

A Cross Sectional Study Examining Historically Redlined Brooklyn Neighborhoods and COVID-19 Cases.

Rationale: Redlining was an institutionalized discriminatory practice that denied mortgage loans or home ownership in certain neighborhoods based on race and other social factors. Beginning in the 1930s, neighborhoods were stratified as green, blue, yellow, or red - "redlined" - indicating most to least desirable, respectively. Historic redlining is linked with heart disease, pulmonary disease, and cancer. This study examined the association between redlined neighborhoods in Brooklyn and COVID-19 infection.

Methods: This is a cross-sectional study. Historical redlined neighborhoods were identified using maps from the University of Richmond's Digital Scholarship Lab. COVID-19 cases were obtained from the New York Times' interactive Coronavirus Maps before August 4, 2020. The 2018 NYC Community Health Profiles provided data on race, poverty, education, and comorbidity. ANOVA was used to analyze COVID-19 cases by zone. SPSS was used for analyses.

Results: 20 neighborhoods were classified according to historical designation. The proportion of Black, Latino, and Asian residents in green zones was 38% relative to 77% in 'red' zones. The prevalence of poverty was 19% compared to 22%, 81% completed high school compared to 45%. The prevalence of diabetes and hypertension in 'green' zones was 34% compared 44% in red zone. There were fewer COVID-19 cases in green zones (1,825) compared to red zones (4,425), $P=.003$.

Discussion: Our analyses found an association between historical redlining and COVID-19 cases, which is consistent with prior studies. This suggests historical structural racism has an impact on current disparities. These data are important in developing policies that mitigate social inequities.