

# COVID-19 Mortality Rate Trends in Countries and US States

Joel Elvery

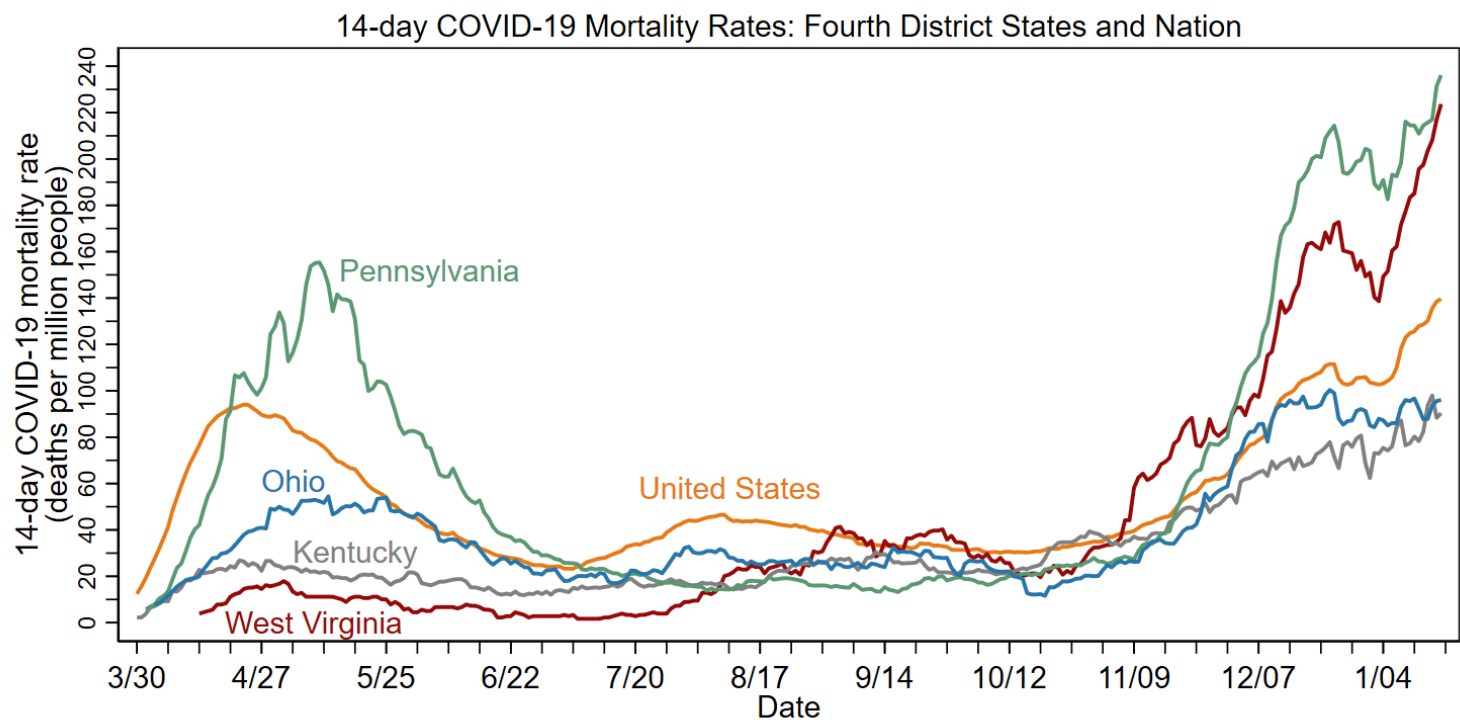
Mark Oleson

Updated January 19, 2021

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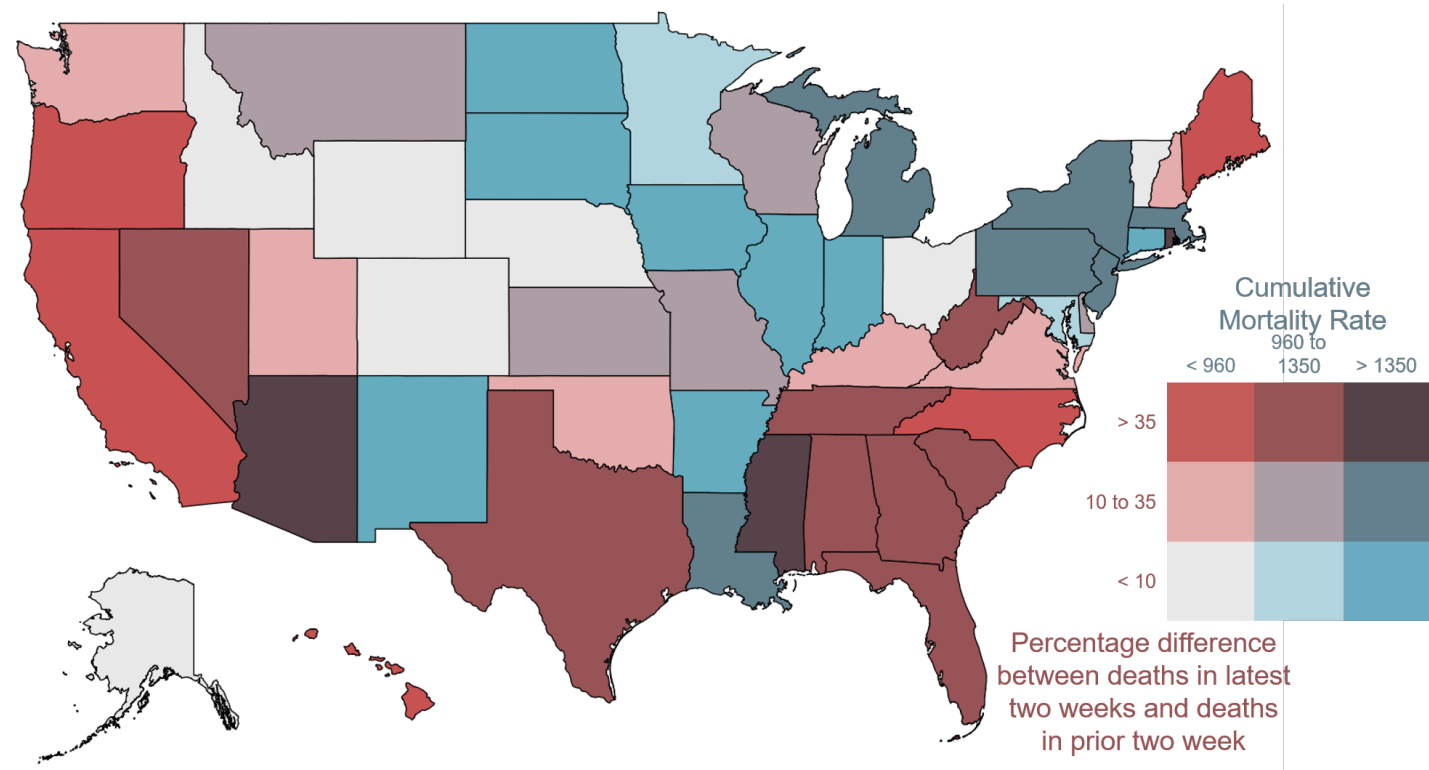
- The charts in this presentation use the same data sources as the charts in two April 2020 District Data Briefs. Please see these reports for additional details.
  - [Getting to Accuracy: Measuring COVID-19 by Mortality Rates and Percentage Changes](#)
  - [A Speeding Rate Starts to Slow: COVID-19 Mortality Rates by State](#)
- Since those reports were completed, additional evidence shows that COVID-19 deaths have been underreported, both in other countries and in the United States. The following charts present the latest data from the Center for Systems Science and Engineering at Johns Hopkins University (CSSE) through January 17, with no attempt to further correct for underreporting.
