

Changes in Poverty and Health Inequality

Janet Currie



Main Takeaways:

- While income inequality has increased for many groups and in many places, health inequality has actually decreased in important dimensions.
- Inequalities in health and inequalities in income do not move in lock step but are influenced by technology and public policy.

This Talk:

- Focuses on U.S. and in comparison to other countries.
- Focuses on mortality as a measure of health.
- Measures mortality inequality via a place-based measure following past work by Currie and Schwandt.
 - Allows inclusion of all deaths at all ages (not the case with education or household income).
 - Enables comparison across countries.

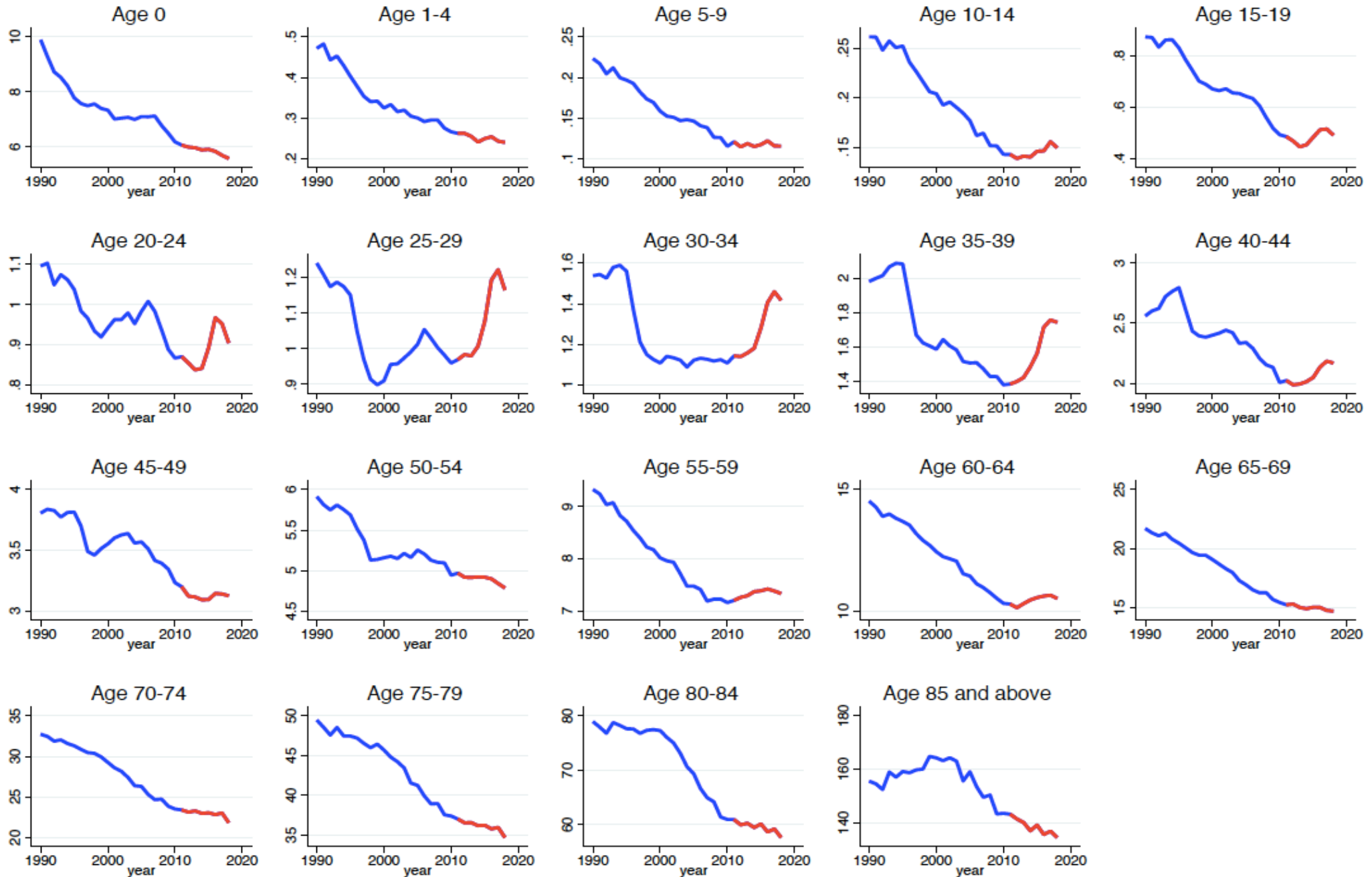
Brief recap Currie and Schwandt (2016a,b)

Rank U.S. counties by poverty quantile.

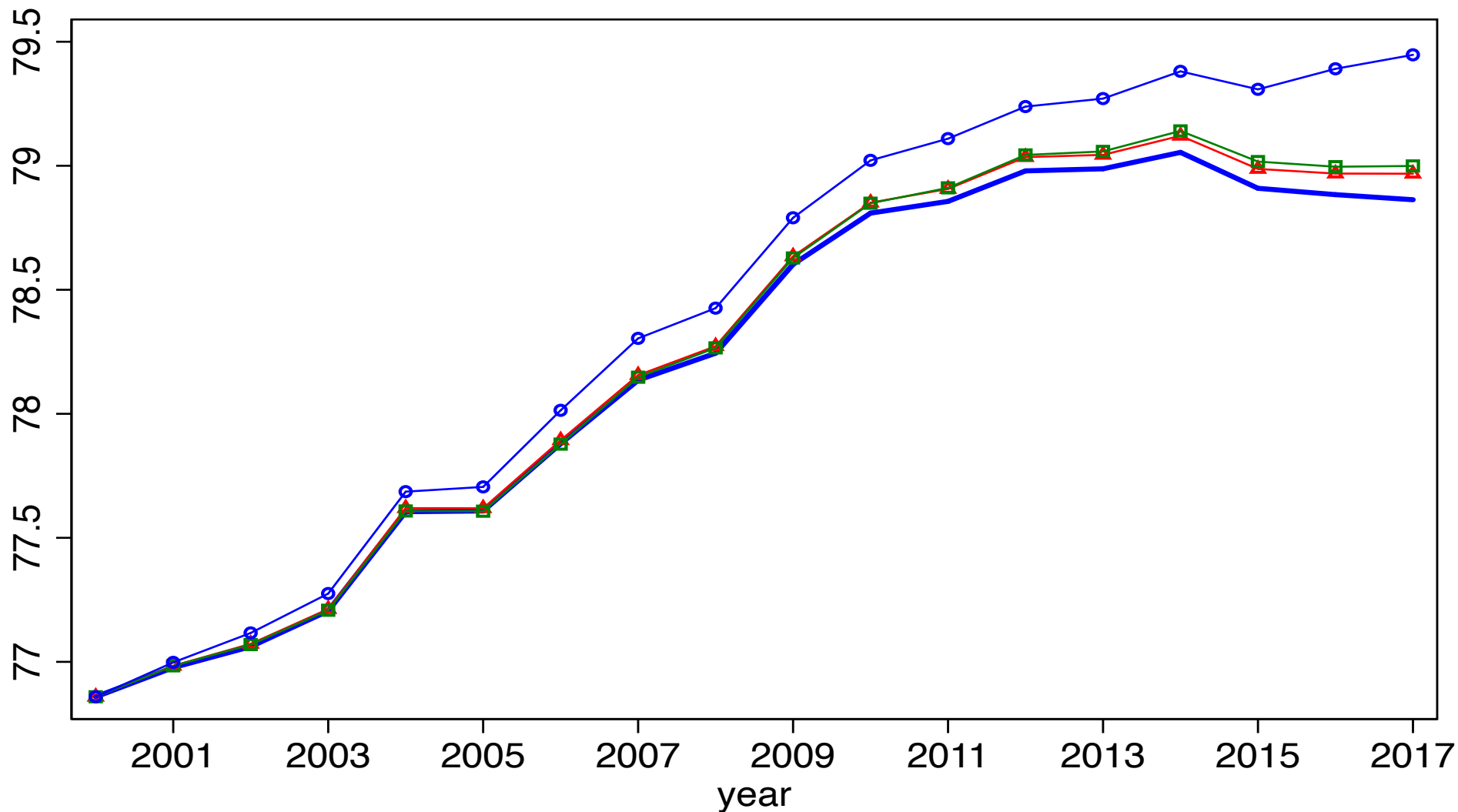
Group counties into groups representing ~5% of the population separately for each year.

In each Census year, compare mortality in different groups, e.g. those representing the top and bottom 5% of the population. Hence, we are always comparing groups with population denominators of similar size.

U.S. Mortality by Age



Actual and Counter-factual Trends in U.S. Life Expectancy

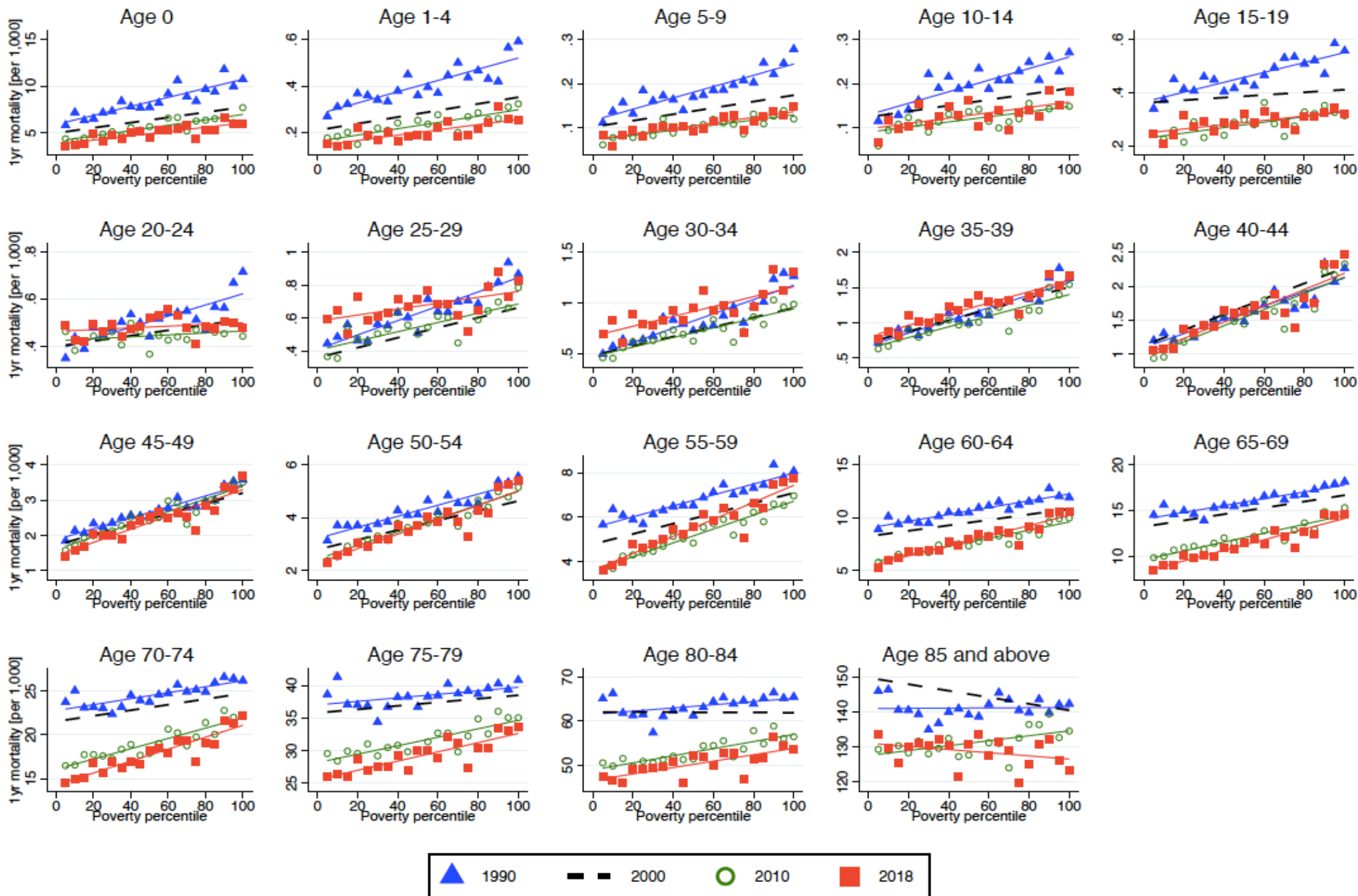


— actual life expectancy ▲ suicide rate constant at 2000 level
—■— suicide + liver constant ● suicide + liver + drug poisoning constant

