

The intersection between social determinants of health and health outcomes: where are we today with addressing the health impacts of systemic racism?

2024 CASCHEW Conference

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Health disparities

- A particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage
- Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on:
 - racial or ethnic group
 - religion
 - socioeconomic status
 - gender
 - age
 - mental health
 - cognitive, sensory, or physical disability
 - sexual orientation or gender identity
 - geographic location
 - other characteristics historically linked to discrimination or exclusion

Colorado health disparities

- Perinatal and infant mortality
- Child and adult obesity
- Child oral health
- Teen fertility
- Diabetes mortality
- Liver disease mortality
- Motor vehicle injury fatality
- Homicide mortality
- Mental health
- Low birth weight
- Suicide
- Cervical cancer incidence and mortality
- Lung cancer incidence and mortality
- Prostate cancer mortality
- Diabetes incidence and mortality
- Infectious disease (HIV, TB, HBV)

Social determinants of health

- The social determinants of health are the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness
- These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics

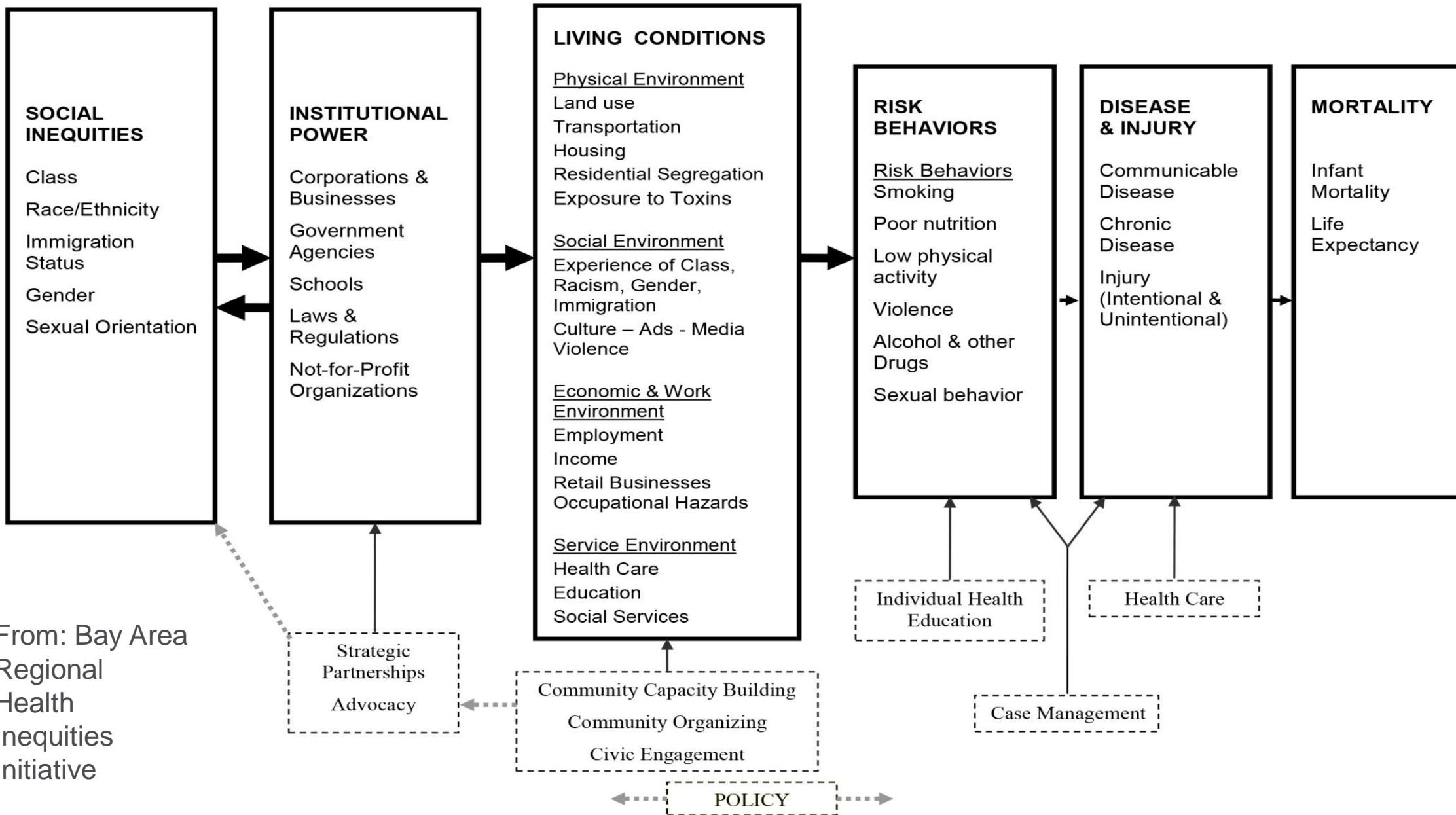
World Health Organization Commission on the Social Determinants of Health (2008)

Social determinants of health

- Think in terms of opportunities and barriers:
 - Early childhood development, schools, education, literacy
 - Economy, jobs, employment, occupation, working conditions, income, wealth
 - Housing, transportation, public safety, parks and recreation, healthy food access
 - Racism, social status, culture, social network, political clout, justice
 - Environment, pollution, hazards

UPSTREAM

DOWNSTREAM



From: Bay Area Regional Health Inequities Initiative

Emerging Public Health Practice

Current Public Health Practice

Figure 1. Healthy People 2030
Model of the Social Determinants of Health



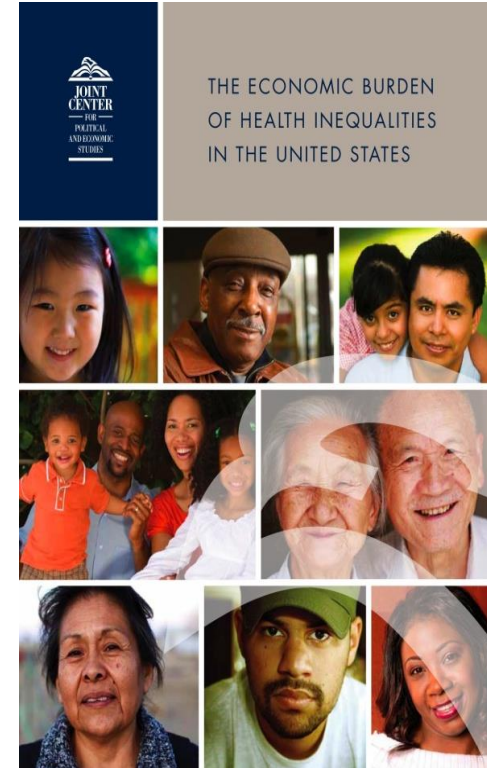
Root causes of health inequities (National Academies report, 2017)

- **Unequal allocation of power and resources**—including goods, services, and societal attention—which manifests itself in unequal **social, economic, and environmental conditions**
- **Structural inequities** that organize the distribution of power and resources differentially across lines of race, gender, class, sexual orientation, gender expression, and other dimensions of individual and group identity

Economics of health disparities

Economic burden

- Direct medical costs of health inequalities
- Indirect costs of health inequalities
- Costs of premature death



Joint Center for Political and Economic
Studies; www.jointcenter.org/hpi

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Economic burden of health inequalities in the United States

- Between 2003 and 2006, 30.6% of direct medical care expenditures for African Americans, Asians, and Hispanics were excess costs due to health inequalities
- Eliminating health inequalities for minorities would have reduced direct medical care expenditures by \$229.4 billion for the years 2003-2006.
- Between 2003 and 2006 the combined costs of health inequalities and premature death were \$1.24 trillion

Economic benefit of addressing racial equity in Colorado

GDP gains with racial equity [?](#) Colorado

Breakdown:

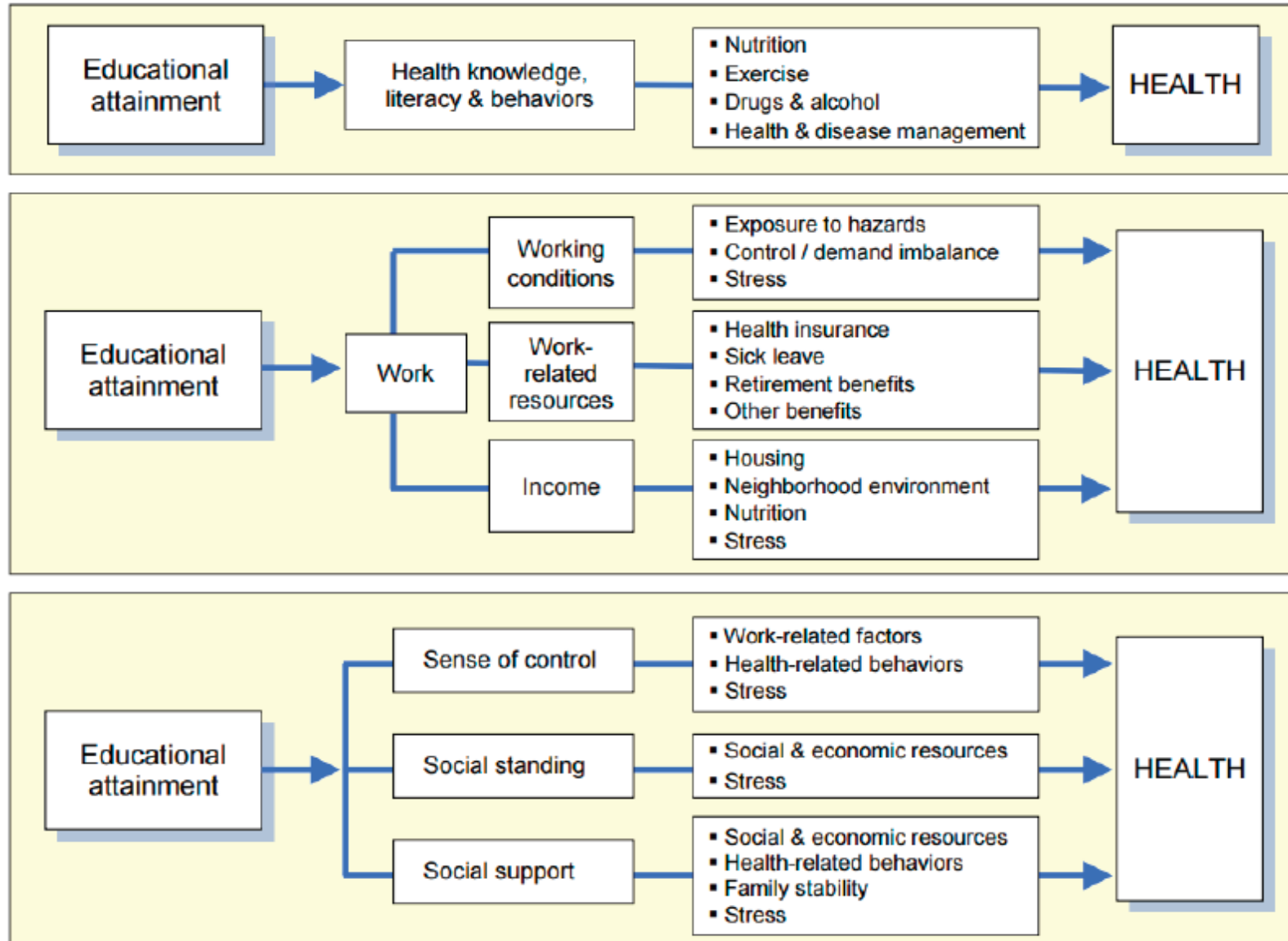
Actual GDP and estimated GDP with racial equity in income (billions): Colorado vs. CO, 2015



