Data visualization tool examines community factors underlying COVID-19 outcomes

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A [new data visualization tool](#) examines how and why COVID-19 impacts regions differently. Using daily updated data, [COVIDMinder](#) compares community risks, mediation tools, and outcomes related to COVID-19

by state across the United States, and by county within New York state.

"Your community directly affects your health outcomes, and we're seeing that play out in the COVID-19 pandemic," said Kristin Bennett, the project director and the associate director of the Institute for Data Exploration and Applications at Rensselaer Polytechnic Institute.

The web-based tool is being developed by the Rensselaer team behind the award-winning MortalityMinder, a similar tool that identifies social and economic factors contributing to declining life expectancy at the community level. According to Bennett, in comparing how factors such as health behaviors, health-care access, and social economic status contribute to the leading causes of death nationwide, MortalityMinder revealed that "where you live has a huge impact on your chances of dying prematurely."

Bennett said that worsening social and economic determinants of mortality have already driven up rates of premature mortality since the Great Recession of 2008. The COVID-19 pandemic is further deteriorating those social and economic determinants, while simultaneously crowding out health-care access for consumers with non-COVID-related problems.

"This could combine to create a surge in premature deaths from causes besides COVID-19, which will continue after the pandemic subsides," Bennett said.

As the developers worked on the tool, the changing visualizations gave them an inside view on how the preparation for the spread of the disease differed throughout the country.

"Improvements in testing were moving fast even as we drew the maps—rates in places like Washington, Louisiana, New York, and

Massachusetts went up—but for many states, testing rates are still very low," Bennett said.

The initial version of COVIDMinder released today allows users to view visualizations showing disparities in COVID-19 mortality rates, testing, hospital beds, and other key factors by state. For New York state, data is available by county. Bennett and her team plan to continue building COVIDMinder out, by adding new views and factors to help states and counties understand and combat the pandemic regionally. Users can access COVIDMinder and suggest enhancements at https://covidminder.idea.rpi.edu/.

The creation of COVIDMinder, which applies the proven approach of MortalityMinder to the most pressing global challenge of this era, underscores the creativity and nimbleness of Rensselaer faculty as they respond to the pandemic.

"Powerful graphical tools, such as COVIDMinder, allow both policymakers and the general public direct access to clear and interpretable information showing the geographic distribution of risk factors and response capabilities to the COVID-19 pandemic" said Curt Breneman, dean of the Rensselaer School of Science. "This regularly updated graphical information enables users to evaluate for themselves the effectiveness of ongoing mitigation strategies, while highlighting states, and counties in New York, where more mitigation steps are needed."

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