

Life Expectancy Inequalities in the USA

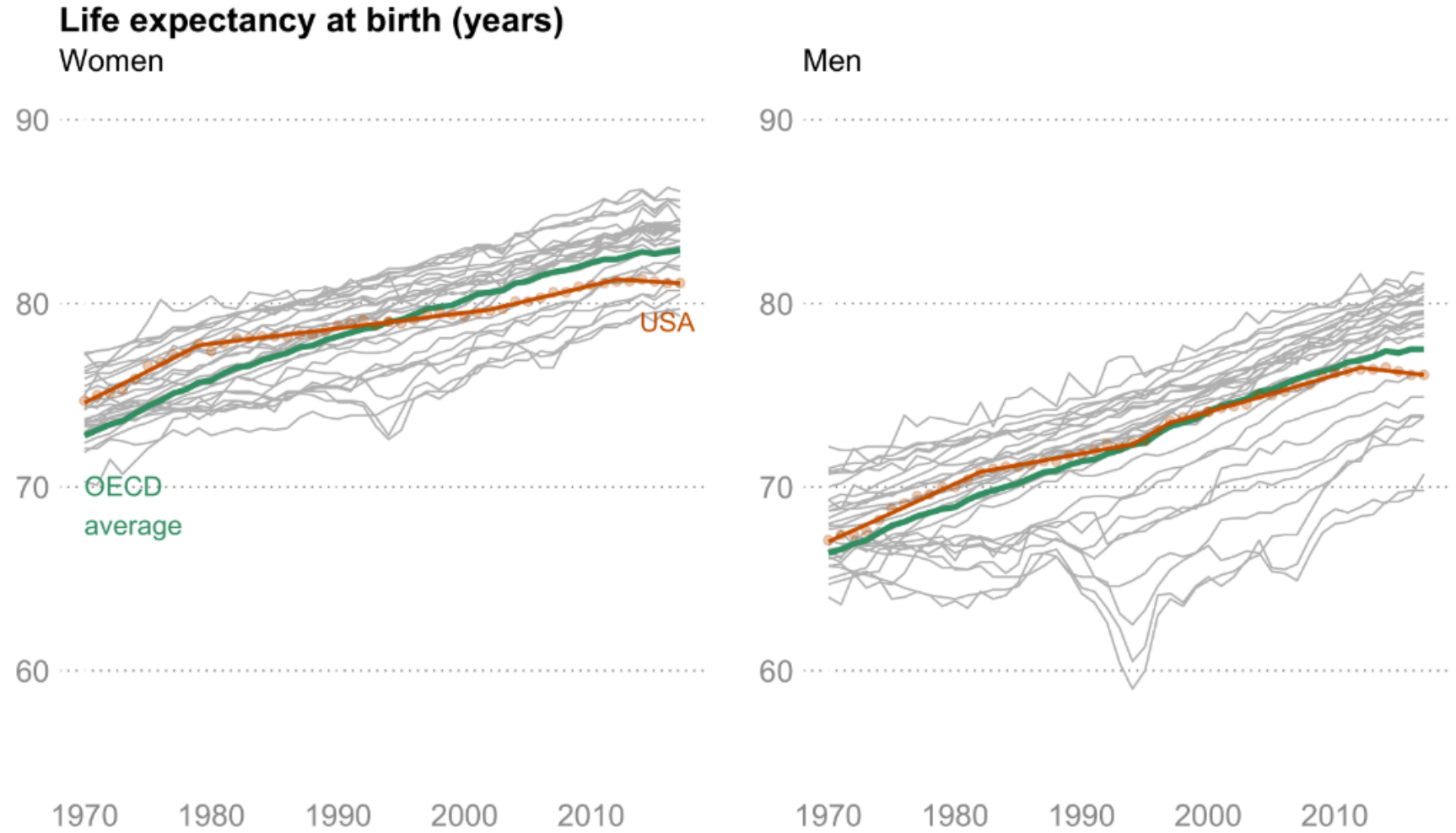
General or Specific?

Sam Harper

McGill University, Montreal, Canada

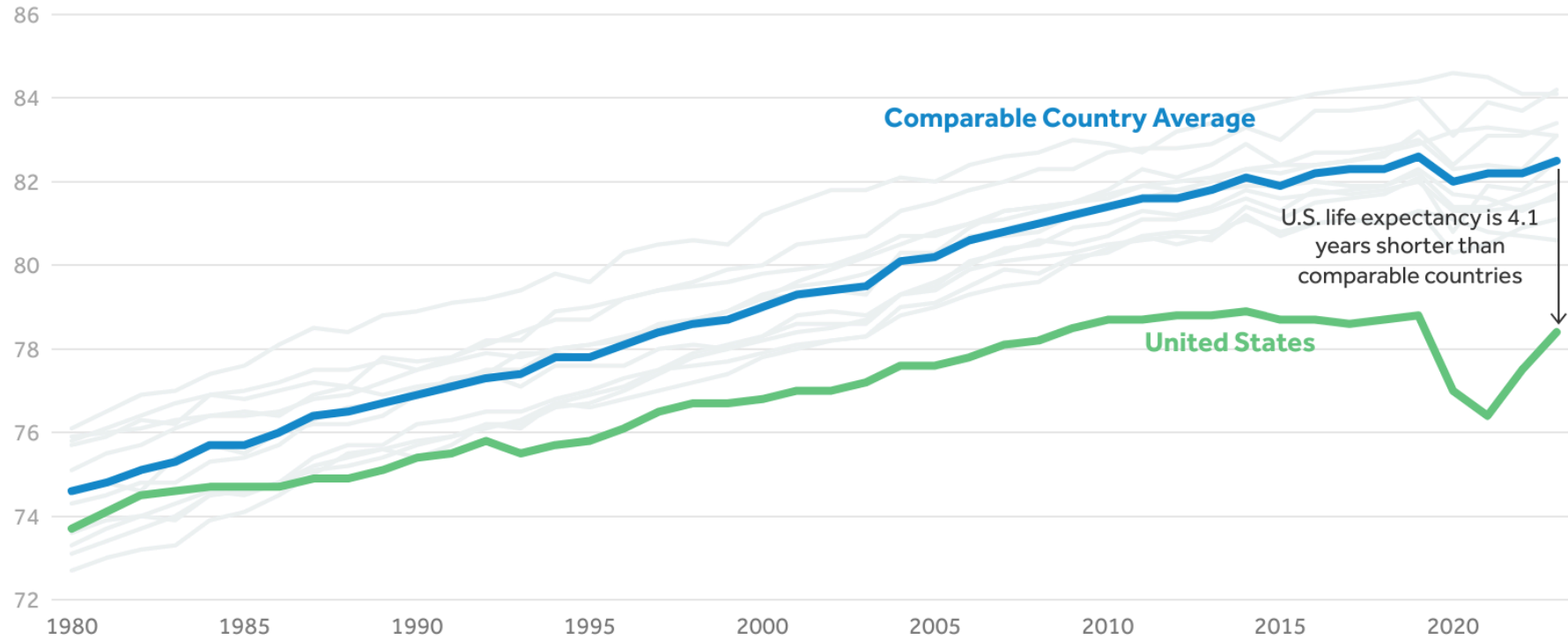
2025-02-21

“Declining” US life expectancy



Harper et al. (2021)

Life expectancy at birth, in years, 1980-2023



Notes: Comparable countries include Australia, Austria, Belgium, Canada, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the U.K. 2023 U.K. life expectancy data is only for England and Wales. See Methods section of "How does U.S. life expectancy compare to other countries?"

Source: KFF analysis of CDC, OECD, Australian Bureau of Statistics, German Federal Statistical Office, Japanese Ministry of Health, Labour, and Welfare, Statistics Canada, and U.K. Office for National Statistics data

Peterson-KFF
Health System Tracker

Source: [Peterson-KFF](#)

VIEWPOINT

Steven H. Woolf, MD,
MPH

Department of
Family Medicine,
Virginia Commonwealth
University School of
Medicine, Richmond.

Increasing Mortality Rates in the US, but Not From COVID-19

The worst of the COVID-19 pandemic is behind us. Age-adjusted COVID-19 mortality rates peaked in 2021 at 104.12 per 100 000 population (per 100 000 hereafter) and fell to 44.45 per 100 000 in 2022.^{1,2} Provisional data suggest that COVID-19 mortality rates in 2023 were below 15.00 per 100 000.² This progress is welcome but deceptive. The US mortality picture is hardly ideal. Like the sand revealed as the tide goes out, the receding COVID-19 pandemic draws attention to rising mortality rates from non-COVID causes, a trend that predates the pandemic.

After 2010, life expectancy flatlined in the US while continuing to increase in other high-income countries.³ The primary cause was rising mortality rates in midlife (individuals aged 25-64 years). In 2015, Case and Deaton were among the first to call attention to this trend, which they first observed in the middle-aged White population.⁴ Subsequent studies documented the trend among young adults (aged 25-44 years) and middle-aged adults (aged 45-64 years) and other racial and ethnic groups.⁵

between 2019 and 2021 (from 9.75 per 100 000 to 13.60 per 100 000, respectively).^{1,2}

Deaths from drugs, alcohol, and suicides are often attributed to “despair,”⁶ but mortality rates are increasing for diseases with other etiologies. For example, mortality from neurologic diseases (notably Alzheimer disease) has been increasing for decades, as has mortality from diabetes, likely a result of the obesity epidemic.^{1,2} Among young and middle-aged adults, mortality from hypertensive diseases and kidney failure has been increasing for 2 decades and mortality from other forms of heart disease (eg, heart failure) has been increasing since 2012.^{1,2} Since 2002, women aged 25 to 44 years have been dying at increasing rates from pregnancy, childbirth, and the puerperium.^{1,2}

Injury-related mortality has also increased. Among adults aged 25 to 64 years, transport-related deaths (eg, motor vehicle collisions and pedestrian injuries) increased by 34.7% between 2010 and 2021.^{1,2} Firearm-related mortality in the US population increased by 45.0% between 2010 and 2021.^{1,2} For the first time in a

Woolf (2024)

Increasing Mortality Rates in the US, but Not From COVID-19

“Something systemic to the US is limiting survival. Identifying the cause(s) and enacting social protection policies are urgent.”

Stephanie Woolf, MD, MPH
 Department of
 Family Medicine
 Virginia Commonwealth
 University School of
 Medicine, Richmond

The worst of the COVID-19 pandemic is behind us. Age-adjusted COVID-19 mortality rates peaked in 2021 at 104.12 per 100,000 population (per 100,000 hereafter) and fell to 4.44 per 100,000 in 2022.¹ Preliminary data suggest that COVID-19 mortality rates in 2023 were below 100 per 100,000.² This progress is welcome but deceptive. The US mortality picture is hardly ideal. Like the sand revealed as the tide goes out, the receding COVID-19 pandemic draws attention to rising mortality rates from non-COVID causes, a trend that predates the pandemic.

After 2010, life expectancy flatlined in the US while continuing to increase in other high-income countries.³ The primary cause was rising mortality rates in midlife (individuals aged 25-64 years). In 2015, Case and Deaton were among the first to call attention to this trend, which they first observed in the middle-aged White population.⁴ Subsequent studies documented the trend among young adults (aged 25-44 years) and middle-aged adults (aged 45-64 years) and other racial and ethnic groups.⁵

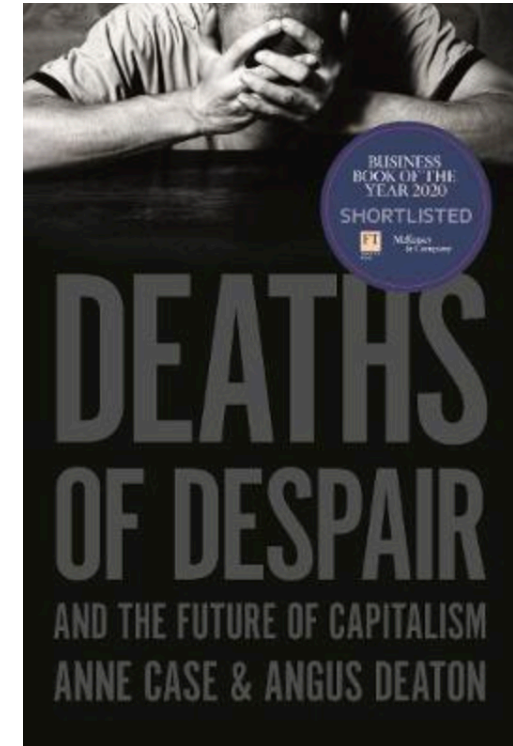
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An overarching narrative

Our contribution was to link drug overdoses, suicides, and alcohol-related deaths, to note that **all were rising together**, that together they were **afflicting mostly whites**, and that, among that group, the long fall in total mortality had stopped or reversed. We also chose the collective label “deaths of despair,” which helped publicize the combined epidemic and emphasize that it included **more than just drug overdose**.



See Case and Deaton ([2020](#)) and Case and Deaton ([2015](#))

DAVID LEONHARDT

Dying of 'Despair' in America

WHEN the economists Anne Case and Angus Deaton first published their research on

"Deaths of despair" (from alcohol, drugs and suicide) among white adults
5 per 100,000 147 per 100,000

White Men's Burdens

Drug overdoses, alcoholism and suicide are taking a toll on blue-collar workers.

By ARLIE RUSSELL HOCHSCHILD

A 43-YEAR-OLD WHITE MAN I will call Darin was recently divorced and recovering from a car accident when he was fired from his job in a biscuit factory. "We all have different bottoms," he explained to me in an interview in a small town in coal country. "I reached mine after I overheard the man I'd always assumed was my real dad introduce me as his stepson. That was my bottom." Then it was a quart of whiskey a day.

"Deaths of Despair and the Future of Capitalism" is about just such men. But it begins with a larger mystery. Over the last century, Americans' life expectancy at birth has risen from 49 to 77. Yet in recent years, that rise has faltered. Among white people age 45-54 — or a time many view as the prime of life — deaths have risen. Especially vulnerable are white men without a four-year bachelor's degree. Curiously,

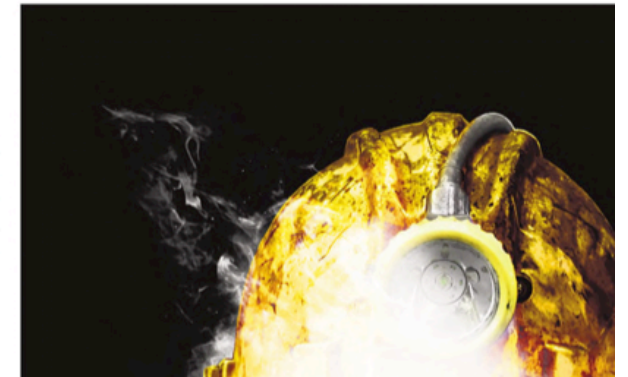
And where might the blue-collar man work? Often for a temp agency or contractor with high turnover, and little employer commitment. So he won't attend the office Christmas party (there won't be one) or play on the union baseball team (there is no union). He's less likely to go to church, organize the Lion's Club fund-raiser, coach Little League or vote. Most important, four out of 10 such men won't be coming home to a wife. Many are several girlfriends past

public narrative in heroic wars (by one, they are with pill, alcohol death notice.

Though repet of Despair and t clear, the style i reflects the bou two economists found in the .

DEATHS OF DESPAIR AND THE FUTURE OF CAPITALISM
By Anne Case and Angus Deaton

312 pp. Princeton University Press. \$27.95.



- Focus on low educated, rural, middle aged white men
- Emphasis on pain and disintegration of economic opportunities

- Narratives about inequalities are opportunities for investigation.
- Theories must be reconciled with plausible links to population patterns of exposure.
- Population subgroups are useful case studies.

