Morningside Graduate School of Biomedical Sciences Clinical & Population Health Research Program

Announces the PhD Thesis Defense of

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The Structural Racism Effect Index: a multi-dimensional tool to measure neighborhood-level structural racism

Wednesday, July 13, 2022 at 8:30 a.m. via Zoom Meeting

There is growing recognition that underlying the social determinants of health is an extensive history of policies that codified racial disparities and shaped geographic resource availability for centuries. A prevalent means to measure the neighborhood-level effects of structural racism, however, does not exist. Using publicly available data about the social and structural determinants of health, we constructed the Structural Racism Effect Index (SREI). We calculated a composite score for 97% of census tracts in the US using 42 variables across nine domains: built environment, criminal justice, employment, housing, income and poverty, transportation, social cohesion, and wealth. We then tested how well the SREI correlated with neighborhood variations in broad measures of health, including life expectancy. We found that the SREI explained 50% of the variation in census tract mean life expectancy across the country ($R^2 = 0.50$), and higher proportions of the variation in self-reported poor mental health and physical health ($R^2 = 0.73$, $R^2 = 0.71$). Using historical data, we also found correlations between high SREI neighborhoods today and red-lined neighborhoods in 1940. Applying the SREI to several case studies showed that uninsured populations in states that have not expanded Medicaid on average live in neighborhoods with greater effects of structural racism compared to those living in states that have expanded Medicaid and higher SREI scores corresponded to higher use of the emergency department. The SREI is a powerful new tool that if used to guide policy and investment can help reverse the effects of historical policies perpetuating anti-Black and anti-Indigenous racism that have led to continued under-resourcing and large disparities in health and social outcomes at the community level today.

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Arlene Ash, PhD	Milagros Rosal, PhD (Chair)
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