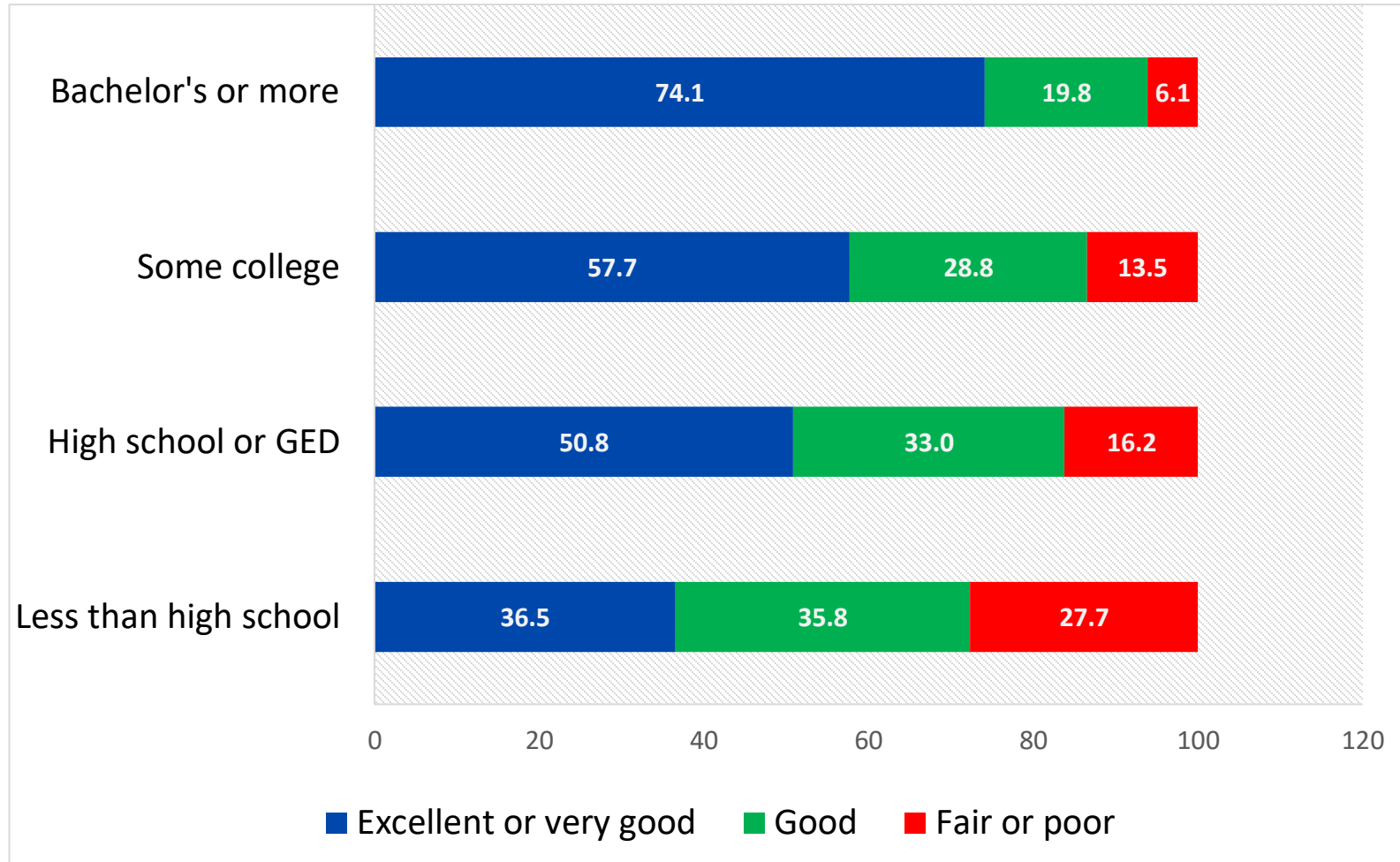
Source: PolicyLink

Education and health disparities

Education and health

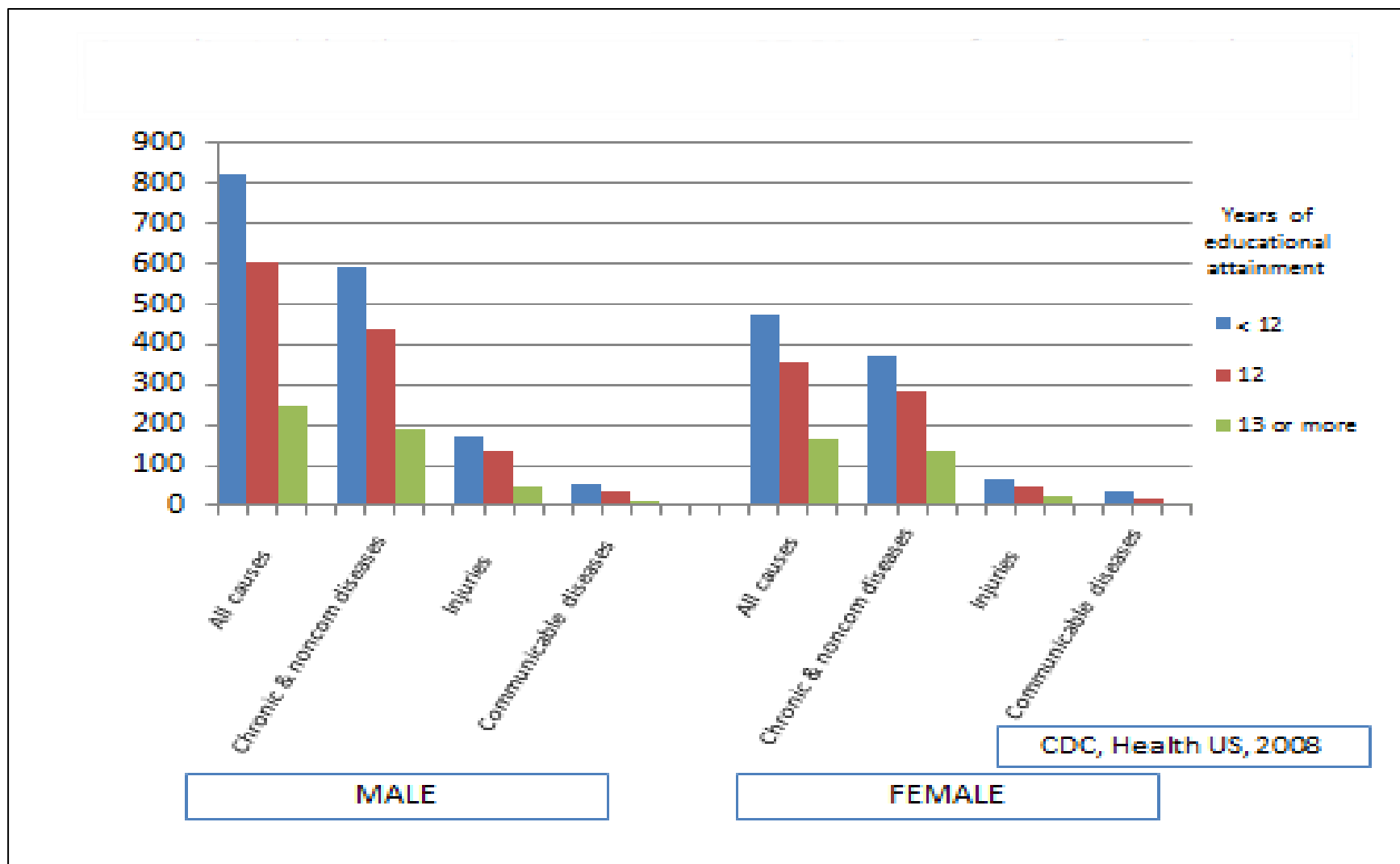


Self-Assessed Health by Educational Attainment, US, 2015

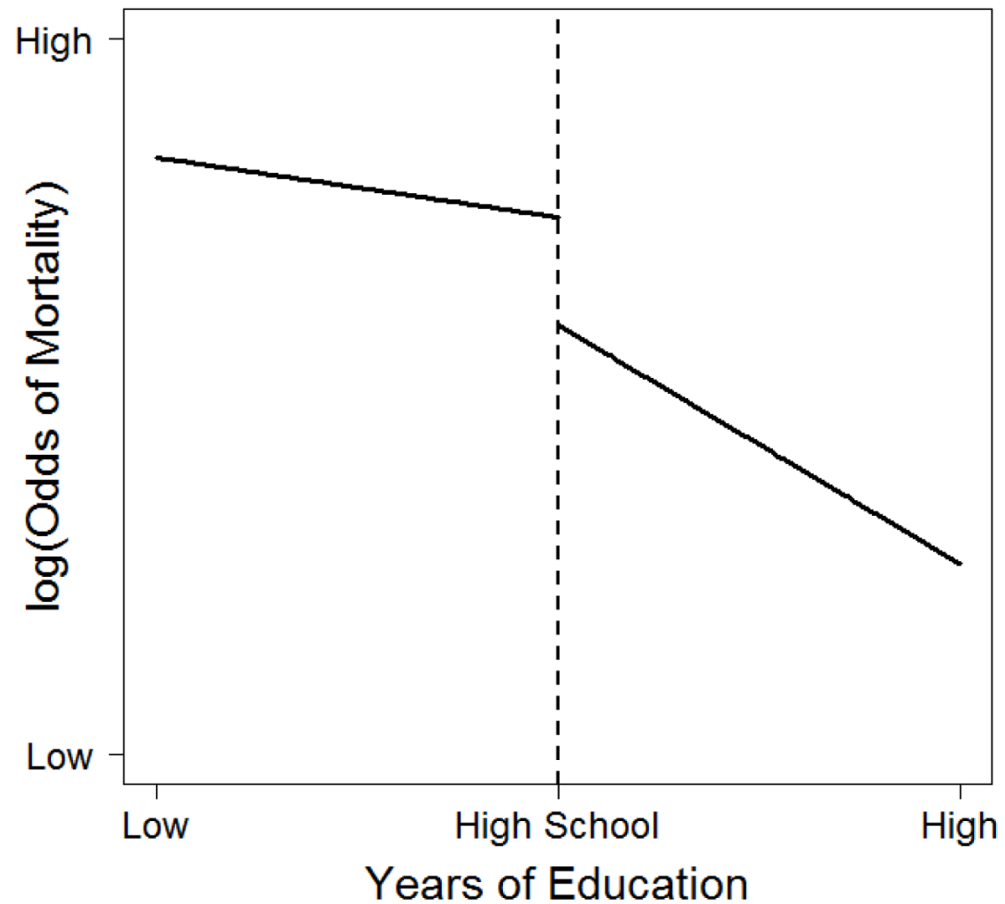


CDC; National Center for Health Statistics.
Summary Health Statistics: National Health
Interview Survey, 2015

Age-adjusted death rates among persons 25-64 years of age for selected causes of death, by sex and educational attainment: selected states, 1994-2005

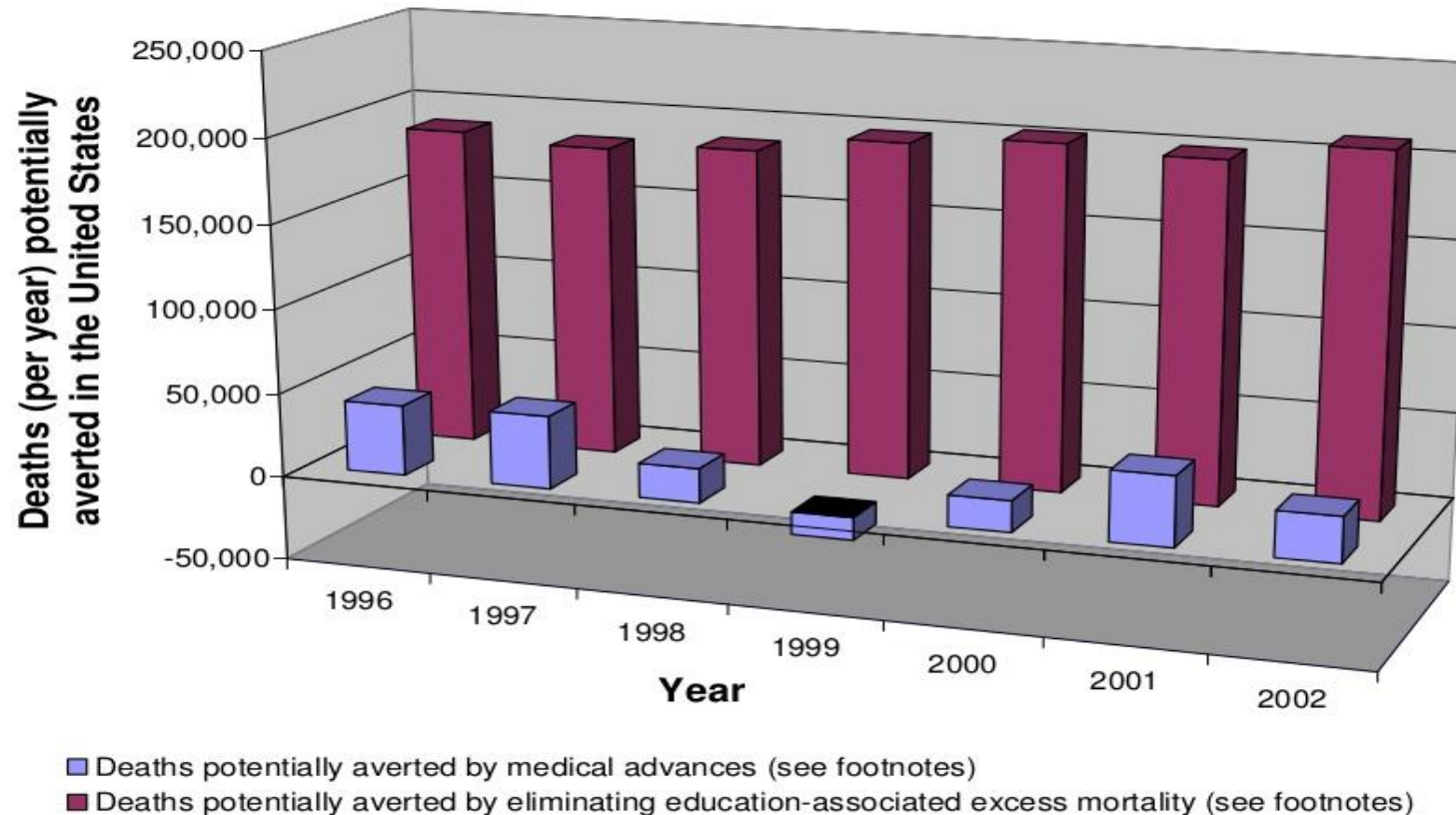


Educational attainment, high school graduation and mortality



Data source: Montez 2012,
Graph by Hummer, 2013

Potential health impact of improving education



Income and health disparities

How income impacts health

- Pollack et al., 2013

