September 21, 2007

Disability among Native-born and Foreign-born Black Residents in the United States: Evidence from the 2000 Census of Population

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Short Abstract

Utilizing the 5% Public Use Micro Data Sample (PUMS) from the 2000 Census of Population, we examine differences in physical and personal care disability among native- and foreign-born blacks in the US. We distinguish among immigrants from the Caribbean/West Indies, Africa, and other regions, and examine disability by age at entry and duration of US residence. The size of the Census makes it the only data source that permits detailed analyses of health status among smaller immigrant subgroups. Overall, foreign-born blacks report less disability than native-born blacks. African-born blacks possess a more advantageous health status as compared with Caribbean/West Indian-born blacks, but this difference is explained by the higher educational achievement of African-born blacks. Longer duration of US residence is associated with higher reported disability among foreign-born blacks, yet foreign-born blacks who have been in the US for more than 20 years still report significantly less disability than native-born blacks.

Extended abstract

Background and Significance

In recent decades the United States has witnessed a large increase in its foreign-born population. For example, between 1990 and 2000 the foreign-born population increased by over 50% - from 19.8 million to 31.1 million individuals. In 2000, the foreign-born represented about 11% of the total U.S. population with the percentage being much higher in some states such as California (26%) and New York (20%) (Malone et al. 2003). With an increasing number of immigrants arriving from Latin America, Asia, the Caribbean, West Indies, and Africa, the United States is becoming a more racially and ethnically heterogeneous society. It is estimated that by 2030 Hispanics will make up 20%, Asians about 6%, blacks

about 14%, and all other races combined, other than white, about 4% of the total U.S. population. By 2030, it is thus estimated that the NH-white share of the total population will have declined to less than 60% (U.S. Census Bureau 2004). With the growth of the foreign-born population, there is increasing interest in the health status of immigrants and their current and future contribution to the health of the U.S. population as a whole. Yet it has been difficult to paint a detailed picture of the health of foreign-born US residents due to sample size constraints in national health surveys and the lack of detailed information on national origin and immigration status in many data sources (Kandula, Kersey, and Lurie 2004).

The immigrant subgroup and its native-born counterpart that has received the most attention in the literature to date is the Hispanic population of the U.S. This focus stems at least in part from the fact that Hispanics are the largest immigrant ethnic group, data availability, and the scientific interest in the Hispanic health paradox (Jasso et al. 2004). A few studies have also begun to examine health among other immigrant groups, and most studies have documented better health and lower adult and infant mortality among foreign-born whites, blacks, and Asian and Pacific Islanders than among their native born counterparts or among native born whites (David and Collins 1997; Hummer et al. 1999b; Frisbie, Cho, and Hummer 2001, Singh and Siahpush 2002; Mutchler, Prakash, and Burr 2007). However, unlike studies of Hispanics, which typically examine variation in health outcomes among various Hispanic subgroups (Mexicans, Cubans, Puerto Ricans, other foreign-born, and native-born Hispanics), most studies of Asian, NH-white, and black immigrant health and mortality have ignored subgroup heterogeneity. One recent exception is a study by Read and Emerson (2005) who investigated variation in self rated health, activity limitations, and hypertension among immigrant blacks using the 2000-2002 National Health Interview Surveys (NHIS). The authors hypothesized that the racial context of origin, i.e., majority black or white, would be correlated with the health status of immigrant blacks residing in the United States. Their findings confirm substantial heterogeneity in health outcomes among immigrant blacks such that black immigrants from minority white and racially mixed regions of the world have superior health compared to native-born blacks, while the health status of black immigrants from Europe are similar to that of U.S. born blacks. The small sample sizes, however, prevent firm conclusions. More recently, utilizing the 2000 Census data, Mutchler et al. (2007) examined disability among elderly Asian immigrants by country of origin. The larger sample size permitted more detailed analyses than what has been previously possible. Their results also show considerable heterogeneity among Asian immigrant subgroups.

Recent work by Jasso et al. (2004) based on the New Immigrant Pilot Survey is also consistent with previous findings in showing considerable variation in health among immigrants entering the United Sates from Europe, Asia, Africa, South America, and Mexico. Unfortunately, sample size considerations again prevented the authors from conducting detailed analyses by country of origin and by race/ethnicity.

In this paper we focus on the black immigrant population and compare their reported physical and personal care limitations to that of native-born black Americans. We know relatively little about the health status of black immigrants. The 2000 Census provides a unique opportunity to expand our knowledge of this important population subgroup and possible health heterogeneity in this group. The Census provides the most comprehensive information on race/ethnicity and the size of the available sample makes the Census the only data source that permits detailed analyses of health status among foreign born blacks by country of origin, time and age of entry.

