

Equity, Diversity, Inclusion, and Justice (EDIJ) in Health Services Research

GIM Grand Rounds
9-11-20

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David Geffen
School of Medicine

UCLA

Health

Building.Belonging.Becoming.

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- Keith Norris MD, Ph.D.

- Executive Vice Chair, Dept of Medicine for Equity, Diversity, & Inclusion
- Professor of Medicine, UCLA Christina Harris MD



***Our Biases: We believe in a society grounded in Equity & Justice**

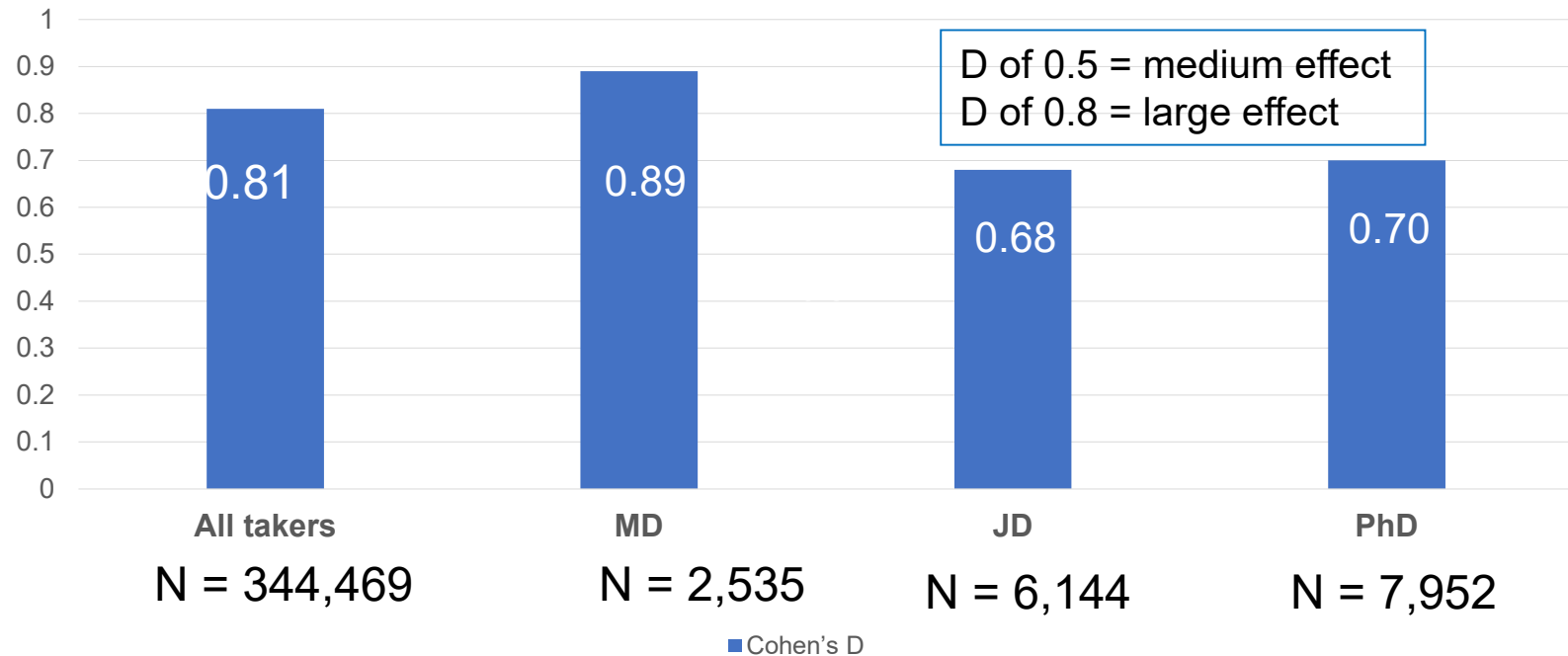


DOM Diversity Program Overall Goal

To become the exemplar Department of Medicine program/center in the nation for advancing diversity, equity and inclusion for students, residents, fellows and faculty in the context of **scientific excellence**, **outstanding scholarship/innovation** and the highest level of **compassionate, high quality care** for our **patients**.



Race Implicit Association Test (IAT)



Cohen's D: standardized effect size, comparing the mean to $M=0$ (no bias),
D of 0.2 = small effect, D of 0.5 = medium effect, and D of 0.8 = large effect
Data from *Project Implicit*®, operated at Harvard University (<https://implicit.harvard.edu/>)



Why Equity, Diversity, Inclusion & Justice in HSR

Major Inequities Exist in Society & in Medicine that lead to Disparities and Undermine the Optimal Care for All

**Every system is perfectly designed to achieve the results it gets
- Don Berwick**



Health Services Research

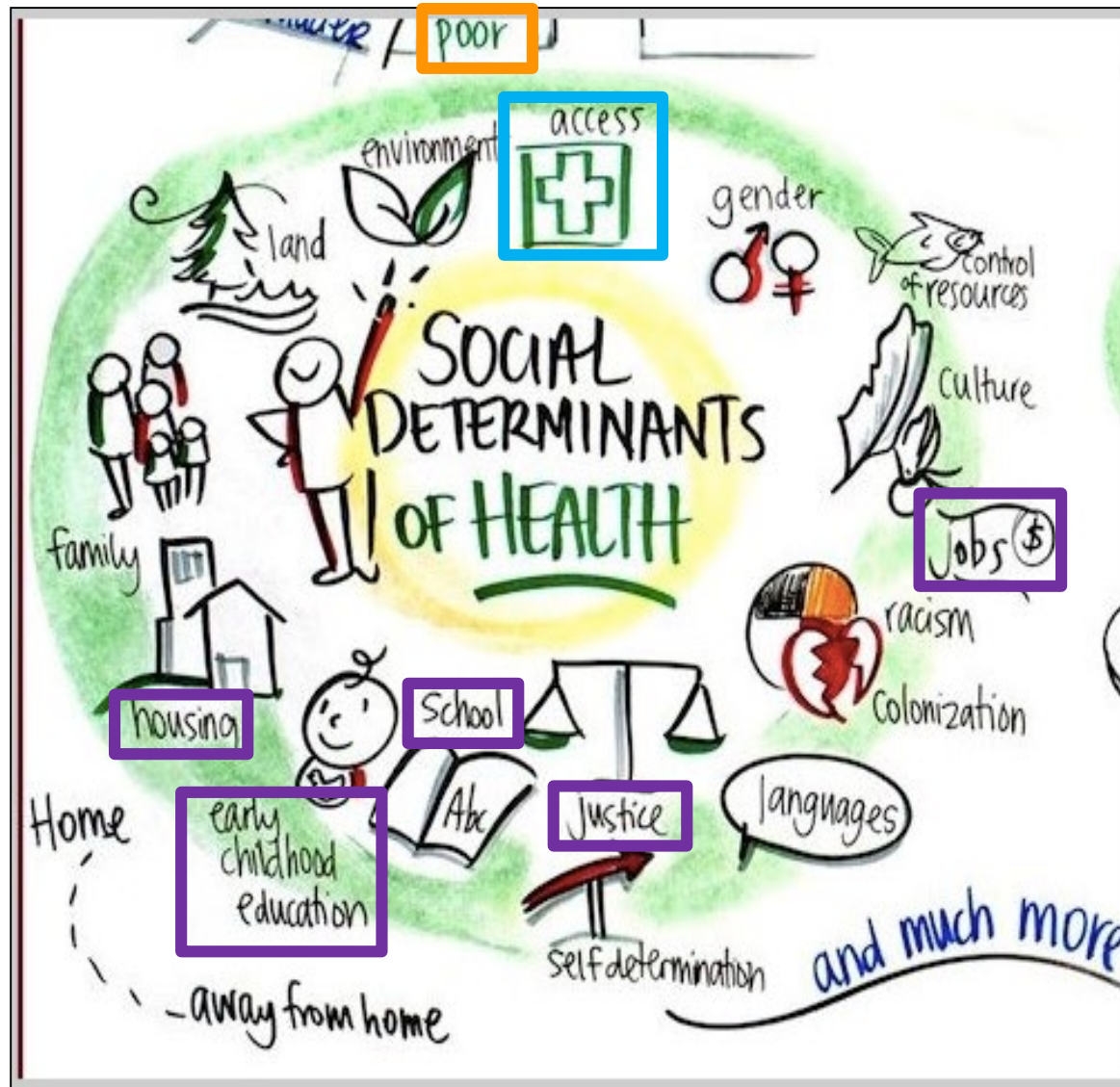
- Multidisciplinary field of scientific investigation that studies how **social factors**, financing systems, organizational structures and processes, health technologies, and **personal behaviors** affect **access to health care**, the **quality and cost of health care**, and **ultimately our health and well-being** & its research domains are individuals, families, organizations, institutions, communities, and populations (*Academy for Health Services Research and Health Policy, 2000*).

