COVID-19 Mortality Rate Trends in Countries and US States

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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 November 29, with no attempt to further correct for underreporting.

    - Some large revisions in COVID-19 data have been smoothed. See slide 9 for details.

- The 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 charts use data from the COVID Tracking Project at *The Atlantic*.

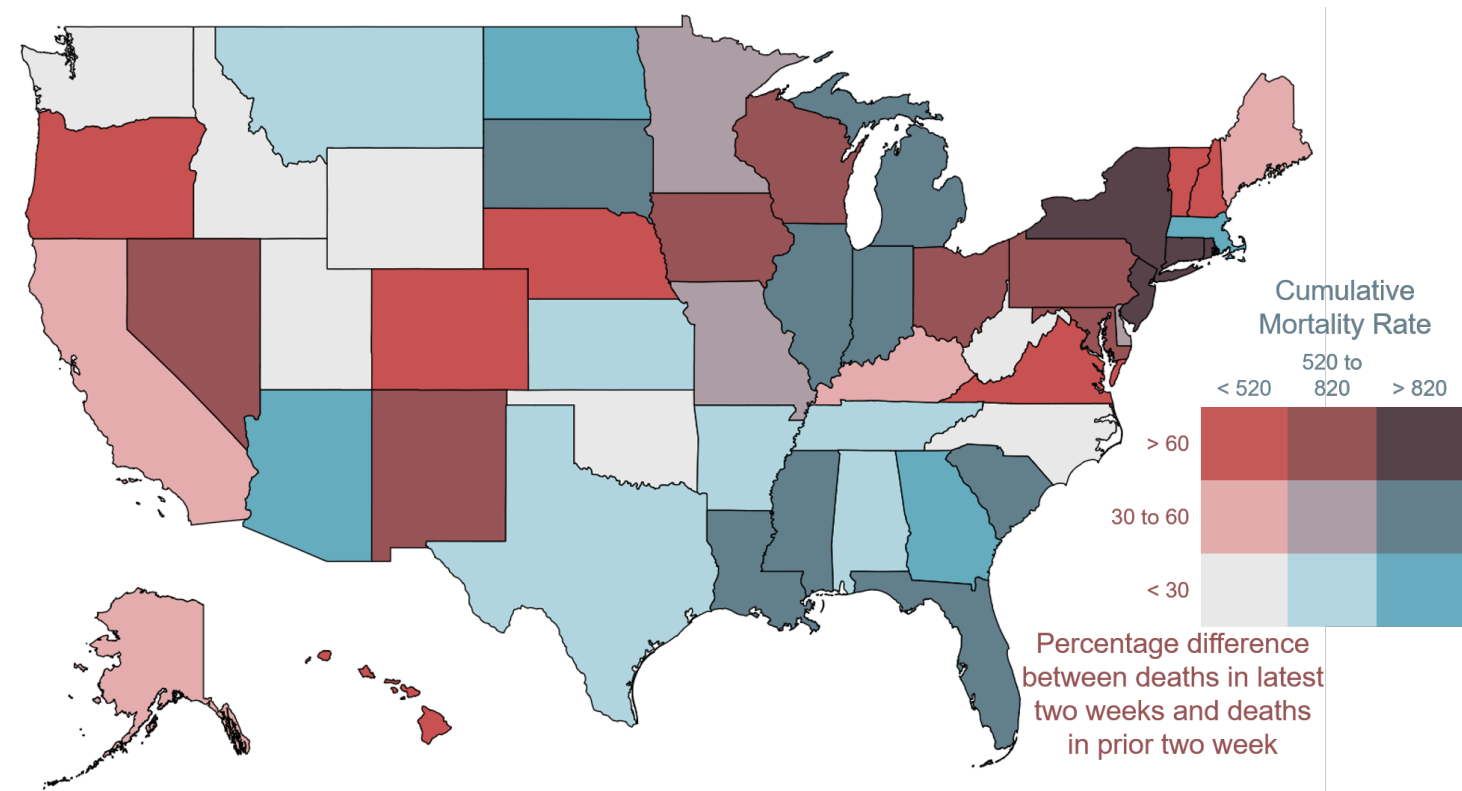- All dates in this presentation refer to the year 2020.

