Understanding Geographic Disparities in Mortality

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Motivation

- Growing evidence that \textit{early life shocks} affect outcomes later in life, including \textit{health} and \textit{migration} outcomes
- Life expectancies are constructed by grouping deceased individuals by their \textit{place of residence later in life} (\textit{e.g., place of death})
- Potential \textit{misrepresentation} in spatial mortality inequalities by ignoring critical role of early-life exposures

Data

- \textit{Mortality Disparities in American Communities}: 2008 American Community Survey (ACS) linked to official death records
- \textit{Big, nationally representative sample}: > 4.5 million people
- Matches \textasciitilde 308,000 individuals to a mortality file from 2008-2015
- Key information from ACS: \textit{State of birth, State of residence}

Methods

- Partition 2008 ACS sample with age 50+ in two ways: By state of residence in 2008 (\textit{SoR}); By state of birth (\textit{SoB})
- Compute \textit{life expectancies at age 50} using standard demographic methods (Gompertz), by gender and \textit{SoB / SoR}

Comparison between measures

\textbf{Male life expectancy at age 50, by SoB and SoR}

Research Summary

\textbf{Research Question:}

- How does the \textit{pattern in geographic disparities in mortality} change using life expectancies by \textit{state of birth}?

\textbf{Approach:}

- Construct \textit{life expectancies by state of birth} and compare them with commonly used life expectancies by state of residence

\textbf{Main Results:}

- \textit{Regional inequality} in mortality outcomes is \textit{higher} if we aggregate individuals by their state of birth

Some quantitative results

- Difference in two measures is >1 year for NH, VA, DC & WY
- Relationship between the two life expectancies measures is \textit{weaker for men} than for women
  - Men: $R^2 = 0.65$, mean absolute deviation = 0.51 years
  - Women: $R^2 = 0.82$, mean absolute deviation = 0.34 years
- Result \textit{not mechanically driven by different migration propensities} across genders

Rank reversals

\textbf{Difference in ranks of male life expectancy: SoR - SoB}

Final remarks

- \textit{Regional inequality} in mortality outcomes is \textit{exacerbated} if we measure life expectancies by state of birth
- Suggestive results that \textit{migration mitigates} the baseline \textit{regional inequality} in mortality outcomes (Ezzati et al., 2008)
- Results are slightly more nuanced for women

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