Mortality Inequality in the United States and Europe

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Introduction

- Income-mortality gradient of broad interest (Kitagawa & Hauser 1973, Marmot et al. 1991, Deaton & Paxson 2001, Chetty et al. 2016, Currie & Schwandt 2016, and many others)
- For past 2-3 decades, many studies find steepening gradients among older adults (Murray et al. 2006, Waldron 2007, Meara et al. 2008, Cutler et al. 2011, Olshansky et al. 2011, Bosworth & Burke 2015, Chetty et al. 2016, and many others)
- Using spatial approach, we find declines in inequality at younger ages (Currie & Schwandt 2016, *Science*)
- Particularly strong improvements among Black Americans contribute to inequality reductions (Currie & Schwandt 2016, *JEP*)

$\Rightarrow$ How do they compare to Europe and what happened during pandemic?

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

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Special Issue on the Evolution of Mortality Inequality in 11 OECD Countries,1990–2018: A Geographical Approach

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**

Comparing mortality inequality in U.S. and Europe

- Compare mortality gradients for Black and White Americans to 9 European countries from 1990 to 2018
- Challenges:
  - Mortality rare
  - Numerator (deaths) and denominator (population) not linked
  - No income information
- But typically available: location, which can be linked to area-level income

  $\Rightarrow$ Rank small areas by income, bin them into percentiles of the population, and calculate mortality by percentile bin (Currie & Schwandt, 2016)
- Calculate contributions of place, age, cause to racial life expectancy gap
- Taking stock of pre-pandemic development, not about causal drivers

Data and method

- Deaths from national Vital Statistics offices, population based on Censuses
- Applying Currie & Schwandt (2016)

  - *"How does the 5% living in the richest U.S. counties compare to 5% living in richest EU areas?"*

  - Areas ranked by poverty rate if available, otherwise median income or deprivation index. Areas chosen to have size comparable to medium-sized US counties.

- Advantages

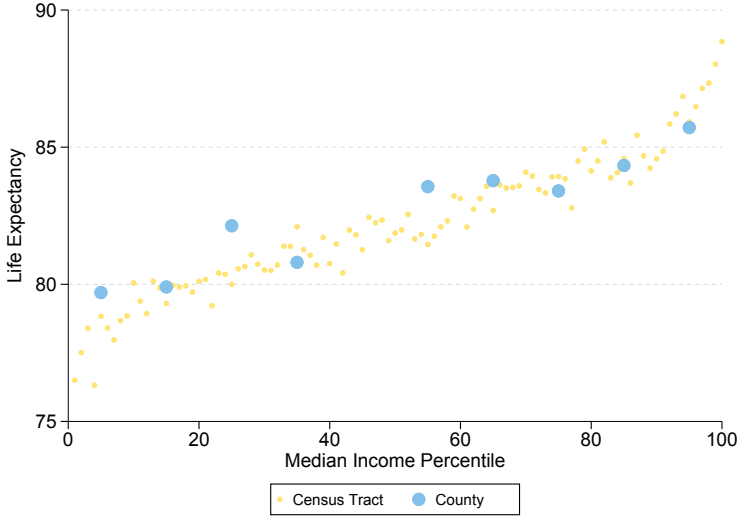
  - Including entire population at all ages

  - Accounting for compositional changes over time

  - Applicable to most countries

- Disadvantage: Does not account for inequality within counties

Gradient based on county vs census tract bins in California (in 2015)



Preview of findings

Bad news

- Americans die at higher rates at all ages and continue to lose ground compared to Europe
- Mortality gradients much steeper in U.S.
- And U.S. mortality higher than in Europe even in richest areas