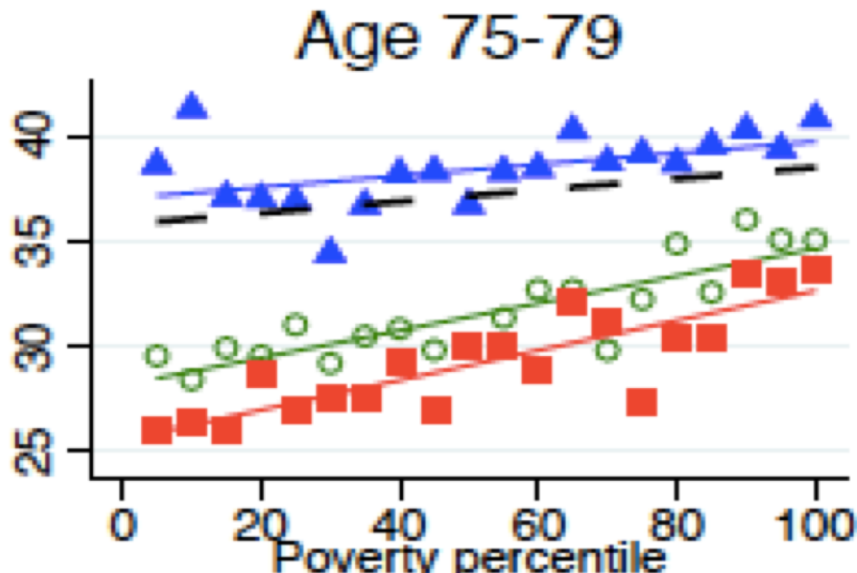
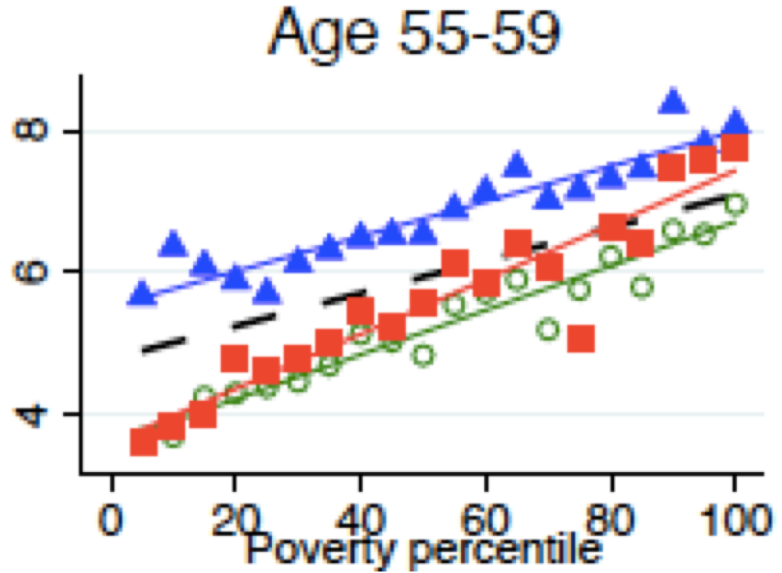
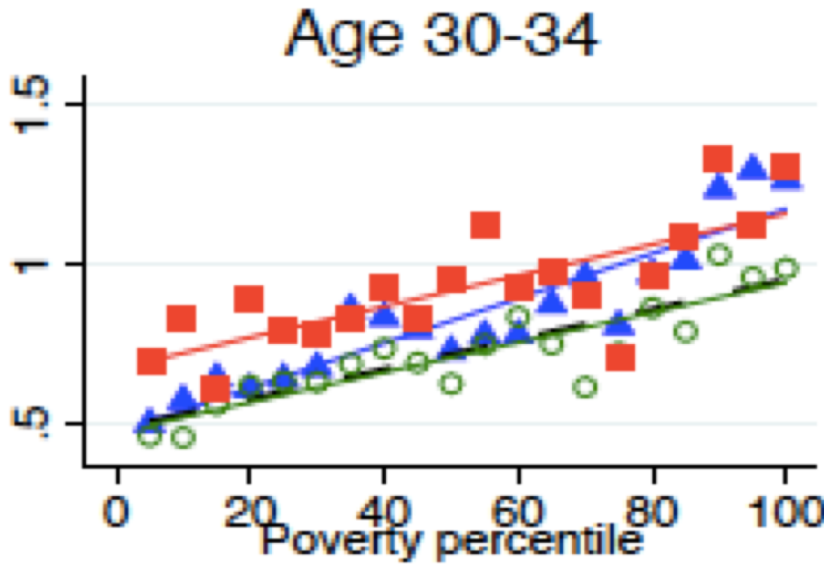
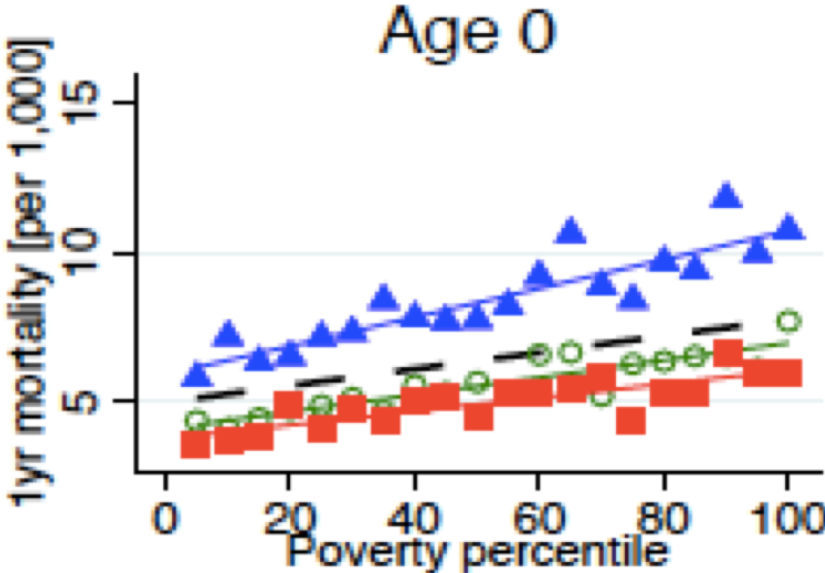
Features of the U.S. Policy Environment that Contribute to the Opioid Epidemic:

- Little public oversight of medical prescribing. **Any doctor, dentist, or veterinarian can prescribe opioids**, and the maximum allowable dose is much higher than in most other countries.
- 4/5 heroin users began taking prescription opioids
- U.S. is one of the few countries to allow direct-to-consumer drug advertising.
- Continued lax oversight of physician “detailing.”

Female Mortality by Poverty Percentile



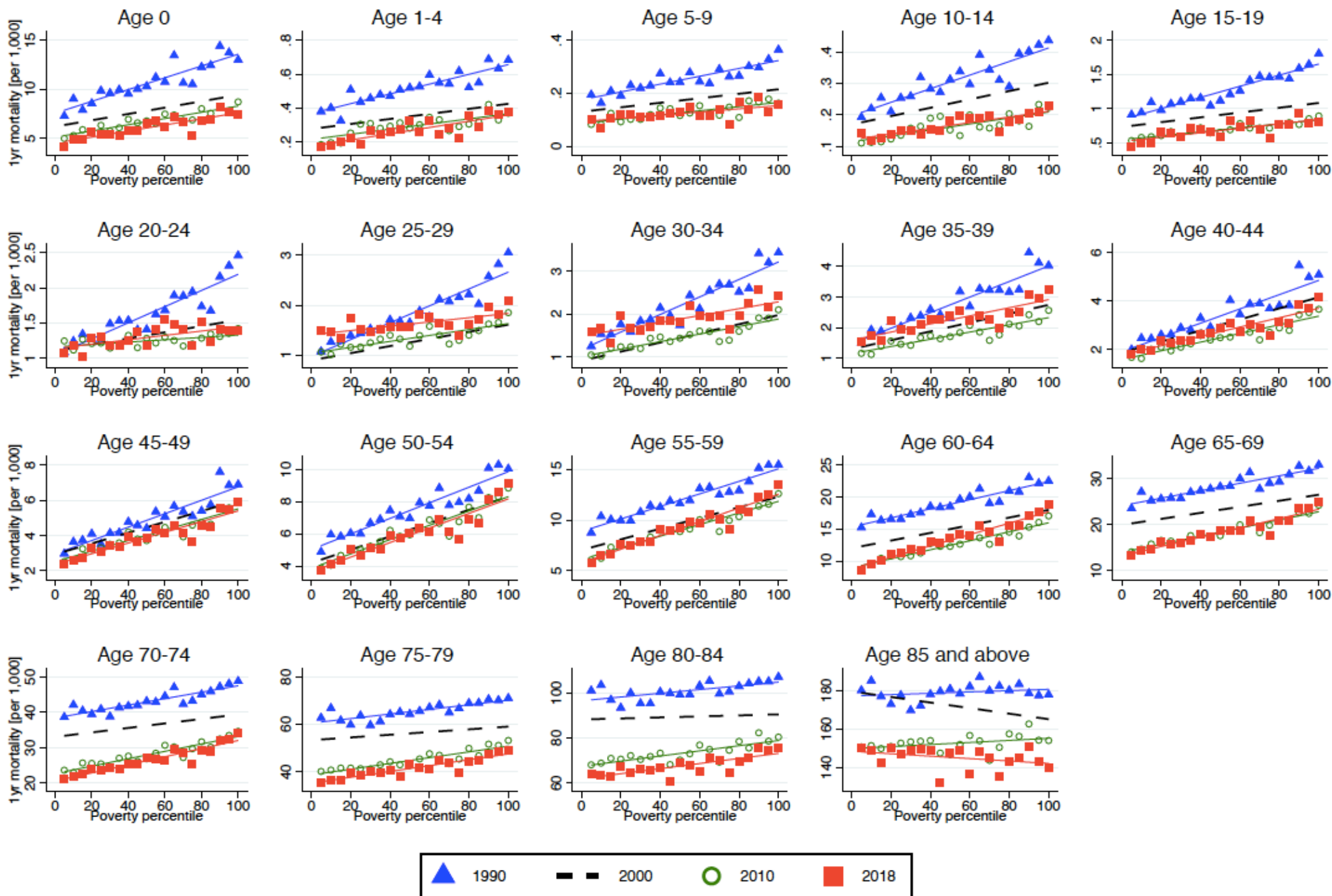
Female Mortality by Poverty Percentile: Detail



Summary of Broad Trends for Women:

- For children, large reductions in mortality which were greater in the poorest areas, reducing inequality.
- Mortality inequality declined for 20-34 because mortality rose more in rich areas after 2010!
- Little change for women 35-49.
- Mortality fell more in richer areas for 50+, increasing mortality inequality.

Male Mortality by Poverty Percentile



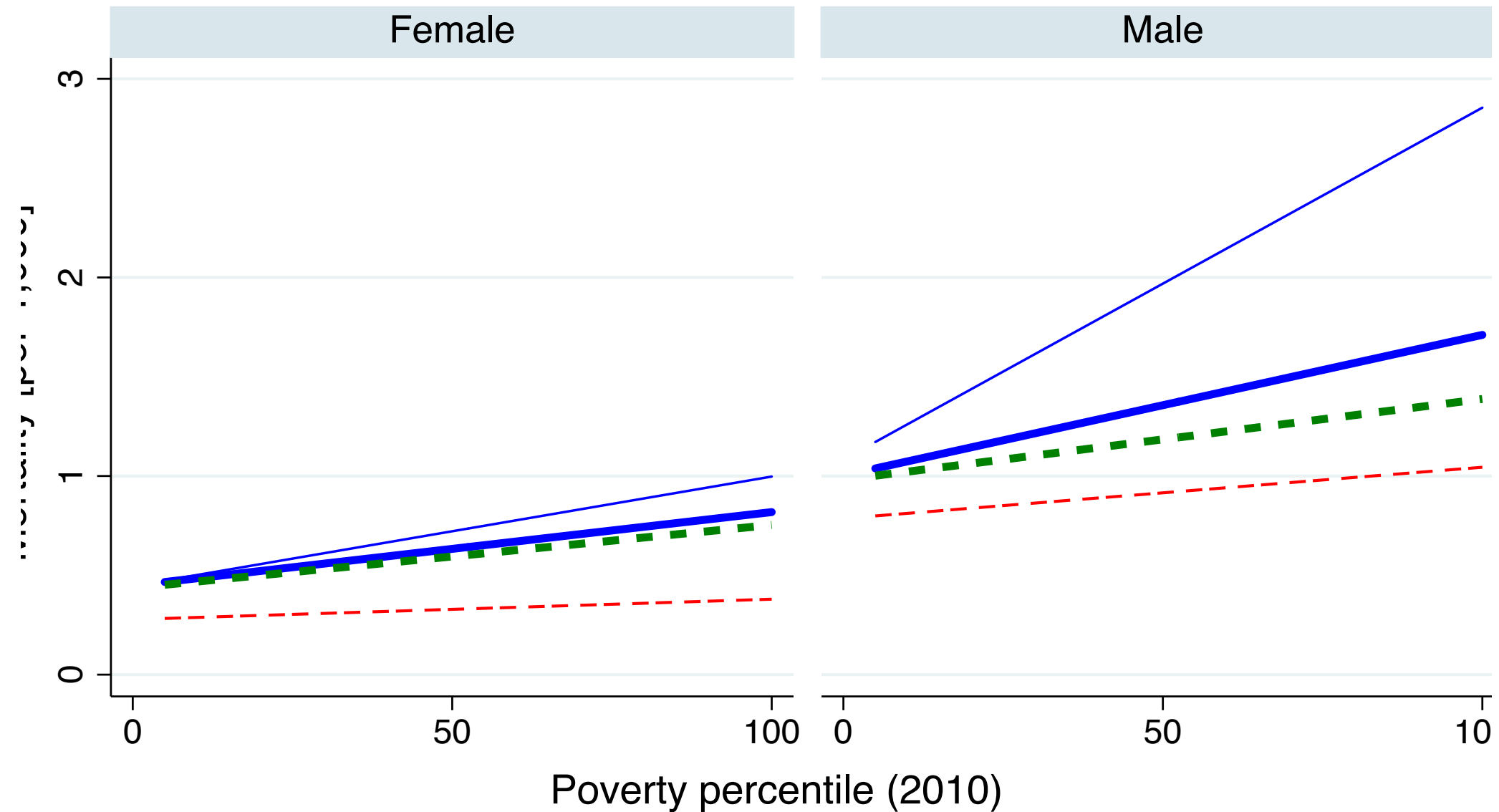
Differences in Trends for Men:

- Large reductions in mortality in the poorest areas reduced inequality in mortality for ages 0-39 between 1990 and 2010.
- Increases in mortality for ages 25-39 between 2010-2018 were greatest rich areas, reducing inequality.
- For 40+ fairly uniform improvements between 1990-2010, then stalling with little improvement 2010-2018.

