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 July 26, 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.
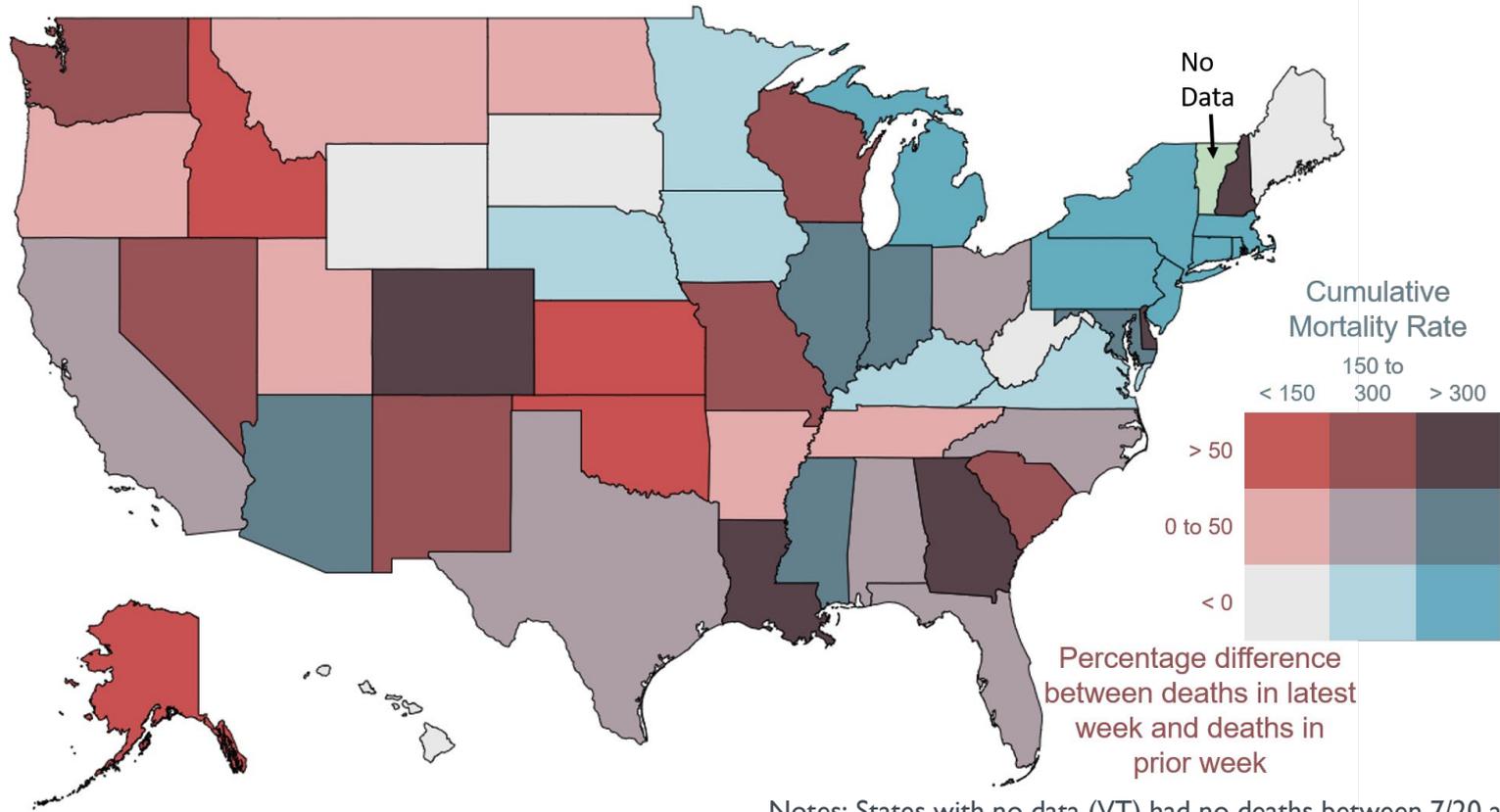
In the week leading up to July 26, the population-adjusted number of COVID-19 deaths per week fell in KY, PA, and WV and rose in OH and in the United States as a whole.

