

# **The Changing Role of Socioeconomic Status in Explaining Black-White Disparities in Healthy Life**

Scott M. Lynch and J. Scott Brown

## **Short Abstract**

Black-white disparities in health are well-documented, and numerous studies have attempted to explain the disparity as the product of socioeconomic (SES) disparities between races. Most research has utilized cross-sectional data for this purpose; however, racial differences in SES have changed dramatically since the beginning of the Civil Rights Movement. Additionally, the distribution of health has also changed dramatically over the same period. Utilizing a new method for estimating healthy life expectancy applied to 1980-2003 National Health Interview Survey and vital statistics mortality data over the same period, we examine how the role SES plays in accounting for racial disparities in healthy life has changed over time. We find that (1) SES disparities between blacks and whites have declined over the period, (2) health disparities by race and SES have also declined, and (3) the role SES plays in accounting for race disparities in health has diminished over the period.

## **Extended Abstract**

Health disparities between blacks and whites are well-documented, and numerous studies have attempted to explain the disparity as a product of socioeconomic disparities between the races. Most research to date has utilized cross-sectional data in examining the role SES differences between blacks and whites plays in accounting for race-based health disparities. However, racial difference in socioeconomic status have changed dramatically since the beginning of the Civil Rights Movement. Additionally, the distribution of health has also changed dramatically over the last several decades. Utilizing a new method for estimating healthy life expectancy applied to data from the National Health Interview Survey from 1980-2003 as well as vital statistics data on race differences in mortality over the same period, we examine how the role SES plays in accounting for racial disparities in healthy life has changed over the last two decades. We find that (1) socioeconomic disparities between blacks and whites—especially as measured by education—have declined over the period, (2) health and mortality disparities by race and SES have also declined, and (3) the role of SES in accounting for remaining race disparities in health has declined over the period.

## **Background**

Documenting and explaining black-white differences in health disparities has been the focus of numerous studies. Many researchers have posited that these disparities are the result of socioeconomic status differences between blacks and whites. A common finding in this literature is that part, but not all, of the race-based health disparity is explained by education and/or income differences between blacks and whites. However, race differences do not exist in a sociohistorical vacuum. A multitude of changes, both

within the distributions of both SES and health, have occurred over the last several decades that have likely impacted racial disparities in both. Adult mortality rates have declined drastically since 1960, leading to greatly-increased life expectancy that has affected all members of the US. Additionally, the Civil Rights Movement, beginning circa 1960, has potentially improved socioeconomic conditions for blacks over the last several decades. Finally, the link between SES and health and mortality has been shown to have strengthened over this same time period. Thus, understanding racial disparities in health, and the role SES plays in accounting for these disparities, requires a life course approach applied to longitudinal data.

### Data and Methods

One difficulty with considering change in racial disparities in health over time is that very few data sets in fact cover a long enough time period to adequately assess trends therein. The best data sources for assessing trends are from repeated cross-sectional studies like the National Health Interview Survey (NHIS), which has been conducted annually since 1969 and has measured self-rated health—its only annually-measured health indicator—since 1972. Additionally, the study measures education and income—the two most common indicators of SES—at every wave. However, health indicators constitute only one aspect of racial disparities in overall health. That is, repeated cross-sectional studies only capture the health of *survivors* at each study wave, and so ignoring mortality differentials tends to underestimate health disparities. Fortunately, mortality data by race that allows for comparisons of blacks and whites is available annually since 1980 (prior publically available data did not distinguish ‘blacks’ from ‘other races’).

Regrettably, there are two problems with using these data sources. First, given that they are separate data sets, at first blush it seems that we cannot easily combine the data to simultaneously examine health and mortality. Second, vital statistics mortality data does not contain information on socioeconomic status, making it difficult to assess the role of SES in explaining race differences in mortality.

In an effort to overcome these limitations, we have developed an extension of Sullivan’s method—a method for producing estimates of healthy life expectancy (HLE) from cross-sectional data—that enables us to combine the data and make use of the SES information contained in the health file to produce estimates of HLE by both race and SES. We have discussed this method at previous PAA meetings, and we will briefly describe the method in this presentation. The method involves (1) merging age-sex-race-specific mortality probabilities from vital statistics into the NHIS data file, (2) estimating a bivariate ‘hazard’ model using Gibbs sampling, (3) using the hazard model results to produce smoothed transition probability matrices while accounting for the fact that the data are from independent sources with a second-stage ecological inference model, and (4) constructing multistate life tables from the transition matrices using standard multistate demographic methods.

In order to examine the changing role SES plays in accounting for racial disparities in overall health, we apply this model to each year’s data and generate multistate life tables

(1) for whites with SES values set to the mean for whites, (2) for blacks with SES values set to the mean for blacks, and (3) for blacks with SES values set to the mean for whites.

### Preliminary Results

First, descriptive results show that SES differences have declined since 1980, especially in terms of educational differences. Second, the results show that black-white disparities in HLE have also declined substantially since 1980. Surprisingly, however, the proportion of the remaining black-white gap in HLE for which SES can account has *declined* over the period from approximately 65% to 40%. In other words, although racial disparities in both health and SES are declining—thus providing evidence of the success of the Civil Rights Movement—there is a growing proportion of racial disparities that remain unexplained and need further investigation before concluding there is a declining significance of race.