



Published in final edited form as:

J Immigr Minor Health. 2019 February ; 21(1): 30–38. doi:10.1007/s10903-018-0699-4.

Differences Between U.S.-Born and Non-U.S.-Born Black Adults Reported with Diagnosed HIV Infection: United States, 2008–2014

Hanna B. Demeke¹, Anna S. Johnson², Baohua Wu³, Ndidi Nwangwu-Ike³, Hope King⁴, and Hazel D. Dean⁵

¹National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC), 1600 Clifton Road, NE., Mail Stop E-07, Atlanta, GA 30329, USA

²Division of HIV/AIDS Prevention (DHAP) at NCHHSTP, CDC, Atlanta, GA, USA

³DHAP, NCHHSTP, CDC, Atlanta, GA, USA

⁴Division of Viral Hepatitis, NCHHSTP, CDC, Atlanta, GA, USA

⁵NCHHSTP, CDC, Atlanta, GA, USA

Abstract

Despite improvements in its treatment, HIV infection continues to affect Blacks disproportionately. Using National HIV Surveillance System data from 50 U.S. states and the District of Columbia, we examined demographic and epidemiologic differences between U.S.-born and non-U.S.-born Black adults. Of 110,452 Black adults reported with diagnosed HIV during 2008–2014 with complete country of birth information, 11.1% were non-U.S.-born. Non-U.S.-born were more likely to be older, female, have HIV infection attributed to heterosexual contact, have been diagnosed late, and live in the northeastern U.S. region. During 2014, the HIV diagnosis rate among African-born Black females was 1.4 times the rate of U.S.-born Black males, 2 times the rate of African-born Black males, and 5.3 times the rate of U.S.-born Black females. We elucidate the differences between U.S.-born and non-U.S.-born Blacks on which to base culturally appropriate HIV-prevention programs and policies.

Keywords

Human immunodeficiency virus; Acquired immunodeficiency syndrome; African Americans; Non-U.S.-born; Immigrants

Introduction

HIV continues to disproportionately affect Blacks, despite notable declines in annual HIV diagnoses among all races [1]. During 2014, Blacks aged 13 years accounted for approximately 44% of HIV diagnoses [2], although only 14% of the total U.S. population

were Black [3]. Among Black adults and adolescents with HIV diagnosed in 33 states during 2001–2007, 11.7% of them were non-U.S.-born [4]. Some states also reported a substantial proportion of their Black population with HIV were non-U.S.-born [5–9]. Non-U.S.-born Blacks with diagnosed HIV are more likely to be women, infected through heterosexual contact, and diagnosed at a late stage of disease [4–10]. As the Black population who were non-U.S.-born increases [11, 12], identifying differences between U.S.-born and non-U.S.-born Blacks in HIV diagnosis rates and HIV-related risk behavior at the national level is crucial for public health practice.

This paper substantially expands on a previous study [4] that compared rates of HIV diagnoses among U.S.-born and non-U.S.-born Blacks using data from 33 states with name-based reporting of HIV infection to the Centers for Disease Control and Prevention’s (CDC) National HIV Surveillance System (NHSS). Because data from all 50 states, the District of Columbia, and 6 U.S. dependent areas (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the U.S. Virgin Islands) are now available in NHSS, we are able to include data from all HIV reporting jurisdictions, substantially increasing the reliability and validity of the data. In 2013, 82% of Black immigrants lived in the Northeast, and the South [11], and 11 of the 17 newly added states and the District of Columbia (DC) are from those two regions. Also, 4 of the top 10 states (California, Maryland, Massachusetts, and Georgia) with the largest African-born population during 2008–2012 [11] are among newly added states. With this additional data, we compared selected demographic characteristics, annual HIV diagnosis rates, late diagnosis of and survival after receiving an HIV diagnosis or an AIDS classification, between U.S.-born and non-U.S.-born Black adults, as well as between African- and Caribbean-born Black adults with considerably more precision [4].

Methods

We analyzed data reported to CDC for Black adults aged 18 years with HIV diagnosed during 2008–2014. CDC collects data through NHSS in collaboration with state and local partners. We categorized persons born in the United States and six dependencies as *U.S.-born* and those born in other countries were classified as *non-U.S.-born* [13]. For geographic analysis, countries of birth were grouped by using the United Nations Demographic Yearbook [14]. The U.S. Census Bureau’s definitions of regions and classifications of urban and rural areas were used for our study [15, 16], and we classified cases according to the person’s area of U.S. residence at the time of HIV diagnosis. The four U.S. regions of residence used are defined by the Census Bureau as Northeast, Midwest, South, and West [16].

We examined distributions of HIV diagnoses by place of birth, selected demographics, and HIV-transmission risk factors. HIV diagnosis rates per 100,000 population were calculated by using the annual numbers of HIV cases as numerators and age, sex, race/ethnicity, and nativity data from the U.S. Census Bureau’s American Community Survey 1-year estimates as denominators [17]. To examine temporal trends, we used linear regression to determine estimated annual percentage changes (EAPC) in HIV diagnosis rates by world region of birth and sex for 2008–2014.

