

Declining COVID-19 mortality risk ratios must be interpreted with caution

In their recent letter in *J Epidemiol Community Health*, Schultes *et al*¹ examined patterns of declining race/ethnic disparities in COVID-19 mortality in Connecticut from March 2020 to December 2021. This work is a helpful contribution to the expanding literature on race/ethnic disparities in SARS-CoV-2 mortality, and due to its attention to the differential toll of SARS-CoV-2 in congregate versus non-congregate settings by race/ethnicity is particularly important.

However, motivated by our shared concern about the inequities highlighted by Schultes *et al*, we feel compelled to address the authors' contention that their 'findings suggest that attenuation of racial and ethnic disparities is an achievable public health goal'. We believe that this statement reflects a broadly held misapprehension about the meaningfulness of declining mortality rate ratios (MRRs) as evidence of progress against inequity in pandemic-related mortality.

While changes in the MRR for non-whites as compared with whites—the main indicator of disparity used in the paper—may reflect some progress against race/ethnic and class-based disparities SARS-CoV-2 in infection and mortality, a narrow focus on declining group-specific MRRs may paint a far more optimistic picture of this progress than is warranted.

On a methodological level, ratio-based measures of SARS-CoV-2 inequality are made difficult to interpret because of their susceptibility to

distortion from change in the denominator: Diminishing MRRs by race may reflect declines in the numerator (the minoritised group in question) or increases in the denominator (an advantaged group, typically whites). In fact, Lawton *et al*² found that much of the declines in county-level SARS-CoV-2 MRRs by race were better explained by increasing overall prevalence reflecting increased infection and death among whites than precipitous declines in infection among non-whites.

From a health justice perspective, it is critical that within-pandemic successes in attenuating disparities not be conflated with success in combating racial capitalism³ and other manifestations of structural racism which contributed to differential participation in hazardous 'essential work' and other risks⁴ that made irreversible early-pandemic mortality disparities inevitable.

We suggest that, at a minimum, researchers and policymakers contemplate a simple thought experiment before concluding that secular declines in race/ethnic MRRs for COVID-19 suggest progress against infection inequity: If a novel pandemic characterised by similar lethality and transmissibility to SARS-CoV-2 was to emerge in the coming months, would the factors that led to declining MRRs *during* this pandemic translate into dramatically decreased disparities in death at the beginning of the next one? We doubt it and advocate for caution in interpretation of these declines as a result.

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