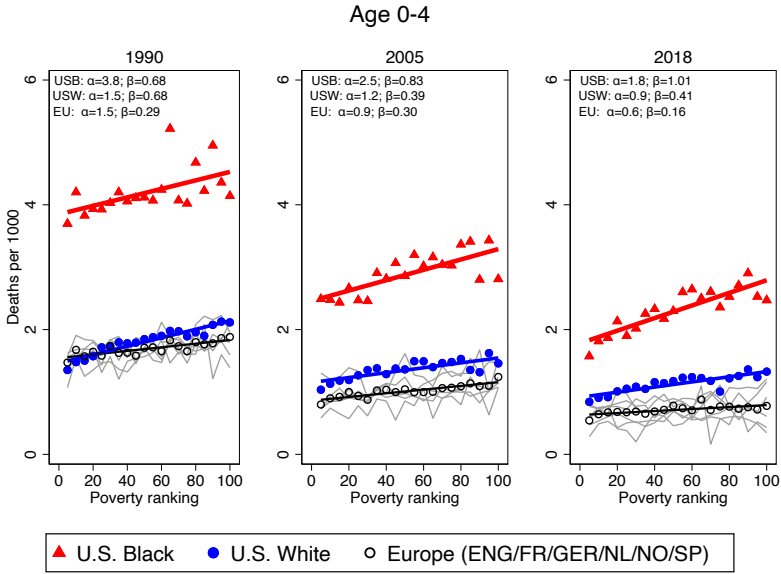
Good news

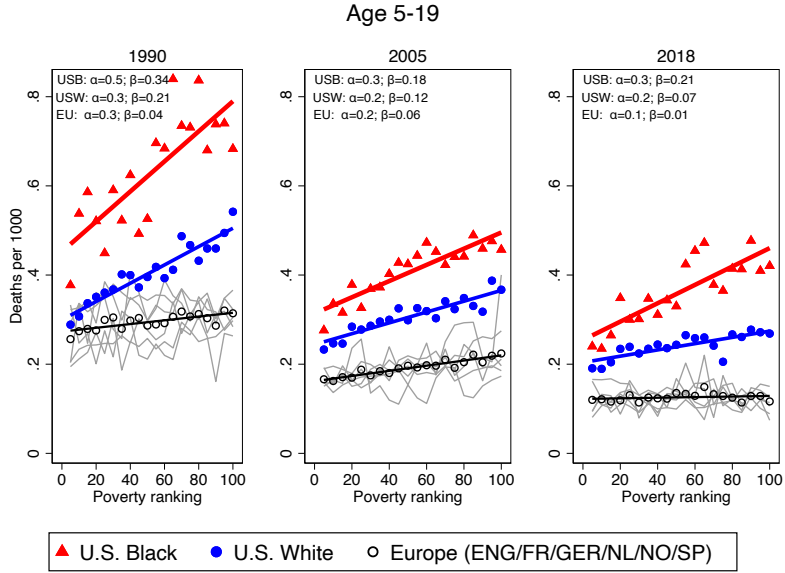
- Strong improvements for Black Americans, 1990-2018
- Black-White life expectancy gap fell by almost 50% to 3.6 years (lowest ever)
- Improvements in CVD mortality, cancer, HIV, homicides, and infancy causes particularly important