In the two weeks leading up to November 29, the 14-day COVID-19 mortality rate rose in all Fourth District states and in the United States as a whole.
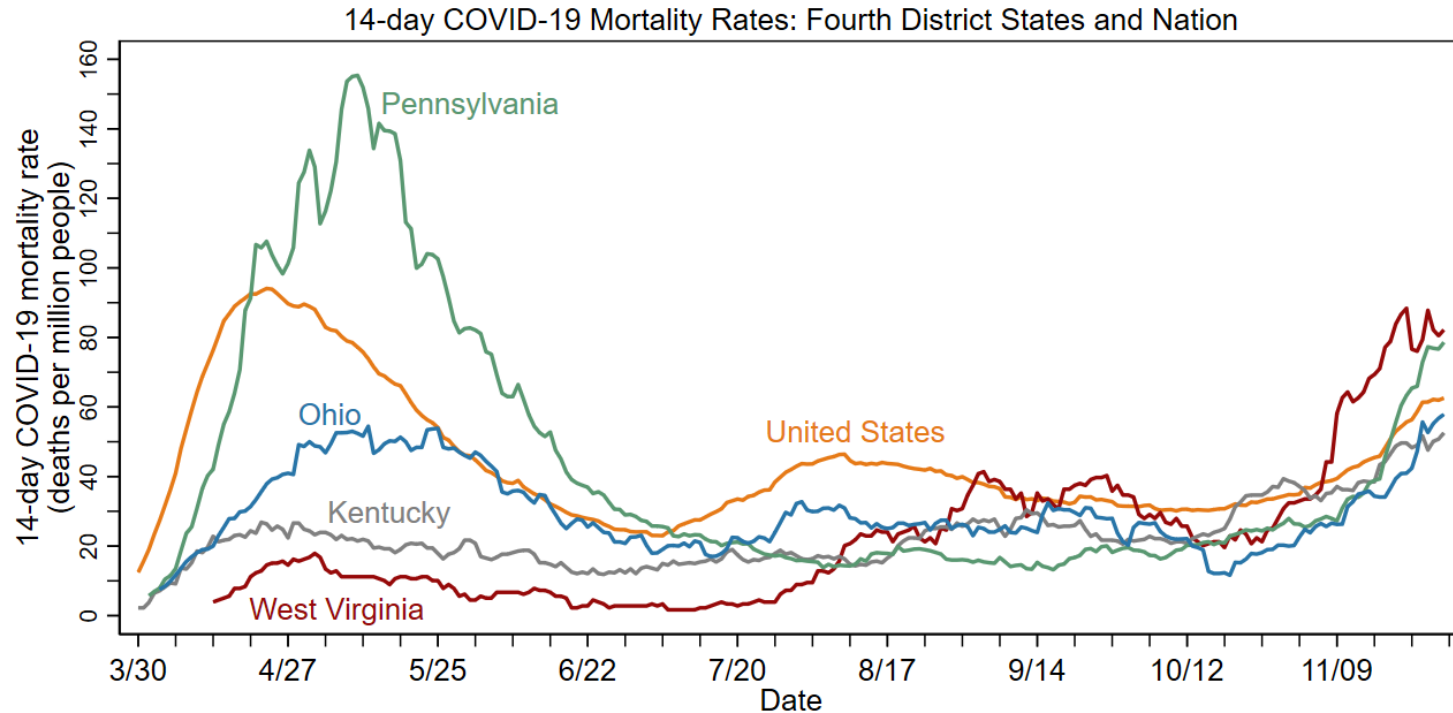
14-day COVID-19 Mortality Rates: Fourth District States and Nation