social determinants of health are important for HSR



WHO - Health Equity

- Improve conditions of daily life
- Tackle the inequitable distribution of power, money, and resources
- *Develop a workforce trained in the social determinants of health, & raise public awareness about the social determinants of health*



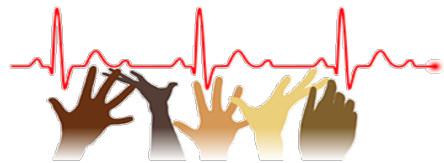
Why Equity, Diversity & Inclusion for GIM

- Major disparities in patient outcomes by race and ethnicity
 - Why is that?
 - Unequal distribution in wealth, employment, residence, toxic environmental exposures, nutrition, education, and psychosocial stress, **quality of care, healthcare access**
 - The unequal distribution is **not** by accident
- Structural Racism: totality of ways in which societies foster racial discrimination through **mutually reinforcing systems** of housing, education, employment, earnings, benefits, credit, media, health care, criminal justice, etc.

These patterns and practices reinforce discriminatory beliefs, values, and distribution of resources.



Towards Achieving Equity



1. **EQUALITY** imagines an equal world.

"I care about all students equally"

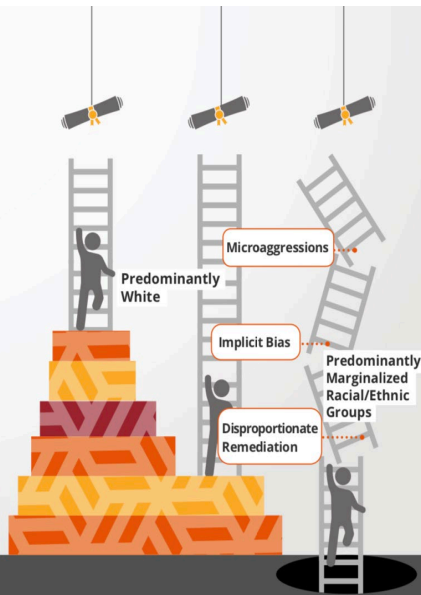


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2. But the world **ISN'T EQUAL.**



3. And it has **BIAS AND SYSTEMIC RACISM.**



4. Within this same picture, a **DIVERSITY** lens focuses only on bringing more students into an unequal pathway.



5. In contrast, **EQUITY** redirects resources to the pathways with greatest need to fix barriers and intentionally provide support.



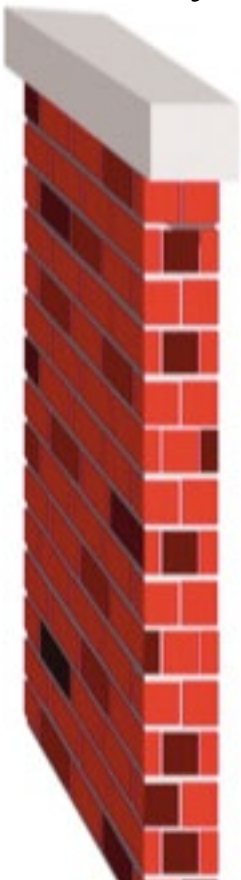
Considerations in HSR for R/E Disparities Research

- Understand the impact of structural racism
- Historically greater likelihood of minorities to be uninsured (may still be underinsured) than their White peers - attenuated with the ACA (2010)
 - Narrow networks, historical mistreatment still impact actual access to care
- Substantial heterogeneity in each group
- Medicare analyses: at least recent equity in access to care
 - survivor bias, consider controlling for allostatic load/weathering
- Medicaid analyses: represents “equity” in access for low-income populations and often children
- Open health systems – large EHR data
- Closed health system - Kaiser, VA
- Large Observational Datasets: NHANES, NHIS, NIS, MEP
- Qualitative research including community engaged research
- More

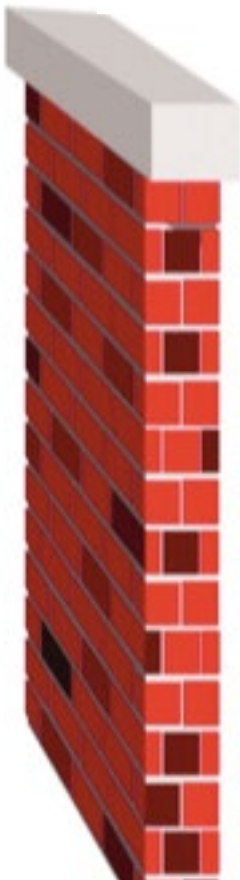


Barriers to Access and Quality of Health Care in Under Resourced Communities

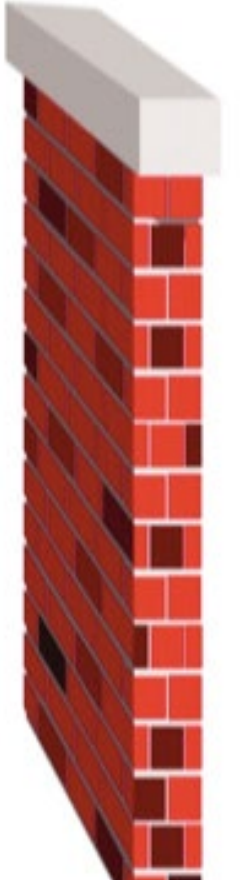
System

- 
- Lack of health insurance
 - Availability of providers
 - Type of providers and their resources
 - Location of services
 - Organization of care

Community

- 
- Assets
 - Deficits
 - non direct health care
 - Social determinants

Provider

- 
- Knowledge
 - Attitudes & bias
 - Lack of technical or interpersonal skills
 - Communication
 - Decision making style
 - Patient centered care
 - Physician social concordance with patient