What Drove These Trends?

- Expanding U.S. public health insurance for children beginning in the 1990s
- Generous U.S. coverage of the elderly (65+) under Medicare
- Lax oversight of opioid prescribing
- Slowing of improvements in medical care for heart disease
- Reductions in crime and injuries

US mortality with French homicide rate (age 25-34)



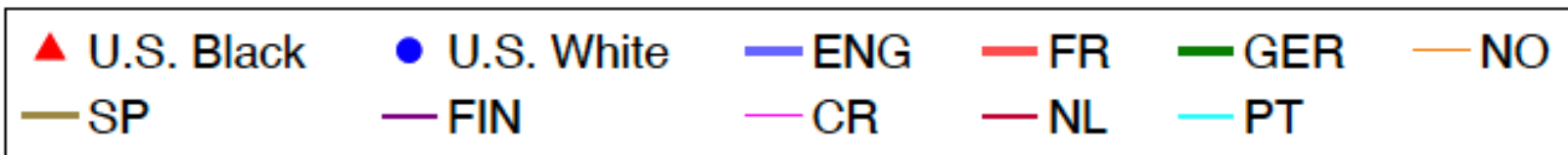
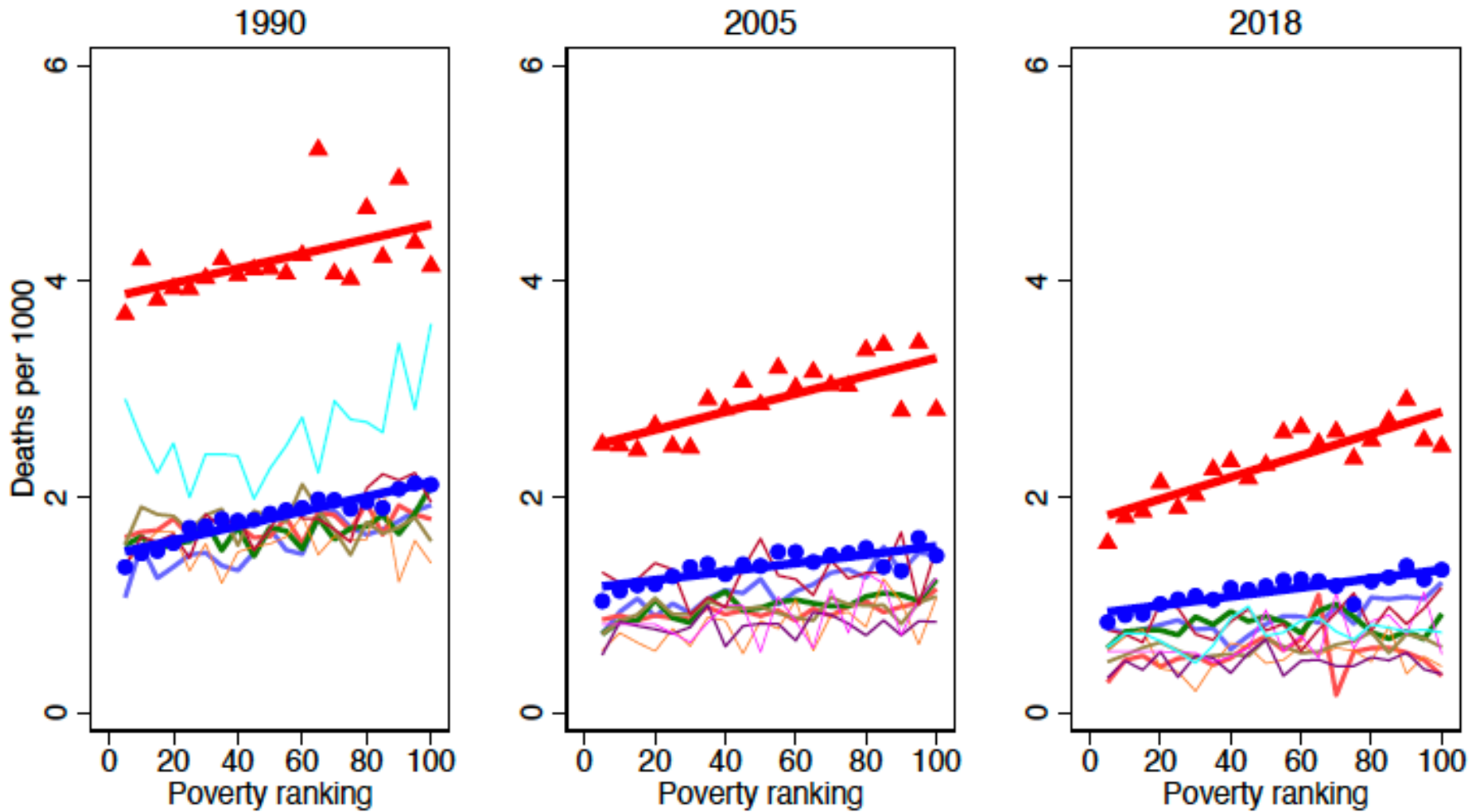
Inequality in mortality between Black and White Americans by age, place, and cause and in comparison to Europe, 1990 to 2018

Hannes Schwandt^a, Janet Currie^{b,1}, Marlies Bär^c, James Banks^{d,e}, Paola Bertoli^f, Aline Bütikofer^g, Sarah Cattan^d, Beatrice Zong-Ying Chao^a, Claudia Costa^h, Libertad Gonzálezⁱ, Veronica Grembi^j, Kristiina Huttunen^k, René Karadacic^g, Lucy Kraftman^d, Sonya Krutikova^d, Stefano Lombardi^l, Peter Redler^m, Carlos Riumallo-Herlⁿ, Ana Rodríguez-González^o, Kjell G. Salvanes^g, Paula Santana^h, Josselin Thuilliez^p, Eddy van Doorslaerⁿ, Tom Van Ourtiⁿ, Joachim K. Winter^m, Bram Wouterse^c, and Amelie Wuppermann^q

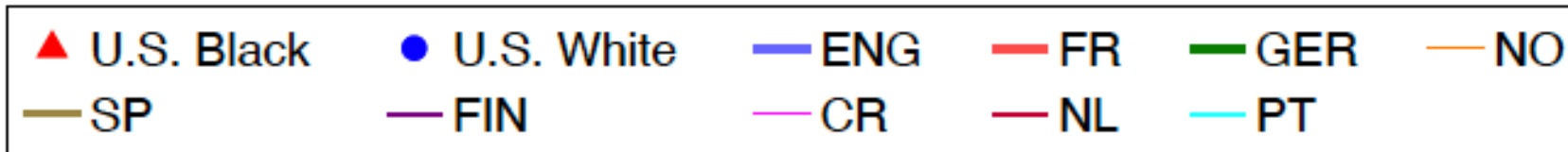
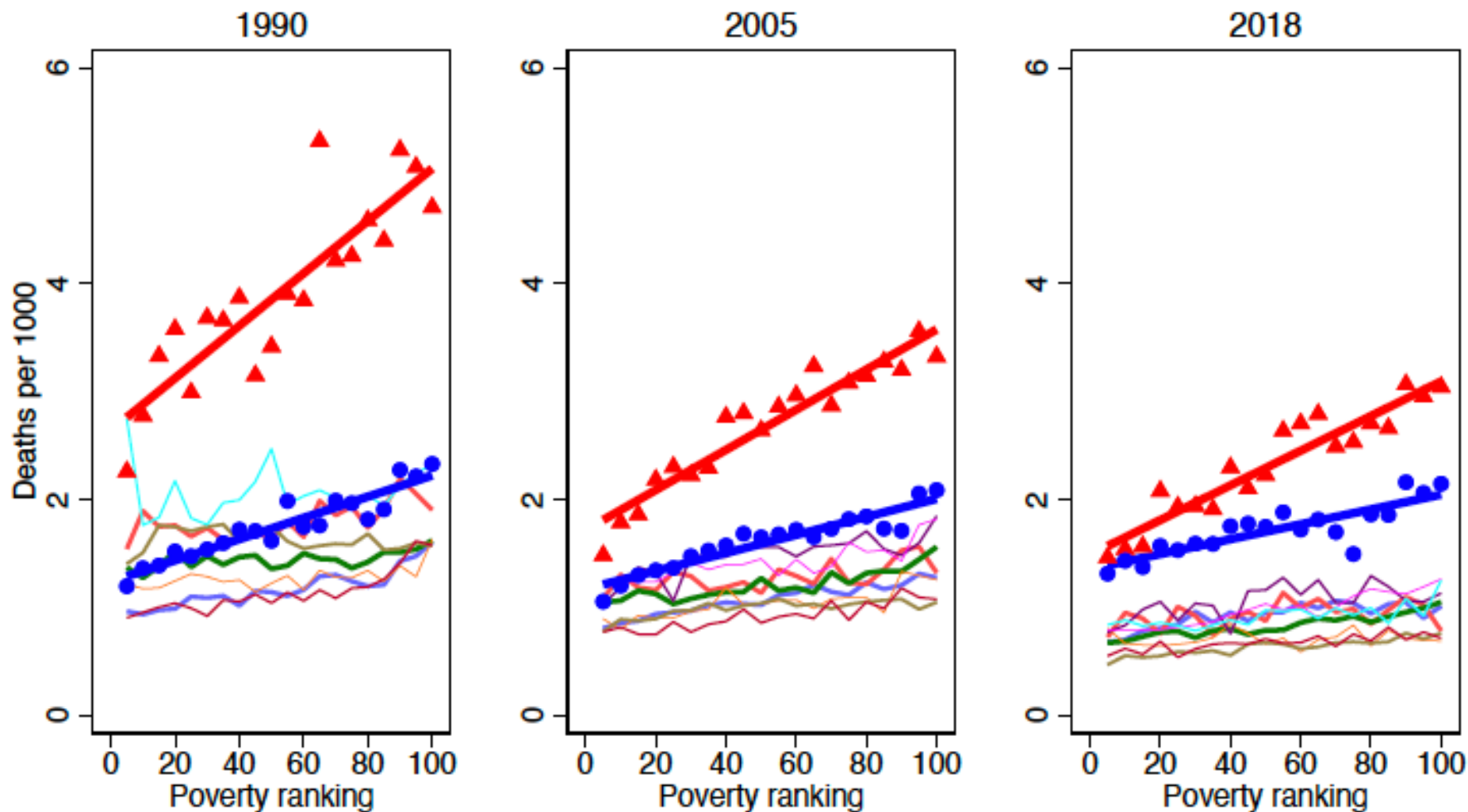


1. The Evolution of Mortality Inequality in 11 OECD Countries: Introduction
2. Inequality in Mortality: Updated Estimates for the United States, Canada and France
3. Mortality Inequality in **England** over the Past 20 Years
4. Diverging Mortality Inequality Trends among Young and Old in the **Netherlands**
5. Inequality in Mortality in **Spain**
6. Gender and Age Differences in Socio-economic Inequalities in Total and Avoidable Mortality in **Portugal**: A Trend Analysis
7. Geographic Inequality in Income and Mortality in **Germany**
8. Mortality Inequality in the **Czech Republic**
9. Income Inequality and Mortality: A **Norwegian** Perspective
10. Mortality Inequality in **Finland**

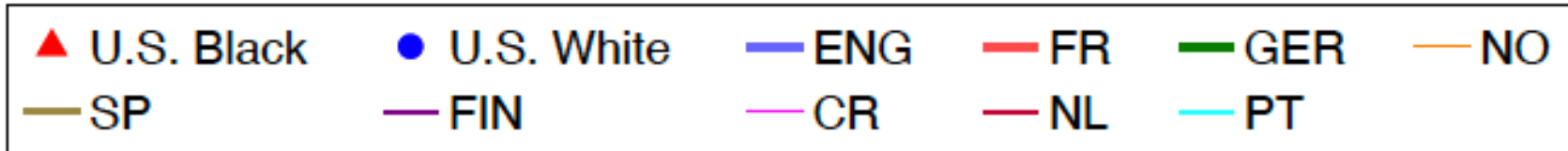
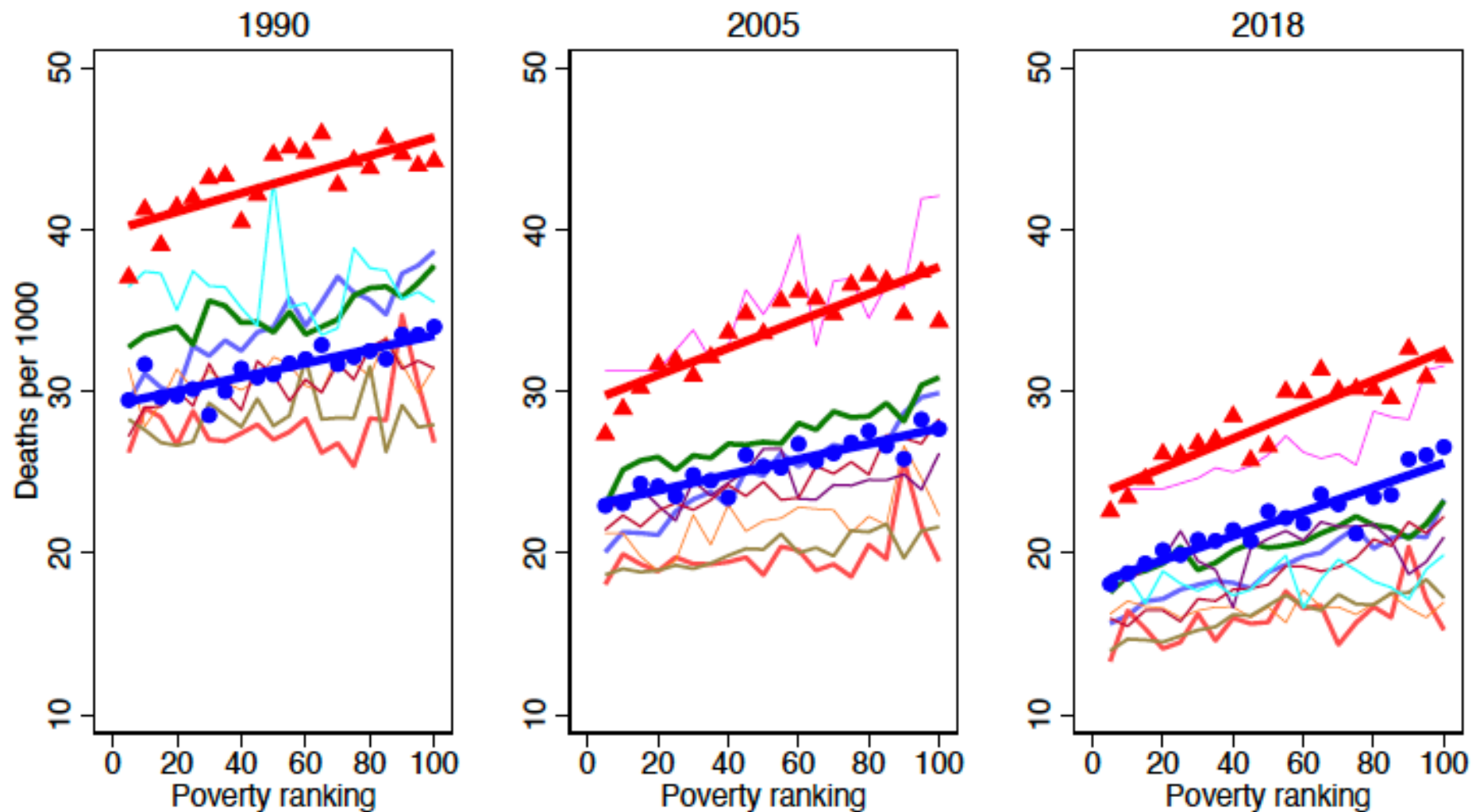
Mortality by Poverty Percentile, US White, US Black, and Nine European Countries, 0-4



