	709	3,186	3.0%	97	33
Minnesota	17,456	370	2,299	7.8%	178	13
Mississippi	32,807	998	975	17.8%	174	6
Missouri	21,105	361	1,392	15.3%	212	7
Montana	11,905	168	3,475	8.3%	289	12
Nebraska	23,286	247	1,812	13.3%	243	7
Nevada	25,841	519	1,214	12.1%	147	8
New Hampshire	6,055	323	2,702	0.9%	27	99
New Jersey	23,458	1,829	3,060	2.3%	71	43
New Mexico	13,905	418	2,906	3.2%	99	29
New York	25,294	1,709	4,491	1.1%	53	85
North Carolina	19,940	337	2,621	7.3%	192	14

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State-By-State Comparisons (page 3 of 3):

Oklahoma has a high infection rate yet a moderate test-positive%

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

Vermont, Ohio Rhode Island, Virginia, Washington and West Virginia report low new infection and test-positive rates

Vermont is the most efficient in its testing (highest ratio of tests per new case identified)

State-By-State Comparisons

As of September 30

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.)	Tests / New Case
North Dakota	28,083	323	1,807	29.7%	537	3
Ohio	13,094	412	2,869	3.1%	88	33
Oklahoma	21,789	261	3,238	7.8%	254	13
Oregon	7,893	133	1,346	5.0%	68	20
Pennsylvania	12,750	642	1,062	6.8%	75	14
Rhode Island	23,180	1,052	2,088	3.7%	77	27
South Carolina	28,674	656	3,288	5.3%	174	19
South Dakota	24,865	252	1,718	25.9%	445	4
Tennessee	28,480	359	3,575	5.5%	197	18
Texas	27,020	556	2,446	5.9%	147	17
Utah	22,501	143	2,411	13.2%	317	8
Vermont	2,803	93	1,251	0.5%	7	182
Virginia	17,283	376	2,144	4.4%	95	23
Washington	11,800	279	2,129	3.4%	65	33
West Virginia	8,780	196	2,877	3.7%	107	27
Wisconsin	20,602	228	1,962	21.1%	401	5
Wyoming	10,058	86	1,522	12.6%	192	8

Table: Health Industry Advisor LLC • Created with Datawrapper

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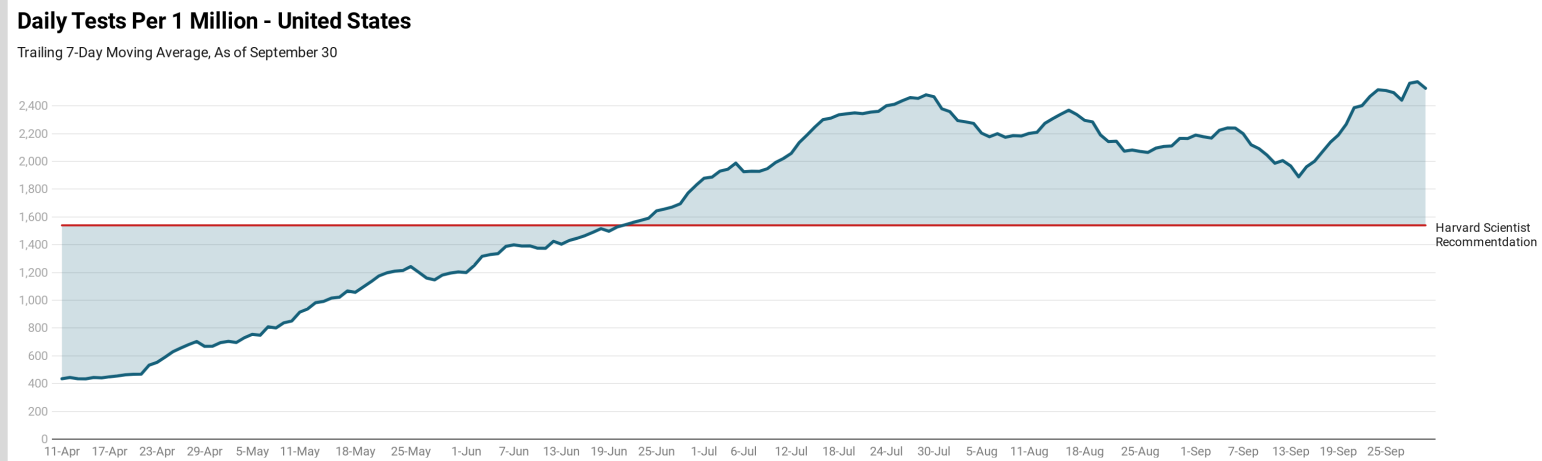
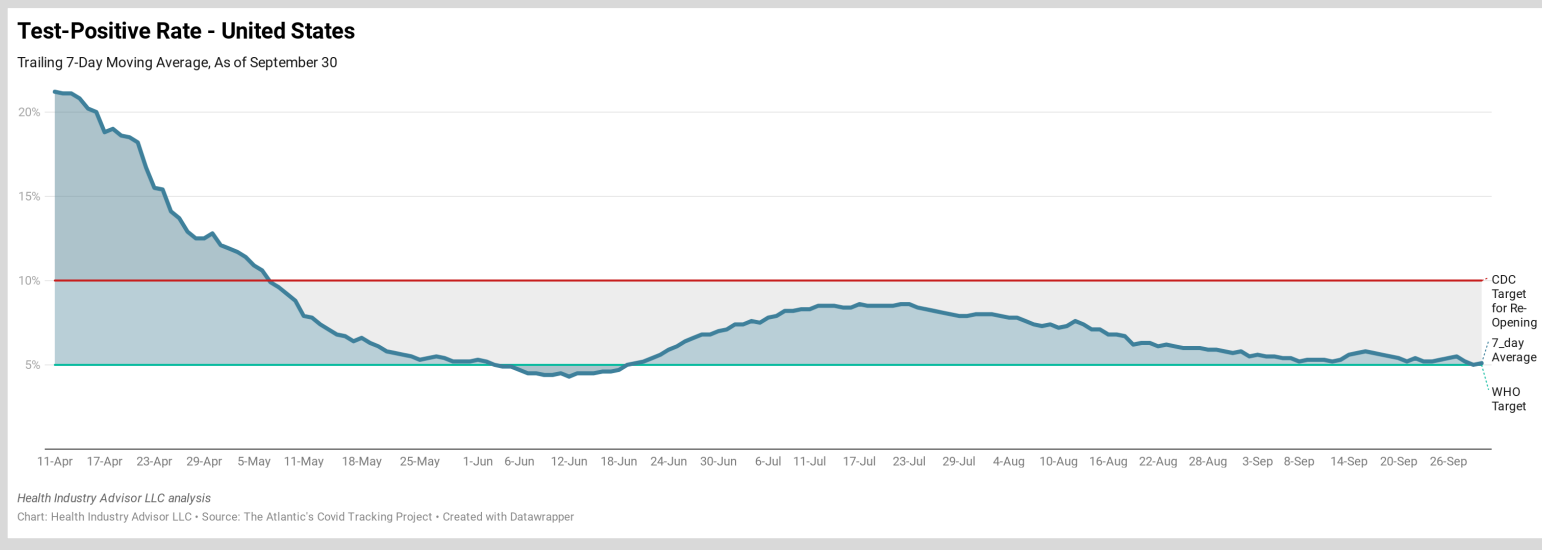
The 7-day average testing volume dropped yesterday, following two consecutive record highs

Yesterday's 7-day average test-positive rate was slightly above the WHO guideline of 5%