Note: Data through November 29, 2020.
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and Bureau of Economic Analysis.
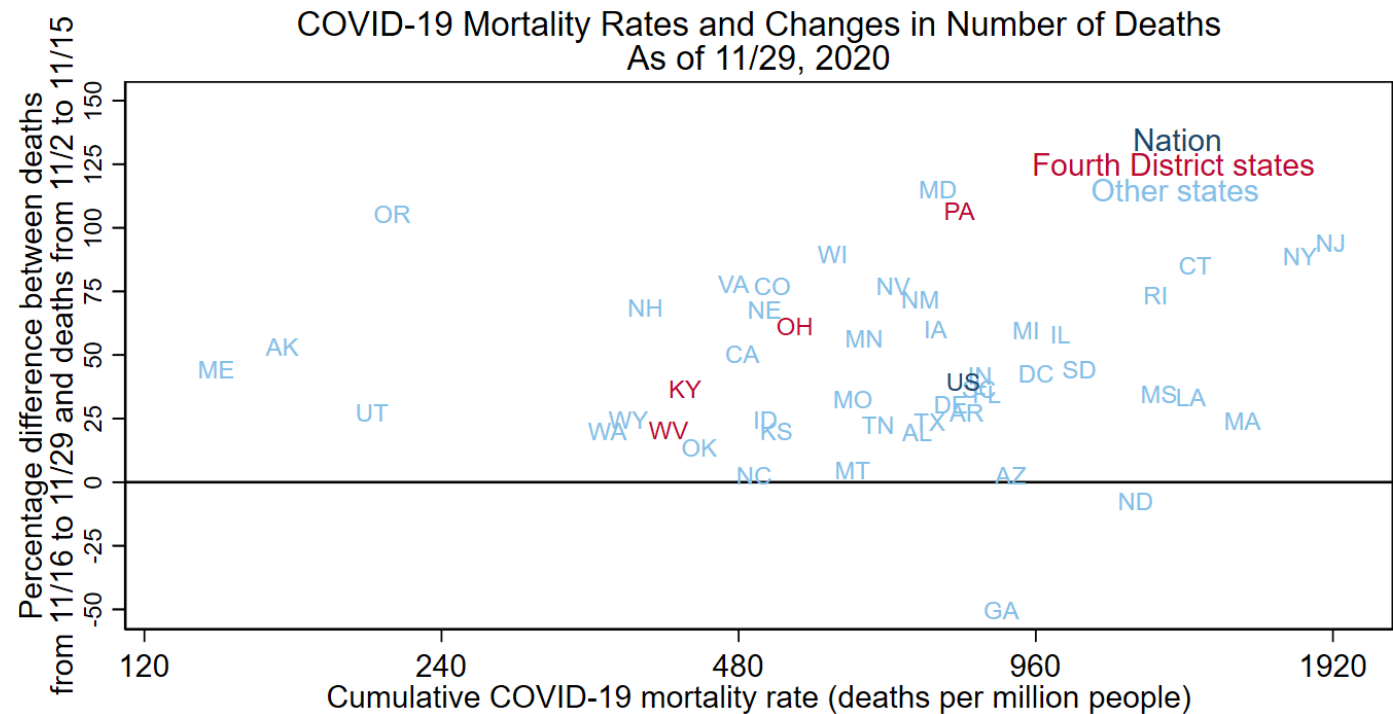
Between November 16 and November 29, the 14-day COVID-19 mortality rate fell in Georgia and North Dakota, but it rose in every other state.