Finally, we used the standardized Kaplan–Meier method to estimate the probability of survival at 12, 24, and 36 months after a diagnosis of HIV infection and an AIDS classification. Survival analysis was limited to 52,270 Black adults with diagnosed HIV and 22,137 Black adults with HIV infection classified as stage 3 (AIDS) during 2008–2010 with known vital status reported through December 31, 2013, to account for 3 years' reporting delay.

Results

Demographic Characteristics

During 2008–2014, CDC received a total of 134,945 reports of Black adults having received a diagnosis of HIV infection from 50 states and the District of Columbia, of which 81.8% (110,452) had a complete country of birth information. Of 110,452 Black adults, 88.9% (98,156) were U.S.-born, and 11.1% (12,296) were non-U.S.-born (Table 1). The demographic characteristics of those with unknown place of birth are presented in Table 1. The proportion of people with diagnosed HIV infection with unknown place of birth increased from 15% in 2008 to 23% in 2014, while the proportion of diagnoses among non-U.S.-born people maintained a uniform proportion ranging 8–10% (Data not shown). The world regions of birth for non-U.S.-born were Africa (52.8%), the Caribbean (41.6%), and others (5.3%). Among persons born in Africa, HIV diagnoses by country of birth varied, with Ethiopia (14.8%), Nigeria (12.9%), Kenya (8.0%), Cameroon (8.0%), and Liberia (6.3%) accounting for half of the diagnoses. The majority (63.0%) of persons born in the Caribbean were from Haiti, followed by Jamaica (24.4%), Trinidad and Tobago (5.1%), Bahamas (2.7%), Barbados (1.3%), and other Caribbean countries (3.6%) (Data not shown).

The majority (72.7%) of U.S.-born Black adults who received an HIV diagnosis were men, but more than half of non-U.S.-born group (52.8%) were women (Table 1). A higher percentage of African-born Black adults who received an HIV diagnosis (60.7%) were women compared with the percentage of women among U.S.-born (27.3%) and Caribbean-born (44.7%) Black adults (Tables 1, 2). A higher percentage (27.3%) of U.S.-born Black adults with diagnosed HIV were aged 18–24 years, compared with 7.9% of non-U.S.-born Black adults (Table 1). Overall, a higher percentage (73.3%) of U.S.-born Black adults received an HIV diagnosis at age ≥44 years, compared with non-U.S.-born Black adults (64.2%) (Table 1). African-born Black adults had the highest percentages of persons aged 25–34 years (30.4%) and aged 35–44 years (32.9%), compared with U.S.-born (26.8 and 19.2%, respectively) and Caribbean-born (21.8 and 25.9%, respectively) Black adults (Tables 1, 2).

As shown in Table 1, HIV diagnoses attributed to heterosexual contact accounted for the highest percentage of HIV diagnoses for both U.S.-born and non-U.S.-born Black women. More than half (52.3%) of HIV diagnoses among non-U.S.-born Black men were attributed to heterosexual contact while 73.2% of HIV diagnoses among U.S.-born Black men were attributed to male-to-male sexual contact. The percentage of HIV diagnoses attributed to injection-drug use (IDU) was higher among U.S.-born Black adults, compared with non-U.S.-born Black adults among both men and women (Table 1). The distribution of African-

and Caribbean-born Black adults who received an HIV diagnosis by transmission category was similar for both men and women (Table 2).

Most Black adults who received an HIV diagnosis during 2008–2014 lived in the South at the time of diagnosis, regardless of place of birth (Table 1). African-born persons were distributed more widely across the U.S. regions (29.3% in Northeast, 17.0% in Midwest, 38.2% in South and 15.4% in West), whereas the majority of Caribbean-born persons resided in the Northeast (39.5%) and South (57.8%) (Table 2). Higher percentages of African-born Black adults with diagnosed HIV resided in the Midwest (17.0%) and West (15.4%) regions, compared with U.S.-born (12.4 and 7.5%, respectively) and Caribbean-born (1.3 and 1.4%, respectively) Black adults. In contrast, a higher percentage of Caribbean-born Black adults resided in the Northeast (39.5%), compared with 16.5% of U.S.-born and 29.3% of African-born persons (Tables 1, 2).

Late-Stage Diagnosis of HIV Infection

Late-stage diagnosis of HIV infection refers to the receipt of an AIDS classification 3 months after HIV diagnosis. Of 29,866 Black adults to whom country of birth information reported and received a late-stage diagnosis, 84.9% (25,367) were U.S.-born, and 15.1% (4499) were non-U.S.-born (Table 3). A higher percentage of non-U.S.-born Black adults had a late-stage diagnosis (36.6%) compared with 25.8% of U.S.-born Black adults (Tables 1, 3). A slightly higher percentage of African-born (37.4%) than Caribbean-born Black adults (36.4%) received a late-stage diagnosis (Table 2). Table 3 presents demographic characteristics and transmission categories, by place of birth, for Blacks with an AIDS classification 3 months after an HIV diagnosis. Black adults, who received a late-stage diagnosis, were older among all Black adults. A higher percentage of female received a late-stage diagnosis among U.S.-born and groups with unknown place of birth while a higher percentage of males received a late-stage diagnosis among non-U.S.-born Black adults. A higher percentage of Black females with diagnosed HIV attributed to IDU had late-stage diagnosis regardless of place of birth (Table 3).