Mortality by Poverty Percentile, US White, US Black, and Nine European Countries, 20-49



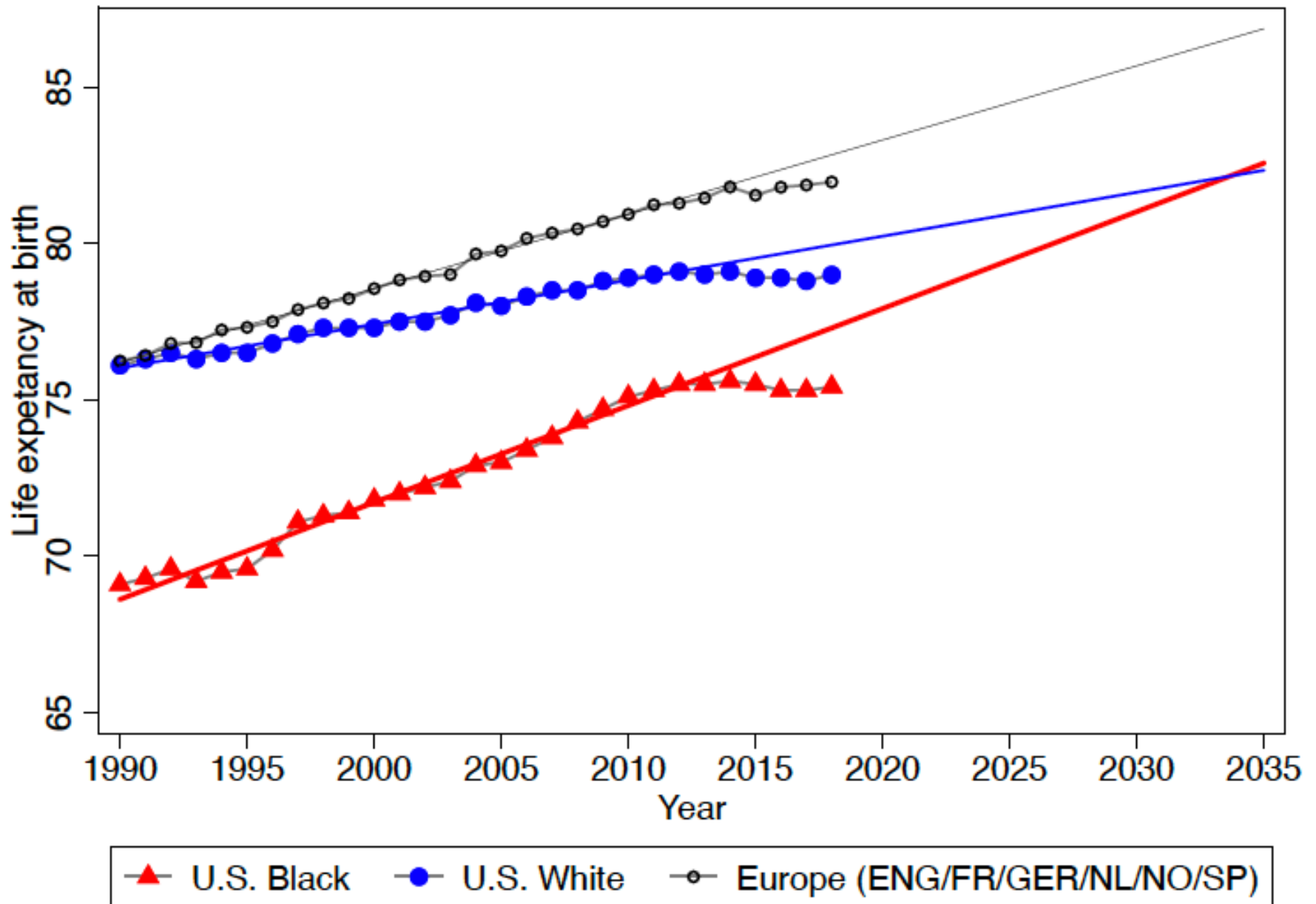
Mortality by Poverty Percentile, US White, US Black, and Nine European Countries, 65-79



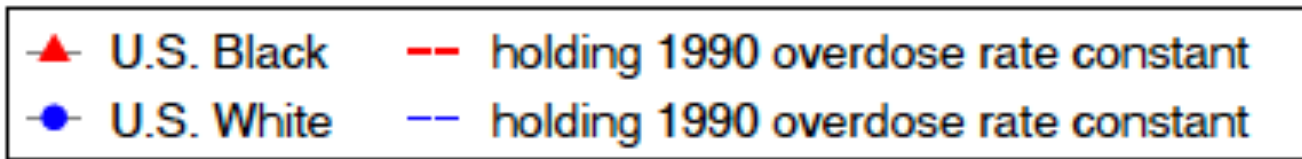
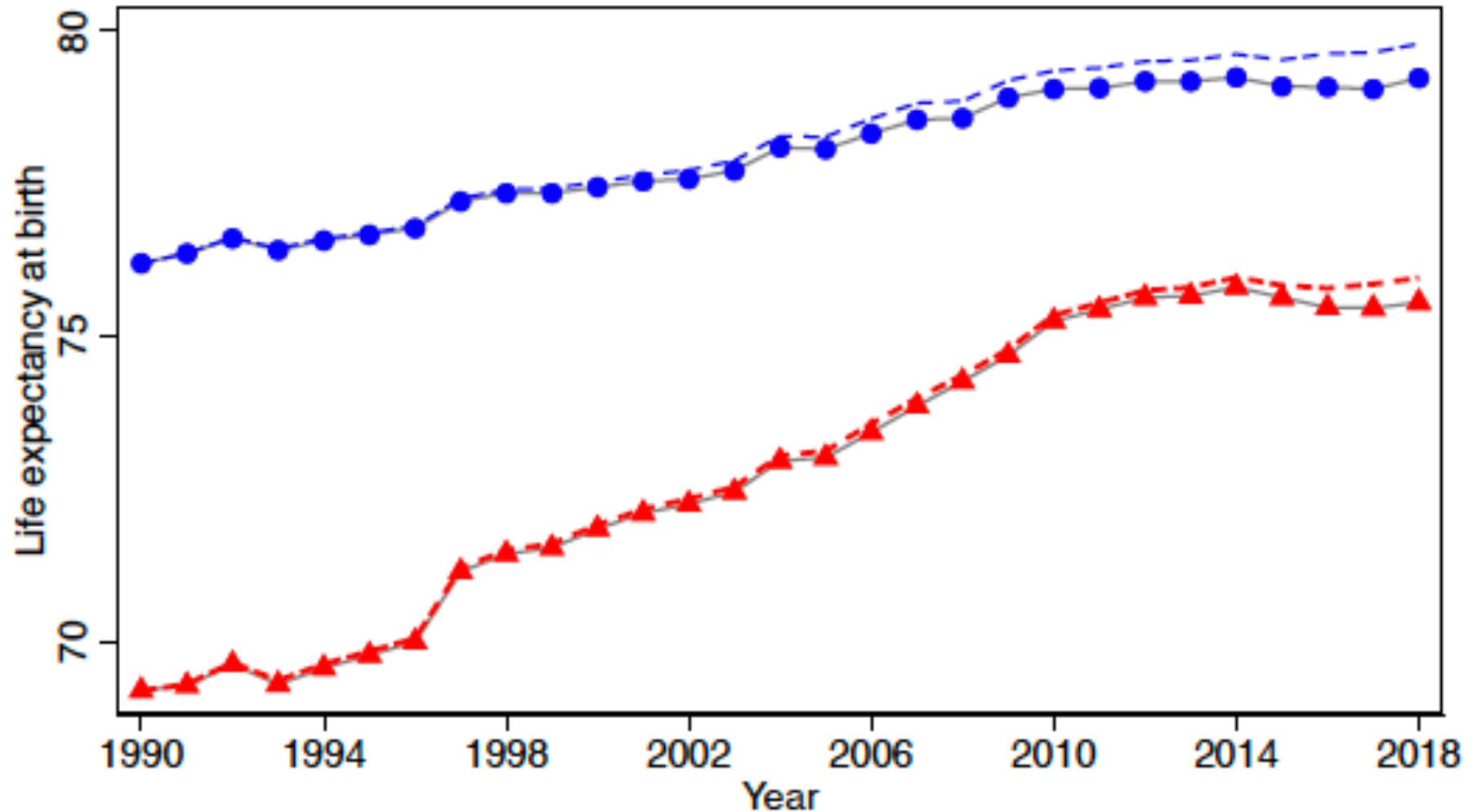
Summary of U.S. vs. Europe Comparisons:

- Huge improvements for U.S. Black people relative to white people.
- U.S. whites in both rich and poor areas fell behind Europeans, as European mortality rates continued to fall.
- Some case studies show rapid change is possible. E.g. Portugal went from high mortality for infants and elderly to the European norm. Czech republic showed substantive improvement between 2005 and 2018. Germany went from high elderly mortality to low.

Convergence of U.S. Black, U.S. White, and European Life Expectancy, 1990-2018

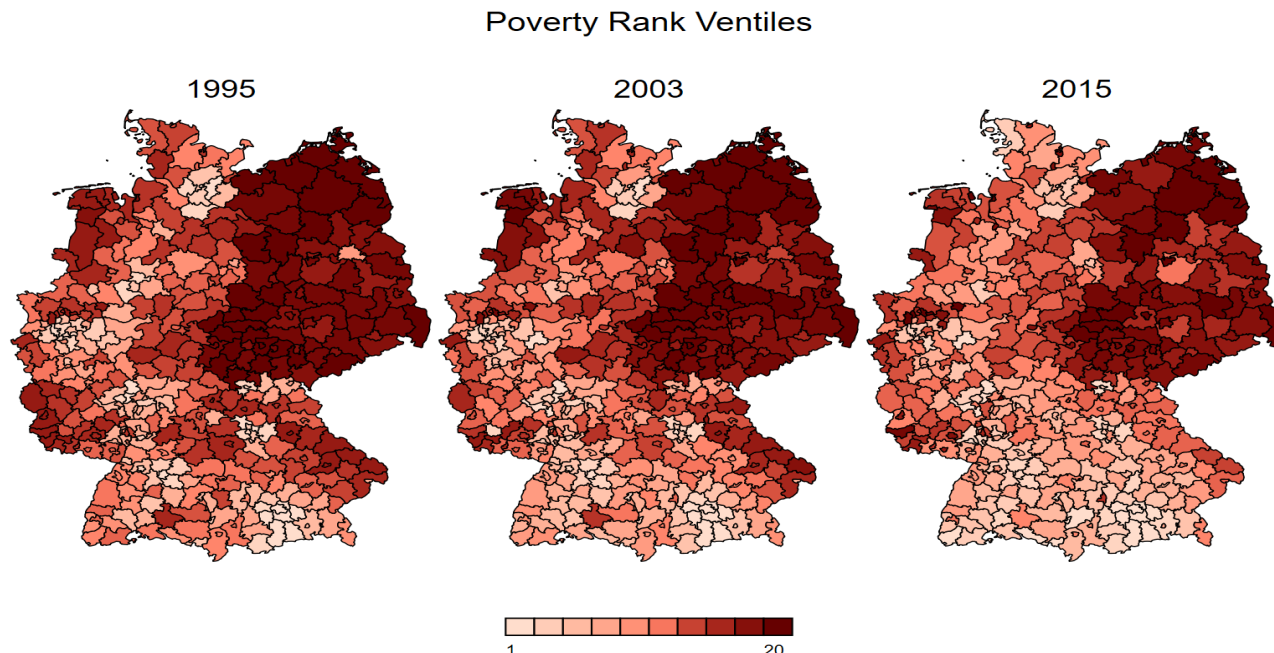


Convergence of U.S. Black and White Life Expectancy, 1990-2018, Holding Overdoses Constant