Cumulative Mortality Rate

	< 520	520 to 820	> 820
> 60			
30 to 60			
< 30			

Percentage difference between deaths in latest two weeks and deaths in prior two week
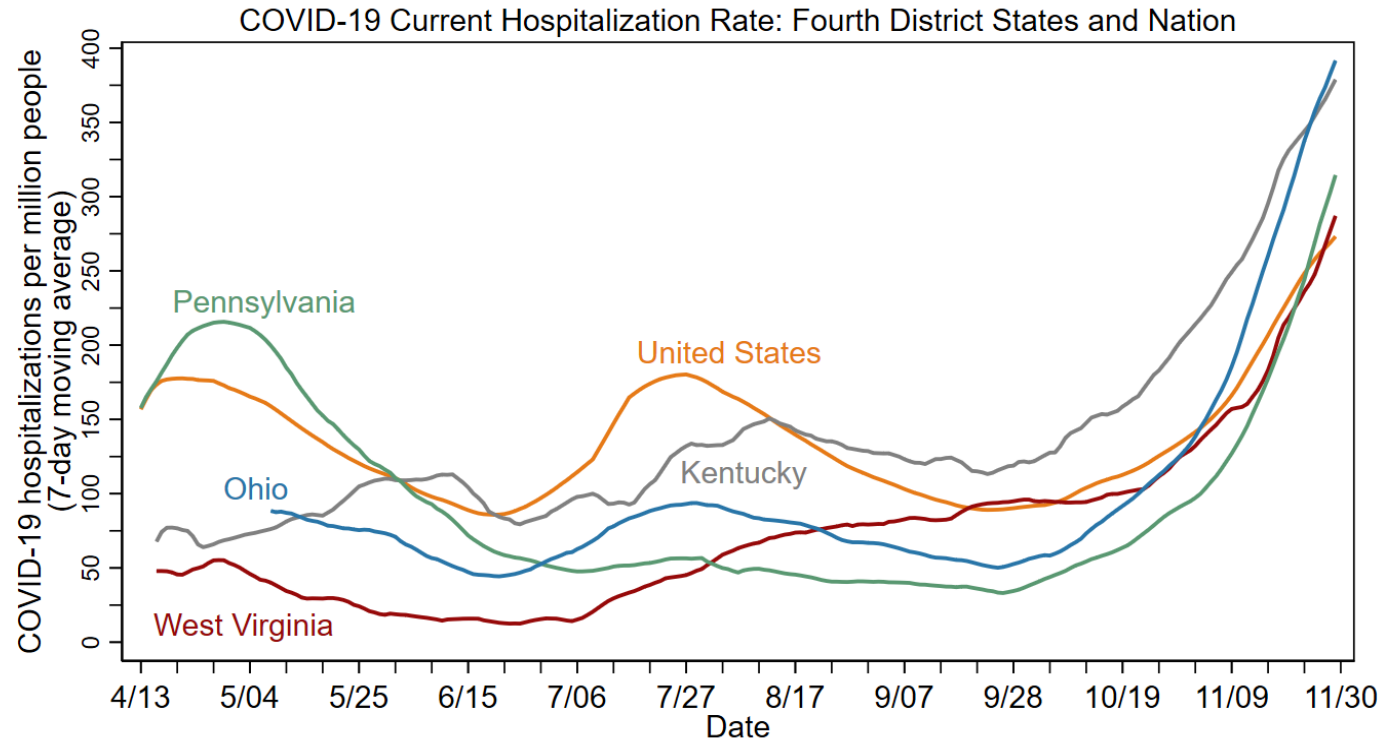
Notes: The District of Columbia is in the bin with mortality rate > 820 and percentage difference between 30 and 60 percent. The color bins on this map are changed with each update to better represent the latest data.

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

COVID-19 Mortality Rates and Changes in Number of Deaths
As of 11/29, 2020

Percentage difference between deaths from 11/16 to 11/29 and deaths from 11/2 to 11/15

Nation
Fourth District states
Other states

Cumulative COVID-19 mortality rate (deaths per million people)

Notes: Horizontal axis has log scale.
HI and VT are excluded as each state's two-week deaths increased by more than 150 percent.
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and Bureau of Economic Analysis.

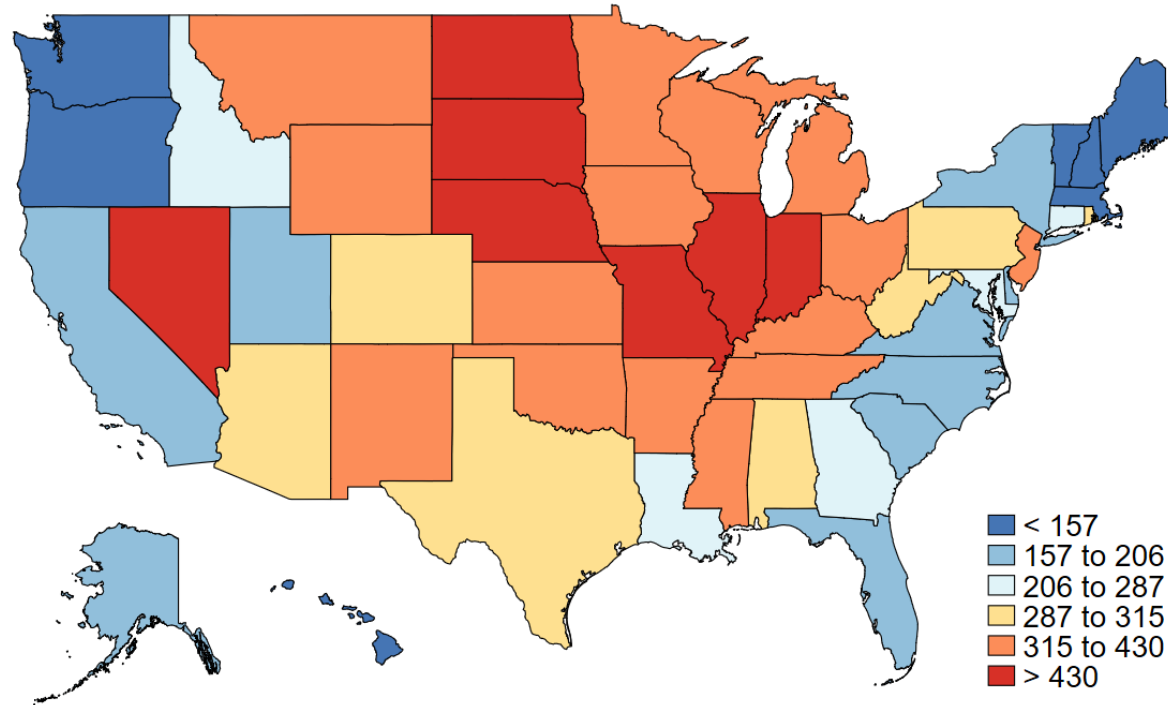COVID-19 Current Hospitalization Rate: Fourth District States and Nation