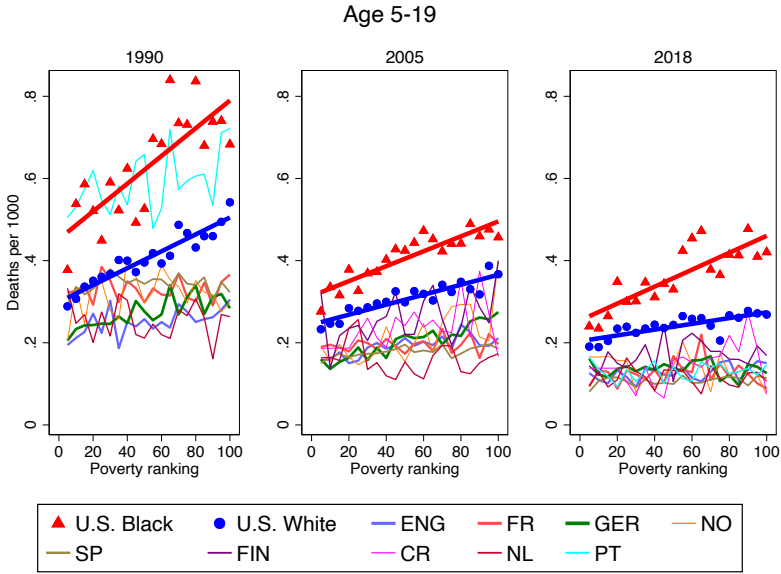
Additional news

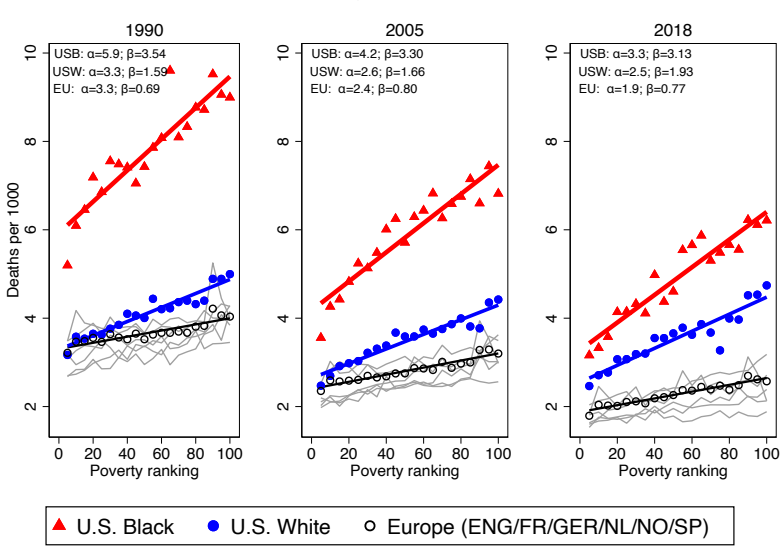
- Life expectancy stagnation after 2012, both in U.S. and Europe

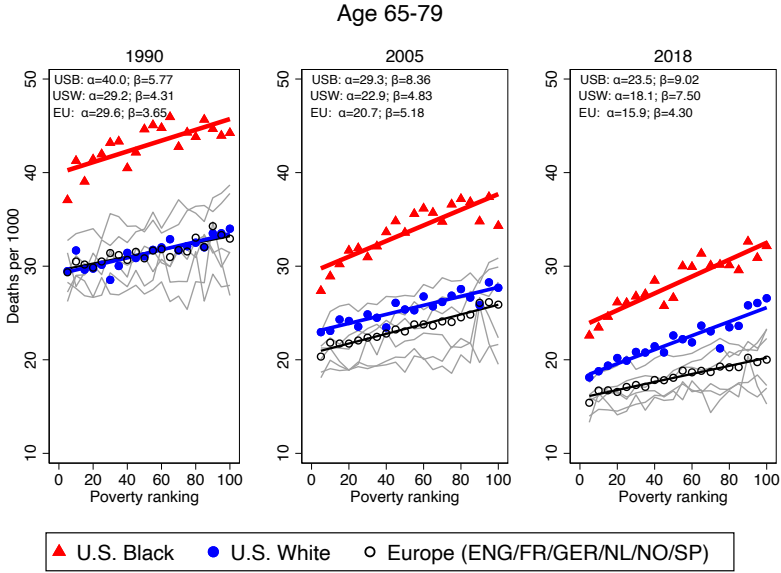
Development of mortality gradients for Black and White Americans and European countries


Age 0-4
1990
2005
2018
USB: α=3.8; β=0.68
USW: α=1.5; β=0.68
EU: α=1.5; β=0.29
USB: α=2.5; β=0.83
USW: α=1.2; β=0.39
EU: α=0.9; β=0.30
USB: α=1.8; β=1.01
USW: α=0.9; β=0.41
EU: α=0.6; β=0.16
Deaths per 1000
0
2
4
6
0 20 40 60 80 100
Poverty ranking
U.S. Black
U.S. White
Europe (ENG/FR/GER/NL/NO/SP)

