



# Immigration and the health of U.S. black adults: Does country of origin matter?

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## ABSTRACT

Previous work suggests that regional variation in pre-migration exposure to racism and discrimination, measured by a region's racial composition, predicts differences in individual-level health among black immigrants to the United States. We exploit data on both region and country of birth for black immigrants in the United States and methodology that allows for the identification of arrival cohorts to test whether there are sending country differences in the health of black adults in the United States that support this proposition. While testing this hypothesis, we also document heterogeneity in health across arrival cohorts and by duration of U.S. residence among black immigrants. Using data on working-age immigrant and U.S.-born blacks taken from the 1996–2010 waves of the March Current Population Survey, we show that relative to U.S.-born black adults, black immigrants report significantly lower odds of fair/poor health. After controlling for relevant social and demographic characteristics, immigrants' cohort of arrival, and immigrants' duration in the United States, our models show only modest differences in health between African immigrants and black immigrants who migrate from the other major sending countries or regions. Results also show that African immigrants maintain their health advantage over U.S.-born black adults after more than 20 years in the United States. In contrast, black immigrants from the Caribbean who have been in the United States for more than 20 years appear to experience some downward health assimilation. In conclusion, after accounting for relevant factors, we find that there are only modest differences in black immigrant health across countries of origin. Black immigrants appear to be very highly selected in terms of good health, although there are some indications of negative health assimilation for black immigrants from the Caribbean.

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## Introduction

The health of black immigrants is becoming an increasingly important component of the collective health of the black population in the United States. Using the 1960 Census as a benchmark, black immigrants were nearly nonexistent in the United States. Currently, black immigrants represent one of the largest flows of immigrants to the United States and accounted for one-fifth of the growth in the black population between 2001 and 2006 (Kent, 2007).

This article examines the relationship between black immigrants' countries of origin and their initial health and health assimilation in the United States. An important theoretical proposition in the sparse sociological literature on the health of black immigrants suggests that variation in their health is influenced by differences in the racial context of black immigrants' regions of birth. Specifically, black immigrants born in majority white regions

are theorized to have greater pre-migration exposure to racism than black immigrants born in minority white regions (Read & Emerson, 2005). Studies that look at region of origin variation in health among black immigrants produce results that support this proposition (Elo, Mehta, & Huang, 2008; Read & Emerson, 2005). However, no study has hitherto evaluated cohort of entry differences in health among black immigrants from particular countries or regions of origin. Accounting for both country of origin and cohort differences in health can provide a more robust test of whether pre-migration exposure to racism and discrimination may impact the post-migration health of black immigrants.

Using data from multiple waves of the March Current Population Survey (CPS), this paper estimates health models among U.S. black immigrants and their U.S.-born counterparts that separately identify the impact of cohort of arrival and duration of residence in the United States. These models are used to document region of birth, country of birth, cohort of arrival, and duration of residence differences in health among black immigrants. The results show that, upon arrival in the U.S., most cohorts of black immigrants and almost all national origin groups of black

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immigrants self-report more favorable health than U.S.-born blacks. However, the pattern of our results does not provide strong support for the racial context of origin proposition.

### Background on immigrant health

Research suggests that immigrants tend to arrive in the United States with a health advantage over the native-born population; this phenomenon has been termed the “healthy immigrant effect” (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Antecol & Bedard, 2006; Newbold, 2005; Cho, Frisbie, Hummer, & Rogers, 2004; Jasso, Massey, Rosenzweig, & Smith, 2004; McDonald & Kennedy, 2004, 2005). In general, there are two primary explanations for the healthy immigrant effect: “selective migration” and “cultural buffering.” Explanations based on cultural buffering suggest that health and mortality differences between immigrants and U.S.-born individuals may be explained by the relatively low tendency for immigrants to smoke, consume alcohol, use illicit drugs, or be overweight or obese when compared to similar members of the U.S.-born population. This explanation also implies that the positive culture that initially helps to produce better health and lower mortality rates among immigrants begins to erode as immigrants acculturate and adapt to the negative health behaviors and lifestyles within the United States (Abraido-Lanza, Chao, & Florez, 2005; Abraido-Lanza, Chao, & Gates, 2005; Akresh, 2007; Amaro, Whitaker, Coffman, & Heeren, 1990; Angel, Buckley, & Sakamoto, 2001; Cho et al., 2004; Brian Karl Finch, Hummer, Kolody, & Vega, 2001; Hummer, Rogers, Nam, & LeClere, 1999; Lopez-Gonzalez, Aravena, & Hummer, 2005).

Explanations of the healthy immigrant effect based on selectivity propose that good health is highly correlated with factors that produce migration. These factors include age (Marmot, Adelstein, & Bulusu, 1984; Palloni & Ewbank, 2004; Sharma, Michalowski, & Verma, 1990; Turra & Elo, 2008), differences in the price of skill across countries (Jasso et al., 2004), education (Feliciano, 2005), and often unobserved factors such as drive and motivation. For example, Feliciano (2005) shows that immigrants to the United States from almost all regions of the world are selected on higher education relative to individuals in their countries of origin who do not migrate.

In spite of the relatively consistent finding that immigrants have a health and mortality advantage over members of the U.S.-born population, another body of research suggests that these findings are driven in part by poor data that does not properly capture the impact of the return migration of less healthy immigrants to their countries of origin (Palloni & Arias, 2004; Palloni & Ewbank, 2004). For example, Palloni and Arias (2004) find that the mortality advantage achieved by Hispanic immigrants is only exhibited among foreign-born Mexicans and foreign-born Hispanics other than Cubans and Puerto Ricans. Moreover, these authors largely attribute the mortality advantage among Mexican immigrants to the out-migration of less healthy individuals back to Mexico. Other work in this area suggests that while return migration accounts for some of the observed health advantage experienced among Hispanic immigrants, this factor alone does not erase the health advantage of these immigrants (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999; Hummer, Powers, Pullum, Gossman, & Frisbie, 2007; Markides & Eschbach, 2005; Turra & Elo, 2008).

