The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States

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(See the Viewpoints by Geno Tai et al on pages 703–6.)

Severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2; coronavirus disease 2019 [COVID-19]) has caused a global pandemic and has highlighted the glaring impact of social determinants of health and racism in the United States. Significant racial and ethnic disparities exist with respect to the burden of morbidity and mortality from COVID-19. The most recent data show that the age-adjusted hospitalization rates for African-American, Alaska Native, and American Indian populations are 5 times that of non-Hispanic white persons. Individuals of Hispanic/Latino ethnicity have COVID-19 hospitalization rates that are 4 times higher than that of non-Hispanic white persons [1]. The disparities are not limited to hospitalizations. Rates of COVID-19–related deaths are significantly higher in African-American and Hispanic/Latino populations as well. As of 1 June 2020, death rates in Chicago for African Americans (1.10/100 000) and Hispanic/Latinos (1.10/100 000) with COVID-19 were significantly higher in than non-Hispanic whites (0.4/100 000) [2]. COVID-19 death rates for African-American and Hispanic/Latino populations are just as disparate in other large cities and states throughout the country [3–6]. Similar patterns have been found in American Indian, Alaskan Native, and Pacific Islander populations throughout the United States where appropriate data collection and reporting on COVID-19 outcomes has been prioritized [7]. The pandemic of social determinants of health has created an environment that is ideal for COVID-19 to thrive. The article entitled “The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States” by Tai et al provides an excellent review of the interplay between these 2 pandemics and the evolution of disparities in COVID-19 morbidity and mortality.

The authors overall recognize that biological, social, and structural mechanisms contribute to the observed disparities in COVID-19. They highlight the biological mechanisms by discussing how minority populations are disproportionately impacted by diseases known to be comorbidities associated with worse outcomes in the setting of COVID-19 infection. This includes diseases such as hypertension, diabetes, obesity, and coronary artery disease [6]. The authors then delve into an insightful discussion about the social determinants of health, beginning with the role of being uninsured and how environment may impact access to high-quality healthcare resources [8]. The role of socioeconomic status, such as occupation, is highlighted given the fact that minorities, particularly African Americans and Latinos/Hispanics, are more likely to work in essential jobs where they are unable to quarantine [9]. Living conditions for minority populations are also emphasized because minorities more often live in higher-density spaces, which makes social distancing more difficult. Furthermore, Tai et al recognize that there is the impact of the pathogen on communities of color, and then there is the impact of the quarantine the pandemic has caused. The negative economic impact of the pandemic will disproportionately impact minority populations who were more likely to be below the poverty level prior to the economic crisis caused by COVID-19 [10]. Hence, the negative impact of low socioeconomic status on health is exacerbated by the quarantine caused by the pandemic. The description by Tai et al [11] is a thorough review on the origins of disparities in COVID-19 outcomes. As a physician and medical sociologist, I applaud their work on this paper, and offer further considerations building on their work.

BIOLOGICAL MECHANISMS AREN’T ALWAYS JUST BIOLOGY

A discussion on the role of biology as a determinant of health disparities is appropriate. In fact, numerous papers have described the same biological mechanisms as Tai et al as causes of disparate COVID-19 outcomes in African-American and Hispanic populations. Diabetes is associated with worse outcomes in COVID-19 and, given the disproportionate burden of diabetes in African Americans, it is...
reasonable to assume this explains why African Americans with COVID-19 have worse outcomes. However, it is important to recognize that the biological mechanisms described here are not biological. Social determinants of health partially explain why African Americans have higher rates of diabetes in the first place. In their Figure 1, Tai et al allude to this relationship in their Venn diagram, which shows an intersection between social determinants of health and host factors. This is important to recognize as we attempt to address any health disparity. Instead of focusing on biological explanations as causes of differential health outcomes, a broader interpretive framework should be used to understand why people are exposed to risk factors, and the social conditions under which individual risk factors are related to negative health outcomes [12]. This approach to understanding health disparities is derived from concepts in fundamental causes of disease (FCD) theory, which was developed to explain the persistent relationship between socioeconomic status and mortality [13]. The literature on disparities in COVID-19 should recognize the role of social determinants acting directly on morbidity/mortality from COVID-19 and indirectly through comorbidities associated with adverse outcomes in COVID-19.