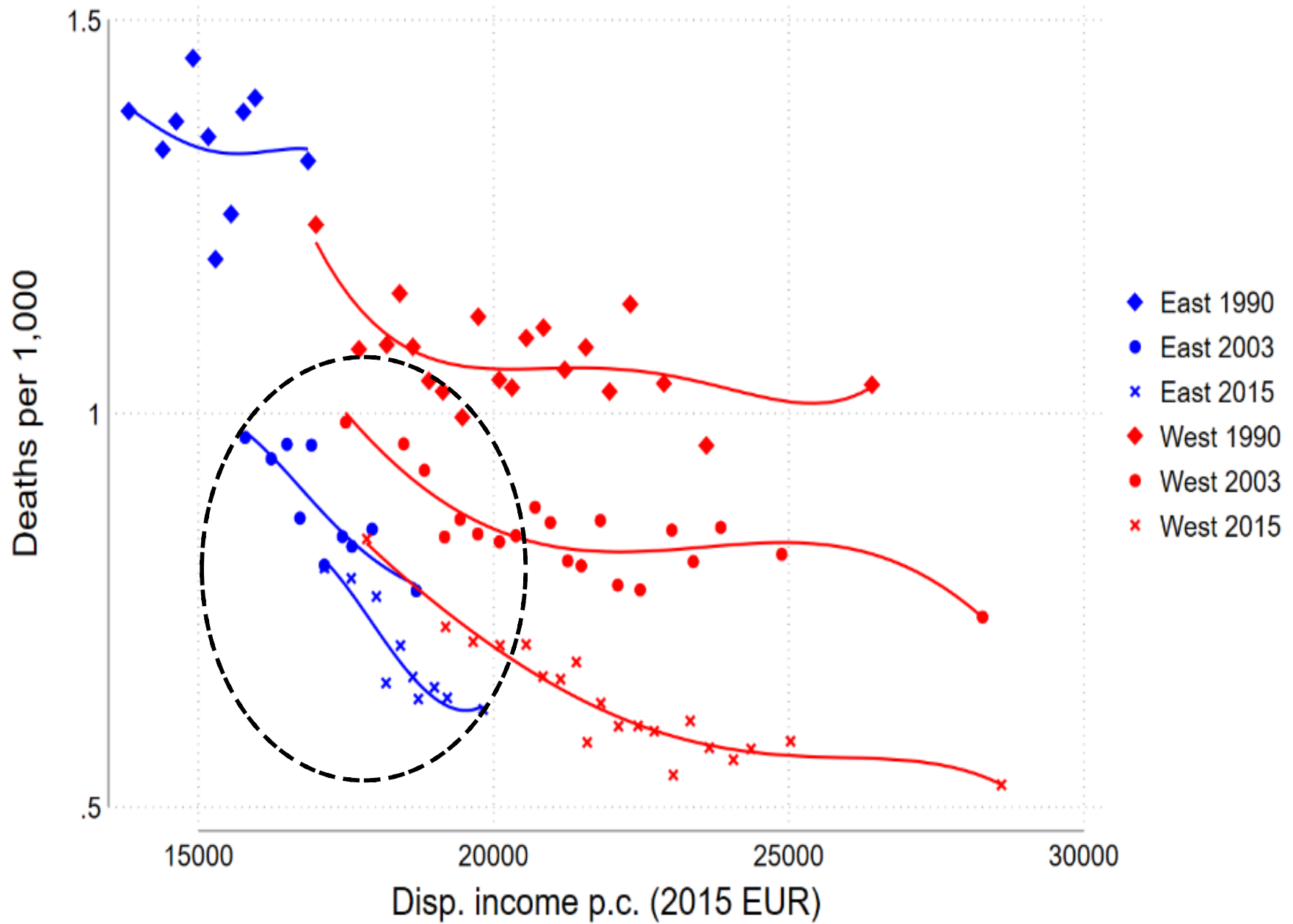


German Reunification as a Case Study

- In contrast to the slow progress in terms of closing the income gap, the East has largely caught up in terms of mortality. Life expectancy is similar in East and West despite lower per capita GDP in the East.
- In 2015, mortality rates for males 0-4 and women 20-79 were below those of comparably poor districts in the West.

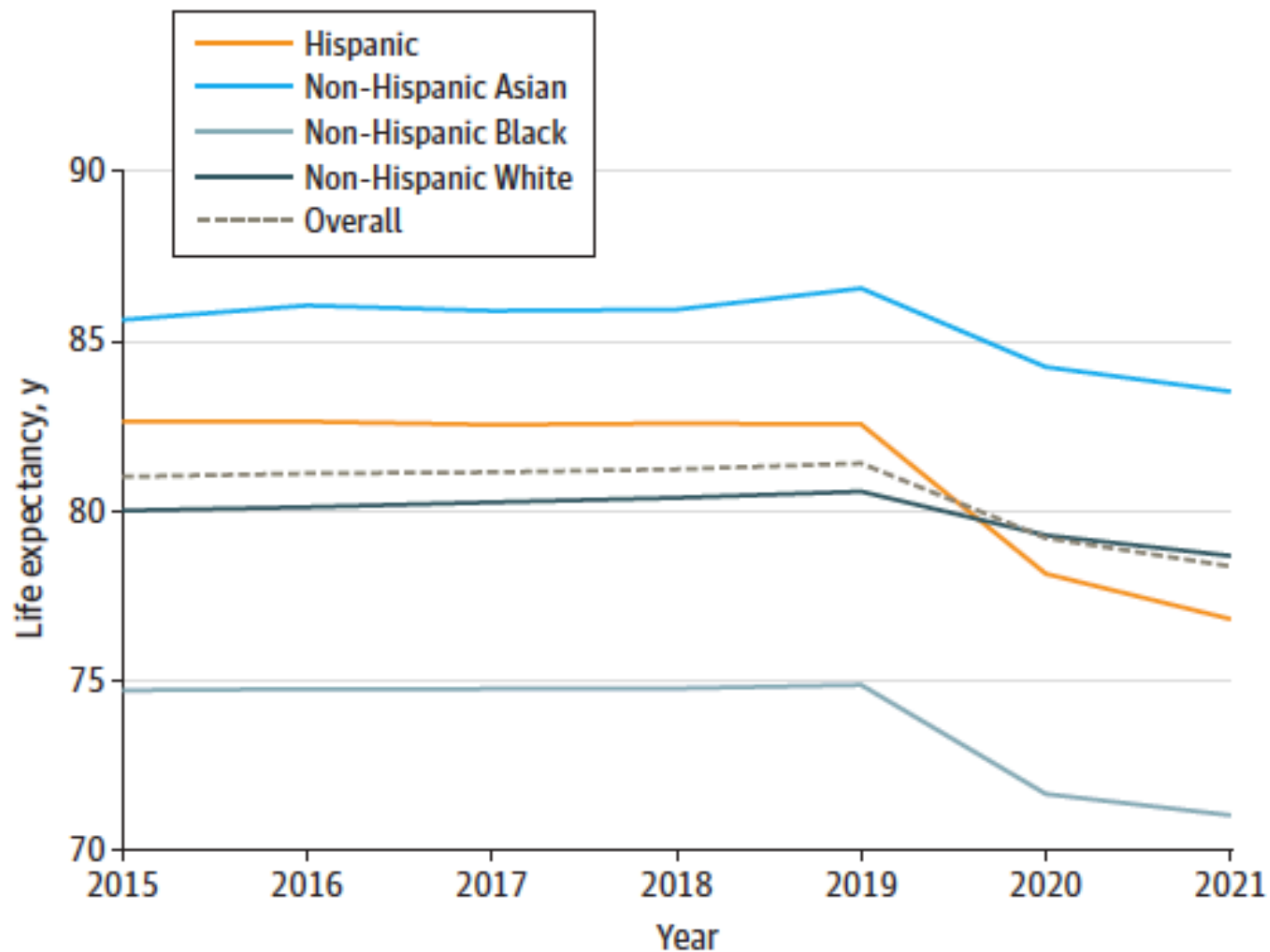


Yearly mortality, Females, Age 20-49

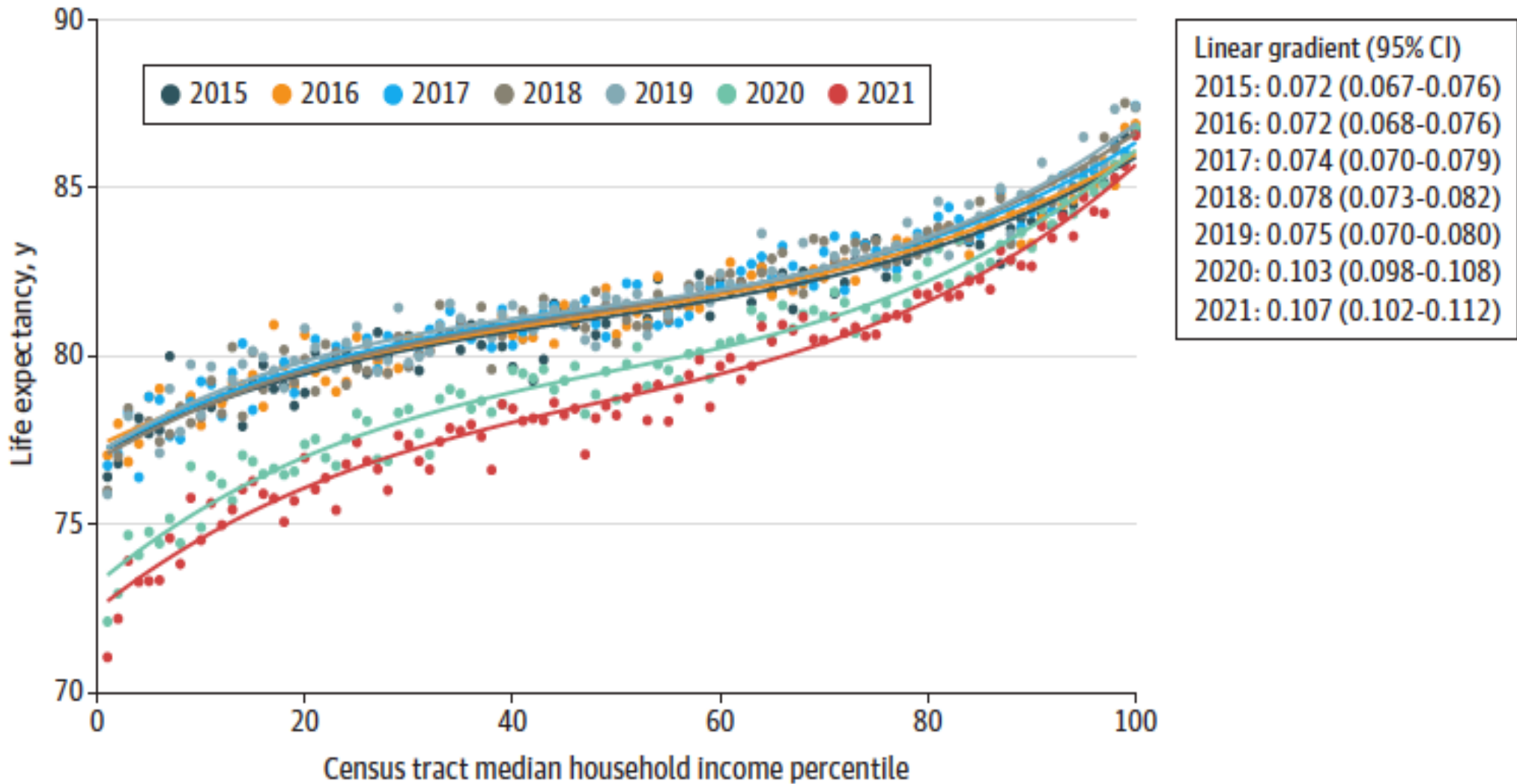


Inequality in Mortality During COVID: The Example of California (Schwandt, Currie, et al. JAMA 2022)