Health outcomes among immigrants also tend to eventually converge toward the health outcomes of their racial/ethnic counterparts in the United States. One possible explanation for the erosion in immigrant health associated with time in the United States is exposure to racism and discrimination as well as other negative social, economic, and environmental factors that have a detrimental effect on the health of U.S. minority groups (Hummer, 1996; Williams, 1999). One area where these risk factors are present is in the provision of health services. Laveist et al. (2000),

for example, showed that blacks are more likely to perceive racism in the medical care system than whites. Laveist et al. (2002) also found that blacks are less likely than whites to receive referrals for invasive treatment for coronary disease. Moreover, Collins, Wu, and David (2002) find that there is a correlation between mothers reporting health discrimination and very low birth weight.

### *The health of black immigrants*

Existing literature shows that black immigrants have better birth outcomes, lower mortality rates, lower morbidity rates, and more favorable self-reports of health than native-born blacks; indeed, across some indicators of health, black immigrants seem to be more similar to U.S.-born whites than U.S.-born blacks (Collins et al., 2002; David & Collins, 1997; B. K. Finch, Do, Frank, & Seeman, 2009; Hummer, Biegler et al., 1999; Hummer, Rogers et al., 1999; Singh & Siahpush, 2002). Antecol and Bedard (2006) also document that, like other immigrant groups, black immigrants arrive in the United States with better initial health than U.S.-born blacks. However, they also find that even after 20 years in the United States, black immigrants maintain their health advantage over native-born blacks. This result is a significant departure from the standard patterns of initial favorable health and subsequent declines in health experienced by other immigrant groups.

Other recent papers suggest, however, that there may be unique patterns of health and health assimilation among black immigrants from different regions of the world (Elo et al., 2008; Read & Emerson, 2005). One possible explanation for regional heterogeneity in health among black immigrants is conditions in their countries of origin. Indeed, the population health literature shows that early life conditions can play an important role in health and mortality differences in the United States (Warner & Hayward, 2006; Zhang, Gu, & Hayward, 2008). Consequently, black immigrants who face health conditions similar to U.S.-born blacks in early life might follow health and mortality profiles that mirror those of U.S.-born blacks, while those who are less disadvantaged early in life may exhibit healthier profiles later in life.

In an effort to explain heterogeneity in health among black immigrants, Read and Emerson (2005) introduce the importance of the racial context in the countries of origin. Their “Racial Context of Origin Hypothesis” states that in the context of selective migration, the extent to which black immigrants face racism and discrimination in their countries of origin similar to that faced by blacks born in the United States should result in health outcomes for these immigrants that mirror the health outcomes of blacks born in the United States. In particular, they hypothesize and then find that the healthiest groups of black immigrants migrate from Africa or South America (minority white regions). After these groups, immigrants from the West Indies (a racially mixed region) report the second best health, while black immigrants from Europe (a majority white region) tend to report the worst health. Although not using this theoretical framework, Elo et al. (2008) also find this general region of origin pattern among black immigrants across several health measures.

This work is an important contribution to the developing literature on black immigrants and serves as a starting point for further examination of health heterogeneity among black immigrants, including those that take into account the importance of immigrant origin contexts. For example, the social and economic costs of migrating from a country in Africa might make African immigrants even more select than immigrants from South America or the Caribbean, where the social and economic costs of migration to the United States are presumably lower. Moreover, income and education levels, health conditions, and social practices vary across countries of origin. Therefore, health differences between immigrants and the U.S.-born and among different groups of immigrants

might be produced by health, economic, and social conditions (aside from racial context) across sending countries.

Previous work that provides support for the hypothesis of a racial context of origin effect on the health of U.S. black immigrants, however, is limited in two important ways. The first is that this work is based on data from the National Health Interview Survey (Read & Emerson, 2005), which contains a relatively small sample of black immigrants and only collects information on the region of origin rather than country of origin for immigrants. As a result, existing work cannot evaluate whether actual country of origin differences among black immigrants are driving health differences among this group. Moreover, with the exception of Antecol and Bedard (2006), all other studies that evaluate the health of black immigrants estimate regression models that only include controls for duration in the United States and thus implicitly assume that the factors that drive migration are constant across entry cohorts.

This paper overcomes these obstacles by estimating health models for black immigrants and U.S.-born blacks using multiple years of data from the U.S. March Current Population Survey (CPS). This data source contains a much larger sample of black immigrants than the National Health Interview Survey and contains data on country of birth. Additionally, by pooling multiple waves of data from the March CPS, this study allows for the inclusion of both cohort of entry effects and duration of U.S. residence effects using pseudo-panel techniques (i.e., Antecol & Bedard, 2006). This estimation technique separately identifies the effect of changes in the composition of different arrival cohorts and the effect of time spent in the United States on the health of black immigrants in comparison to the health of U.S.-born black adults. Ideally, longitudinal data would provide the best estimates of immigrant health assimilation. However, there are no longitudinal datasets with sufficient observations of black immigrants from all major sending countries of the world over a significant time period to base such estimates.

The features of the March CPS data allow us to test two hypotheses regarding black immigrant health and health assimilation in the United States. Based on the racial context of origin proposition, Hypothesis 1 suggests that, after allowing for when black immigrants arrived and how long they have lived in the United States, black immigrants who migrate from minority white regions or countries (e.g., Sub-Saharan Africa) should report better health than those from racially mixed regions or countries (e.g., the Caribbean) or majority white regions or countries (e.g., Europe). Further, Hypothesis 2 suggests that the health of black immigrants from minority white regions of the world should exhibit more rapid deterioration than the health of black immigrants from racially mixed or majority white regions of the world. This hypothesis is based on the assumption that the health of black immigrants from majority white or racially mixed regions already reflects the impact of pre-migration exposure to racism and discrimination. As a result, these groups are expected to experience a less rapid deterioration in health in the United States. Conversely, black immigrants who have experienced less pre-migration exposure to racism and discrimination (those from minority white countries) should experience a more rapid erosion of health in the United States.

## Data, measures and methodology

### Data

This paper uses pooled cross-sectional data for individuals who self-identify as black and are between the ages of 25 and 62 in the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 waves of the U.S. March Current Population (CPS). Both U.S.-born and immigrant

black adults are included in our analysis. Our samples are extracted from each wave of the Integrated Public Use Microdata Series (IPUMS) (<http://cps.ipums.org/cps>) at the Minnesota Population Center (Ruggles et al., 2004). Because the March CPS is a monthly rotating sample of households in which 50% of households could appear in adjacent years, this study uses even numbered years of the survey to avoid double counting. The major benefit of the March CPS is its large sample of black immigrants. Given the relatively small size of the black immigrant population in the United States, large samples of black immigrants are needed to study subgroup heterogeneity in health among black immigrants. Consequently, these data provide valuable insight into the health of black immigrants from different sending regions and countries. Our final analytic sample includes 67,941 U.S.-born blacks and 9014 black immigrants in our age range.