  - Some large revisions in COVID-19 data have been smoothed. See the appendix for details.
- The design of some charts have been modified from those in the reports to better convey the current status of the COVID-19 epidemic in the United States.
- Hospitalization rate data come from the COVID Tracking Project at *The Atlantic*.

In the two weeks leading up to January 17, the 14-day COVID-19 mortality rate rose in all Fourth District states and in the United States as a whole.



Note: Data through January 17, 2021.  
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and Bureau of Economic Analysis.

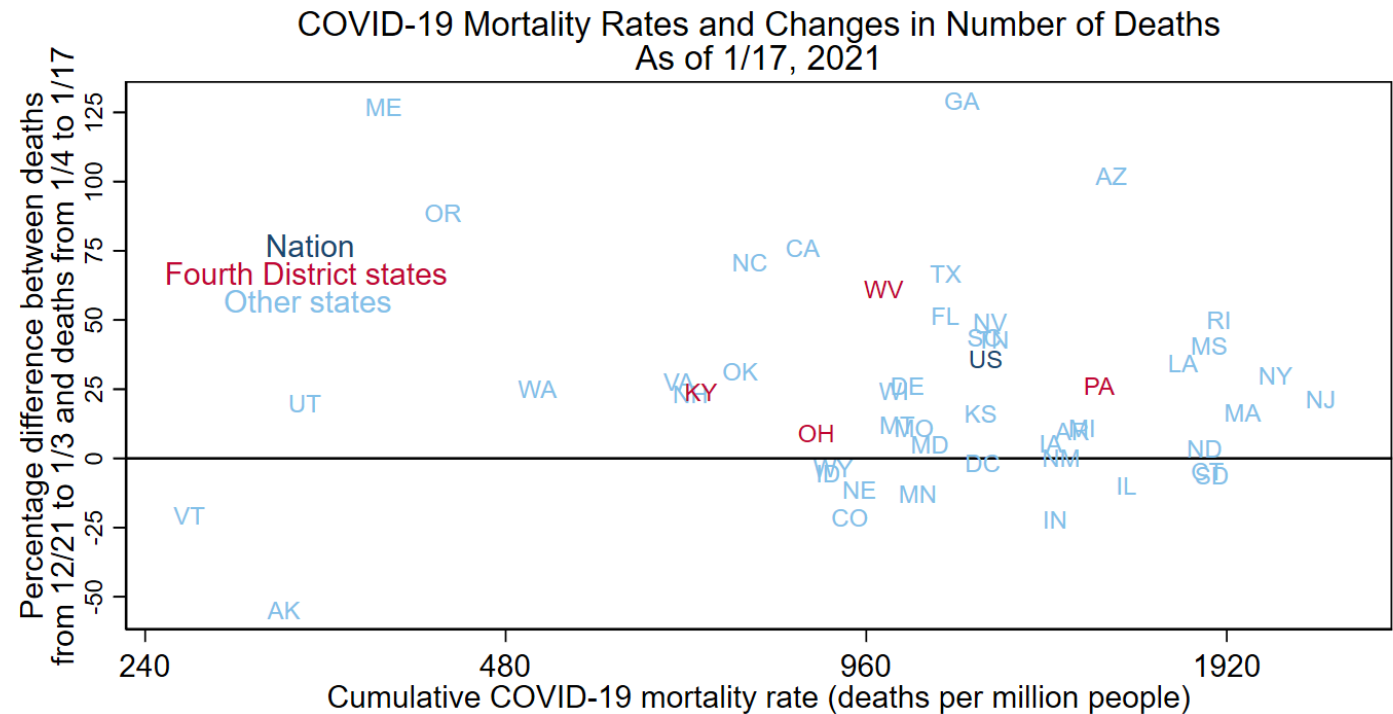
Between January 4 and January 17, the 14-day COVID-19 mortality rate rose the most along much of the West Coast and in the South.



