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# Racial Inequalities in Mortality from Coronavirus: The Tip of the Iceberg



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At present, the US population of about 332 million represents about 4.25% of the population of the world, which is approximately 7.6 billion.<sup>1</sup> With respect to the novel coronavirus 2019 (COVID-19), however, even without the effects of the most recent widespread testing, the United States already has risen to number 1 in the world in both numbers of cases and deaths. Further, the number of cases in the United States of approximately 600,000 represents about 30% of the approximately 2,000,000 cases worldwide. Finally, the number of deaths in the United States of approximately 25,000 represents more than 20% of the approximately 110,000 deaths globally.<sup>2</sup> In the context of these ominous forebodings are emerging clinical and public health challenges in COVID-19 of recurring racial inequalities in mortality. Specifically, as of April 14, 2020, in the United States, 32% of the deaths from COVID-19 are among black residents despite the fact that blacks comprise only 13% of the population.<sup>3</sup> These

descriptive data indicate a 2.3-fold excess risk of mortality from COVID-19 in the United States among blacks compared with whites. Quantitatively, it is plausible that this large magnitude of increase of COVID-19 is an overestimate. Qualitatively, however, based on the existing totality of evidence,<sup>4-11</sup> the observation is real and poses major clinical and public health challenges. For example, for many decades, markedly reduced life expectancies of blacks compared with whites have been noted despite advances in preventive, diagnostic, and therapeutic options. In addition, multiple factors have been identified and postulated to explain the observed persistent mortality disadvantages of blacks compared with whites.<sup>5</sup> Further, the availability of several life-saving, but prohibitively expensive to some, drugs<sup>5-8</sup> or a vaccine<sup>9</sup> in the United States has also led to marked increases in racial inequalities in mortality among blacks compared with whites.

As Santayana aptly noted in 1905, "Those who cannot remember the past are condemned to repeat it."<sup>12</sup> In these regards, there are clear short-term clinical and public health challenges that include greater access to and use of health care by blacks and all disadvantaged minorities within the United States. With respect to COVID-19, now is the time to commit to short-term and long-term clinical and public health challenges. All should be considered in the context of the unique barriers that exist in black and other disadvantaged minorities in underserved communities. Despite the markedly increased logistical challenges, these include the achievement of equalities in the widespread rapid testing for the virus and its antibody, public health education on social distancing and handwashing, and access to medical care to decrease the racial inequalities in morbidity and mortality of COVID-19. In addition, the clinical and public health challenges should include numerous sustainable and

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multiple preventive and therapeutic strategies that have already been identified to be contributing to racial inequalities in mortality between blacks and other disadvantaged minorities compared with whites.

In this article we offer what we believe to be the most important and timely long-term clinical and public health challenges to combat racial inequalities in mortality from COVID-19. Specifically, it is our strong belief that the most major clinical and public health challenges will be long term. They will inevitably result from the development of an effective vaccine for COVID-19, which may occur during the next 12 to 18 months. If an effective and safe vaccine becomes available, this intervention will be life-saving. As has been the case before, the introduction of this life-saving innovation is likely to further increase racial inequalities that already adversely affect blacks and other disadvantaged minorities.

For example, the advent of life-saving highly active anti-retroviral therapy for human immunodeficiency virus was accompanied by increases in racial inequalities. Specifically, black-to-white mortality rate ratios among men increased from 3.2 to 6.6 (ages 25-34), 3.7 to 6.2 (ages 35-44), 3.9 to 8.6 (ages 45-54), 4.5 to 9.5 (ages 55-64), 6.0 to 12.7 (ages 65-74), and 6.0 to 15.3 (ages 75-84). Among women they increased from 8.3 to 13.2 (ages 25-34), 10.4 to 13.3 (ages 35-44), 10.3 to 15.9 (ages 45-54), 9.9 to 13.6 (ages 55-64), 7.7 to 22.4 (ages 65-74), and 5.1 to 15.9 (ages 75-84).<sup>6</sup>

In addition, for respiratory distress syndrome, there was a nationwide reversal from a survival advantage to a survival disadvantage for blacks following the introduction of surfactant.<sup>7</sup>

Most recently, similar increases in racial inequalities in mortality from hepatocellular cancer occurred followed the licensure of life-saving, but prohibitively expensive for some, drugs for hepatitis C virus, which is a major risk factor.<sup>8</sup>

Perhaps of greatest direct relevance to COVID-19 were the experiences before and after the development of the Salk vaccine for poliomyelitis.<sup>9</sup> In 1952, before the introduction of the vaccine, blacks experienced significantly lower rates of paralytic polio than whites. These observations were hypothesized to be related to herd immunity among black children resulting from immunity acquired from infections that did not lead to paralysis in infancy and early childhood. Specifically, the incidence rates in Des Moines, Iowa, and Kansas City, Missouri, were 3-fold greater in whites than among blacks. By 1959, after the widespread dissemination of the Salk vaccine, the incidence rate in blacks rose to 21-fold greater among whites in Des Moines and 33-fold greater in Kansas City.<sup>9</sup>

With respect to COVID-19, it may well be too late during the current pandemic to address the multiple factors, which already impose greater morbidity and mortality burdens on blacks and other socioeconomically disadvantaged groups. It is certainly important to conduct the high-quality research necessary to understand the factors responsible for observed increases in racial inequalities, which have been temporally related to the introduction of several life-saving

innovations. It would also be of importance to identify communities that appear to have been more successful in achieving more equitable distributions of these life-saving innovations among blacks and other disadvantaged minorities. To do so, however, will require leadership from clinical and public health officials whose visions should build on and extend beyond the provision of resources for treating those who are ill today, beyond the identification and testing of promising but unproven diagnostic and therapeutic options, and perhaps most importantly, far beyond the development of an effective vaccine.

In general, with respect to factors influencing inequalities in mortality between blacks and whites, it is necessary to consider the issue of mistrust.<sup>8,10,11</sup> Clinical and public health challenges should include the reality that, even at present, the US Public Health Service, for all of its valor, may still be mistrusted, particularly among older black men because of the lingering perceptions deriving from the late disclosure of the results of the Public Health Service Study of syphilis at Tuskegee, which withheld treatment from black men in favor of depicting the natural course of the disease. The study commenced in 1932, but the results were disseminated in 1972, approximately 30 years after the widespread use of penicillin as an effective and safe treatment for syphilis. As direct consequences of the unnecessarily late disclosure of the results, there were decreases in both outpatient and inpatient visits as well as subsequent increases in mortality. For black men, life expectancy at age 45 fell by up to 1.5 years, which is approximately 35% of the long-standing gap in life expectancy between black and white men.<sup>10,11</sup>

The beacon at the end of the tunnel for COVID-19 may be an effective vaccine that may be available within the next 2 years. Based on the existing totality of evidence, we believe that the foremost clinical and public health priorities should be to achieve equality for all preventive, diagnostic, and therapeutic modalities of proven benefit, particularly and most urgently, the successful translation of vaccine research into practice. In the past the United States has appeared to have been far more adept at developing innovations than assuring that those innovations provide equal benefit to all people. Now is the time to address this crucial clinical and public health challenge. Death is inevitable, but premature death is not. If the valuable lessons from the past experiences in the United States with human immunodeficiency virus,<sup>6</sup> respiratory distress syndrome,<sup>7</sup> hepatocellular cancer,<sup>8</sup> the Salk vaccine for poliomyelitis,<sup>9</sup> and penicillin for syphilis<sup>10,11</sup> are not heeded, then those in greatest need will once again be condemned to the tragedy that Santayana foretold.<sup>12</sup>

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