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The Relationship between Social Determinants of Health and Racial Disparities in COVID-19 Mortality

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Abstract

Background

The COVID-19 pandemic has magnified existing health disparities for marginalized populations in the United States (U.S.), including among Black Americans. Social determinants of health (SDH) are powerful drivers of health outcomes. SDH are shaped by structural factors affecting Black Americans disproportionately, and could influence COVID-19 racial disparities seen among Black Americans.

Methods

We collected data from publicly available databases on COVID-19 death rates through October 28, 2020, clinical covariates, and social determinants of health indicators at the U.S. county level. We utilized negative binomial regression to assess the association between social determinants of health and COVID-19 mortality focusing on racial disparities in mortality.

Results

Counties with higher death rates had a higher proportion of Black residents and greater levels of adverse social determinants of health. A one percentage point increase in percent Black residents, percent uninsured adults, percent low birthweight, percent adults without high school diploma, incarceration rate, and percent households without internet in a county increased COVID-19 death rates by 0.9% (95% CI 0.5%–1.3%), 1.9% (95% CI 1.1%–2.7%), 7.6% (95% CI 4.4%–11.0%), 3.5% (95% CI 2.5%–4.5%), 5.4% (95% CI 1.3%–9.7%), and 3.4% (95% CI 2.5%–4.2%), respectively. Counties in the lowest quintile of a measure of economic privilege had increased COVID-19 death rates of 67.5% (95% CI 35.9%–106.6%). Multivariate regression and subgroup analyses suggested that adverse social determinants of health contribute to racial disparities in COVID-19 mortality for Black Americans.

Conclusions
These findings highlight the need for public health policies that address social determinants that place Black Americans at greater risk for illness and pandemic-related mortality. Future study can evaluate the changing dynamics of the pandemic, include additional racial/ethnic groups disproportionate affected, as well as assess validated measures of structural racism on COVID-19 illness and mortality.