Changes in Cumulative COVID-19 Mortality Rates: District States and Nation
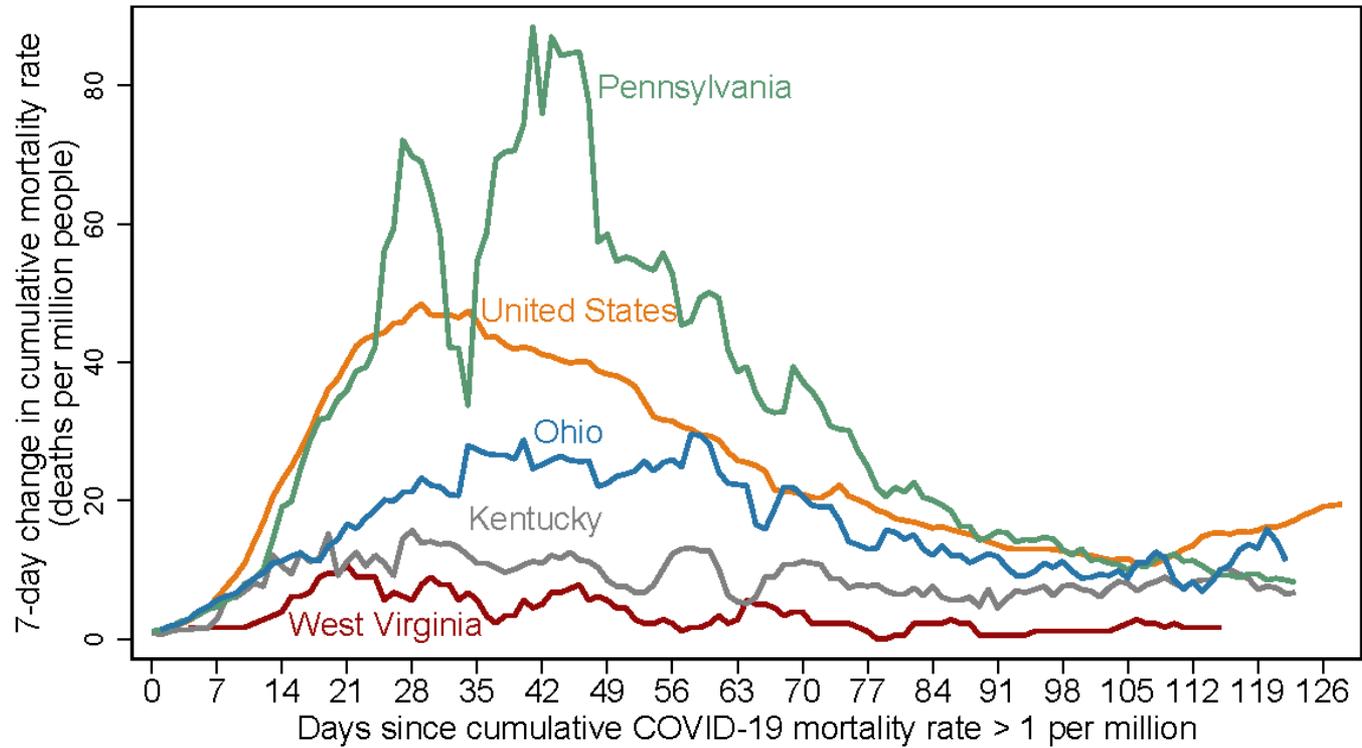
Note: Data through July 26, 2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and Bureau of Economic Analysis.

Between July 20 and July 26, the number of COVID-19 deaths per week rose by more than 15 percent in 24 states, including CO, IN, and much of the South.