- Wealth can have mechanisms not necessarily monetary, such as power and prestige, attitudes and behavior, and social capital

- Evans and Kim, 2010

- “Multiple risk exposure” --the convergence among populations with low socioeconomic status of multiple physical and psychosocial risk factors such as poor housing and neighborhood quality, pollutants and toxins, crowding and congestion, noise exposure, and adverse interpersonal relationships

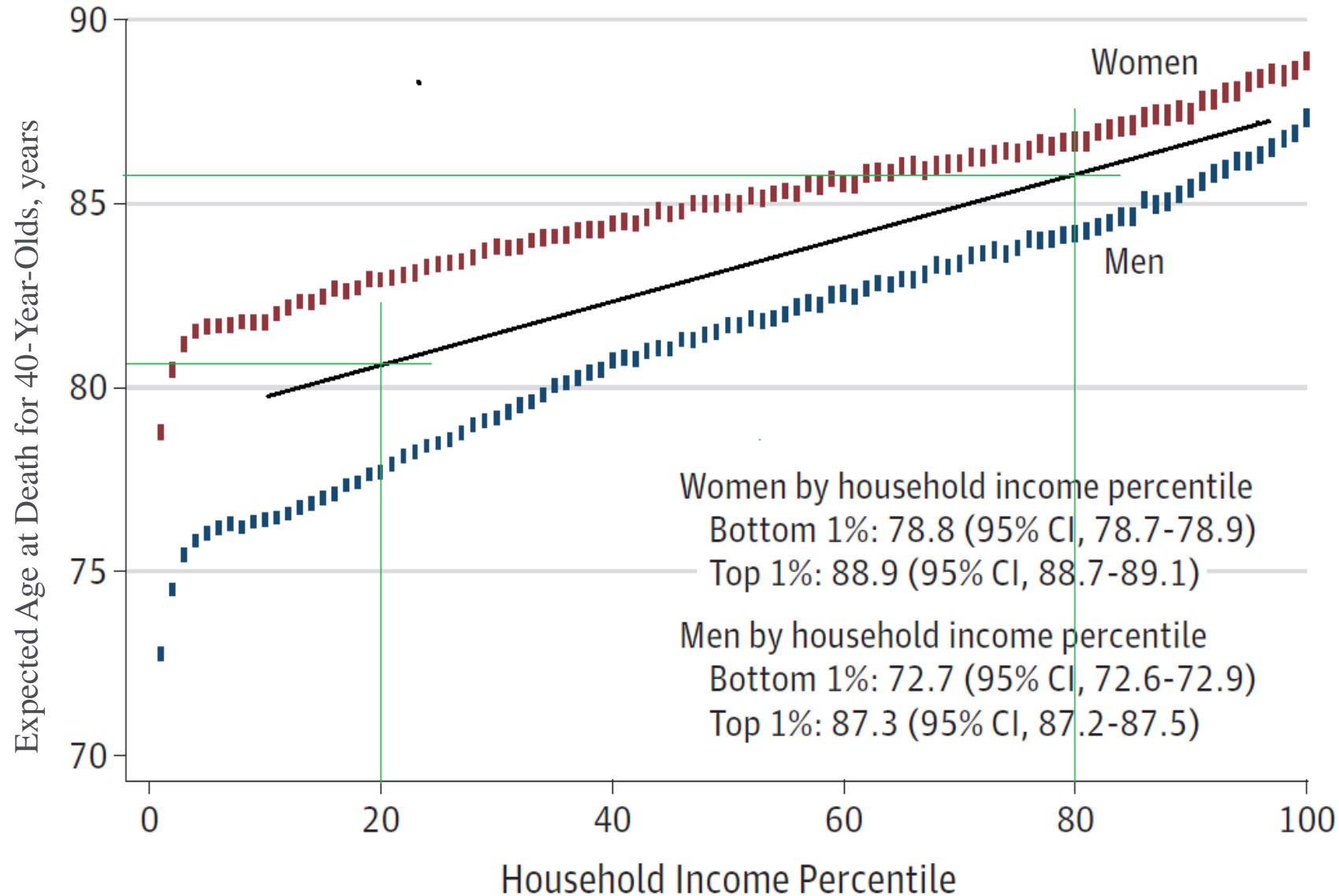
- Woolf et al., 2015

- Provides access to health care services and health insurance
- Supports a healthy lifestyle and provides access to place-based benefits in terms of other social determinants of health
- Avoids the economic disadvantage and hardship that leads to stress and harmful physiological effects on the body