The black immigrant population is disaggregated into six regional categories. These categories include individuals who were born in Sub-Saharan Africa, South America, Central America, the Caribbean, Europe, and a residual category that includes immigrants who self-identify as black from the rest of the world. Black immigrants from Northern Africa are included in the residual category.

Additionally, black immigrants are also disaggregated by specific sending country for places that have a significant immigrant population within the United States. These countries include Mexico, the Dominican Republic, Haiti, Jamaica, Trinidad and Tobago, Guyana, Ghana, Nigeria, and Ethiopia. These sending countries account for roughly 80% of black immigrants from the Caribbean and Latin America, and almost 40% of black immigrants from Africa. Moreover, collectively, these sending countries represent over 60% of all black immigrants to the United States (Kent, 2007). We use the diversity in the racial/ethnic mix of these countries as an opportunity to assess the importance of the racial context of an immigrant's home country in helping to explain health outcomes among U.S. immigrants.

Respondents in the CPS self-report their racial/ethnic identity. Immigrant conceptualization of race and ethnicity in the United States has been found to be dynamic and contextual (Waters, 1990). As a result, some of the findings in this paper, particularly the duration of U.S. residence results, might be driven in part by how individuals self-identify themselves over time, a limitation which we cannot address. The racial/ethnic data in Table 1, for example,

**Table 1**

Estimated ethnic composition of major sending countries of black immigrants to the United States.

Country	Ethnic groups
Dominican Republic	mixed 73%, white 16%, black 11%
Mexico	mestizo (Amerindian-Spanish) 60%, Amerindian or predominantly Amerindian 30%, white 9%, other 1%
Haiti	black 95%, mulatto and white 5%
Jamaica	black 91.2%, mixed 6.2%, other or unknown 2.6%
Trinidad and Tobago	Indian (South Asian) 40%, African 37.5%, mixed 20.5%, other 1.2%, unspecified 0.8%
Guyana	East Indian 43.5%, black (African) 30.2%, mixed 16.7%, Amerindian 9.1%, other 0.5%
Ghana	Akan 45.3%, Mole-Dagbon 15.2%, Ewe 11.7%, Ga-Dangme 7.3%, Guan 4%, Gurma 3.6%, Grusi 2.6%, Mande-Busanga 1%, other tribes 1.4%, other 7.8%
Ethiopia	Oromo 32.1%, Amara 30.1% Tigraway 6.2%, Somalie 5.9%, Guragie 4.3, Sidama 3.5%, Welaite 2.4%, other 15.4%
Nigeria	Nigeria, Africa's most populous country, is composed of more than 250 ethnic groups; the following are the most populous and politically influential: Hausa and Fulani 29%, Yoruba 21%, Igbo (Ibo) 18%, Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5%.

Note: This information was taken from the World Fact Book (United States Central Intelligence Agency 2004).

strongly suggests that the black/white dichotomy familiar to the United States is not mirrored by racial/ethnic categorizations in black immigrants' countries of origin. For example, in a country like Nigeria, which is composed of more than 250 ethnic groups, self-identifying as black is rather meaningless since the vast majority of the population probably has a dark skin shade. The data in Table 1 also show that U.S. black immigrants come from countries that are predominantly black (e.g., Ghana, Ethiopia, Nigeria, Jamaica, Haiti), racially mixed (e.g., Guyana, Trinidad and Tobago), and minority black (e.g., Dominican Republic, Mexico, and, while not shown in Table 1, European countries).

#### Dependent variable

The March CPS is most centrally designed to measure unemployment. However, in 1996, the data were augmented to include a self-rated health variable. This variable is a subjective measure of health that asks respondents to rate their current health on a five-point scale, as excellent, very good, good, fair, or poor. We dichotomize this variable as 1 if a respondent reports their health as fair or poor and 0 if otherwise.

#### Correlates of health

Demographic, social, and economic factors related to health are included in the analysis as control variables. Age and age-squared are included, as is a dummy indicator for gender. Moreover, since access to health care and exposure to environmental factors that impact health varies by U.S. region of residence and urban/rural status, we control for U.S. region of current residence and whether or not an individual lives in a metropolitan area.

To account for the impact of socioeconomic status on health, the regression models control for a respondent's level of education and for current marital status. Income is also strongly correlated with health and is partly determined by current health status (Ettner, 1996). This generates a problem of endogeneity, a situation in which one or more of the explanatory variables is correlated with the error term of a regression model. In an effort to avoid problems associated with the potential endogeneity of income, we control for measures of wealth. These measures include whether an individual owns or rents their current residence, the type of housing structure an individual resides in, and whether or not an individual receives investment income.

#### Correlates of immigrant health

In addition to factors that influence the health of all adults, the health of immigrants is also influenced by conditions in countries of origin, health upon arrival in the United States, and changes in health after arrival. Most papers in the immigrant health literature evaluate the initial health and subsequent assimilation of immigrants by simply including variables that control for duration in the United States in standard logistic regression models that predict health outcomes using cross-sectional data (Cho et al., 2004; Read & Emerson, 2005). However, when the composition of the immigrant population is changing across cohorts, the duration variable captures both an assimilation effect and a cohort effect. Thus, instead, we include both cohort of entry and duration of U.S. residence variables in our models.

We use the year of immigration variable contained in the March CPS to create measures of immigrants' cohort of arrival and their duration of residence in the United States. The March CPS, however, does not include a specific year of entry for immigrants and, instead, identifies a two, three, or four year interval during which each immigrant arrived in the United States. Following the

approach used by Funkhouser and Trejo (1995), this study takes the midpoint of each arrival interval to create a continuous measure of the year of arrival. The duration in the United States variable is generated by subtracting our continuous year of immigration variable from the survey year variable for each observation. Additionally, the specific groups of arrival cohorts generated by the March CPS varies across survey waves. This issue creates a slight degree of measurement error in the cohort of arrival coding scheme used in this paper. Specifically, our 2001 to 2010 arrival cohort probably includes individuals who arrived in the United States in 2000. Similarly, our 1996–2000 arrival cohort probably includes individuals who arrived in 1994 and 1995.

