

# Racial Disparities in COVID-19 and Excess Mortality in Minnesota

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## Abstract

The coronavirus disease 2019 (COVID-19) pandemic has produced vastly disproportionate deaths for communities of color in the United States. Minnesota seemingly stands out as an exception to this national pattern, with white Minnesotans accounting for 80 percent of the population and 82 percent of COVID-19 deaths. The authors examine confirmed COVID-19 mortality alongside deaths indirectly attributable to the pandemic—“excess mortality”—in Minnesota. This analysis reveals profound racial disparities: age-adjusted excess mortality rates for whites are exceeded by a factor of 2.8 to 5.3 for all other racial groups, with the highest rates among Black, Latino, and Native Minnesotans. The seemingly small disparities in COVID-19 deaths in Minnesota reflect the interaction of three factors: the natural history of the disease, whose early toll was heavily concentrated in nursing homes; an exceptionally divergent age distribution in the state; and a greatly different proportion of excess mortality captured in confirmed COVID-19 rates for white Minnesotans compared with most other groups.

## Keywords

COVID-19, excess mortality, racial disparities

Coronavirus disease 2019 (COVID-19) has disproportionately affected groups disadvantaged by structural racism in the United States (Pirtle 2020). African Americans, in particular, are dying at higher than expected rates across the country (Rossen et al. 2020; Yancy 2020). At first glance, Minnesota appears to be an exception. Non-Hispanic white Minnesotans account for about 80 percent of the state’s population and about 82 percent of its COVID-19 deaths. This seeming lack of disparity may be surprising, especially at a time when Minnesota has received national attention for its deep racial divide following the police killing of George Floyd.

Yet this superficial lack of racial disparity in COVID-19 mortality reflects three key facts about Minnesota’s experience of the pandemic, which we illustrate below: an unusually disparate age distribution, a natural history of the disease that exacerbates the consequences of that age divergence, and differences in the extent to which racial groups’ mortality during the pandemic is captured in official statistics. Despite this surface equality, measures that best capture unequal risk in the pandemic reveal extremely large disparities in Minnesota.

Figure 1 portrays mortality in the COVID-19 pandemic in Minnesota for five racial/ethnic groups using four different mortality measures. The panels in the left column show

“crude” mortality, unadjusted for differences in groups’ age distributions, while the panels on the right reflect measures that are statistically adjusted for these age differences. Because the racial groups have substantially different age distributions and age is a profound risk factor for COVID-19 and other mortality, the age-adjusted measures are superior measures for comparing mortality risk across groups (Dowd et al. 2020). The panels in the top row portray confirmed COVID-19 mortality, reflecting the deaths used in the state’s official COVID-19 statistics. The panels on the bottom take a broader view of the pandemic’s death toll by capturing “excess” mortality in 2020 compared with the average mortality in the same months during the previous three years. Excess mortality reflects the full set of COVID-19 deaths, including those that are never diagnosed as such, as well as deaths indirectly attributable to the pandemic through

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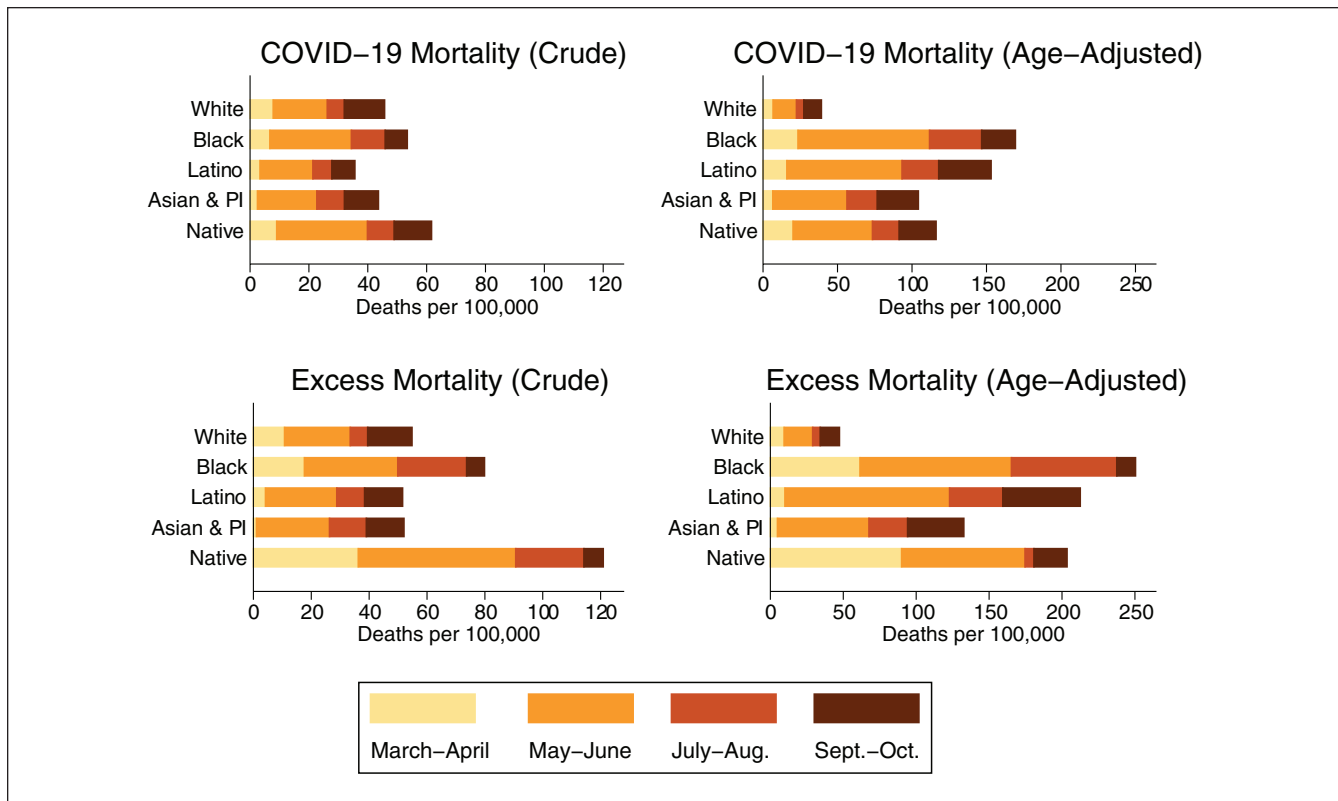
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**Figure 1.** Mortality during the COVID-19 pandemic in Minnesota, by type of mortality, race/ethnicity, and time period.