Annual HIV Diagnosis Rates

Comparing annual rates of HIV diagnosis during 2008–2014 by sex and world region of birth, we found that African-born women had the highest rate, followed by U.S.-born men; U.S.-born women had the lowest rates for all years. During 2014, the highest annual HIV diagnosis rate was among African-born women (100.5/100,000 population) while the lowest rate was among U.S.-born women (19.1) (Table 4). The HIV diagnosis rate among African-born women in 2014 was 1.4 times the rate of U.S.-born Black men, 2 times the rate of African-born men, and 5.3 times the rate of U.S.-born Black women.

Overall, a significant decline occurred (from 70.3 in 2008 to 44.7 in 2014) in the annual HIV diagnosis rate among Black adults (EAPC: -7.5 ; 95% CI -8.0 to -7.1 ; $P < 0.0001$); however, trends differed significantly by place of birth and sex (Table 4). The decrease among non-U.S.-born Black adults (EAPC: -6.1 ; 95% CI -7.8 to -4.3 ; $P < 0.0001$) was smaller than that observed among U.S.-born Black adults (EAPC: -7.7 ; 95% CI -8.1 to -7.4 ; $P < 0.0001$). During 2008–2014, U.S.-born Black women had the largest decline

(EAPC: -12.0 ; 95% CI -12.5 to -11.4 ; $P < 0.0001$), and non-U.S.-born women had the smallest (EAPC: -4.5 ; 95% CI -6.6 to -2.4 ; $P < 0.0001$) (Table 4). African-born women had the smallest decline in annual HIV diagnosis rates of all groups (EAPC: -5.0 ; 95% confidence interval [CI] -7.4 to -2.4 ; $P = 0.0002$), compared with U.S.-born men and Caribbean-born men and women (Table 4). We observed a declining trend among African-born men and women from 2008 to 2011 followed by an upward trending line since 2011. The trend observed among Caribbean-born women was not as uniform as the trend observed among U.S.-born men, U.S.-born women and Caribbean-born men (Fig. 1).

Survival After an HIV Diagnosis and AIDS Classification

For Black adults living with diagnosed HIV in the United States during 2008–2010, we estimated that non-U.S.-born Black adults were more likely than U.S.-born Black adults to survive the first 3 years after diagnosis of HIV infection or an AIDS classification (Table 5). Survival 3 years after an HIV diagnosis or an AIDS classification was greater among non-U.S.-born Black adults, compared with U.S.-born Black adults, regardless of sex. By sex, survival 3 years after an HIV diagnosis or an AIDS classification was greater among non-U.S.-born Black (0.96 and 0.91, respectively), compared with U.S.-born women (0.92 and 0.83, respectively) (Table 5).

Discussions

Our study found differences in diagnoses of HIV infection among Black adults in the United States by place of birth and sex. Unlike the previous study [4], our analysis included data from all 50 states and the District of Columbia. Thus, this study better highlights the Black populations at increased risk for HIV infection, the place of birth for those populations, which sex is most affected, and in what U.S. region the populations at greatest risk reside. The proportion of non-U.S.-born Blacks with diagnosed HIV infection remained consistent with the findings from the previous study [4]. Unlike the previous study [4], however, the majority of non-U.S.-born Black adults in our study were from Africa, which might be a reflection of increasing immigration from Africa. The number of African immigrants living in the United States increased by 135% during 2000–2013, compared with only a 33% increase in the number of Caribbean immigrants during that period [11]. In addition, data from some states with the largest African-born population during 2008–2012 (e.g., California, Maryland, Massachusetts, and Georgia [18]) were included in this analysis, compared with the three states that hosted > 75% of Caribbean immigrants (e.g., Florida, New York, and New Jersey [19]) that had been included in the previous study [4].

Although the South accounts for the largest percentage of Black adults with diagnosed HIV, which is consistent with the overall U.S. HIV infection distribution [20], African-born Black adults were distributed more widely across the four U.S. regions than U.S.- and Caribbean-born cases. This finding was expected, given that approximately 95% of Black immigrants from the Caribbean were residents of the Northeast and South, compared with the more dispersed Black African immigrants, with 40% in the South, 25% in the Northeast, 19% in the Midwest, and 16% in the West in 2013 [11]. Understanding the difference in the distribution of non-U.S.-born cases is important for the development of culturally

appropriate and responsive HIV prevention and control measures and allocation of resources at the local level.

Compared with U.S.-born Black adults, non-U.S.-born Black adults were more likely to be female, receive their diagnosis at an older age, acquire HIV infection through heterosexual contact, and have infection classified as AIDS 3 months after initial HIV diagnosis. These findings are consistent with previous national [4, 21] and local level studies [5, 22]. Non-U.S.-born Black adults had higher diagnosis rates than U.S.-born Black adults consistent with previous findings [4]. Our analysis, however, revealed disparities in HIV diagnosis among the different groups when analyzed by world region of birth. African-born women had the highest annual HIV diagnosis rate during 2008–2014, followed by U.S.- and African-born men.