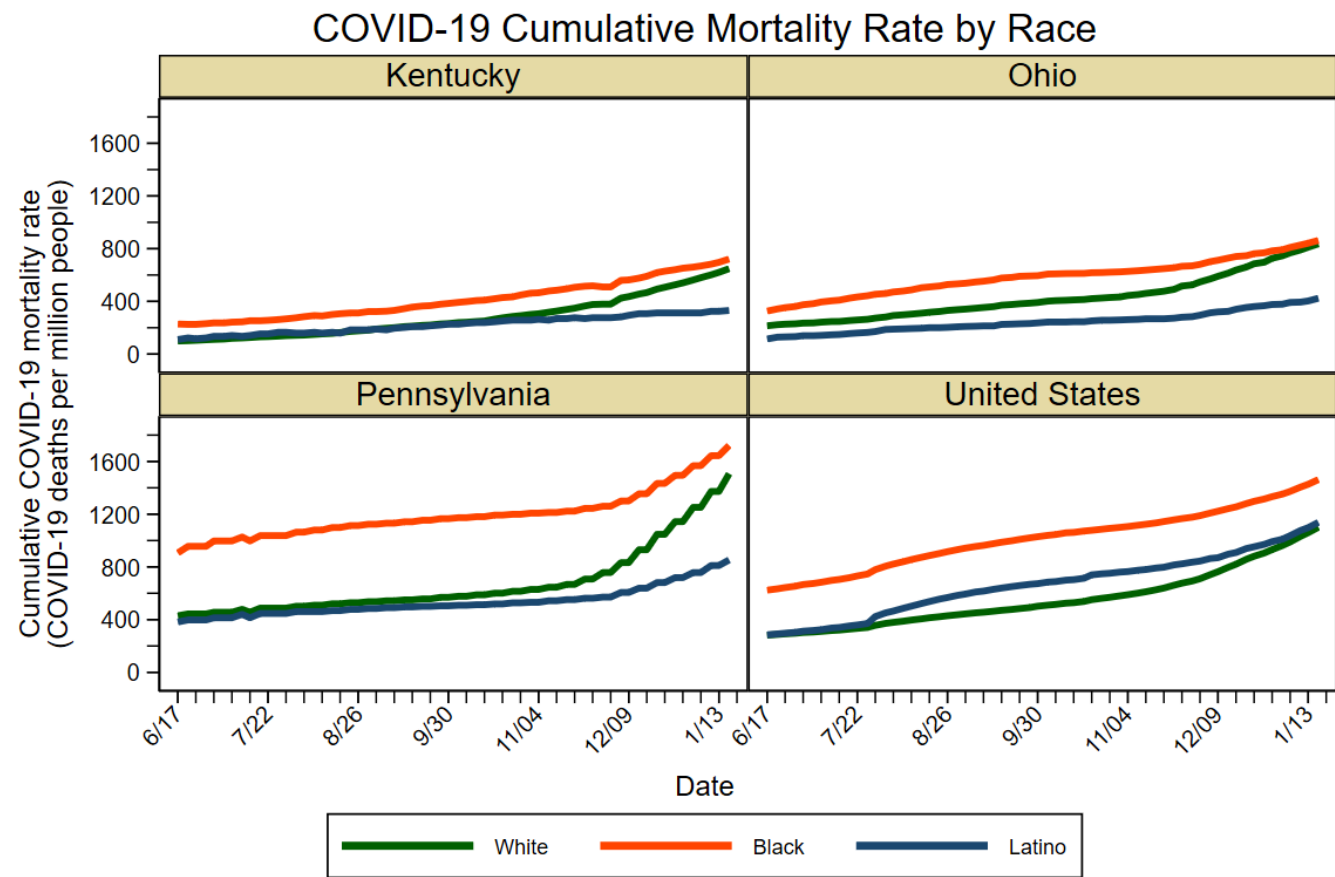
Data for January 17, 2021, accessed on January 19, 2021.  
“Latest two weeks” is 1/4/21 to 1/17/21, “prior two weeks” is 12/21/20 to 1/3/21.  
Sources: FRBC calculations, CSSE, and BEA.

