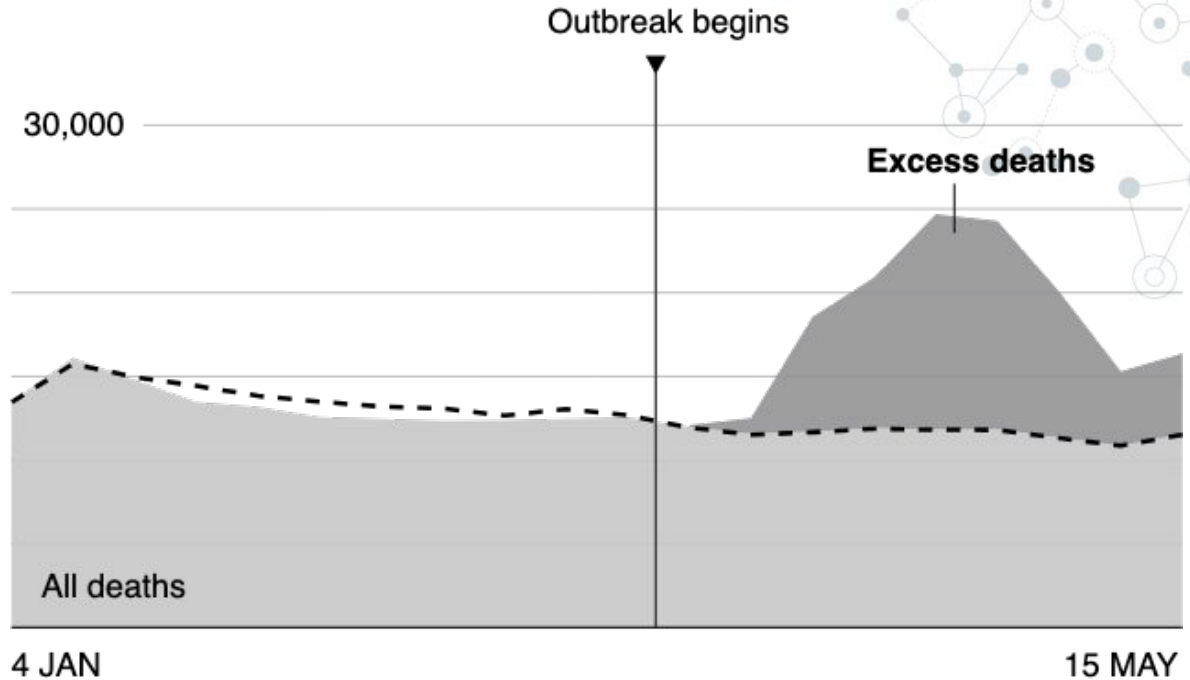


A decorative network diagram consisting of interconnected nodes and lines, with some nodes highlighted in blue and others in grey, positioned in the top-left and bottom-right corners of the slide.

Relationship Between Excess Deaths and Other Variables During the Early Stages of the COVID-19 Pandemic

Excess Deaths

deaths occurring
beyond the
expected number
of deaths for an
area during the
same time frame