Income and health

- Based on 1.4 billion people in the US from 1999 through 2014 and consistent with three prior studies since 2007:
 - Higher income is related to higher life expectancy; Lower income is related to lower life expectancy
 - The gap in life expectancy for the richest and poorest 1 percent of individuals was 14.6 years for men and 10.1 years for women
 - In certain local areas, the effect of being at the bottom of the income gradient is more pronounced than in others, with four- to five-fold differences: consistent with other studies, place matters
 - Temporal trends in life expectancy varied geographically, with some areas experiencing improvements and others declines

Household income and life expectancy at age 40 years

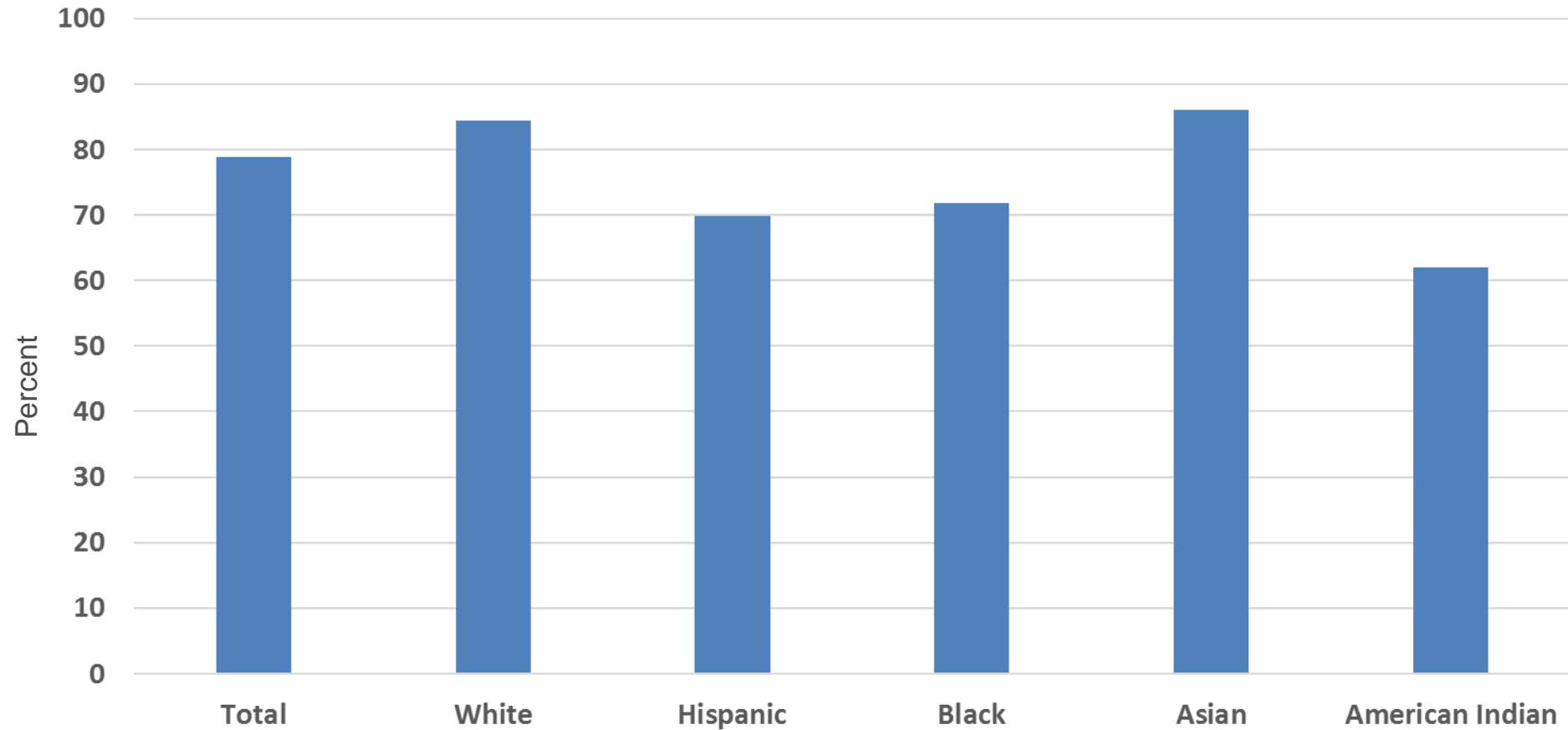


**1 month longevity/
1 percentile
household income**

Chetty, Raj, et al. "The association between income and life expectancy in the United States, 2001-2014." *JAMA* 315.16 (2016): 1750-1766.

Structural racism, social determinants of health and health disparities

Colorado high school graduation rates 2015-16



Source: Colorado Department of Education

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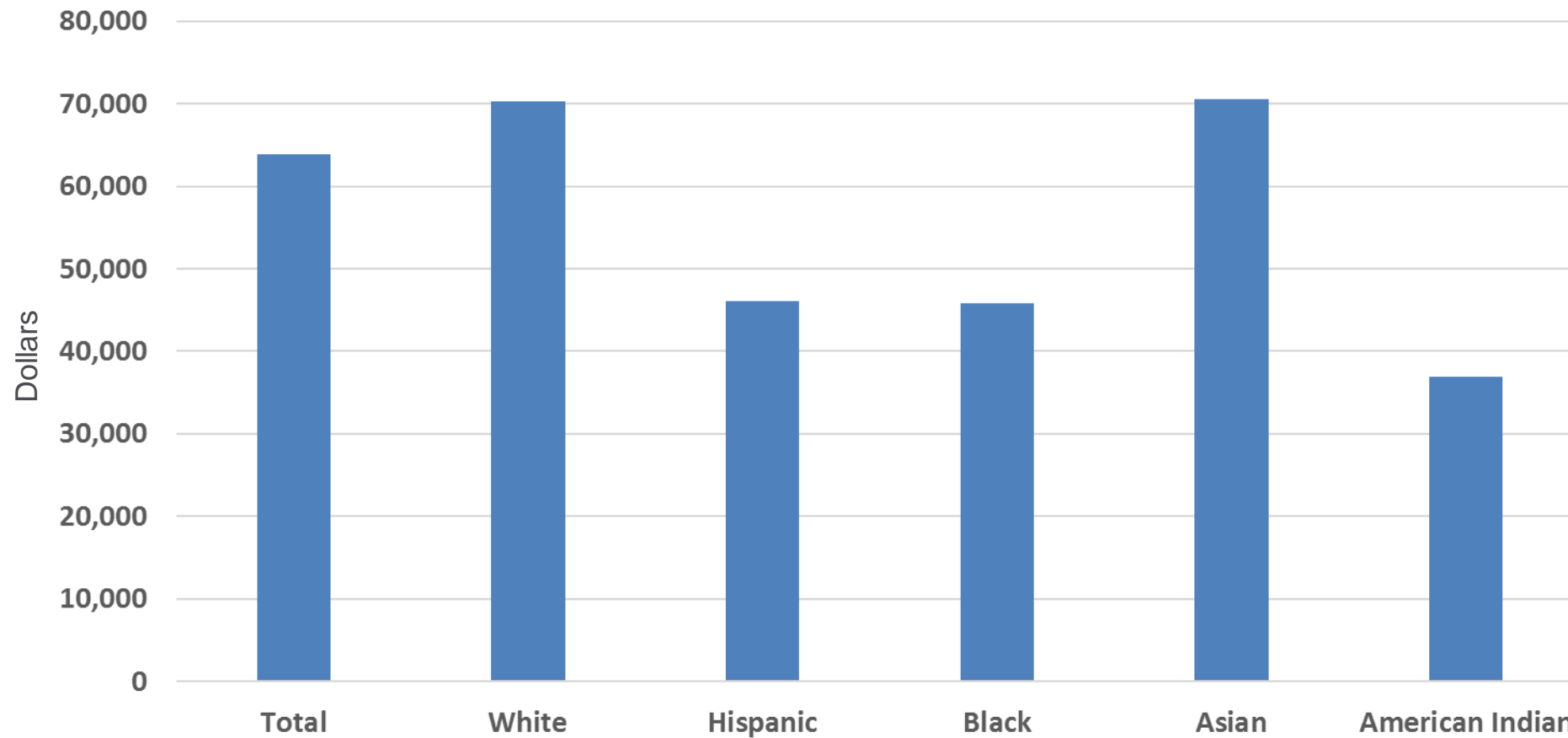
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Income and health, and race

- African American men below poverty status had 2.66 times higher risk of mortality than African American men living above poverty status
- White men below poverty status had approximately the same risk as white men living above poverty status
- Both African American women and white women living below poverty status were at an increased mortality risk relative to those living above poverty status