Harper et al. (2021)

Annual Review of Public Health

Declining Life Expectancy in the United States: Missing the Trees for the Forest

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and Nicholas B. King^{1,2,5}

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Keywords

life expectancy, opioids, cardiovascular diseases, suicide, homicide, health inequalities

Abstract

In recent years, life expectancy in the United States has stagnated, followed by three consecutive years of decline. The decline is small in absolute terms but is unprecedented and has generated considerable research interest and theorizing about potential causes. Recent trends show that the decline has affected nearly all race/ethnic and gender groups, and the proximate causes of the decline are increases in opioid overdose deaths, suicide, homicide, and Alzheimer's disease. A slowdown in the long-term decline in mortality from cardiovascular diseases has also prevented life expectancy from improving further. Although a popular explanation for the decline is the cumulative decline in living standards across generations, recent trends suggest that distinct mechanisms for specific causes of death are more plausible explanations. Interventions to stem the increase in overdose deaths, reduce access to mechanisms that contribute to violent deaths, and decrease cardiovascu-

Dimensions of US Health Inequalities

1. Gender
2. Race
3. Socioeconomic position
4. Place

Dimensions of US Health Inequalities

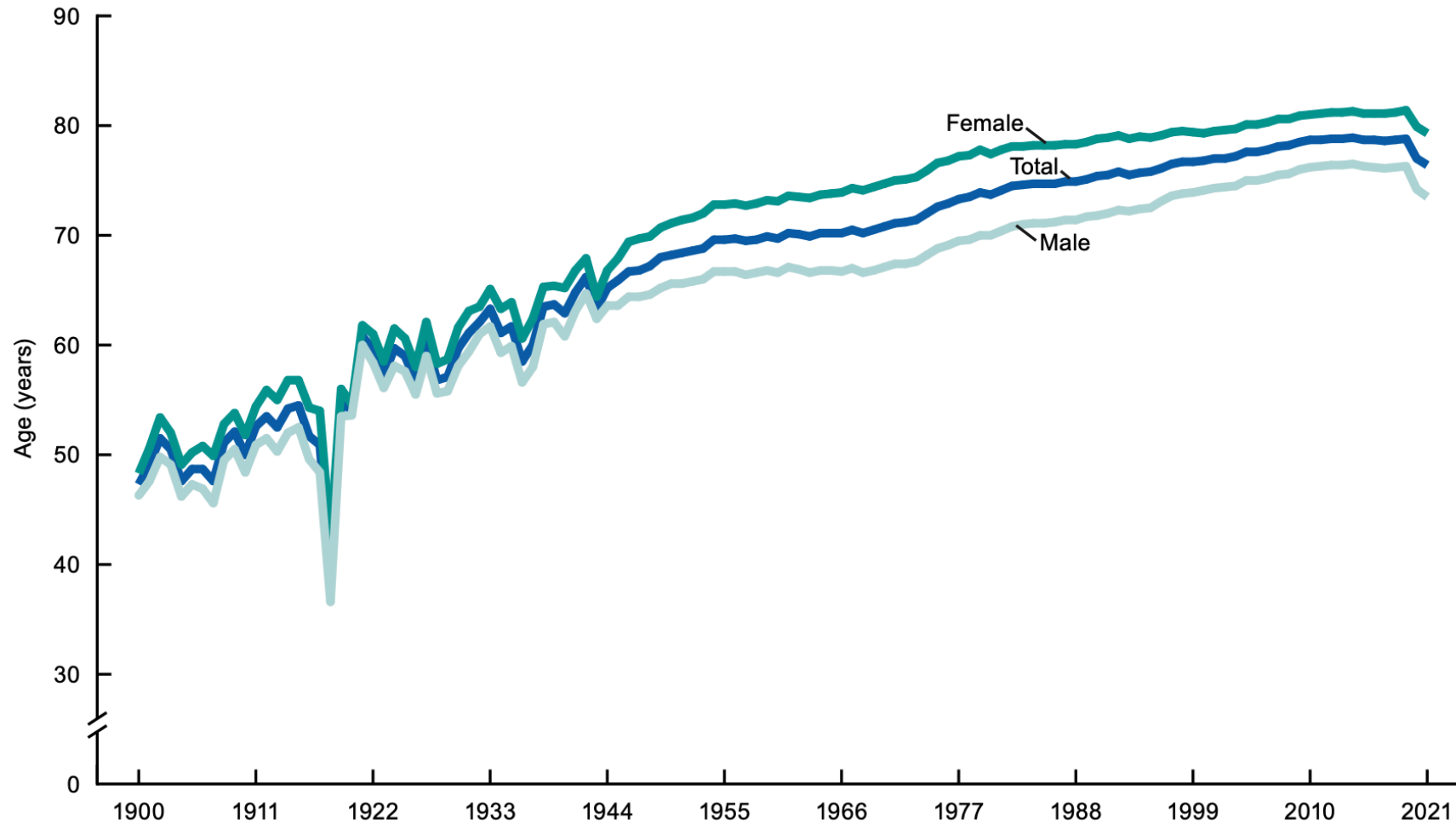
1. Gender

2. Race

3. Socioeconomic position

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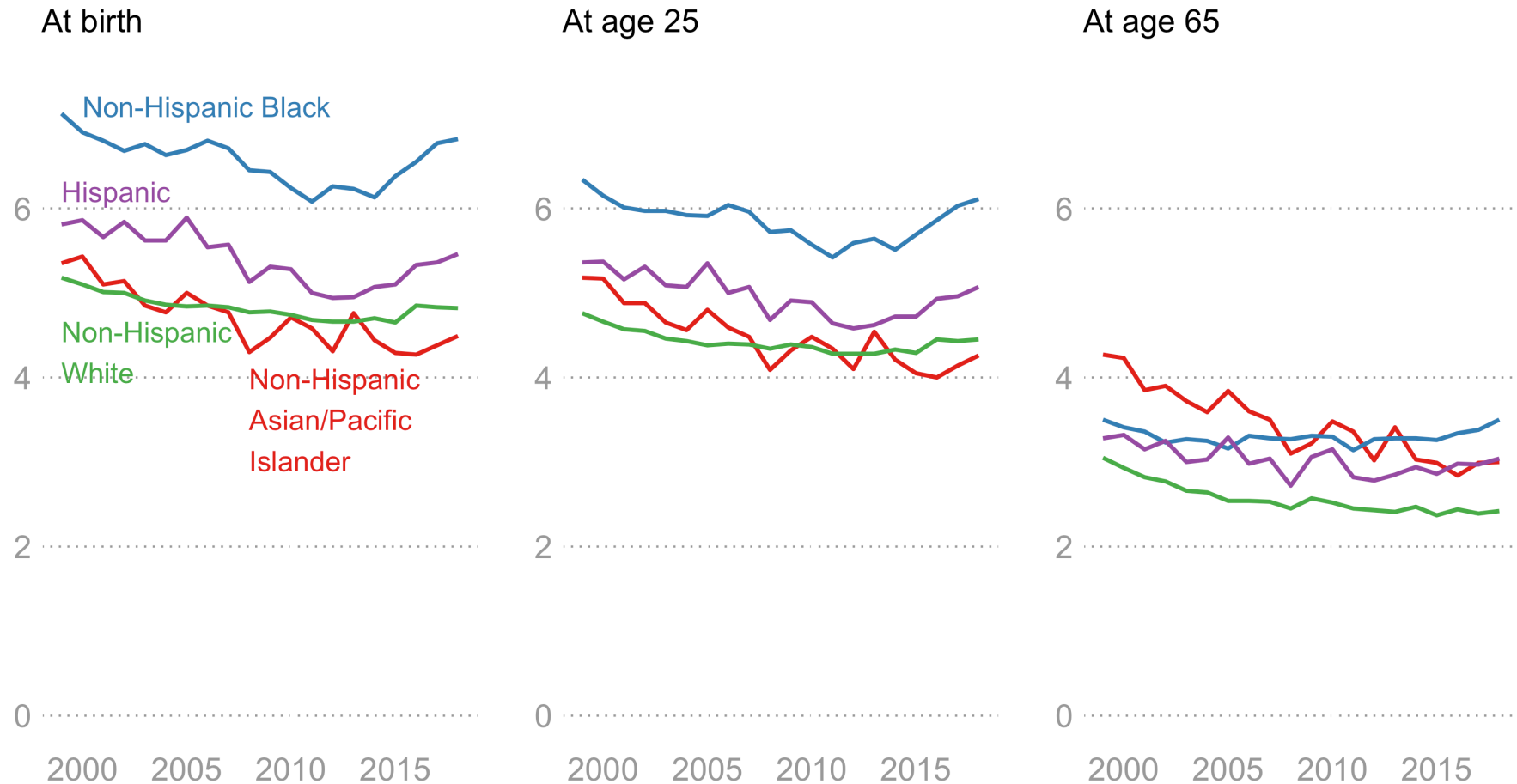
Postwar divergence, then convergence



Source: US National Center for Health Statistics

After years of declines, disadvantage for men now increasing

Gender gap (women - men) in life expectancy (years)

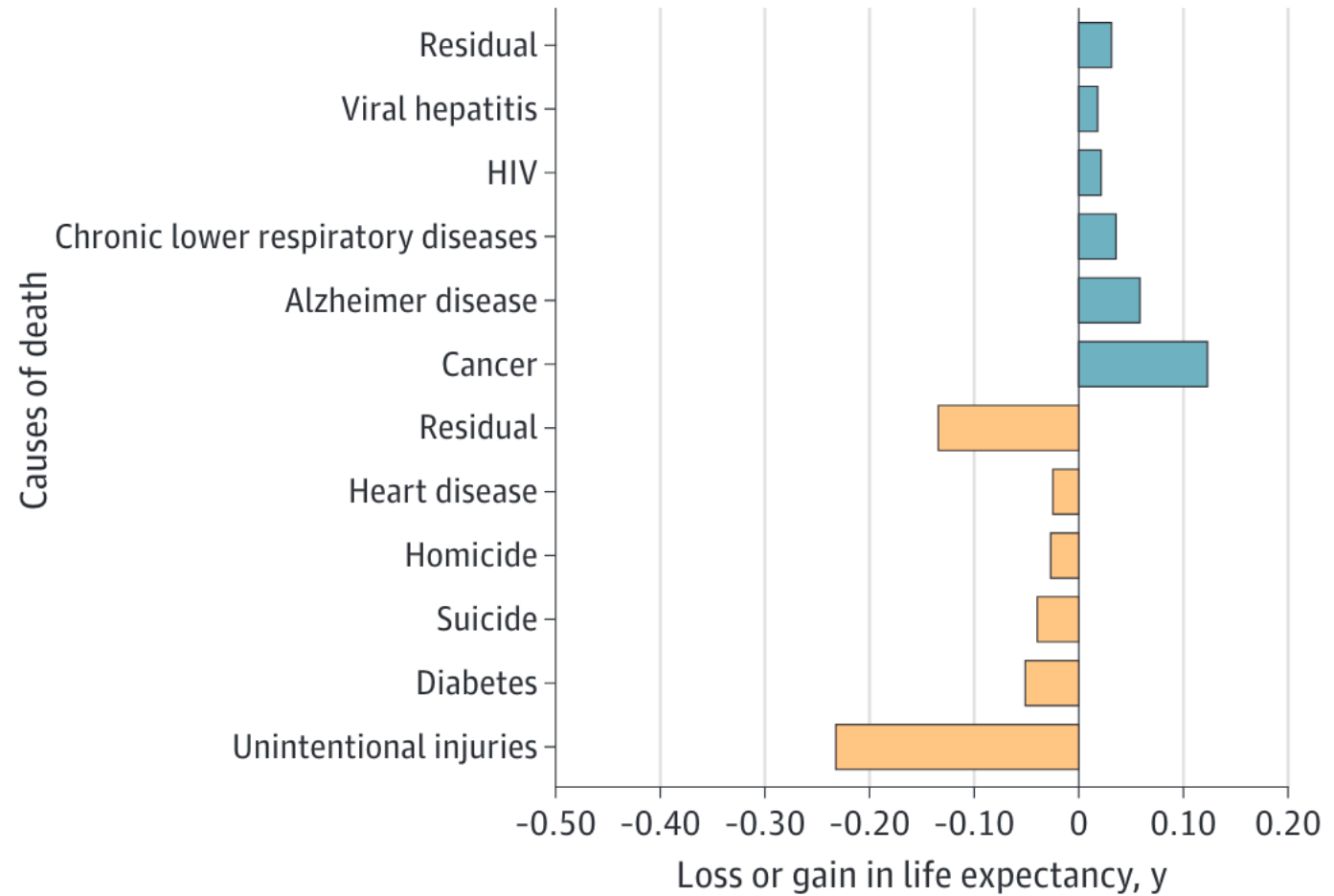


Source: Harper et al. (2021)

Male-female gap increased 0.23 years

- More violent deaths for men
- Opioids
- Further exacerbated by COVID-19

A Contributors to widening gender life expectancy gap, 2010-2019

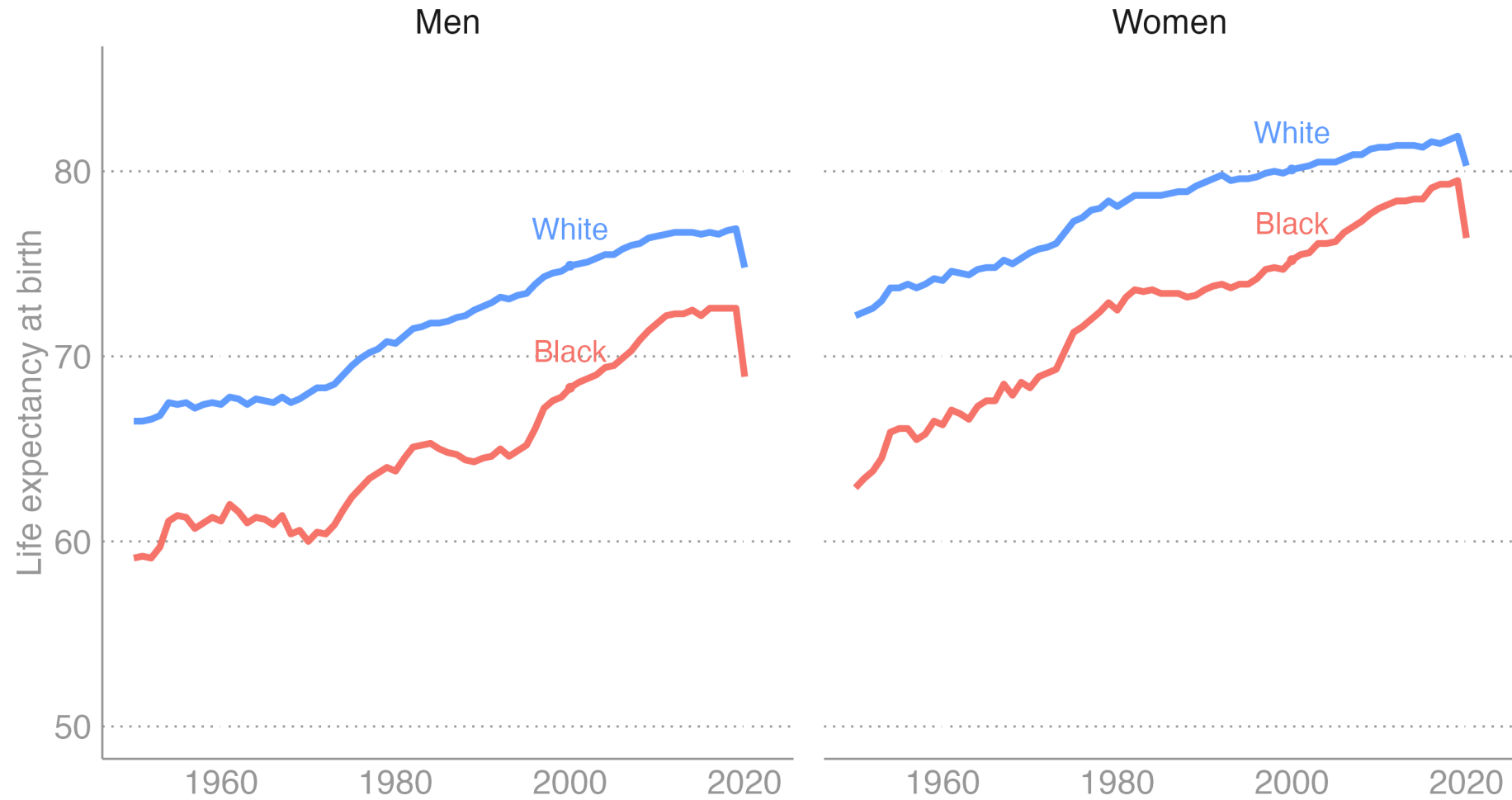


Yan et al. (2024)