Data and Methods

We use data from the 5% PUMS file of the 2000 Census of Population. Although questions on disability in the Census date back to 1830, the form and substance of the questions have evolved over time. The questions on disability in the 2000 Census are the most comprehensive. These questions were included in response to the needs of several federal agencies that distribute funds to states and localities for services targeted at the elderly and disabled (Waldrop and Stern 2003). Two questions with several subparts were included in the 2000 Census long form. The first question asked about long lasting conditions involving vision and hearing and physical disability, and the second question focused on the difficulty of performing certain activities due to a physical, mental, or emotional condition (see Appendix 1 for the exact wording of these questions). In this paper, we use information from two questions: (1) Does this person have any of the following long-lasting conditions -- a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying. (2) Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities: dressing, bathing, or getting around inside the home. The physical disability assessment is based on Nagi scale items of functional limitations (Nagi 1991), and the self-care disability assesses difficulty in performing basic tasks related to Katz Activities of Daily Living (ADL) (Katz 1963). Similar disability indicators were selected in

a recent comparative study of health differentials between Asian versus U.S. born, non-Hispanic white older population (Mutchler, Prakash, and Burr 2007).

We begin by comparing disability prevalence among native-born blacks and immigrants born in the Caribbean/West Indies, Africa, and other regions of the world combined. Among immigrants we also examine variation in disability by age of entry, duration of stay and by age and duration. We then investigate whether subgroup differences are explained by adjustment for educational attainment, marital status and region of residence. Finally, we assess whether associations between our explanatory variables differ for native-born blacks and the foreign born by place of birth. We use logistic regression to predict the presence of physical and self care disability. All models are estimated in STATA 9.

Preliminary Results

Table 1 provides sample characteristics for native-born blacks and foreign-born blacks by place of origin. As shown, black immigrants from Africa are the most highly educated group with over 50% having a college degree. Many African immigrants came to of the United States to pursue college education, which is reflected in their high educational attainment (Massey et al. 2007). African immigrants are also most likely to be married and they are the most recent arrivals, with over 40% having come to the United States since 1990. They are also younger on average than the other immigrant groups or native-born blacks. In contrast, native-born blacks are least educated and least likely to be married with the other immigrant groups having higher educational attainment and a higher percentage married than native-born blacks but lower than African immigrants. The mean age and proportion male are similar among native-born blacks and immigrants from countries other than those located in Africa. The black immigrant flow from the Caribbean, the West Indies, and the rest of the world is older than that from Africa with over 40% of those immigrating from the Caribbean and the West Indies having done so before 1980. The percentage of immigrants from rest of the world who migrated before 1980 is over 50% (Table 1).

Not surprisingly, native-born blacks have higher rates of both physical and personal care limitations than any of the immigrant groups, reflecting at least in part their lower socioeconomic status. African immigrants are least likely to report physical or personal care limitations followed by black immigrants from West Indies/the Caribbean and the rest of the world (Table 1).

Table 2 presents the results from the logistic regression models for physical disability. The second column shows the associations between place of birth, age and year of immigration, and physical disability adjusted only for age and sex. The third column shows results from our multivariate regression models for place of birth, age and year of immigration, further adjusting for educational attainment, marital status, and region of residence. The final column combines age at immigration and year of entry to examine possible interactions between age and year of entry; results reported here are from a fully adjusted model.

Comparing the results in columns two and three for place of birth, we see that adjustment for educational attainment, marital status and region of residence explains the lower disability rate of African immigrants relative to black immigrants from the Caribbean/West Indies, but not the lower reported physical disability of immigrants compared to native-born blacks. In addition, all immigrants regardless of their age at entry or year of entry report lower physical disability than native-born blacks adjusting for educational attainment, marital status and region of residence. The patterns are similar to those documented in previous studies for immigrants in that more recent immigrants have the lower odds of reporting physical disability than the native-born. At the same time, those who immigrated in the more distant past are less advantaged than recent immigrants, but nevertheless they too report significantly lower levels of physical disability than native-born blacks. This same pattern is evident in the final column. Regardless of age at immigration, those who migrated more recently are more advantaged than those who migrated in the more distant past. At the same time, individuals who migrated at older ages, ages 55 and above, are less advantaged than individuals who migrated at younger migrants. The results are broadly similar for personal care limitations (Table 3).

The final paper will also present results from stratified models that examine whether associations between our explanatory variables and place of birth interact. And the results will be placed in the context of the broader literature on immigrant health.

References

David, R.J. and J.W. Collins. 1997. "Differing Birth Weight Among Infants of U.S.-born Blacks, African-born Blacks, and U.S.-born Whites." 337(17): 1209-1214.

