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## COVID-19 and Racial/Ethnic Disparities

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The novel SARS-CoV-2 (severe acute respiratory syndromecoronavirus 2) has led to a global pandemic manifested as coronavirus disease 2019 (COVID-19), with its most severe presentation being acute respiratory distress syndrome leading to severe complications and death. Select underlying medical comorbidities, older age, diabetes, obesity, and male sex have been identified as biological vulnerabilities for more severe COVID-19 outcomes.<sup>1</sup> Geographic locations that reported data by race/ethnicity indicate that African American individuals and, to a lesser extent, Latino individuals bear a disproportionate burden of COVID-19–related outcomes. The pandemic has shone a spotlight on health disparities and created an opportunity to address the causes underlying these inequities.<sup>2</sup>

The most pervasive disparities are observed among African American and Latino individuals, and where data exist, American Indian, Alaska Native, and Pacific Islander populations. Preliminary prevalence and mortality estimates in multiple geographic areas, which are being tracked daily, show a consistent pattern of racial/ethnic differences. In Chicago, Illinois, rates of COVID-19 cases per 100 000 (as of May 6, 2020) are greatest among Latino (1000), African American/black (925), “other” racial groups (865), and white (389) residents. Mortality rates are substantially higher among African American/black individuals (73 per 100 000) compared with Latino (36 per 100 000) and white (22 per 100 000) residents.<sup>3</sup> New York City (as of May 7, 2020) reported greater age-adjusted COVID-19 mortality among Latino persons (187 per 100 000) and African American individuals (184 per 100 000), compared with white (93 per 100 000) residents.<sup>4</sup>

These reports signal that prevention efforts, such as shelter-in-place, might have less benefit among African American and Latino populations. Why would racial/ethnic minorities or economically disadvantaged people of any background be more susceptible to becoming

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infected or developing severe disease and dying? What are possible underlying causes of differential outcomes of a highly infectious respiratory illness in disadvantaged populations?

The underlying causes of health disparities are complex and include social and structural determinants of health, racism and discrimination, economic and educational disadvantages, health care access and quality, individual behavior, and biology. Examining possible precedents, mortality from influenza and pneumonia as causes of death for persons aged 65 years or older are lower among African American and Latino individuals compared with white persons.<sup>5,6</sup> In contrast, historically, pulmonary tuberculosis disproportionately affects persons of lower socioeconomic status, but there is no convincing evidence that rates of tuberculosis reactivation are influenced by socioeconomic status.

Understanding the reasons for the initial reports of excess mortality and economic disruption related to COVID-19 among health disparity populations may allow the scientific, public health, and clinical community to efficiently implement interventions to mitigate these outcomes, particularly if substantial disease emerges in the fall of 2020 or beyond.

The most common explanations for disproportionate burden involve 2 issues. First, racial/ethnic minority populations have a disproportionate burden of underlying comorbidities. This is true for diabetes, cardiovascular disease, asthma, HIV, morbid obesity, liver disease, and kidney disease, but not for chronic lower respiratory disease or COPD. Second, racial/ethnic minorities and poor people in urban settings live in more crowded conditions both by neighborhood and household assessments and are more likely to be employed in public-facing occupations (eg, services and transportation) that would prevent physical distancing. As stated by Yancy,<sup>2</sup> “social distancing is a privilege” and the ability to isolate in a safe home, work remotely with full digital access, and sustain monthly income are components of this privilege. COVID-19–related exposures are also exacerbated by a greater propensity to be homeless and reside in neighborhoods with substandard air quality.<sup>7</sup>

The possibility that genetic or other biological factors may predispose individuals to more severe disease and higher mortality related to COVID-19 is an empirical question that needs to be addressed. These explanations must be considered in the full context of systemic factors such as historical and ongoing discrimination, and chronic stress and its effect on hypothalamic-pituitary-adrenal axis and immunologic functioning. As more data emerge, there will likely be evidence of racial/ethnic health disparities due to differential loss of health insurance, poorer quality of care, inequitable distribution of scarce testing and hospital resources, the digital divide, food insecurity, housing insecurity, and work-related exposures. There is an obligation to address these predictable consequences with evidence-based interventions.

