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'Race differentials in mortality in the United States, 1900-40: Examining linked full-count census data'

Life expectancy in the United States increased from 49.2 in 1900 to 68.1 in 1950, an increase of 18.9 years (Arias 2006). Although the white population consistently experienced significantly higher life expectancy than the black population, the race differential narrowed considerably, from 15.8 years in 1900 to 8.3 years in 1950. These changes are poorly understood.

Recent studies have indicated that blacks in urban areas of the South benefited more from public health improvements, which contributed to rapid declines in mortality from infectious disease (Troesken 2004, Feigenbaum et al. 2019). At the same time, however, the Great Migration of blacks from the rural South to the urban North placed increasing numbers of blacks in highly-segregated and more deadly environments (Eriksson and Niemesh 2016). The advent of modern medicine no doubt played some role, but most investigators agree that the impact of medicine was modest until after the discovery of sulfa drugs in the 1930s and antibiotics in the 1940s.

As a consequence of data limitations, there is a lack of studies using large-scale individual-level data that examines U.S. race differences in mortality during the first half of the twentieth century. This is unfortunate, as it was a period of rapid economic and social change, with large increases in intra and inter-regional migration, urbanization, segregation, incomes, education and public health, all of which were likely to have had significant impacts on population health and mortality. This paper contributes by exploiting newly released IPUMS MLP data, providing us with large populations of individuals linked between the 1900-1910, 1910-1920, 1920-1930, and 1930-1940 U.S. full-count censuses. Although the censuses were intended to document the living, not the dead, we are able to infer mortality for two important age-groups. First, we estimate child mortality among children of couples linked across two consecutive censuses (hereafter census A to census B). We focus on children aged 0-5 in census A, whose absence from the subsequent census B, we argue, is unlikely to be the result of anything other than death. Second, we estimate adult mortality among currently married couples in census A, but where only one of the spouses survive the intercensal interval, in addition to being a widow/widower. These inferences are admittedly subject to potential errors in the census which we discuss, as well as taking steps to quantify and mitigate their impact. The main aim of the paper is to quantify baseline white-black differences in child and adult mortality and how this changed over the 1900-1940 period. We will then proceed to investigate the extent to which the baseline race mortality-differential is moderated by a range of individual-, household-, and community-level factors.