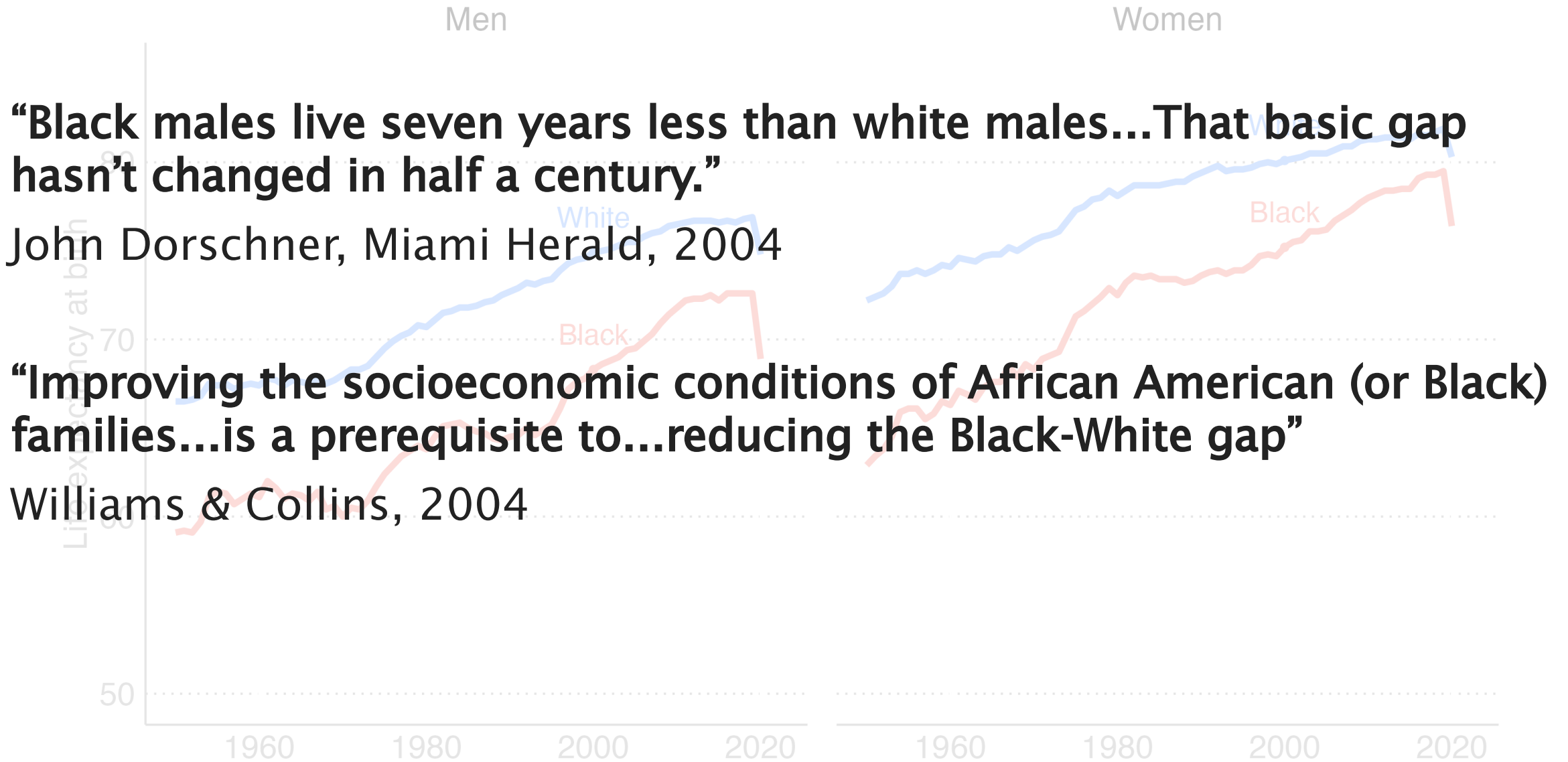
Dimensions of US Health Inequalities

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Trends in life expectancy for blacks and whites



Source: US National Center for Health Statistics



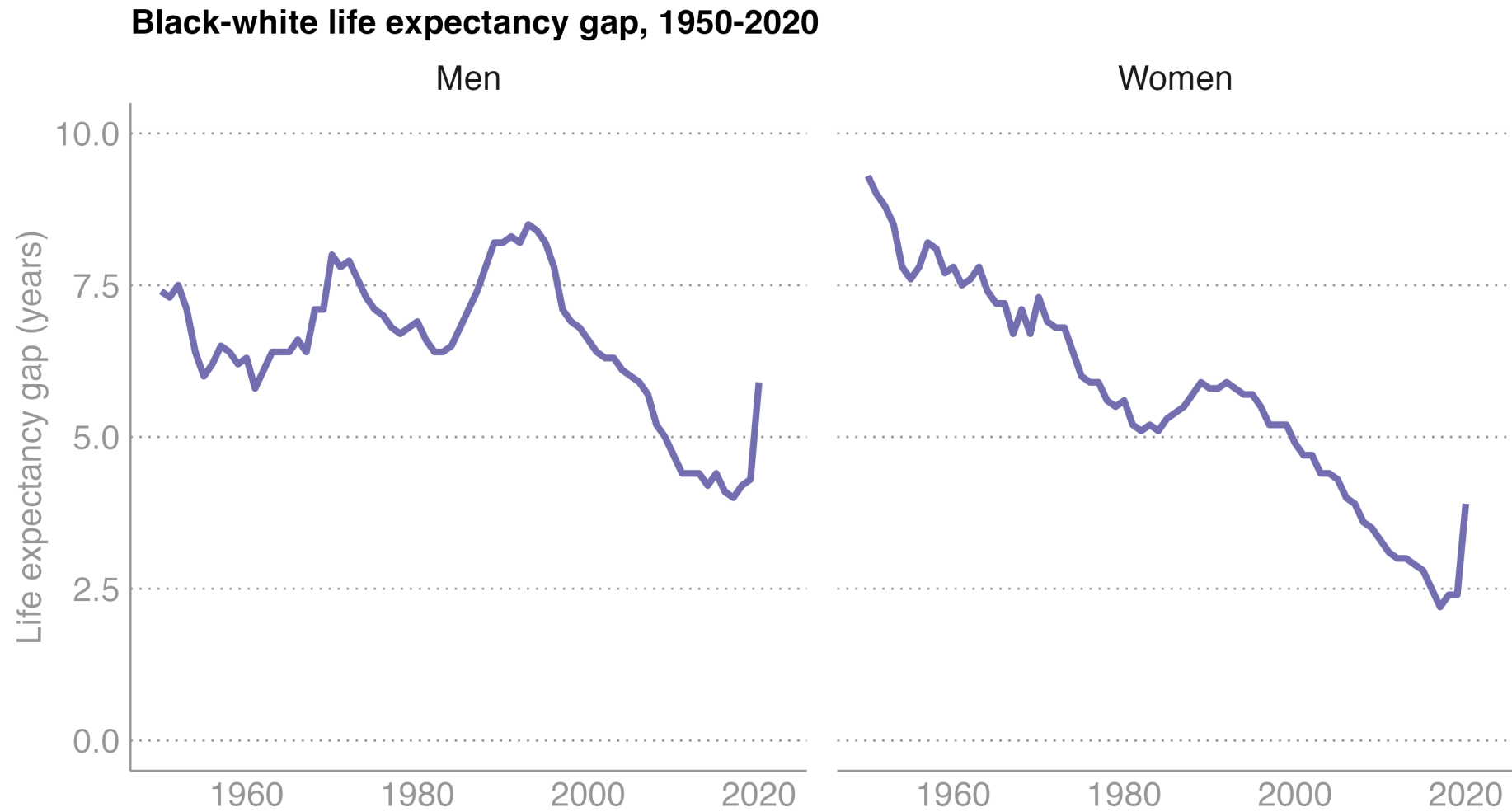
“Black males live seven years less than white males...That basic gap hasn’t changed in half a century.”

John Dorschner, Miami Herald, 2004

“Improving the socioeconomic conditions of African American (or Black) families...is a prerequisite to...reducing the Black-White gap”

Williams & Collins, 2004

The “gap” has varied over the years (especially for men)



Source: US National Center for Health Statistics

Why does the gap go up and down?

- Decomposition by cause of death
- Link specific causes-of-death to potential determinants
- General or specific?

Harper et al. (2007)

Trends in the Black-White Life Expectancy Gap in the United States, 1983-2003

Sam Harper, PhD

John Lynch, PhD

Scott Burris, JD

George Davey Smith, MD

LIFE EXPECTANCY AT BIRTH (THE average number of years an individual can expect to live under current age-specific mortality rates)¹ has generally been increasing in the United States since at least the late 19th century.² Additionally, for as long as data have been given by race/ethnicity, life expectancy of blacks has been lower than that of whites.^{3,4} However, overall trends tend to obscure the fact that the gap in life expectancy between blacks and whites has varied considerably during the 20th century. The near elimination of typhoid and other waterborne communicable diseases improved black life expectancy in both absolute and relative terms compared with whites in the period 1900-1940, but black-white differences stabilized during the 1960s.⁵

Blacks again made absolute and relative progress compared with whites during the 1970s and early 1980s, but the study by Kochanek et al⁶ found that the black-white gap in life expectancy at birth increased between 1984 and 1989, primarily due to slower declines in heart disease among blacks relative to whites and faster increases in homicide and human immunodeficiency virus (HIV)-related mortality among young blacks. The gap continued to widen until the early 1990s, but

Context Since the early 1980s, the black-white gap in life expectancy at birth increased sharply and subsequently declined, but the causes of these changes have not been investigated.

Objective To determine the contribution of specific age groups and causes of death contributing to the changes in the black-white life expectancy gap from 1983-2003.

Design and Setting US vital statistics data from the US National Vital Statistics System, maintained by the National Center for Health Statistics. Standard life table techniques were used to decompose the change in the black-white life expectancy gap by combining absolute changes in age-specific mortality with relative changes in the distribution of causes of death.

Main Outcome Measure The gap in life expectancy at birth between blacks and whites.

Results Among females, the black-white life expectancy gap increased 0.5 years in the period 1983-1993, primarily due to increased mortality from human immunodeficiency virus (HIV) (0.4 years) and slower declines in heart disease (0.1 years), which were somewhat offset by relative improvements in stroke (-0.1 years). The gap among males increased by 2 years in the period 1983-1993, principally because of adverse changes in HIV (1.1 years), homicide (0.5 years), and heart disease (0.3 years). Between 1993 and 2003, the female gap decreased by 1 year (from 5.59 to 4.54 years). Half of the total narrowing of the gap among females was due to relative mortality improvement among blacks in heart disease (-0.2 years), homicide (-0.2 years), and unintentional injuries (-0.1 years). The decline in the life expectancy gap was larger among males, declining by 25% (from 8.44 to 6.33 years). Nearly all of the 2.1-year decline among males was due to relative mortality improvement among blacks at ages 15 to 49 years (-2.0 years). Three causes of death accounted for 71% of the narrowing of the gap among males (homicide [-0.6 years], HIV [-0.6 years], and unintentional injuries [-0.3 years]), and lack of improvement in heart disease at older ages kept the gap from narrowing further.

Conclusions After widening during the late 1980s, the black-white life expectancy gap has declined because of relative mortality improvements in homicide, HIV, unintentional injuries, and, among females, heart disease. Further narrowing of the gap will require concerted efforts in public health and health care to address the major causes of the remaining gap from cardiovascular diseases, homicide, HIV, and infant mortality.

JAMA. 2007;297:1224-1232

www.jama.com

since 1993, the black-white gap in life expectancy at birth has declined to historically low levels (from a 7.1-year gap in 1993 to a 5.3-year gap in 2003) (FIGURE 1).⁷ The extent to which certain age groups and causes of death may have contributed to the increase and decrease in the black-white life expect-

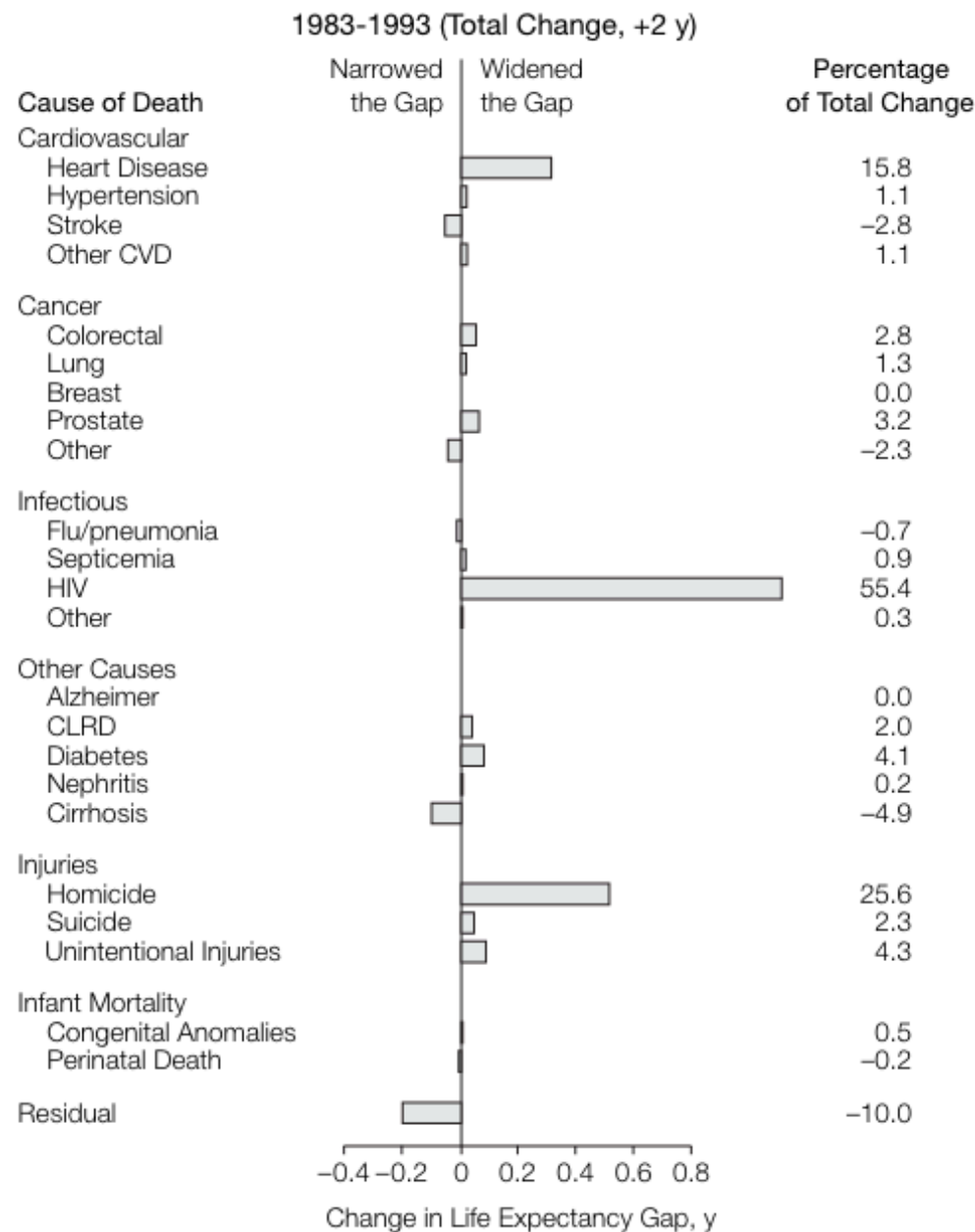
Author Affiliations: Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec (Drs Harper and Lynch); School of Law, Temple University, Philadelphia, Pa (Mr Burris); and Department of Social Medicine, University of Bristol, Bristol, England (Dr Davey Smith).

Corresponding Author: Sam Harper, PhD, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, 1020 Pine Ave, West Room 17B, Montreal, Quebec, H3A 1A2 Canada (sam.harper@mcgill.ca).

97% of increase in the gap for men due to just 3 'causes':

- HIV
- Homicide (start of crack epidemic)
- CVD (slower declines for blacks)

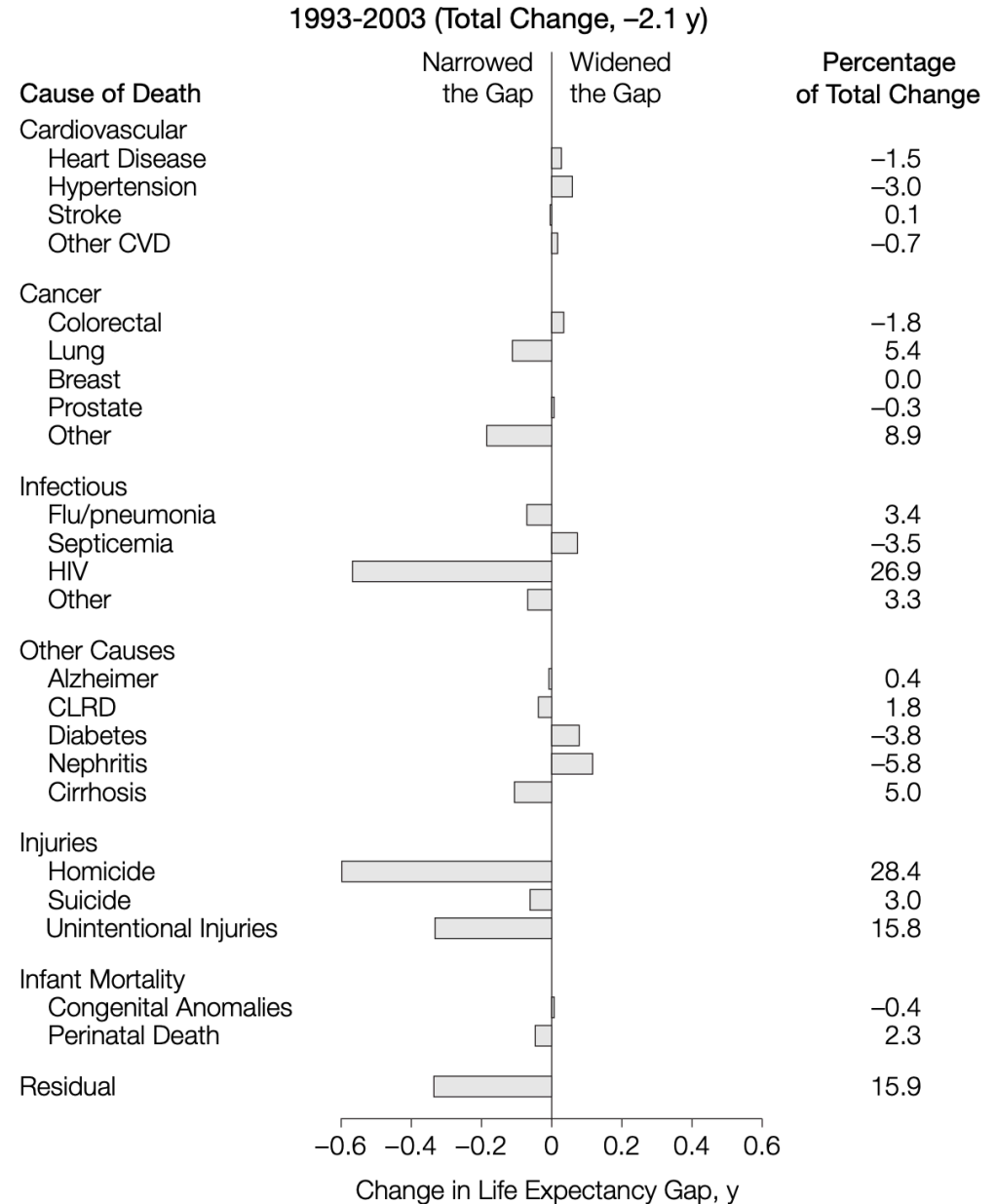
Harper et al. (2007)