#### Regression models of health

As shown by Borjas (1985), Antecol and Bedard (2006), and McDonald and Kennedy (2004, 2005), when multiple cross-sections of data are available, it is possible to separately identify the impacts of duration of U.S. residence and the cohort of entry among immigrants. Following Antecol and Bedard (2006), the estimation equation used in this study is as follows:

$$Y_i = X_i\beta + A_i\gamma + C_i\delta + T_i\pi + R_i\phi + \varepsilon_i \quad (1)$$

In this model,  $i$  denotes individuals and  $Y$  is the health outcome of interest.  $X$  is a vector of variables that control for demographic, social, and economic correlates of health; these factors include age, age squared, gender, educational attainment, marital status, region of residence, metropolitan area status, and a set of proxies for wealth.  $A$  is a vector of dummy variables indicating how long immigrants have lived in the United States; this variable is set to 0 for U.S.-born adults.  $C$  is a vector of dummy variables identifying immigrant arrival cohorts. The coefficients on these variables represent differences in health between cohorts of black immigrants and U.S.-born blacks when the years of U.S. residence variable is evaluated at its reference category (0–5 years of U.S. residence). As a result, we refer to these differences as initial (or permanent differences) in health between cohorts of black immigrants and black natives. Additionally, the cohort of entry variables are coded to capture changes in U.S. immigration policy (i.e., the Immigration and Nationality Act Amendments of 1976, the Refugee Act of 1980, the 1986 Immigration Reform and Control Act, and the 1990 Immigration Act) which had a significant impact on the composition and flow of black immigrants to the United States (Kent, 2007; Model, 2008).  $T$  is a vector of dummy variables indicating the survey year.  $R$  is a vector of dummy variables that identifies the country or region of origin for every immigrant. Lastly,  $\varepsilon$  is a random error term.

In order to identify both cohort of arrival and duration of U.S. residence effects, Equation (1) imposes the restriction that the period effect on health is the same for both immigrant and U.S.-born adults. Therefore, the period effect is estimated for U.S.-born black adults and this information is used to identify cohort and assimilation effects for immigrants (Antecol & Bedard, 2006; Borjas, 1987). Equation (1) is used to estimate logistic regression models of fair/poor health; we report the results in the form of odds ratios where values above one indicate higher odds of fair/poor health and values below one indicate lower odds of fair/poor health.

## Results

### Descriptive Results

The descriptive statistics in Table 2 show that a smaller percentage of black immigrants report being in fair/poor health than U.S.-born black adults in this age range. Indeed, 18.6% of U.S.-



**Table 2**  
Descriptive statistics for U.S.-born and immigrant black adults, ages 25–62.

Variables	All blacks (n = 76,955)	U.S.-born blacks (n = 67,941)	Black immigrants (n = 9014)
<i>Health indicator</i>			
Fair/Poor health	17.7	18.6	10.2
<i>Cohort of arrival</i>			
Arrived prior to 1980			23.0
1980–1985			18.3
1986–1989			13.1
1990–1995			18.2
1996–2000			12.5
2001–2010			14.9
<i>Years in U.S.</i>			
Between 0 and 5			20.3
Between 6 and 10			13.8
Between 11 and 15			13.7
Between 16 and 20			18.7
More than 20 years			33.5
<i>Demographic characteristics</i>			
Age (Mean)	41.5	41.5	41.0
Female	54.9	55.3	51.2
Married	39.6	38.4	49.5
Metropolitan area	88.5	87.3	98.4
North East	17.9	14.0	48.3
Mid West	17.7	19.0	6.9
South	55.3	57.7	36.0
West	9.2	9.2	8.8
<i>Socioeconomic characteristics</i>			
Education (Mean)	12.7	12.7	12.7
Owns/Purchasing home	52.8	54.0	43.3
Single family home	60.6	63.1	40.2
Lives in mobile home	3.4	3.8	0.5
Lives in a two family home	6.8	6.4	9.9
Lives in multifamily housing	27.4	24.9	47.6
Other housing arrangement	1.7	1.7	1.7
Receives investment income	28.4	28.2	29.6

Source: These data are taken from the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 March Current Population Surveys. Note: Numbers are percentages unless otherwise stated.

born black adults report their health as fair/poor compared to only 10.2% of the black immigrant population. The demographic and socioeconomic characteristics in Table 2 show that, on average, a greater percentage of black immigrants is married relative to U.S.-born blacks. Additionally, greater percentages of black immigrants live in the northeast and in metropolitan areas than U.S.-born black adults. There are only modest socioeconomic differences between black immigrants and U.S.-born black adults; a greater percentage of U.S.-born blacks own homes and live in a single family home than black immigrants, while black immigrants are more likely to report living in multifamily housing. Briefly looking at the immigration variables, black immigrants are dispersed across arrival cohorts and duration of U.S. residence categories, which bodes well for the inclusion of both cohort of entry and duration of residence variables in our analysis.

Table 3 further shows descriptive statistics for black immigrants separated by major sending country. Self-rated health exhibits significant variation among black immigrants by sending country. For example, among black immigrants from the Caribbean, Jamaican immigrants have the smallest percentage (9.1%) of respondents reporting fair/poor health. Similarly, black immigrants from Nigeria report the best overall self-assessed health among black immigrants from Africa; just fewer than four percent of Nigerians report fair/poor health compared to 13.6 percent of Ethiopians. A second major insight from Table 3 is that self-assessed health varies considerably both across regions as well as within sending regions. Black immigrants from countries in Europe, where the percent

white is high, have better average reports of health compared to black immigrants from Jamaica, Haiti, and Ethiopia, all of which have very high percentage black populations. Thus, these unadjusted differences offer limited initial support for the idea that the racial context of immigrants' countries of origin plays a role in explaining relative differences in health among black immigrants in the United States.

