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 the Center for Systems Science and Engineering at Johns Hopkins University (CSSE) data through September 27, 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.

All dates in this presentation refer to the year 2020.
In the week leading up to September 27, the weekly COVID-19 mortality rate fell in all Fourth District states. The United States as a whole saw a modest decrease.
Between September 21 and September 27, the weekly COVID-19 mortality rate rose in 22 states, including Georgia and Michigan.

Data for September 27, 2020, accessed on September 28, 2020
“Latest week” is 9/21 to 9/27, “prior week” is 9/14 to 9/20.
Sources: FRBC calculations, CSSE, and BEA.

Notes: VT has no data because it had no deaths from 9/14 to 9/20. The District of Columbia is in the bin with mortality rate > 560 and percentage difference from -15 to 5. 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.
The 7-day COVID-19 mortality rate in the United States has fallen modestly and remains high relative to those in Canada and European countries at a comparable number of days into each of their epidemics.

Notes: 3/22/2020 was first day US rate > 1. Data through 9/27/2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and the World Bank
As of September 27, the cumulative COVID-19 mortality rate of the United States is 626 deaths per million people. This is between the rates of Italy and the UK (respectively, 593 and 633 deaths per million).

This chart shows the changes in COVID-19 mortality rates for the 40 most populous US states.
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:
  • 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 mid-point of deaths on August 28 and 30 and incorporated this change into the US total for August 29.