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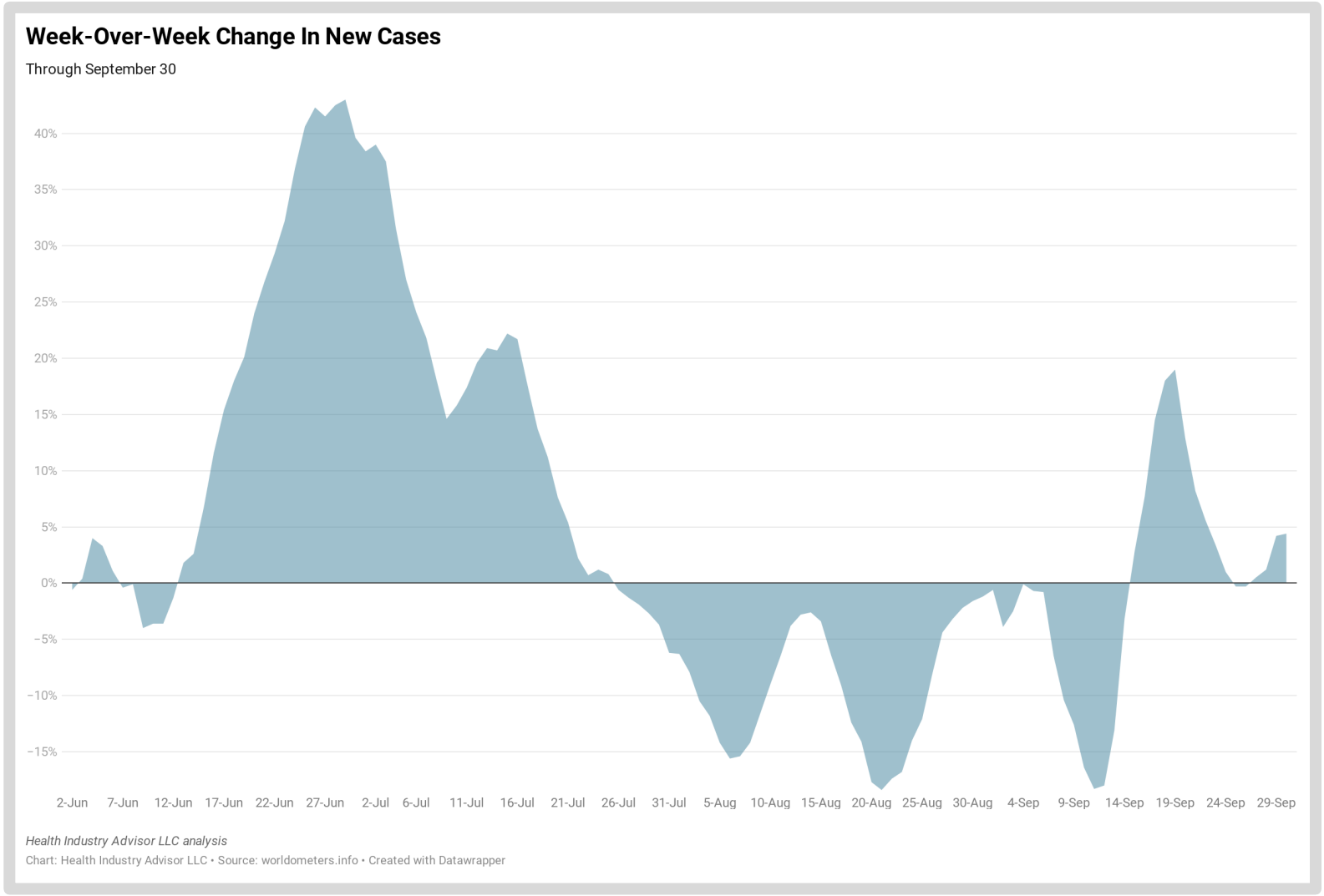
Following a seven-week period of decline, new cases began increasing on a week-over-week basis on September 15

Yesterday, this rate was up 4.4% on a week-over-week basis



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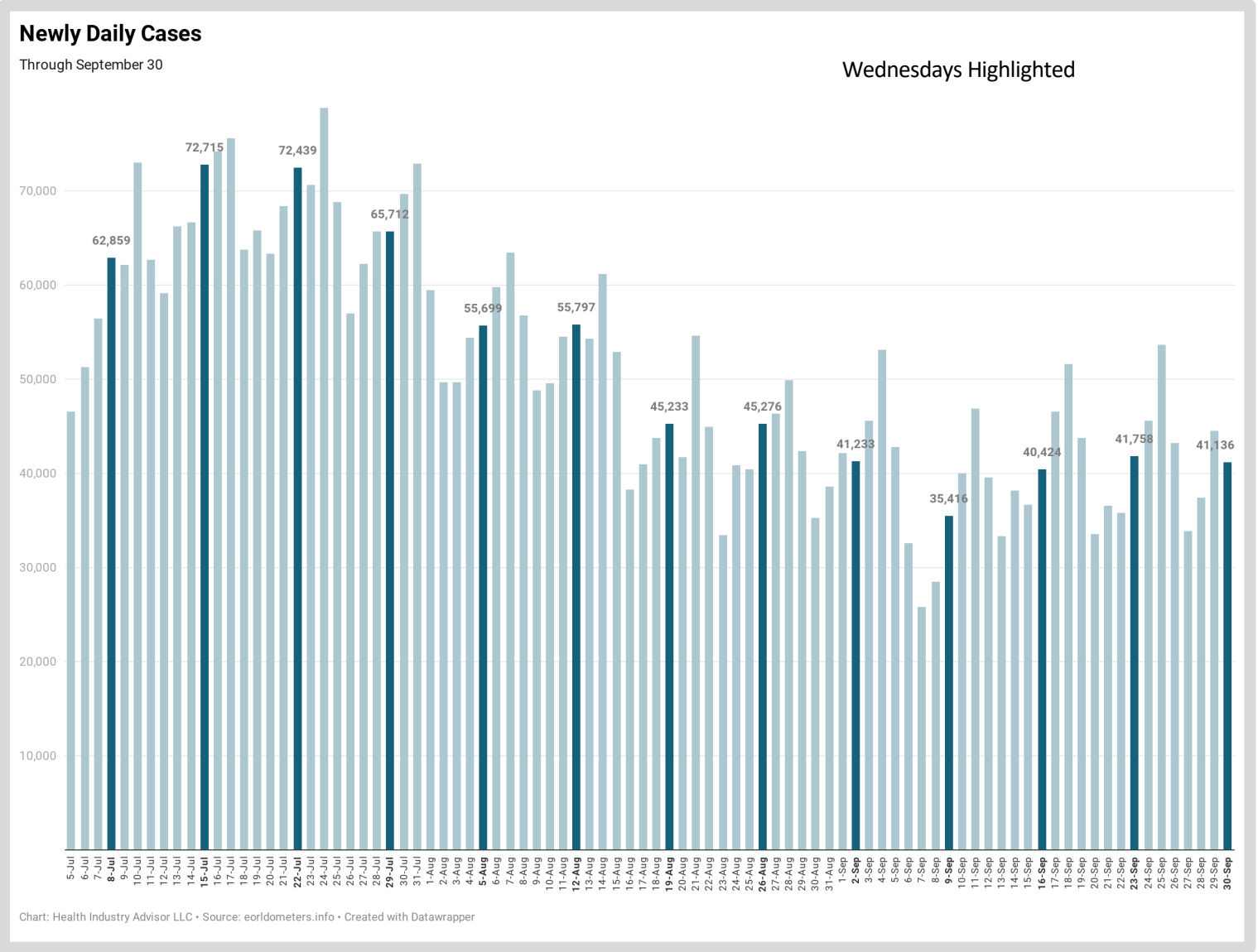
New cases on Wednesday were consistent with three of the past four Wednesdays (the Wednesday following Labor Day was an exception)

These new case totals remain markedly lower than on Wednesdays in July and August



