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## FISCAL UPDATE Article

Fiscal Services Division

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### COVID-19 — INSTITUTE FOR HEALTH METRICS AND EVALUATION FORECAST

**Forecast Report.** A study issued by the Institute for Health Metrics and Evaluation (IHME), a global health research institute at the University of Washington School of Medicine, published a study that presents a set of estimates for predicted peak health service utilization and deaths by day for the next four months for [each US state](#). From the [release](#):

In a forecast based on new data analyses, researchers find demand for ventilators and beds in US hospital intensive care units (ICUs) will far exceed capacity for COVID-19 patients as early as the second week of April. Deaths related to the current wave of COVID-19 in the US are likely to persist into July, even assuming people protect themselves and their communities by strongly adhering to social distancing measures and by taking other precautions advised by public health officials.

**Methods and Data.** According to the [report](#), “[t]he modeling approach in this study is divided into four components: (i) identification and processing of COVID-19 data; (ii) statistical model estimation for population death rates as a function of time since the death rate exceeds a threshold in a location; (iii) predicting time to exceed a given population death threshold in states early in the pandemic; and (iv) modeling health service utilization as a function of deaths.”

Data sources utilized include:

- Local governments, national governments, and the World Health Organization.
- Government declarations on implementation of social distancing policies.
- Data from the American Hospital Association on licensed hospital bed and ICU capacity and average annual utilization of these services by state.
- Data on COVID-19-related demand for ICU services in the United States.
- Age-specific death rate data from China, Italy, South Korea, and the United States.

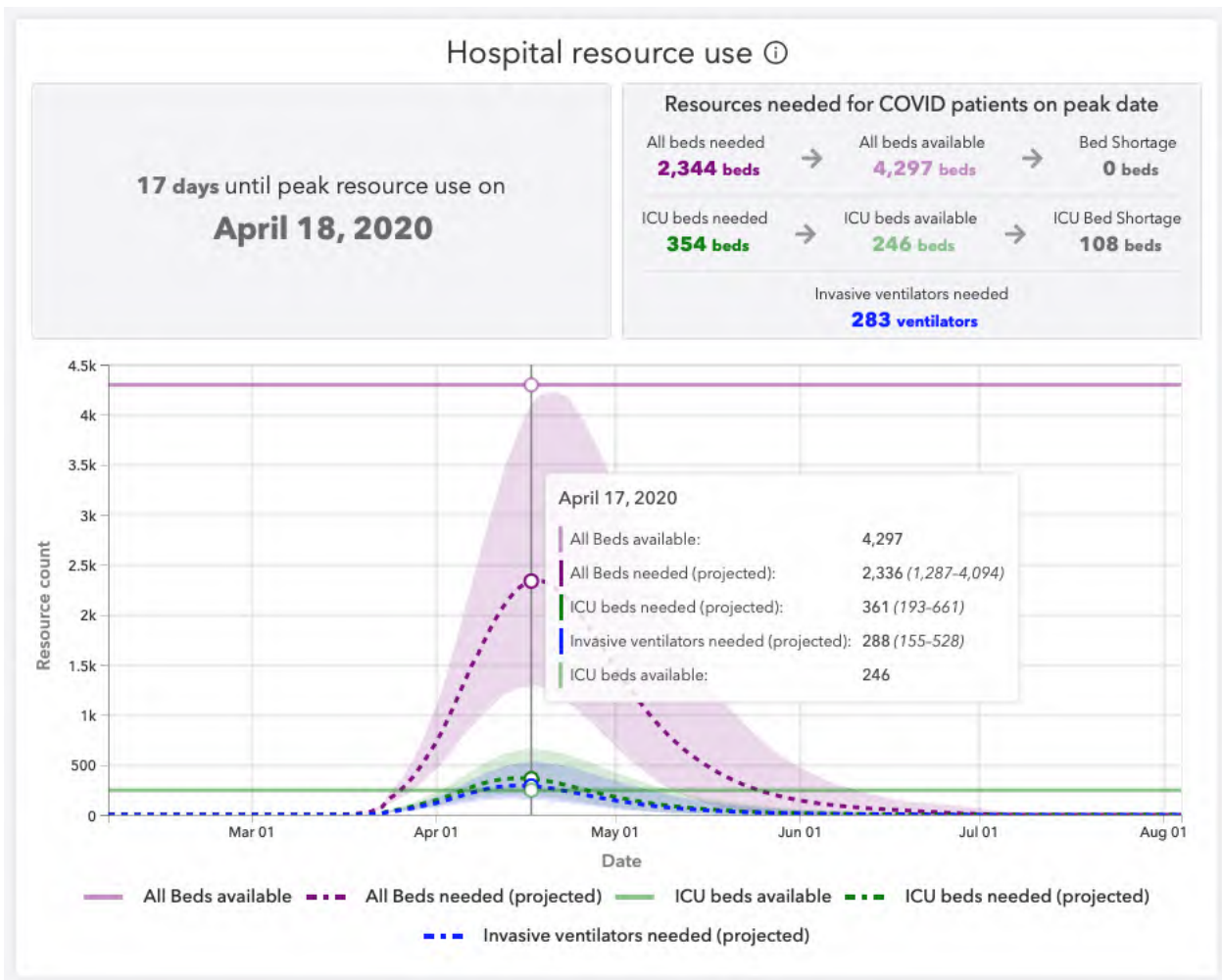
The report uses uncertainty intervals (UI) of 95.0%, to create upper- and lower-bound estimates for the estimates presented. This means that the actual results of what happens should be between these two bounds in 95 out of 100 simulations. When looking at the visualization charts, these upper and lower bounds are presented as the shading along the estimated trend. This uncertainty is driven by utilization of a fixed effect estimation and uncertainty due to random effect.