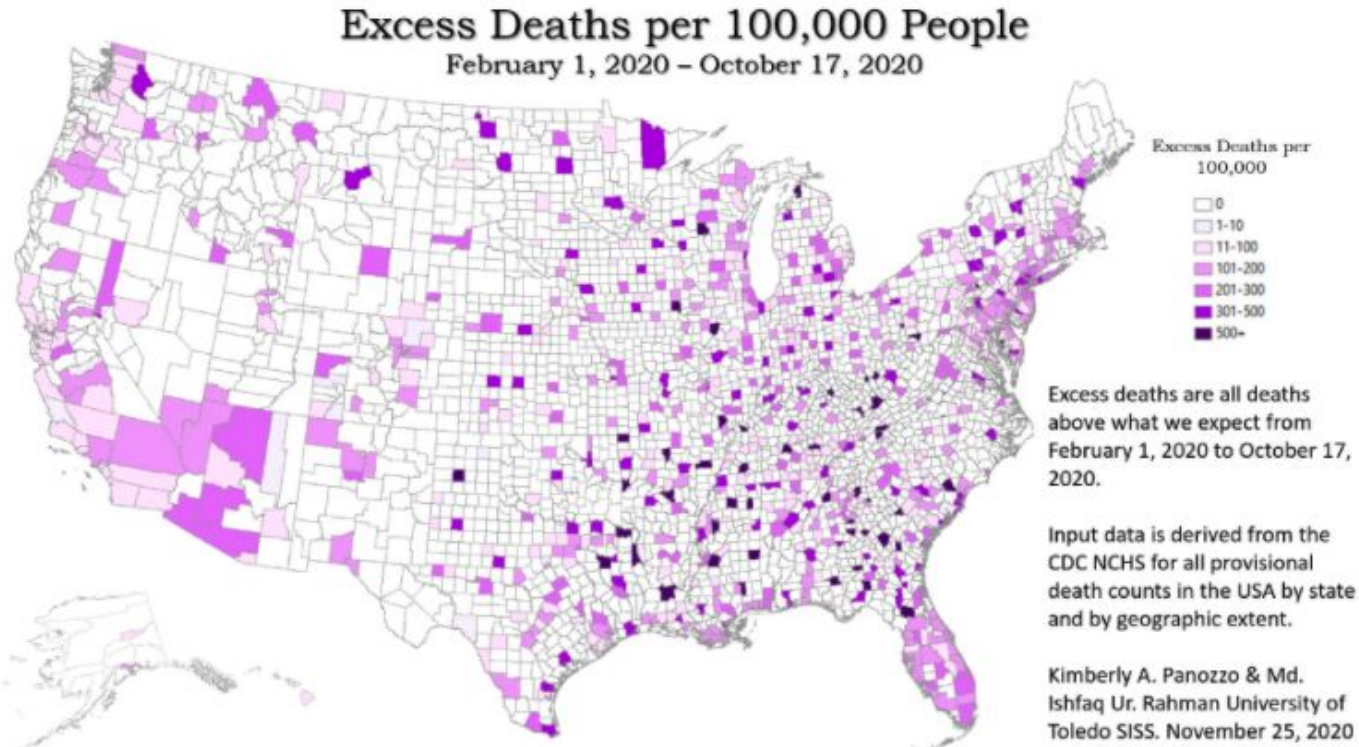
<https://www.bbc.com/news/world-53073046>

actual deaths — predicted deaths = excess deaths

Excess Deaths Due to COVID-19 Pandemic

- Includes deaths directly associated with COVID-19 and deaths due to other causes
- Pro:
 - likely to better represent impact of pandemic, considering underreporting of COVID-19 in early pandemic stages

Panozzo and Rahman (2020)



Proposal

To understand which variables describing community characteristics (infrastructure, health care system, built environment) elucidate COVID-19 excess deaths

Through multilevel modeling

- Counties, metropolitan statistical areas (MSA)
- Counties, states

Multilevel Models

Metropolitan Statistical Area
(MSA)

Counties

State

Counties

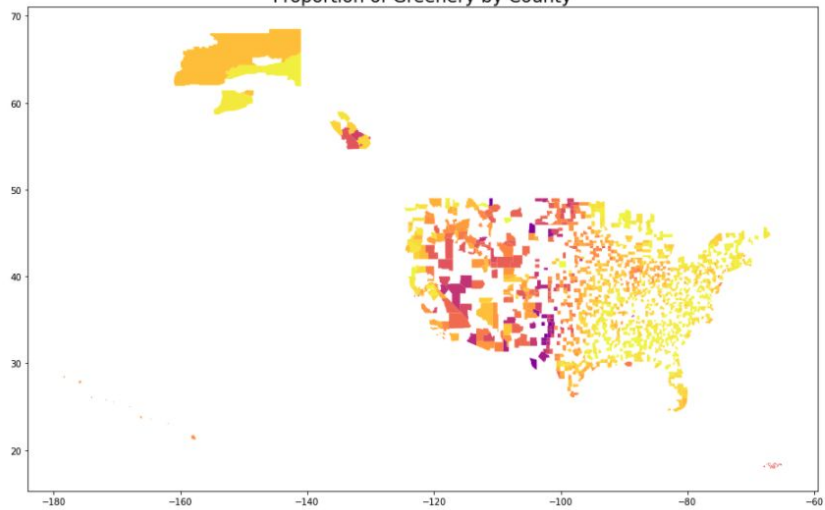
Variables of Interest

- Health System
 - Uninsured adults, # of primary care physicians
- Built Environment
 - Proportion of greenery, crosswalks, single lane roads
- Infrastructure
 - Broadband access, home ownership

Data Sources

- 2021 County Health Rankings
 - 2015-2019 American Community Survey
 - 2018 Small Area Health Insurance Estimates
 - 2018 Area Health Resource Files
- Google Street View dataset constructed by Nguyen et al. (2021)
- COVID-19 Excess Deaths data constructed by Panozzo and Rahman (2020)

Proportion of Greenery by County



Proportion of Single Lane Roads by County

