Letter to the Editor in Response to: Socioeconomic Status and COVID-19 Outcomes

J Gen Intern Med 36(10):3238
DOI: 10.1007/s11606-021-07058-z

To the Editor:. We read with interest the recent article by Quan and colleagues [May 21, 2020 issue][1] on the relationship between race and socioeconomic status on outcomes among patients hospitalized with coronavirus disease 2019 (COVID-19) in southeastern Michigan (Detroit metropolitan area). Our published study of COVID-19 patients from southeastern Wisconsin (Milwaukee metropolitan area)[2] offers an interesting comparison of two midwestern cities that are challenged with racial health disparities, as well as illustrating differing methods of measuring the effect of socioeconomic status.

In modeling multivariable outcomes, both studies controlled for age, sex, and comorbidity including BMI. Quan et al. also controlled for residence in a group living facility; we also controlled for initial symptoms. Quan et al. used census tract median income as a surrogate for socioeconomic status, while we used insurance status (Medicaid or uninsured) as an individual-level indicator of poverty. Both studies measured race (Black or White) based on electronic medical record data. In the Quan study, census tract income but not race was associated with intensive care unit (ICU) care and mechanical ventilation; neither race nor small area income was associated with death when controlling for the factors listed above. In analyses stratified by race, small area income was associated with ICU admission for Black and White patients and was associated with mechanical ventilation only for Black patients. Income was not associated with death in any stratified model. Hospitalization was not modeled as an outcome, as all cohort patients were hospitalized.

In our study, Black race and poverty were associated with hospitalization, while only poverty was associated with ICU admission. Neither race nor poverty was associated with mechanical ventilation or death. Our study further found Black race as a risk factor for COVID-19 positive status among those tested. These analyses were clustered at the 9-digit zip code level, which explained 79% of the variability in COVID-19 positive status.

Received May 28, 2021
Accepted July 20, 2021
Published online August 10, 2021

If we think of ICU admission, mechanical ventilation, and death as indicators of a continuum of disease severity for hospitalized patients with COVID-19, then both studies indicate that poverty rather than Black race is a risk factor for more severe disease. The finding in our study that Black persons were more likely than White persons to be hospitalized may be explained by their greater likelihood of developing COVID-19.

Rather than a biological problem, socioeconomic disparities and structural racism appear to play a vital role in the clinical course of patients from minority populations.[3]

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Declarations:

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

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