

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.

Working Group Name:

Mitigating Inequality in COVID-19: Incarceration, Segregation, and Poverty

Working Group Description:

This Working Group is aimed at addressing the linked impacts of mass incarceration and racial and socioeconomic residential segregation on the spread of COVID-19 in the United States. This Working Group will build on ongoing research in Chicago focused on relationships between spread of Methicillin-Resistant Staphylococcus Aureus (MRSA) infection in jails and healthcare settings and risk in the community, to understand how the mechanisms underlying differential MRSA risk relate to socioeconomic and racial disparities in COVID-19 incidence and mortality. Our broader aim is to develop a theoretical toolkit for understanding and addressing mechanistic linkages between persistent social and economic disparities and incidence and mortality from COVID-19.

Priority Research Topics and Specific Research Questions:

Priority Research Topics	Potential Research Questions
1. Reducing risk of COVID-19 infection and serious outcomes among incarcerated individuals.	<ul style="list-style-type: none"> • <u>Research Question 1</u>: What is the rate of introduction from the community to jails? • <u>Research Question 2</u>: What factors are associated with spread of COVID-19 within jails and other carceral facilities? • <u>Research Question 3</u>: What interventions effectively slow transmission? • <u>Research Question 4</u>: What are the implications of reducing jail census via early release and reduced arrest rates for incarcerated individuals and for transmission in the community?
2. Characterizing links between community and congregate setting COVID-19 transmission and their social determinants.	<ul style="list-style-type: none"> • <u>Research Question 1</u>: How do the combined impacts of residential segregation, disproportionate employment in 'essential service' occupations, and mass incarceration collectively and individually drive community and jail-level infection risk?

3. Testing strategies for increasing the rate of COVID-19 detection and treatment in hard-hit communities.

- Research Question 1: What approaches to viral testing can be carried out at a large enough scale to be both sensitive enough to detection infection burden even at a low level of prevalence, while being resource efficient (i.e., PPE, reagents for PCR testing).
- Research Question 2: What social and economic protections are necessary for a large-scale testing program to be successful?
- Research Question 3: Is broad-scale surveillance testing ethical without effective social support and healthcare for those who do test positive?

Ethical / Methodological Considerations:

Work involving incarcerated populations is obviously sensitive from ethical, legal, and moral perspectives. Our work in this domain is squarely focused on the well-being of incarcerated individuals and their families and other community contacts. A significant challenge in work on characterizing community-level disparities is incompleteness of data, which are often missing key fields of interest including race and geographic location. We are developing methodologies to account for this missingness in generative statistical models that can be used to make spatiotemporal risk predictions.

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This COVID-19 Working Group effort was supported by the National Science Foundation-funded Social Science Extreme Events Research (SSEER) network and the CONVERGE facility at the Natural Hazards Center at the University of Colorado Boulder (NSF Award #1841338). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF, SSEER, or CONVERGE.