Patients

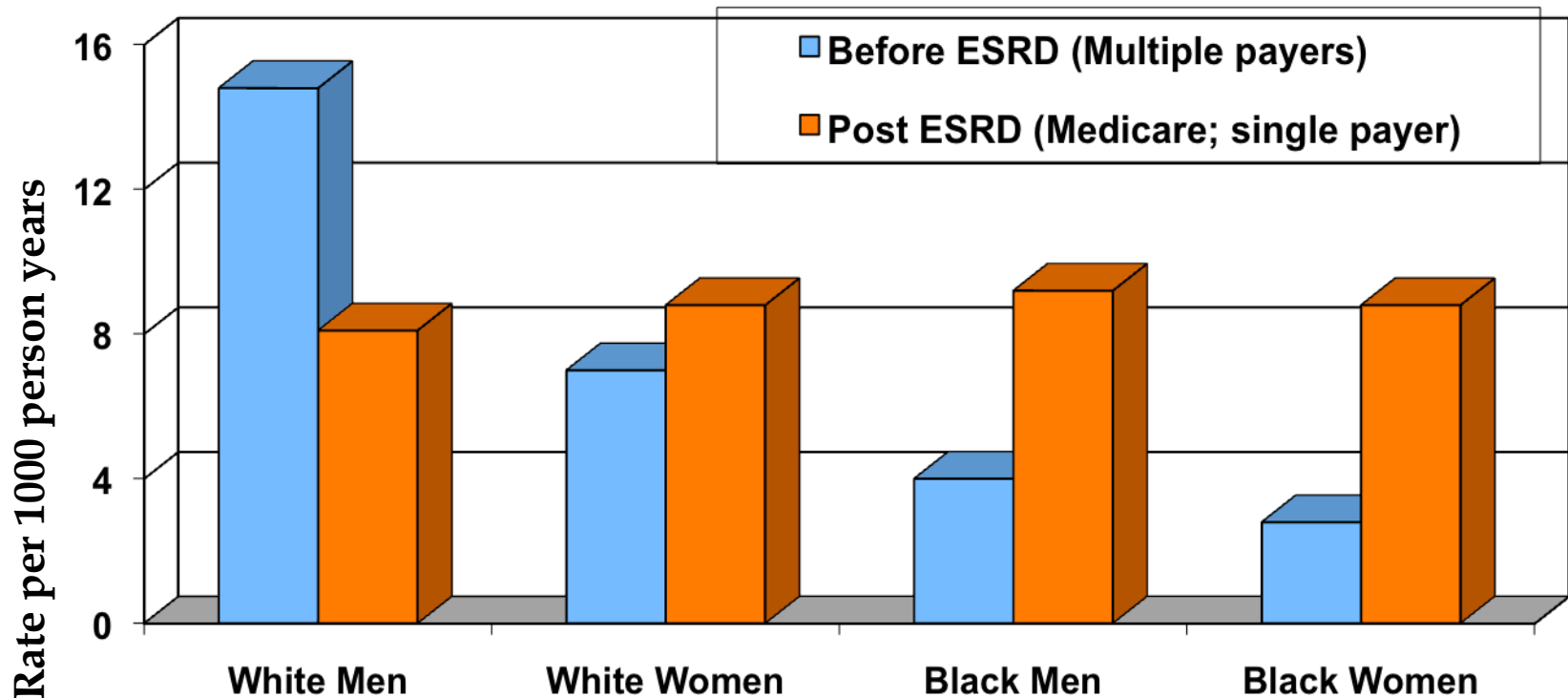
- 
- Knowledge
 - Attitudes
 - Cultural beliefs
 - Health behaviors
 - Language
 - Health literacy
 - Social support
 - Religious beliefs
 - Fear
 - Self efficacy
 - Preferences
 - Psychosocial
 - Socioeconomic status
 - Trust
 - Education



Recognizing R/E disparities have improved is not enough

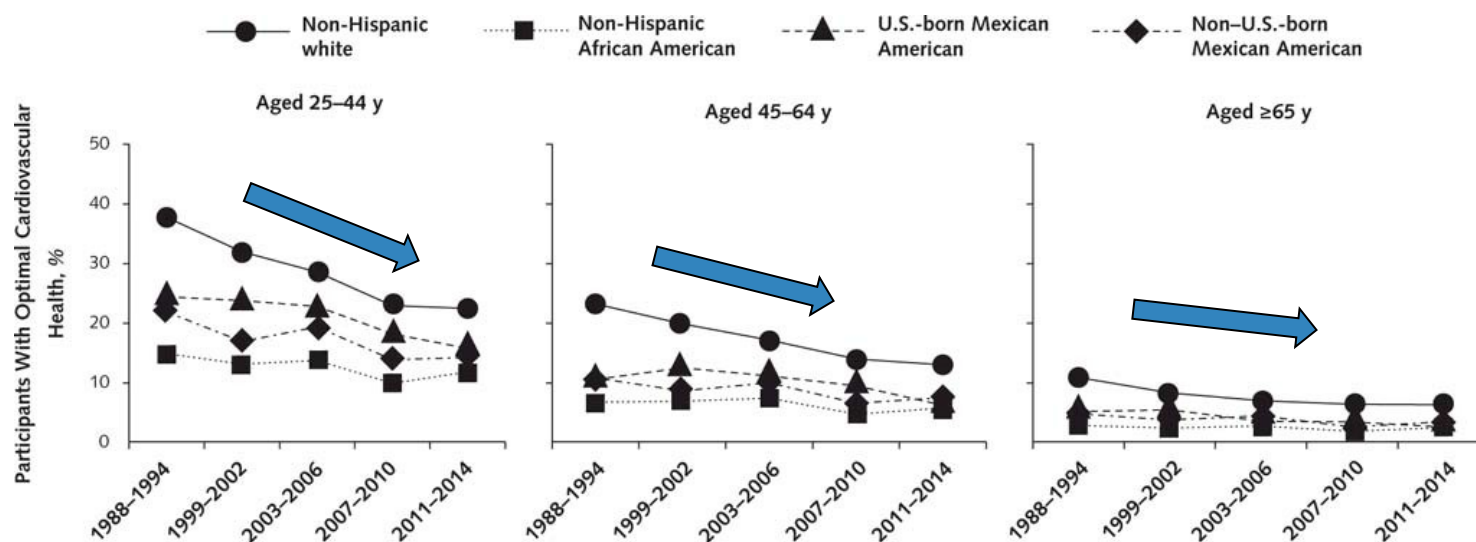


Effect of Single Payer System on CV Procedure Rates Among ESRD Patients



To examine U.S. trends in R/E and nativity disparities in CV health.

- Repeated cross-sectional study (NHANES 1988 - 2014)
- ≥ 25 years and no reported CVD
- Racial/ethnic, nativity, and period differences in Life's Simple 7 (LS7) (BP, cholesterol, Hb A_{1c}, BMI, physical activity, diet, and smoking) and optimal CV health composite (LS7 score ≥ 10).



U.S. trends in R/E and nativity disparities in CV health:

Conclusion

- Rates of optimal CV health <40% for whites, <25% for Mexican Americans, <15% for African Americans.
- CV health has declined in the United States,
- R/E and nativity disparities persist but have decreased
 - Decreased disparities are due to worsening CV health among Whites rather than gains among African Americans and Mexican Americans.
- Multifaceted interventions are needed to address declining population health and persistent health disparities



R/E disparities & Mortality



Why an EDIJ lens is needed to conduct HSR to understand and reduce health disparities

- Define race during the experimental design, and specify the reason for its use in the study as we do with sex.
- Name racism
 - Identify the mechanism (interpersonal, institutional, or internalized) by which it may be operating, and other intersecting forms of oppression (e.g. sex, sexual orientation, age, nationality, religion, or income) that may compound its effects.
 - Naming racism explicitly helps authors avoid incorrectly assigning race as a risk factor racially disparate outcomes, when racism is the risk factor for racially disparate outcomes.