Zonderman et al., 2016

Colorado median household income 2015

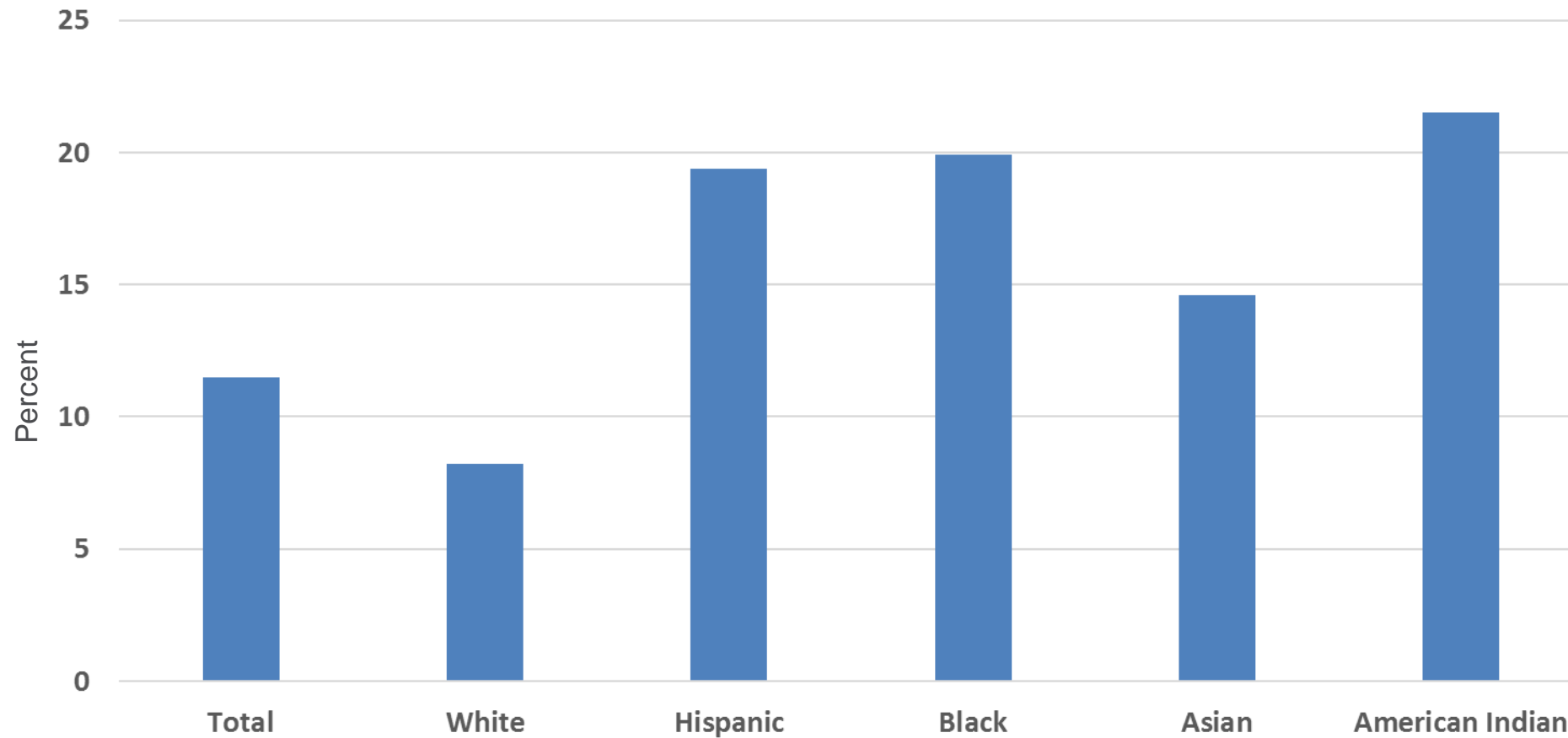


Source: U.S. Census, American Community Survey

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Colorado poverty rate 2015



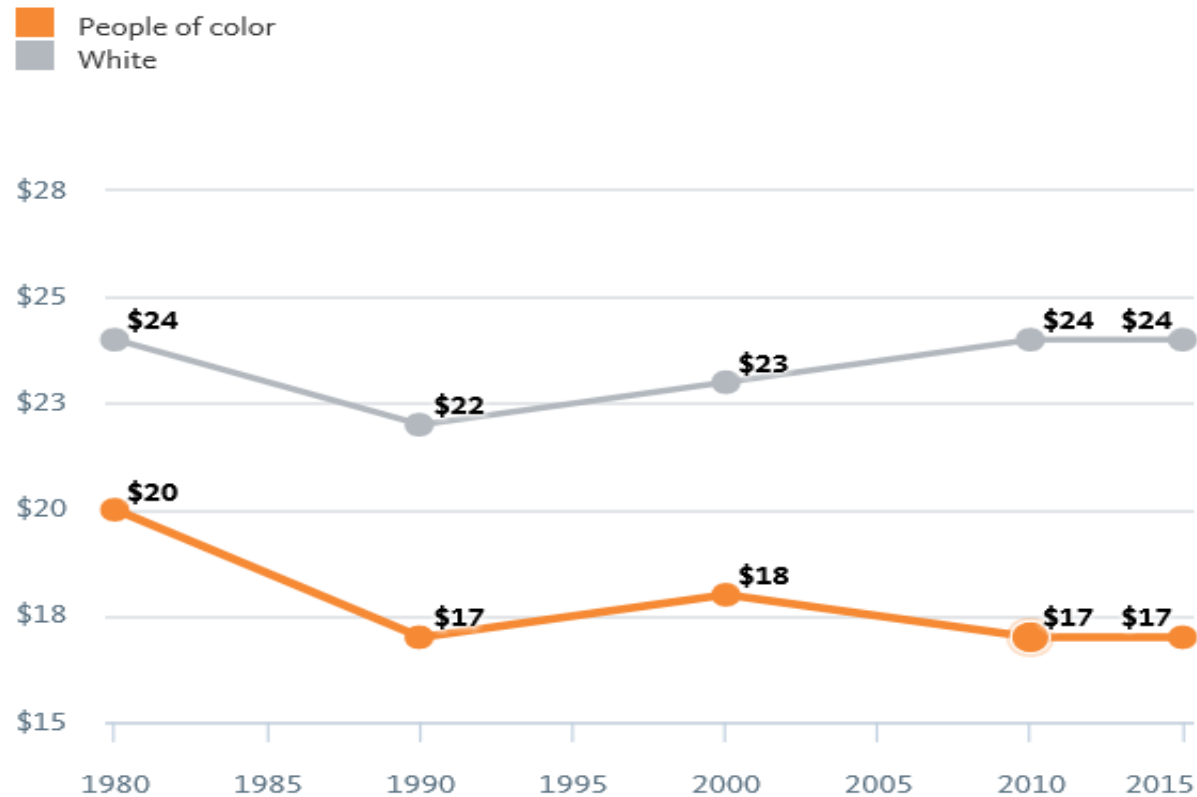
Source: U.S. Census, American Community Survey

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Median hourly wage by race/ethnicity: Colorado 1980-2015

Median hourly wage by race/ethnicity: Colorado, 1980-2015

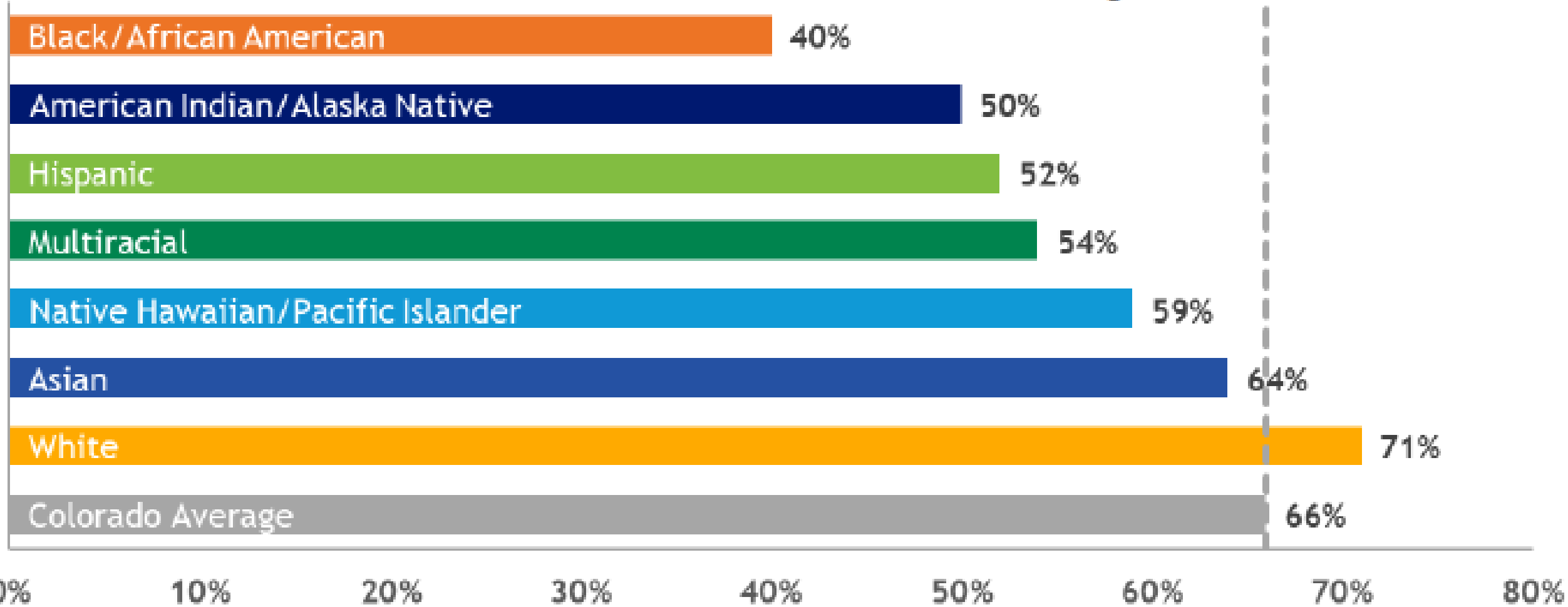


Source: PolicyLink

Current educational attainment and projected state/national-level job education requirements by race/ethnicity and nativity: Colorado, AA degree or higher, 2015

Figure 35: Home ownership

Percentage of occupied houses that are owned, by race/ethnicity, Colorado 2016-2020 combined annual average



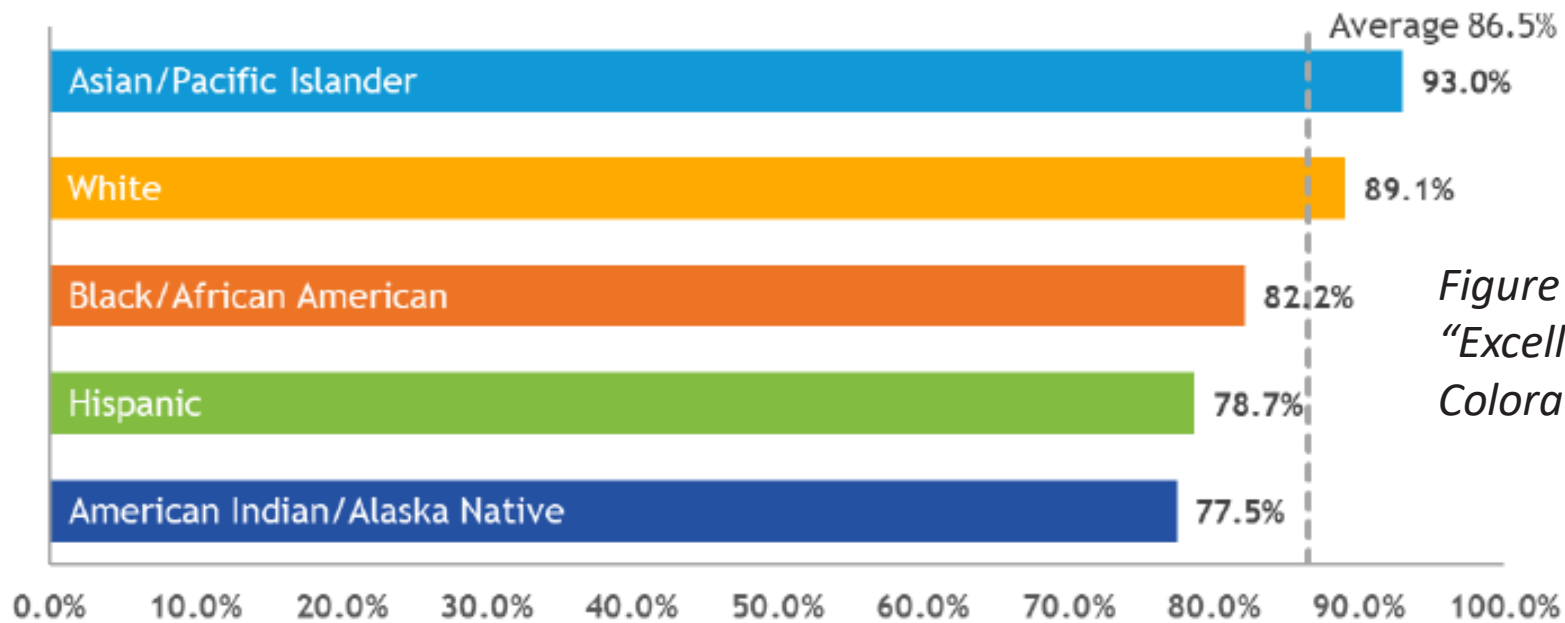


Figure 6. Percentage of adults self-reporting "Excellent," "Very Good," or "Good" health Colorado, 2016-2021 (Combined annual average)

