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Antiretroviral prescription, retention in care and viral suppression by place of birth among adults with diagnosed HIV in the United States—2015–2017, medical monitoring project

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Abstract

HIV clinical outcomes have not been fully assessed by place of birth at the national level. We analyzed the Medical Monitoring Project data, an annual cross-sectional survey designed to produce nationally representative estimates on adults with diagnosed HIV in the United States, collected during 2015–2017 ($n = 7617$). We compared sociodemographic, behavioral, and clinical outcomes by place of birth using Rao-Scott chi-square tests ($P < .05$). Overall, 13.6% of adults with diagnosed HIV were non-US-born. During the past 12 months, a higher percentage of non-US-born than US-born adults, respectively, were prescribed ART (89.4% vs. 84.1%), retained in care (87.1% vs. 80.0%), virally suppressed at the last test (77.2% vs. 70.9%), and had sustained viral suppression (70.9% vs. 63.3%). A lower percentage of non-US-born adults reported binge drinking (13.0% vs. 16.1%), using non-injection drugs (15.3% vs. 31.7%), and suffering from depression (15.9% vs. 23.3%) or anxiety (10.0% vs. 20.2%). A significantly higher percentage of non-US-born adults had Ryan White HIV/AIDS Program (RWHAP) coverage (54.4% vs. 43.1%) and attended a RWHAP-funded health care facility (73.9% vs. 66.6%). Factors contributing to better HIV clinical outcomes among non-US-born persons may include access to RWHAP coverage, lower levels of substance use, and better mental health.

Keywords

ART; non-US-born adults; HIV medical care; viral suppression; Ryan White; prevention

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The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention.

Introduction

Treating HIV infection rapidly and effectively to achieve sustained viral suppression is one of the four pillars of the U. S. Initiative, *Ending the HIV Epidemic: A Plan for America* (Fauci et al., 2019). Understanding the HIV care continuum – which includes testing, antiretroviral therapy (ART) prescription, retention in care, and viral suppression – among subpopulations of persons with HIV, as well as factors that influence these outcomes, is key to the success of this initiative. Identifying barriers to, and facilitators of, positive outcomes along the continuum can be applied to programs working to ensure optimal health for persons living with HIV.

In the United States, non-US-born adults represented 12.9% of the population in 2010 (Grieco et al., 2012) but accounted for 16.2% of adults who received a diagnosis of HIV infection during 2007–2010 (Prosser et al., 2012). Non-US-born adults who received an HIV diagnosis during 2007–2010 were mainly from Central America (including Mexico) (41.0%), the Caribbean (21.5%), and Africa (14.5%) (Prosser et al., 2012).

Analysis of data collected during 2009–2011 found no difference in ART prescription or viral suppression among US-born and non-US-born persons receiving HIV medical care (Myers et al., 2016). To inform the initiative to end the HIV epidemic, we analyzed data collected from June 2015 through May 2017 among all persons with diagnosed HIV to describe HIV outcomes among US-born and non-US-born persons, and examined sociodemographic and behavioral factors in both populations that may influence these outcomes.

Methods

The Medical Monitoring Project (MMP) is an annual cross-sectional survey that is designed to produce nationally representative estimates of behavioral and clinical characteristics of adults with diagnosed HIV in the United States. MMP data collection is a part of routine public health surveillance, and thus, determined to be non-research (Centers for Disease Control and Prevention [CDC], 2010). Participating states or territories obtained local institutional review board approval to collect data when required. All participants provided informed consent.

MMP used a two-stage sampling method in which, during the first stage, 23 project areas were sampled from all states in the United States, the District of Columbia, and Puerto Rico (CDC, 2018). During the second stage, simple random samples of persons with diagnosed HIV, aged 18 years and older, were drawn for each participating state/territory from the National HIV Surveillance System (NHSS), a census of persons with diagnosed HIV in the United States.