Note: The District of Columbia’s mortality rate is between 960 and 1350 and percentage difference < 10. The color bins on this map are changed with each update to better represent the latest data.

This chart gives similar information to the map, but it is more precise and includes the nation as a whole.

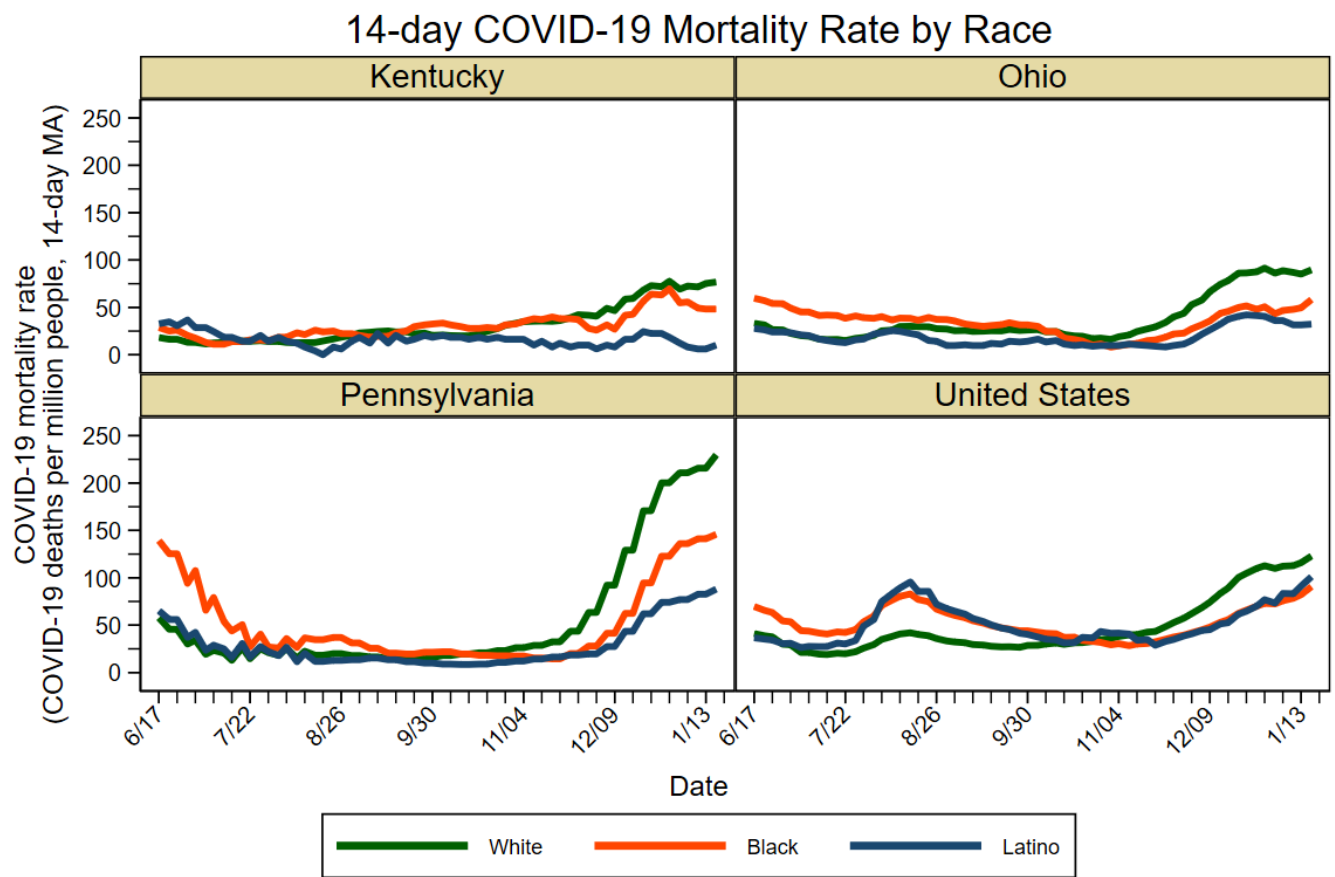


In Fourth District states and in the United States as a whole, on January 17 the cumulative COVID-19 mortality rate of Blacks is higher than the rates of Whites and Latinos.