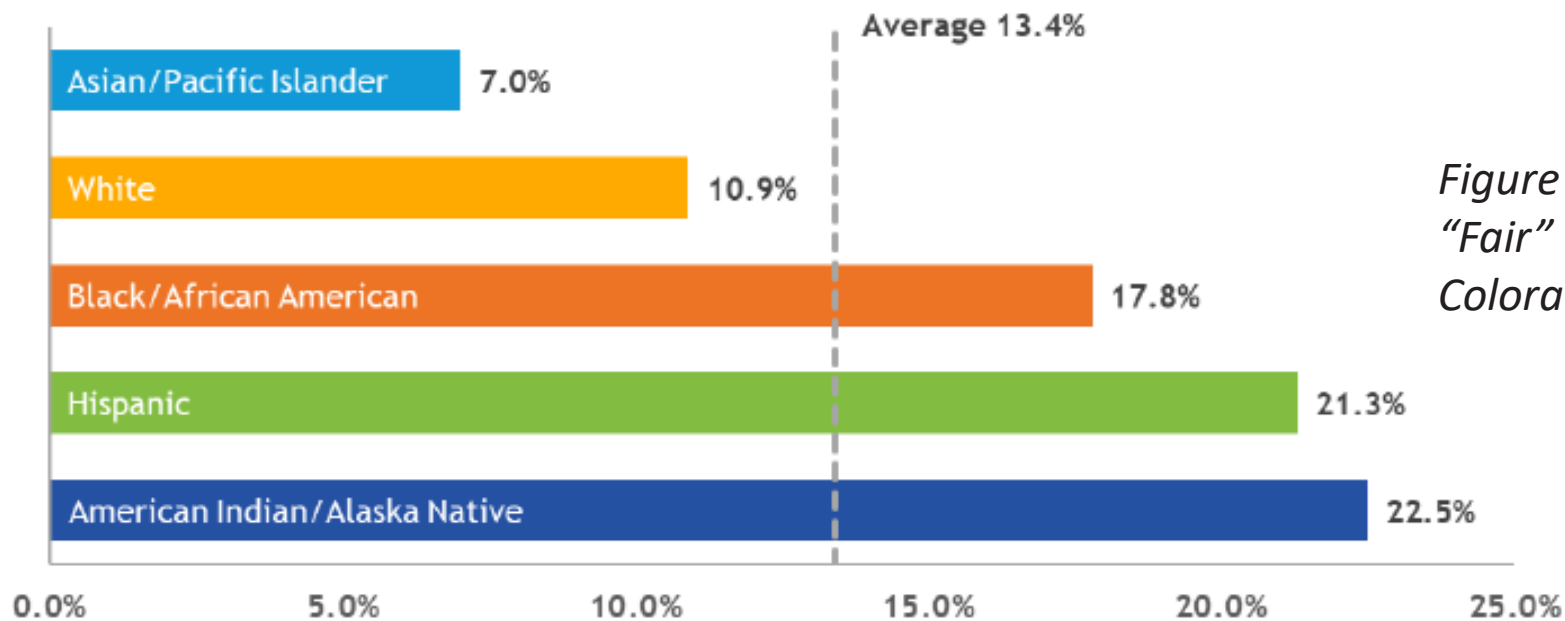


Figure 7. Percentage of adults self-reporting "Fair" or "Poor" health Colorado, 2016-2021 (Combined annual average)

Figure 8. Overall death rate

Age-adjusted, five-year combined rates per 100,000 population, Colorado 2001-2020

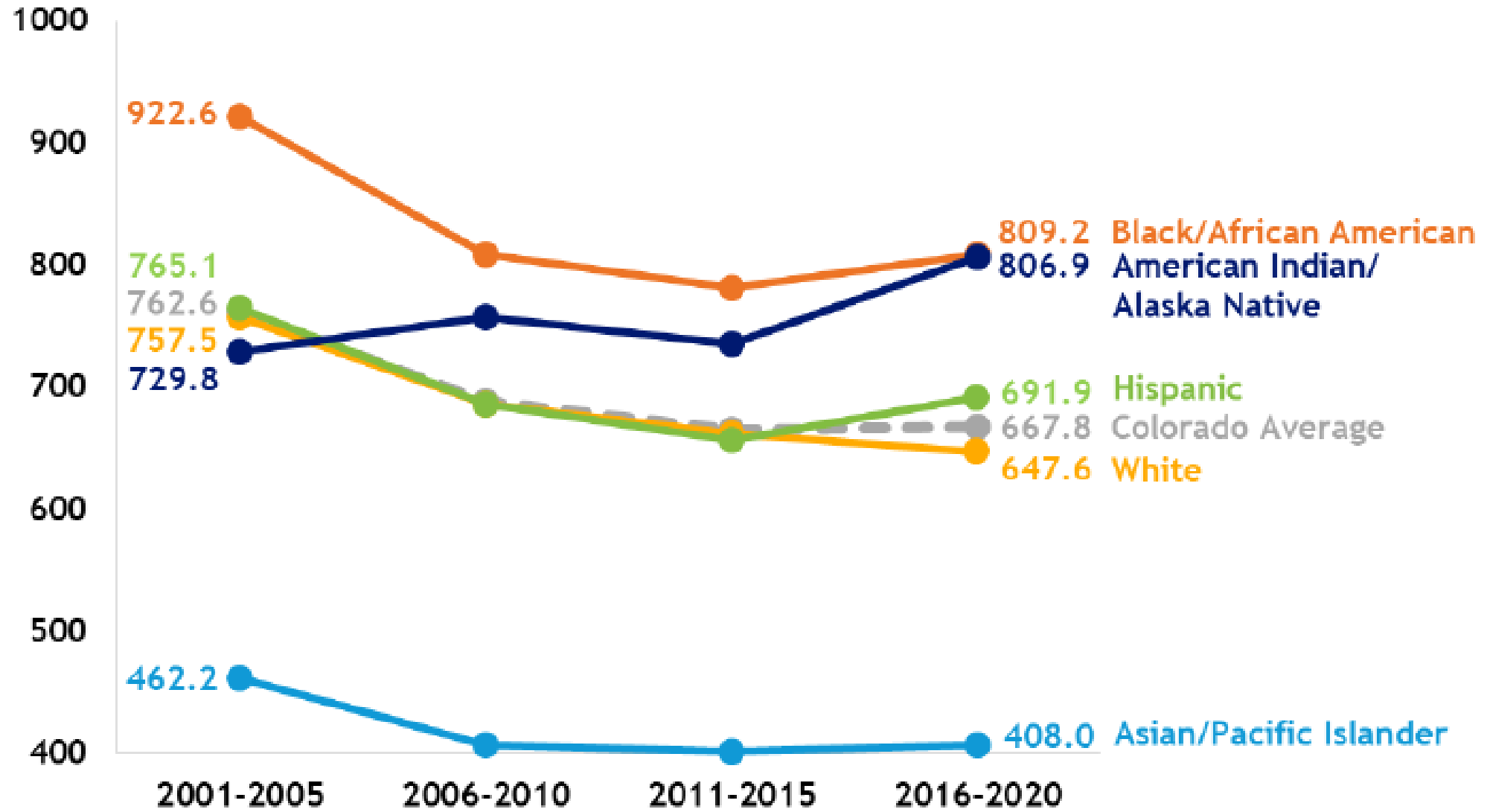


Figure 9. Premature death

Years of potential life lost before age 75, per 100,000 population, Colorado 2001-2020