Table 3 also shows that different subgroups of black immigrants tended to arrive in the United States in different entry cohorts. For example, Caribbean and European black immigrants are weighted toward earlier arrival cohorts and longer durations in the United States, while Africans are weighted toward later arriving cohorts and shorter durations in the United States. Variation also exists in socioeconomic status across the immigrant subgroups. Black immigrants from Nigeria have the highest mean years of schooling (14.7) and the highest percentage married (59.3%) among all black immigrants. Conversely, black immigrants from Mexico have the lowest mean years of schooling (10.4). Black immigrants from Europe have the lowest percentage married (43.4%) among all black immigrants.

### Regression results

Tables 4 and 5 present health models that evaluate the impact of region of origin (Table 4) and country of origin (Table 5), cohort of arrival, and duration of residence in the United States on self-reported health among working-aged black adults. In order to provide a set of baseline results, models of fair/poor health are first estimated without cohort controls or controls for duration in the United States. Thus, Column 1 of Table 4 shows that, after allowing for differences in demographic and socioeconomic characteristics, black immigrants from all regions of the world have lower odds of being in fair/poor health than U.S.-born black adults (the reference group). Although differences across the regional subgroups are very small, immigrants from South America and Central America have the lowest odds of reporting fair/poor health. The odds of poor/fair health among Caribbean and African immigrants are also much lower when compared to U.S.-born blacks.

Column 2 of Table 4 shows estimates of health that include the cohort of arrival and duration of residence effects, but without the region of birth variables. Since this model includes both the duration of U.S. residence variables and the cohort of arrival variables, the odds ratios for the cohort of arrival variables represent initial (or permanent) differences in health between immigrants and U.S.-born blacks that are associated with being a part of a particular entry cohort. The odds ratios for all the cohort of arrival variables indicate that black immigrants of all cohorts have lower odds of reporting fair/poor health relative to U.S.-born blacks. For example, immigrants who comprise the 1980 to 1985 arrival cohort have .43 the odds of reporting fair/poor health as U.S.-born blacks. Column 2 also reveals relatively modest variation in initial health among cohorts of black immigrants. Immigrants who arrived in the United States between 2001 and 2010 and those who migrated between 1986 and 1989 have the lowest odds of reporting fair/poor health ( $OR = .35$  and  $OR = .37$ , respectively) relative to U.S.-born blacks where as those who arrived between 1996 and 2000 have somewhat greater odds of reporting fair/poor health ( $OR = .45$ ); again, though, differences across immigration cohorts are not large and all entry cohorts are characterized by much more favorable self-rated health compared to U.S.-born blacks.

Column 2 of Table 4 also illustrates that, after controlling for other factors, black immigrants are somewhat more likely to report fair/poor health the longer they reside in the United States. However, unlike other U.S. immigrant groups (see, e.g., Cho et al., 2004), black immigrants are able to maintain their initial health

**Table 3**

Descriptive statistics for black immigrant adults Aged 25–62 in the United States by country of birth.

Variables	Central America		Caribbean					South America		Europe	Africa		Other		
	Mexico (n = 352)	Other Central America (n = 593)	Dominican Republic (n = 459)	Haiti (n = 1271)	Jamaica (n = 1537)	Trinidad and Tobago (n = 422)	Other Caribbean (n = 644)	Guyana (n = 369)	Other South American (n = 240)	Europe (n = 164)	Ghana (n = 284)	Nigeria (n = 438)	Ethiopia (n = 326)	Other African (n = 1080)	Other (n = 835)
Health indicator															
Fair/Poor Health	7.3	13.7	18.2	10.8	9.1	13.1	12.0	9.1	8.9	6.8	5.5	3.5	13.6	7.7	11.9
Cohort of arrival															
Arrived prior to 1980	14.4	38.0	23.5	22.3	30.8	38.8	31.5	23.4	20.5	29.2	13.1	17.3	3.4	6.2	17.8
1980–1985	12.4	16.9	16.5	23.9	19.6	14.2	25.5	22.5	19.7	23.6	13.1	16.6	17.5	9.5	15.8
1986–1989	15.4	11.6	17.1	13.1	14.0	14.3	12.8	20.8	13.7	15.7	4.6	8.9	13.9	9.5	14.1
1990–1995	16.6	13.8	25.8	18.8	18.6	19.1	15.1	15.7	15.3	16.7	19.3	15.3	21.4	20.3	17.7
1996–2000	21.5	12.2	7.8	11.9	7.8	7.9	7.4	9.3	11.3	8.3	21.0	21.6	16.0	16.8	17.4
2001–2010	19.8	7.5	9.3	10.1	9.2	5.8	7.7	8.4	19.6	6.4	29.0	20.3	27.8	37.7	17.2
Years in US															
Between 0 and 5	25.0	14.3	18.9	18.4	13.1	11.8	10.9	14.3	23.1	10.8	32.5	29.4	29.8	37.1	26.0
Between 6 and 10	17.4	9.5	12.3	12.4	12.0	10.8	9.8	14.0	14.4	14.2	19.1	16.9	17.9	20.3	14.4
Between 11 and 15	17.7	11.5	15.7	14.2	12.6	11.8	11.8	11.8	12.1	12.3	14.0	12.3	21.6	15.5	14.5
Between 16 and 20	15.8	18.1	18.9	22.4	19.6	20.9	21.2	20.9	17.0	19.9	11.8	18.0	18.5	12.9	16.8
More than 20 years	24.1	46.5	34.1	32.6	42.7	44.8	46.3	39.0	33.4	42.8	22.6	23.4	12.2	14.2	28.3
Demographic															
Characteristics															
Age (Mean)	36.2	41.7	41.2	42.0	42.4	42.6	42.9	42.3	39.7	38.3	40.3	40.0	37.3	38.5	40.1
Female	42.2	54.2	59.5	50.6	57.7	55.1	57.6	54.0	51.8	50.1	42.8	38.5	47.4	43.8	47.6
Married	52.9	46.9	46.6	52.2	45.7	49.2	45.3	51.7	49.3	43.4	46.3	59.3	54.3	46.9	56.1
Metropolitan Area	92.4	98.4	100.0	99.2	98.5	98.8	98.4	99.0	97.5	98.9	99.9	98.2	100.0	98.1	97.2
North East	18.0	45.5	85.4	46.6	61.5	67.4	60.0	74.1	63.2	48.4	58.5	20.6	7.0	27.1	33.5
Mid West	12.5	5.9	0.7	1.8	2.2	1.7	1.6	3.2	4.3	2.3	8.9	16.4	19.6	16.3	16.7
South	42.9	30.0	13.7	50.0	33.9	28.2	32.5	16.7	23.5	32.2	28.7	53.6	36.5	41.7	32.6
West	26.6	18.6	0.2	1.6	2.4	2.6	5.9	6.0	9.0	17.1	3.9	9.4	36.9	14.9	17.2
Socioeconomic															
Characteristics															
Education (Mean)	10.4	11.8	11.6	12.2	12.7	13.1	12.8	12.7	12.4	13.5	13.4	14.7	13.1	13.2	13.1
Owns/Purchasing home	33.4	36.3	19.2	45.3	55.7	52.2	45.5	51.2	30.7	47.7	35.7	51.9	31.4	32.5	40.1
Single family home	52.2	34.4	17.0	41.3	45.6	45.8	40.9	44.6	21.7	42.2	29.6	49.7	35.4	34.9	42.7
Lives in mobile home	6.2	1.4	0.0	0.3	0.1	0.2	0.4	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.2
Lives in a two family home	10.5	9.4	8.4	11.6	12.9	9.6	13.8	15.1	9.0	15.5	3.5	4.9	3.3	5.4	7.8
Lives in multifamily housing	31.1	53.8	73.3	45.0	39.1	42.2	43.7	39.1	67.2	40.1	65.9	42.3	61.3	57.9	47.0
Other housing arrangement	0.0	1.0	1.2	1.8	2.4	2.3	1.3	1.2	0.6	2.2	1.0	3.1	0.0	1.9	1.3
Receives investment income	8.2	27.8	12.5	24.6	33.9	35.5	34.3	41.8	25.7	40.3	32.4	37.8	28.1	26.9	31.6