All sampled states and one territory participated in MMP, and included California (including Los Angeles County and San Francisco), Delaware, Florida, Georgia, Illinois (including Chicago), Indiana, Michigan, Mississippi, New Jersey, New York (including New York City), North Carolina, Oregon, Pennsylvania (including Philadelphia), Puerto Rico, Texas (including Houston), Virginia, and Washington State. For this analysis, we combined two

cycle years of MMP data, 2015 and 2016. The sampling frame was the national HIV case surveillance data set containing records submitted to CDC as of 31 December 2014, for the 2015 MMP cycle, and 31 December 2015, for the 2016 MMP cycle. The response rate for adults with diagnosed HIV was 40% for the 2015 MMP cycle and 44% for the 2016 MMP cycle. Data were weighted on the basis of known probabilities of selection at state or territory and person levels (The American Association for Public Opinion Research, 2011). In addition, data were weighted to adjust for person nonresponse and post-stratified to NHSS population totals (Heeringa et al., 2010).

Data were collected via phone or face-to-face interviews and medical record abstractions during June 2015–May 2017. Interviews were conducted in English or Spanish. Certified interpreters were used for other languages. All factors were assessed over the 12 months before the date of the interview unless otherwise noted. Interviews included questions about demographics, health care use, depression, anxiety, and drug and alcohol use. Persons born outside of the United States were also asked their country of birth, age at immigration, time in the United States, if the person speaks language other than English at home and how well the person speaks English. Medical record data recorded during the year before the interview were abstracted at the health care facility identified as the participant's usual place of HIV care. Abstracted information included AIDS-defining conditions, prescription of ART medications, laboratory results, and health care use.

Persons born in the United States and six dependencies were classified as *US-born*, and those born elsewhere were classified as *non-US-born*. For non-US-born persons, age at immigration to the United States was categorized as immigrated when younger than 18 years old versus at age 18 or older. Years in the United States and date of diagnosis relative to immigration were also categorized using five-year increments. Binge drinking was defined as drinking more than five alcoholic beverages in a single sitting for men, and more than four for women in the 30 days prior to the interview. Depression in the past two weeks was assessed using the eight-item Patient Health Questionnaire Depression Scale (PHQ-8) algorithm (Kroenke et al., 2009), and anxiety in the past two weeks was assessed using the Generalized Anxiety Disorder Scale (GAD-7) (Spitzer et al., 2006). Scales for depression and anxiety were categorized based on clinically meaningful cut points, and detailed algorithms are reported in detail elsewhere (CDC, 2018). Respondents who reported taking ART were also asked about adherence to ART during the previous 30 days. If respondents reported never missing a dose in the previous 30 days they were classified as *adherent*.

We calculated geometric mean for CD4 counts to minimize the effect of outliers. Viral suppression was defined as an HIV RNA level that was undetectable or <200 copies/mL. Recent viral suppression refers to viral load undetectable or <200 copies/mL on the most recent test and sustained viral suppression refers to viral loads undetectable, or <200 copies/mL, for all tests in the past 12 months. Retention in care was defined as documentation of two outpatient HIV visits at least 90 days apart in the past 12 months.

We calculated the weighted prevalence with 95% confidence intervals (CI), of sociodemographic, behavioral, and clinical characteristics. We assessed statistical

associations between these characteristics and place of birth using Rao-Scott chi-square tests. *P* values <0.05 were considered significant. We also compared clinical outcomes including retention in care and viral suppression, with national goals to assess progress towards ending the HIV epidemic. The national HIV prevention goals include 90% of persons with diagnosed HIV to be retained in care and 80% to be virally suppressed (CDC, 2019). The analytic dataset included records of 7617 adults with diagnosed HIV, including 1054 born outside the United States and 6563 born in the United States.

Results

Among adults with diagnosed HIV, 13.6% (95% CI, 12.3–14.9%) were born outside the United States (data not displayed in a table); nearly one-third (31.3%) were born in Mexico and 22.5% were born in the Caribbean (Table 1). Most non-US-born adults immigrated to the United States at age 18 years or older (76.5%), had lived in the United States for 10 or more years after immigration (85.9%), and spoke English well or very well (73.4%). Half (50.1%) were diagnosed with HIV 10 or more years after immigrating to the United States.