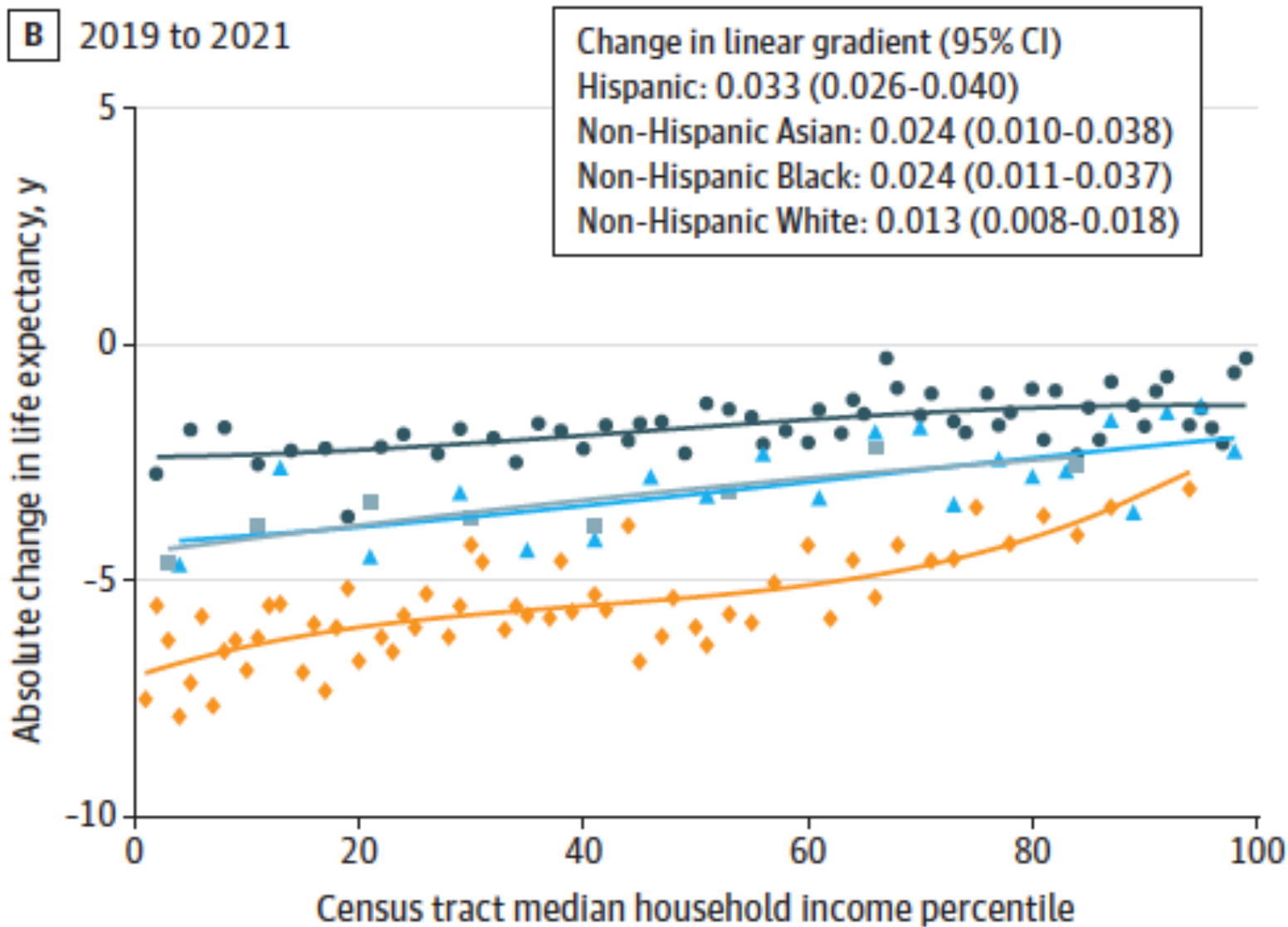
Figure 1. Statewide Life Expectancy in California by Race and Ethnicity, 2015-2021



Life Expectancy in California by *Census Tract* Median Household Income Percentile, 2015-2021



Change in Life Expectancy in California in 2020 and 2021 Relative to 2019 by Race and Ethnicity



— Hispanic — Non-Hispanic Asian — Non-Hispanic Black — Non-Hispanic White

Conclusions:

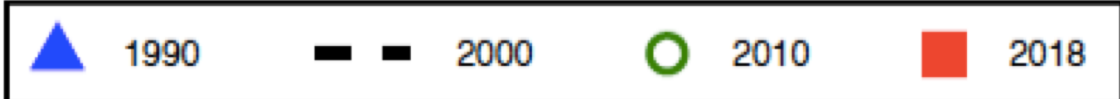
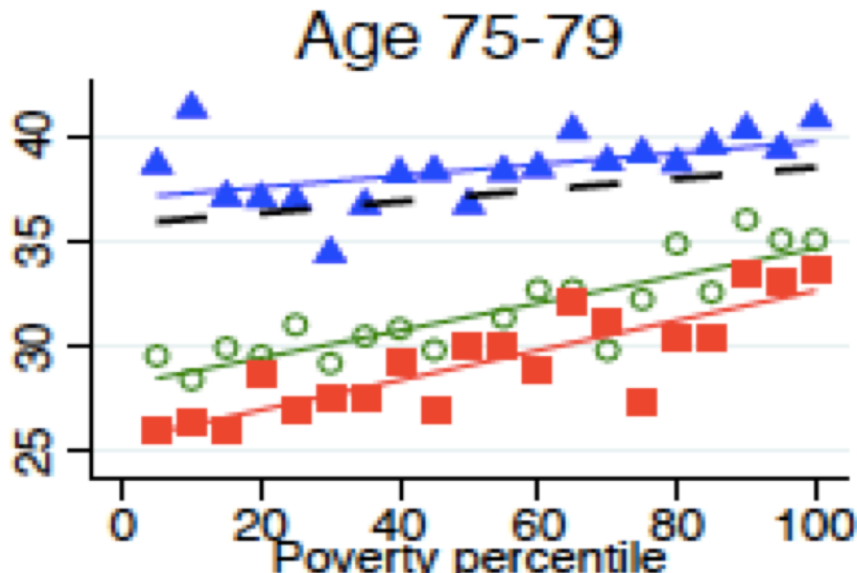
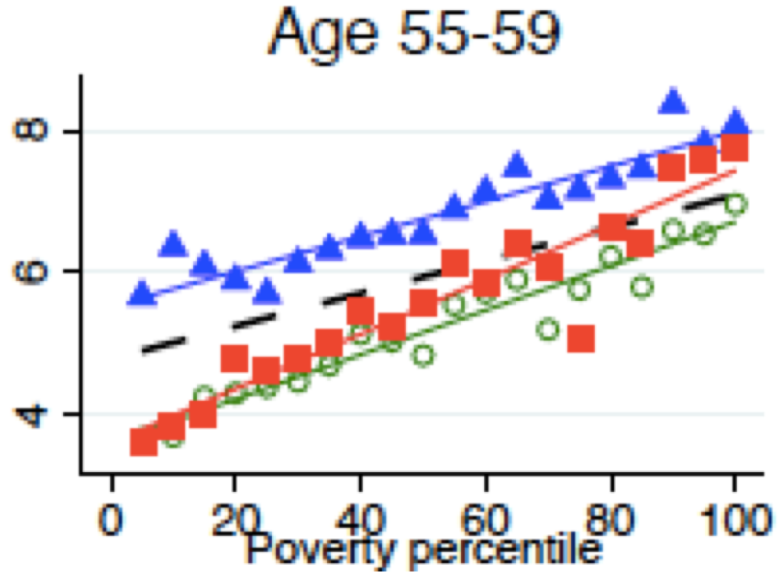
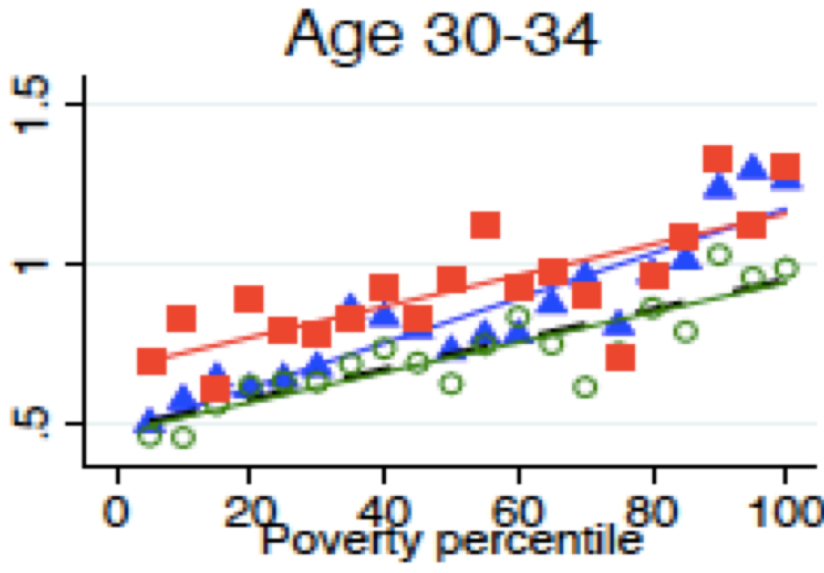
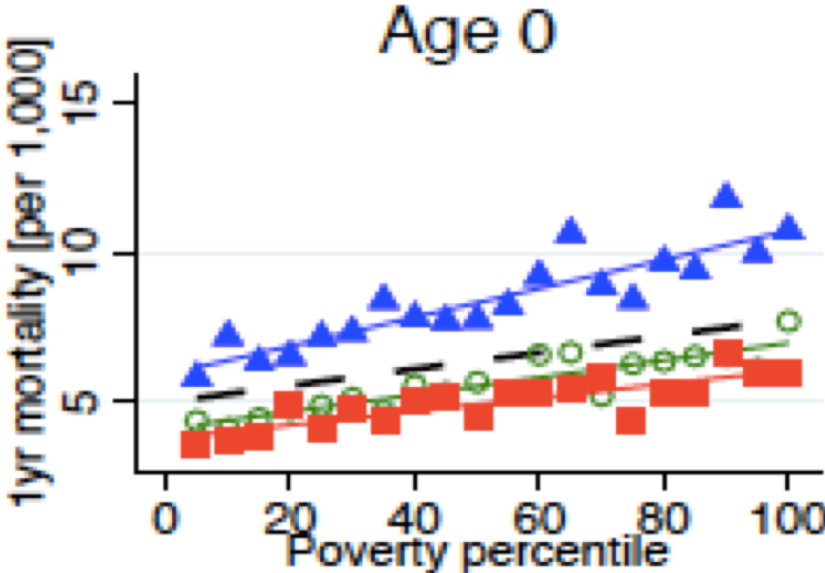
- Research has focused on the increasing inequality in mortality in older adults (e.g. Chetty et al. 2015; Lee et al. 2015; Case&Deaton 2015, 2017, 2020; Machenbach et al., 2016, 2017, 2018).
- Reinforces belief in a tight link between income inequality and inequality in mortality.
- But U.S. inequality in mortality has declined despite increasing income inequality for large groups of the population, especially children, and for Black people relative to white.
- Inequality in mortality has also declined in countries that saw increases in income inequality such as the former East Germany and the Czech Republic.

Health and social policy can break the link between income and health

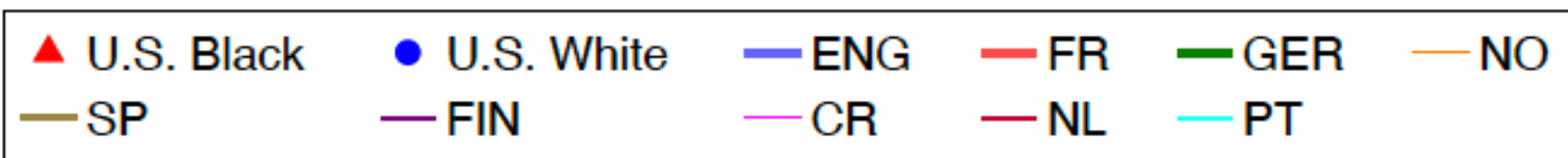
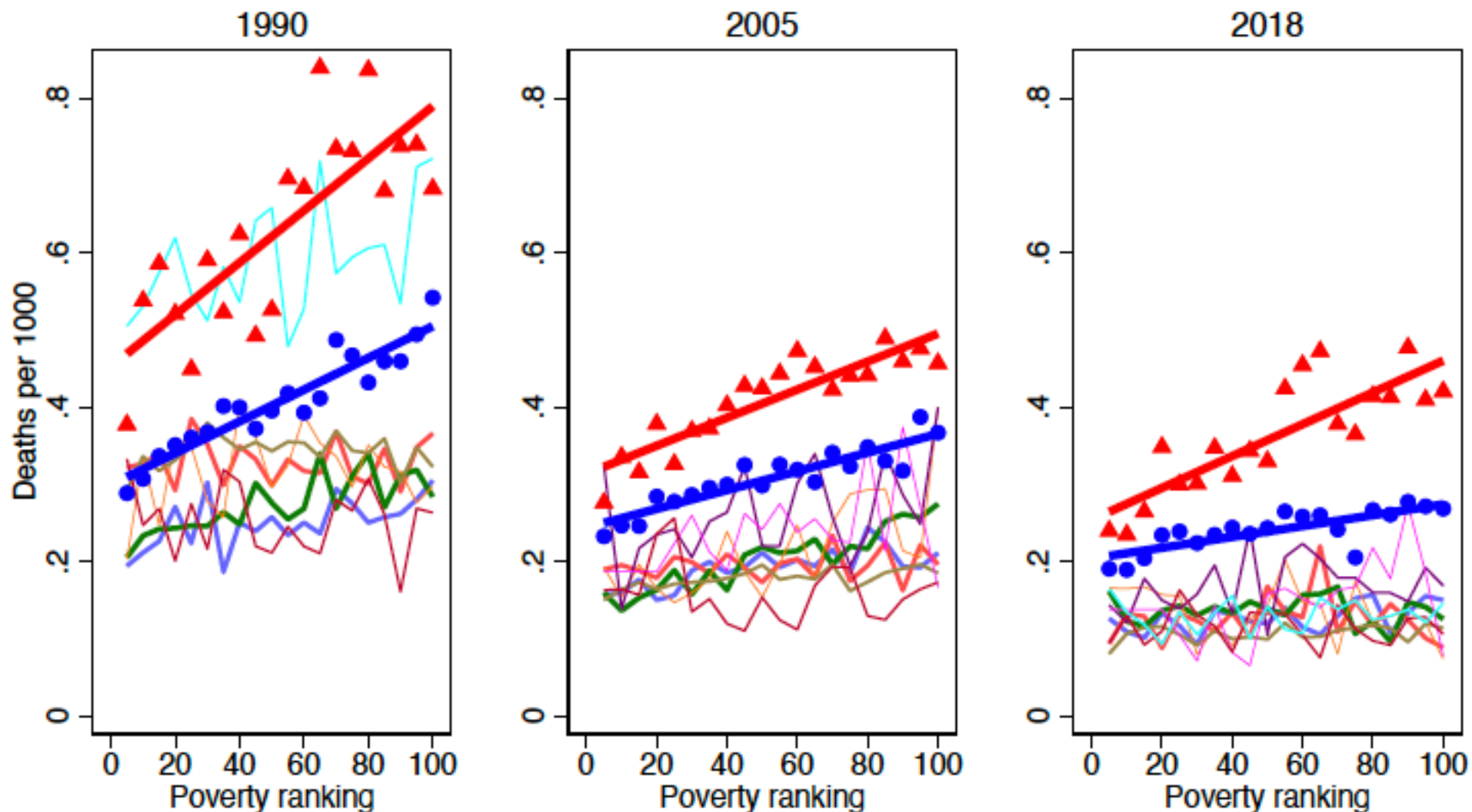
- Expanding U.S. public health insurance for children beginning in the 1990s (recent reductions in coverage under Trump)
- Generous U.S. coverage of the elderly under Medicare
- Reductions in violent crime (homicide)
- Lax oversight of opioid prescribing
- Unequal access to care during COVID
- Reform of the medical system in Portugal and focus on improving neonatal and pediatric care
- Continuing equality in mortality across European countries despite increases in income inequality.