Although earlier studies [4, 6, 21] highlighted the disproportionate HIV diagnosis rates among African-born women, our findings are the first to provide a national comparison between different groups within the U.S. Black population. This disparity mirrors the generalized epidemic reported from Sub-Saharan African and in the Caribbean. For example, East and Southern Africa is the home for 53% of all people living with HIV infection [23]. Limited HIV knowledge [4, 24, 25], cultural values and gender biases [25, 26], delay in accessing HIV testing and health care [4, 6, 27], HIV-related stigma [28, 29] and possible HIV infection occurring at the country of origin before immigration to the United States [30] may contribute to disparities in HIV diagnoses among African-born women. It is essential to consider those factors when designing prevention programs for and providing HIV care to non-U.S.-born Blacks especially women.

A statistically significant decline occurred in the HIV diagnosis rate observed for Black adults during 2008–2014. These rate decreases, however, were not equivalent among groups when world region of birth and sex were considered. Our finding highlights differences between U.S.-born and non-U.S.-born Black adults, especially among women. HIV prevention and care strategies targeting U.S. Blacks might not be as applicable to non-U.S.-born Blacks. Further research is also needed to evaluate whether the shift in the trend of HIV diagnosis rates observed in 2011, especially among African born Blacks, was the result of the 2010 change in the U.S. travel ban policy that allowed HIV-positive non-citizens to travel to and throughout the U.S and apply for a legal permanent residency.

Despite higher rates of HIV diagnosis observed among non-U.S.-born Black adults, a substantially higher percentage of non-U.S.-born Black adults survived 1 year after HIV infection or an AIDS classification compared with U.S.-born Black adults. This finding is consistent with existing evidence that Black immigrants have better life expectancies and health outcomes than their U.S.-born counterparts [31, 32]. One possible reason is that healthier and educated persons elect to immigrate and then maintain healthier lifestyles after relocation [32]. Another possible explanation is that factors putting non-U.S.-born Blacks at risk for HIV and access to HIV testing might not affect them the same way after they learn their HIV status; for example, non-U.S.-born Blacks might not recognize their risk and therefore might not access timely HIV care because of limited HIV knowledge [4, 24, 25], cultural values, gender biases [25, 26], or fear of HIV-related stigma [28, 29] as evidenced

by delays in accessing HIV testing and health care [4, 6, 27]. However, after non-U.S.-born Black adults receive HIV diagnosis and access HIV medical care, they are as likely as U.S.-born Black adults to be engaged and to be retained in HIV-related medical care after diagnosis. A recent national study reported no substantial difference in the prevalence ratio of antiretroviral prescription and viral suppression between U.S.-born and non-U.S.-born persons with an HIV diagnosis [8].

Our analyses are subject to certain limitations. First, these data only reflect cases of HIV infection reported to CDC and may not reflect all persons with HIV infection in the United States. Second, country of birth was not collected consistently across all jurisdictions and cases in persons with the unknown place of birth who received a diagnosis of HIV infection during 2008–2014 (24,493; 18%) were excluded from our analysis. The demographic characteristics of excluded cases are very similar to those of U.S.-born Blacks (see Table 1). Third, it is unknown whether a non-U.S.-born person was infected and on treatment before arrival to the U.S. Consequently, we were unable to assess whether differences in survival were due to differences in treatment. Although some treatment data are collected in NHSS, data are limited and not collected consistently across reporting jurisdictions.

This paper highlights disparities in HIV diagnosis rates within the U.S. Black population. Using a single race of African American or Black to represent all does not provide an accurate assessment of HIV infection among U.S. Blacks. Our findings demonstrate that identifying highly affected populations and providing accurate epidemiologic data are crucial for developing targeted and culturally appropriate HIV-prevention programs and policies. Additional analyses by world region or country of birth may provide information that can enhance the ability of public health officials, health care providers, and policy-makers to develop interventions and policies that will aid in making progress in meeting national HIV prevention and care goals [33].

References

1. Hall HL, Song R, Tang T, et al. HIV trends in the United States: diagnoses and estimated incidence. *JIMR Public Health Surveill.* 2017; 3(1):e8.
2. Frieden TR, Foti KE, Mermin J. Applying public health principles to the HIV Epidemic-How are we doing? *N Engl J Med.* 2015; 373(23):2281–7. [PubMed: 26624243]
3. Rastogi, S, Johnson, TD, Hoeffel, EM, Drewery, MP, Jr. The Black population: 2010. Washington, DC: US Census Bureau; 2011. <https://www.census.gov/content/dam/Census/library/publications/2011/dec/c2010br-06.pdf> [Accessed 14 June 2017]
4. Johnson AS, Hu X, Dean HD. Epidemiologic differences between native-born and foreign-born black people diagnosed with HIV infection in 33 U.S. states, 2001–2007. *Public Health Rep.* 2010; 125(Suppl 4):61–9.
5. Willis LA, Opoku J, Murray A, et al. Diagnoses of human immunodeficiency virus (HIV) infection among foreign-born persons living in the District of Columbia. *J Immigr Minor Health.* 2015; 17(1): 37–46. [PubMed: 23897303]
6. Blanas DA, Nichols K, Bekele M, et al. HIV/AIDS among African-born residents in the United States. *J Immigr Minor Health.* 2013; 15(4):718–24. [PubMed: 22821074]
7. Pivnick A, Jacobson A, Blank AE, et al. Accessing primary care: HIV⁺ Caribbean immigrants in the Bronx. *J Immigr Minor Health.* 2010; 12(4):496–505. [PubMed: 19784773]