Cumulative Mortality Rate

Percentage difference between deaths in latest week and deaths in prior week

Data for July 26, 2020, accessed on July 27, 2020
"Latest week" is 7/20 to 7/26, "prior week" is 7/13 to 7/19.
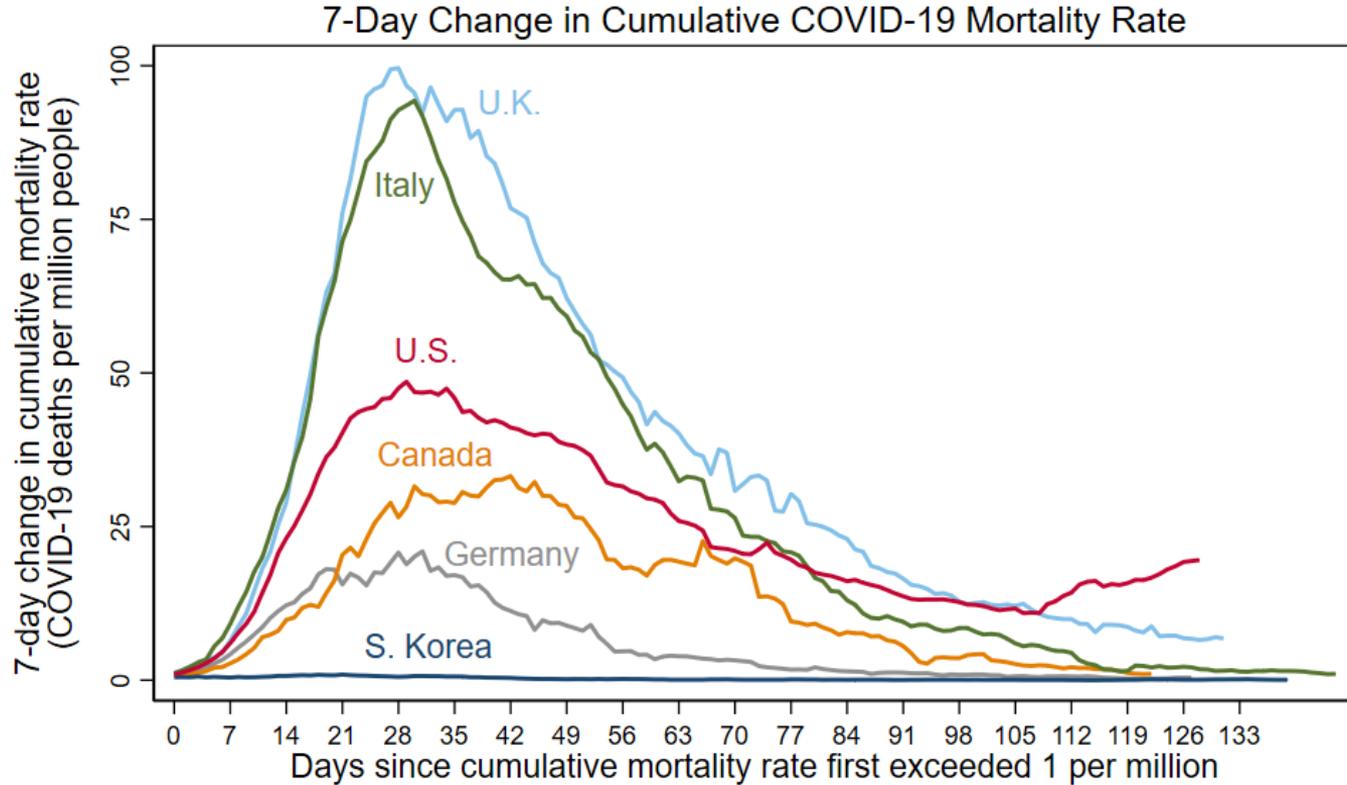Sources: FRBC calculations, CSSE, and BEA

Notes: States with no data (VT) had no deaths between 7/20 and 7/26. The District of Columbia is in the bin with mortality rate > 300 and percentage difference below 0. The color bins on this map are changed with each update to better represent the latest data.