Public policies have the power to enhance health and also exacerbate health disparities. Health interventions that are adapted for local contexts and community characteristics are more effective than standard approaches.<sup>8</sup> For example, culturally adapted mental health services are more effective for people of color compared with standard services.<sup>8</sup> Thus, uniform public health recommendations related to physical distancing or sheltering-in-place that fail to consider local contexts and population characteristics may be less effective

(often for reasons beyond individual control) among African American, Latino, American Indian, and Alaska Native populations, and economically disadvantaged people in general. Strategies that are culturally appropriate and community competent and that consider the nuances of population, community, family, and individual differences have a vital role in reducing health disparities, promoting health equity, and improving population health. Such approaches require a deep understanding of community, consideration of local data-driven approaches, diverse and equitable partnerships across sectors, messaging that resonates with the target audience(s), and the implementation of policies that support the health of all individuals in the US.

Available data on racial disparities in COVID-19 incidence and mortality are currently limited, but expanding. Collecting and reporting accurate data on demographic and social determinants of health depends on clinical systems reporting to local and state public health departments and to the Centers for Disease Control and Prevention. These data may be incomplete, exclude unconfirmed cases, and obscure racial/ethnic disparities. Moreover, current reports exclude patients who sought COVID-19 testing but whose symptoms did not meet the screening threshold or were otherwise deemed ineligible, and those who did not seek help (eg, due to health care system distrust, lack of insurance, fear of medical costs, or lack of paid sick leave). As such, the current reports may not generalize to the population, underestimating or overestimating proportions of confirmed COVID-19 cases by group.

Representative epidemiological data from ongoing or planned studies using weighted random sampling, standardized racial/ethnic categories, and widespread and accessible testing are needed to advance the science. In addition, given initial indications, potential racial/ethnic differences in post-COVID-19 recovery efforts need to be considered. Health care disparities, generally, and those related to COVID-19 require swift attention and amelioration, as the resultant societal burdens are costly to everyone.

Scientific studies that result in improved understanding of COVID-19 may lead to more targeted and effective community-based and health care system-based interventions. The collection and dissemination of COVID-19 data by race/ethnicity remain critically important to guide policy, health care, prevention, and intervention efforts. This novel disease creates an unfortunate opportunity to conduct ecological experiments focused on the etiology and depth of health disparities in a manner unobserved since this area of science emerged, especially as states begin to relax risk-mitigation policies. Rigorous research in representative samples is needed to identify the roots of inequities beyond the individual level, also examining community, policy, health care system, and society-level determinants (and their intersections).

Studies are needed to understand the influence of state and local mitigation policies on differences in health services utilization and health outcomes, the role of community-level protective factors and interventions in mitigating the adverse consequences of the sector disruptions caused by the outbreak, the influence of COVID-19-related racism and other types of discrimination, and the role of social determinants of health in influencing preventive health behaviors.

Studies are also needed to investigate the short-term and long-term effects of COVID-19 on health and how differential outcomes can be reduced in anticipation of subsequent waves of cases. The National Institute on Minority Health and Health Disparities (NIMHD) at the National Institutes of Health (NIH) is soliciting such studies. In addition, NIMHD will focus on community-engaged interventions to implement point-of-care testing for COVID-19 infection in health disparity and other vulnerable populations by leveraging existing NIH-funded networks, community health centers, and local organizations.

These efforts will help pave the way for therapeutic and vaccine trials that must be inclusive of diverse participants at high risk. These studies are also needed to guide the science of community-engaged intervention development, implementation, and evaluation and lay the foundation for a systemwide goal of decreasing health disparities beyond the detrimental effects of COVID-19. The pandemic presents a window of opportunity for achieving greater equity in the health care of all vulnerable populations.

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