Frisbie, W.P., Y. Cho, R.A. Hummer. 2001 "Immigration and the health of Asian and Pacific Islander adults in the United States." *American Journal of Epidemiology* 153(4): 372-380.

Hummer, R.A., M. Biegler, P.B. DeTurk, D. Forbes, W.P. Frisbie, Y. Hong, and S. Pullum. 1999b. Race/ethnicity, nativity, and infant mortality in the United States. Social Forces 77:1083-1118.

Jasso, G., D.S. Massey, R.S. Rosenzweig, and J.P. Smith. 2004. "Immigrant health, selectivity and acculturation," in N.B. Anderson, R.A. Bulatao, and B. Cohen (eds.), *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life*. National Academy Press, pp. 227-266.

Kandula, N.R., M. Kersey, and L. Lurie. 2004. "Assuring the health of immigrants: what the leading health indicators tell us." *Annual Review of Public Health* 25:357-76.

Katz, S, A., B. Ford, R.W. Moskowitz, B.A. Jackson, and M.W. Jaffe. 1963. "Studies of Illness in the Aged: the Index of ADL, A Standardized Measure of Biological and Psychosocial Function." *JAMA* 185:914–19.

Malone, N., K.F. Baluja, J.M. Costanzo, and C.J. Davis. 2003. The Foreign-Born Population: 2000. Census 2000 Brief. Washington, DC: U.S. Census Bureau.

Massey, D.S., M. Mooney, C.Z. Charles, K.C. Torres. 2007. "Black Immigrants and Black Natives Attending Selective Colleges and Universities in the United States." *American Journal of Education* 113(2): 243-271.

Mutchler, J.E., A. Prakash, and J. Burr. 2007. "The Demography of Disability and the Effects of Immigrant History: Older Asians in the United States." *Demography* 44(2): 251-263.

Nagi, S.Z. 1991. "Disability Concepts Revised: Implications for Prevention," in A.M. Pope and A.R. Tarlov (eds.), *Disability in America: Toward a National Agenda for Prevention*. National Academy Press, pp. 309-39.

Read, J.G. and M.O. Emerson. 2005. "Racial context, black immigration and the U.S. black/white health disparity." Social Forces 84(1)181-199.

Singh, G.K. and M. Siahpush. 2002. "Ethnic-immigrant differentials in health behaviors, morbidity, and cause-specific mortality in the United States: An analysis of two national data bases." Human Biology 74:83-109.

U.S. Census Bureau. 2004. "U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin." <http://www.census.gov/ipc/www/usinterimproj/>.

Waldrop, J. and S.M. Stern. 2003. Disability Status: 2000. Census 2000 Brief. Washington, DC: U.S. Census Bureau.

Table 1. Descriptive Characteristics for the Non-Hispanic (NH) Black US-born and Foreign-born Populations aged 35+; United States, 2000 (percentages, unless otherwise noted)

	NH Black			
Characteristic	Native-born	West Indian/ Caribbean	African	Other
Disability Measures				
Physical activity limitations	18.9	8.9	4.8	11.6
Personal care limitations	7.1	3.6	1.6	4.5
Mean age (standard deviation)	52.0 (13.8)	50.3 (12.3)	44.8 (9.0)	49.8 (13.9)
Sex				
Female	55.8	56.1	40.6	55.9
Male	44.2	43.9	59.4	44.1
Age at immigration				
< 20 years	-	19.3	8.6	31.5
20-54 years	-	75.5	86.6	64.4
55+ years	-	5.3	4.8	4.1
Year of Immigration				
1990 or later	-	19.5	43.5	18.8
1980 – 1989	-	35.5	36.5	27.1
Before 1980	-	45.0	20.0	54.2
Educational attainment				
Less than high school	30.5	33.3	13.5	27.3
High school	29.2	26.9	17.1	22.2
Some college	21.4	16.7	15.9	20.9
College degree	13.8	17.5	31.7	20.4
Graduate education	5.0	5.6	21.8	9.1
Marital Status				
Never married	19.6	16.0	12.5	16.4
Married	39.7	50.7	55.6	48.9
Separated/divorced/widowed	40.7	33.3	32.0	34.8
Region of Residence				
Northeast	14.9	59.3	29.7	42.4
Midwest	19.5	2.7	14.9	8.0
South	56.1	34.5	40.7	30.0
West	9.5	3.5	14.7	19.6
Sample Size, (*N*)	640,095	39,578	11,032	3,573

Note: Sample characteristics are based on weighted data. The number of cases is unweighted.