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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 July 26, 2020
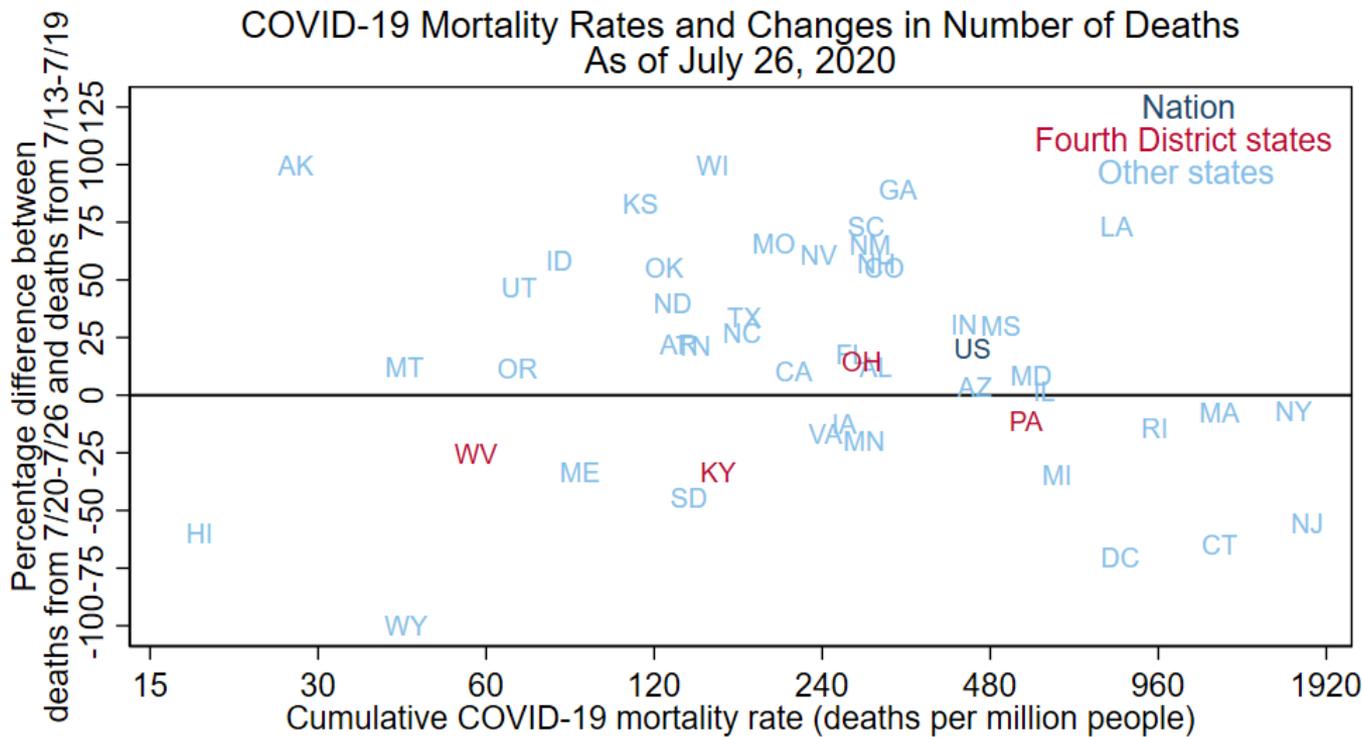
Notes: Horizontal axis has log scale. VT excluded because they had no COVID-19 deaths from 7/13-7/19, 2020. DE and WA also excluded with a percentage increase of 833 and 500 respectively in Covid-deaths since 7/13-7/19, 2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and Bureau of Economic Analysis.

The number of deaths per week began rising again in the United States on July 8. In contrast, deaths per week fell during the comparable number of days into the epidemics in Canada, Germany, Italy, and the UK.