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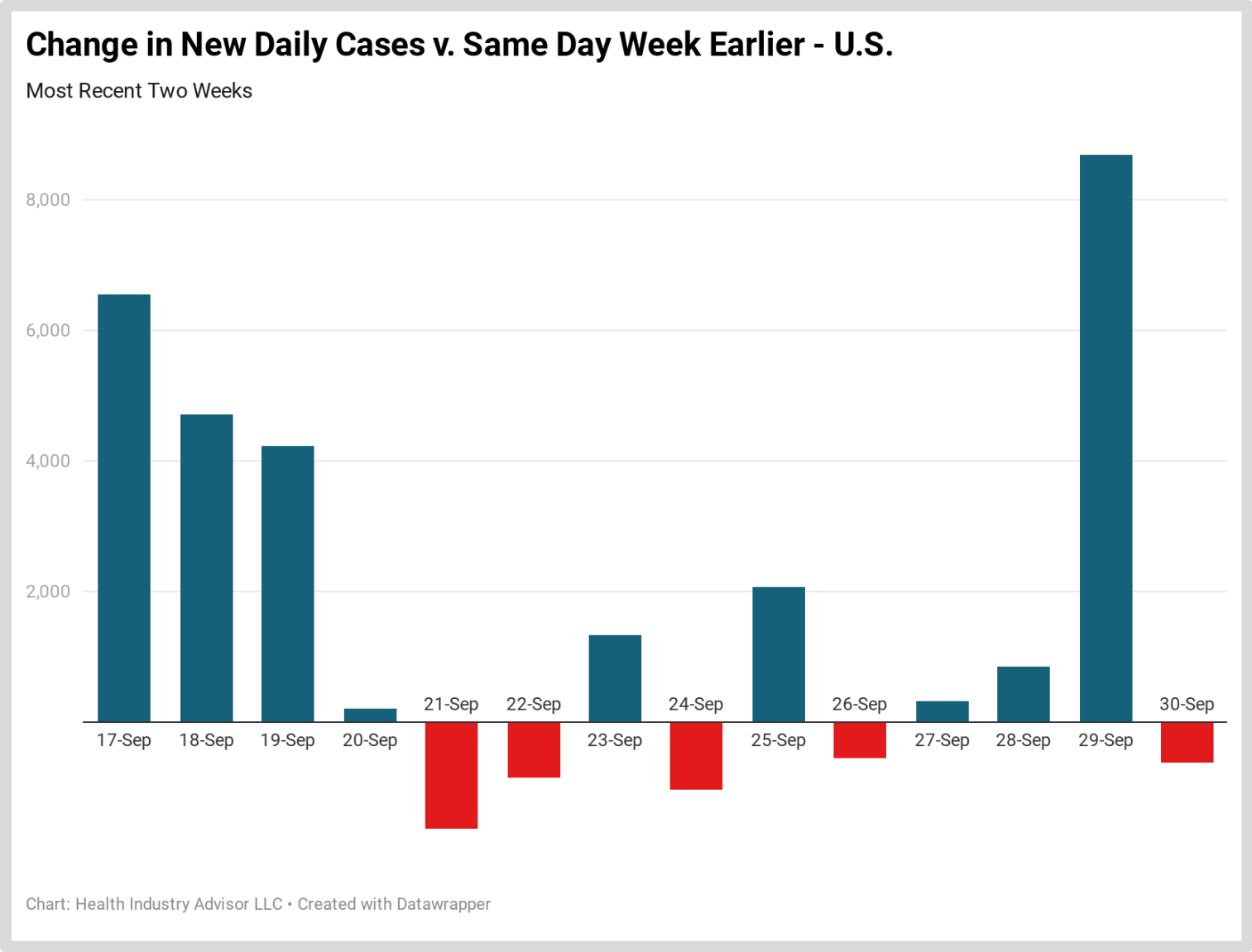
Yesterday broke a three-day trend of new cases being higher than the same day during the previous week

In the past two weeks, there have been more days in which new cases are higher than the same-day, prior week, than days when it has been lower

Also, the largest changes have been increased cases v. decreased cases



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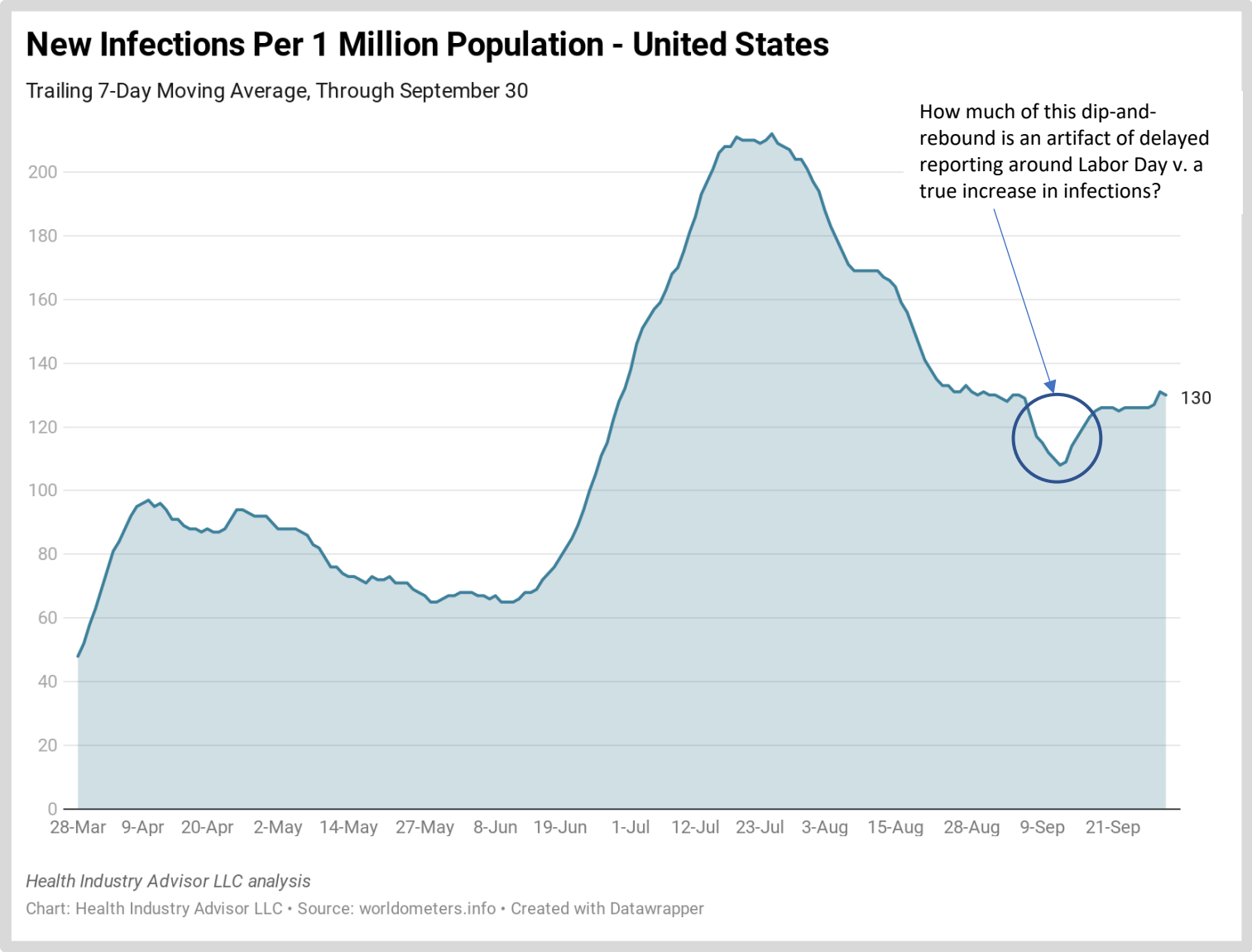
After a sharp increase on Tuesday, the new infection rate per capita* eased slightly yesterday

New infections per capita in the U.S. bottomed-out on September 12 – this is likely due to the impact of Labor Day reporting issues

