# Closing the health inequity gap during the pandemic: COVID-19 mortality among racial and ethnic groups in Connecticut, March 2020 to December 2021

COVID-19 has disproportionally burdened racial and ethnic minority groups within the USA.[1–5] However, prior studies relied predominately on aggregated data from populations residing in congregate and non-congregate settings.[1–5] This approach may underestimate outcome disparities in the community, especially in states that experienced a large COVID-19 burden in nursing homes.[5] Herein, we identified COVID-19-related deaths among Connecticut residents of congregate and non-congregate settings and characterised the evolution of racial and ethnic disparities in COVID-19-related mortality among residents of non-congregate settings.

We retrospectively identified COVID-19-related deaths reported between 1 March 2020 and 13 December 2021 from the Connecticut Electronic Disease Surveillance System and determined residential status according to recorded address (online supplemental file).[5] Using Poisson regressions and 2019 census population estimates, we estimated age-adjusted mortality for composite race and ethnicity categories (Hispanic, non-Hispanic (NH) black and NH white) and age-adjusted mortality rate ratios (MRR) for Hispanic and NH blacks, relative to NH whites, for three periods (1 March 2020 to 25 August 2020, 26 August 2020 to 12 July 2021 and 13 July 2021 to 13 December 2021; figure 1C; online supplemental file).[5]

During the study period, congregate facility-associated deaths accounted for 74.6% (3205/4299), 37.7% (1341/3557) and 14.2% (84/590) of deaths in the first, second and third periods, respectively (figure 1A). Among congregate facility-associated deaths, 5.6% (259), 10.0% (463) and 84.4% (3908) were Hispanic, NH black and NH white, respectively.

Overall, age-adjusted mortality among residents of non-congregate settings was highest for Hispanics (19.6/100 000 population-months), followed by NH blacks (17.3/100 000 population-months) and NH whites (6.4/100 000 population-months). During the initial pandemic period, we observed large disparities in COVID-19 mortality within residents of non-congregate settings (Hispanic MRR: 3.9 (95% CI, 3.3 to 4.5); NH black MRR: 5.2 (CI: 4.5 to 5.9)). However, by the third wave, the disparities had attenuated and mortality between NH blacks and NH whites no longer differed significantly (Hispanic MRR: 1.9 (1.5 to 2.5); NH black MRR: 1.3 (0.9 to 1.7); figure 1B,C/online supplemental eTable).

Our findings suggest that attenuation of racial and ethnic disparities is an achievable public health goal. Future analyses investigating the role public health interventions had on reducing these disparities should be conducted to inform effective, generalisable policies targeting the outstanding inequities in COVID-19-related outcomes.

The limitations of our analysis include the use of a COVID-19-related death endpoint and the potential for misclassification of race, ethnicity and residency status. However, it was strengthened by the disaggregation of congregate facility events, through which we may have revealed levels of disparity not previously appreciated.[1 2 4 5]

**Olivia Schultes,[1] Margaret L Lind ,[2] Jessica Brockmeyer,[3] Peri Sosensky,[2] Derek A T Cummings,[4,5,6] Albert I Ko[2,7,8]**

[1]Department of Epidemiology, School of Public Health, University of Washington, Seattle, Washington, USA
[2]Department of Epidemiology of Microbial Diseases, Yale University School of Public Health, New Haven, Connecticut, USA
[3]Connecticut Department of Public Health, Hartford, Connecticut, USA
[4]Department of Epidemiology, Center for Teaching and Learning, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA
[5]Department of Biology, University of Florida, Gainesville, Florida, USA
[6]Emerging Pathogens Institute, University of Florida, Gainesville, Florida, USA
[7]Instituto Gonçalo Moniz, Salvador, Bahia, Brazil
[8]Department of Internal Medicine, Section of Infectious Diseases, Yale School of Medicine, New Haven, Connecticut, USA

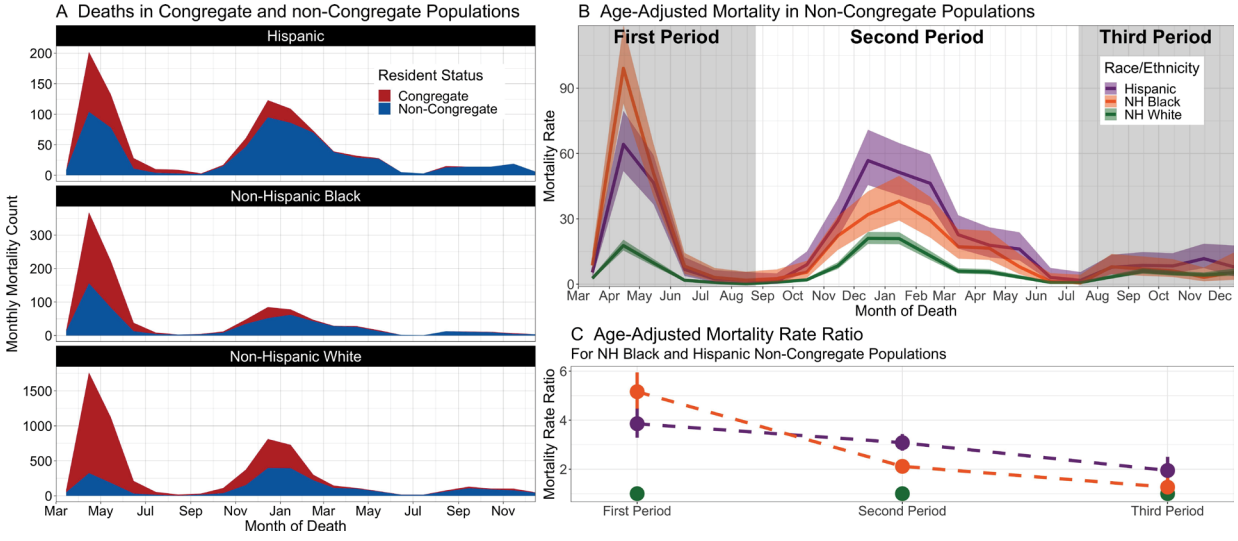


**Figure 1** Temporal trends in COVID-19-related deaths and mortality among the Connecticut population residing in congregate and non-congregate settings, according to composite race and ethnic groups, March 2020 to December 2021. (A) Monthly COVID-19 deaths by race/ethnicity and residency status. (B) Age-adjusted monthly COVID-19 mortality (deaths per 100 000 population-months) by composite race and ethnic groups in the population residing in non-congregate settings. (C) Ratios comparing mortality among non-Hispanic black (NH black) and Hispanic to non-Hispanic white (NH white) populations residing in non-congregate settings during each of the three epidemic periods. Congregate and non-congregate residency status was defined based on recorded residential address at the SARS-CoV-2 infection was reported.

**Correspondence to** Dr Margaret L Lind, School of Public Health, Yale University, New Haven, CT 06520, USA; margaret.lind@yale.edu

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**ORCID iD**
Margaret L Lind http://orcid.org/0000-0002-1572-4074

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