Note: Data through November 29, 2020.
Sources: FRBC calculations, the COVID Tracking Project at *The Atlantic*, and BEA.

In the week leading up to November 29, hospitalization rates were highest in the Midwest and Plains states and lowest along the East and West coasts.

COVID-19 Hospitalizations per Million People,
7-day moving average as of November 29, 2020.

|	
■	< 157
■	157 to 206
■	206 to 287
■	287 to 315
■	315 to 430
■	> 430

Notes: The District of Columbia is in the bin with hospitalization rate between 157 and 206. The color bins on this map are changed with each update to better represent the latest data.

Data for November 29, 2020, accessed on November 30, 2020.

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

The 7-day COVID-19 mortality rate in the United States fell in the past week. The US 7-day mortality rate is between those of Germany and the UK.

7-Day COVID-19 Mortality Rate
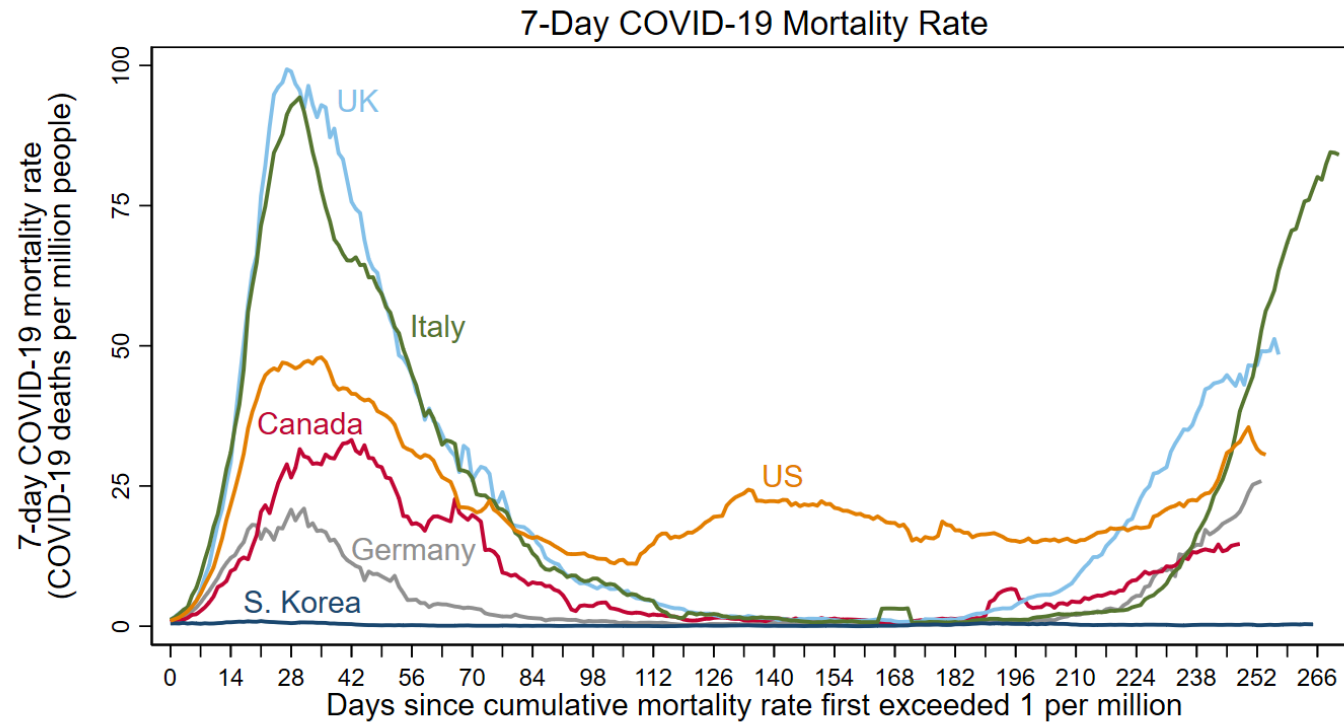
Notes: 3/22/2020 was first day US rate > 1. Data through 11/29/2020.
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and the World Bank.