* - 7-day moving average basis



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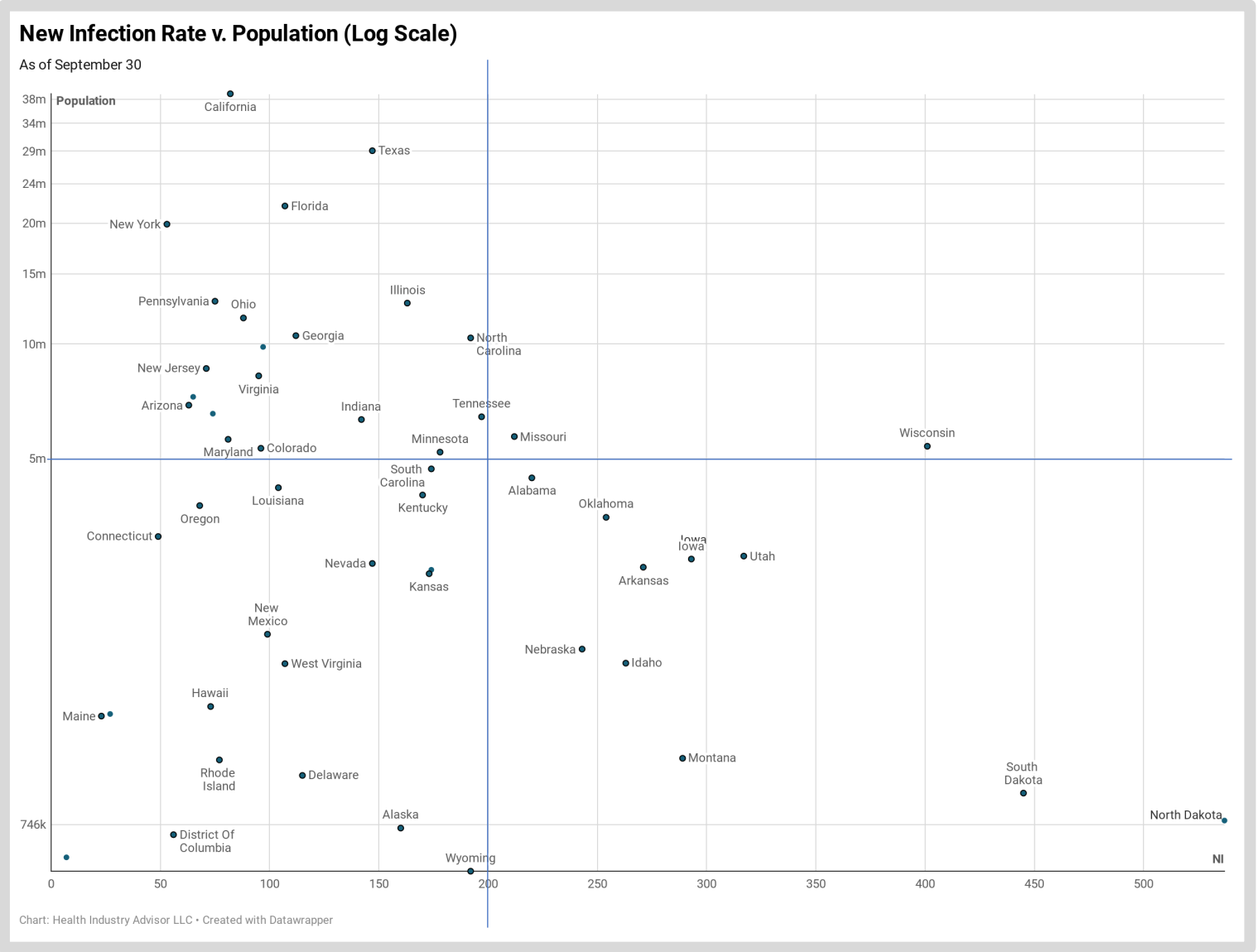
The virus spread has moved to less-densely populated states

Of the ten states with the highest rates of new daily infections only Wisconsin has more than four million residents

Of the ten most-populated states, only Illinois, North Carolina and Texas experienced new daily infections of higher than the national average



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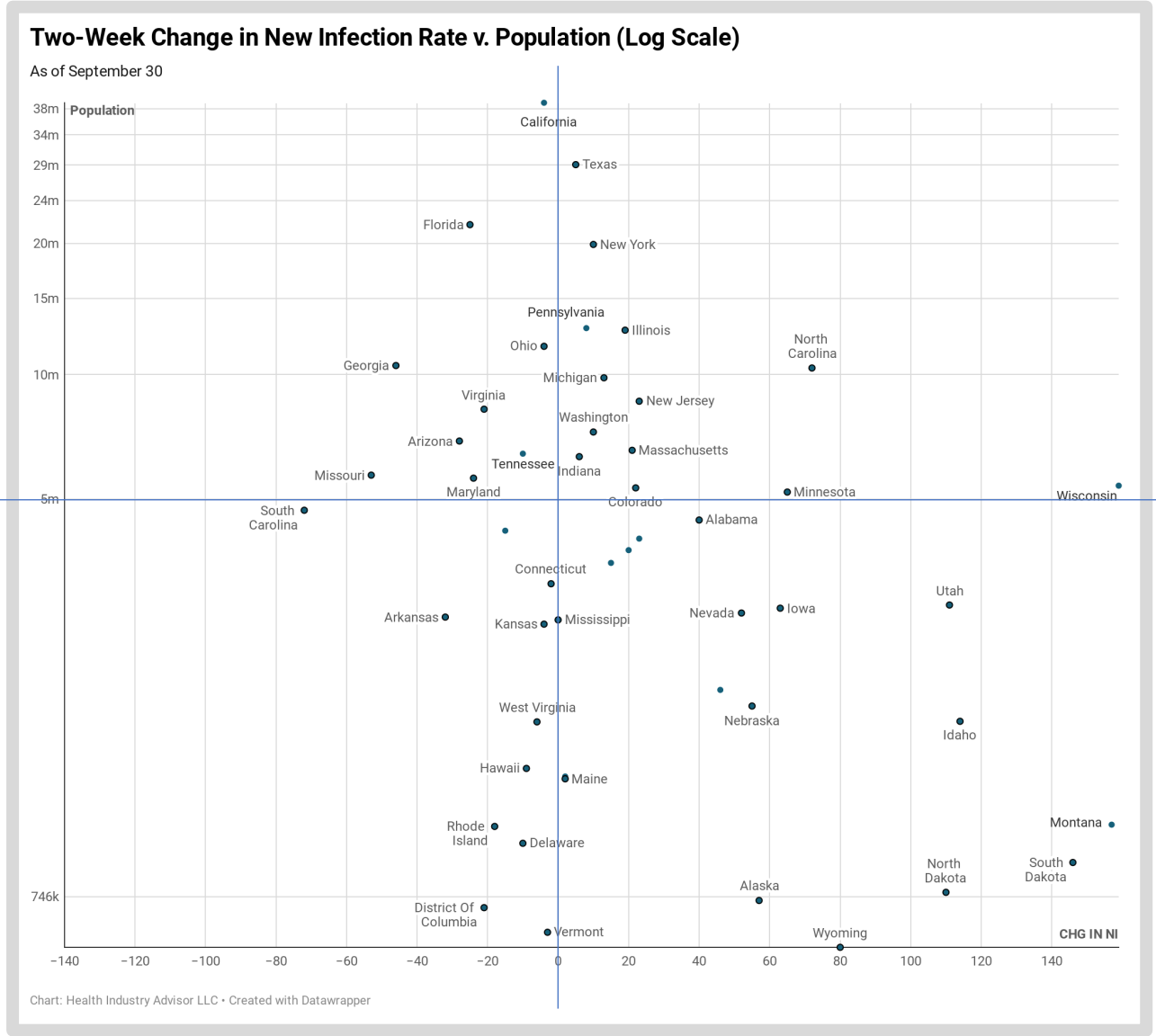
The rate of increase in virus spread also has moved to less-densely populated states:

Seven of the ten states with the largest increases in new daily infections have fewer than four million residents



