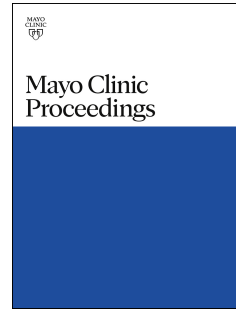




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Racial Disparities and Excess Cardiovascular Mortality Before and During the COVID-19 Pandemic: Time for a Solution

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Racial Disparities and Excess Cardiovascular Mortality Before and During the COVID-19
Pandemic: Time for a Solution

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Health disparities are a complex and multifactorial construct involving lack of access to health care, differential treatment modalities, and different outcomes for the same disease based on racial and/or socioeconomic class. Disparity in healthcare has garnered an increasing amount of attention from healthcare providers and health policy experts (1). Several studies have elucidated the effect of healthcare disparity between different socioeconomic and ethnic groups on cardiovascular (CV) outcomes as well as relating to the ongoing SARS-CoV-2 infection (COVID-19) pandemic. While these underlying disparities in CV outcomes have been well described, the Covid-19 pandemic appeared to have augmented these disparities and its associated burden to healthcare (2).

The burden of CV disease in the black population is disproportionately high and remains a primary cause of disparities in life expectancy between black and non-Hispanic (NH) white persons (3). An American Heart Association (AHA) statement on CV health in African Americans reviewed the literature in PubMed and Centers for Disease Control data and found an increase in heart failure, stroke, and peripheral vascular disease with no difference in the incidence of coronary heart disease. However, they found increased disparity in mortality with higher mortality rate on Blacks for all CV causes of mortality, with higher rates of each of the causes of CV mortality (3). A cross sectional study utilized data from a behavioral risk factor survey that demonstrated higher disparities of CV risk factors prominent in non-Hispanic black women of childbearing age living in southern states (3). These risk factors in the survey include blood pressure, total cholesterol, elevated glucose, smoking, high body mass index, low physical activity, and diet identified as ideal CV metrics among the 269,000 participants (4). There are existing data highlighting a higher risk factor burden e.g. increased prevalence of hypertension,

high BMI, smoking, and diabetes) and higher prevalence of ASCVD in black patients with familial hypercholesterolemia in comparison to their NH white counterparts (3). Finally, while CV disease mortality had been declining prior to the Covid-19 pandemic, a greater decrease occurred in NH white people compared with people of color (3). As noted above, multiple factors sustain those disparities including decreased access to health care facilities, health illiteracy, decreased access to nutritional foods, and a culture where activities predisposing to CV disease (e.g. smoking) are more prevalent (5).

The COVID-19 pandemic has intensified existing disparities in vulnerable communities. Studies have demonstrated an increase in excess mortality in black individuals due to the pandemic and have identified racial and ethnic disparities (6). Multiple factors account for this disparity in excess mortality in minority patients. There is an overrepresentation of low income earning black individuals, especially women of color, who were frequently frontline workers more exposed to the community spread of the virus. (5, 6). This is further exacerbated by pay inequality and the implications of financial and household burden on single-parent families, with a higher percentage seen in Black and Latina households (3). The racial differences in patients affected with COVID-19 and the demographic distributions have been demonstrated by Woolf et al. who showed that between March 1, 2020, and January 2, 2021, the US experienced 2,801,439 deaths from Covid-19, which was 22.9% (522,368 deaths) more than anticipated (7). While excess deaths increased in all regions in 2020, certain states with prevalent black populations like New Jersey, New York, Mississippi, Arizona, Alabama, Louisiana, South Dakota, New Mexico, and Ohio demonstrated the highest per capita rate of excess deaths (7). However, the percentage of excess deaths in the black population exceeded the percentage of the US population comprised

by Black Americans (7). Aside from the community risk factors listed above leading to a higher frequency of COVID-19 infections in Black Americans, disparity of care arises from fewer health care facilities available to minorities in these regions (5).

