Aim: Create new data linkages to analyze how geographic and racial/ethnic disparities in the pandemic's impact have varied over time, and to investigate proximate causes of the racial disparities in the pandemic's impact.

Proposed activities:

In our prior work, we developed an empirical framework for studying the impact of the pandemic, and applied it to analyzing the geographic variation in the pandemic's impact on all-cause mortality and employment in April 2020 (Polyakova et al. 2020) and on racial disparities in all-cause mortality in April 2020 (Polyakova et al., 2021).

Here, we propose building on an extending this prior work in three important respects.

First, we will extend the analysis in Polyakova et al. 2020 over time, at least through June 2021 (and potentially longer, depending on how the pandemic evolves). This will allow us to examine how the geographic impacts of the pandemic varied over time and to ask such questions as: did the places that were hardest hit at the beginning of the pandemic experience the greatest cumulative impact of the pandemic? Or is the cumulative impact of the pandemic more similar across places than the initial impact?

Second, we will also extend the analysis of Polyakova et al. 2021 on the racial disparities in the pandemic's impact over time, through at least June 2021. This will allow us to estimate cumulative racial disparities as well as how they have changed over the course of the pandemic.

Third, we will investigate the proximate drivers of cumulative, age-adjusted racial disparities in the pandemic's impact. In particular, we will begin by examining the relative contribution of factors that may affect exposure to the pandemic (such as occupation, location, transportation and household composition and housing characteristics) and factors that may affect mortality conditional on exposure (such as education, income, insurance, and co-morbidities).

Data:

This proposal will draw on several different data sources, some of which are publicly available and some of which are restricted access.

To analyze the temporal variation in the geographic impacts of the pandemic, we will use public use CDC data on all-cause death counts and the public use data on employment from the Current Population Survey. We will then replicate these analyses – and extend them to analyzing temporal variation in racial disparities of the pandemic's impact - using restricted-access data from the Census Bureau's version of the Social Security Administration's Numerical Identification (Numident) database. We used all of these data sources in our prior work.

Finally, to investigate the proximate sources of the racial-disparities, we will draw on a new data source: the restricted access version of the American Community Survey (ACS) linked to subsequent mortality records from the Numident. The ACS contain detailed information on individual characteristics including place of residence, health insurance status, disability indicators, occupation, industry, education and means of transportation to and from work. We will supplement this by merging in area-level data on comorbidities.

References:

Polyakova, Maria, Victoria Udalova, Geoffrey Kocks, and Amy Finkelstein. 2020. "Initial economic damage from the COVID-19 pandemic in the United States is more widespread across ages and geographies than initial mortality impacts." *Proceedings of the National Academy of Sciences*, November 10, 117 (45): 27934-27939.

Polyakova, Maria, Victoria Udalova, Geoffrey Kocks, Katie Genadek, Keith Finlay and Amy Finkelstein. 2021. "Racial Disparities in Excess All-Cause Mortality During the Early Covid-19 Pandemic Varied Substantially Across States." *Health Affairs*, 40(2)