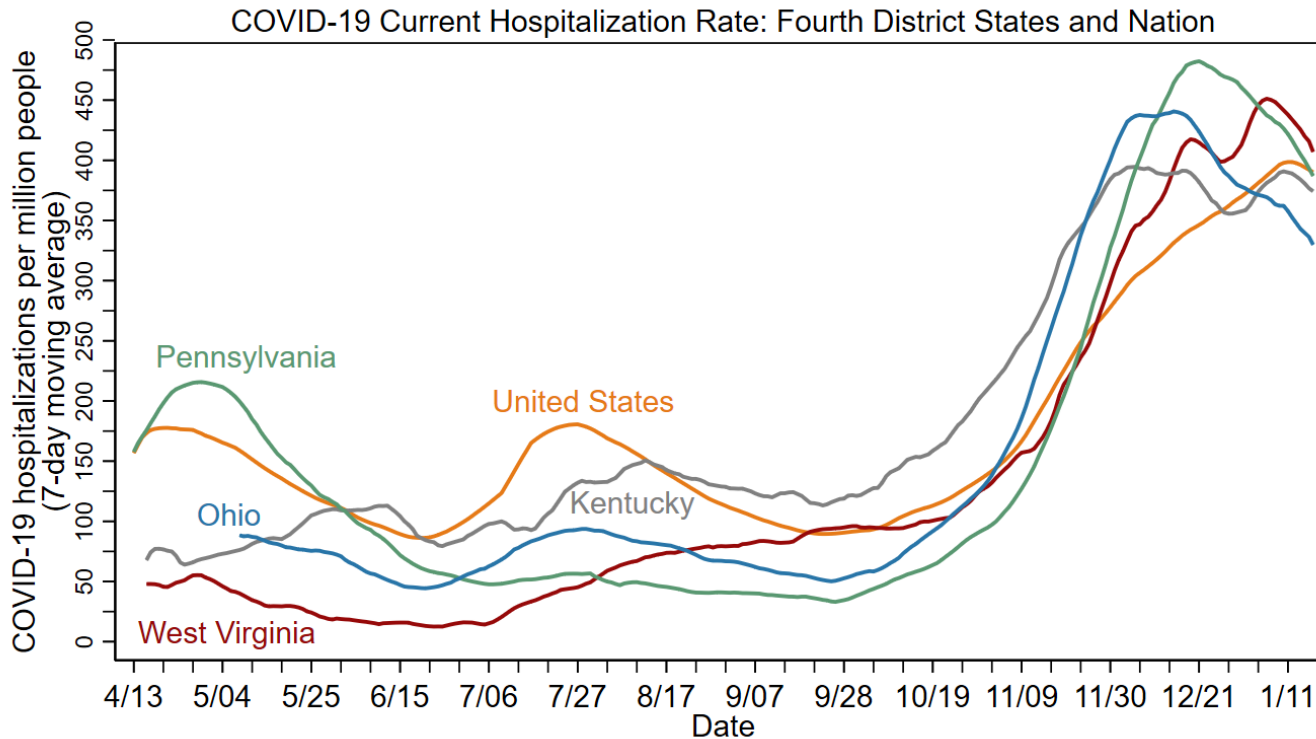
Notes: Data from 6/15/2020 to 1/17/2021. WV is excluded because it reported race for fewer than 50 percent of COVID-19 deaths.  
Sources: FRBC calculations, Census Bureau's 2019 ACS 5-Year estimates, and the COVID Tracking Project at *The Atlantic*.

In recent weeks, the 14-day mortality rate of Whites has been greater than those of Blacks and Latinos.



Notes: Data from 6/15/2020 to 1/17/2021. WV is excluded because it reported race for fewer than 50 percent of COVID-19 deaths.  
Sources: FRBC calculations, Census Bureau's 2019 ACS 5-Year estimates, and the COVID Tracking Project at *The Atlantic*.

The trends in COVID-19 hospitalizations suggest that in the weeks ahead, mortality rates will likely fall in all Fourth District states and, later, in the United States as a whole.