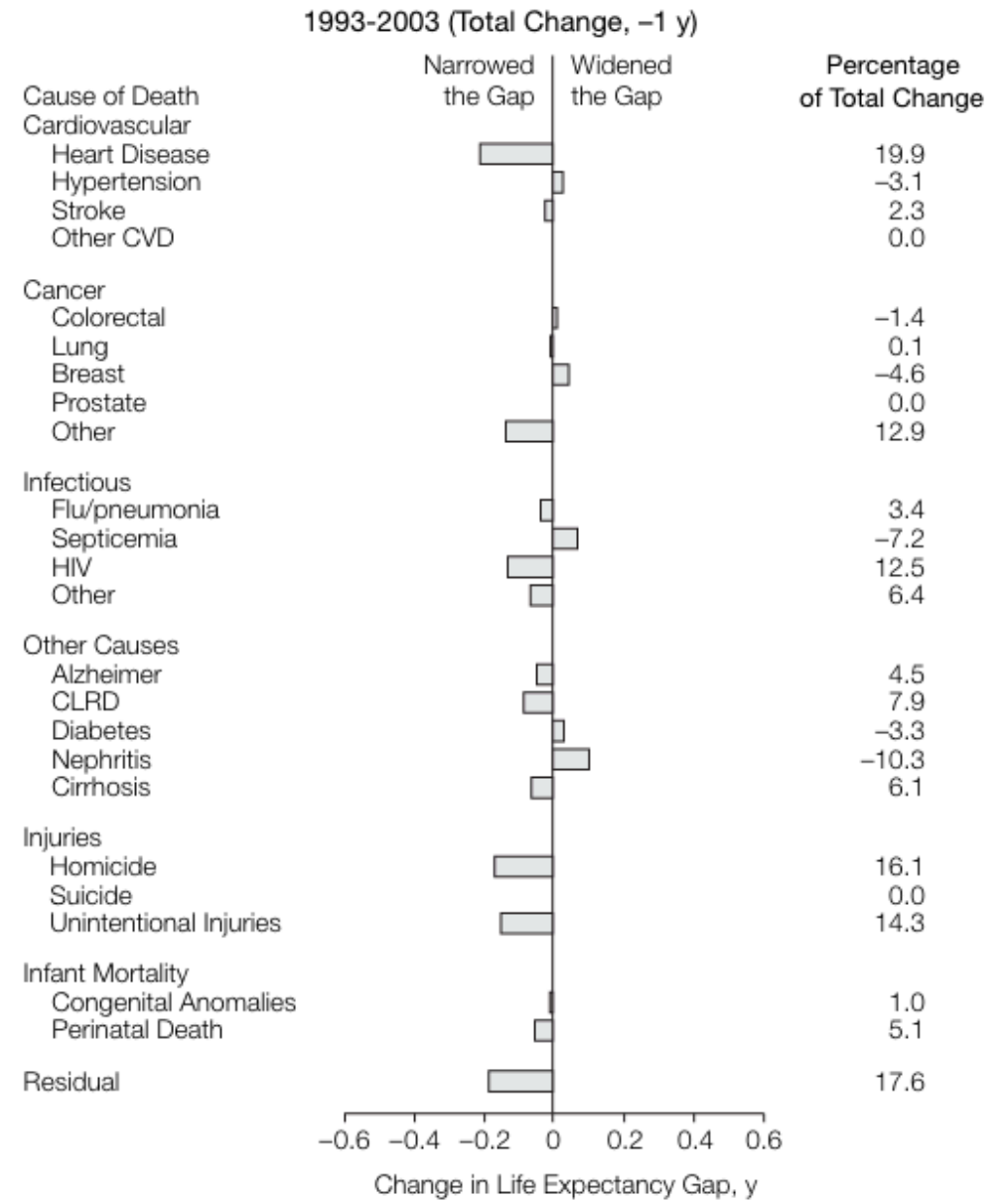
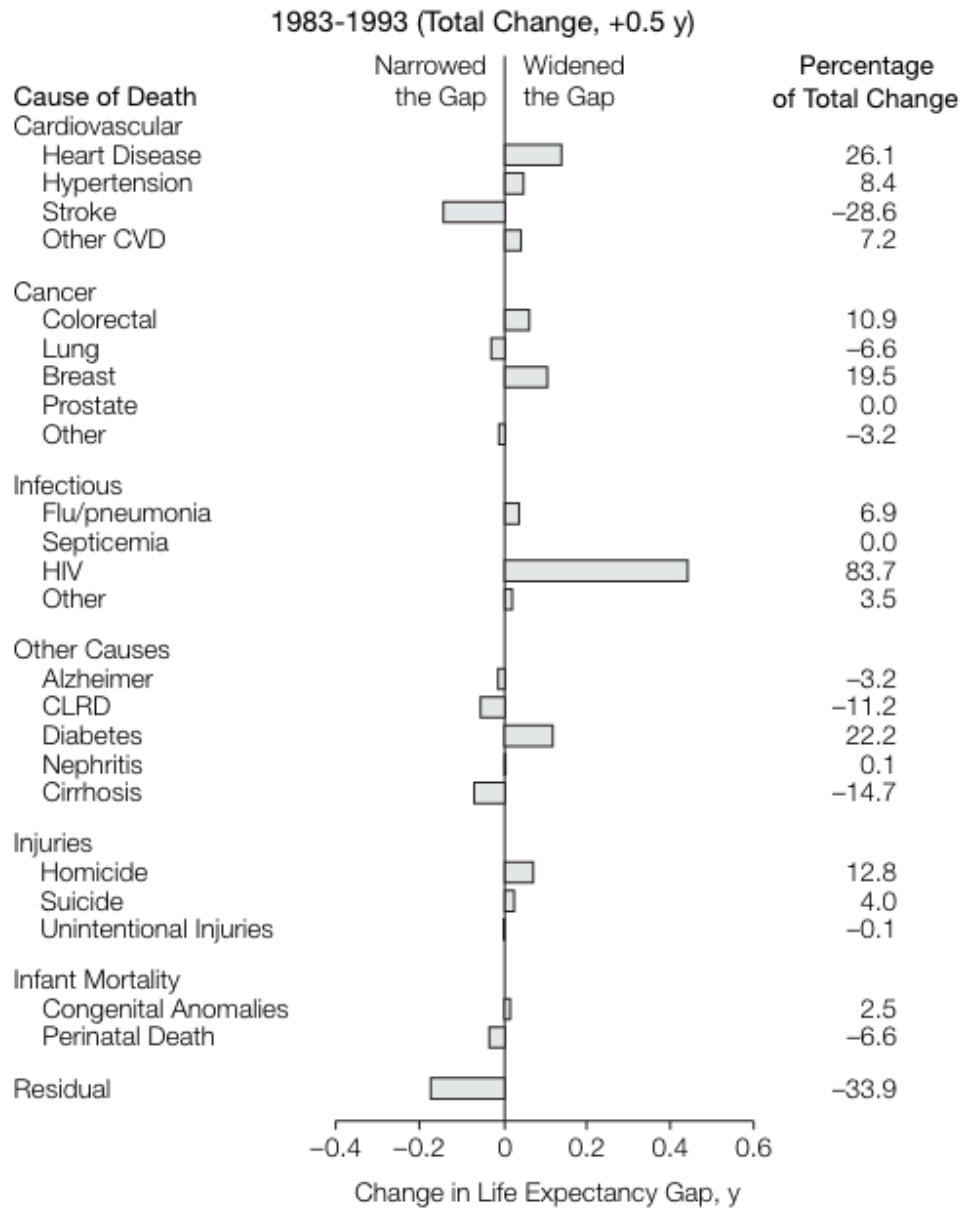
70% of decline in the gap for men due to just 3 'causes':

- HAART therapy for HIV
- Homicide (waning crack epidemic)
- Drugs (start of opioid epidemic... for whites)

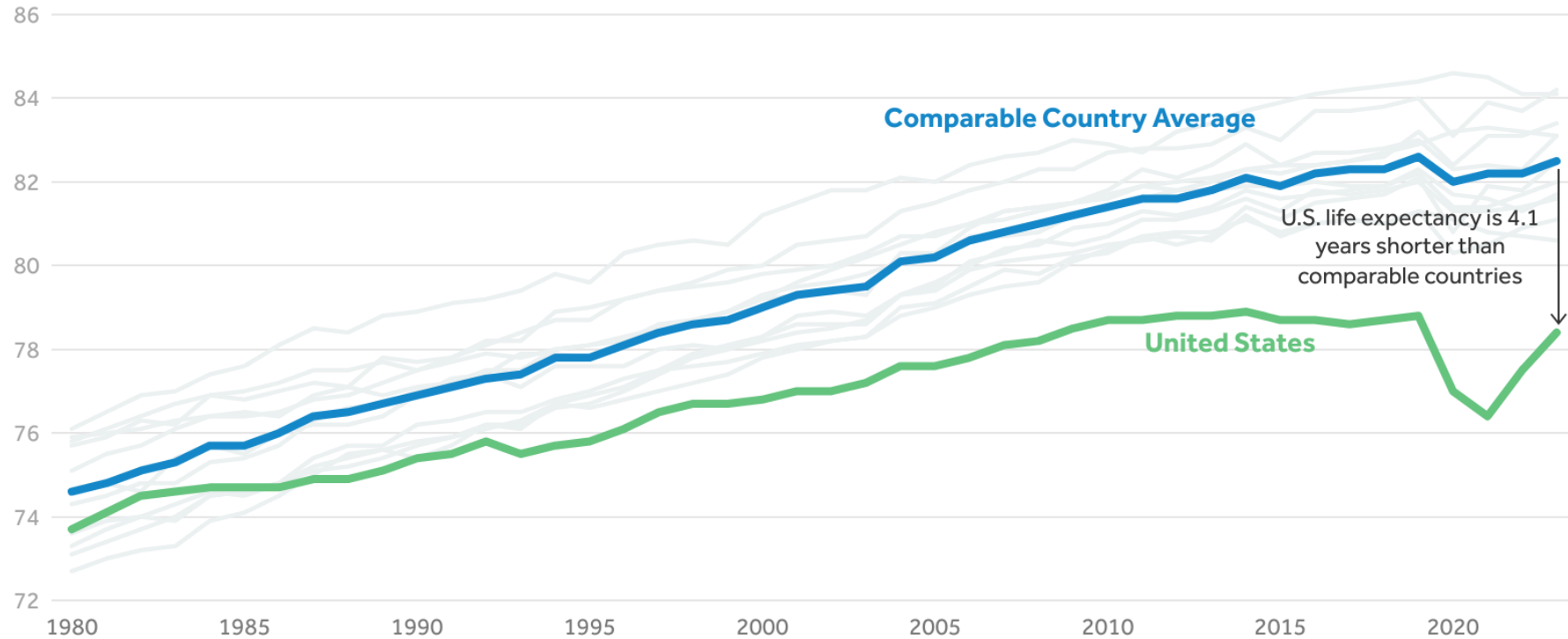
Harper et al. (2007)



Females



Life expectancy at birth, in years, 1980-2023

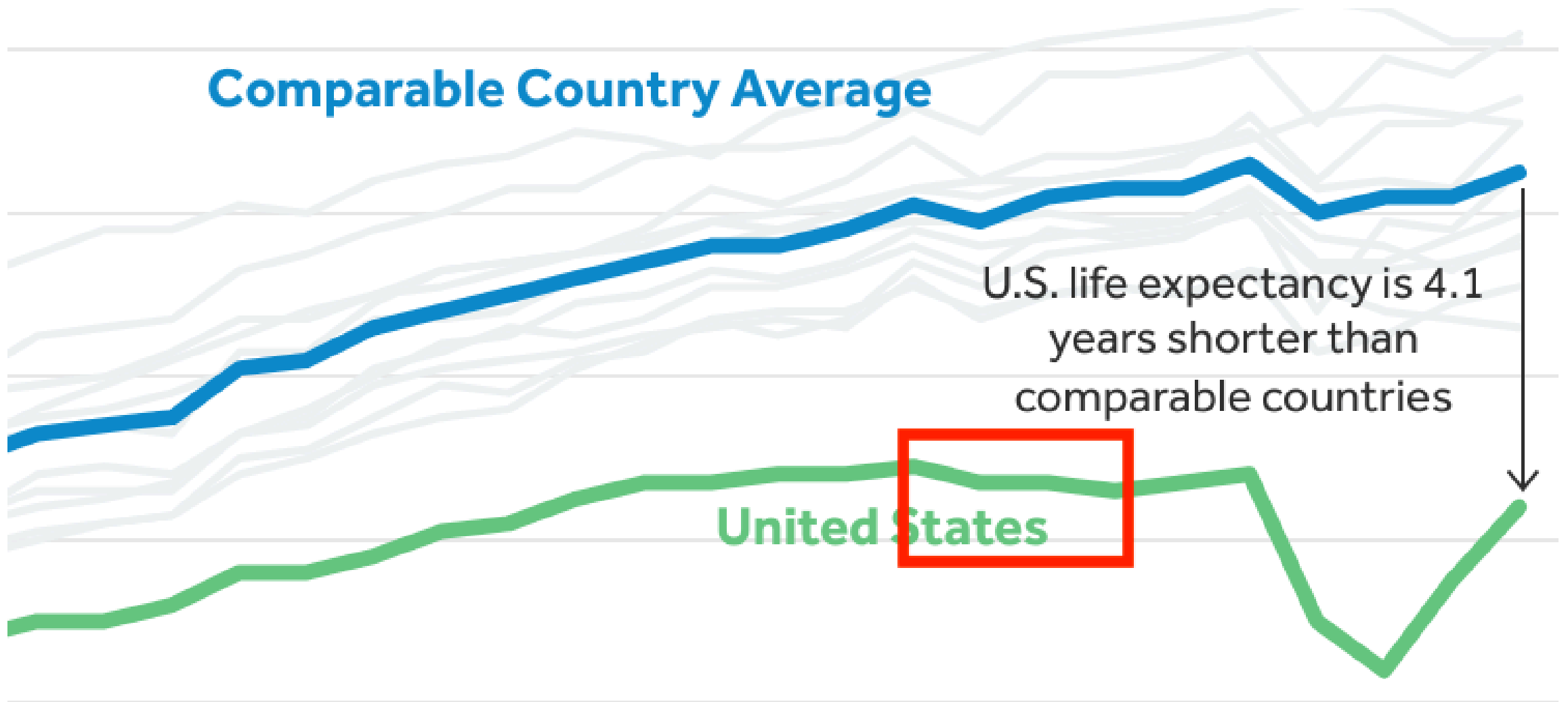


Notes: Comparable countries include Australia, Austria, Belgium, Canada, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the U.K. 2023 U.K. life expectancy data is only for England and Wales. See Methods section of "How does U.S. life expectancy compare to other countries?"

