How Does Use of 'Special' Equipment Affect the Black-White Gap in ALE?

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Differences in health outcomes between whites and blacks in the United States have been well documented. In most cases, research demonstrates that blacks experience worse health outcomes than whites at comparable ages. Even when the black population is shown in better health than the white population (e.g., black mortality rates at the oldest ages are shown to drop below those of whites), such outcomes are usually the result of selective mortality processes that are based in the disadvantaged position of blacks at younger ages.

While considerable research has found black disadvantage in self-rated health, mortality, and disability, less work has examined the role of equipment use in this health comparison. There are, however, compelling reasons to believe that equipment use may directly affect this observed racial difference. It is widely recognized that blacks in the United States occupy a structurally disadvantaged position, especially when focusing on socioeconomic differences. This disadvantaged position can lead to a very different propensity to use special equipment to assist with disabilities. The mechanisms behind this are manifold. It is likely, given the expense of many types of assistive devices, that blacks are not able to afford such equipment as well as their white counterparts. Affordability might also lead the less well-off to utilize less effective equipment.

Moreover, since many of these devices are covered expenses under private medical insurance plans, this difference is probably exacerbated by the lower coverage rates among African-Americans.

This difference can have a profound impact on research assessments of disability differences between these groups. For example, research that examines disability using questions asking if a respondent 'needs help' with a task to define a person as impaired will likely underrepresent white disability and overestimate black-white differences. In this study, we examine race differences in active life expectancy (ALE) and disabled life expectancy (DLE) by focusing on differences between these groups by their use/non-use of special equipment.

Our data come from the National Long Term Care survey (NLTCS). The NLTCS includes over 35,000 persons over age 65 and was collected in 1982, 1984, 1989, 1994, and 1999. Respondents are screened into the survey based on disability status. We use only the 1989 and 1994 waves since a non-disabled group was also given the detailed survey in 1989. Comparisons are made across blacks and whites of both genders.

The NLTCS includes considerable detailed information on health and disability (e.g., ADLs, IADLs, specific diseases, etc.) and use of special equipment. Here, we focus on the six activities of daily living included in the NLTCS: eating, bedding, bathing, toileting, dressing and inside mobility. The NLTCS asks whether a person needs help with each of these items as well as whether a person uses special equipment with each.

We examine black-white differences in each ADL-specific ALE and DLE using a Bayesian life-table approach (see Lynch and Brown *forthcoming*; Lynch, Brown, and

Harmsen 2003). This new life table method includes the ability to compute life expectancies with empirical confidence intervals that allow for direct statistical comparison of group differences. With this method, we are also able to include an unlimited number of covariates in order to provide a deeper understanding of processes behind these differences. For example, we are able to compare the ALE of married black female smokers from the south who use special equipment with non-married white female smokers from other regions.

Our initial findings indicate that the use of special equipment does inform the observed black-white differences in ALE and DLE. However, these findings vary by the particular ADL being examined and by gender. Such findings point to the importance of more detailed examination of special equipment use differences when make racial comparisons in disability and ALE. We discuss the implications of these findings with regard to future research on race differences in health as well as implications for health policy.