Why an EDIJ lens is needed to conduct HSR to understand and reduce health disparities

- If race and genetics are being expressed jointly, painstakingly delineate the intended implication.
 - *Never? offer genetic interpretations of race* because such suppositions are not grounded in science
- *Solicit patient input* to ensure the outcomes of research reflect the priorities of the populations studied.
- *Identify the stakes.* Research on R/E health inequities has broad implications for public policy and clinical practice.
- *Cite the experts*

The use of racial designations in health research must occur with an in depth understanding of the nuances of ancestry and racism in the context of biomedical constructs, otherwise we may reinforce the very racist concepts we claim to reject in medicine.

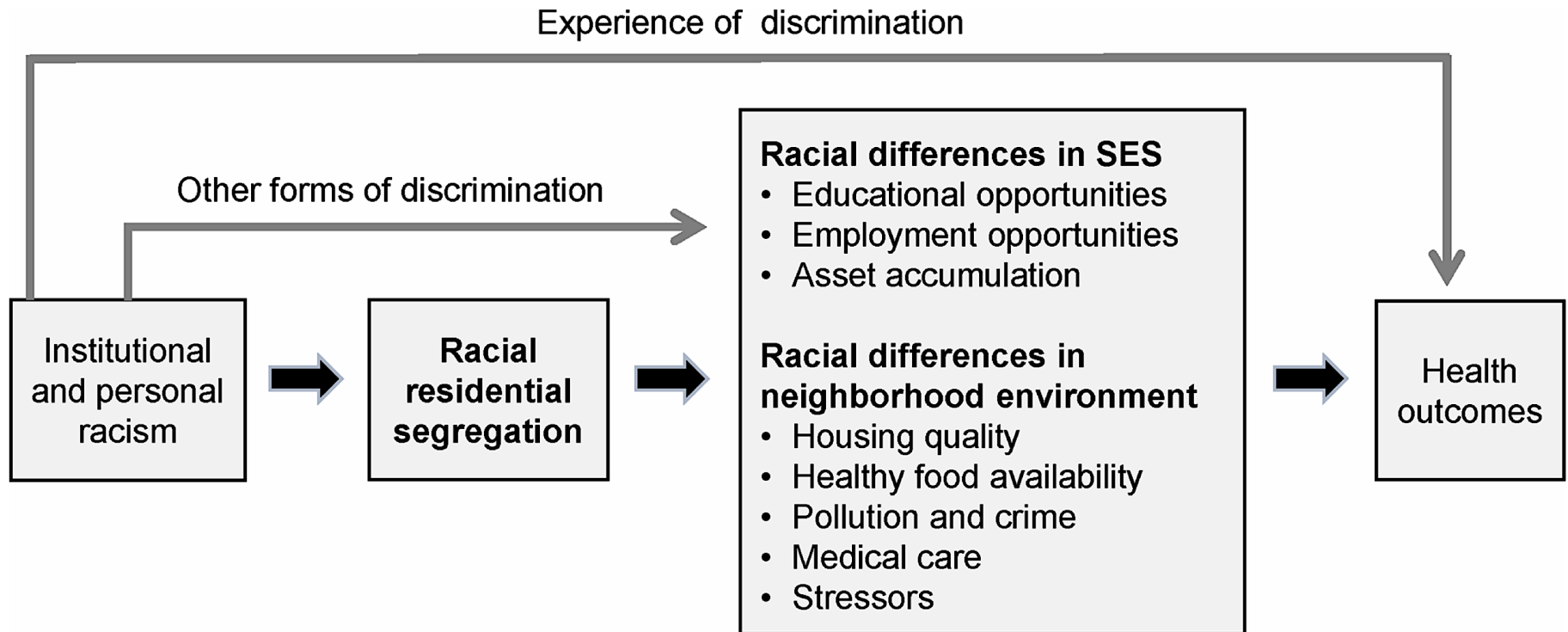


Racism, Racial Residential Segregation and Health

- To evaluate the association between racial residential segregation, a prominent manifestation of systemic racism, and the White-Black survival gap in a contemporary cohort of adults, and to assess the extent to which socioeconomic inequality explains this association.
- Cross sectional study of White and Black men and women aged 35–75 living in 102 large US Core Based Statistical Areas (CBSA). The main outcome was the White-Black survival gap.
 - They used 2009–2013 CDC mortality data for Black and White men and women to calculate age-, sex- and race adjusted White and Black mortality rates. They **measured segregation** using the Dissimilarity index, obtained from the Manhattan Institute. They used the 2009– 2013 American Community Survey to define indicators of **socioeconomic inequality**. They estimated the CBSA-level White–Black gap in probability of survival using sequential linear regression models accounting for the CBSA dissimilarity index and race-specific SES indicators (CBSAs collectively represent both metropolitan and micropolitan areas in the United States).



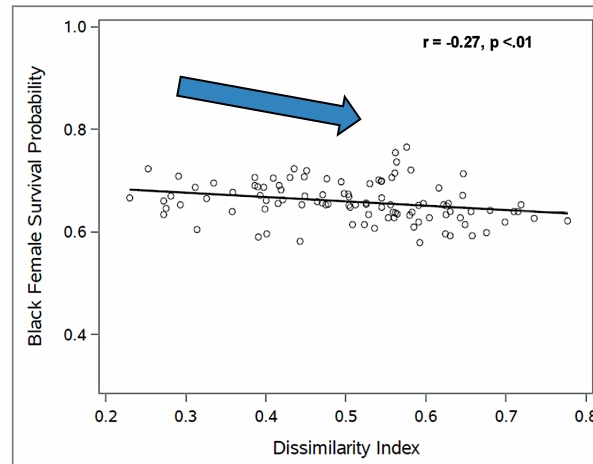
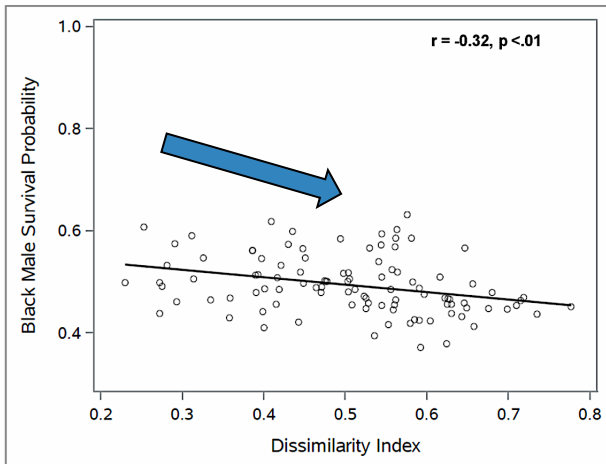
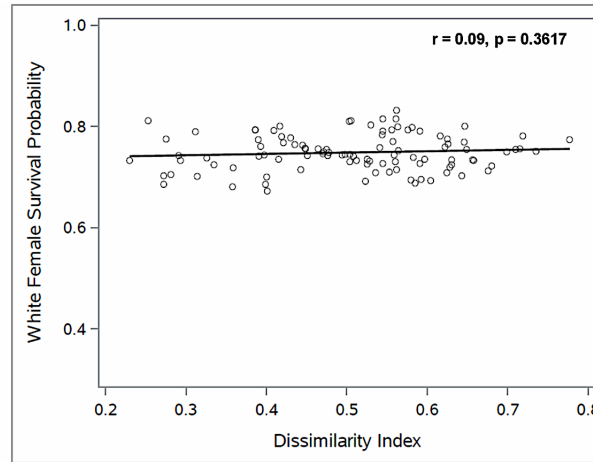
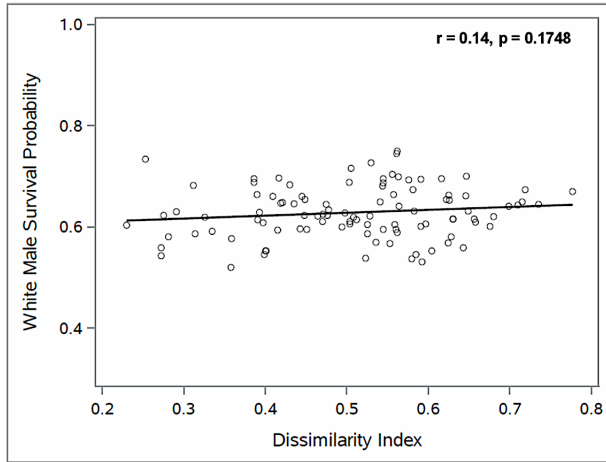
Racism, Racial Residential Segregation and Health