A higher percentage of non-US-born adults identified as Hispanic or Latino (61.1% vs. 16.3%), were aged between 35 and 44 years (27.4% vs. 17.8%), and had less than a high school education (27.3% vs. 17.0%) compared with US-born adults (Table 2). A higher percentage of non-US-born adults had Ryan White coverage (54.4% vs. 43.1%) and received care at Ryan White HIV/AIDS Program (RWHAP) funded facility (73.9% vs. 66.6%) compared with US-born adults with diagnosed HIV. There were no significant differences between the two groups in gender, poverty level, or homelessness.

A lower percentage of non-US-born adults reported binge drink (13.0% vs. 16.1%), use of non-injection drugs (15.3% vs. 31.7%), and presence of major or other depression (15.9% vs. 23.3%) or moderate to severe anxiety (10.0% vs. 20.2%) compared with US-born adults (Table 3). A larger percentage of non-US-born adults had been prescribed ART (89.4% vs. 84.1%) compared with US-born adults. A larger percentage of non-US-born adults were retained in care in the past 12 months (87.1% vs. 80.0%) than US-born. In all, a larger percentage of non-US-born adults were virally suppressed at the most recent viral load test (77.2% vs. 70.9%) and had sustained viral suppression (70.9% vs. 63.3%) over the past 12 months compared with US-born adults. The proportions of adults who were retained in care and virally suppressed were lower than the U.S. national goals for both groups (Figure 1). There were no significant differences between the two groups in stage 3 classification (AIDS), CD4 count, and adherence to ART (Table 3).

Discussion

A higher proportion of non-US-born adults with diagnosed HIV were Hispanic/Latino and had less than a high school education compared with US-born adults. However, a higher percentage of non-US-born adults than US-born adults were retained in care and virally suppressed, approaching the national HIV prevention goals of 90% retention, and 80% viral suppression among persons with HIV (CDC, 2019). Our findings are consistent with a previous report that a higher proportion of non-US-born blacks compared with US-born

blacks were retained in HIV medical care, virally suppressed, and survived longer after receiving a diagnosis of HIV infection (Demeke et al., 2018). Others have found that lifespan after HIV diagnosis was similar or longer among non-US-born adults compared with US-born adults, despite the fact that a higher proportion of non-US-born adults received a late-stage HIV diagnosis and entered HIV medical care at a later stage of disease (Chen et al., 2012; Demeke et al., 2019).

A possible explanation for our findings of better HIV outcomes is that a significantly higher proportion of non-US-born adults compared with US-born adults had coverage through the RWHAP, either as a sole payer for health care or in combination with other coverage, and were more likely to receive care at RWHAP-funded facilities. The RWHAP provides funds to states, eligible metropolitan areas, and other HIV clinics to increase access to high-quality HIV care and treatment, including financial assistance for HIV medications and access to supportive services for low-income, uninsured, and underinsured individuals and families affected by HIV (U.S. Department of Health and Human Services, January, 2018). RWHAP support is associated with higher levels of viral suppression among low-income persons (Bradley et al., 2016; Weiser et al., 2015). This assistance program is the source of care and treatment for most non-US-born adults who would otherwise be ineligible for health care coverage or could not afford the high cost of care.

Another explanation could be differences in mental health and substance use between the groups. Non-US-born adults were less likely than US-born adults to report depression, anxiety, and substance use. Psychiatric illnesses and substance use are associated with poor HIV outcomes. For example, persons with diagnosed HIV experiencing current mental health symptoms are less likely to achieve sustained viral suppression (Fojo et al., 2019). Similarly, persons with diagnosed HIV who are using drugs are less likely to adhere to treatment and achieve viral suppression (Aralis et al., 2018; Arnsten et al., 2002).