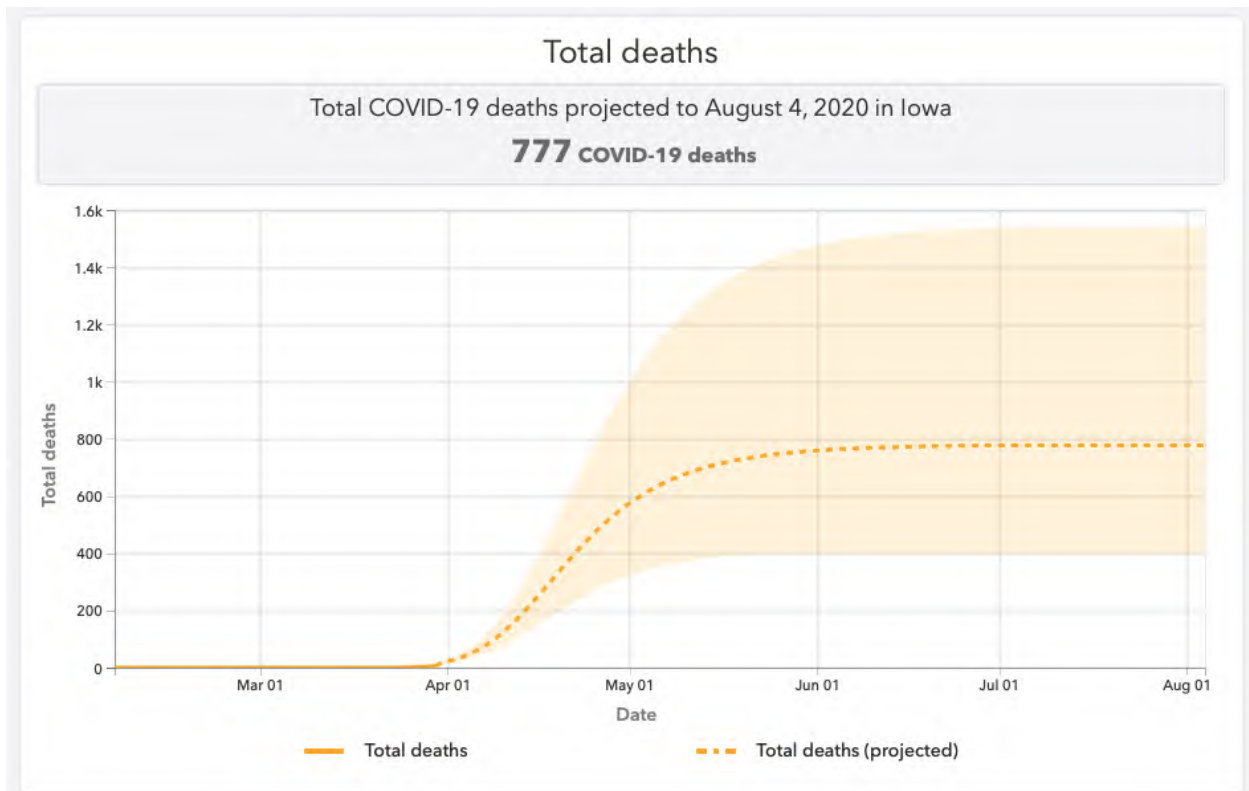
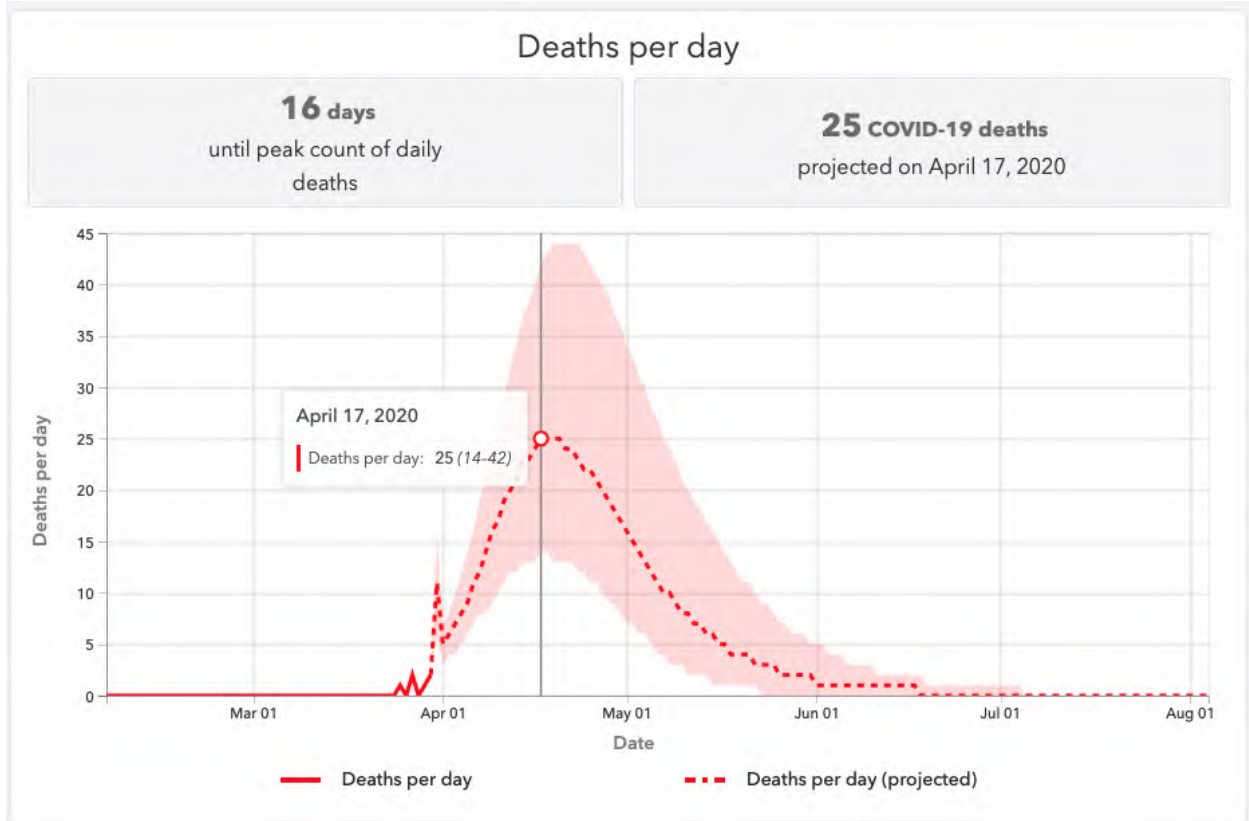
The model is being [routinely updated](#) as more data become available in order to present as current as possible information for hospital system administrators and local, state, and federal health policymakers.

