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Are differences in disability-free life Expectancy by gender, race and education wider at older ages? 1986-2006

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Short Abstract

Objectives: This paper examines change in disability-free life expectancy at age 60 by gender, race and education in the United States over a ten year period: from 1991 to 2001. *Methods:* To estimate mortality we used data on mortality to members of the National Health Interview Surveys from 1986-1995 and 1996-2006 by education, race, and sex for 10 year periods following their participation in the survey for adults aged 60 years and older. To estimate disability we used data from the National Health and Nutrition Examination Surveys of 1988-1994 and 1999-2002. *Results:* Racial differences in healthy life expectancy persist across time, but educational differences are even larger in healthy life expectancy as compared to total life expectancy. *Conclusions:* Educational differences in disability-free life expectancy in the U.S. are increasing, except for black males that showed a reduction over time in educational differentials in healthy life.

Extended Abstract

Background

The study of race/ethnic differences in mortality has a long history in the United States. Comparisons of Black-White (B-W) death rates have consistently shown higher mortality for blacks than for whites, except among the oldest old where differences can be affected by data quality (Manton et al. 1987; Preston et al. 1996; Elo&Drevenstedt 2004; Harper et al. 2007). In addition to race, mortality differentials extend to other socioeconomic factors such as education and income. In this paper we are interested in studying whether educational differences in healthy life expectancy (HLE) between B-W in the U.S. have declined in the last two decades and how they differ among older individuals.

Evidence, from the 1970s through the 1990s, shows that educational differences in HLE increased during that period due to widening of the mortality and morbidity rates between B-W (Crimmins and Saito 2001). Recent evidence, however, shows that the racial gap in mortality has declined since 1980 (Macinko and Elo 2009, Harper et al. 2007); although mortality differentials by education have increased between 1986 and 2006 (Montez et al. 2011). Little is known on whether the recent narrowing of the mortality gap has been accompanied by a reduction in the educational gap in HLE between B-W.

Data

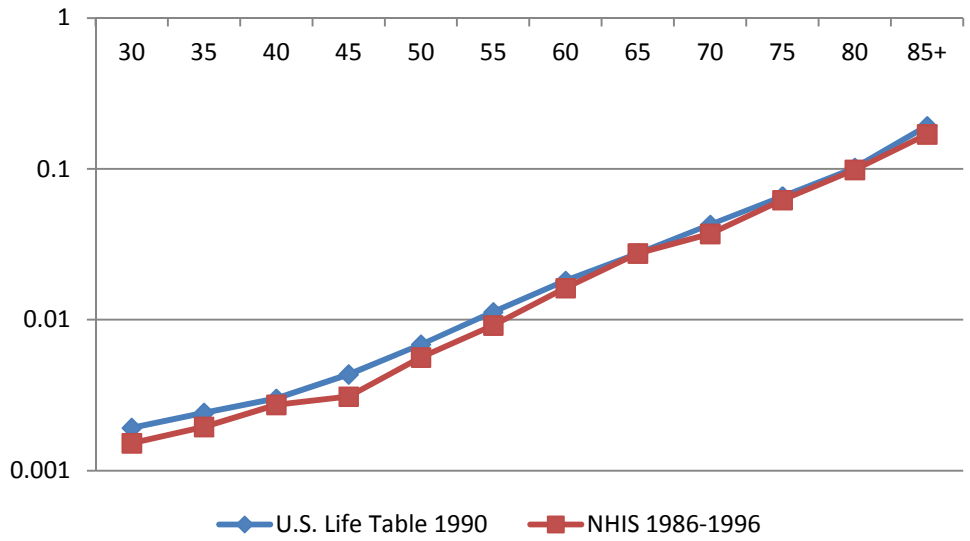
We use the National Health Interview Survey (NHIS) to estimate mortality changes by education, race, sex and functional limitation over two time periods, 1986 to 1996, and 1996 to 2006. At each baseline point, 1986 and 1996, we estimate the prevalence of functional limitation by age, race, sex, and level of education and use the mortality follow-up to 1996 and 2006, respectively, to estimate mortality rates for each period. We employ a Poisson log-linear model to estimate mortality rates by age, race, sex, education and functional limitation, and then construct a life table using standard life table techniques (Preston et al. 2001). We then compare racial

differences in HLE by level of education at each period and show how these differences have changed over time (Jagger 1997).