In this issue of *Mayo Clinic Proceedings*, Janus et al address the impact of the COVID-19 pandemic on population level differences in cardiovascular death (CVD) in the United States using the multiple cause of death files maintained by the National Center for Health Statistics (8). They analyzed the differences between CVD, and its three subtypes, death from myocardial infarction (MI), death from stroke, or death from congestive heart failure (CHF), among different racial and ethnic populations, while comparing cause of death in patients prior to 2018 and 2019 and during 2020 and 2021. For this study, race was determined by patient self report, reports of an informant (which may have included surviving next of kin), or based on observation from medical professionals (8). They reported a 3- fold higher rates of excess CVD mortality in black individuals compared to NH white individuals (8). The authors also note that out of 3,598,352 CVD deaths that were analyzed during the 4 1-year study periods, there was a higher percentage of older, female, and black individuals who died from stroke or heart failure (8). An important finding in this study is that Black patients had higher excess mortality as well as a larger increase excess mortality from CVD during the 2 pandemic years than Whites. Similar to Woolf et al above, these investigators also found a greatest difference in CVD among those residents of Southern states (8).

Acknowledgement of the evolution of the social, political, economic, and historical context of race and ethnicity is integral to effective healthcare practice and delivery. While there is

increased prevalence of CVD comorbidities in black populations, socioeconomic factors are more consequential to health disparities. For instance, unequal access and distribution to high quality healthcare is a vital fundamental driver of healthcare disparities (8). Lack of trust in the US healthcare sector by the black communities is also an important barrier to discuss in healthcare inequality. This exists because of the historical legacy of exploitation and persecution by the US healthcare system that affected generations of black communities. Moreover, this perceived (and actual) discrimination, fear of experimentation, and racism experience contribute to the generalized mistrust towards the healthcare system among the Black community, and ultimately affects their desire to seek care. (9). Additionally, low health literacy significantly impacts patients' ability to process and apply information to make sound health-related decisions (10). There is increasing evidence that low health literacy is associated with adverse outcomes and could be a predictor of mortality in the general population, among individuals with CVD, diabetes, and mental illness (10). A study by Chaudhry et al evaluated health literacy among black and white patients with heart failure. The authors determined that the black race was strongly associated with worse health literacy and all measures of poor access to care in comparison to their white counterparts (11).

As noted by Purnell et al, remedying health care disparity requires a multilevel approach starting with the patient (level 1), but then including family and friends (level 2), health care organizations and providers (level 3), and finally, policy makers (level 4) (5). Identifying and advocating policies that eradicate inequities in access to health care, socioeconomic and education opportunities will hope to alleviate the burden to marginalized communities and the healthcare industry. Several strategies can be employed. First, health care must be brought to the

communities where minority patients reside. A person will not seek health care nor change their habits if it is too difficult to access the system. Providing health conveniently to these patients is also an opportunity to build trust as the patients see the providers in their community and participating in community activities. Opportunities to improve the socioeconomic status of people must be made available so the patients can afford their health care and their environment. A place where one does not have enough income to provide adequate food and shelter leads to behaviors that increase the risk of disease, particularly CV disease (5). This is reflected in the increased frequency of diabetes, heart disease, obesity, and smoking (all major risk factors of CVD) in low socioeconomic, predominantly minority communities (5). Financial and food security lead to better health behaviors and improved health education in minority communities. This can be achieved by providing easy access to information and healthcare services through effective patient education materials, strengthen provider-patient communication, and individualized self-care support for those with literacy challenges (10). We must also re-establish trust in these communities of color by redoubling our efforts to provide effective cultural competency training for all clinicians and to recruit people of color to become physicians and role models for their communities.

In summary, this timely paper by Janus et. al, demonstrates the concerning disparities and excess CV mortality that is more pronounced in black patients before and each year into the COVID-19 pandemic (8). Ultimately, increasing public awareness and improving US legislative policies will potentially refine healthcare access for all people, and in the long run provide cost effective healthcare for all states (5). As Yancy stated some 2 years ago, the COVID-19 pandemic should be a major motivating factor to correct the existing disparities in care in the US (6). Given the

racial disparities in CV outcomes in general, and their marked exacerbation by COVID-19, let's hope that Yancy's call and advocacy become a reality.

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