High levels of residential dissimilarity signify that Blacks and Whites have little common area of residence within the CBSA, and, the more spatially separated Blacks and Whites are within a CBSA, the more likely they are to lead separate lives in neighborhoods increasingly different in quality and in access to influence and resources



The relationship between racial residential segregation and the probability of survival for Black and White individuals from 35 to 75.



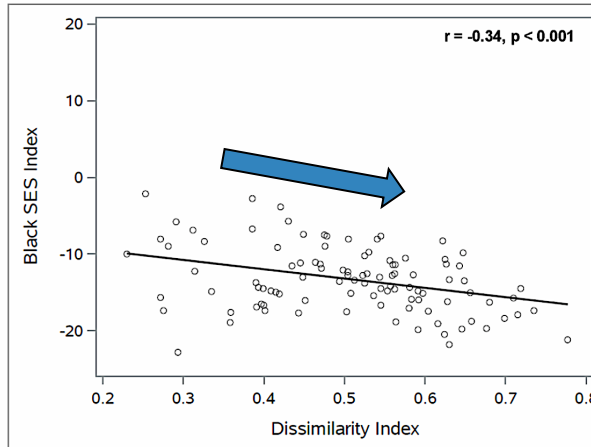
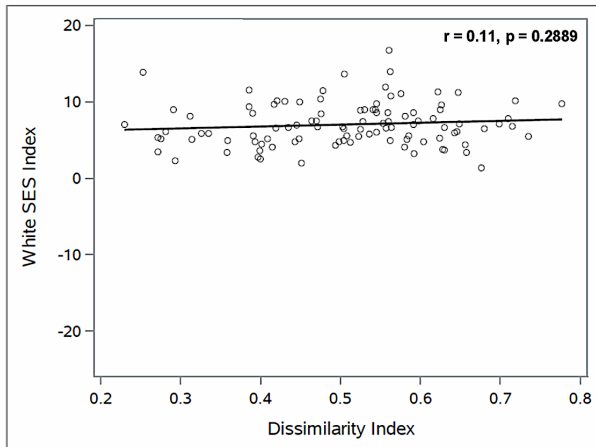
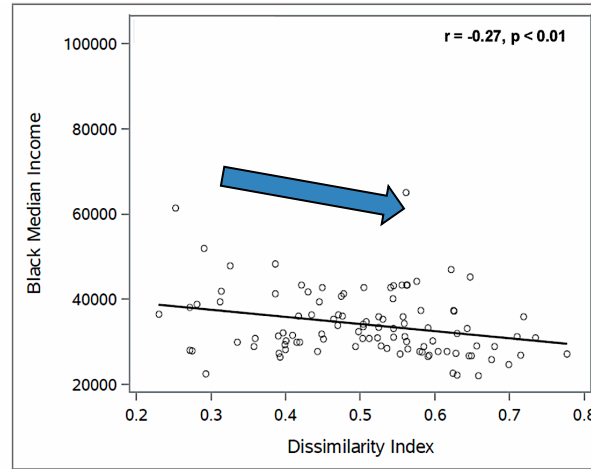
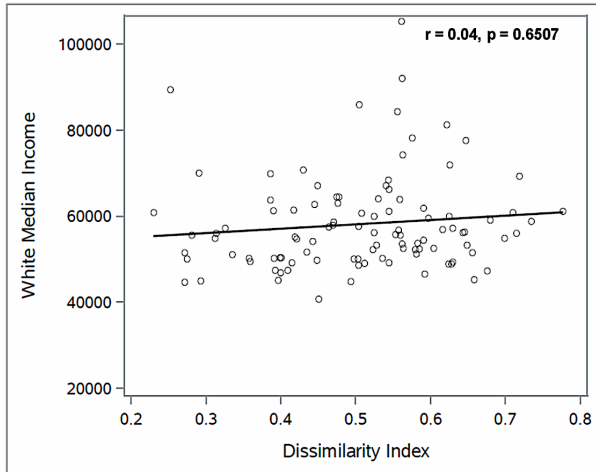
White-Black survival gap was substantially greater in more segregated compared with less segregated CBSAs

The probability of survival was uncorrelated with the dissimilarity index for White men and women,

At low level of dissimilarity Black-White survival differences are small



The relationship between racial residential segregation, median household income and SES index for Black and White individuals aged 35–75.

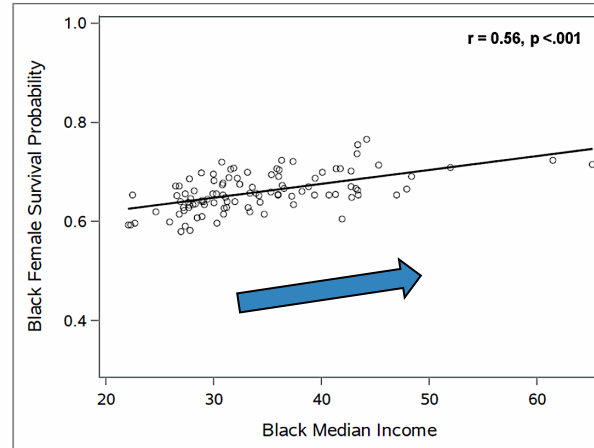
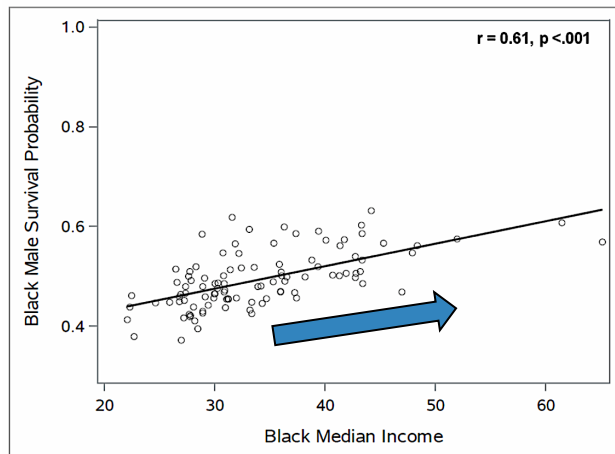
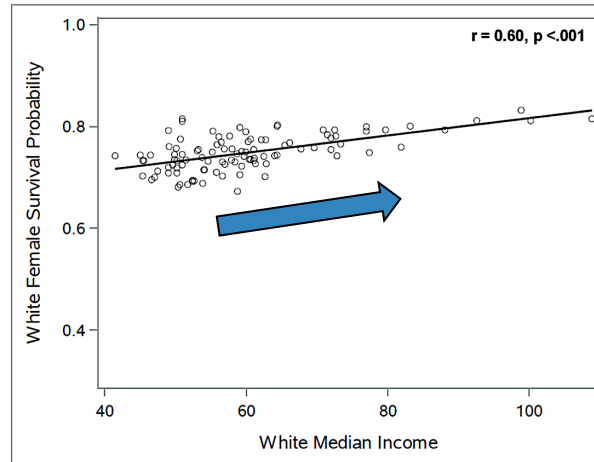
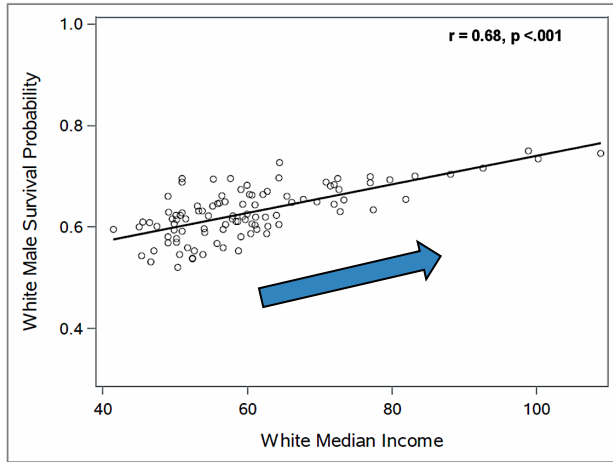