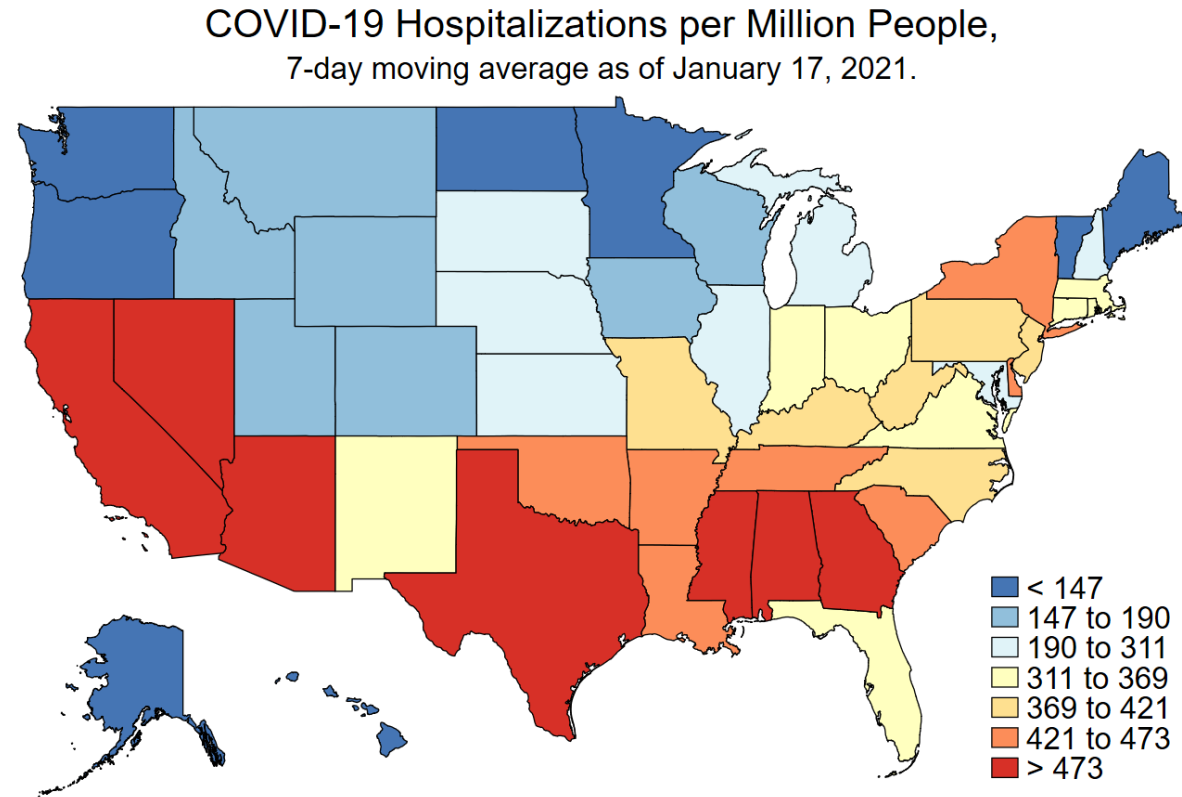


Note: Data through January 17, 2021.

Sources: FRBC calculations, the COVID Tracking Project at *The Atlantic*, and BEA.



In the week leading up to January 17, hospitalization rates were highest in the Southwest and Southeast states and lowest in the Northwest and the Great Plains states. There was little change over last week.



Data for January 17, 2021, accessed on January 19, 2021.

Sources: FRBC calculations, the COVID Tracking Project at *The Atlantic*, and BEA.

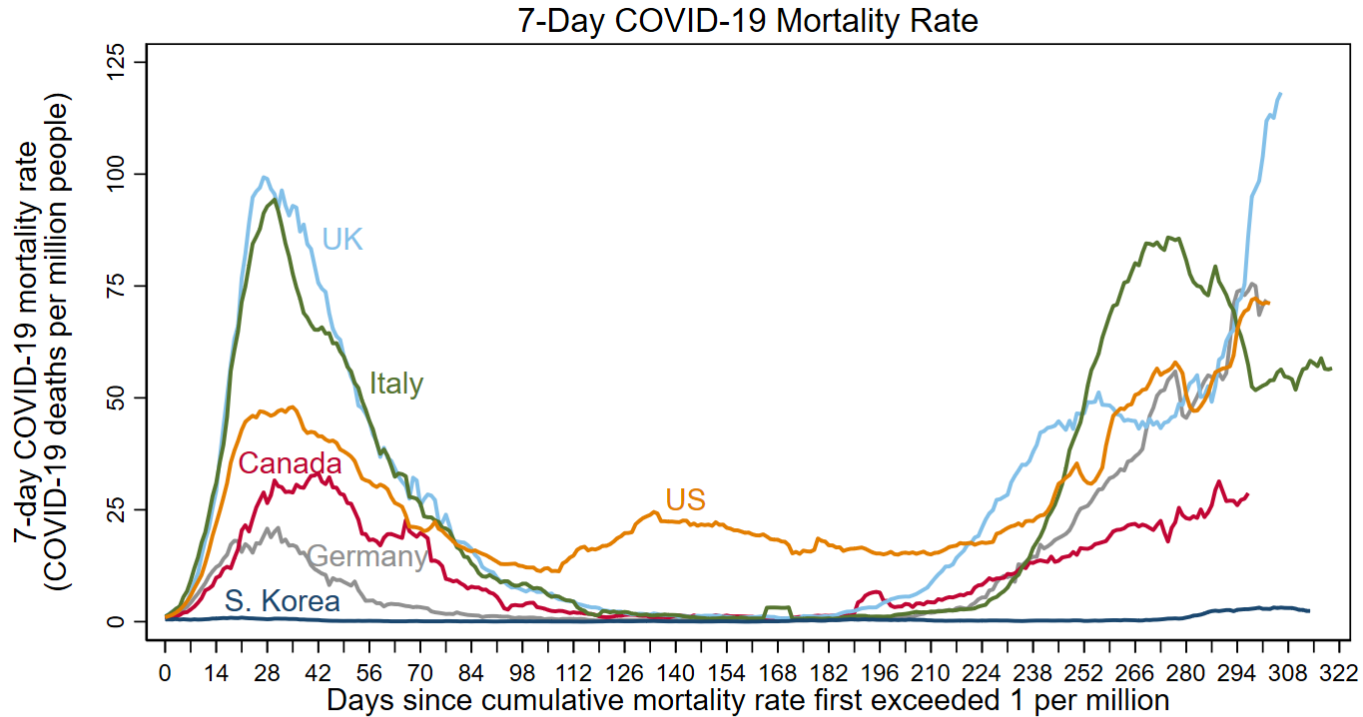
Note: The District of Columbia's hospitalization rate is between 369 and 421. The color bins on this map are changed with each update to better represent the latest data.