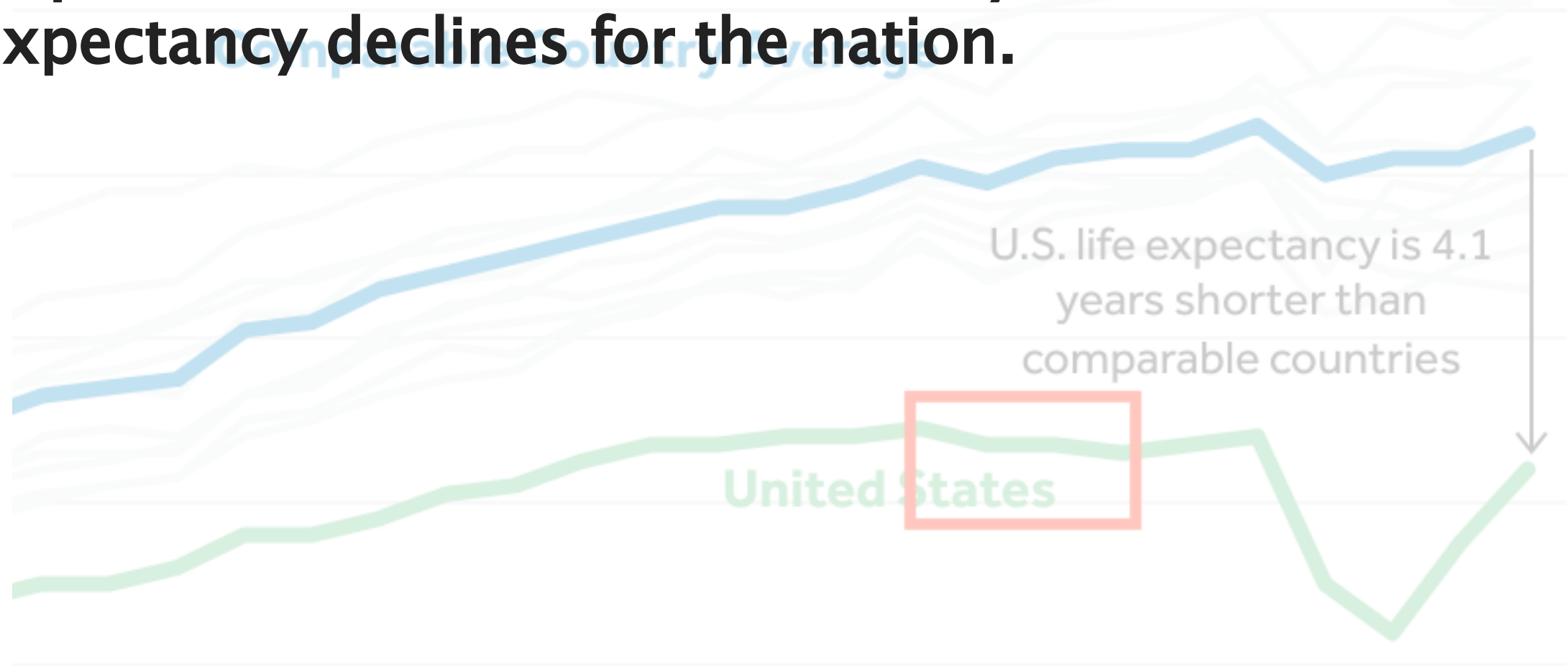
Source: KFF analysis of CDC, OECD, Australian Bureau of Statistics, German Federal Statistical Office, Japanese Ministry of Health, Labour, and Welfare, Statistics Canada, and U.K. Office for National Statistics data

Peterson-KFF
Health System Tracker

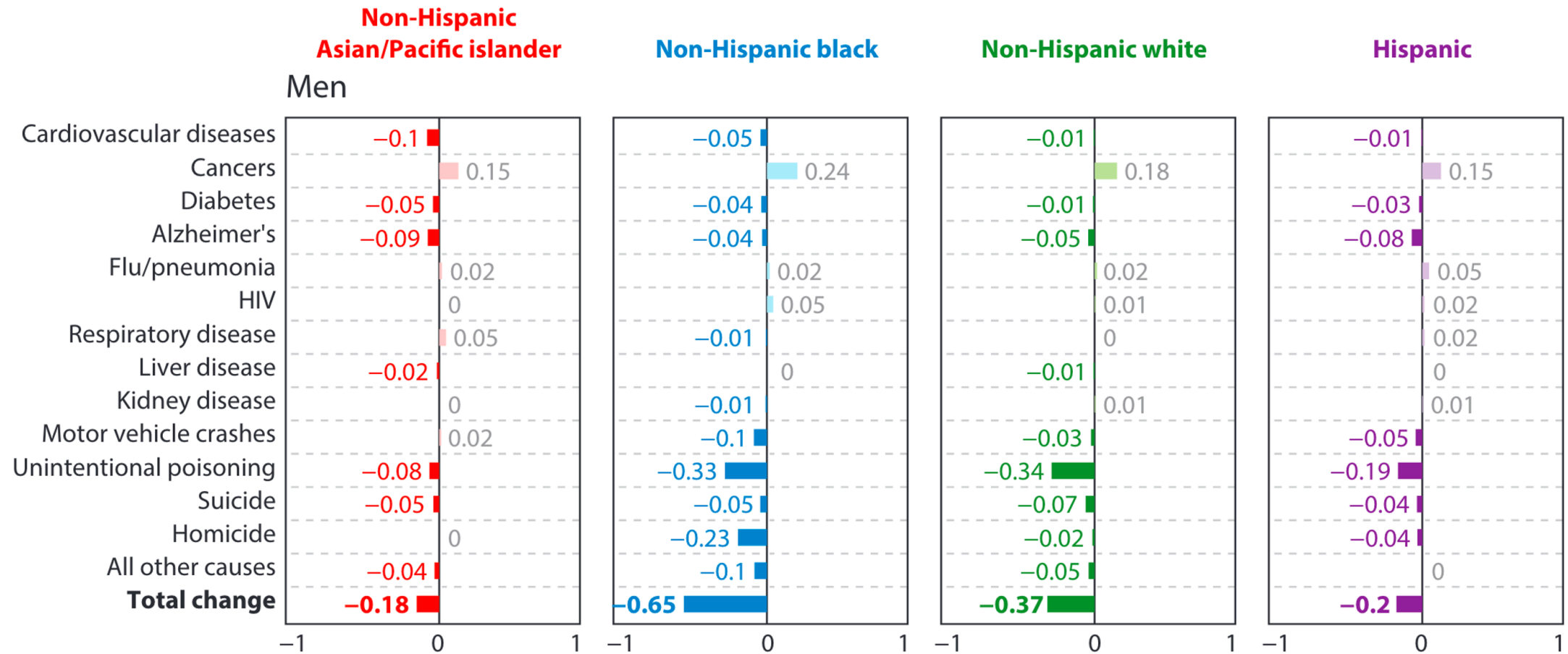
Comparable Country Average



Unprecedented *three* consecutive years of life expectancy declines for the nation.



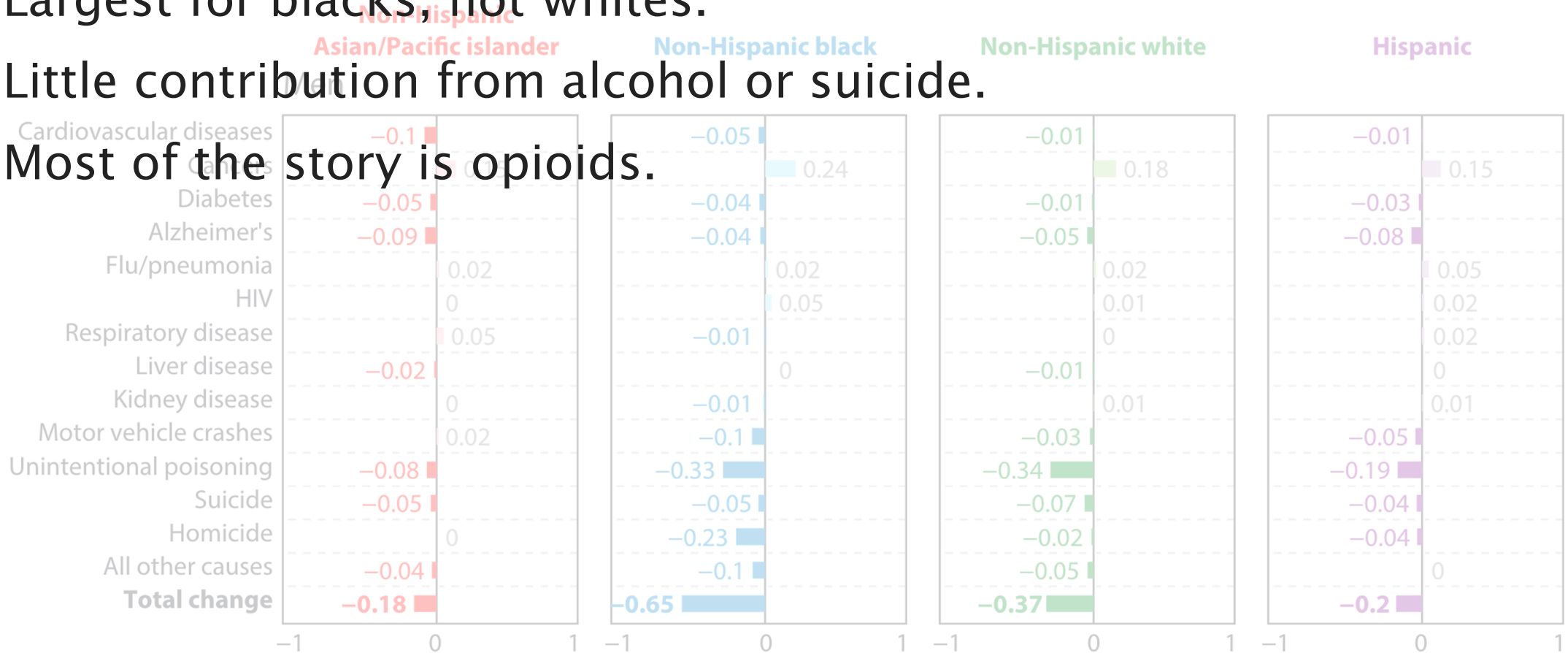
Years of LE lost 2014-2017, by gender, race, and cause



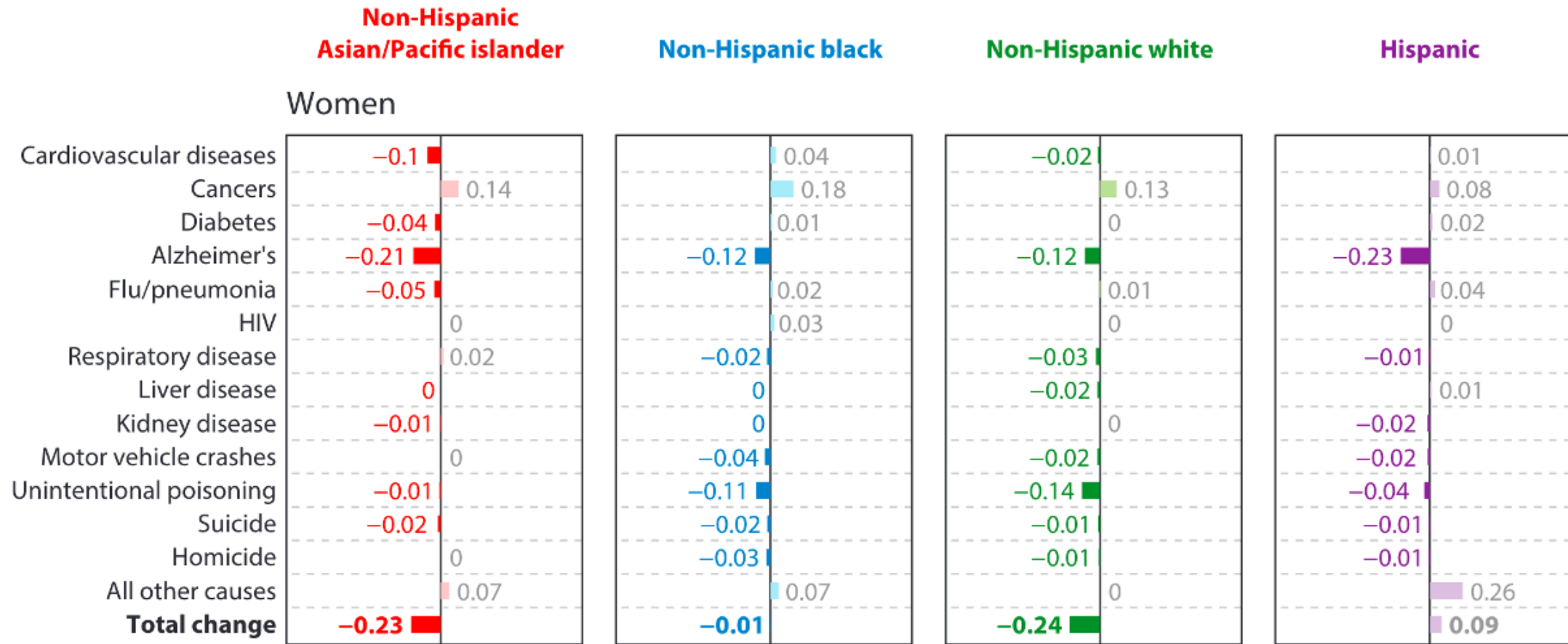
Harper et al. (2021)

- All racial groups lost years.
- Largest for blacks, not whites.
- Little contribution from alcohol or suicide.

- Most of the story is opioids.

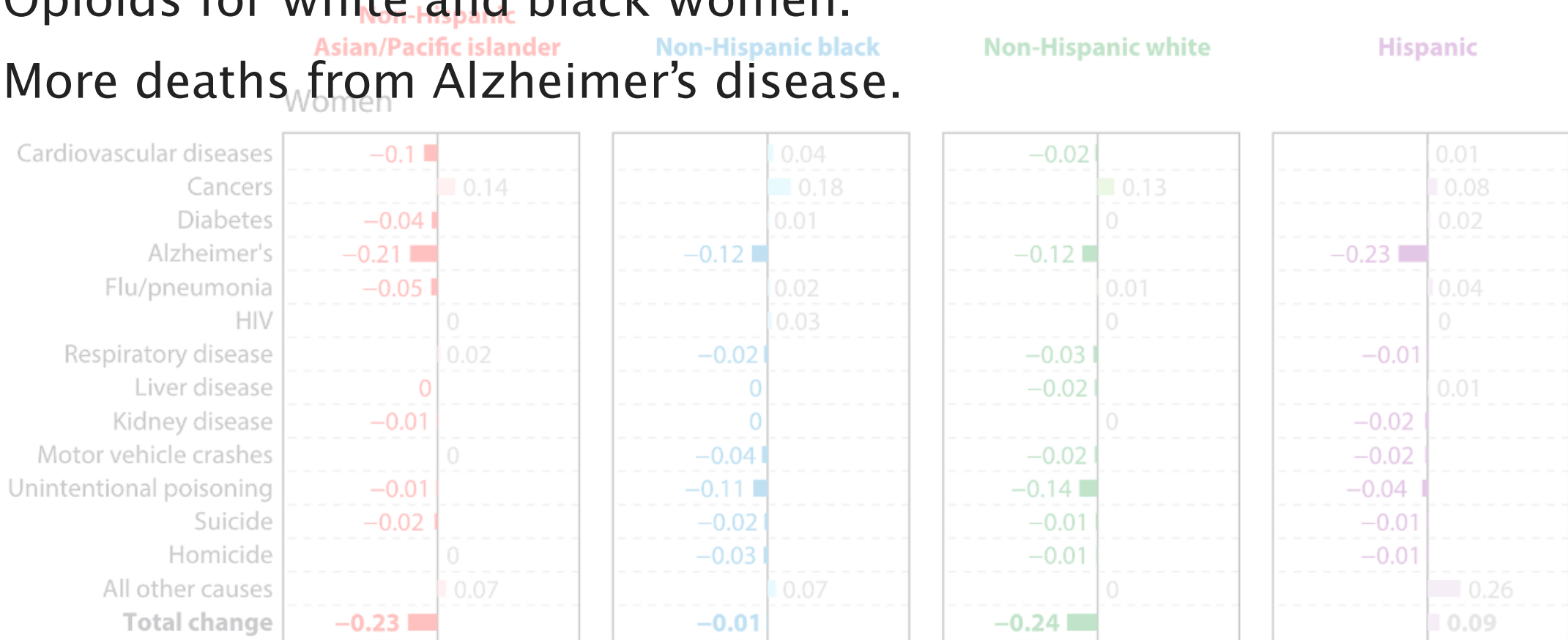


Years of LE lost 2014-2017, by gender, race, and cause



Harper et al. (2021)

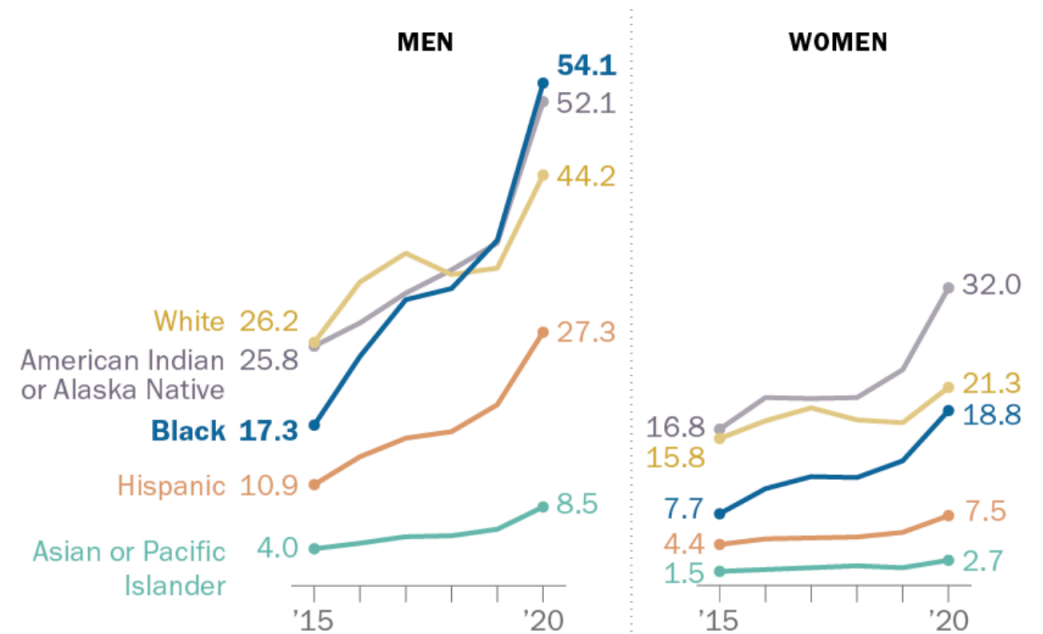
- Fewer years lost, uneven by race.
- Opioids for white and black women.
- More deaths from Alzheimer's disease.