Source: These data are taken from the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 March Current Population Survey for blacks between the ages of 25 and 62. Note: Numbers are percentages unless otherwise stated.

**Table 4**

Region of birth, cohort of arrival, and assimilation effects on fair/poor health status for black immigrants relative to U.S.-born blacks.

Logistic Regression Models (odds ratios) of Fair/Poor Health Status			
Variables	(1)	(2)	(3)
	Fair/Poor Health	Fair/Poor Health	Fair/Poor Health
<i>Region of birth<sup>a</sup></i>			
Africa	0.506***		
South America	0.462***		0.816
Caribbean	0.515***		0.889
Europe	0.483**		0.810
Central America	0.465***		0.806
Other Countries	0.770*		1.425*
<i>Cohort of arrival</i> (Reference Category: U.S.-born Blacks)			
Arrived Prior to 1980		0.382***	0.426***
1980–1985		0.432***	0.475**
1986–1989		0.373***	0.403***
1990–1995		0.435***	0.468***
1996–2000		0.446***	0.470***
2001–2010		0.351***	0.360***
<i>Years since arrival</i> (Reference Category: Immigrants who have resided in the U.S. between 0 and 5 years)			
Between 6 and 10		1.176	1.175
Between 11 and 15		1.108	1.099
Between 16 and 20		1.248	1.240
More than 20		1.614*	1.595*
Observations	76,955	76,955	76,955

Source: These data are taken from the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 March Current Population Survey for blacks between the ages of 25 and 62. Notes: All models also include age, age squared, education dummies, indicator for marital status, female, metropolitan status, current region of residence, indicators for housing type, indicator that identifies whether an individual owns or rents, an indicator that identifies whether an individual received investment income, and survey year controls.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

<sup>a</sup> The reference category for the region of birth variables is different in Columns 1 and 3 because of changes in the model specification. U.S.-born blacks are the reference category for the region of birth variables in Column 1. In contrast, African immigrants are the reference group for the region of birth variables in Column 3. The region of birth variables in Column 3 show differences among black immigrants after controlling for cohort of arrival and duration of U.S. residence variation among black immigrants.

advantage over U.S.-born blacks with little sign of deterioration until the category of more than 20 years of U.S. residence (i.e., Antecol & Bedard, 2006). That is, there exists no statistical difference in health between black immigrants who have been in the U.S. between 0 and 5 years and those who have resided in the country for less than 20 years. In contrast, relative to black immigrants who have been in the United States between 0 and 5 years, those who have been in the U.S. more than 20 years have 1.6 times the odds of reporting fair/poor health, allowing for controls.

Column 3 of Table 4 shows region of origin differences allowing for both cohort effects and duration effects. The coefficients on the regional dummies represent average differences in health among black immigrants from different regions of the world, after controlling for cohort of entry and duration of residence differences. Column 3 shows only one statistically significant difference in the odds of reporting fair/poor health between African immigrants (the reference category) and the other five immigrant groups after controlling for cohort of arrival and duration of residence in the United States. The only significant effect is exhibited for the difference between black immigrants from “other countries” and those from Africa, whereby black

**Table 5**

Country of birth, cohort of arrival, and assimilation effects on fair/poor health status for black immigrants relative to U.S.-born blacks.

Logistic Regression Models (odds ratios) of Fair/Poor Health Status.		
Variables	(1)	(2)
	Fair/Poor Health	Fair/Poor Health
<i>Country of birth<sup>a</sup></i>		
Central America		
Mexico	0.283***	0.825
Other Central Americans	0.585***	1.583
Caribbean		
Dominican Republic	0.719**	2.028**
Haiti	0.457***	1.303
Jamaica	0.434***	1.198
Trinidad and Tobago	0.735*	1.989**
Other Countries in the Caribbean	0.589***	1.587
South America		
Guyana	0.480***	1.342
Other South American	0.436***	1.266
Europe	0.484**	1.305
Africa		
Ghana	0.342***	1.029
Nigeria	0.337***	
Ethiopia	1.078	3.457***
Other Countries in Africa	0.484***	1.580
Other Countries	0.772*	2.288***
<i>Cohort of arrival (Reference Category: U.S.-born Blacks)</i>		
Arrived Prior to 1980		0.256***
1980–1985		0.291***
1986–1989		0.245***
1990–1995		0.285***
1996–2000		0.303***
2001–2010		0.227***
<i>Years since arrival (Reference Category: Immigrants who have resided in the U.S. between 0 and 5 years)</i>		
Between 6 and 10		1.182
Between 11 and 15		1.095
Between 16 and 20		1.263
More than 20		1.639*
Observations	76,955	76,955

