Expanding Medical Findings to Include an Explanation of Social Determinants of Health

The current COVID-19 pandemic continues to renew attention to the dialogue of social causes of disease and their relevance in health disparities and mortality at a global level. If the moment is seized, medical research can change the discourse of medicine from purely biological science to science that sees patients as social persons within specific social circumstances that promote and maintain structural inequalities that shape health, illness, and disease.

The Centers for Disease Control and Prevention defines social determinants of health as "conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes." (https://www.cdc.gov/socialdeterminants/index.htm. *Accessed October 12, 2021*.) There are a multitude of human conditions and social circumstances that can be related to health. Several of these social conditions are critical determinants of health, including race, gender, ethnicity, social class and income, geographical location, sources of capital, knowledge, and education.[1,2] These social determinants of health have different dimensions of analyses and different etiologies on disease. There are, however, several social determinants of health that operate as root causes of health inequities, such as structural racism.[3,4]

In this issue of RESPIRATORY CARE, Burton and colleagues[5] discuss medicine and the social. First, the authors highlight the meaning of urbanization and urbanicity and the significance of the two concerning health and health access. They do this to assess the "effect" of hospital urbanicity on mortality and length of stay using the National Inpatient Sample database of the Healthcare Costs and Utilization Project. Their findings suggest that the odds of in-patient mortality and increased length of stay were significantly higher in urban teaching hospitals when compared to rural hospitals.

It may be argued that because environmental pollution and poor air quality are often endemic to urban areas these environmental factors can drive these health disparities. Ample evidence in chronic respiratory disease suggests there are causal explanations of pollution and disease.[6] The authors note, however, that there are also "drastic differences in patient populations" across hospital geographical locations based on race, age, income, insurance type, and gender. People who live in urban areas are more likely to be black people, indigenous people and people of color (BIPOC); older; and financially disadvantaged. Furthermore, they also report a higher burden of disease in urban hospitals, including pancreatitis, aspiration pneumonia, sepsis, diabetes mellitus, dyslipidemia, chronic kidney disease, atrial fibrillation, and bleeding disorders.[5] The broad range of disease disparity suggests that pollution alone cannot explain these findings. *What then explains these findings?* A question worth asking and one that the authors courageously answer!

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Burton and colleagues[5] acknowledge that geography is a relevant factor of structural marginalization and that it is structural marginalization that contributes to health inequities. They eloquently note that in the United States racial and ethnic minorities have been historically pushed out and segregated to certain geographical locations, often referred to as *ghettos*.[7,8] The authors remind us to consider that there are housing policies, zoning laws, and racial steering practices that shape urban communities and, as a result, also shape health. That is, structural racism can also explain these findings. History is just as important as acknowledging that these housing policies and their effect are still at play. For instance, in a recent study on the impact of redlining policies, the authors found that "old" redlining policies influenced the location and allocation of trees and parks in communities.[9] The long-standing ramifications of these racist practices are more than ever omnipresent in the current COVID-19 pandemic.[10,11]

Essential to this discussion is that teaching hospitals are generally thought of as leaders in medical knowledge and are equipped with the most advanced technologies. Despite these economic, knowledge and technological advantages, the present study demonstrates significant disparities in mortality and length of stay between the teaching and nonteaching hospitals. Here again, we must ask, *how is this possible?* As stated in the elegant work by Burton and colleagues,[5]

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these hospitals are often geographically located within communities that have suffered centuries of mistreatment that have led to people's mistrust of medical professionals.[12] As a result of this mistrust, folks who have historically been victimized may avoid seeking medical care due to a tangible fear of re-victimization.[13]

It could be argued that these data are confounded by the numerous Southern states in the data set—a point well made by the authors. Findings presented by Burton and colleagues,[5] however, corroborate other national health reports that point out that Southern states rank lowest in national health measures, including the most recent reports of increased risk for COVID-19 infection and mortality.[14-16] An alternative explanation is that the geographical patterns of people's locations are not random. People are structurally marginalized into geographical locations, where there is notable deprivation of environmental, intangible, and tangible resources that contribute to health inequities.[17] We must acknowledge the role of social conditions in shaping people's health, illness, and disease. When we acknowledge the role of structural marginalization and victimization, we make room for the present explanations to be situated within broader histories of the United States. Structural racism is salient, and science cannot and should not overlook its effects on health risks and outcomes. Burton and colleagues[5] should be congratulated for their willingness to acknowledge and discuss the importance of structural racism *within* medicine.

We would be remiss at this point if we did not point out how we can parallel the valiant efforts of Burton and colleagues.[5] These are some suggestions; admittedly, they are simpler to state and more complicated to make actionable.

(1) Concede that structural racism continues to shape society and the institutions within, including the practice of medicine and research.

(2) Recognize how historical and present-day racism, colonialism, and capitalism impact our health care system and those within.

(3) Situate and integrate what our data are saying beyond the biological and within a broader social context.

(4) Reimagine an equitable medicine and consider how health outcomes may be shaped differently under an equitable and justice-driven health care system.

(5) Speak up and have uncomfortable conversations about our data interpretations.

(6) Recognize that our explanatory attributions and social position influence how we interpret and relate to data, patients, people, society, and even how we see ourselves.

(7) Question the institutionalized statistical and methodological practices that treat race, ethnicity, urbanicity, and poverty as accurate and valid measurements of reality instead of acknowledging their social construction.

(8) Be censorious and suspicious of research that reifies race as biological or suggests a genetic basis for racial differences in health outcomes.

(9) Create a space for discussions of structural racism and other social determinants of health as creations of our human doings that can be undone.

The future of the institution of medicine as an advocate of the social as causes of disease is at a tipping point. Health professionals, including physicians, can provide value to patient experiences as social persons that are situated within an inequitable health care system that too sits within a broader inequitable society. Burton and colleagues[5] have demonstrated that it is possible to extend an explanation of research findings to the social circumstances of patients. The authors should be applauded for their thoughtfulness and courage.

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