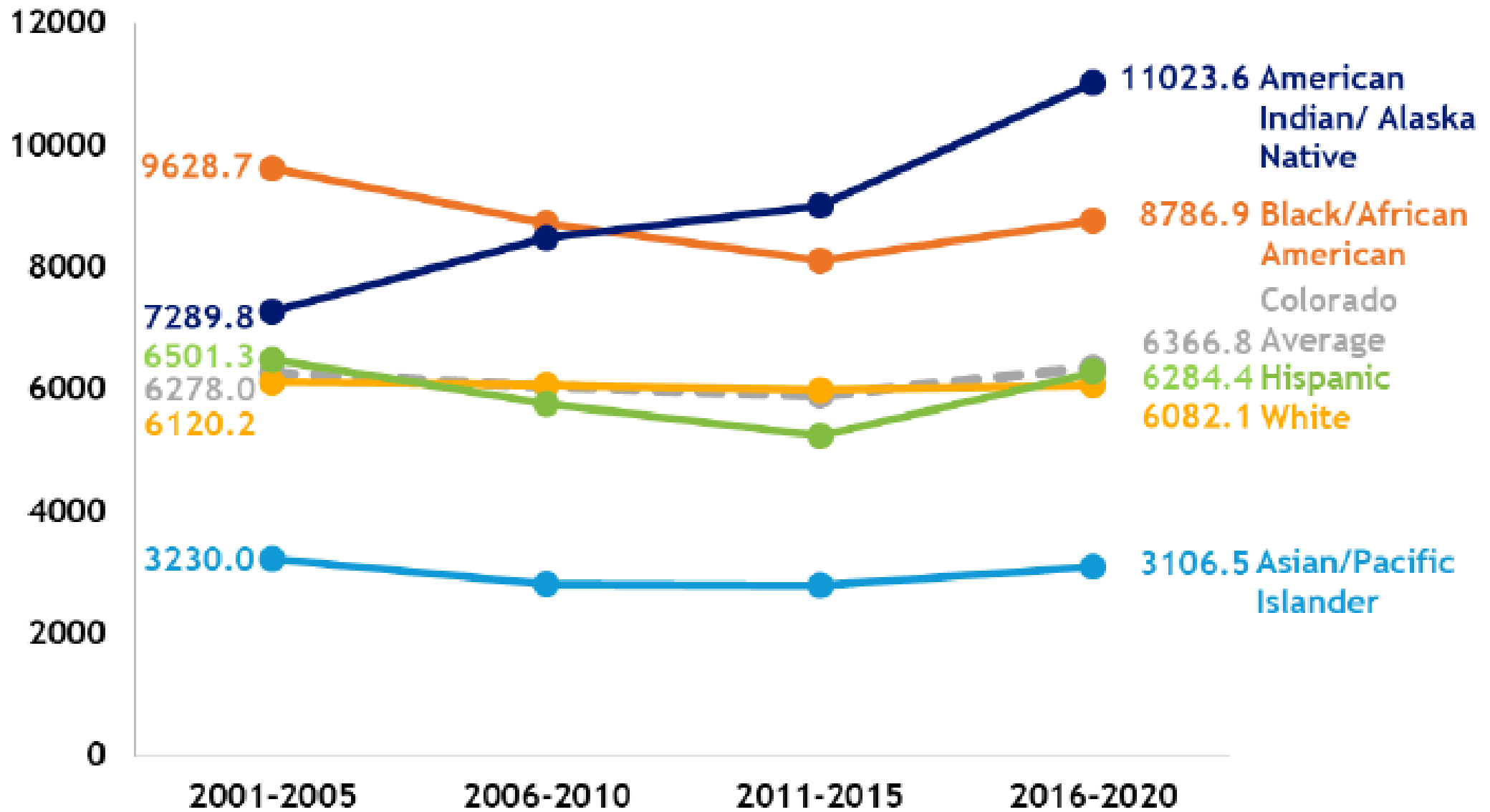
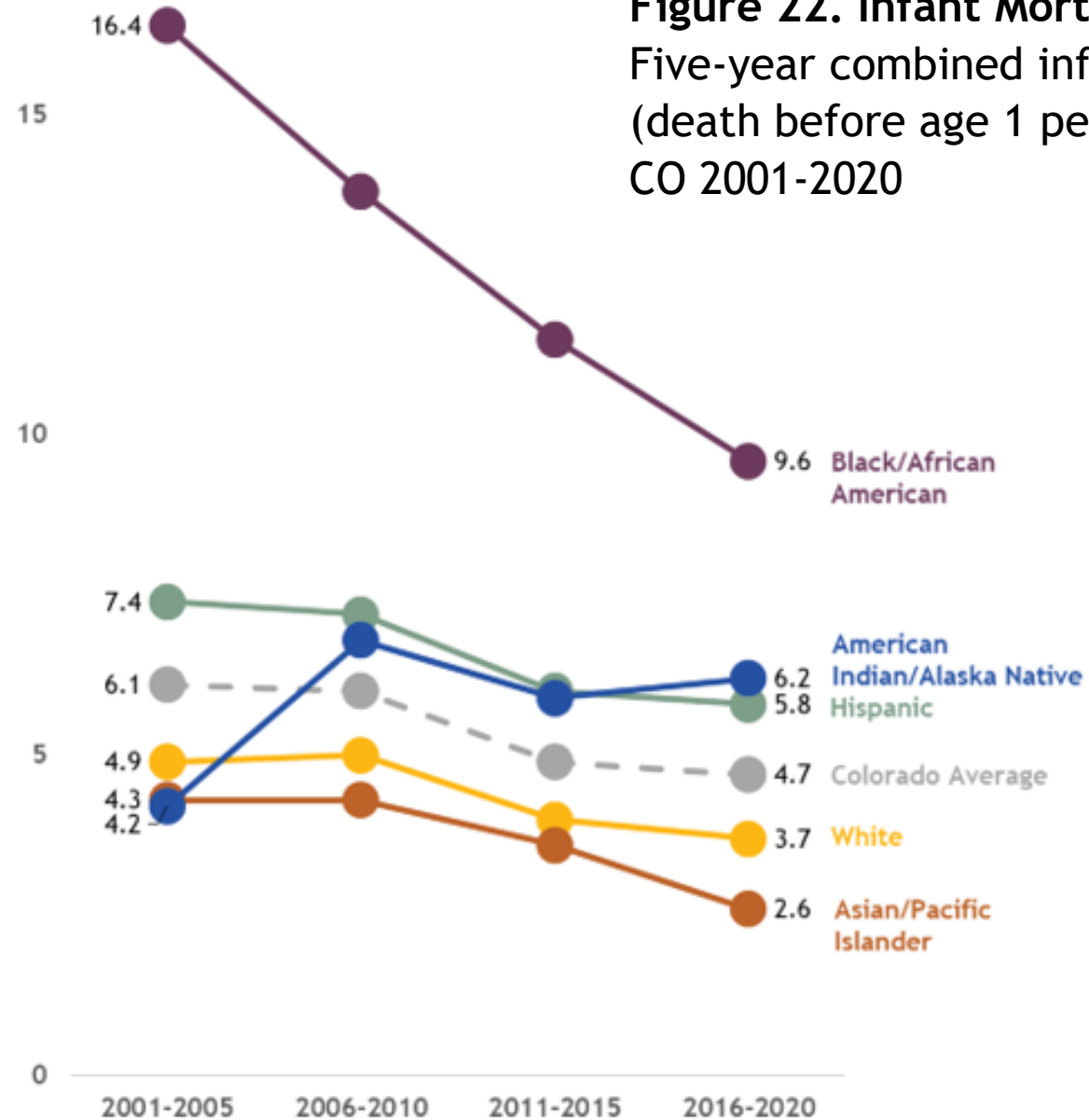
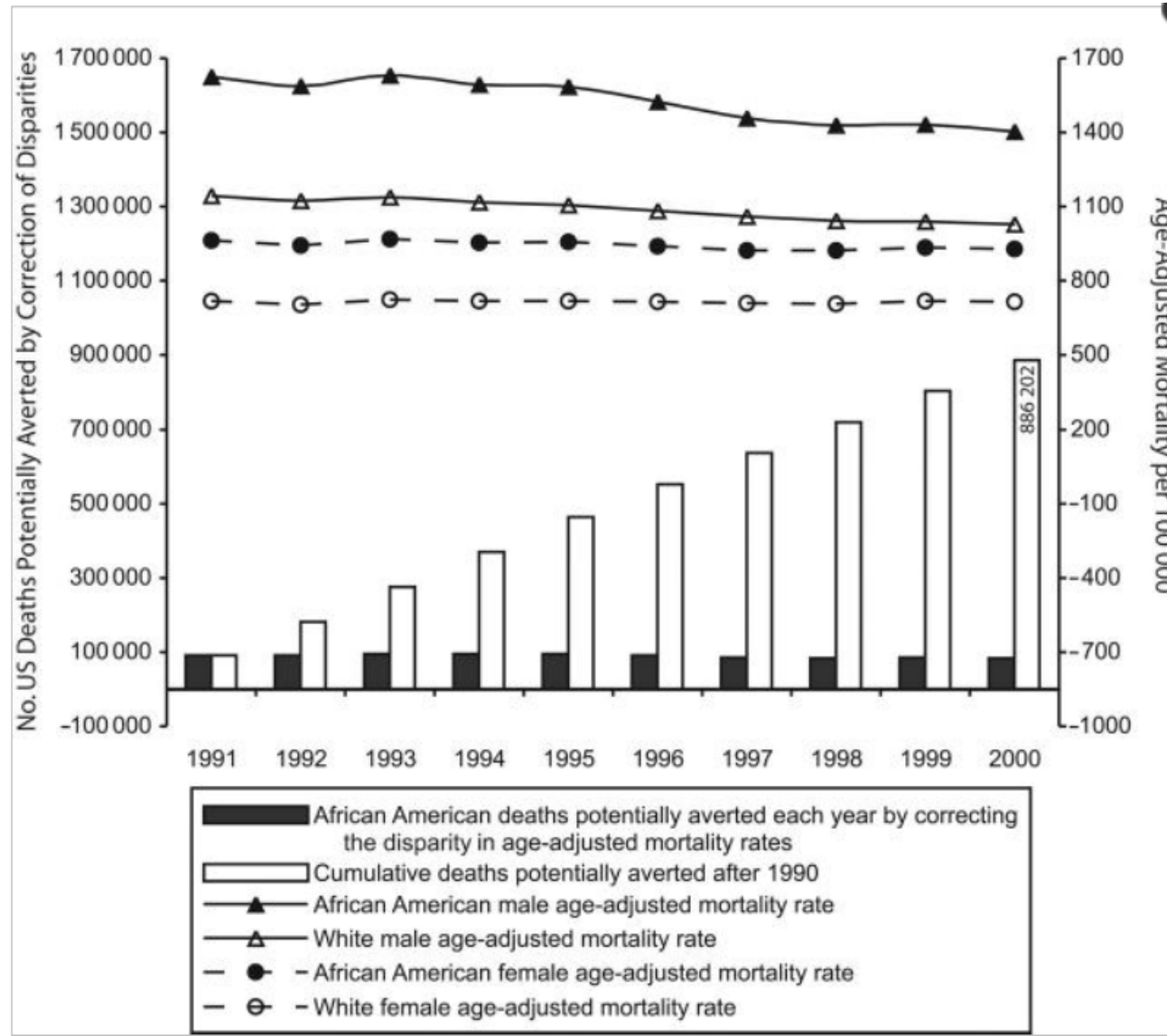


Figure 22. Infant Mortality Rates
Five-year combined infant mortality rates
(death before age 1 per 1,000 live births),
CO 2001-2020



