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DEBATE-COMMENTARY

HSR Health Services Research

Racial disparities in healthcare and health

1 | INTRODUCTION

The COVID-19 pandemic brought renewed national attention to the profound and persistent racial differences in American health outcomes. The Centers for Disease Control's national snapshot of health in 2019 painted a troubling picture prior to the pandemic.[1] This report demonstrated large differences in life expectancy, infant mortality, and maternal mortality between Black and White populations. In 2018, the life expectancy for the Black population was 74.7 years compared to 78.6 years for the White population. COVID-19 exacerbated these stark findings. By November 2021, the Centers for Disease Control reported a 1.9 times higher mortality rate for the Black population and a 2.1 times higher mortality rate for the Latino population compared to the White population.[2] Between 2019 and 2020, life expectancy dropped 3 years for the Latino population, 2.9 years for the Black population, and 1.2 years for the White population.[3]

These statistics are disturbing. But there is some promise in our renewed national conversation around race; racial justice is being highlighted in national media, politics, and corporate discourse. This is a uniquely important time for the medical and health services research community to better understand the evolving discussion surrounding racial disparities in health. This discussion extends beyond the provision of health care services to examine societal factors that have a substantial influence on health outcomes. Through this lens, we can then assess the persistent effect of structural racism, or the adverse impact of public policy on communities of color, on health.

1.1 | Health versus healthcare

Our understanding of racial health disparities has expanded over time. In 1985, the Department of Health and Human Services began the first federal initiative to study racial health inequity.[4] The resulting report described excess disease affecting people of color and opened the door to new research of disparities in access to care. Further studies have shed light on the key role of racism: even with similar access to care, racial bias within the healthcare system produces inequity.[5] However, this work was mostly descriptive in nature, not mechanistic, and for the most part has not translated into meaningful improvements in health equity. Gaps in mortality between racial groups have been stubbornly persistent, and differences in self-rated health between racial groups have remained largely unchanged over the last 20 years.[6]

A new body of research using a broader sociologic framework suggests that our prior approach, focused on disparities in *healthcare*, might not be adequate to meaningfully impact health outcomes even if addressed. This research suggests that healthcare itself likely has a relatively small impact on health outcomes; instead, the broader model considers how social factors, economic factors, health behaviors, and physical environment may play a more significant role in health outcomes when assessed across populations.[7–11] However, only a few of the published sociologic frameworks examine racism as a driver of social inequity, and thereby a driver of health inequity.[12–15] In this paper, we highlight a combined framework for understanding racial disparities by examining the role of structural racism in shaping the social determinants of health.

1.2 | Structural racism

Dr. Camara Jones, an American physician and epidemiologist, provides a helpful roadmap for approaching race, racism, and health. She defines "race" as "not a biological construct that reflects innate differences, but a social construct that precisely captures the impacts of racism."[16] Her model considers racism at three levels: structural, interpersonal, and internalized, all of which have implications for health. There is a growing body of literature on the connections between health and interpersonal and internalized racism,[17–21] so we focus this review on the upstream factor of structural racism as it relates to social inequity.

Structural racism is defined as a system in which government policy and societal norms perpetuate racial inequity. The roots of structural racism in America lie in the 250 years of slavery, and the 100 years of Jim Crow laws, which followed, effectively resulting in a long-standing racialized caste system.[22] In many ways, the Civil Rights era was an effort to address structural racism in the United States by overturning policies, which supported structural racism, by expanding individual rights, and by providing pathways to enforcement of these rights. Structural racism of the 20th century has sequelae to the current day.

2 | THE SOCIOLOGIC MODEL OF HEALTH AND STRUCTURAL RACISM

2.1 | Social factors

Mass incarceration is a prominent current manifestation of structural racism in the United States. The United States has the highest incarceration rate of any country in the world, and the burden of

imprisonment falls disproportionately on Americans of color.[23] This problem has dramatically worsened since the 1970s "War on Drugs." In the last 40 years, the total US prison population has risen by 500%, with drug convictions accounting for the majority of the increase.[24] The lifetime likelihood of imprisonment for Black men born in 2001 is 1 in 3, compared to 1 on 17 for White men.[23]