Source: These data are taken from the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 March Current Population Survey for blacks between the ages of 25 and 62. Notes: All models also include age, age squared, education dummies, indicator for marital status, female, metropolitan status, current region of residence, indicators for housing type, indicator that identifies whether an individual owns or rents, an indicator that identifies whether an individual received investment income, and survey year controls. Person weights are used in all models.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

<sup>a</sup> The reference category for the country of birth variables is different in Columns 1 and 2 because of changes in the model specification. U.S.-born blacks are the reference category for the country of birth variables in Column 1. In contrast, Nigerian immigrants are the reference group for the country of birth variables in Column 2. The country of birth variables in Column 2 show differences among black immigrants after controlling for cohort of arrival and duration of U.S. residence variation among black immigrants.

immigrants from “other countries” have 1.4 times the odds of reporting fair/poor health compared to African immigrants. Such small regional based differences in both Columns 1 and 3 of Table 4 provide little support for the racial context of origin hypothesis, although we now turn to the more specific country of origin differences.

Table 5 provides a more specific test of the racial context of origin hypothesis by estimating models that include country of origin dummy indicators instead of regional dummies. Since the duration effects and cohort effects are very similar to those presented in Table 4, the discussion of Table 5 will focus on variation in health across the country indicators.

Column 1 of Table 5 shows that most national origin groups of black immigrants, with the exception of Ethiopians, report lower odds of fair/poor health relative to U.S.-born blacks prior to controlling for cohort or assimilation effects. This column also reveals variation within the generally favorable reports of health across national origin subgroups of black immigrants. For example, among Caribbean immigrants, Jamaicans and Haitians have the lowest odds of reporting fair/poor health. Likewise, immigrants from Nigeria and Ghana have the lowest odds of reporting fair/poor health among the African countries of origin.

Column 2 shows health models that control for country of origin, cohort of arrival, and duration of U.S. residence. In these models, the reference group for the country indicators is Nigerian immigrants. These results show that, after controlling for cohort of arrival and duration of residence effects in the United States, there are no national origin groups of black immigrants that have lower odds of reporting fair/poor health than Nigerians; in turn, four groups (immigrants from the Dominican Republic, Trinidad and Tobago, Ethiopia, and from other countries) have higher odds of reporting poor/fair health than Nigerians. While two of the country of origin differences in health are consistent with the racial context of origin hypothesis (i.e., Dominican Republic and Trinidad and Tobago) in that those countries are characterized by mixed race populations, the sizable difference in health between Ethiopian and Nigerian immigrants is at odds with the racial context of origin hypothesis. Further, many of the differences between countries of origin that are statistically insignificant are also inconsistent with the racial context of origin hypothesis. For example, there is no statistically significant difference in the odds of reporting fair/poor health between blacks born in Europe and those born in Nigeria.

Our last set of results presented in Table 6 focuses on our second hypothesis of health deterioration while also evaluating whether the aggregate models conceal variation in health within cohorts. In order to obtain stable estimates of both cohort and assimilation effects, specific country level analyses were not conducted. Instead,

we present separate health models for Caribbean immigrants, Africans, and black immigrants from the rest of the world.

Table 6 shows variation in health within particular cohorts. For example, the initial health advantage experienced by black immigrants who arrived in the U.S. prior to 1980 is driven by arrivals from the Caribbean. While there are no statistical differences in the odds of reporting fair/poor health between African immigrants and U.S.-born blacks during this time period, members of this cohort from the Caribbean only have .27 the odds of reporting fair/poor health as black natives. The converse is true for more recent arrivals. Among members of the 2001 to 2010 arrival cohort, immigrants from the Caribbean have greater odds of reporting fair/poor health when they first arrive in the United States.

Table 6 also shows variation in black adult health for specific immigrant origin regions, with reference to U.S.-born blacks in each regional group. Caribbean immigrants who arrived in the United States in the earliest cohorts demonstrate exceptionally low levels of fair/poor health relative to U.S.-born blacks, controlling for duration of residence and other control variables. Later cohorts of Caribbean immigrants also display favorable patterns of health compared to U.S.-born blacks, although less so than the earliest arrival cohorts. Caribbean immigrants are also the only black immigrant regional group that exhibits evidence of health deterioration with increased duration in the United States. In contrast, within the African immigrant group, more recent arrivals have the lowest odds of reporting fair/poor health relative to U.S.-born blacks. This group also displays little evidence of health deterioration with increased time spent in the United States. These results also provide little support for our second hypothesis that predicted more rapid health deterioration among black immigrants from minority white regions.

## Discussion

Overall, we find only modest support for the idea that the racial context of black immigrants' country of origin impacts their post-migration health. If the racial context of immigrants' countries of origin was a major factor in differentiating health among black immigrants, then our results would have shown that, after allowing for other factors, individuals from racially mixed or predominantly white countries consistently demonstrate the least favorable health among black immigrants. This was the case for only immigrants from the Dominican Republic and Trinidad and Tobago; moreover, black immigrants from Ethiopia reported the worst self-rated health among all the national origin groups. Further, the racial context of origins hypothesis would have been strongly supported if we found more rapid deterioration of health among black immigrants from minority white regions (e.g., Sub-Saharan Africa) in comparison to racially mixed regions (e.g., the Caribbean); we did not, however, find these patterns in our data.

Our results did consistently show that most cohorts and national origin groups of black immigrants exhibit more favorable health than their U.S.-born black adult counterparts. This is very strong evidence for the idea of immigrant selectivity (Jasso et al., 2004). We did, though, also uncover some variation in immigrant health by cohort of entry and duration of U.S. residence: early arrival cohorts from Africa exhibited little variation in health compared to U.S.-born blacks while later arrivals from Africa exhibited very strong health advantages relative to U.S.-born blacks. Our data also showed that African immigrants appear to maintain their favorable level of initial health with increased duration in the United States. A somewhat different pattern emerged among Caribbean immigrants: early arrival cohorts from the Caribbean exhibited very favorable health compared to U.S.-born blacks. This Caribbean advantage, while still very sizable,

**Table 6**

Cohort of arrival and assimilation effects on fair/poor health status for black immigrants relative to U.S.-born blacks.