Impact of resolving racial disparities in the U.S., 1991-2000



Woolf et al, Am J Public Health 2004

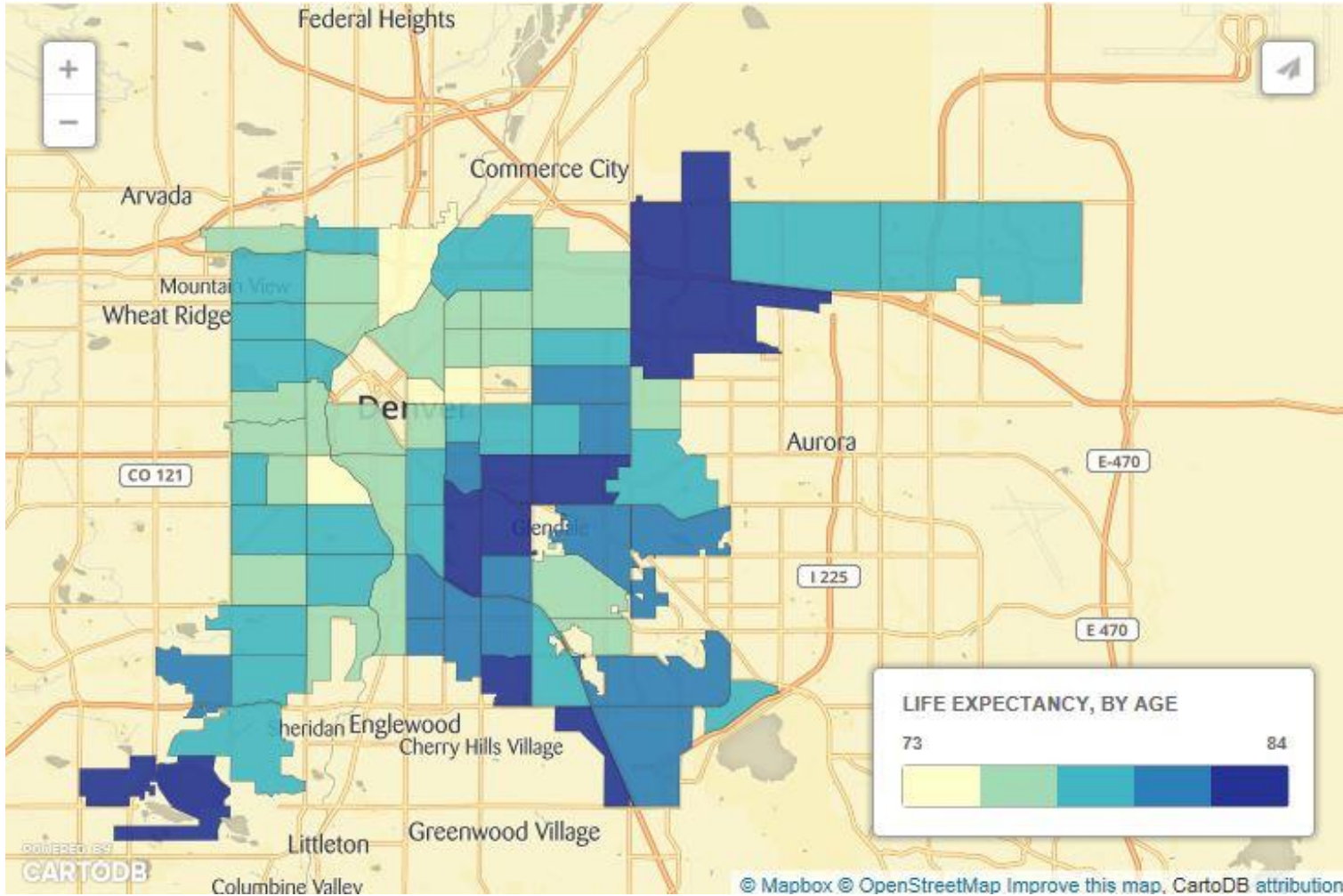
Estimated deaths attributable to social factors in the US

Calculation of the Number of US Deaths in 2000 Attributable to Each Social Factor

Social Factor and Age Group	RR (95% CI) ^a	Prevalence, % ^b	PAF, % ^c	Total Deaths, ^d No.	Deaths Attributable to Social Factor, ^e No.
Individual-level factors					
Low education					
Aged ≥25 y					244526
Aged 25–64 y	1.81 (1.64, 2.00)	16.1	11.5	972645	112209
Aged ≥65 y	1.23 (0.86, 1.76)	34.5	7.4	1799825	132317
Poverty					
Aged ≥25 y					133250
Aged 25–64 y	1.75 (1.51, 2.04)	9.5	6.7	972645	64692
Aged ≥65 y	1.40 (1.37, 1.43)	9.9	3.8	1799825	68558
Low social support					
Aged ≥25 y					161522
Aged 25–64 y	1.34 (1.23, 1.47)	21.0	6.7	972645	64819
Aged ≥65 y	1.34 (1.16, 1.55)	16.7	5.4	1799825	96703
Area-level factors^f					
Area-level poverty	1.22 (1.17, 1.28)	7.8	1.7	2331261	39330
Income inequality	1.17 (1.06, 1.29)	31.7	5.1	2331261	119208
Racial segregation	1.59 (1.31, 1.94)	13.8	7.5	2331261	175520

Note. CI=confidence interval; PAF=population attributable fraction; RR=relative risk.

Denver life expectancy



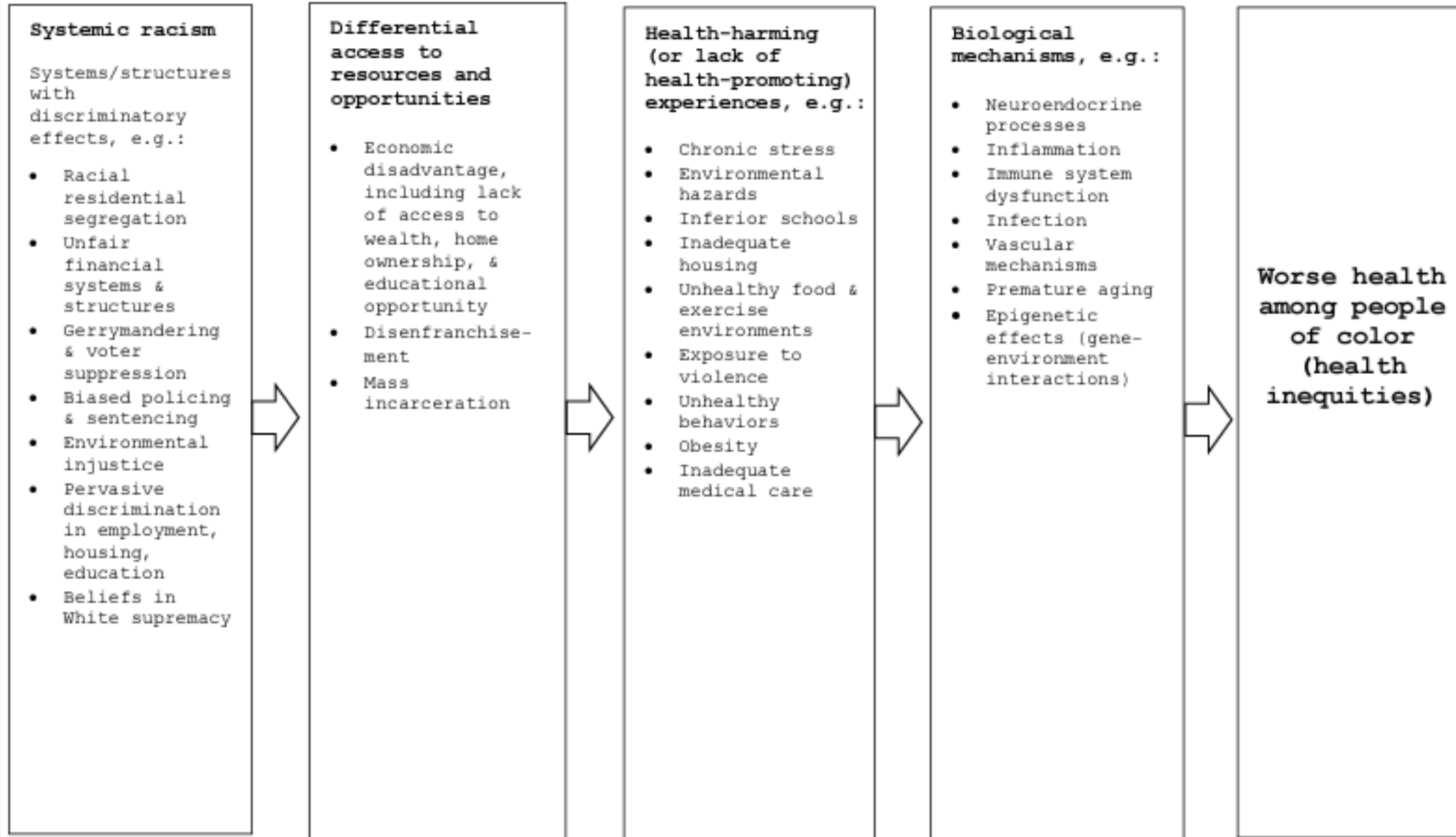
Where are the intersections with systemic racism?

- Political disempowerment
- Segregation
- Financial/lending practices
- Environmental justice
- Criminal justice system
- Data aggregation

Systemic racism and health

Braveman 2022

APPENDIX EXHIBIT 2. How systemic racism is thought to damage health: key steps



Levers to push

- Enforce existing antidiscrimination laws
- Enact new legislation
- Advocacy
- Affirmative Action
- Reduce the damage
- Change attitudes

Braveman 2022

Where are we today?

- There was significant movement and awareness that developed with the pandemic and the George Floyd murder and riots
 - Recognition of racism as a public health crisis (declaration in 22 states)
- There is a continually emerging backlash and backsliding
 - “Weaponizing” of antiracism language including diversity, equity, inclusion, social determinants of health, Critical Race Theory, evidence-based
 - SCOTUS rulings on Affirmative Action policies
 - Movement to undercut ESG (equity, sustainability and governance) rating in investments and endowment portfolios

CDPHE and health equity work

- Office of Health Equity (OHE)
- Health Equity Advisory Committee (HEC)
- Data Advisory Work Group (DAWG)
- Health Equity Report (December 2023)
- Maternal Mortality in Colorado 2016-2020 (April 2023)
- HB22-1267 Culturally relevant training available to health care providers (2023)

How to move forward?

- Continue to engage communities
- Continue to shine a light on evidence of impact on health and the economy
- Work to undermine the weaponizing of language—work to communicate the evidence that underlies it