8. Myers TR, Lin X, Skarbinski J. Antiretroviral therapy and viral suppression among foreign-born HIV-Infected persons receiving medical care in the United States: a complex sample, cross-sectional survey. *Medicine*. 2016; 95(11):e3051. [PubMed: 26986128]
9. Page LC, Goldbaum G, Kent JB, et al. Access to regular HIV care and disease progression among black African immigrants. *J Natl Med Assoc*. 2009; 101(12):1230–6. [PubMed: 20070011]
10. Prosser AT, Tang T, Hall HI. HIV in persons born outside the United States, 2007–2010. *JAMA*. 2012; 308(6):601–7. [PubMed: 22820630]
11. Anderson, M. A rising share of the U.S. Black population is foreign born; 9 percent are immigrants; and while most are from the Caribbean, Africans drive recent growth. Washington, DC: Pew Research Center; 2015. <http://www.pewsocialtrends.org/2015/04/09/a-rising-share-of-the-u-s-black-population-is-foreign-born/> [Accessed 14 June 2017]
12. Grieco, EM, Acosta, YD, Cruz, PD. , et al. The foreign-born population in the United States: 2010. Washington, DC: The United States Census Bureau; 2012. <http://www.census.gov/prod/2012pubs/acs-19.pdf> [Accessed 14 June 2017]
13. US Census Bureau. Foreign-born. Washington, DC: US Census Bureau; 2016. <http://www.census.gov/topics/population/foreign-born/about.html> [Accessed 14 June 2017]
14. United Nations Department of Economic and Social Affairs. Demographic yearbook 2014. New York: United Nations; 2015. http://www.un-ilibrary.org/population-and-demography/united-nations-demographic-yearbook-2014_f4dbf9e9-en-fr [Accessed 14 June 2017]
15. US Census Bureau. Geographic terms and concepts—urban and rural. Washington, DC: US Census Bureau; 2012. https://www.census.gov/geo/reference/gtc/gtc_urbanrural.html [Accessed 14 June 2017]
16. U.S. Department of Commerce. Geographic areas reference manual. Washington, DC: US Census Bureau; 1994. Economics and Statistics Administration Bureau of the Census. Chapter 6: statistical groupings of states and counties. <http://www2.census.gov/geo/pdfs/reference/GARM/GARMcont.pdf> [Accessed 14 June 2017]
17. US Census Bureau. American FactFinder. Washington, DC: US Census Bureau; [undated]. <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> [Accessed 14 June 2017]
18. Gambino, CP, Trevelyan, EN, Fitzwater, JT. The foreign-born population from Africa: 2008–2012. Washington, DC: US Census Bureau; 2014. American Community Survey Briefs ACSBR/12-16. <https://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr12-16.pdf> [Accessed 14 June 2017]
19. Zong, J; Batalova, J. [Accessed 14 June 2017] Caribbean immigrants in the United States. The Online Journal of the Migration Policy Institution. Sep 14, 2016. <http://www.migrationpolicy.org/article/caribbean-immigrants-united-states/>
20. Centers for Disease Control and Prevention (CDC). HIV Surveillance Report, 2015. Vol. 27. Atlanta, GA: US Department of Health and Human Services, CDC; 2016. <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html> [Accessed 9 Nov 2017]
21. Kerani RP, Kent JB, Sides T, et al. HIV among African-born persons in the United States: a hidden epidemic? *J Acquir Immune Defic Syndr*. 2008; 49(1):102–6. [PubMed: 18667924]
22. Ashton C, Bernhardt SA, Lowe M, et al. Comparison of HIV/AIDS rates between U.S.-born Blacks and African-born Blacks in Utah, 2000–2009. *Open AIDS J*. 2012; 6:156–62. [PubMed: 23049664]
23. The Henry J. Kaiser Family Foundation. The global HIV/AIDS epidemic. Nov, 2017. <http://files.kff.org/attachment/Fact-Sheet-The-Global-HIV-AIDS-Epidemic>
24. Beyene Y. Potential HIV risk behaviors among Ethiopians and Eritreans in the diaspora: a bird's-eye view. *Northeast Afr Stud*. 2000; 7(2):119–42.
25. Rosenthal L, Scott DP, Kellela Z, et al. Assessing the HIV/AIDS health services needs of African immigrants to Houston. *AIDS Educ Prev*. 2003; 15(6):570–80. [PubMed: 14711169]
26. Hoffman S, Beckford Jarrett ST, Kelvin EA, et al. HIV and sexually transmitted infection risk behaviors and beliefs among black West Indian immigrants and US-born blacks. *Am J Public Health*. 2008; 98(11):2042–50. [PubMed: 18309140]
27. Ojikutu B, Nnaji C, Sithole-Berk J, et al. Barriers to HIV testing in black immigrants to the U.S. *J Health Care Poor Underserved*. 2014; 25(3):1052–66. [PubMed: 25130224]