Extra Slides Follow

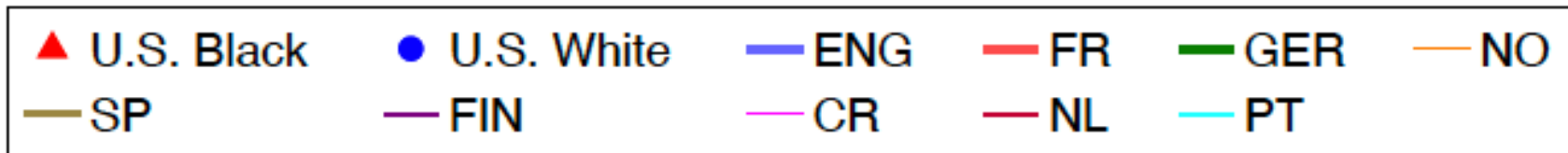
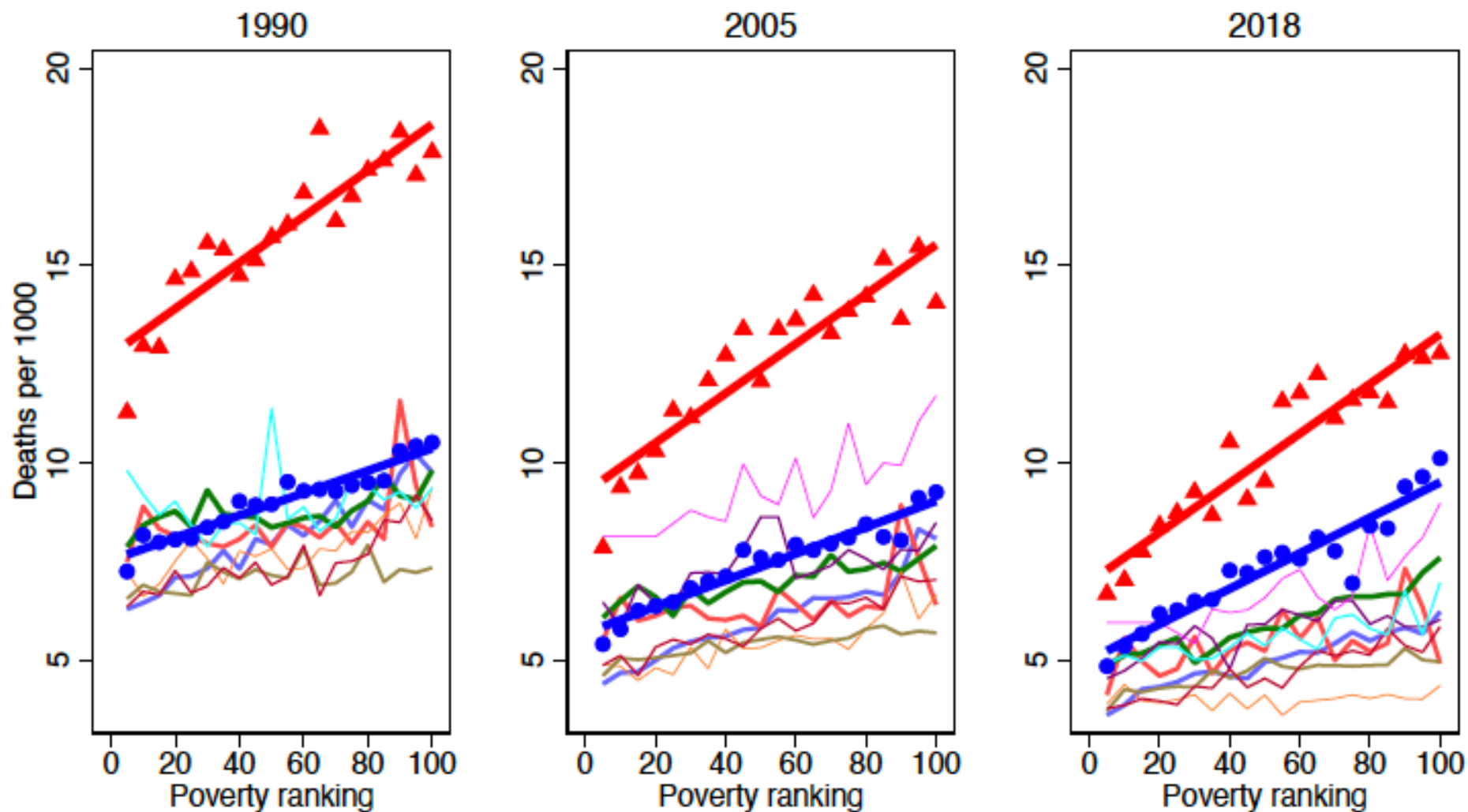
Female Mortality by Poverty Percentile: Detail



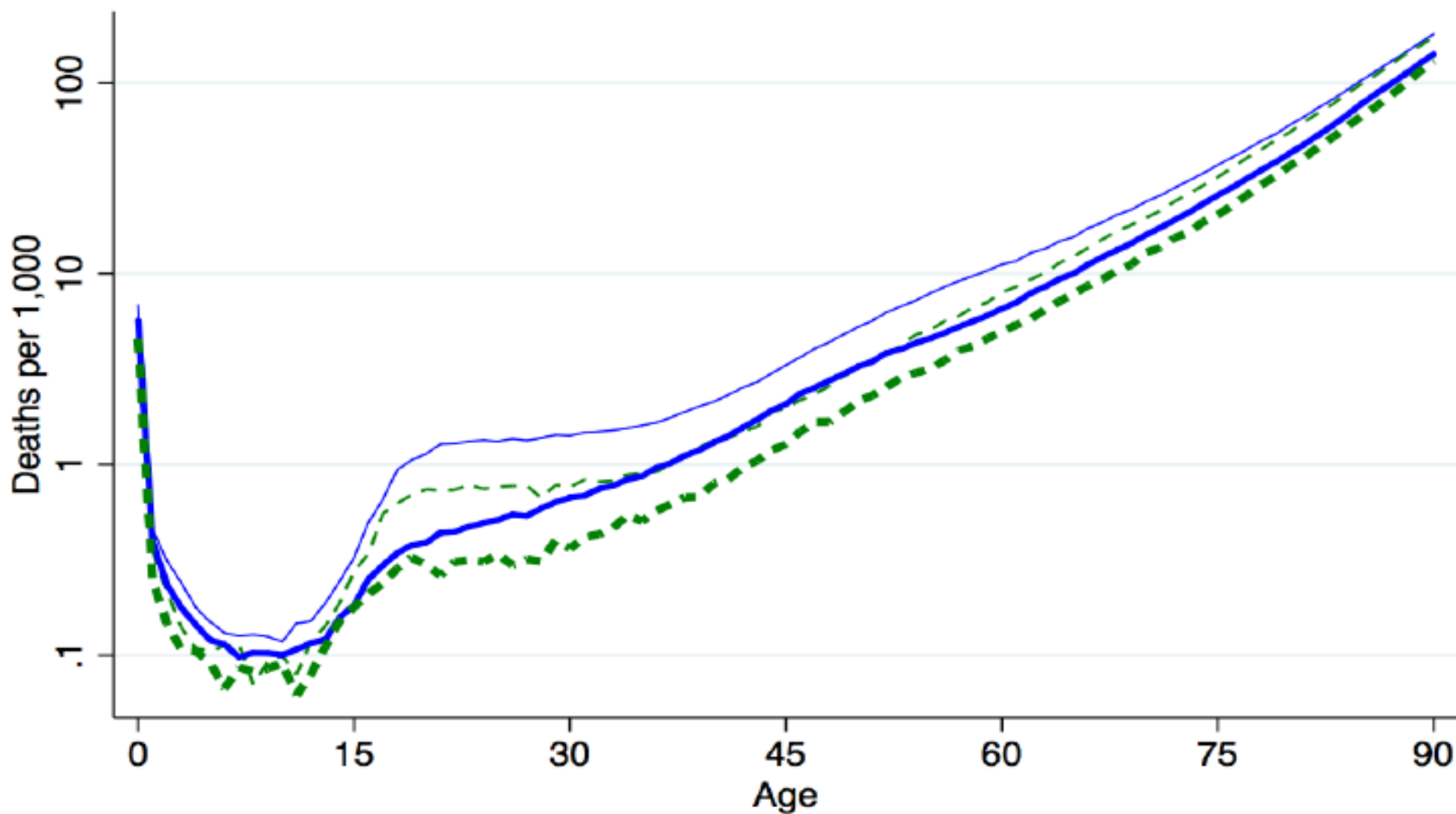
Mortality by Poverty Percentile, US White, US Black, and Nine European Countries, 5-19



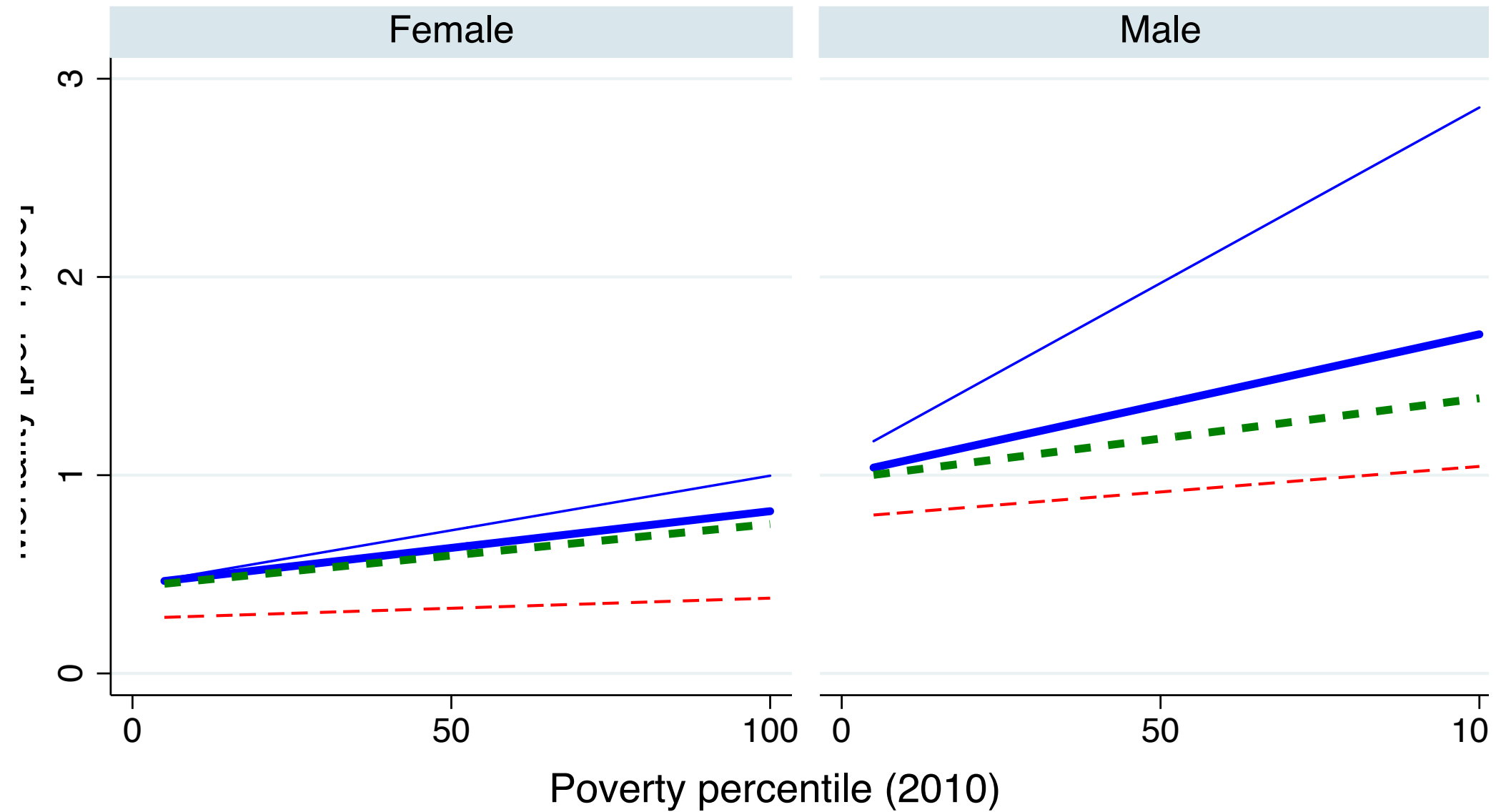
Mortality by Poverty Percentile, US White, US Black, and Nine European Countries, 50-64