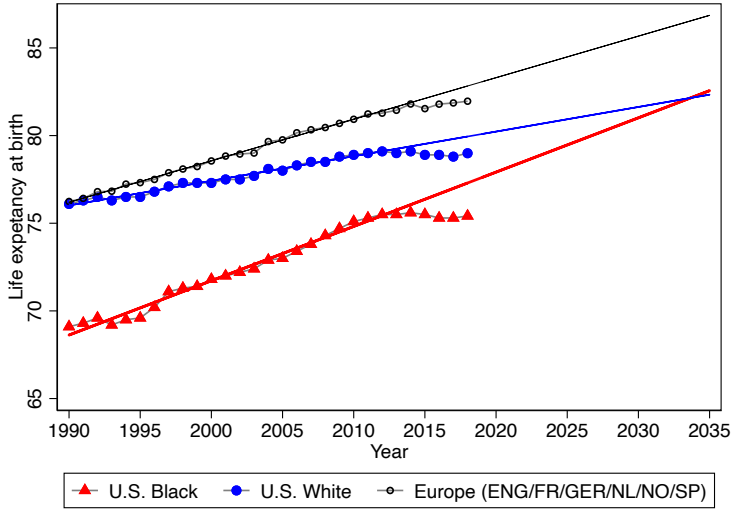

Age 5-19
1990
USB: α=0.5; β=0.34
USW: α=0.3; β=0.21
EU: α=0.3; β=0.04
2005
USB: α=0.3; β=0.18
USW: α=0.2; β=0.12
EU: α=0.2; β=0.06
2018
USB: α=0.3; β=0.21
USW: α=0.2; β=0.07
EU: α=0.1; β=0.01
Deaths per 1000
0
.2
.4
.6
.8
0
20
40
60
80
100
Poverty ranking
U.S. Black
U.S. White
Europe (ENG/FR/GER/NL/NO/SP)


Age 5-19
1990
2005
2018
Deaths per 1000
0
.2
.4
.6
.8
0
20
40
60
80
100
Poverty ranking
U.S. Black
U.S. White
ENG
FR
GER
NO
SP
FIN
CR
NL
PT

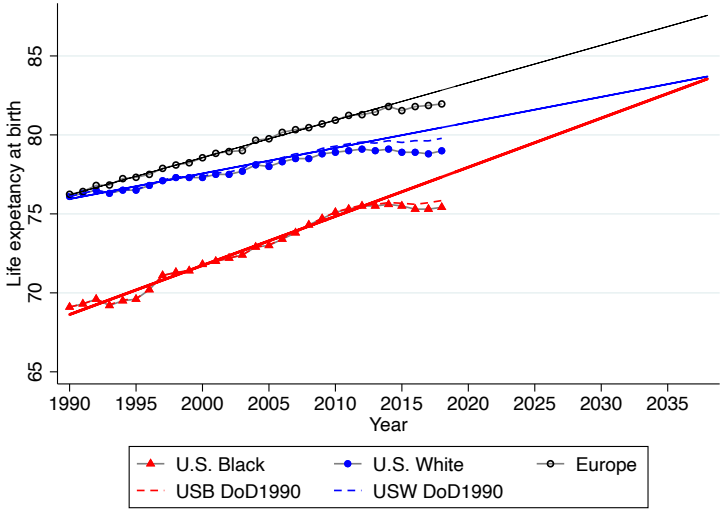

Age 20-64
1990
2005
2018
USB: α=5.9; β=3.54
USW: α=3.3; β=1.59
EU: α=3.3; β=0.69
USB: α=4.2; β=3.30
USW: α=2.6; β=1.66
EU: α=2.4; β=0.80
USB: α=3.3; β=3.13
USW: α=2.5; β=1.93
EU: α=1.9; β=0.77
Deaths per 1000
Poverty ranking
U.S. Black
U.S. White
Europe (ENG/FR/GER/NL/NO/SP)


Age 65-79
1990
2005
2018
USB: α=40.0; β=5.77
USW: α=29.2; β=4.31
EU: α=29.6; β=3.65
USB: α=29.3; β=8.36
USW: α=22.9; β=4.83
EU: α=20.7; β=5.18
USB: α=23.5; β=9.02
USW: α=18.1; β=7.50
EU: α=15.9; β=4.30
Deaths per 1000
10
20
30
40
50
0
20
40
60
80
100
Poverty ranking
U.S. Black
U.S. White
Europe (ENG/FR/GER/NL/NO/SP)

