Are minority communities disproportionately affected by SARS-CoV-2?

**Background**
Studying positivity rates of SARS-CoV-2 among minorities at a national scale is difficult because few states report race/ethnicity with SARS-CoV-2 test results.

**Study Design and Results**

SARS-CoV-2 test data
Percentage of SARS-CoV-2 positivity in each zip code

Race/ethnicity census data
Percentage of race/ethnicity in each zip code

- Positivity rates are higher in zip codes with higher percentages of Black or Hispanic residents.

Trends hold when comparisons are made across known risk factors: sex, population density, and income.

Asian and "other" groups were also analyzed. See next page.

SARS-CoV-2 positivity rates are higher in places with larger Black and Hispanic communities, suggesting that these communities are disproportionately affected by SARS-CoV-2.

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Article Title: Disparities in SARS-CoV-2 Positivity Rates: Associations with Race and Ethnicity
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Background
- COVID-19 has had a disproportionate impact on some racial and ethnic groups in the United States; recent data on the number of confirmed cases and mortality indicate a greater impact on Black and Hispanic populations.
- However, only 4 states (as of June 1, 2020) reported COVID-19 testing rates by race/ethnicity, which can make large-scale positivity rates by race/ethnicity difficult to determine.
- This is apparent in conflicting outcomes on the relationship between COVID-19 positivity and race/ethnicity that are being reported from small-scale studies.

Objective:
In this study, investigators used census-based data from all 50 states and Washington, DC to infer associations of COVID-19 positivity with race/ethnicity.

Methods
- The investigators analyzed SARS-CoV-2 test data from the Quest Diagnostics database for specimens tested between March 9 and May 31, 2020. Patients with multiple results were only counted once and counted as positive if any were positive.
- Associations between race/ethnicity and SARS-CoV-2 positivity were assessed indirectly, by comparing positivity rates across zip codes.
  - The race/ethnicity composition of each zip code was estimated based on 2018 American Community Survey data. Five race/ethnicity categories were analyzed: Black non-Hispanic, Hispanic, Asian non-Hispanic, White non-Hispanic, and “other” (not shown in this summary).
  - SARS-CoV-2 positivity rates were analyzed by quintile for each race/ethnicity category. For example, the “highest” quintile for Hispanic included the zip codes with the highest percentages of Hispanic people.

Results
- SARS-CoV-2 testing results and zip code data were available for 2,331,175 specimens.
- COVID-19 positivity rates increased from the lowest to highest quintile for all racial/ethnic groups except White non-Hispanic, for which the trend was reversed.
  - Black non-Hispanic: increased from 7.8% to 17.2%, P<0.0001
  - Hispanic: increased from 8.4% to 15.5%, P<0.0001
  - Asian non-Hispanic: increased from 9.6% to 13.4%, P<0.0001
  - White non-Hispanic: decreased from 17.4% to 7.1%, P<0.0001
- The observed trends in COVID-19 positivity among Black non-Hispanic and Hispanic communities persisted in stratified analyses and in multivariable models when controlling for sex, population density, income, and other risk factors.

Conclusions
- The findings from this large, nationwide study provide strong evidence that COVID-19 has a greater impact on communities with the highest proportions of Black non-Hispanic and Hispanic populations, even when controlling for other risk factors.
- Though more research is needed, these findings suggest an urgent need to mitigate the increased impact of COVID-19 on Black and Hispanic communities in the United States.

References