**THE UNCOMFORTABLE ROLE OF RACISM**

Perhaps the most poignant statement made by Tai et al is that “both the disproportionate biomedical risk factors and social determinants that contribute to COVID-19 health disparities may be traced, in part, to a foundation of structural racism.” Our unwillingness to confront the issue of racism in healthcare head-on will continue to impede our ability to achieve true health equity. The legacy of racism in medicine is significant [14] and contributes to distrust among communities of color. This distrust is a result of racism and discrimination in medicine/research and is a potential barrier to people of color seeking healthcare when needed or participating in clinical trials [15]. Unfortunately, we are already seeing evidence of racism in care for patients with COVID-19. Billing data for COVID-19 testing from several states show that African Americans experiencing fever and cough were less likely than white individuals to receive testing for COVID-19 [16]. A vital aspect to addressing the COVID-19 pandemic in the United States will be ensuring we protect those most vulnerable to the disease. This means ensuring communities of color receive appropriate COVID-19 testing, vaccination, and treatment.

| Levels of Influence* |
|----------------------|
| Individual | Interpersonal | Community | Societal |
| Biological | Biological Vulnerability and Mechanisms | Caregiver–Child Interaction Family Microbiome | Community Illness Exposure Herd Immunity | Sanitation Immunization Pathogen Exposure |
| Behavioral | Health Behaviors Coping Strategies | Family Functioning School/Work Functioning | Community Functioning Policies and Laws |
| Physical/Built Environment | Personal Environment | Household Environment School/Work Environment | Community Environment Community Resources | Societal Structure |
| Sociocultural Environment | Sociodemographics Limited English Cultural Identity Response to Discrimination | Social Networks Family/Peer Norms Interpersonal Discrimination | Community Norms Local Structural Discrimination Social Norms Societal Structural Discrimination |
| Health Care System | Insurance Coverage Health Literacy Treatment Preferences | Patient–Clinician Relationship Medical Decision-Making | Availability of Services Safety Net Services Quality of Care Health Care Policies |

**Figure 1.** National Institute on Minority Health and Health Disparities Research Framework. Abbreviation: SES, socioeconomic status.
Not doing so will result in the virus spreading beyond these communities, with negative health consequences for the entire country.

A FRAMEWORK FOR UNDERSTANDING AND ADDRESSING COVID-19 DISPARITIES

In their conclusion, Tai et al provide clear actionable steps to address health disparities related to COVID-19. These steps include Centers for Disease Control and Prevention recommendations on standardized treatment protocols, building community partnerships, and implicit bias training. Another important step towards addressing disparities in COVID-19 outcomes will be ensuring minority representation in clinical trials. Given the disproportionate burden of COVID-19 in communities of color, we must ensure that clinical trials on treatment and vaccination reflect that diversity. Furthermore, our ability to create successful and sustainable interventions for COVID-19 disparities will rely on development of properly designed studies that accurately contextualize the mechanisms leading to disparities in COVID-19. The National Institute on Minority Health and Health Disparities Research Framework (Figure 1) provides a means of understanding the complex mechanisms contributing to health disparities. This conceptual framework shows the complex interplay between the domains of influence (biological, behavioral, healthcare system, etc) and the different levels of influence (individual, interpersonal, community, etc). The framework creates a structure on which impactful research strategies to address minority health and health disparities can be modeled.

As a country, we have not made significant progress in addressing social determinants of health and this has led to horrific outcomes for minority communities throughout the United States because of COVID-19. Our ability to defeat the pandemic that is COVID-19 will depend on our willingness to fight and defeat the pandemic of social determinants of health and racism. Failure to do so will mean further adverse health and economic consequences with subsequent pandemics.

Note
Potential conflicts of interest. The author: No reported conflicts of interest. The author has submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest.

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