Mortality from NHIS survey is compared to life table mortality rates for 1990 and 2001 from the National Center for Health Statistics (NCHS) for black and whites. Figure 1 shows the comparison of life tables and NHIS mortality rates over the time period 1986 to 1996 by gender. Figure 2 shows the comparison of life tables and NHIS mortality rates over the time period 1996 to 2006 by gender. Survey estimates are very close to the lifetable estimates through all the age range.

Figure 1: Comparison of life tables and NHIS Mortality Rates. Time period 1986-1996

White Males



White Females

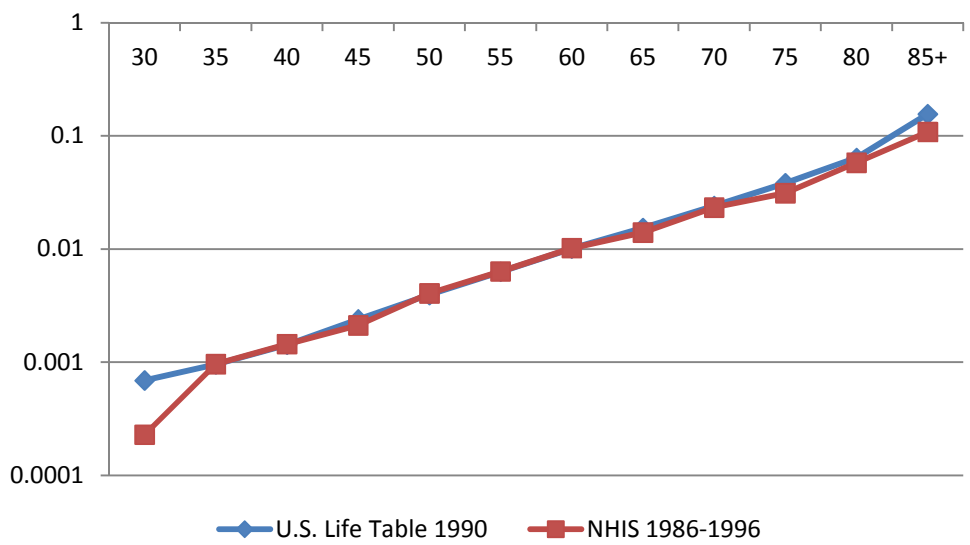
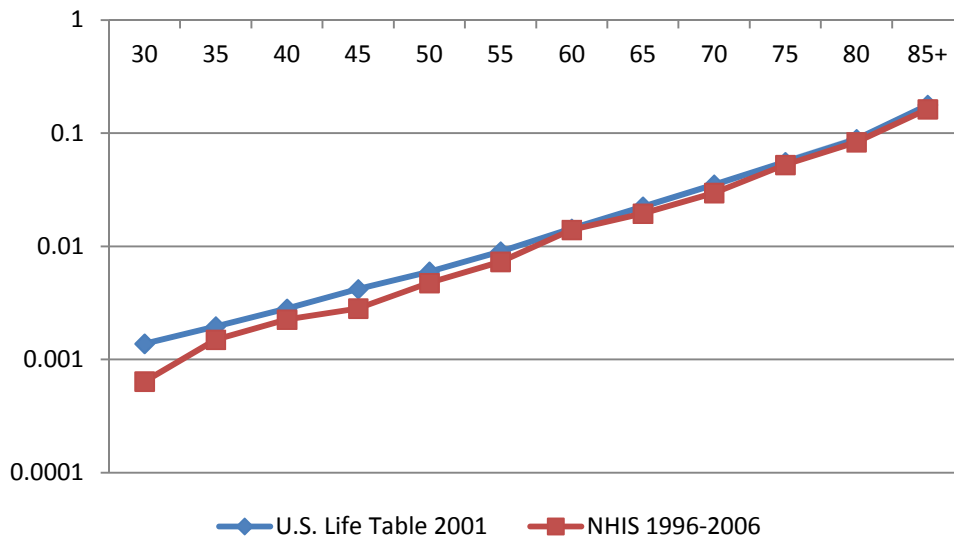


Figure 2: Comparison of life tables and NHIS Mortality Rates. Time period 1996-2006

White Males



White Females