- Much faster increases in opioid overdoses among Blacks *and* American Indian and Alaska Natives in recent years.
- Cannot be chiefly explained by the loss of economic opportunities among rural white men.

Drug overdose death rate among Black men in the U.S. more than tripled between 2015 and 2020

U.S. drug overdose death rate per 100,000 people, by race and ethnicity (age-adjusted)



Note: All racial categories include people of one race, as well as those who are multiracial. For those who are multiracial, the CDC selects a single race to allow for consistent comparisons. All racial groups refer to non-Hispanic members of those groups, while Hispanics are of any race.

Source: Centers for Disease Control and Prevention.

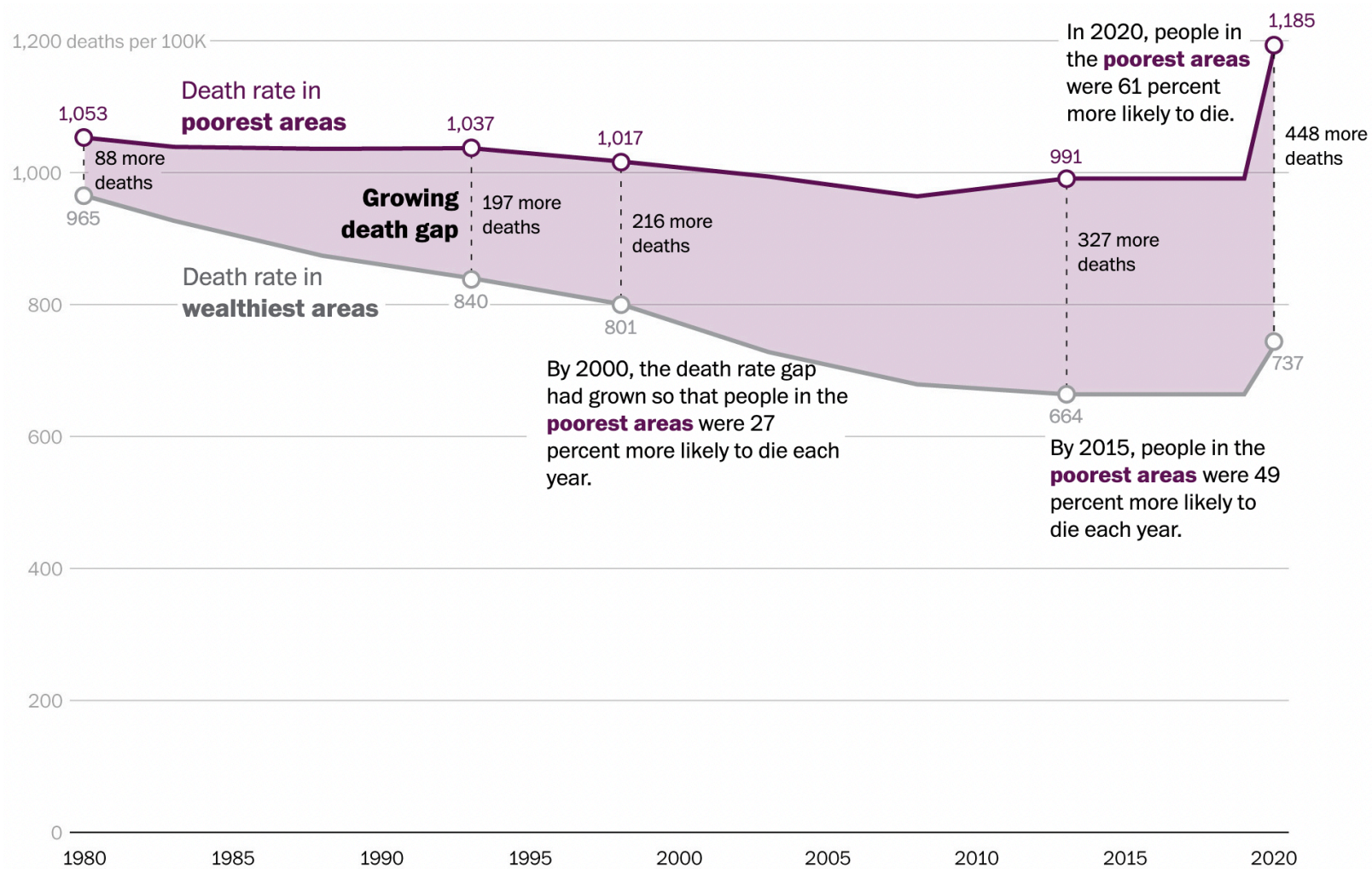
PEW RESEARCH CENTER

Source: [Pew Research Center](#)

Dimensions of US Health Inequalities

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Widening gaps by area-based income



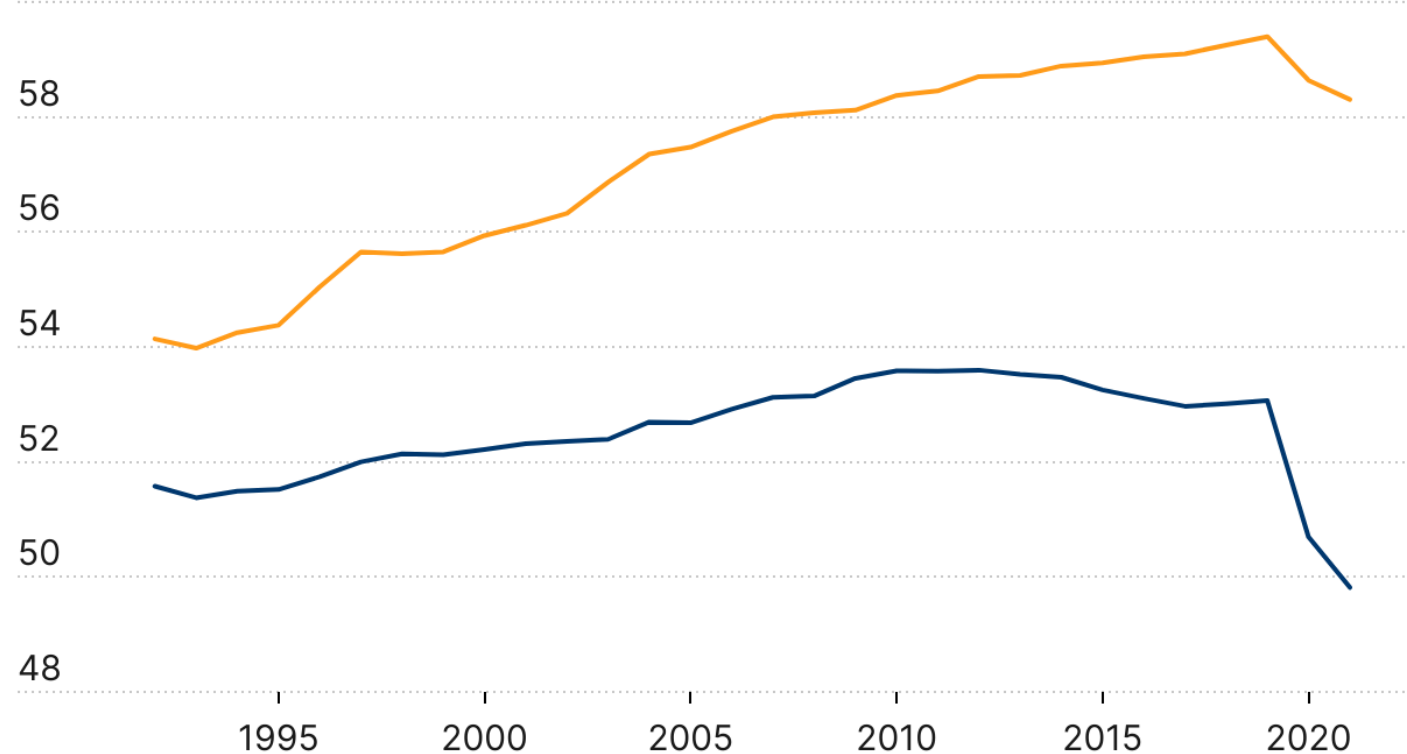
Source: [Washington Post, 2023](#)

Artifact of selection?
Due to 'deaths of
despair'?
Mechanisms?

Adult life expectancy at age 25 for college graduates vs. non-graduates

— Life expectancy without BA — Life expectancy with BA

60 years beyond age 25



Case and Deaton (2023)

Source: Authors' calculations using information from individual death certificates from the National Vital Statistics System.

BROOKINGS

Mortality increases largely confined to bottom 10th percentile of education.

Selection bias likely explains some of the e_{25} gap increase.

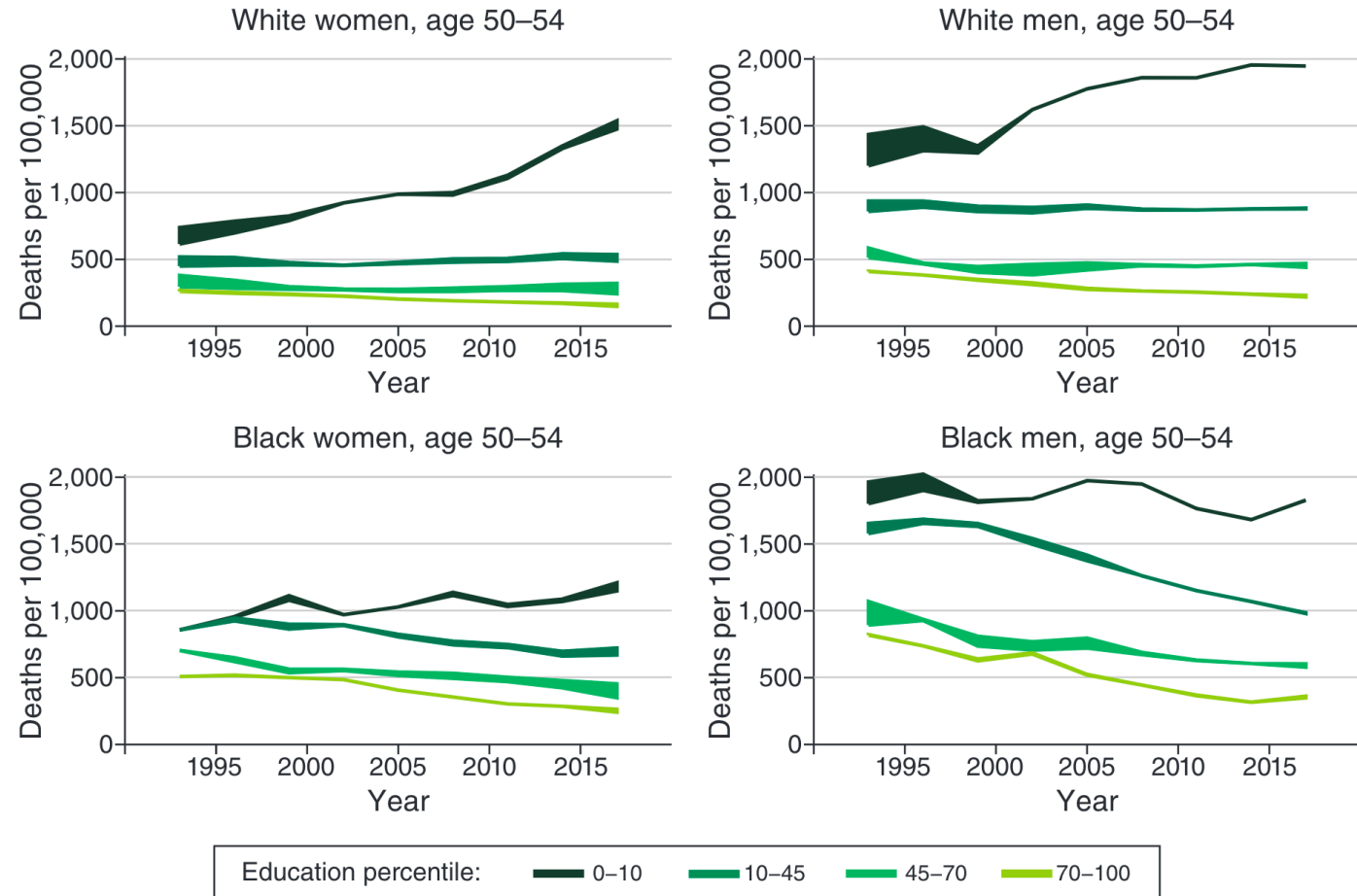
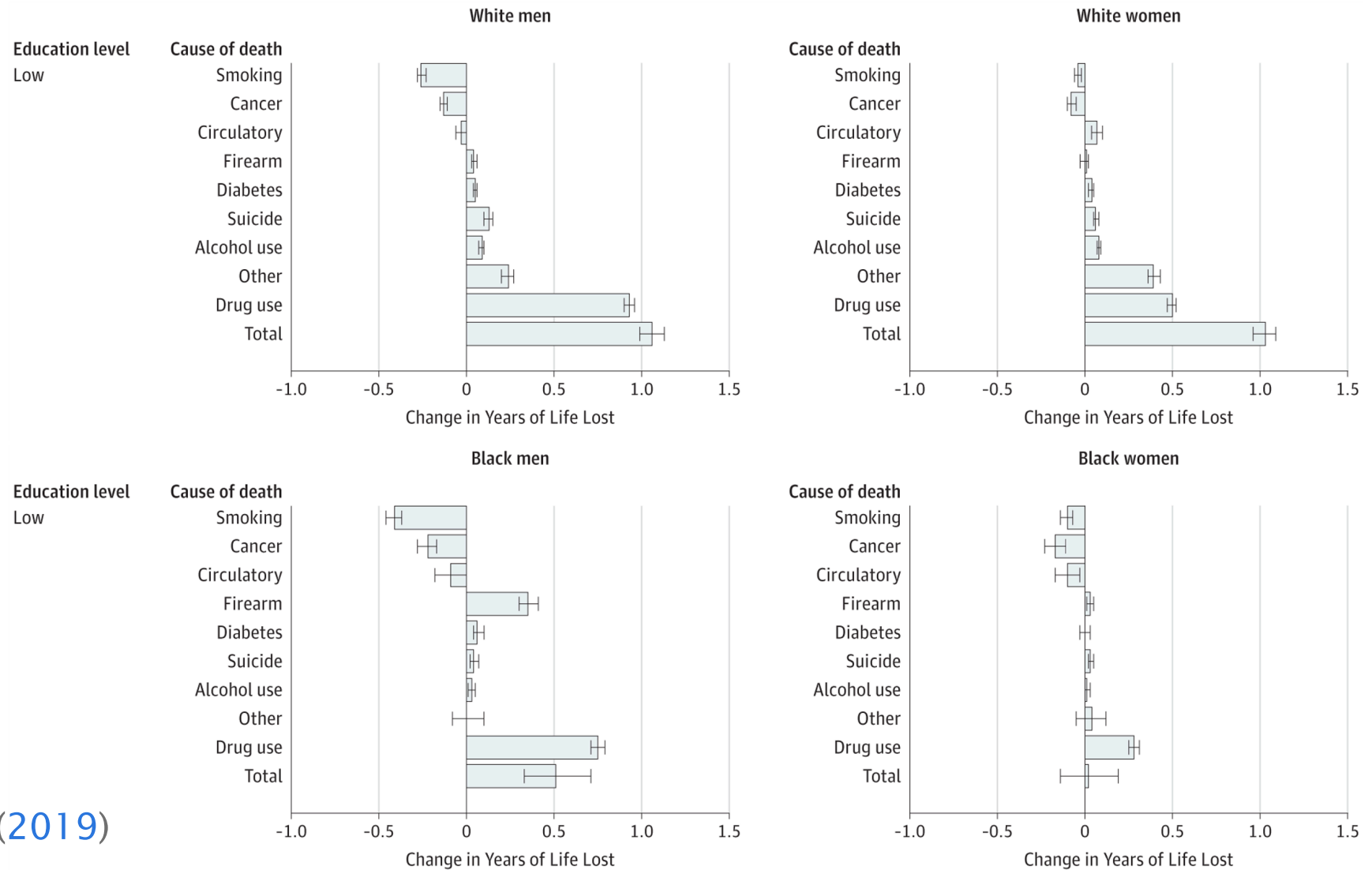


FIGURE 5. ALL-CAUSE MORTALITY CHANGE IN CONSTANT EDUCATION PERCENTILES:
AGE 50-54, 1992-1994 TO 2016-2018

Novosad et al. (2022) See also Dowd and Hamoudi (2014)

