

Racial differences in HUI-based disability using the 2003 Joint Canada/United States Survey of Health: a cross-national comparison
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Introduction

Racial issues have played important roles in the debate on equality in the U.S., but not as much in Canada. In the area of health and disability, there is concern that racial and ethnic minorities tend to have higher rates of disabilities (Pope et al. 1991). In Canada, no such concern was raised, except perhaps for the situation of the aboriginal peoples (Ng, 1996).

Our objective here is to study the relationship between race and disability in both countries, based on the Health Utilities Index (HUI) available from the 2002/03 Joint Canada/US Survey of Health (JCUSH), supplemented by the Canadian Community Health Survey, where appropriate. Specifically, given the recent debates on the role of socioeconomic status in explaining racial/ethnic disparities in health outcome, we would like to examine the role of socio-economic status and other health-related factors as potential confounders in the relationship between race and disability (Crimmins et al., 2004).

Data and research methods

The JCUSH is a unique population health survey conducted jointly by Statistics Canada and the U.S. National Center for Health Statistics of the U.S. Centers for Disease Control and Prevention between November 2002 and June 2003. Because it was conducted in the same manner in both countries, it provides a degree of comparability never before possible (Sanmartin et al., 2004). As a result, meaningful comparisons can be made between Canada and the United States in health and disability. The target population included residents of both countries aged 18 or over living in private dwellings. The survey has a sample of 5,200 in the United States and 3,200 in Canada.

Included in JCUSH was the HUI-based measure, which was one of four question sets used by either Canada or the United States to identify the disabled population in their respective countries. Our previous bi-variate work compared disability and functional limitation in both countries, based on four different modules included in JCUSH, and found that the HUI-based measure seems to perform better in detecting socioeconomic differences in disability between countries (Altman et al., 2004). The HUI is a comprehensive health status and health-related quality of life measure designed for population health surveys. It has a multi-attribute health status classification system and a multi-attribute utility function

The 8 dimensions of functioning in the classification system of HUI (vision, hearing, speech, mobility, dexterity, emotion, cognition and pain) were used to define disability.

Each dimension has five to six levels ranging from fully functional to severely impaired. The usual HUI therefore enables us to classify a respondent into one of the 972,000 theoretical health states. In this analysis, we construct the HUI-based disability which reflects only response categories possibly associated with limitation or disability in each dimension. For more details regarding the process of this construction, see Altman et al. (2004).

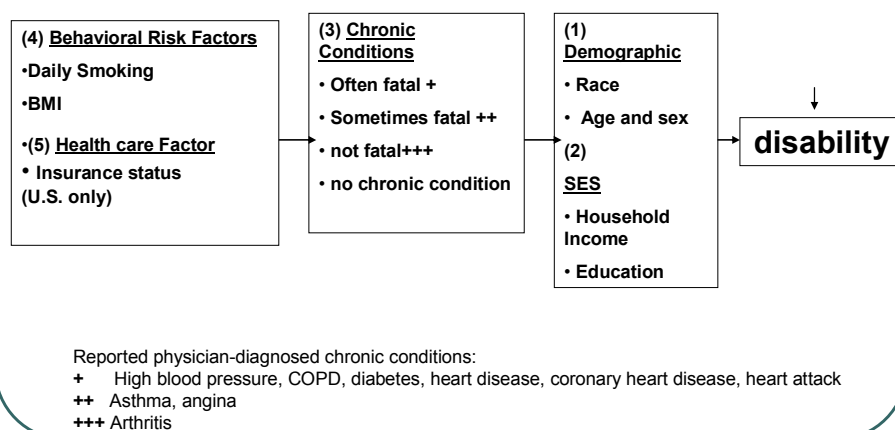
Our earlier work showed that the age-standardized prevalence rates of this HUI-based disability were statistically significantly higher in the U.S. than in Canada (20.3% and 18.0%, respectively). The crude rates in the U.S. were significantly higher than in Canada for people aged 45 years and over, for females, for those who had less than college education, among the poorest, and last but not least, for the non-white population. Note that reflecting the respective countries' concerns for racial matters, the detailed race categories (Native Indians, Asians, Black, Others, and multiple categories) are only available in JCUSH for the US, but not for Canada.

To examine the relationship between race (White/non-White) and disability in both countries, we use logistic regression to estimate by country the impact of age, sex, race, income, education, chronic disease, obesity as well as health care insurance status, where appropriate in reporting disability status. We will then do the same analysis for the detailed race categories using the JCUSH-US and the 2003 Canadian Community Health Survey, which has the detailed race categories for Canada and has a much larger sample size (n=130,000).

Theoretical focus

Our motivation here is to examine the relationship between race and disability, and to unpack the racial disparities in disability by incorporating potential confounders such as socio-economic status (income and education), chronic conditions, behavioural risk factors and other health care factors, where appropriate (see Figure 1 below). It is possible that certain races/ethnic groups have higher disability rates not because of race or ethnicity per se, but because these groups are distributed unequally across socioeconomic conditions thus leading to their disproportionately high rate in the United States (Smart, 1997). Specifically, we first document in this analysis the existence of the racial differences in disability by country, and then disentangle the link between race and disability by incorporating the afore-mentioned potential factors one by one.

Figure 1. Conceptual Framework (SES approach)



Expected results

1. Binary classification of race (white and non-white)

Preliminary analysis shows that race in the US, together with age and sex, were significant factors for disability. This was not true for Canada, i.e., after controlling for age and sex, race was not a significant factor in the reporting of disability in Canada. For the US, the significance of race per se disappeared once education and income were also controlled for. Our preliminary findings also show that it takes the combined effect of both income and education to remove the significance of race as a risk factor for disability in the U.S.

2. Detailed classification of race (Native Americans, Asian, white, Black, others and multiple response....to add Hispanics)

Preliminary analysis using a more detailed categorization of race available in the JCUSH for the US shows that, using White as the reference group and after adjusting for age and sex, all detailed race categories (except the Asians) were significant factors for disability. However, adjusting for income and education, the significance of two of the racial groups disappeared, namely, the Blacks and others categories. Our preliminary analysis also shows that only the North American Indian and those having multiple ethnicities (but not Black) had higher risk, even after we control for the effects of age, sex, chronic disease, obesity, income, education, as well as health care insurance status.

Given the rising importance of the Hispanics in the US, we will re-classify our racial category using another question on JCUSH-US related to Hispanic origin in the final analysis. The Hispanics are expected to have low disability, in spite of low socio-economic status. This is the so-called 'Hispanic paradox' (Palloni, 2004).

Similar detailed race categorization was not available in JCUSH for Canada, but we plan to use the 2003 CCHS to investigate the impact of re-classification of racial/ethnic groupings on our results. It is expected that the North American Indians in Canada will have higher disability.

Conclusion

This paper attempts to examine the racial pattern of reporting disability in both US and Canada. We hope that by this analysis, we will better understand the role of different factors such as socioeconomic status and other health-related factors in the observed disparities.

References:

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