**Iowa Forecast.** Since Iowa is small, and it is still relatively early in the number of positive cases and deaths related to COVID-19, the forecast results have varied considerably from day to day as more data becomes available and the model is further refined. The [state-by-state data](#) analysis provides the following:

- A high-level summary of state-mandated social distancing policies implemented by state. However, policies currently implemented in Iowa are not accurately reflected in the visualization.
- An estimated date of peak use of hospital resources.
- An estimate of COVID-19 deaths per day.
- An estimate of total COVID-19 deaths.

Since March 29, 2020, the peak demand of resources estimate data has moved between April 15, 2020, and April 26, 2020. As of March 31, 2020, the study forecasted the following experiences for Iowa:





**Other States.** The peak resource use date for the United States is forecasted for April 15, 2020. For states surrounding Iowa, the forecast has also adjusted between the initial release and the present. The current forecast of peak use of hospital resources for surrounding states is as follows:

- Nebraska: May 1, 2020.
- Kansas: April 27, 2020.
- Missouri: May 18, 2020.
- Illinois: April 16, 2020.
- Wisconsin: April 27, 2020.
- Minnesota: April 18, 2020.
- North Dakota: May 2, 2020.
- South Dakota: May 2, 2020.

**Additional Information.** More information on the current COVID-19 outbreak situation can be found on the following webpages:

- IHME COVID-19 Projections: [covid19.healthdata.org](https://covid19.healthdata.org)
- Iowa COVID-19 Website: [coronavirus.iowa.gov](https://coronavirus.iowa.gov)
- Iowa Department of Public Health COVID-19 Page: [idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus](https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus)
- National Conference State Legislatures (NCSL) COVID-19 Resources for States: [www.ncsl.org/research/health/ncsl-coronavirus-covid-19-resources.aspx](https://www.ncsl.org/research/health/ncsl-coronavirus-covid-19-resources.aspx)
- National Governors Association (NGA) COVID-19 Page: [www.nga.org/coronavirus](https://www.nga.org/coronavirus)

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