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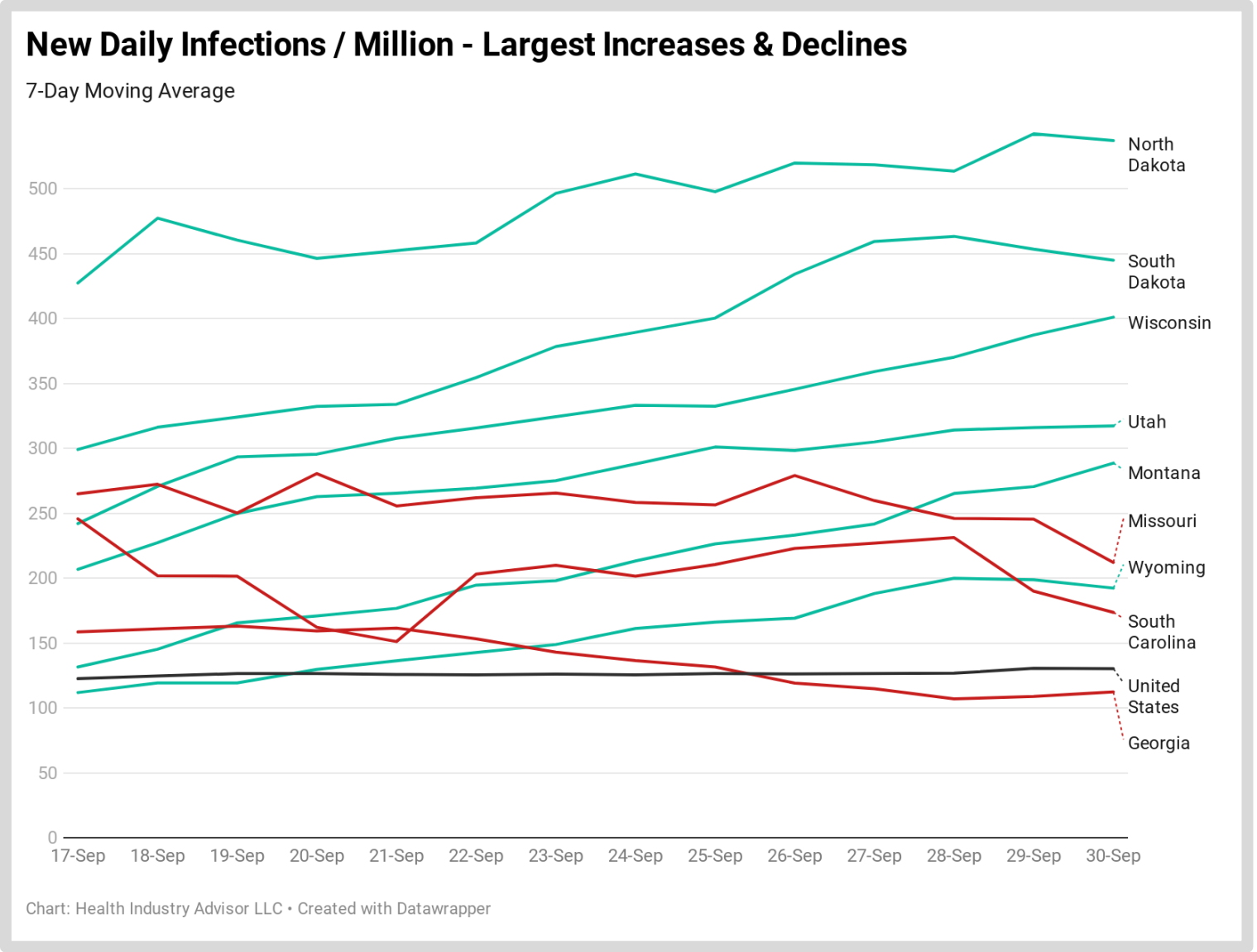
States with the largest increase in new infections per capita* over the past two week: North and South Dakota, Wisconsin, Utah, Montana and Wyoming

States with the largest declines: Missouri, South Carolina and Georgia



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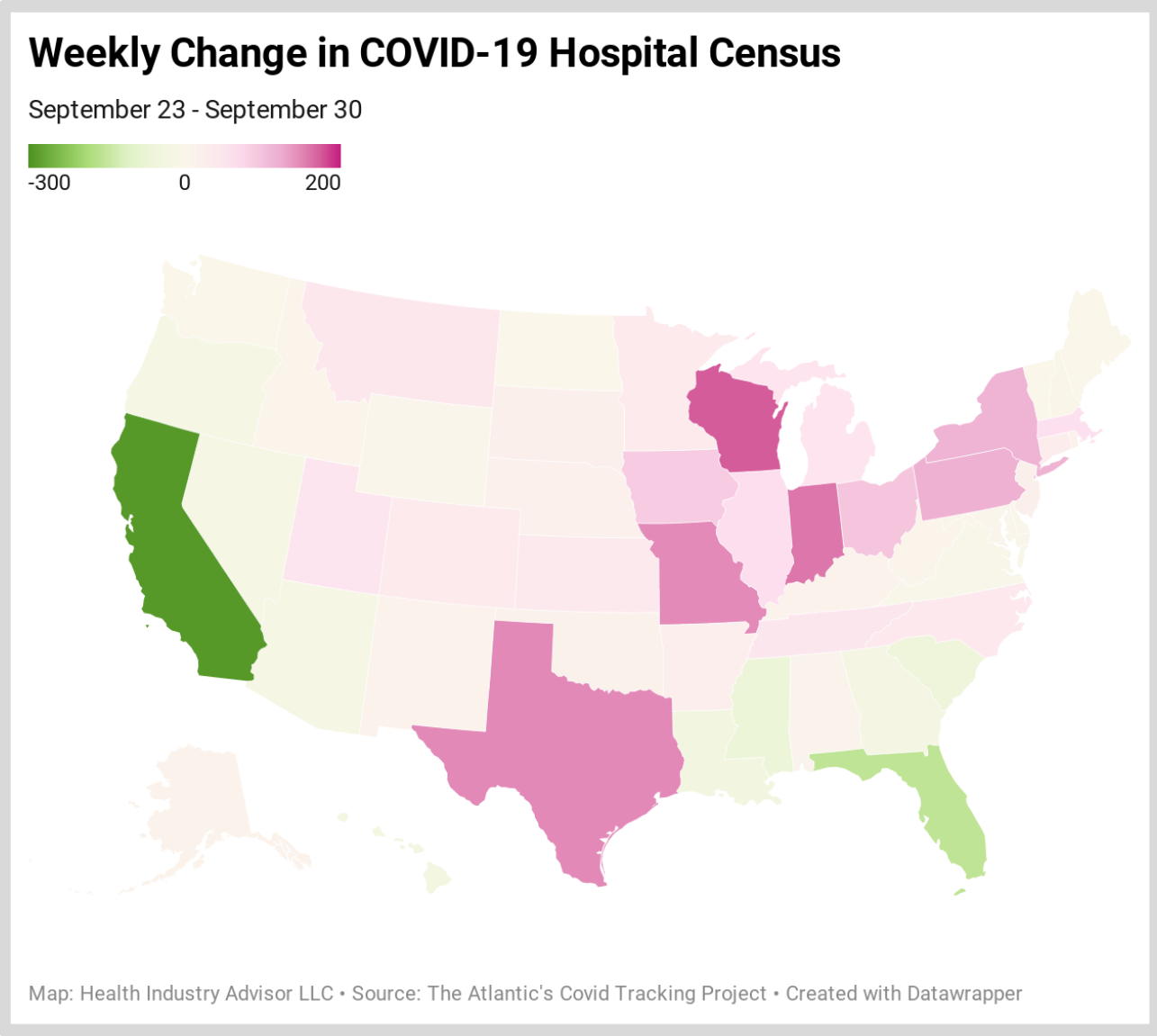
Wisconsin, Texas, Indiana and Missouri have experience d the largest increase in COVID-19 inpatient census during the past two weeks