Note: Coronavirus disease 2019 (COVID-19) mortality is confirmed by lab test or other official diagnosis. Excess mortality is mortality above and beyond average mortality for the same group in the same months from 2017 to 2019. Excess mortality excludes external causes of mortality (e.g., accidents and violence) because many of those deaths have delayed reporting, preventing their inclusion for recent time periods. Crude rates are unadjusted for age. Age-adjusted rates are adjusted by reweighting age-specific mortality using the age distribution of the state of Minnesota. Further details on the data and measurement are given in the Methods Appendix.

pathways such as averted medical care (Lange et al. 2020). Age-adjusted excess mortality, shown in the bottom right panel, reflects the overall best measure of mortality risk during the pandemic. (Details of the data, excess mortality estimation, and age adjustment are given in the Methods Appendix.)

The early stages of the Minnesota pandemic reflected high mortality in long-term care facilities, which interacted with an unusual age divergence to concentrate COVID-19 deaths early in the pandemic among older white populations. Through October, more than half of all confirmed COVID-19 deaths in the state have occurred in long-term care facilities, and such facilities accounted for 59 percent of the state's COVID-19 deaths through May. The state's nursing homes are overwhelmingly white (Shippee et al. 2016:206), which partly reflects that Minnesota's white population is substantially older than its populations of color: in Minnesota, respective mean ages are 41 years for white, 29 years for Black, 24 years for Latino, 31 years for Asian American, and 32 years for Native populations. Minnesota's difference in white versus Black mean age is the fifth largest across U.S. states, driven in part by young

ages among the state's large Black immigrant population. The resulting heavy death toll among older white residents early in the pandemic is reflected in Figure 1 in the high COVID-19 crude death mortality among whites from March to May and the dramatically smaller COVID-19 mortality rates among whites compared with all other racial groups once age is accounted for.

Figure 1 also shows that excess mortality rates are far more unequal across racial groups than confirmed COVID-19 mortality rates: 84 percent of cumulative crude excess mortality through October 2020 is accounted for by COVID-19 deaths in the white population but only 67 percent, 71 percent, and 53 percent in the Black, Latino, and Native populations, respectively. (The rate among the Asian American and Pacific Islander population is similar to that among the white population, at 83 percent.) This divergence between COVID-19 rates and excess mortality rates for Black, Latino, and Native populations reflects some combination of two factors: selective diagnosis of COVID-19, such that deaths to the coronavirus in these populations are less likely to be counted in the official statistics, and deaths indirectly attributable to the pandemic (such as deaths associated

with averted medical care or material deprivation following loss of work). These results suggest an urgent need to disentangle these factors and also illustrate that the official COVID-19 mortality statistics fail to reflect the inequality in pandemic-associated mortality in Minnesota.

Three dynamics deserve special mention. First, in the first four months of the pandemic, excess mortality was particularly high among Minnesota's Native Americans, and little of that excess mortality is captured in confirmed COVID-19 statistics. An exclusive focus on confirmed COVID-19 mortality has hidden the substantial death toll for this population in particular. Excess mortality in the Native population was notably lower in July and August (and, to a lesser extent, in September and October); further research should examine whether this reflects a true reduction in mortality risk, which may reveal protective contexts that can be built upon, or alternatively, if it partially reflects the aftereffects of selective mortality given the extremely high mortality rates from March to June.

Second, as the pandemic has continued, racial groups whose excess mortality was extremely small in March and April—Latinos and Asian Americans—have experienced substantially greater mortality. The very high COVID-19 and excess mortality among Latinos in the most recent period is especially concerning.

And third, high COVID-19 and excess mortality has been sustained throughout the pandemic among Black Minnesotans.

In summary, for deaths through October 2020, cumulative age-adjusted excess mortality is far higher for all populations of color than for white populations, by a factor ranging from 2.8 (for the Asian American and Pacific Islander population) to 5.3 (for the Black population). The large racial disparities revealed in this analysis illustrate that an exclusive focus on official COVID-19 deaths leaves much of the unequal mortality burden of the pandemic hidden.

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### Supplemental Material

Supplemental material for this article is available online.

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