Previous studies have reported mistrust, competing demands to care for family members, stigma, limited English proficiency, and fear of deportation as barriers to consistent HIV care and research participation among non-US-born persons with or without HIV infection (George et al., 2014; Remien et al., 2015). Because many non-US-born persons with diagnosed HIV have lived in the United States for 10 or more years and speak English well or very well, these factors may be less influential for the group overall. It will be useful to examine HIV care outcomes among non-US-born persons who recently immigrated to the United States and those with limited English proficiency. We were unable to conduct a robust analysis among these groups due to small sample sizes, but combining data from additional cycles of MMP may allow us to do so in the future.

Our analysis is subject to limitations. First, self-reported measures may be subject to biases that can result in measurement error. Second, medical records were abstracted from the facility where the person received the most care, not from all facilities that provided care. Thus, the findings of this study may not be inclusive of all possible medical services the person received. Third, our study is cross-sectional and thus causal relationships between sociodemographic, behavioral, and clinical characteristics and HIV outcomes cannot be inferred.

Conclusion

A higher percentage of non-US-born persons were prescribed ART, retained in care, and virally suppressed compared with US-born persons, and non-US-born groups were closer to achieving the national goal of 80% viral suppression. Factors contributing to these favorable outcomes may include access to the RWHAP, lower levels of substance use, and better mental health. Future studies could evaluate causal relationships between these factors and HIV health outcomes. Understanding factors leading to better HIV outcomes can inform the development of HIV prevention programs and contribute to efforts to end the HIV epidemic in the United States.

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References

The American Association for Public Opinion Research. (2011). Standard definitions: Final dispositions of case codes and outcome rates for surveys (7th ed.). AAPOR.

Aralis HJ, Shoptaw S, Brookmeyer R, Ragsdale A, Bolan R, & Gorbach PM (2018). Psychiatric illness, substance use, and viral suppression among HIV-positive men of color who have sex with men in Los Angeles. AIDS and Behavior, 22(10), 3117–3129. 10.1007/s10461-018-2055-z [PubMed: 29478146]

Arnsten JH, Demas PA, Grant RW, Gourevitch MN, Farzadegan H, Howard AA, & Schoenbaum EE (2002). Impact of active drug use on antiretroviral therapy adherence and viral suppression in HIV-infected drug users. Journal of General Internal Medicine, 17(5), 377–381. 10.1007/s11606-002-0044-3. [PubMed: 12047736]

Bradley H, Viall AH, Wortley PM, Dempsey A, Hauck H, & Skarbinski J (2016). Ryan White HIV/AIDS Program assistance and HIV treatment outcomes. Clinical Infectious Diseases, 62(1), 90–98. 10.1093/cid/civ708 [PubMed: 26324390]

Centers for Disease Control and Prevention. (2010). Distinguishing public health research and public health nonresearch. https://www.cdc.gov/od/science/integrity/docs/cdc-policy-distinguishing-public-health-research-nonresearch.pdf

Centers for Disease Control and Prevention. (2018). Behavioral and clinical characteristics of persons with diagnosed HIV infection—Medical monitoring project, United States, 2015 cycle (June 2015–May 2016) HIV Surveillance Special Report 20. https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html

Centers for Disease Control and Prevention. (2019). The Division of HIV/AIDS Prevention's (DHAP) strategic plan 2017–2020. Atlanta, GA: US Department of Health and Human Services, CDC; Retrieved April 25, 2019, from https://www.cdc.gov/hiv/pdf/dhap/cdc-hiv-dhap-external-strategic-plan.pdf

Chen NE, Gallant JE, & Page KR (2012). A systematic review of HIV/AIDS survival and delayed diagnosis among hispanics in the United States. Journal of Immigrant and Minority Health, 14(1), 65–81. 10.1007/s10903-011-9497-y [PubMed: 21773882]

Demeke HB, Johnson AS, Wu B, Nwangwu-Ike N, King H, & Dean HD (2019). Differences between U.S.-born and non-U.S.-born black adults reported with diagnosed HIV infection: United States, 2008–2014. Journal of Immigrant and Minority Health, 21(1), 30–38. 10.1007/s10903-018-0699-4 [PubMed: 29374815]