California and Florida have experienced the largest declines



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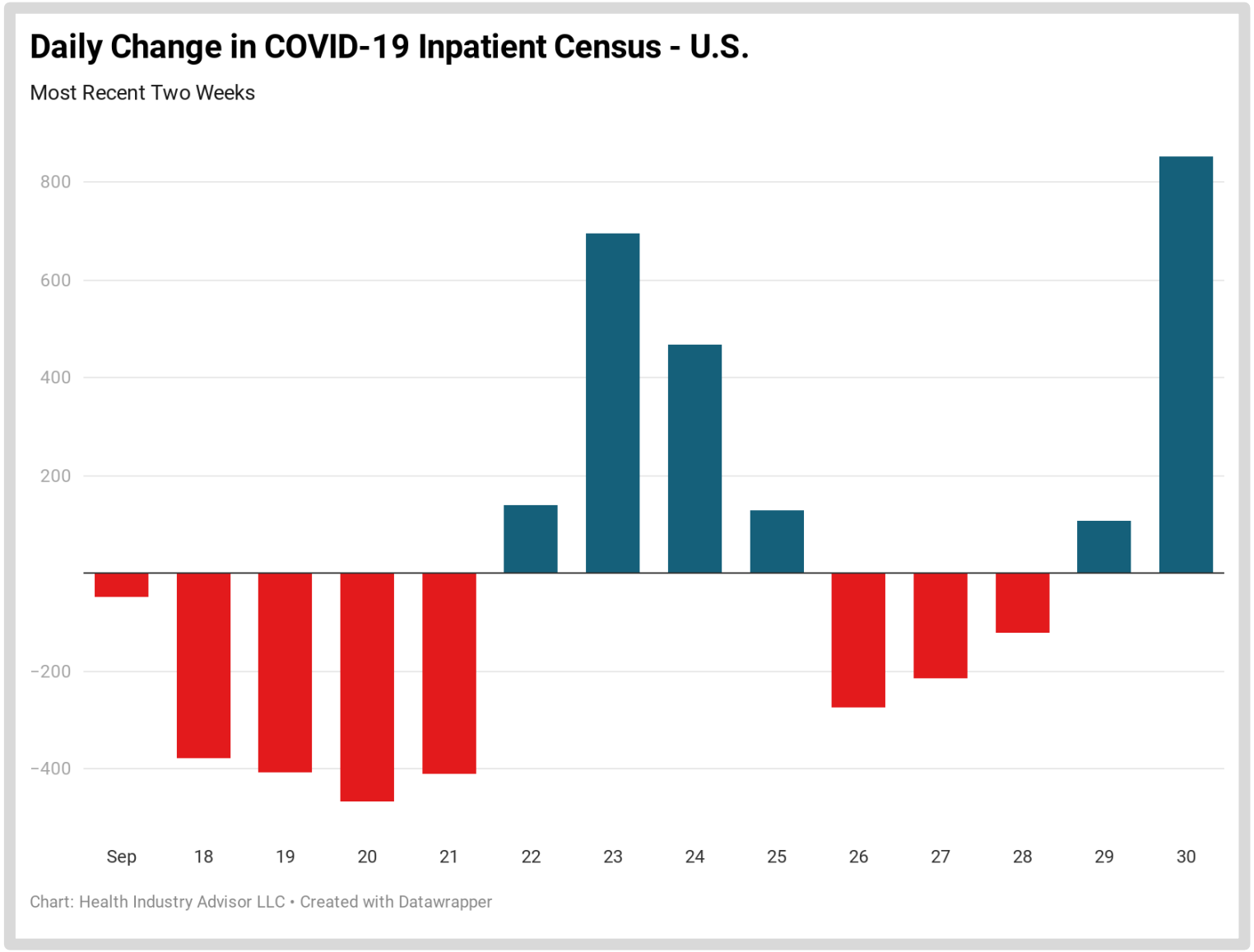
Inpatient COVID-19 census increased yesterday, for the second consecutive day

Notably, the largest increases the past two weeks both occurred on a Wednesday

Census declined both weeks on Saturday, Sunday and Monday



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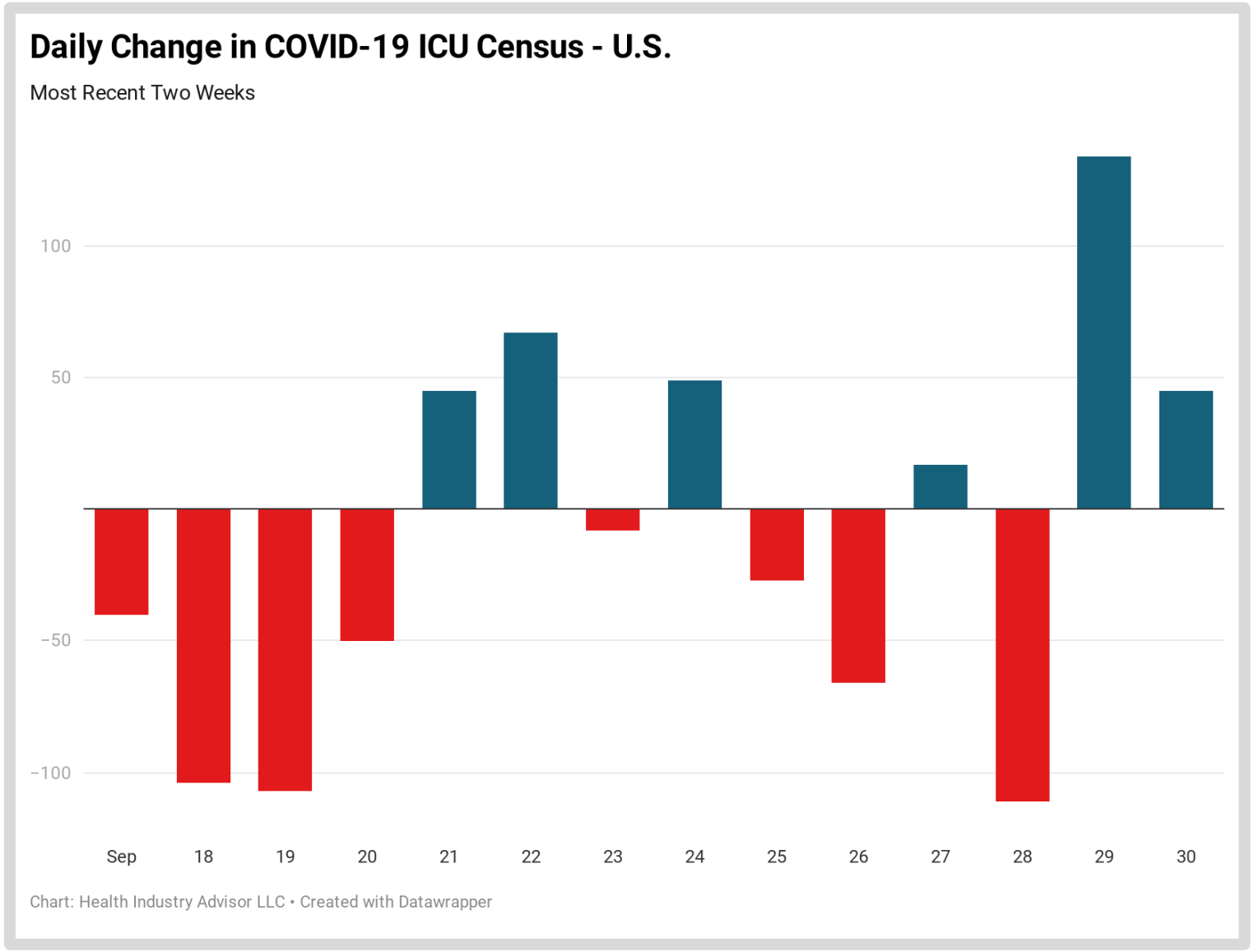
COVID-19 ICU Census increased yesterday, for the second consecutive day