28. Koku, EF. HIV-related stigma among African immigrants living with HIV/AIDS in USA. *Sociological Research Online*. 2010.
29. Lawson, E, Gardezi, F, Calzavara, L, Husbands, W, Myers, T, Tharao, WE. HIV/AIDS stigma, denial, fear and discrimination: experiences and responses of people from African and Caribbean communities in Toronto. Toronto: University of Toronto; 2006. http://www.accho.ca/pdf/hiv_stigma_report.pdf [Accessed 14 June 2017]
30. Wiewel EW, Torian LV, Hanna DB, et al. Foreign-born persons diagnosed with HIV: where are they from and where were they infected? *AIDS Behav*. 2015; 19(5):890–8. [PubMed: 25524308]
31. Singh GK, Rodriguez-Lainz A, Kogan MD. Immigrant health inequalities in the United States: use of eight major national data systems. *Sci World J*. 2013; 2013:512313.
32. Read JG, Emerson MO, Tarlov A. Implications of black immigrant health for U.S. racial disparities in health. *J Immigr Health*. 2005; 7(3):205–12. [PubMed: 15900421]
33. Centers for Disease Control and Prevention (CDC). DHAP Strategic Plan 2017–2020. Atlanta, GA: US Department of Health and Human Services, CDC;; 2011. <https://www.cdc.gov/hiv/pdf/dhap/cdc-hiv-dhap-external-strategic-plan.pdf>

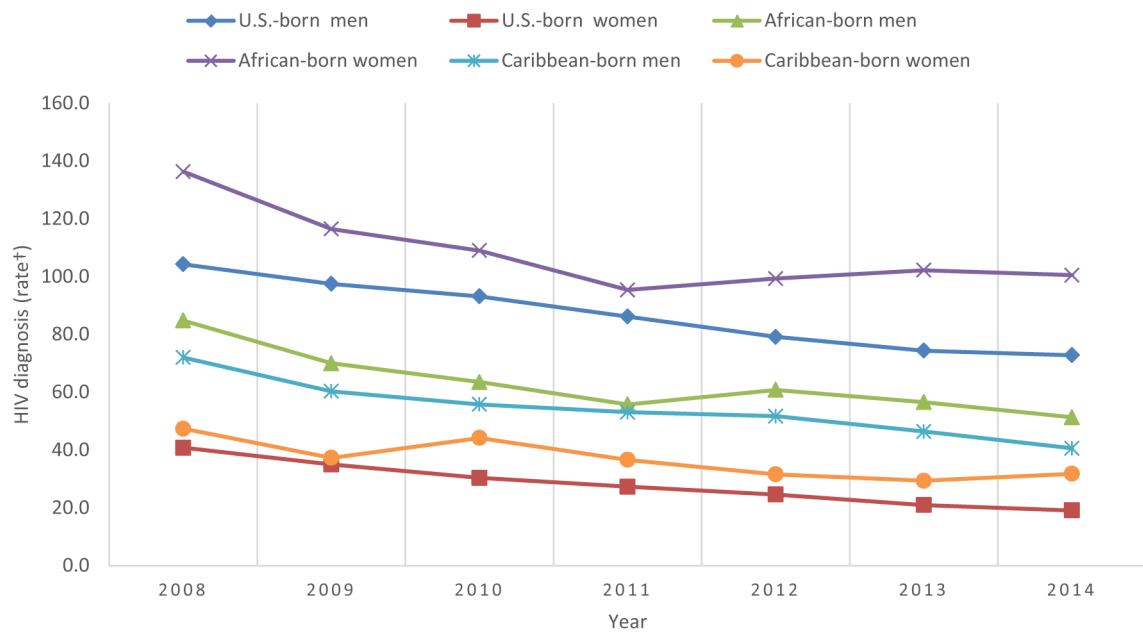


Fig. 1. HIV diagnosis rates among U.S. Blacks, by sex and world region of birth, 2008–2014, United States. †HIV diagnosis rates per 100,000 population were calculated by using the annual numbers of HIV cases as numerators and the U.S. Census Bureau’s 2014 American Community Survey 1-year population estimates as denominators. The Census Bureau tool American FactFinder (<https://factfinder.census.gov>) provided the population denominators according to national origin and race/ethnicity

Diagnoses of HIV infection among Blacks aged 18 years, by country of birth and other selected characteristics, 2008–2014, United States