This disproportionate rate of incarceration is associated with social and health consequences for incarcerated individuals and their communities. People who were imprisoned early in adulthood have a 52% lower income than socioeconomically similar peers who had never been imprisoned, earning nearly half a million dollars less over their lifetime than the comparison population.[25] Currently incarcerated people have a higher rate of infectious diseases, including sexually transmitted diseases, HIV, and hepatitis C, and other chronic medical conditions like hypertension, diabetes, substance use disorders, and mental health disorders.[26] Children whose parents have been incarcerated report poorer physical and mental health, with differences persisting through adolescence and adulthood.[26] These differences were evident during the COVID-19 pandemic; between March 2020–March 2021, roughly one in three prisoners were reported to have COVID infections, a number three times higher than that of the general population.[27]

Structural racism underlies the education system as well. Residential segregation and systemic economic deprivation result in de facto schooling segregation and diminished property tax funding for public schools serving children of color.[28] Predominantly, non-White school districts receive $23 billion less than predominantly White school districts despite serving the same number of students.[29] In 2016, 92% of the White population above 25 had obtained a high school diploma, while only 85% and 67% of the Black and Latino populations did, respectively.[30]

Returning to our examination of health, studies have shown a causal relationship between improved childhood education and favorable health outcomes. The Carolina Abecedarian Project was a randomized control trial in which children were randomized to receive an early general childhood education program for the first 5 years of life or no intervention.[31] Children randomly assigned to early childhood education had improved cardiovascular and metabolic health through their mid-30s in follow-up studies.[32] Increased education later in life is associated with increased longevity, although further studies are needed to establish causality.[33] The difference in life expectancy for a man with no high school diploma and a man with a graduate degree is 16 years, and the difference in life expectancy for a man with no high school diploma and a man with a high school diploma is 7 years.[34]

2.2 | Economic factors

A major factor in economic structural racism has been redlining, which refers to a program of racialized housing segregation built and perpetuated by the federal government through mortgage lending policies.[35] In 1933, the US Government created the Home Owners Loan Corporation (HOLC) to spur home ownership by the middle class. One part of the HOLC portfolio was a program to evaluate the riskiness of home mortgages. The organization divided loan requests into four risk categories, largely based on the racial makeup of the neighborhood where the house was located. Minority (mostly Black) neighborhoods were marked "high risk" in red on HOLC maps. These areas were ineligible for federal home loans, effectively excluding people of color from subsidized home ownership and significantly limiting opportunities for intergenerational wealth transfer for minority families.

Redlining not only impacted access to mortgages but led to significant disinvestment in physical infrastructure and public services. Together, this set of policies has had a significant impact on the health of redlined communities. Formerly redlined areas now have lower life expectancy[36] and higher rates of preterm birth[37]—roughly 80 years after the policies were enacted. Formerly redlined areas have a higher rate of comorbidities, which increase the severity of COVID-19 infections like diabetes, hypertension, and chronic obstructive pulmonary disease (COPD).[36] Finally, formerly redlined neighborhoods are adversely impacted by other factors that impact health from tree canopy cover, to access to high-quality foods, to toxic environmental exposures.

Furthermore, systematic economic deprivation through redlining is associated with poorer health. Homeownership rates and typical home values continue to be significantly lower for Black and Latino populations compared to the White population.[38] In 2016, the median White American family had greater than 10 times the median net worth of the median Black family,[39] and in 2019, the median Black household earned 61 cents for every dollar of income earned in the median White household.[40]

In the United States, greater income is associated with increased health. Raj Chetty's large-scale study of data between 1999 and 2014 showed a gap in life expectancy between the richest 1% of income earners and the poorest 1% of 14.6 years.[41] This correlation between increased income and increased life expectancy continues throughout the income distribution—there was no threshold at which additional income was not associated with additional survival. The association between life expectancy and income is increasing. Between 2001 and 2014, life expectancy increased by 2.34 years for men and 2.91 years for women in the top 5% of the income distribution, but by only 0.32 years for men and 0.04 years for women in the bottom 5%.