Median household income and SES index were uncorrelated with the dissimilarity index for Whites

Black median household income and SES index were negatively correlated with dissimilarity (More segregated lower income)



The relationship between median household income and the probability of survival for Black and White individuals from 35 to 75.



By contrast, the association between the probability of survival from age 35 to 75 and median household income or SES index (not shown) was similar for Whites and Blacks



Racism, Racial Residential Segregation and Survival: Conclusion

- Black men and women had a 14% and 9% lower probability of survival (age 35-75) than their White peers.
 - Residential segregation was strongly associated with the survival gap, and this was only partly, explained by SES inequality.
 - At the lowest observed level of segregation, and with the Black SES assumed to be at the White SES level scenario, the survival gap is essentially eliminated
- White-Black survival differences remain despite public health efforts to improve life expectancy and initiatives to reduce health disparities.

Eliminating racial residential segregation and bringing Black SES to White SES levels could eliminate the White-Black survival gap.



Did this paper use a EDIJ lens ?

Did it meet the standard for publishing on racial health inequities?

- Specified the reason for using race.
- Named structural racism
- Identified policy implications and cited experts

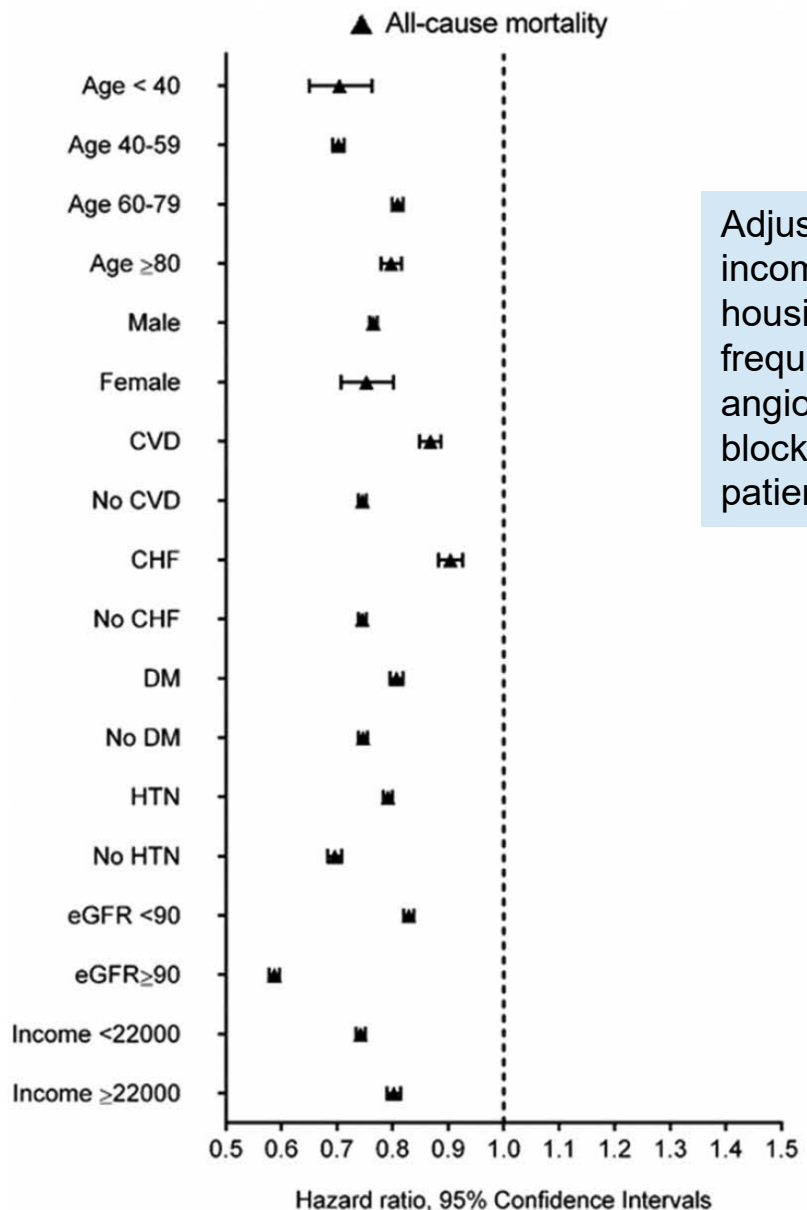
- **Diversity and Inclusion** – residential segregation
- **Equity** – SES/income, survival
- **Justice** –Inequities in SES/income and residential segregation are associated with survival; remediation should be undertaken to see if it mitigates survival disparities

Association of Race With Mortality and Cardiovascular Events in a Large Cohort of US Veterans

- We compared all-cause mortality, incident CHD and stroke using multivariable-adjusted Cox models in a nationwide cohort of 547,441 Black and 2,525,525 White patients with baseline eGFR \geq 60; 2002-2013 - US Veterans Health Administration.
 - After multivariable adjustment, **Black race was associated with 24% lower all-cause mortality** (AHR, 0.76; 95% CI, 0.75–0.77; P<0.001) and 37% lower incidence of CHD (AHR, 0.63; 95% CI, 0.62–0.65; P<0.001) and similar incidence of ischemic stroke (AHR, 0.99; 95% CI, 0.97–1.01; P=0.3).
 - Demographic, clinical, census level housing stress, low education, low employment, and persistent poverty
- In parallel analyses, we compared outcomes in Black versus White individuals in the (NHANES) 1999 to 2004.
 - Black race was associated with a **42% higher adjusted mortality** among individuals with estimated glomerular filtration rate \geq 60 mL/min/1.73 m² (AHR, 1.42; 95% CI, 1.09–1.87).



Association of Black vs. White patients (ref) and Mortality with various outcomes in predefined subgroups of the overall cohort of 3,072,966 veterans.



Adjusted for age, sex, baseline eGFR, comorbidities, BMI, BP, mean income, marital status, service connectedness, area-level housing stress, low education, low employment, persistent poverty, frequency of Veterans Affairs (VA) healthcare encounters, use of angiotensin-converting enzyme inhibitors/angiotensin receptor blockers and statins, receipt of influenza vaccination(s), and each patient's VA healthcare center.