Demeke HB, Johnson AS, Zhu H, Gant Z, Duffus WA, & Dean HD (2018). HIV infection-related care outcomes among US-born and non–US-born blacks with diagnosed HIV in 40 US areas, National HIV Surveillance System, 2016. International Journal of Environmental Research and Public Health, 15, E2404. 10.3390/ijerph15112404 [PubMed: 30380715]

Fauci AS, Redfield RR, Sigounas G, Weahkee MD, & Giroir BP (2019). Ending the HIV epidemic: A plan for the United States. JAMA, 321(9), 844. 10.1001/jama.2019.1343 [PubMed: 30730529]

Fojo AT, Lesko CR, Calkins KL, Moore RD, McCaul ME, Hutton HE, Mathews WC, Crane H, Christopoulos K, Cropsey K, Mugavero MJ, Mayer K, Pence BW, Lau B, & Chander G (2019). Do symptoms of depression interact with substance use to affect HIV continuum of care outcomes? AIDS and Behavior, 23(3), 580–591. 10.1007/s10461-018-2269-0 [PubMed: 30269230]

George S, Duran N, & Norris K (2014). A systematic review of barriers and facilitators to minority research participation among African Americans, Latinos, Asian Americans, and Pacific Islanders. American Journal of Public Health, 104 (2), e16–e31. 10.2105/AJPH.2013.301706

Grieco EM, Acosta YD, Cruz G. P. d. l., Gambino C Gryn T Larsen LJ & Walters NP (2012). The Foreign-Born Population in the United States: 2010. American Community Survey Reports.

Heeringa SG, West BT, & Berglund PA (2010). Applied survey data analysis. Chapman and Hall.

Kroenke K, Strine TW, Spitzer RL, Williams JB, Berry JT, & Mokdad AH (2009). The PHQ-8 as a measure of current depression in the general population. Journal of Affective Disorders, 114(1–3), 163–173. 10.1016/j.jad.2008.06.026 [PubMed: 18752852]

Myers TR, Lin X, & Skarbinski J (2016). 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 (Baltimore), 95(11), e3051. 10.1097/MD.0000000000003051 [PubMed: 26986128]

Prosser AT, Tang T, & Hall HI (2012). HIV in persons born outside the United States, 2007–2010. Jama, 308(6), 601–607. 10.1001/jama.2012.9046 [PubMed: 22820630]

Remien RH, Bauman LJ, Mantell JE, Tsoi B, Lopez-Rios J, Chhabra R, DiCarlo A, Watnick D, Rivera A, Teitelman N, Cutler B, & Warne P (2015). Barriers and facilitators to engagement of vulnerable populations in HIV primary care in New York City. JAIDS Journal of Acquired Immune Deficiency Syndromes, 69(Suppl 1), S16–S24. 10.1097/QAI.0000000000000577 [PubMed: 25867774]

Spitzer RL, Kroenke K, Williams JB, & Lowe B (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. Archives of Internal Medicine, 166(10), 1092–1097. 10.1001/archinte.166.10.1092 [PubMed: 16717171]

U.S. Department of Health and Human Services. (January 2018). Overview: Ryan White HIV/AIDS program clients, 2016. Rockville, MD: https://hab.hrsa.gov/about-ryan-white-hivaids-program/about-ryan-white-hivaids-program

Weiser J, Beer L, Frazier EL, Patel R, Dempsey A, Hauck H, & Skarbinski J (2015). Service delivery and patient outcomes in Ryan White HIV/AIDS program-funded and -nonfunded health care facilities in the United States. JAMA Internal Medicine, 175(10), 1650–1659. 10.1001/jamainternmed.2015.4095 [PubMed: 26322677]