2.3 | Health behaviors

Health behaviors like diet, smoking, and exercise are often framed as personal decisions, but environmental influences have a significant impact on personal decision making. The national conversation has acknowledged differences in access to healthy foods across neighborhoods, but the problem is more fundamental; there is a significant difference in access to adequate food at all. Formerly redlined areas are more likely to be current areas of low food access, defined as low-income urban census tracts where a significant number of residents are more than one-half mile to the nearest supermarket.[42] People of color disproportionally experience food insecurity, which the US

Department of Agriculture defines as a lack of consistent access to sufficient food for an active, healthy life. In 2020, the rate of food insecurity was higher in Black (21.7%) and Latino (17.2%) populations than the national average (10.5%).[43]

There are significant differences in tobacco promotion and availability by race. Black, Latino, and Native communities have been heavily pursued by the tobacco industry through targeted advertising.[44–46] It has been demonstrated that there is an increased density of tobacco outlets in the majority Black counties compared to the majority White counties.[47] In particular, menthol cigarettes have been heavily targeted toward Black communities—80% of Black smokers smoke menthol cigarettes.[48] These cigarettes are designed to appeal to younger smokers, are significantly more likely to be smoked by younger smokers, and are more difficult to quit than other cigarettes. These promotional efforts have effects beyond smokers themselves. Between 2013 and 2014 50.3% of Black children between 3 and 11 years had biochemical evidence of secondhand smoke exposure.[49]

2.4 | Physical environment

The necessity of water for health has become abundantly clear during the pandemic, but access to clean water is becoming increasingly tenuous for low-income Americans. Perhaps the starkest demonstration of this trend is in Detroit Michigan, a city that is currently 78% Black; since 2014, over 100,000 homes have had their water shutoff at some point due to inability to pay utility bills.[50,51] Detroit residents have reported using gallon jugs of water to wash their hands, cook their food, clean their houses, and flush their toilets. Some people went as far as to dig pit toilets in the back of their homes due to lack of water. This crisis gained international attention—the United Nations sent a special reporter on the human right to water to Detroit, who reported that it was "contrary to human rights to disconnect water from people who simply do not have the means to pay their bills."[52] This problem is growing throughout the United States; in a study of 12 major US cities, water prices rose by an average of 80% between 2010 and 2018, partially in response to a 77% decline in federal water funding since the 1970s.[53] Further exacerbating this issue, population declines in decaying urban areas have led to the amortization of utility and municipal bonds over a shrinking tax base.[50] These price increases disproportionately impact poor people, who pay a significant portion of their income for water services and are often faced with punitive measures like escalating bills and shutoffs.

Unfortunately, there is inequity in environmental health as well. Formerly redlined areas have on average ~23% tree canopy cover, while predominantly White areas had nearly twice as much tree canopy, ~43%, with tree canopy related to temperature and other health benefits.[54,55] On average, the White population experiences a "pollution advantage," experiencing roughly 17% less air pollution exposure than is caused by their consumption. Black and Latino populations on average bear a "pollution burden" of 56% and 63% excess exposure than is caused by their consumption.[56]

3 | A NEW APPROACH

With an improved understanding of structural racism and the sociological model of health, we can operationalize this knowledge to have more insightful research into health disparities, and potentially new opportunities for interventions to improve health outcomes. Our national conversation is changing, with leaders in medicine, public health, and politics speaking out about the impacts of social forces on health. Don Berwick, the former administrator of the Centers for Medicare and Medicaid Services, advocates fiercely for this approach, saying "we cannot achieve health and accept vast inequity—that is a bankrupt idea. The causes of causes are not ours to accept, they're ours to change." The Biden Administration's social policy proposals (The Bipartisan Infrastructure Deal,[57] passed November 2021, and The Build Back Better plan,[58] under negotiation) each touch on several of the domains of the sociologic model of health and could provide a significant opportunity for health improvement. States with higher ratios of social to health spending have better health outcomes compared to states with lower ratios, suggesting that social spending, such as the Biden programs, could provide a new pathway to improve health outcomes.[59]

The sociologic model of health could also spur a dialogue about community benefits and health outcomes. Many not-for-profit organizations report investments in medical education and research as a community benefit, but given the limited health impact of these investments on health outcomes and equity, we might consider a new model of community benefit more directly related to potential improvement in health outcomes.[60] For example, Rush University Medical Center actively promotes health by heavily investing in community economic and social vitality.[61]

As a research community, we should think carefully about the renewed interest in health disparities from the broader lens of structural racism and the sociologic model of health. This powerful model provides new opportunities to better understand the impact of social determinants of health on health outcomes. Unfortunately, the model also suggests designing effective interventions to have an impact on health outcomes across racial groups will be even more challenging than previously imagined, and will have to be better resourced, and extended over a longer period of time, to have a measurable impact.

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