# COVID-19 statistics for Fourth District states and the nation as of January 17, 2021.

COVID-19 Statistic	Kentucky	Ohio	Pennsylvania	West Virginia	United States
<b>Levels</b>					
Average daily deaths in past 2 weeks	29	80	216	29	3,282
Cumulative deaths	3,127	10,200	19,255	1,776	397,600
Average daily hospitalizations in the past week	1,673	3,857	4,956	728	128,317
<b>Rates (per million residents)</b>					
14-day mortality rate	90	96	236	224	140
Cumulative mortality rate	699	872	1,503	993	1,215
Average daily hospitalization rate in the past week	374	330	387	407	390

Sources: FRBC calculations, CSSE at Johns Hopkins University, the COVID Tracking Project at *The Atlantic*, and BEA.

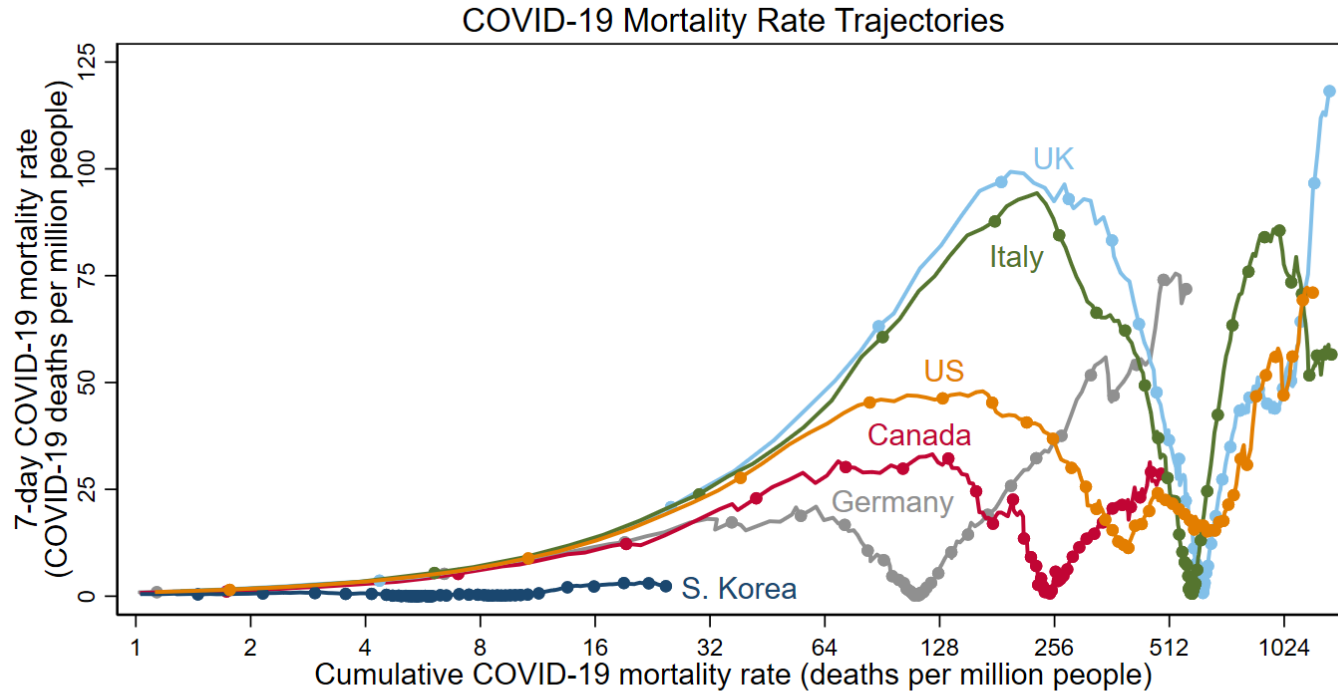
The 7-day COVID-19 mortality rate in the United States rose in the past week. The US 7-day mortality rate is below that of the UK and above that of Italy.



Notes: 3/22/2020 was first day US rate > 1. Data through 1/17/2021.