7-Day Change in Cumulative COVID-19 Mortality Rate

Notes: 3/22/2020 was first day US rate > 1. Data through 7/26/2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and the World Bank
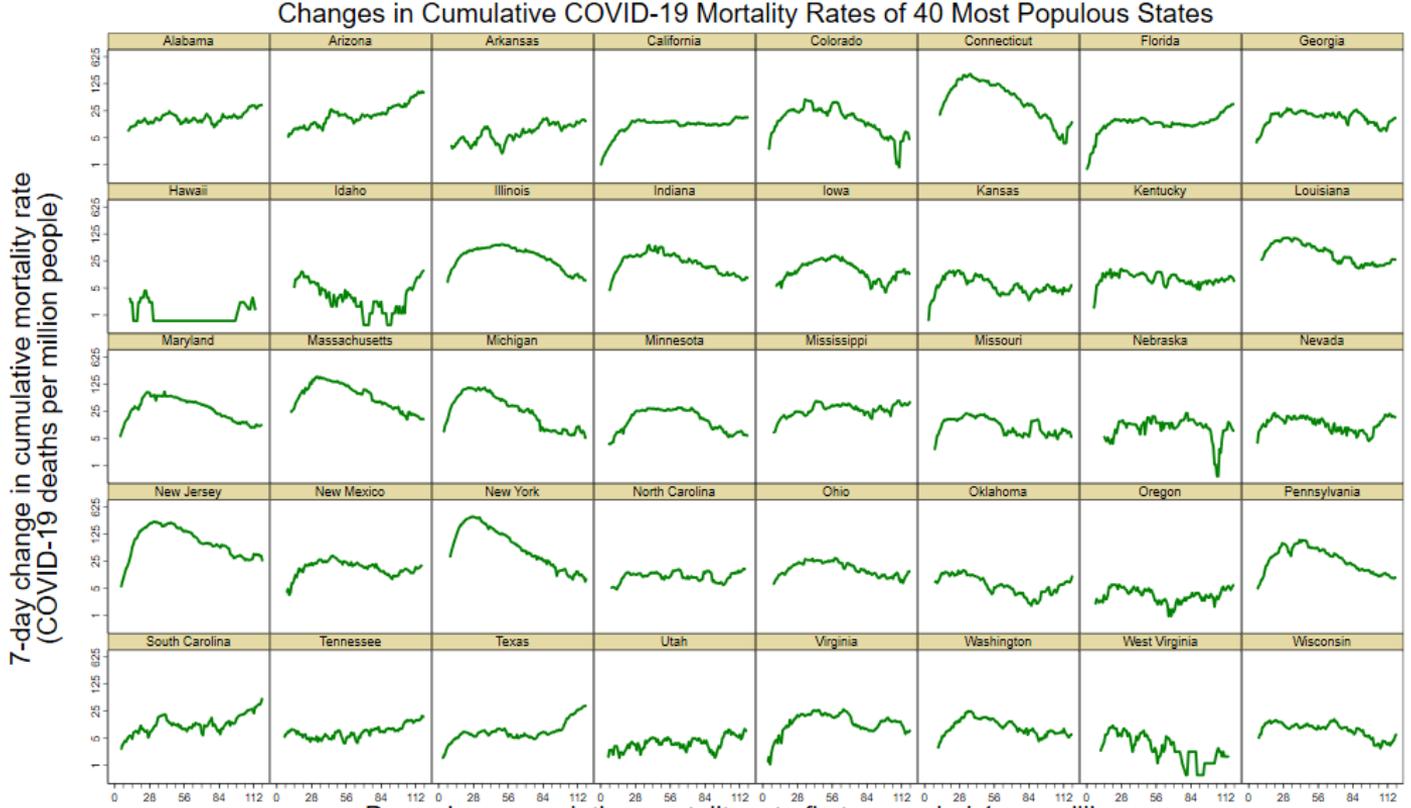
COVID-19 Mortality Rate Trajectories
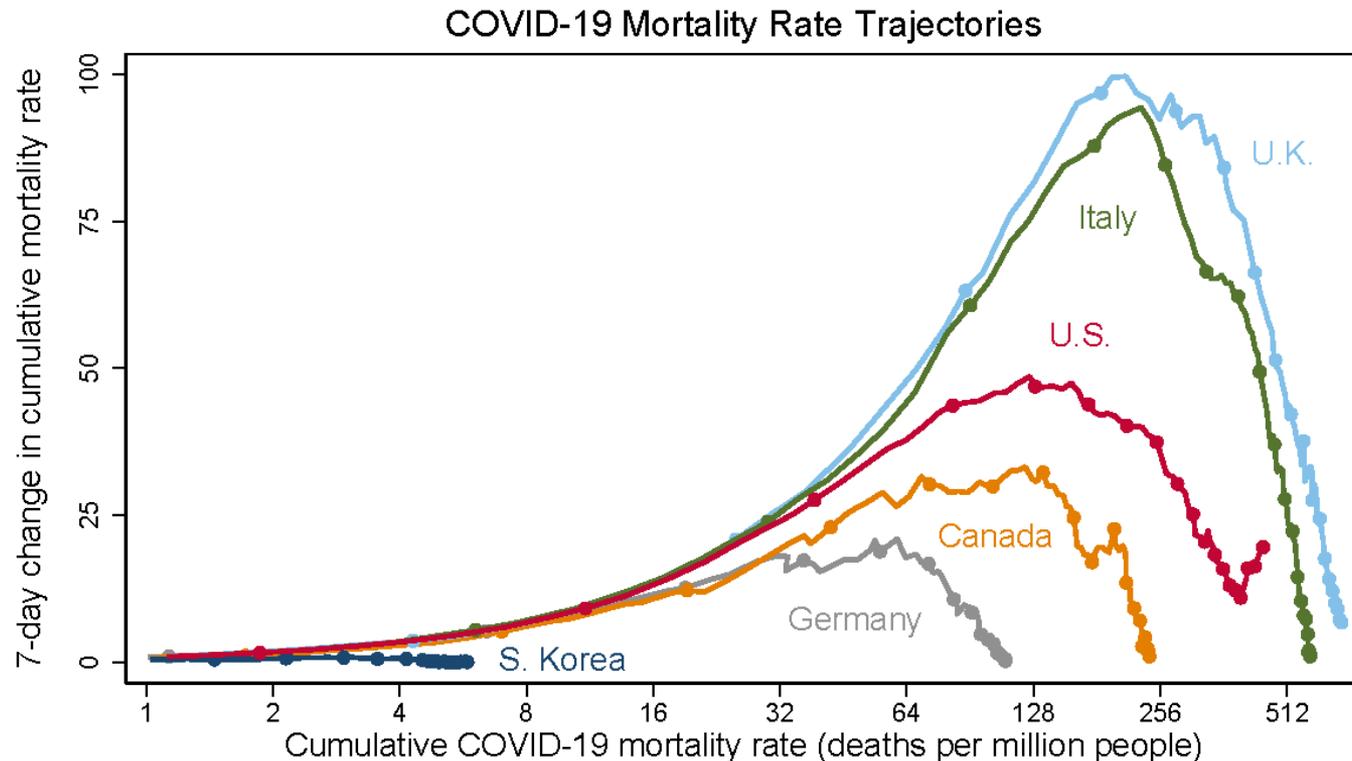
Notes: Horizontal axis has log scale. Excluding days when mortality rate < 1. Dots on Sundays to show time. Data through July 26, 2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and the World Bank

Changes in Cumulative COVID-19 Mortality Rates of 40 Most Populous States

Notes: Data points excluded if cumulative mortality rate < 1. Data from 1/22-7/26/2020.
Sources: FRBC calculations, The Center for Systems Science and Engineering at Johns Hopkins Univ., and BEA

- Some large revisions to the reported number of COVID-19 deaths cause large single-day jumps.

- I 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.

- I 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 upward on June 25; NJ and US data are adjusted from 3/10 to 6/24.
  - Illinois revised deaths upward on July 7; Illinois and US data are adjusted from 3/23 to 7/6.