Overall life expectancy U.S. Black, U.S. White, Europe

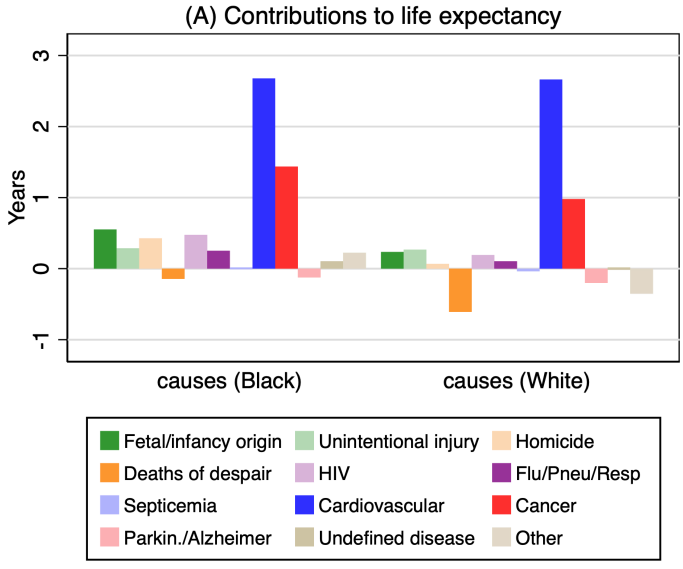


Keeping U.S. "deaths of despair" at 1990 levels

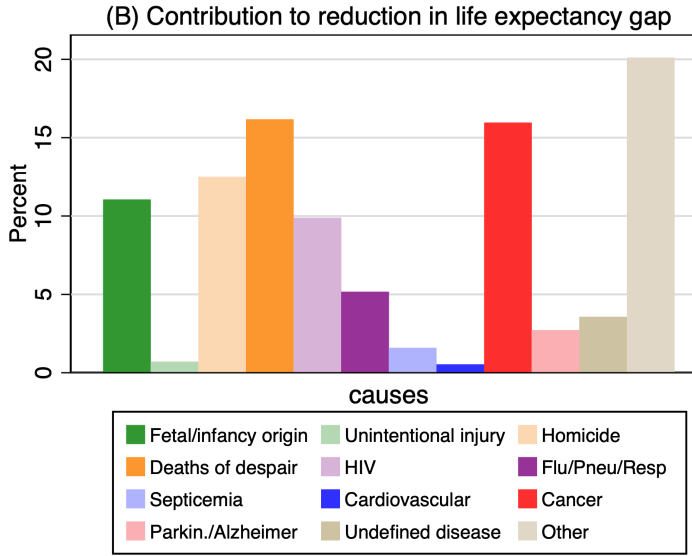


Which causes of death reduced racial life expectancy gap?

Causes improving Black and White life expectancy

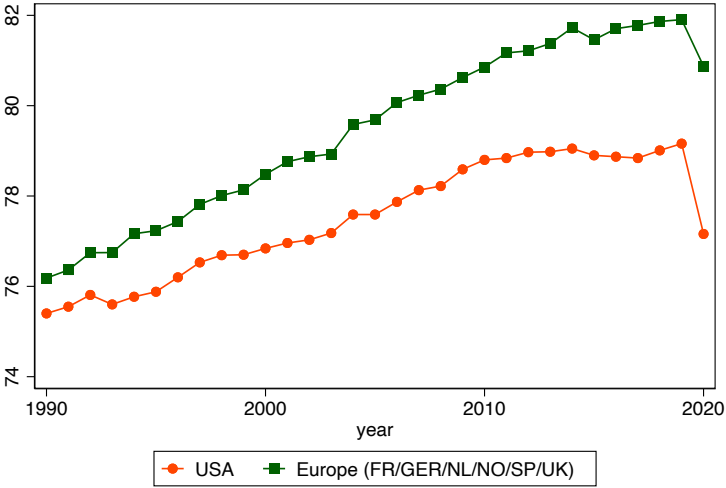


Causes reducing racial life expectancy gap



What happened during the pandemic?

Life expectancy 1990–2020, U.S. vs Europe



Notes: 2020 life expectancy change based on Islam et al. (2021), BMJ

New results embargoed, to be made public soon

Summary

- America has a death problem – in poor and in rich places and across all ages
- Manifested once more during pandemic
- Core questions

  - Why is U.S. increasingly falling behind Europe?

  - What can we learn from strong mortality improvements among Black Americans during three decades prior to pandemic?

  - What can we learn from the strong improvements in life expectancy over a fairly short time in some European countries?