



County-Level Segregation and Racial Disparities in COVID-19 Outcomes

Jessica Luce Trownstine, Vanderbilt University

Sidra Goldman-Mellor, University of California-Merced

The COVID-19 pandemic is transitioning from an acute emergency to a lower-level but enduring threat to public health in the United States. With this transition comes an opportunity to shape a different future for our communities' health—one that reduces glaring inequities in the burden of, and public response to, infectious diseases. Racial/ethnic segregation has long been linked to unequal life chances and poor health, particularly chronic conditions such as heart disease, cancer, and stroke. Our research links segregation to infection and deaths from COVID-19 for different groups and explores exacerbating factors. Understanding our findings can help policy decision-makers at various levels of government identify opportunities for public health mitigation of unequal outcomes.

U.S. Neighborhoods are Still Segregated, and Segregation Has Consequences

Neighborhoods in America remain highly segregated along racial lines: The typical white American lives in a neighborhood that is **overwhelmingly white**; whereas Black, Latino, and Asian Americans live in **substantially more integrated places**. This cannot simply be explained as a “natural” state, based solely on the preferences of individuals within racialized groups. Instead, federal, state, and city policies, as well as private market actions, **foster** and **perpetuate** such racial/ethnic segregation.

Segregation is associated with poor health outcomes for racially minoritized residents, and this finding has shaped policy in various ways over time. Historically, many cities sought to residentially segregate people of color from white residents with the explicit goal of **protecting** the **health** of whites. Today, people of color suffer worse health—including higher incidence and worse outcomes of cardiovascular disease, HIV infection, stroke mortality, and cancer—when they live in **more segregated** cities. Segregation causes its adverse health effects independently of individual-level attributes (like weight or a history of smoking) through several pathways:

- First, clustering of at-risk individuals perpetuates the spread of airborne diseases like COVID-19.
- Secondly, segregation concentrates disadvantage among people of color, generating higher rates of poverty, dilapidated housing, limited access to health care, and less stable employment.
- Finally, segregation is associated with lower public investments in health infrastructure, roads, sewers, housing, and public welfare due to political polarization along racial lines among constituents and elected officials.

We argue that these patterns of inequality are likely to be reproduced in the COVID-19 pandemic and that public health measures should seek to mitigate them.

Our Study

We explored how and why segregation affects COVID infection and death rates for different racial groups. We used country-wide data from the CDC to measure COVID-19 case rates and death rates, and tract-level data from the 2015-2019 American Community Survey to generate segregation measures for every county. We employed two different measures of segregation as implied by our theory: a measure of racial group isolation and a measure of the evenness in the distribution of racial groups. By combining these sources of information, we were able to statistically examine how segregation was associated with COVID-19 infection and death rates for different racial/ethnic groups, accounting for county-level poverty, proportion of workers in front-line industries, prevalence of mask wearing, and community vaccination rates.

Our findings were clear: Segregation is associated with higher COVID infection rates, particularly for Black and Latino residents.

- Moving from the 10th to the 90th percentile for Black isolation increases the predicted COVID infection rate for Black residents from 9 to 102 per thousand persons.
- Predicted Latino infection rates increase from 2 to 64 per thousand persons when comparing the 10th to the 90th percentile of Latino isolation.
- The effects of segregation are even worse for Black and Latino residents in counties with high shares of front-line workers.

Segregation disproportionately affects people of color—but not exclusively. Segregation is associated with higher COVID death rates for *all* racial groups.

- When racial groups are distributed unevenly across neighborhoods—that is, when segregation is greater—COVID infection and death rates are higher for Black, Latino, *and* white residents.
- Moving from a hypothetical county with complete integration to one with total segregation increases the death rate for all racial groups by 2.27 to 3.18 deaths per thousand persons.

Policy Recommendations

Patterns of segregation are complex and vary from place to place. But federal agencies and state- and county-level governments all have evidence-based interventions that can be considered when seeking to improve public health outcomes involving infectious respiratory diseases like COVID-19.

- The Federal Center for Disease Control should add community-level segregation measures to their social vulnerability index.
- Counties with high levels of segregation should assume that COVID-19 infection and death rates will be higher than in counties with lower levels of segregation, even if they have similar demographic

compositions. Staffing levels and bed capacity estimations for county health facilities should take this into account.

State governments should be attentive to the fact that segregated counties are likely to have lower capacity for public health management. Levels of segregation should be factored into decisions about geographically-based allocations of scarce resources like testing facilities, vaccination doses, and other public health prevention resources.

Read more in Jessica Trounstein and Sidra Goldman-Mellor, “County-Level Segregation and Racial Disparities in COVID-19 Outcomes.” *Journal of Health Politics, Policy and Law* (2022).

Research for this brief and the underlying journal article was supported by the Robert Wood Johnson Foundation.