Logistic Regression Models (odds ratios) of Fair/Poor Health Status			
	Africa	Caribbean	Other Black Immigrants
<i>Cohort of Arrival (Reference Category: U.S.-born Blacks)</i>			
Arrived Prior to 1980	0.635	0.265***	0.509
1980–1985	1.208	0.280***	0.552
1986–1989	0.417	0.347***	0.362**
1990–1995	0.424**	0.371***	0.618
1996–2000	0.558**	0.370***	0.480**
2001–2010	0.313***	0.436***	0.264***
<i>Years Since Arrival (Reference Category: Immigrants who have resided in the U.S. between 0 and 5 years)</i>			
Between 6 and 10	1.393	1.118	1.112
Between 11 and 15	0.975	1.368	0.661
Between 16 and 20	1.000	1.461	1.127
More than 20	0.722	2.162**	1.427
Observations	70,069	72,274	70,494

Source: These data are taken from the 1996, 1998, 2000, 2002, 2004, 2006, 2008, and 2010 March Current Population Survey for blacks between the ages of 25 and 62. All models include age, age squared, education dummies, indicator for marital status, female, metropolitan status, current region of residence, indicators for housing type, indicator that identifies whether an individual owns or rents, an indicator that identifies whether an individual received investment income, and survey year controls. Person weights are used in all models.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .



was somewhat smaller among more recent arrival cohorts. Moreover, Caribbean immigrants were the only black immigrant group to demonstrate worse health among those with greater duration in the United States. Thus, both cohort of arrival and, at least for Caribbean immigrants duration of U.S. residence exerted effects on the health patterns of black immigrants relative to U.S.-born blacks. Again, though, the most prevalent pattern shown in our data is the very favorable patterns of health for black immigrants relative to the health of U.S.-born blacks.

Although our paper provided a more specific test of the racial context of origins hypothesis than earlier work in this area, several limitations need to be noted. First, racial context of origin is not simply a matter of composition. While most countries in Sub-Saharan Africa can be considered minority white countries, so can most of the countries in the Caribbean. For example, in Jamaica and Haiti, two major sending countries of black immigrants, blacks compose over 90 percent of the population (see Table 1). With the exception of black immigrants from Europe, and possibly parts of Central and South America, most black immigrants migrate from countries in which whites represent a relatively small share of the population.

Second, racial composition of a sending country does not consistently correlate with racial context. For example, blacks comprise roughly 85% of the population in South Africa but whites own almost 90% of the wealth. To be sure, this distribution of wealth is the result of decades of racism and discrimination faced by blacks under apartheid.

Third, one could argue that the degree of ethnic-based inequality or being a member of a marginal group (regardless of race) within immigrants' country of origin might negatively impact the health of black immigrants. For example, although blacks represent the vast majority of the populations in a number of the major sending countries of black immigrants, mestizos, South Asians, and East Indians are the largest ethnic groups in the Dominican Republic, Trinidad and Tobago, and Guyana, respectively. And fourth, we had no data on individual-level experiences with racism and discrimination in sending regions/countries. Thus, future work in this area should more fully contextualize and more specifically measure the racial context of origin of immigrants before rejecting the racial context of origins proposition.

Our findings suggest that cohort of arrival variation is important to understanding health among black immigrants. Time varying immigration policy that produces differences in labor market characteristics and health outcomes among immigrants might provide initial clues why cohort of arrival effects matter. For example, the 1986 Immigration Reform and Control Act made it possible for immigrants who were currently living in an undocumented status in the United States to apply for citizenship. Under this provision, almost 100,000 residents of Caribbean origin received legal status (Kent, 2007); this also produced a significant rise in the black immigrant population from the Caribbean in the United States who were eligible to sponsor the visas of family members from their countries of origin. Consequently, after this period, a greater fraction of immigrants from the Caribbean migrated to the United States on family sponsored visas. Such immigrants might be less highly selected than immigrants who earlier migrated on skills visas or with no visas, since both the social and economic costs of migration are probably lower for these later arrivals. Although only suggestive, this policy effect is consistent with the results from our health assimilation models for Caribbean immigrants in this paper.

Consequently, when migration cohort effects exist, regression results that do not take these considerations into account do not correctly estimate the true impact of arriving from a particular country. Moreover, health models that do not account for cohort of

entry effects confound the effect of changes in cohort characteristics with duration in the United States. Future work in this area, then, clearly must consider cohort of entry effects, duration of residence effects, and country of origin effects in best understanding the health of immigrants.

## Conclusion

Few papers have evaluated the health and health assimilation of black immigrants to the United States. Those that have tend to either analyze the collective health of black immigrants, only analyze regional subgroups of black immigrants, or do not account for both cohort of arrival and duration of U.S. residence effects on health (Antecol & Bedard, 2006; Elo et al., 2008; Read & Emerson, 2005). Using data on black immigrants and U.S.-born blacks from the cross-sectional waves of the 1996 to 2010 March Current Population Survey (CPS), this study estimates health models that account for cohort of arrival and duration in the United States to examine the relationship between immigrants' regions/countries of origin and their health in the United States. The paper also evaluates the theoretical proposition that black immigrants from minority white regions of the world have better health than black immigrants from majority white regions of the world because of the former group's limited exposure to discrimination and racism (Read & Emerson, 2005).

When black immigrants are evaluated in the aggregate, results show that most cohort of arrival groups of black immigrants have better self-reports of health than U.S.-born blacks. When the self-rated health of black immigrants is evaluated collectively, reports of fair/poor health are somewhat worse for black immigrants as their tenure in the United States increases. However, when black immigrants are disaggregated by major sending regions, results reveal that the downward health assimilation is only characteristic of black immigrants from the Caribbean. Indeed, we did not find any evidence of health deterioration among black immigrants from Africa with increased duration in the United States. This finding should be re-visited when there are more duration-years of residential experience for African immigrants in the United States.

Results from our models that evaluated the importance of region and country of origin suggest that, after accounting for relevant factors, there are few statistically significant differences in health between black immigrants from Africa and those from the major sending regions or countries of the world. The findings suggest that black immigrants on the whole are quite healthy relative to their U.S.-born counterparts. We also show that differences in health among black immigrants are influenced by variations across cohorts of entry, duration of U.S. residence, as well as by country of birth.

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