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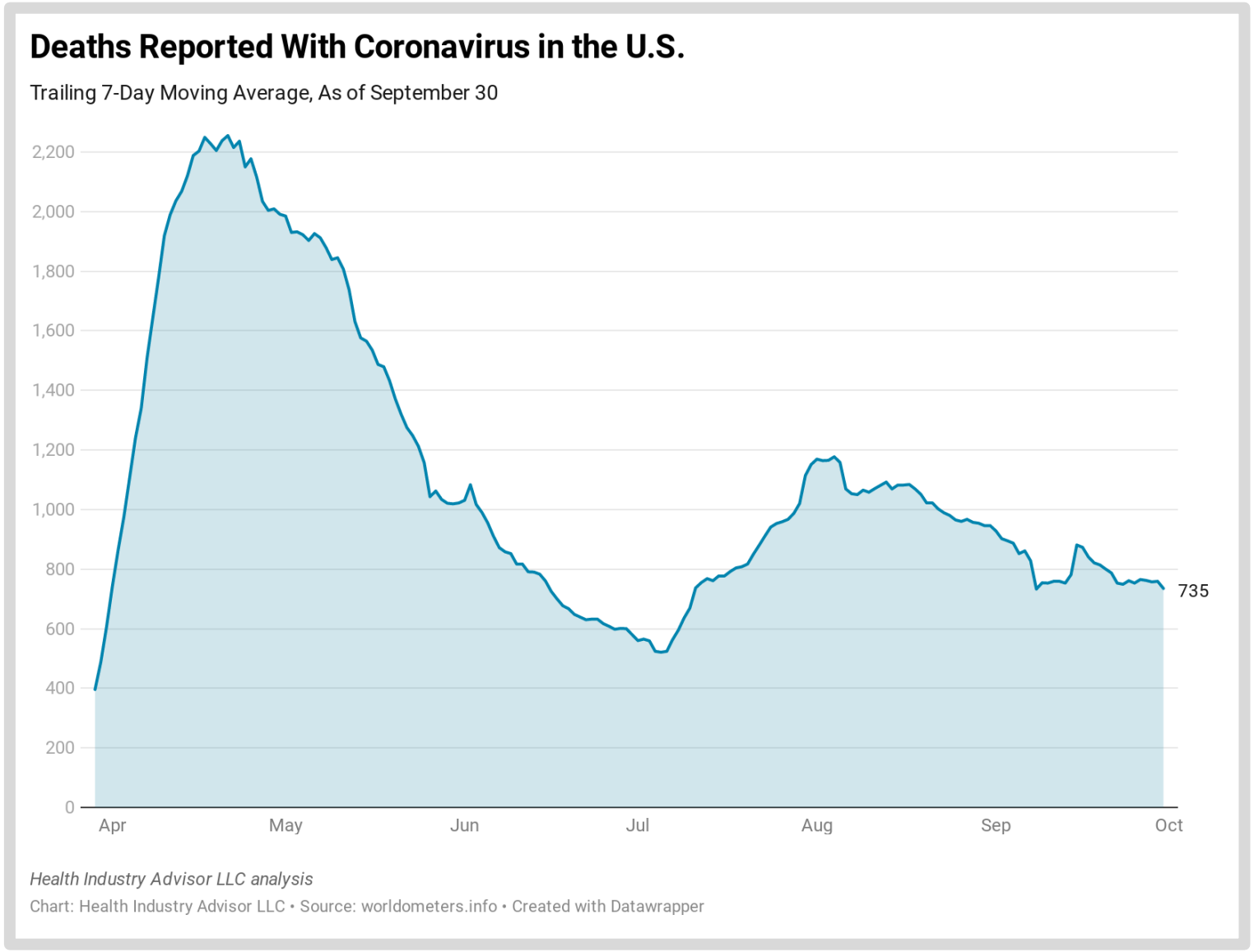
The 7-day average deaths per day declined yesterday

This rate has only been lower on a single day (September 8) since July 10



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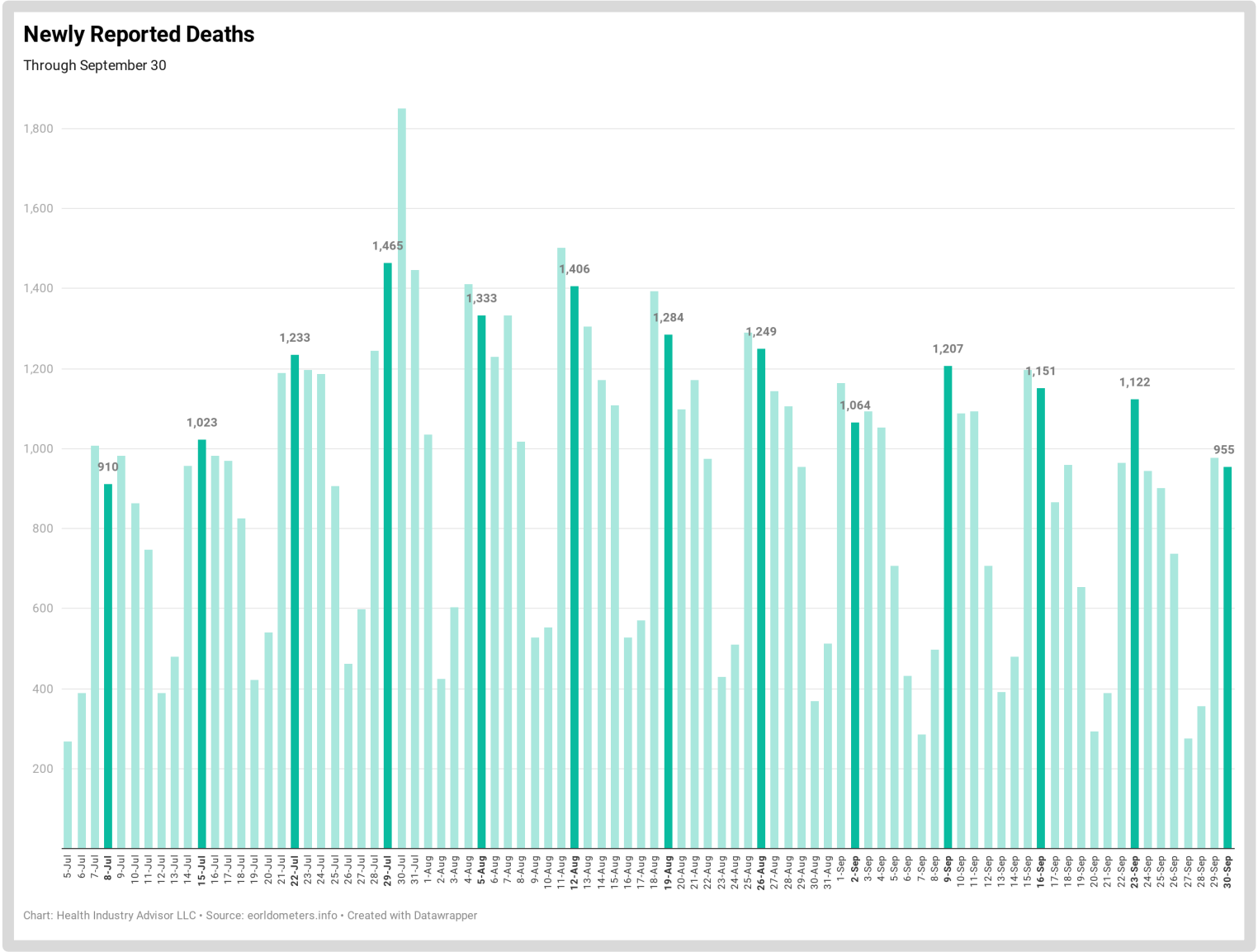
There were fewer deaths reported yesterday than on any Wednesday since July 8