Table 1

Characteristics	U.S.-born		Non-U.S. born		Unknown	
	No.	%	No.	%	No.	%
Sex at birth						
Male	71,350	72.7	5801	47.2	17,686	72.2
Female	26,806	27.3	6495	52.8	6807	27.8
Age at diagnosis (year)						
18–24	26,766	27.3	969	7.9	6036	24.6
25–34	26,306	26.8	3273	26.6	6706	27.4
35–44	18,798	19.2	3655	29.7	4987	20.4
45–54	17,348	17.7	2615	21.3	4390	17.9
55–64	7176	7.3	1336	10.9	1865	7.6
65	1762	1.8	448	3.6	509	2.1
Transmission category						
Male						
Male-to-male sexual contact	52,200	73.2	2394	41.2	13,643	77.1
Injection-drug use (IDU)	4962	7.0	288	5.0	1051	5.9
Male-to-male sexual contact and IDU	2160	3.0	74	1.3	372	2.1
Heterosexual contact ^a	11,929	16.7	3,033	52.3	2596	14.7
Other ^b	99	0.1	12	0.2	23	0.1
Female						
IDU	3536	13.2	256	4.0	737	10.8
Heterosexual contact ^a	23,196	86.5	6215	95.7	6057	89.0
Other ^b	75	0.3	23	0.4	12	0.01
U.S region						
Northeast	16,214	16.5	4228	34.4	2793	11.4
Midwest	12,208	12.4	1232	10.0	4377	17.9
South	62,357	63.5	5681	46.2	16,322	66.6
West	7377	7.5	1155	9.4	1001	4.1

Characteristics	U.S.-born		Non-U.S. born		Unknown	
	No.	%	No.	%	No.	%
Time to AIDS classification						
3 months	25,367	25.8	4499	36.6	5889	24.0
4 months	72,719	74.1	7779	63.3	18,597	75.9
Not determined ^c	70	0.1	18	0.1	7	0
Total	98,156	100	12,296	100	24,493	100

^aHeterosexual contact with a person known to have or to be at high risk for HIV infection

^bIncludes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

^cMonth of HIV diagnosis or stage 3 classification is unknown

Table 2

Diagnoses of HIV infection among African-born and Caribbean-born Blacks 18 years, by selected characteristics 2008–2014, United States

Characteristics	African born		Caribbean born	
	No.	%	No.	%
Sex at birth				
Male	2548	39.3	2830	55.3
Female	3942	60.7	2289	44.7
Age at diagnosis (year)				
18–24	446	6.9	429	8.4
25–34	1971	30.4	1114	21.8
35–44	2137	32.9	1328	25.9
45–54	1222	18.8	1255	24.5
55–64	567	8.7	710	13.9
65	147	2.3	283	5.5
Transmission category				
Male				
Male-to-male sexual contact	992	40.0	1147	40.5
Injection-drug use (IDU)	137	5.4	129	4.6
Male-to-male sexual contact and IDU	42	1.6	25	0.9
Heterosexual contact ^a	1369	53.7	1525	53.9
Other ^b	9	0.4	3	0.1
Female				
IDU	154	3.9	83	3.6
Heterosexual contact ^a	3770	95.6	2201	96.1
Other ^b	17	0.4	6	0.3
U.S. region				
Northeast	1905	29.3	2021	39.5
Midwest	1102	17.0	70	1.3
South	2479	38.2	2955	57.8
West	1004	15.4	73	1.4
Time to AIDS classification				
3 months	2429	37.4	1861	36.4
4 months	4047	62.4	3256	63.6
Not determined ^c	14	0.2	2	0.0
Total	6490	100.0	5119	100.0

^aHeterosexual contact with a person known to have or to be at high risk for HIV infection

^bIncludes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

^cMonth of HIV diagnosis or stage 3 classification is unknown

Table 3

Late-stage (stage 3 [AIDS]) 3 months after diagnosis HIV infection, by place of birth and selected characteristics, 2008–2014, United States

Characteristics	Total		U.S.-born stage 3		Total		Non-U.S. born stage 3		Total		Unknown stage 3	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Sex at birth												
Male	71,350	18,331	25.7	5801	2387	41.1	17,686	4144	23.4			
Female	26,806	7036	26.2	6495	2112	32.5	6807	1745	25.6			
Age at diagnosis (year)												
18–24	26,766	3547	13.3	969	195	20.1	6036	674	11.2			
25–34	26,306	5748	21.9	3273	929	28.4	6706	1343	20.0			
35–44	18,798	6053	32.2	3655	1411	38.6	4987	1533	30.7			
45–54	17,348	6320	36.4	2615	1170	44.7	4390	1478	33.7			
55–64	7176	2890	40.3	1336	599	44.8	1865	645	34.6			
65	1762	809	45.9	448	195	43.5	509	216	42.4			
Transmission category												
Male												
Male-to-male sexual contact	52,200	11,874	22.7	2394	779	32.5	13,643	2886	21.2			
Injection-drug use (IDU)	4962	1758	35.4	288	133	46.2	1,051	330	31.4			
Male-to-male sexual contact and IDU	2160	538	24.9	74	27	36.5	372	88	23.7			
Heterosexual contact ^a	11,929	4126	34.6	3033	1442	47.5	2596	832	32.0			
Other ^b	99	35	35.4	12	6	50.0	23	7	30.4			
Female												
IDU	3536	1000	28.3	256	100	39.1	737	226	30.7			
Heterosexual contact ^f	23,196	6017	25.9	6215	2005	32.3	6057	1516	25.0			
Other ^b	75	19	25.3	23	6	26.1	12	3	25.0			
U.S. region												
Northeast	16,214	4379	27.0	4228	1541	36.4	2793	828	29.6			
Midwest	12,208	3011	24.7	1232	432	35.1	4377	1147	26.2			
South	62,357	16,223	26.0	5681	2100	37.0	16,322	3721	22.8			
West	7377	1754	23.8	1155	426	36.9	1001	193	19.3			