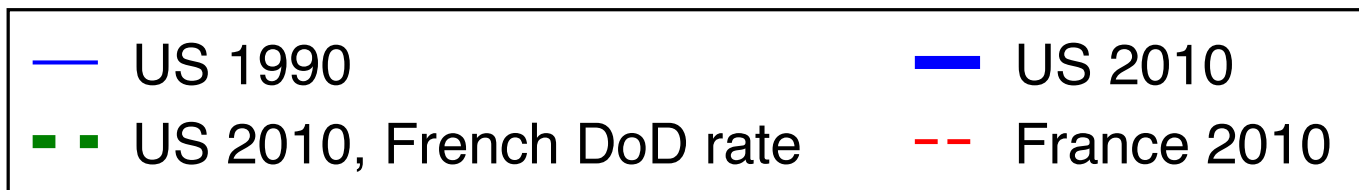
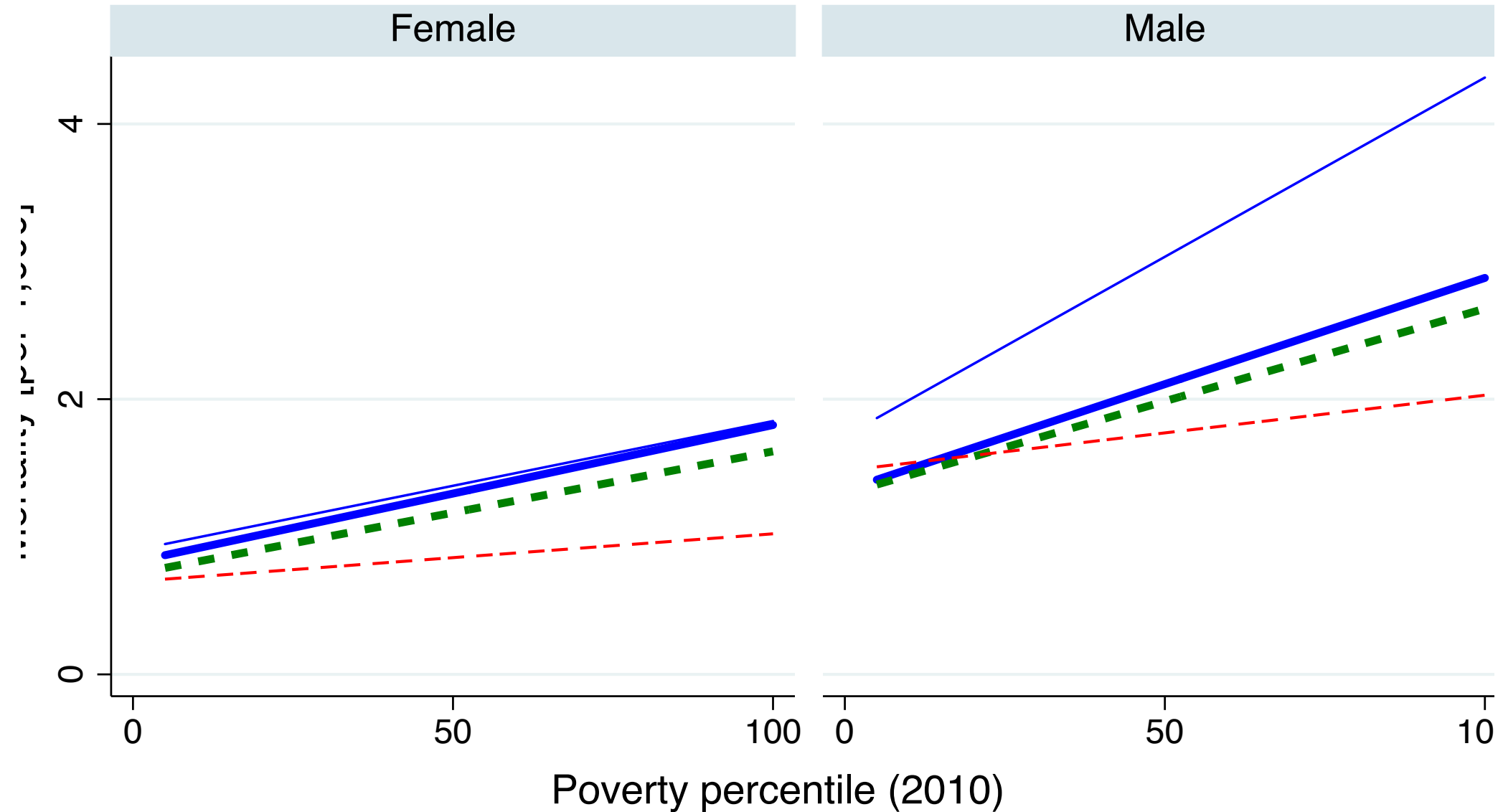
Mortality Rates in Canada and the US 2009-2011



US mortality with French homicide rate (age 25-34)

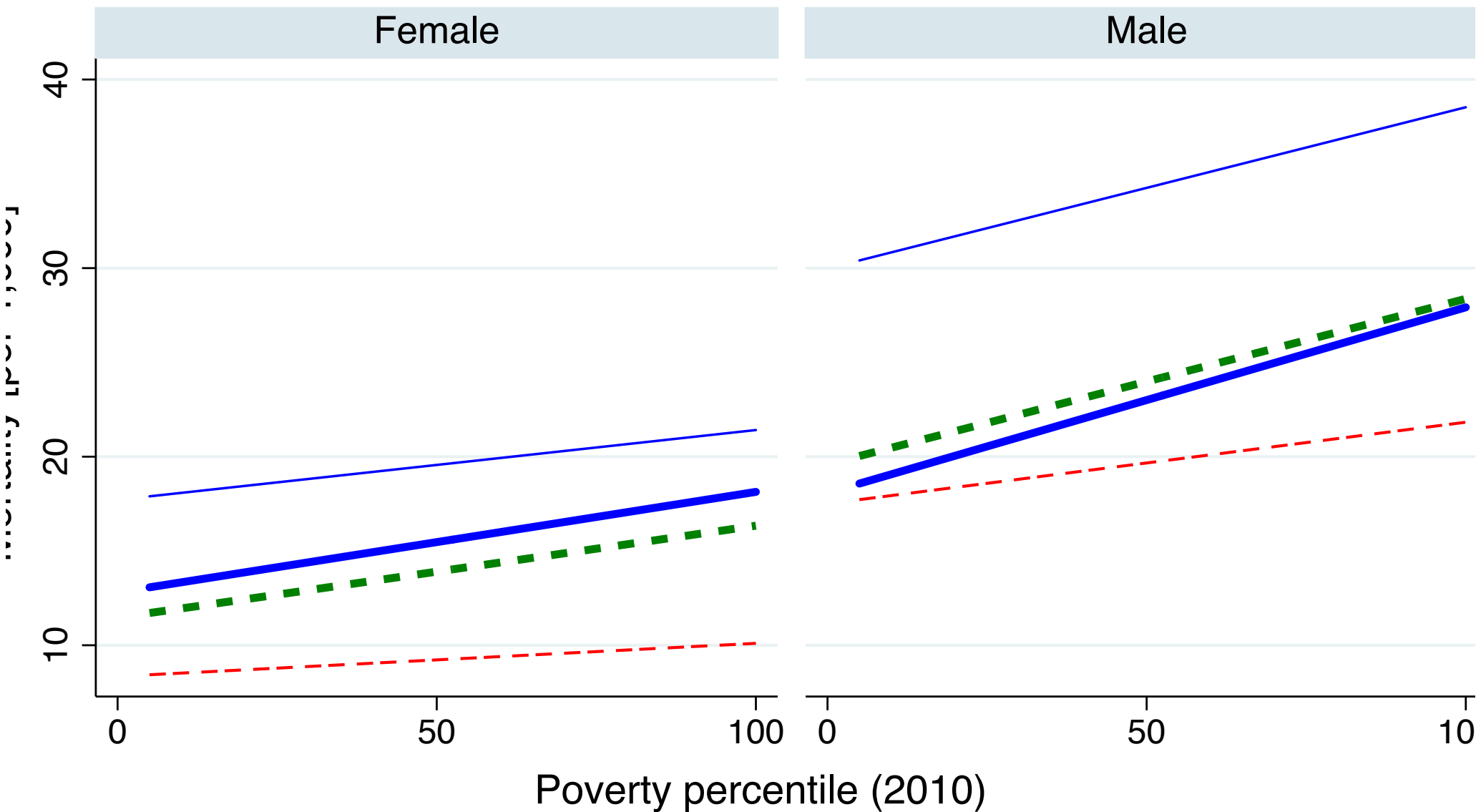


US mortality with French 'Diseases of Despair' death rate (age 35-44)

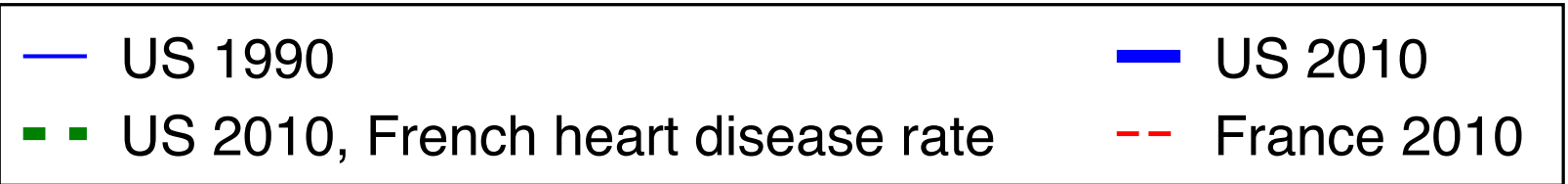
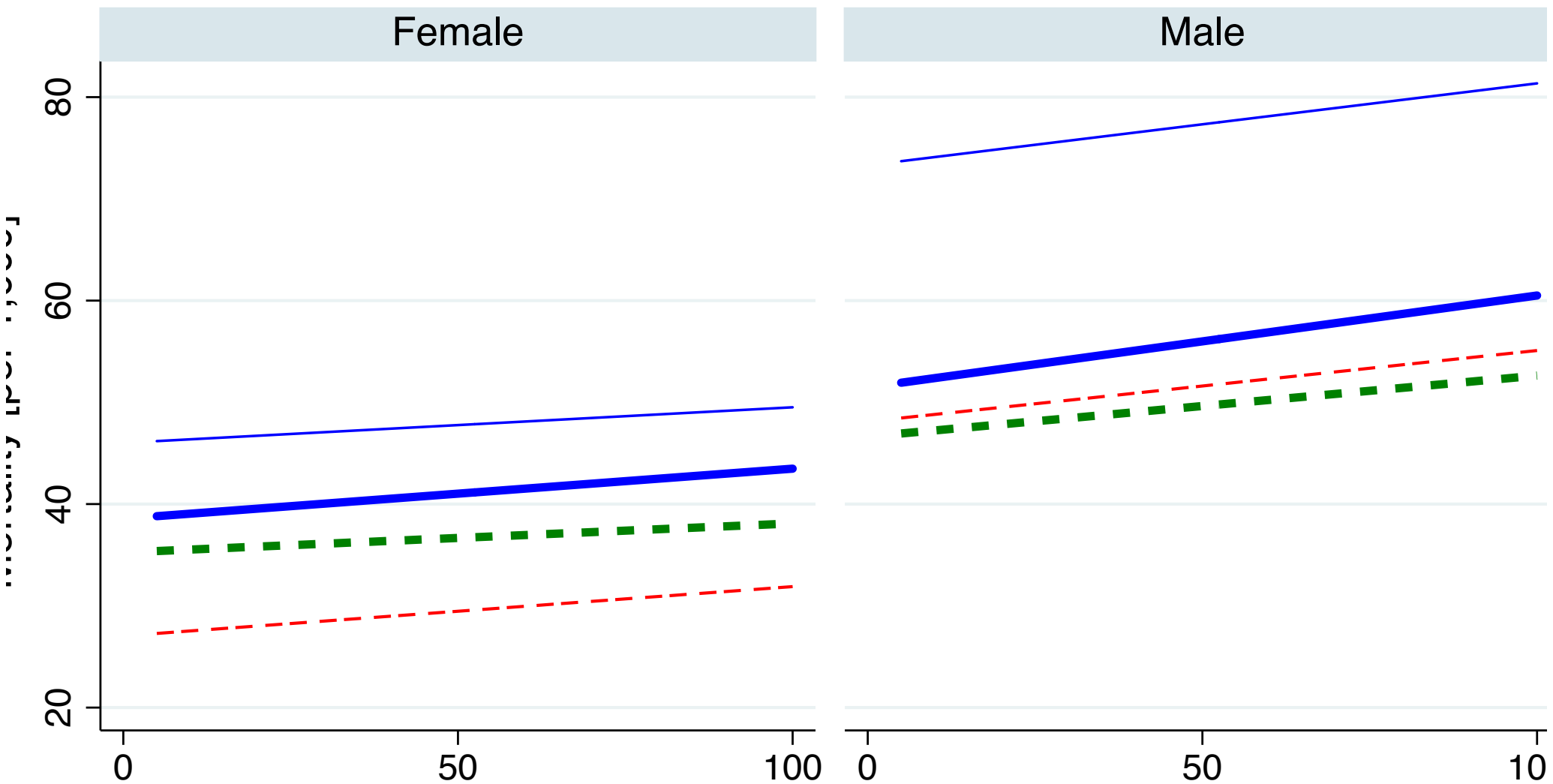


Diseases of despair: Accidental drug poisoning, suicide, chronic liver

US mortality with French cancer death rate (age 65-74)



US mortality with French heart disease death rate (age 75-84)



Population size of poverty quantiles