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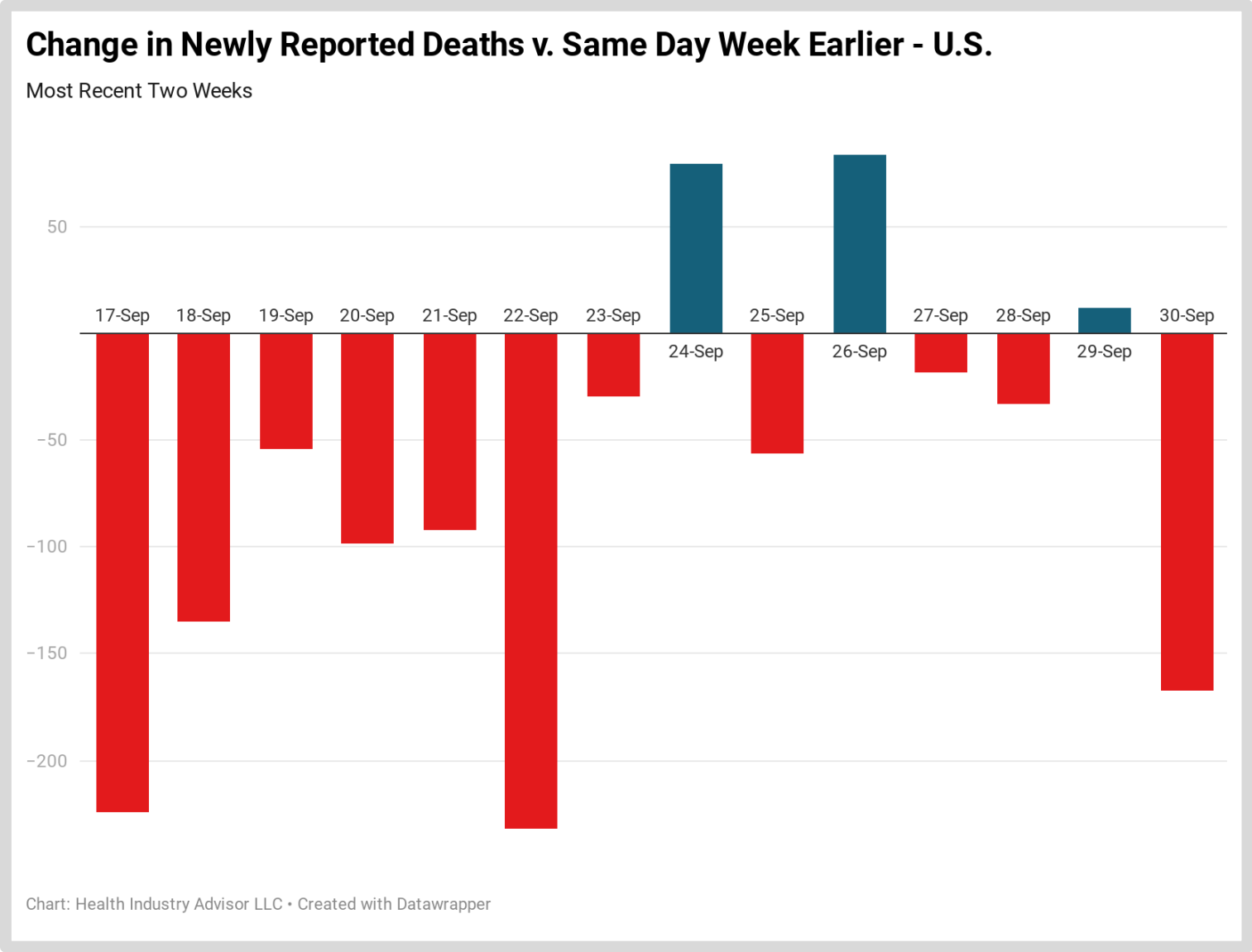
Deaths reported yesterday feel sharply compared to last Wednesday

This marked the 11th time in the past two weeks that deaths were lower than the same-day, prior-week



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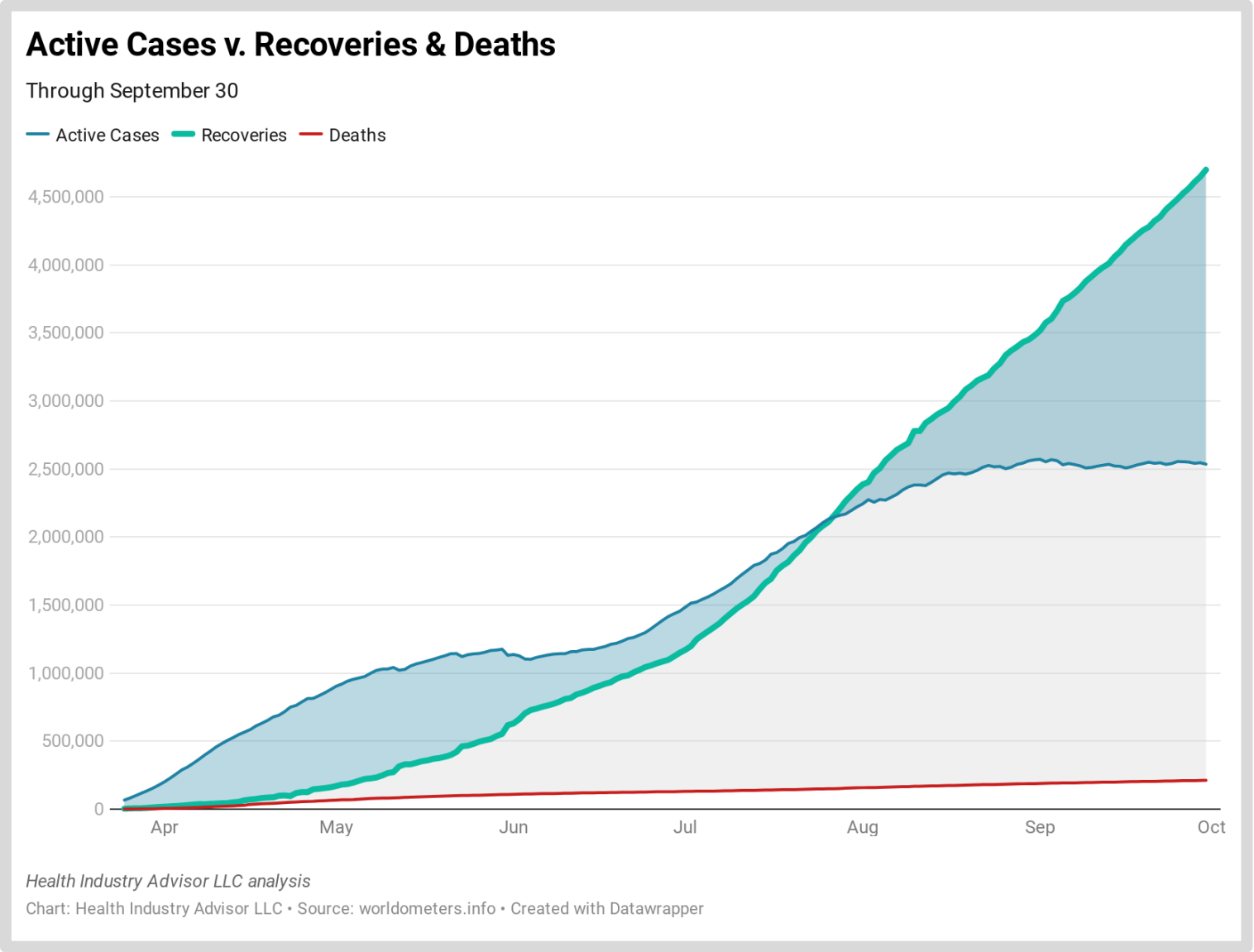
Recoveries from the virus continue to increase

Active cases have plateaued since mid-August



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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