Kovesdy C, Norris K, Boulware E, et al. Circulation. 2015;132:1538-1548. DOI: 10.1161/CIRCULATIONAHA.114.015124.

Considerations in VA HSR for Disparities

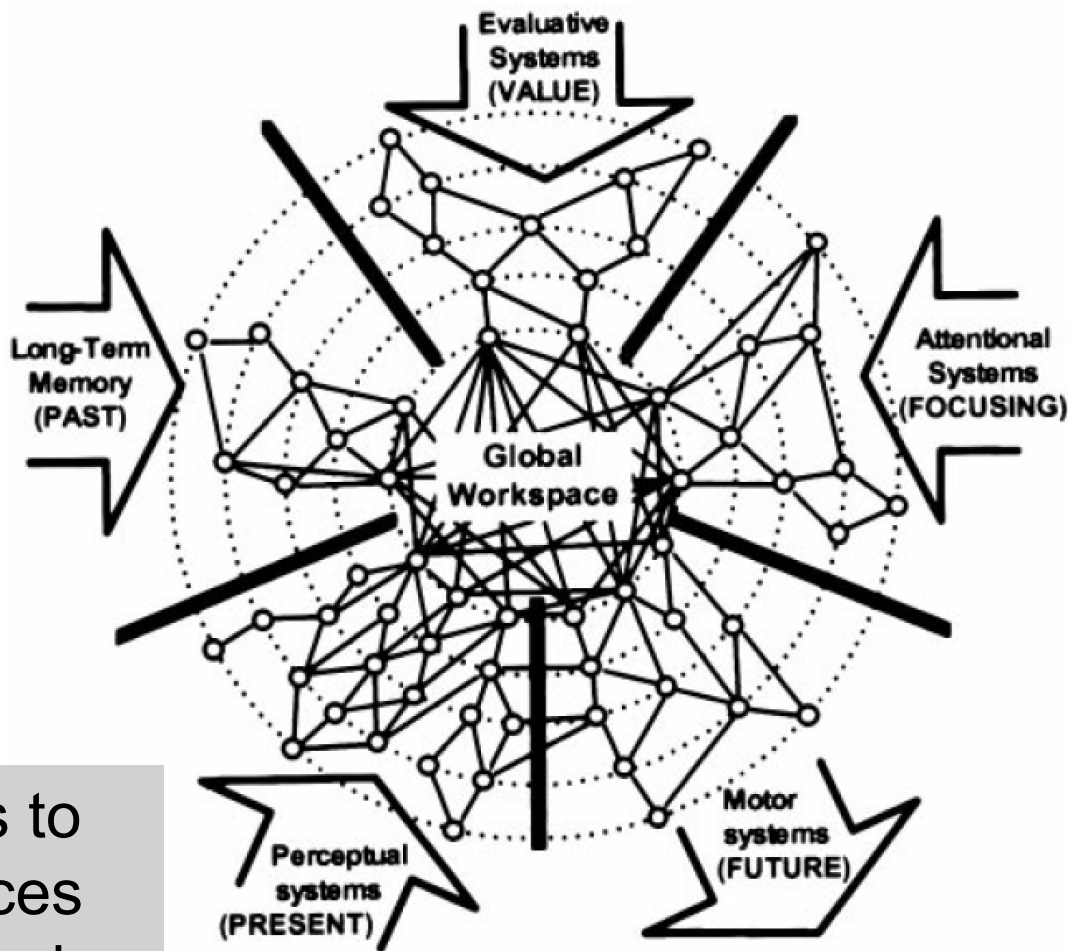
- Being a veteran may mitigate certain societal disadvantages to African Americans in contrast to not being a veteran, such as a more extensive social network, a greater sense of the ability to persevere, better lifestyle habits.
 - VHA system structures may provide clues, for instance, universal access to care and quality focused
 - African American veterans have higher income and higher levels of educational attainment than non-veteran African Americans.
 - Reduced likelihood to be uninsured
 - ? attenuate medical establishment distrust thereby enhancing their likelihood to seek preventive care or treatment.
 - Few women, biased by military entry (some drafted)



In addition to Conducting Research to
Improve Health Care,
HSR Faculty Care for Patients with
Increased Stresses



Psychosocial Stress (Poverty/Discrimination/More) & Cognitive Processing

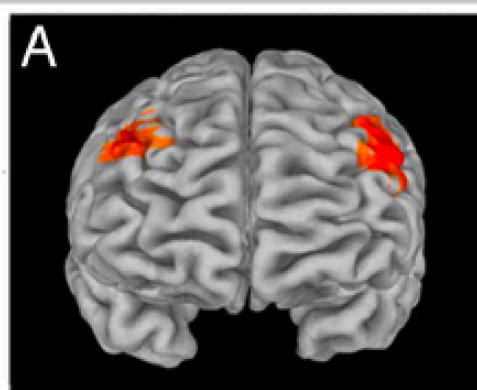


Stress (to survive) leads to realignment of workspaces that limits cognitive processing

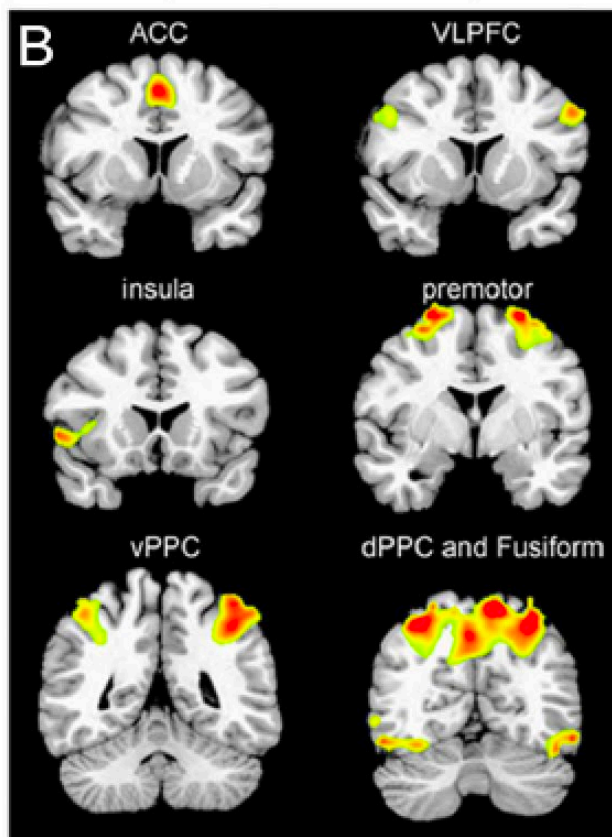


Psychosocial stress selectively impaired attentional control and disrupted functional connectivity within a frontoparietal network that mediates attention shifts.