As of November 29, the cumulative COVID-19 mortality rate of the United States is 816 deaths per million people. This is more than double the mortality rate of Canada and a bit below those of Italy and the UK.

COVID-19 Mortality Rate Trajectories
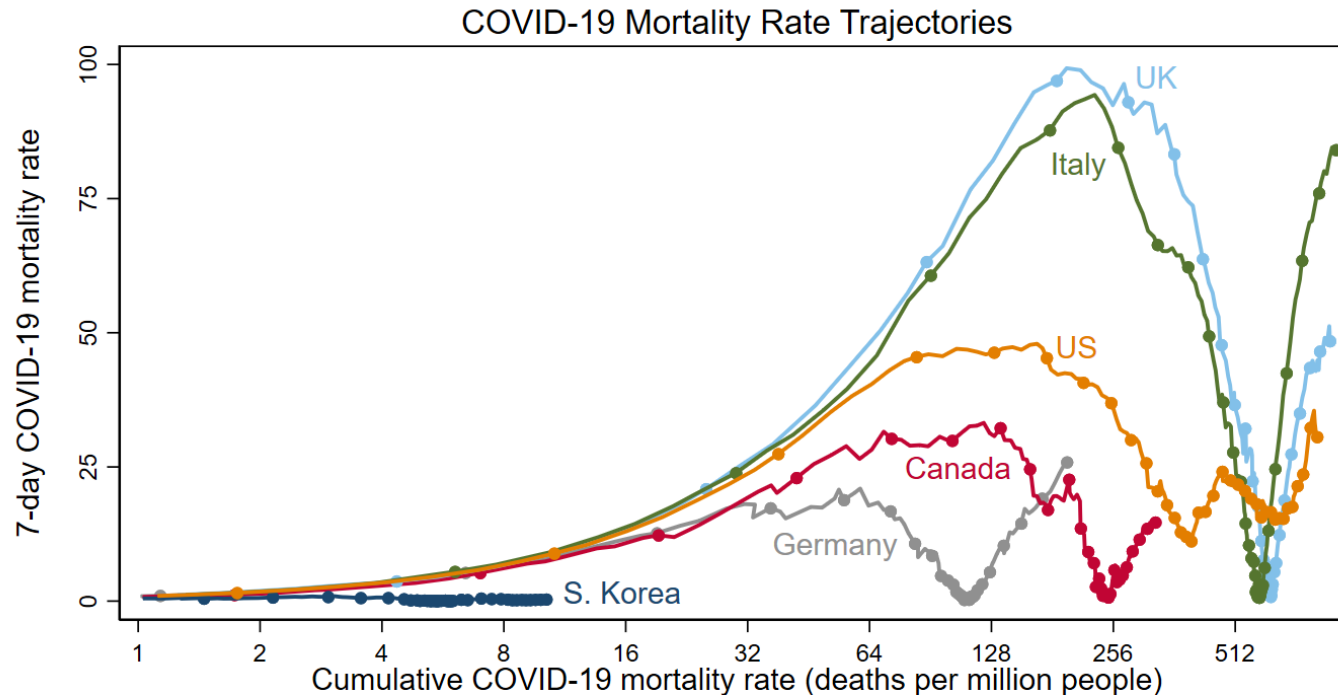
Notes: Horizontal axis has log scale. Excluding days when mortality rate < 1. Dots on Sundays to show time. Data through November 29, 2020.
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, and the World Bank.

