NC Policy Collaboratory

COVID-19 RESEARCH SPOTLIGHT

Protecting Public Health and Preserving the Financial Viability of North Carolina's Critical Health Care Facilities during Infectious Disease Outbreaks

To avoid future financial insolvency and economic hardship for hospitals in the wake of COVID-19 pandemic, this research will bridge the gap between planning for pandemic health care and efficiently using hospital capacities during an infectious disease outbreak. Doing so will reduce the risks of large financial losses and improve the economic sustainability of U.S. health care facilities in the face of the COVID-19 pandemic.

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Director

Center on Financial Risk in Environmental Systems

Can you explain the problem that your research is addressing?

"Hospitals face difficult choices as they prepare for the huge surge in new patients coming as a result of an infectious disease outbreak such as COVID. Many of these health care facilities responded to the first surge of COVID patients by shutting down all elective and non-emergency procedures, a prudent move, but masks and social distancing reduced the surge below worst case expectations. The result was a lot of unused hospital capacity and substantial reductions in hospital revenues. These losses were estimated to be as much as $1 billion per month in North Carolina alone."

Can you describe the goal of your research project?

"We are building predictive models with the intent of being able to give hospitals better estimates of the number of patients they can expect to enter the hospital, and what equipment they will need (e.g., ICU bed, ventilator) as much as one to two weeks in advance. This will allow them to better calibrate the amount of capacity they will need to treat COVID patients, while also allowing them to continue to service other patients via important, but non-emergency, procedures. This will allow them to protect public health and remain economically sustainable during these types of infectious disease outbreaks."