Excess Years of Life Lost for lowest educated adults

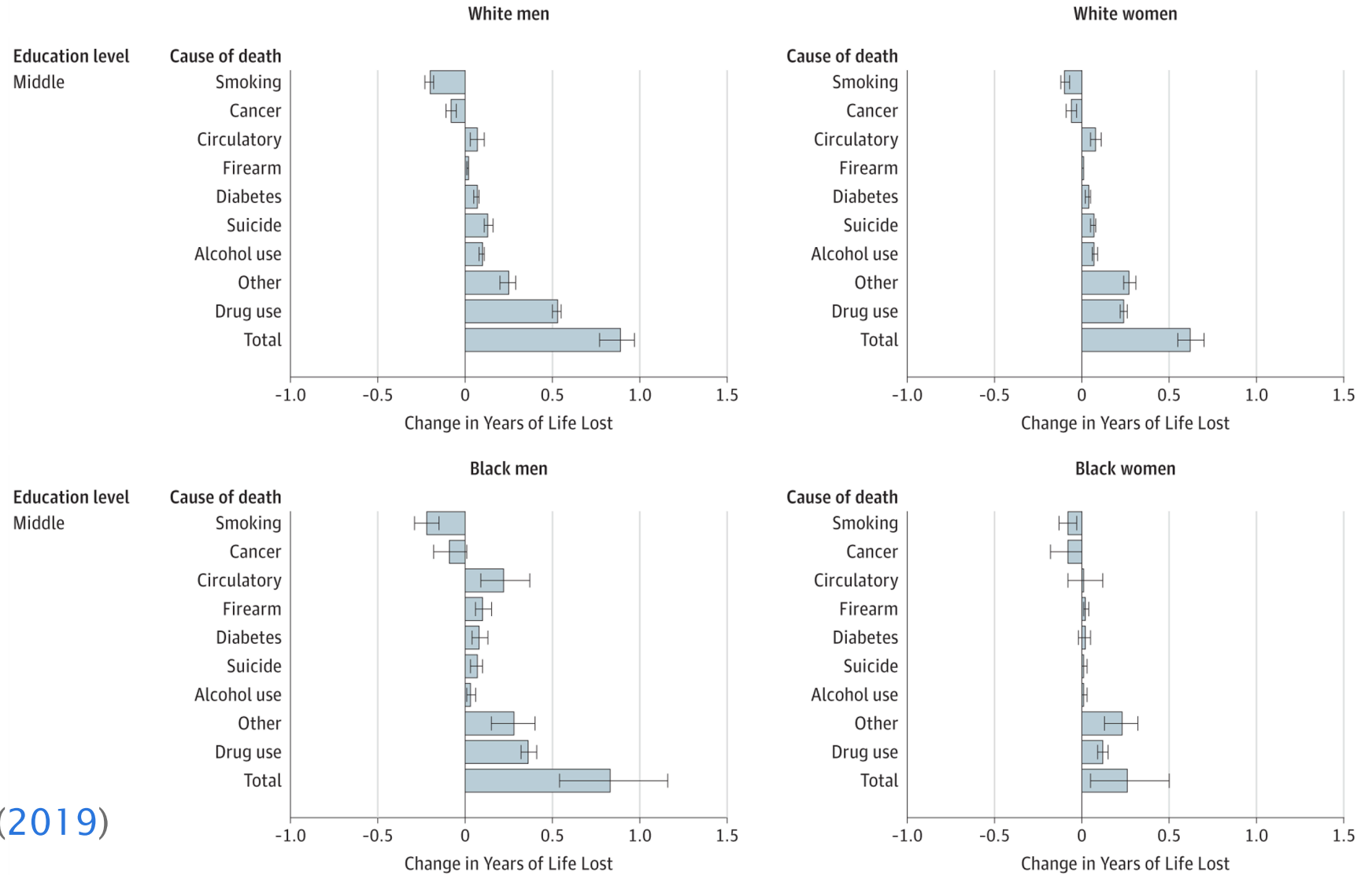
- Large impact of opioids
- Whites and Blacks
- Suicide? Alcohol?



Sasson and Hayward (2019)

Similar for middle educated

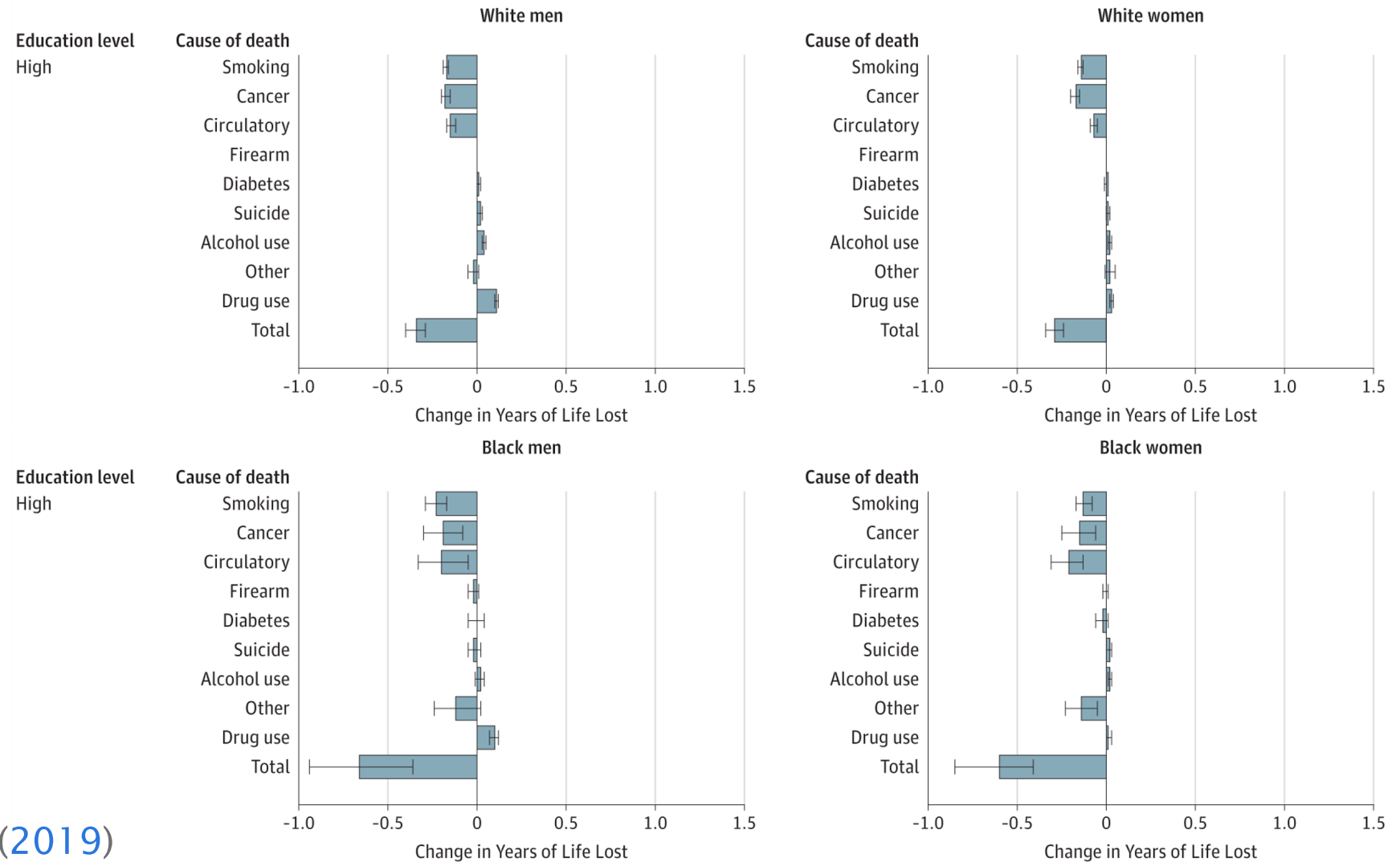
- Mostly opioids and 'other' causes.



Sasson and Hayward (2019)

Reduced YLL among those with university degrees

- Regardless of race
- More opioids
- Improving CVD

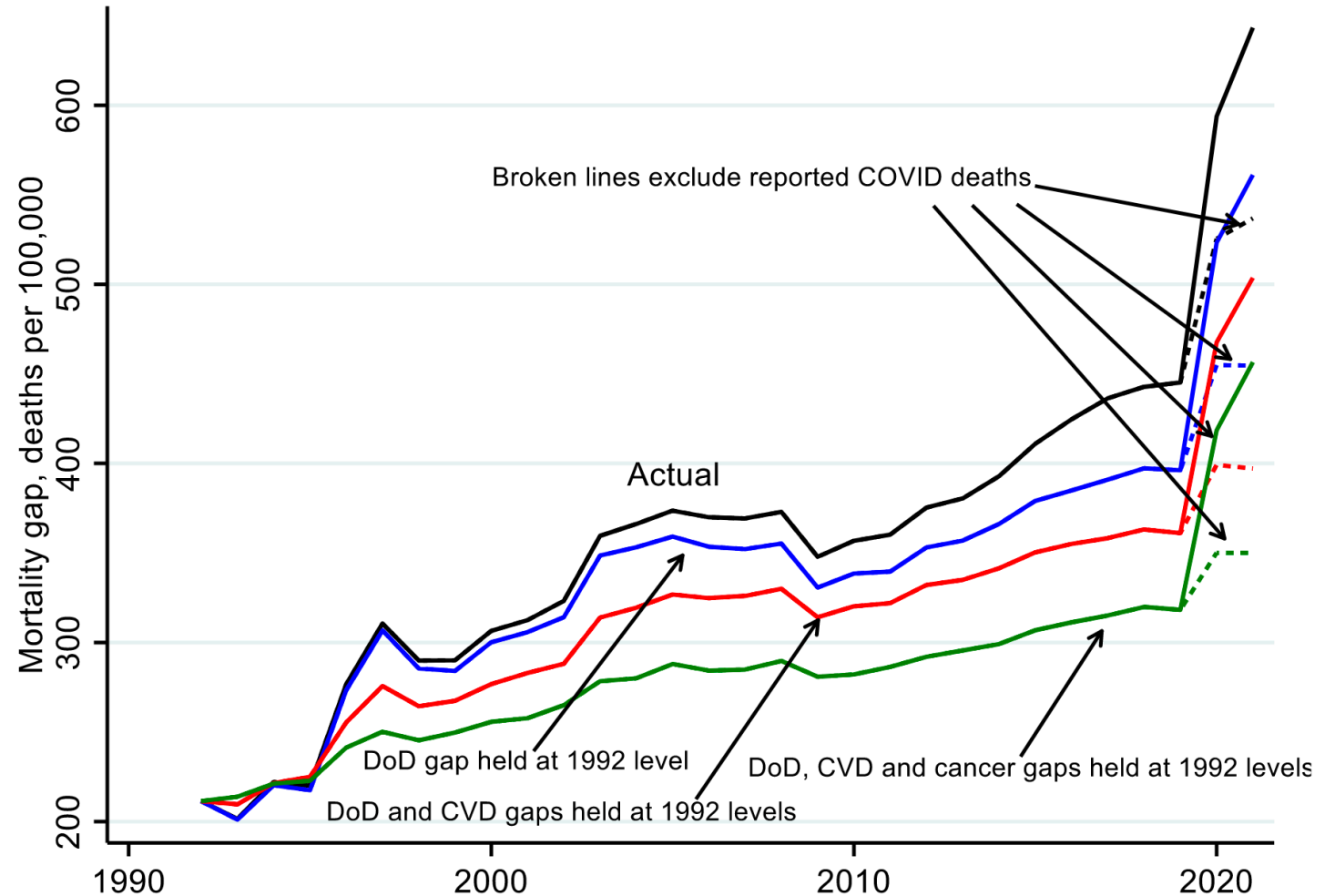


Sasson and Hayward (2019)

Holding DoD,
cancers and CVD at
1992 levels, gap still
increases (at lower
level)

Now these are part
of the story?

Age-adjusted 25-84 mortality gaps between those without and with a BA



Case and Deaton (2023)

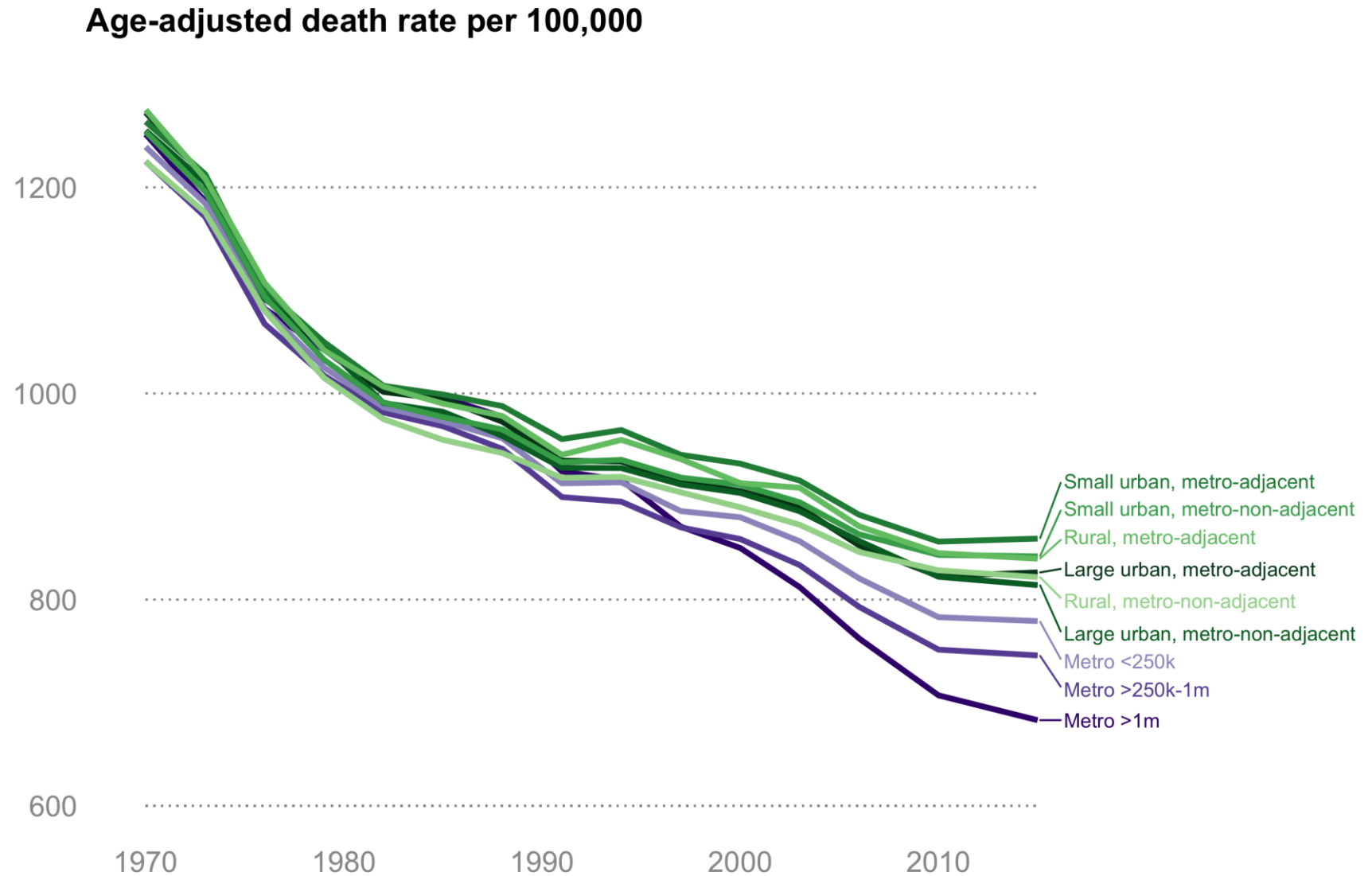
Dimensions of US Health Inequalities

1. Gender
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“The rural opioid crisis of prescription drugs is largely a story of growing spatial inequality and of places left behind.”