COVID-19 Mortality and Hospitalization Rate in the 40 Most Populous States
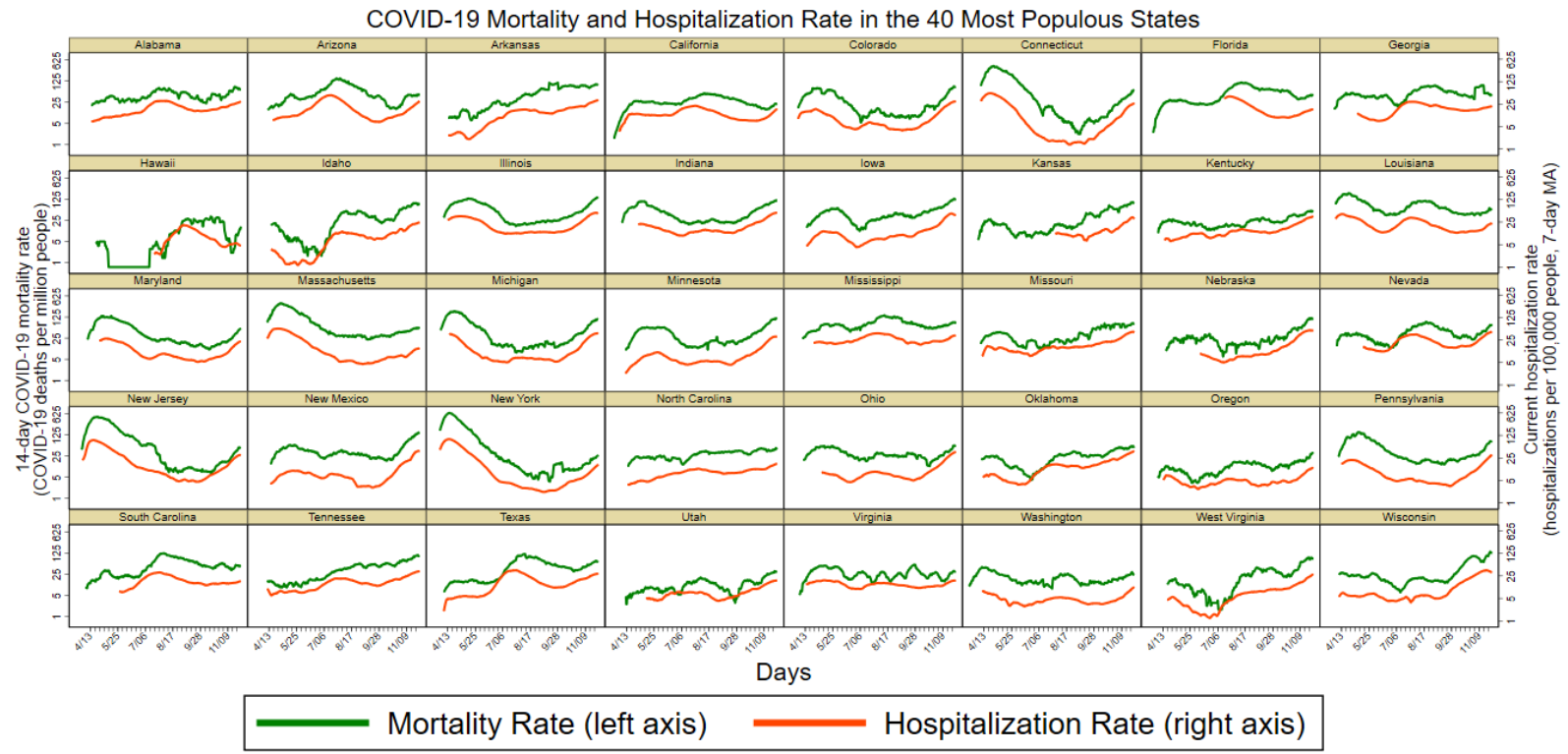
Notes: Data from 1/22-11/29/2020. Both vertical axes have log scales.
Sources: FRBC calculations, the Center for Systems Science and Engineering at Johns Hopkins University, BEA, and the COVID Tracking Project at *The Atlantic*.

- 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:
  - 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 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
  - 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.