Table 2. Odds Ratios from Logistic Regression Predicting Limitations in Physical Activities among NH Black US-born and Foreign Born Populations aged 35+ (N=694,278); United States, 2000

	NH Black		
Characteristic	Series 1	Series 2	Series 3
Place of birth			
West Indies/Caribbean	0.44 (0.01)***	0.46 (0.01)***	-
Africa	0.35 (0.02)***	0.43 (0.02)***	-
Other[1]	0.60 (0.03)***	0.64 (0.04)***	-
Age at Immigration			
<20 years	0.44 (0.02)***	0.51 (0.03)***	-
20-54 years	0.42 (0.01)***	0.45 (0.01)***	-
55+ years	0.59 (0.03)***	0.54 (0.03)***	-
Year of Immigration			
1990 or later	0.36 (0.02)***	0.36 (0.01)***	-
1980 – 1989	0.41 (0.01)***	0.43 (0.01)***	-
Before 1980	0.48 (0.01)***	0.55 (0.01)***	-
Age and Year of Immigration			
Entered <20 years old			
1990 or later	-	-	N/A
1980-1989	-	-	0.31 (0.06)***
Before 1980	-	-	0.54 (0.03)***
Entered 20-54 years old			
1990 or later	-	-	0.29 (0.02)***
1980-1989	-	-	0.42 (0.02)***
Before 1980	-	-	0.54 (0.02)***
Entered 55+ years old			
1990 or later	-	-	0.48 (0.03)***
1980-1989	-	-	0.58 (0.05)***
Before 1980	-	-	0.83 (0.11)

*** p<.001; ** p<.01; * p<.05

Note: Reference group for each characteristic is NH US-born blacks.

Series 1: Bivariate relationships (adjusted for age and sex only). Separate models are estimated for place of birth, age at entry, and year of entry.

Series 2: Fully adjusted models (Model I + education, marital status, and region). Separate models are estimated for place of birth, age at entry, and year of entry.

Series 3: Combined effect of age and year of immigration (adjusted for age, sex, education, marital status, and region).

Table 3. Odds Ratios from Logistic Regression Predicting Limitations in Personal Care among NH Black US-born and Foreign Born Populations aged 35+ (N=694,278); United States, 2000

	NH Black		
Characteristic	Series 1	Series 2	Series 3
Place of birth			
West Indies/Caribbean	0.54 (0.02)***	0.57 (0.01)***	-
Africa	0.38 (0.03)***	0.47 (0.02)***	-
Other[1]	0.67 (0.06)***	0.72 (0.06)***	-
Age at Immigration			
<20 years	0.61 (0.04)***	0.72 (0.05)***	-
20-54 years	0.48 (0.02)***	0.53 (0.02)***	-
55+ years	0.68 (0.04)***	0.63 (0.04)***	-
Year of Immigration			
1990 or later	0.46 (0.03)***	0.45 (0.03)***	-
1989 – 1980	0.52 (0.03)***	0.54 (0.03)***	-
Before 1980	0.56 (0.02)***	0.64 (0.02)***	-
Age and Year of Immigration			
Entered <20 years old			
1990 or later	-	-	N/A
1980-1989	-	-	0.84 (0.20)
Before 1980	-	-	0.71 (0.05)***
Entered 20-54 years old			
1990 or later	-	-	0.42 (0.04)***
1980-1989	-	-	0.48 (0.03)***
Before 1980	-	-	0.59 (0.03)***
Entered 55+ years old			
1990 or later	-	-	0.48 (0.05)***
1980-1989	-	-	0.73 (0.08)**
Before 1980	-	-	1.05 (0.14)

*** p<.001; ** p<.01; * p<.05

Note: Reference group for each characteristic is NH US-born blacks.

Series 1: Bivariate relationships (adjusted for age and sex only). Separate models are estimated for place of birth, age at entry, and year of entry.

Series 2: Fully adjusted models (Model I + education, marital status, and region). Separate models are estimated for place of birth, age at entry, and year of entry.

Series 3: Combined effect of age and year of immigration (adjusted for age, sex, education, marital status, and region).

Appendix 1: 2000 Census of Population, Questions on Disability

Figure 1.

Reproduction of the Questions on Disability From Census 2000

16 Does this person have any of the following long-lasting conditions:

	Yes	No
a. Blindness, deafness, or a severe vision or hearing impairment?	☐	☐
b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	☐	☐

17 Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:

	Yes	No
a. Learning, remembering, or concentrating?	☐	☐
b. Dressing, bathing, or getting around inside the home?	☐	☐
c. (Answer if this person is 16 YEARS OLD OR OVER.) Going outside the home alone to shop or visit a doctor's office?	☐	☐
d. (Answer if this person is 16 YEARS OLD OR OVER.) Working at a job or business?	☐	☐

Source: U.S. Census Bureau, Census 2000 questionnaire.

Source: Waldrop and Stern, 2003.