Source: Richard Florida, [Bloomberg](#), Dec 5, 2019

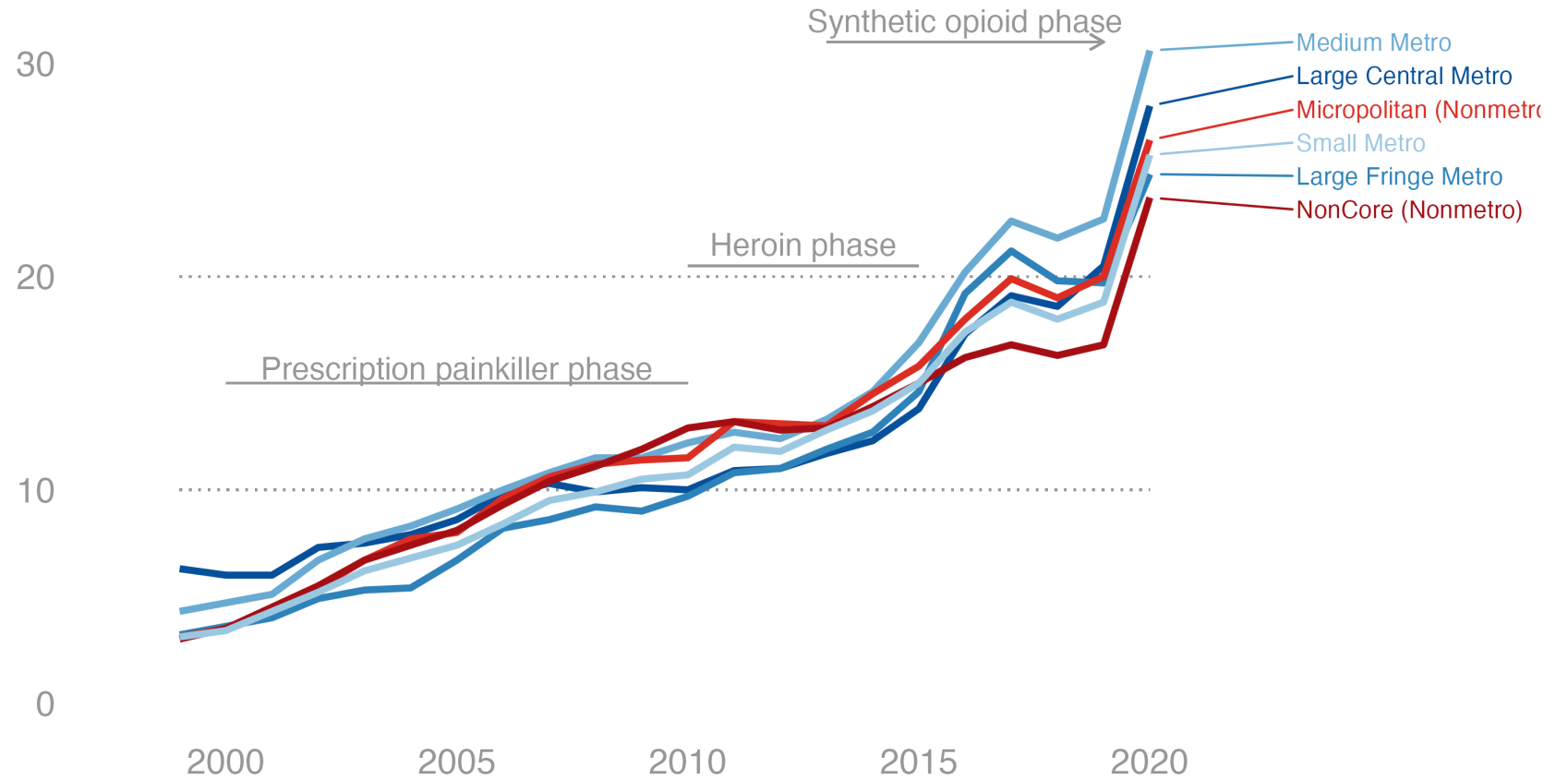
- Rural-urban mortality gap began widening in 1980s.
- Slower CVD declines.



Source: Author's calculations.

Impact on rural areas varies by 'phase' of epidemic

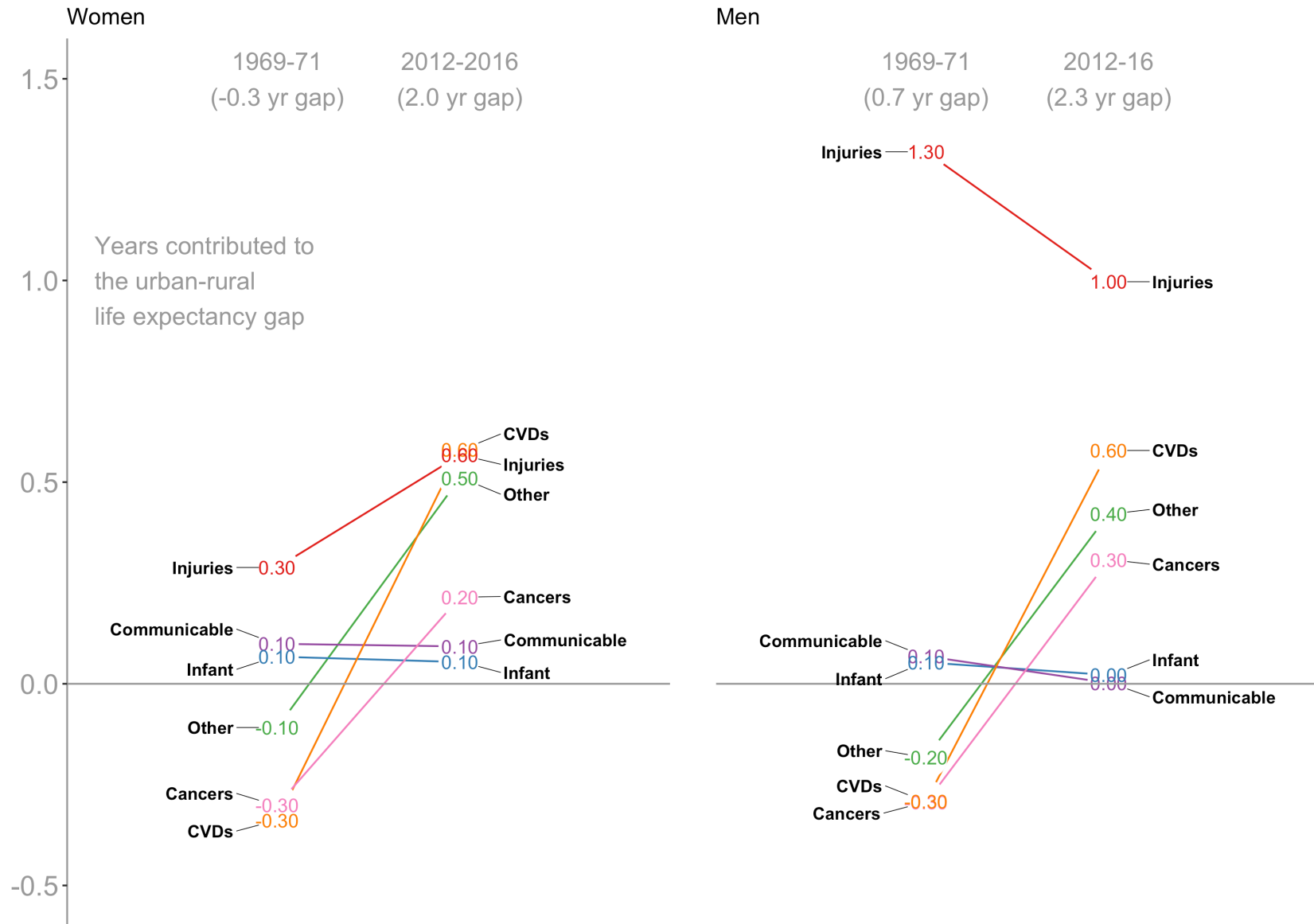
Age-adjusted unintentional poisoning death rate per 100,000, 1999-2020



Source: Author's calculations.

- Large role for CVD
- Reduced impact of injuries for men

Major causes of death contributing to urban-rural differences in life expectancy at birth

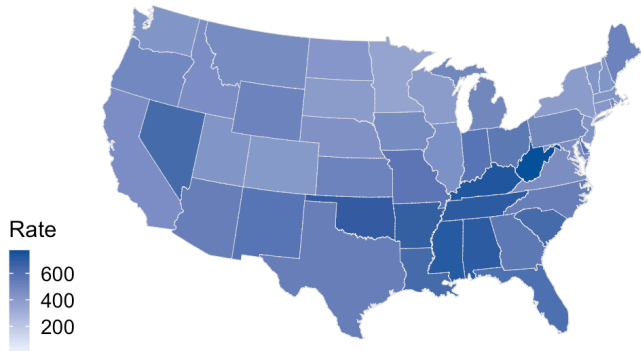


Source: Author

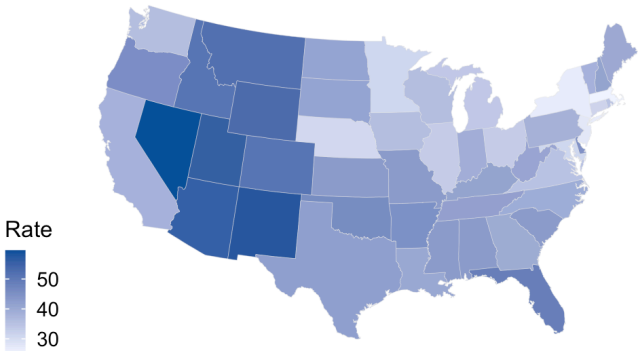
Age-adjusted death rates per 100,000 for non-Hispanic white men aged 45-54, 2010-2018

Regional differences in kinds of 'despair'

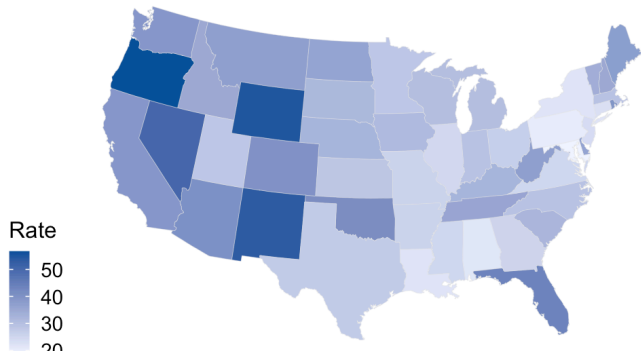
All causes



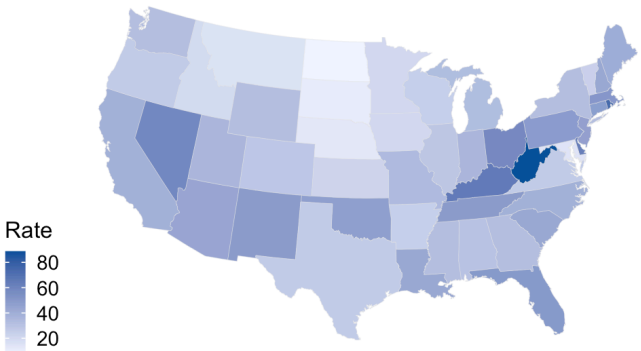
Suicides



Alcohol-related

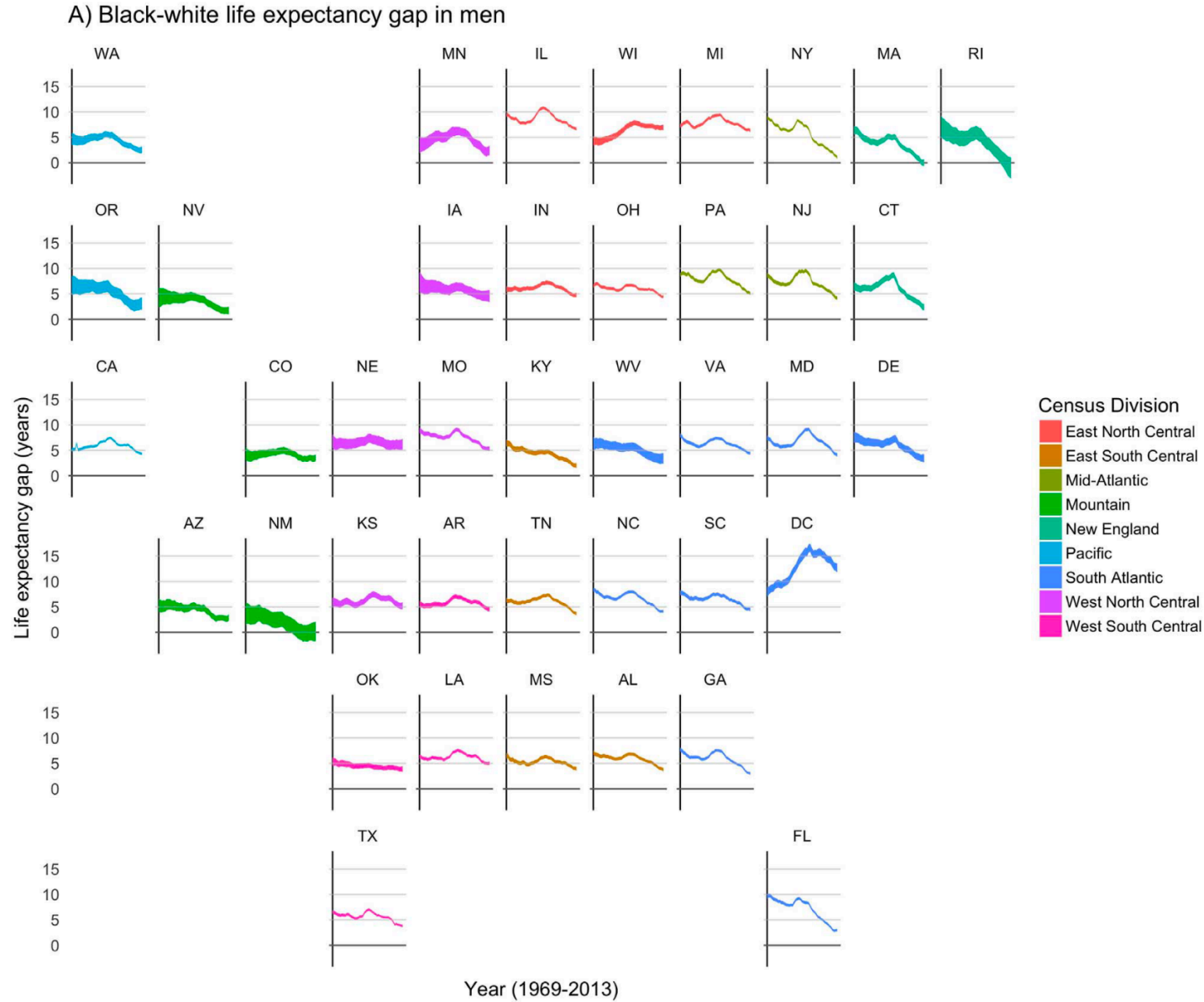


Unintentional poisoning



Harper et al. (2021)

More
heterogeneity
by sex, race,
and place



Riddell et al. (2018)

Can DoD explain this heterogeneity?

Rising despair as fertile ground for abusive self-soothing...

...broad consensus that [pain and despair] have been increasing for decades...

...an ocean of pain and distress among less-educated Americans



Annual Review of Economics

The Great Divide: Education, Despair, and Death

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Keywords

deaths of despair, opioid epidemic, COVID-19 pandemic, politics of despair, educational status, pain

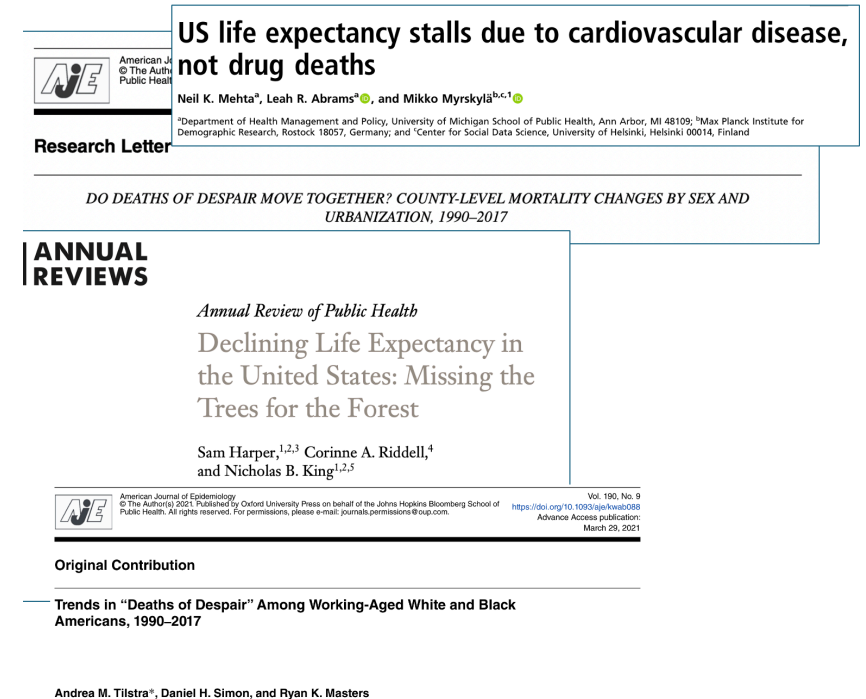
Abstract

Deaths of despair, morbidity, and emotional distress continue to rise in the United States, largely borne by those without a college degree—the majority of American adults—for many of whom the economy and society are no longer delivering. Concurrently, all-cause mortality in the United States is diverging by education in a way not seen in other rich countries. We review the rising prevalence of pain, despair, and suicide among those without a bachelor's degree. Pain and despair created a baseline demand for opioids, but the escalation of addiction came from pharma and its political enablers. We examine the politics of despair, or how less-educated people have abandoned and been abandoned by the Democratic Party. Whereas healthier states once voted Republican in presidential elections, now the less-healthy states do. We review deaths during COVID-19, finding that mortality in 2020 maintained or exacerbated existing relative mortality differences between those with and without college degrees.

See Case and Deaton (2022)

Limited evidence for ‘deaths of despair’

- Not aligned with cause-specific deaths by race, age, and place.
- Weak spatial and temporal correlations between drug, alcohol, and suicide deaths.
- Declines in CVD also important for mortality slowdowns.
- Opioid overdose deaths largely responsible for trends.



Mehta et al. (2020) Harper et al. (2021) Simon and Masters (2021) Tilstra et al. (2021)

Parting thoughts

- Mortality gaps remain, especially for those without a BA.
- Evidence linking the ‘tangle of pathologies’ still limited.
- More recent work by CD reflects some listening to critics.
- Excessive focus on narrative of ‘despair’ and disadvantage draws attention away from other important causes, interventions, and population groups.

United States | Live free and die

Horrifying numbers of Americans will not make it to old age

America tolerates rates of early death well beyond those of other rich countries



Questions?

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