



TEXAS A&M UNIVERSITY

Texas Research Data Center

TXRDC Data in Action! Seminar Series Presents:

(<https://liberalarts.tamu.edu/txrdc/>)

Community Resilience Estimates & Examples of Federal Statistical Research Data Center Projects

by

Dr. Craig Carpenter, Michigan State University

Date: May 6, 2024 (Monday)

Time: 12:00 – 1:00pm

Location: Teague Building 326

(<https://aggiemap.tamu.edu/?bldg=0445>)

*****Lunch provided*****

Zoom link upon request

RSVP link: [Google Form](#)

Please indicate if you also want to have a **one-on-one in-person meeting** with Dr. Carpenter.

Parking

Central Campus Parking Garage (CCG)

(<https://aggiemap.tamu.edu/?bldg=0469>)

Parking validation available.

Abstract

We describe the results of the first validation study of the U.S. Census Bureau's new Community Resilience Estimates (CRE), which uses Census microdata to develop a tract-level vulnerability index for the United States. Using administrative microdata to link Social Security Administration mortality records to CRE, we show that CRE quartiles provide more stable predictions of COVID-19 excess deaths than single demographic categorizations like race or age, as well as other vulnerability measures including the U.S. Center for Disease Control's Social Vulnerability Index (SVI) and the Federal Emergency Management Agency's National Risk Index (NRI). We also use machine learning techniques to show that CRE provides more predictive power of COVID-19 excess deaths than standard socioeconomic predictors of vulnerability like poverty and unemployment, as well as SVI and NRI. We find that a 10 percentage point increase in a key CRE risk measure is associated with one additional death per neighborhood during the initial outbreak of COVID-19 in the United States. We conclude that, compared to alternative measures, CRE provides a more accurate predictor of community vulnerability to a disaster such as a pandemic. I will provide a broad overview of other Federal Statistical Research Data Center projects to highlight the variety of powerful data available to researchers.

