

## CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

### Research Agenda-Setting Paper

*This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.*

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#### Working Group Name:

Appalachian Regional COVID-19 Collaborative – Research Agenda II

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#### Working Group Description:

Our Working Group involves a network of researchers from East Tennessee and Western North Carolina in public health, epidemiology, GIS, economics, public policy, agriculture, medicine, veterinary medicine, and other disciplines. The group seeks to provide timely and evidence-based information for public health officials, policymakers, industry, and the public on pressing questions regarding the global pandemic and develop tools for use by public health professionals.

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#### Priority Research Topics and Specific Research Questions:

Our Working Group brings together two existing teams from different universities across the Appalachian region. Both teams are focused on working with local public health officials, government leaders, policymakers, and other local practitioners to create tools that are useful for addressing and combatting this pandemic. Separately, our workgroups have been creating a series of tools that can be used by local leaders. These include a local surveillance system; policy briefs on the economic impacts of the pandemic, social distancing, COVID-19 and pets; and tools to help local jurisdictions project the impact of this pandemic on their population in terms of the number of cases, deaths, and hospitalizations. Based on the experience with developing these tools and interacting with local officials and hearing their needs and concerns, we have identified a number of research priorities defined below.

Priority Research Topics	Potential Research Questions
1. Disparities in COVID-19 Diagnosis, Hospitalization, and Testing	<ul style="list-style-type: none"> <li>• What are the geographic drivers (e.g., socioeconomic, healthcare access, etc.) that make certain populations more vulnerable to COVID-19?</li> <li>• What are the temporal trends in geographic inequalities/disparities in COVID-19?</li> </ul>
2. Impact of Mitigation Strategies for COVID-19	<ul style="list-style-type: none"> <li>• What factors are associated with an individual's understanding/knowledge adoption and adherence to the recommended mitigation strategies?</li> <li>• What area-level (e.g., rurality, socioeconomic, political) factors are predictive of public opinion on various aspects of the COVID-19 pandemic?</li> <li>• What evidence-based strategies increase adherence to mitigation measures?</li> </ul>

<p>3. Evidence-Based Tools for Strengthening the COVID-19 Response (Policy Briefs and Other Tools)</p>	<ul style="list-style-type: none"> <li>• To what extent are the policy briefs and tools increasing COVID-19 related knowledge among the intended audience?</li> <li>• To what extent are the policy briefs and tools improving/supporting local COVID-19 response?</li> <li>• How accurate was the modeling tool in predicting county and regional COVID-19 impacts?</li> </ul>
<p>4. Public Policy and Economic Impacts of COVID-19</p>	<ul style="list-style-type: none"> <li>• What are the impacts of self-isolation and social distancing on employment, unemployment, and labor force participation?</li> <li>• As local governments have faced sharply declining revenues at the end of FY2020, and the impacts on revenue have varied across the primary sources for local governments (e.g., property, sales, and income taxes), do local governments need assistance building revenue forecasting models that can account for large shocks like COVID-19?</li> </ul>

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### Ethical / Methodological Considerations:

Some of the main methodological challenges to many of our research questions are related to the availability of data. Public health agencies across the country make data available at differing levels of detail and across different spatial and temporal scales, currently hindering the ability of researchers to adequately address disparities or to develop tools that are applicable and useful to local agencies. While there are ethical issues surrounding the public release of protected health information, public health agencies could consider expedited IRB review for academic and other partners to assist their efforts to respond to this pandemic. Additionally, many of the current predictive models are focused on large geographic areas (e.g., state level) which are not detailed enough to be useful to public health practitioners and local government. Better methods to improve the stability and accuracy of small area predictions are needed.

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### Other Frameworks, Considerations for Collaboration, and/or Resources:

Our working group has created a website for publishing and disseminating the tools we have created (<http://core19.utk.edu/>). To date, we have released 15 policy briefs and a county and regional-level modeling tool for prediction of COVID-19 cases, hospitalization, and deaths. These were produced as a result of questions received from state and local government and public health. Our team has partnered with the State of Tennessee and other University of Tennessee centers to develop and disseminate a statewide survey (Tennessee Pulse Survey) related to COVID-19 to understand the public health and economic impacts in the state, as well as public opinion about the pandemic. The results of the first two waves of this survey are on the website, with more waves planned throughout the summer. Our experts are also frequently featured in news articles and TV segments discussing items related to COVID-19 in the region.

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