These effects were reversible after 1 month of no stress except for ventrolateral prefrontal cortex (VLPFC) which is required for performance of a strategy implementation task



Functional Connectivity Analysis



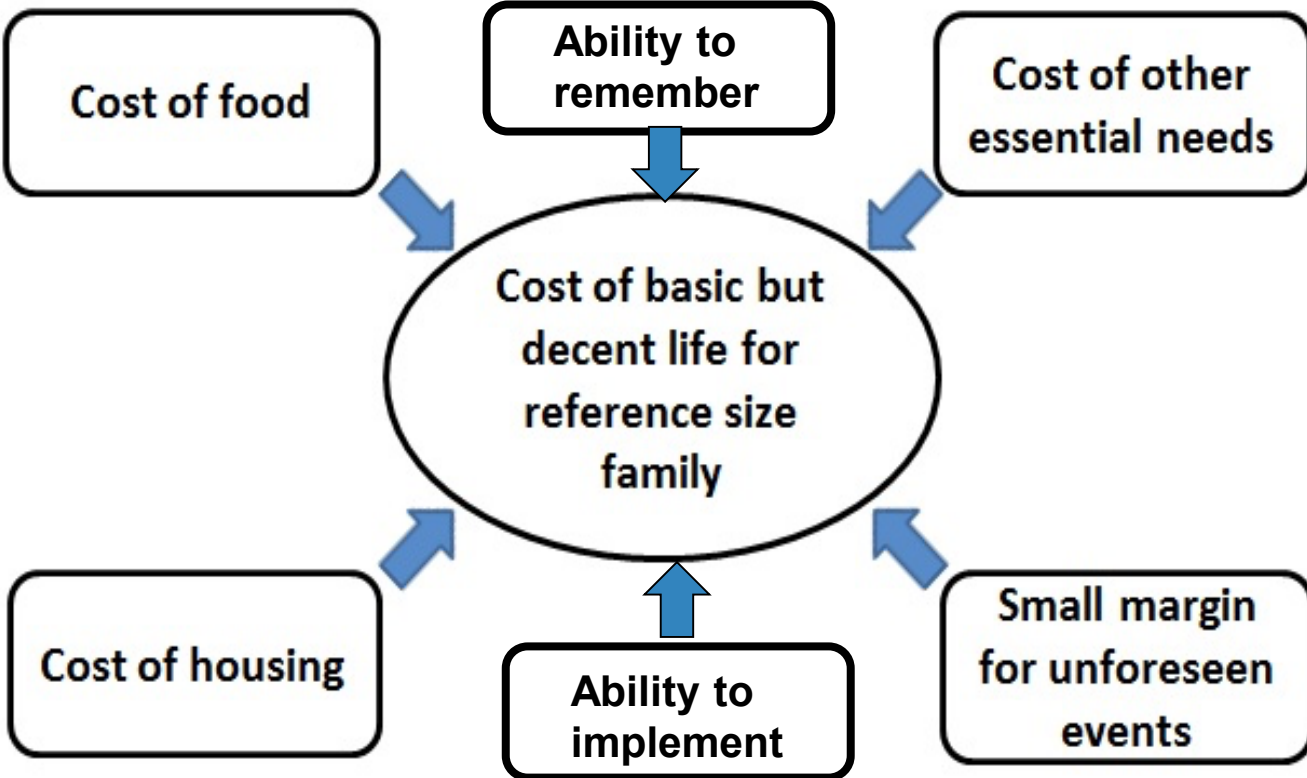
t = 2.9  4.5



20 healthy adults, exposed to 1 month of psychosocial stress

Liston C, McEwen BS, Casey BJ. Psychosocial stress reversibly disrupts prefrontal processing and attentional control. PNAS. 2009 Jan 20;106(3):912-7.

What might happen if an “under-resourced” patient makes it to your office and then goes home?



Which ball(s) are your under-resourced and disproportionately minority patients likely to drop
-Rent, food, electricity, new tire, childcare, elder care or
-lifestyle recommendations, f/u visit, meds?

The Secret of the Care of the Patient is Caring for the Patient

-Francis Peabody, 1927

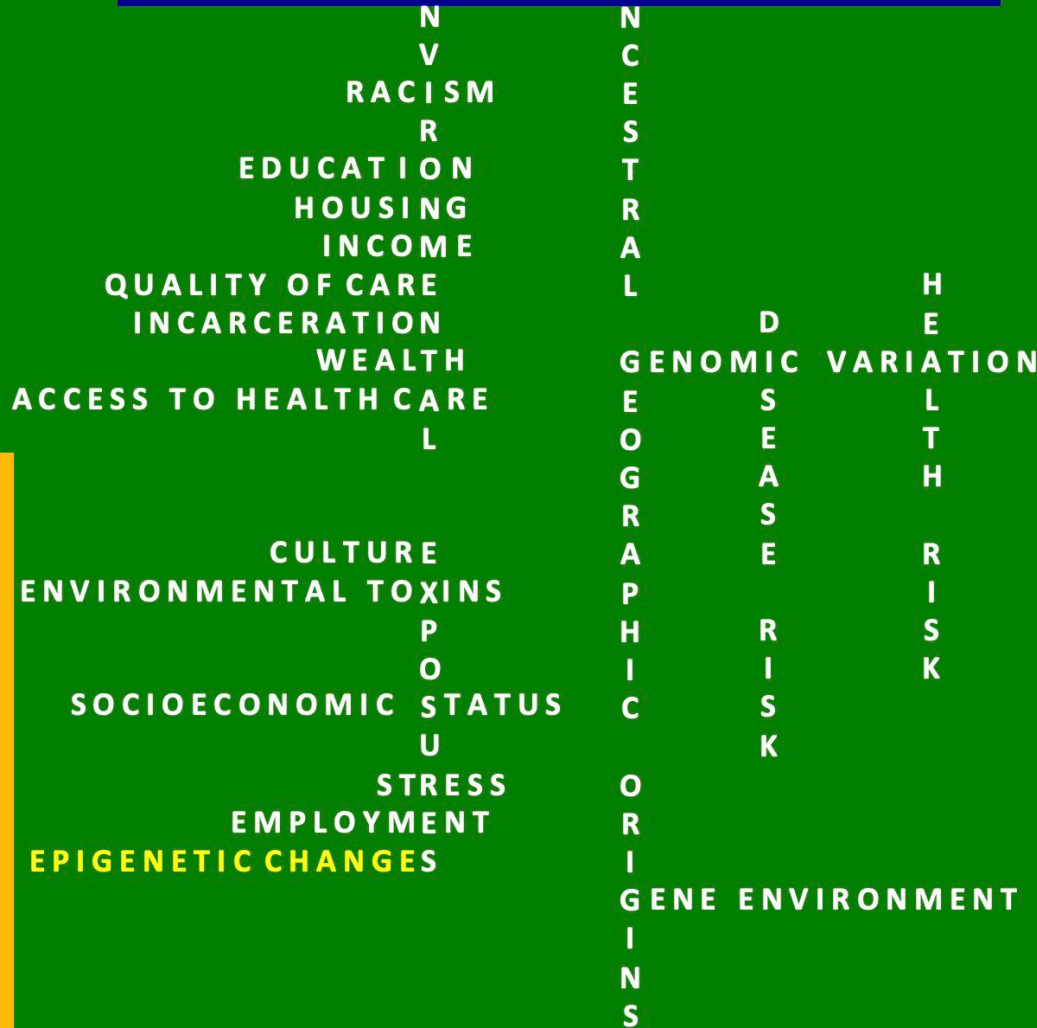


SELF-IDENTIFIED RACE OR ETHNICITY

Social



Biological



In the U.S. through racism your race is a major determinant of the risk of these social elements of health

Gene polymorphisms Driven mainly by geo-evolutionary pressures

HEALTH OR DISEASE

Norris KC, et al. Hemodialysis Disparities in African Americans: The Deeply Integrated Concept of Race in the Social Fabric of our Society. *Seminars in dialysis*. 2017;30(3):213-223
 (Adapted from Collins FS. What we do and don't know about 'race', 'ethnicity', genetics and health at the dawn of the genome era. *Nature genetics*. 2004;36(11 Suppl):S13-15).