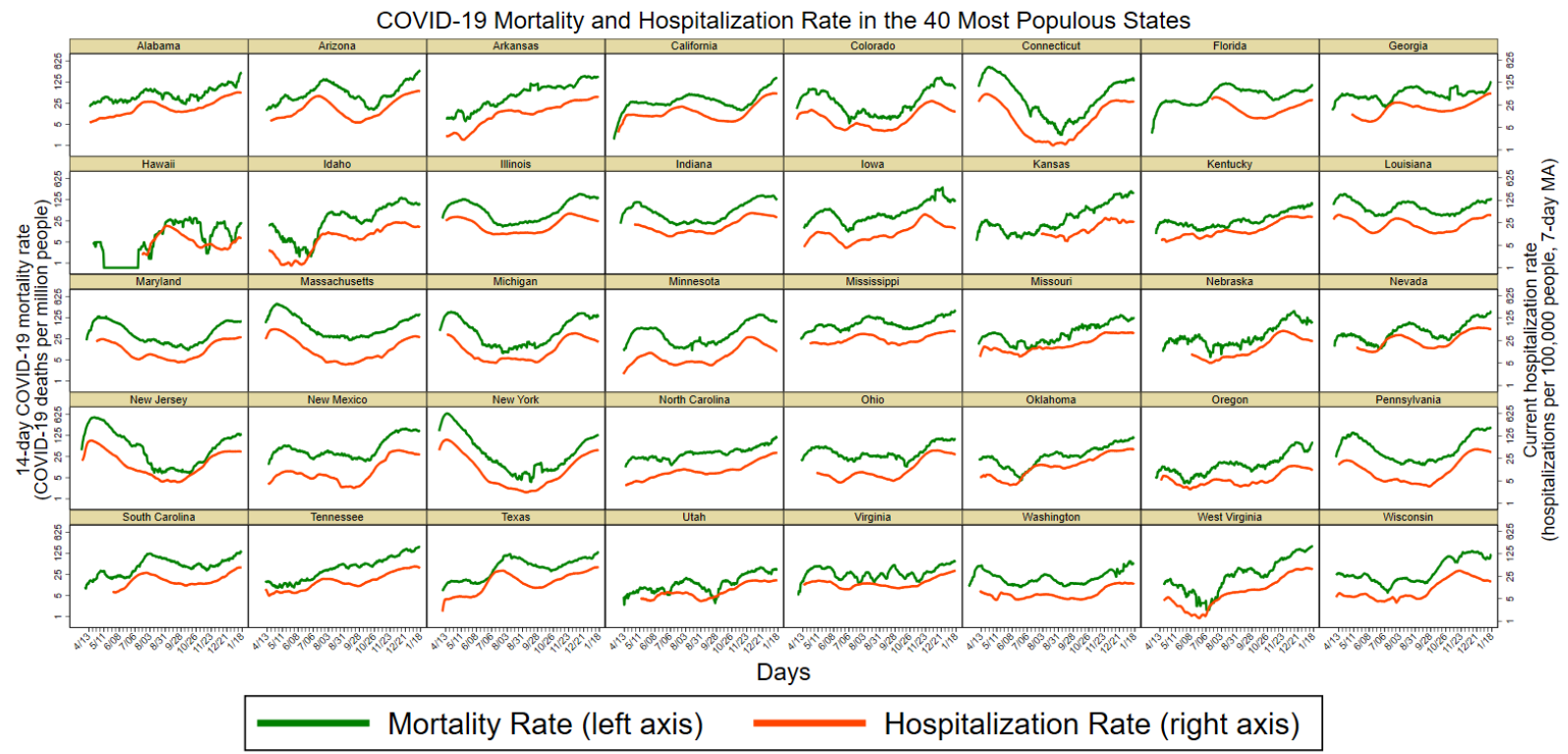
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and the World Bank.

As of January 17, the cumulative COVID-19 mortality rate of the United States is 1,215 deaths per million people. This is more than double the mortality rate of Canada but below that of Italy and that of the UK.



Notes: Horizontal axis has log scale. Excluding days when mortality rate < 1. Dots on Sundays to show time. Data through January 17, 2021.  
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and the World Bank.

This chart shows COVID-19 mortality and hospitalization rates for the 40 most populous US states.



Notes: Data from 1/22-1/17/2021. Both vertical axes have log scales.  
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, BEA, and the COVID Tracking Project at *The Atlantic*.

## Appendix: Adjustments for data revisions

- Some significant revisions to the reported number of COVID-19 deaths cause large single-day jumps.
- We smooth some of these jumps by multiplying daily changes for a period of time by a scaling factor so that the adjusted series meets the post-revision series.
- We have used this approach for the following revisions and periods in 2020:
  - Spain revised deaths downward on May 25; data are adjusted from 3/3 to 5/24.
  - New Jersey revised deaths downward on June 25; data are adjusted from 3/10 to 6/24.
  - Illinois revised deaths upward on July 7; Illinois and the United States are adjusted from 3/23 to 7/6.
  - New Jersey revised deaths downward on August 26; data are adjusted from 3/18 to 8/25.
- Other data cleaning in 2020
  - Ohio's reported cumulative deaths jumped up on August 29 and reversed on August 30. We set Ohio's cumulative deaths on August 29 to the midpoint of deaths on August 28 and 30 and incorporated this change into the US total for August 29.

- Other data cleaning in 2020 (continued)
  - Ohio's reported cumulative deaths for Latino citizens jumped up on August 5 and reversed on August 9. We set Ohio's cumulative deaths on August 5 to the average between August 2 and August 9, given data are only available every Sunday and Wednesday.