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Characteristics	Total		U.S.-born stage 3		Total		Non-U.S. born stage 3		Total		Unknown stage 3	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	98,156	25,367	25.8	12,296	4499	36.6	24,493	5889	24.0			

^aHeterosexual contact with a person known to have or to be at high risk for HIV infection

^bIncludes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

Table 4

Rates of HIV diagnosis among Blacks aged 18 years, by world region of birth and sex, 2008–2014, United States

	HIV diagnosis rate ^a										EAPC 2008–2014		
	2008	2009	2010	2011	2012	2013	2014	EAPC	Lower 95%	Upper 95%	P value		
U.S.-born													
Male	104.3	97.5	93.2	86.2	79.2	74.4	72.8	-6.2	-6.7	-5.7	<0.0001		
Female	40.8	35.0	30.3	27.3	24.6	21.0	19.1	-12.0	-12.5	-11.4	<0.0001		
Subtotal	70.1	63.9	59.4	54.6	50.0	45.8	44.1	-7.7	-8.1	-7.4	<0.0001		
Non-U.S.-born													
Male	75.8	61.9	58.3	52.7	53.7	49.4	44.8	-7.7	-9.5	-5.9	<0.0001		
Female	69.1	59.0	61.7	52.8	51.2	51.6	53.8	-4.5	-6.6	-2.4	<0.0001		
Subtotal	72.3	60.4	60.1	52.8	52.3	50.6	49.5	-6.1	-7.8	-4.3	<0.0001		
Total	70.3	63.5	59.5	54.4	50.3	46.4	44.7	-7.5	-8.0	-7.1	<0.0001		
African-born													
Male	84.8	70.0	63.5	55.8	60.8	56.6	51.3	-7.4	-9.8	-5.0	<0.0001		
Female	136.3	116.5	109.0	95.4	99.3	102.2	100.5	-5.0	-7.4	-2.4	0.0002		
Subtotal	108.5	91.6	85.1	74.4	79.5	78.5	74.8	-5.7	-8.1	-3.3	<0.0001		
Caribbean-born													
Male	72.0	60.3	55.8	53.1	51.7	46.4	40.6	-8.1	-9.5	-6.6	<0.0001		
Female	47.4	37.3	44.2	36.6	31.6	29.4	31.8	-7.1	-10.1	-4.1	<0.0001		
Subtotal	58.6	48.0	49.5	44.1	40.7	37.1	35.8	-7.7	-9.1	-6.2	<0.0001		

EAPC Estimated annual percentage changes

^aPer 100,000 population

Table 5

Survival for more than 12, 24, and 36 months after HIV diagnosis or AIDS classification among Blacks aged 18 years, by sex and country of birth, 2008–2010, United States

Proportion survived (95% confidence interval)				
After HIV infection diagnosis				
	No.	> 12 months	> 24 months	> 36 months
U.S.-born				
Male	32,967	0.951 (0.948–0.953)	0.936 (0.933–0.938)	0.923 (0.920–0.926)
Female	13,811	0.950 (0.946–0.954)	0.934 (0.930–0.938)	0.918 (0.914–0.923)
Subtotal	46,778	0.951 (0.949–0.953)	0.935 (0.933–0.937)	0.922 (0.919–0.924)
Non-U.S. born				
Male	2666	0.950 (0.941–0.957)	0.937 (0.927–0.945)	0.927 (0.917–0.936)
Female	2826	0.967 (0.960–0.973)	0.964 (0.956–0.970)	0.958 (0.950–0.965)
Subtotal	5492	0.959 (0.953–0.964)	0.951 (0.945–0.956)	0.943 (0.937–0.949)
Total	52,270	0.951 (0.950–0.953)	0.937 (0.935–0.939)	0.924 (0.922–0.926)
After Stage 3 (AIDS) classification				
	No.	> 12 months	> 24 months	> 36 months
U.S.-born				
Male	13,934	0.894 (0.889–0.899)	0.869 (0.864–0.875)	0.849 (0.843–0.855)
Female	5540	0.883 (0.874–0.891)	0.856 (0.846–0.865)	0.833 (0.823–0.843)
Subtotal	19,474	0.891 (0.887–0.895)	0.866 (0.861–0.870)	0.845 (0.840–0.850)
Non-U.S. born				
Male	1434	0.909 (0.893–0.923)	0.889 (0.871–0.904)	0.877 (0.859–0.893)
Female	1229	0.922 (0.906–0.936)	0.915 (0.898–0.930)	0.908 (0.890–0.922)
Subtotal	2663	0.915 (0.904–0.925)	0.901 (0.889–0.912)	0.891 (0.879–0.903)
Total	22,137	0.894 (0.890–0.898)	0.870 (0.865–0.874)	0.851 (0.846–0.855)