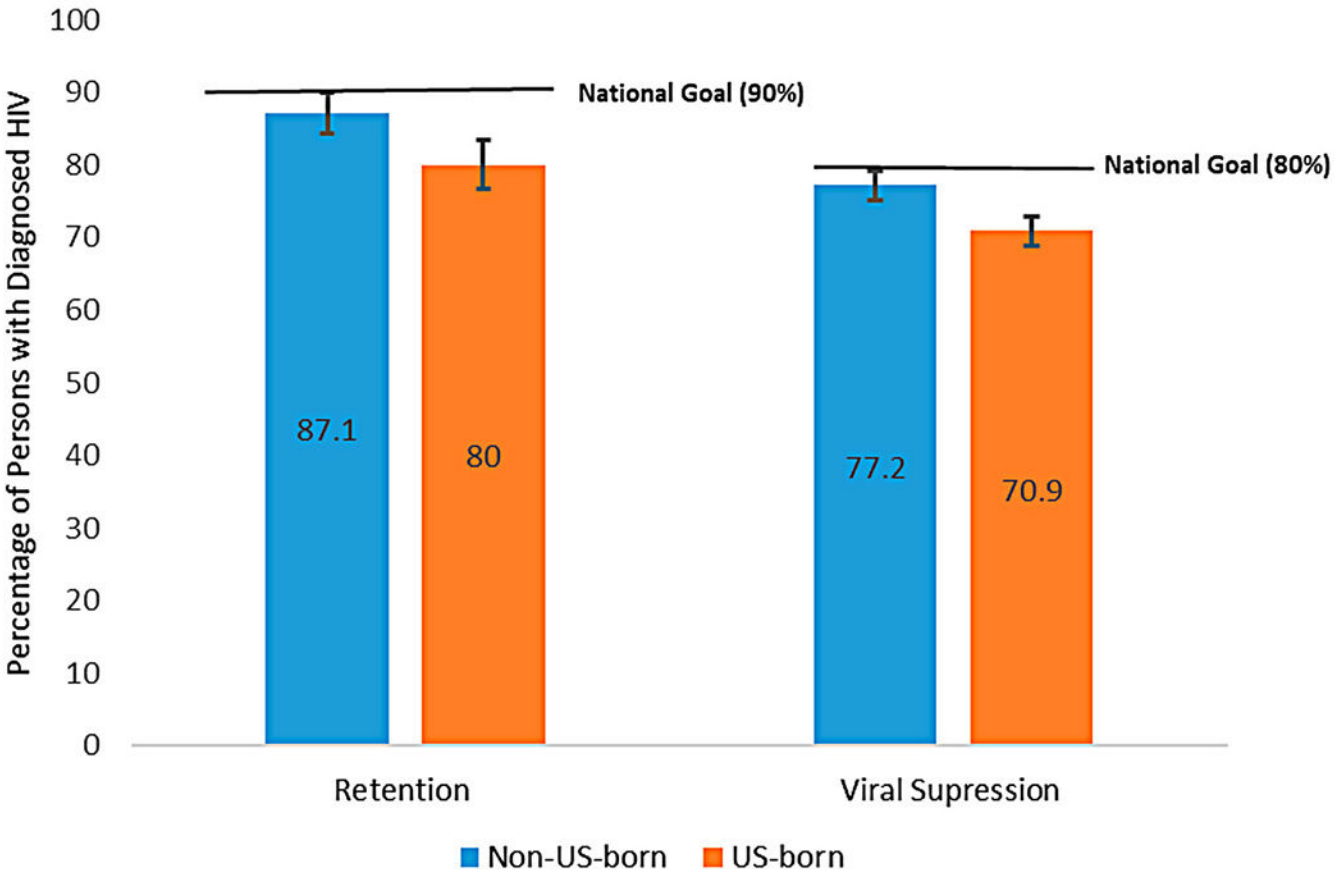

Figure 1.

Retention in the past 12 months and recent viral suppression for adults with diagnosed HIV by place of birth, United States – MMP, 2015–2017 ($N = 7617$).

Table 1.

Characteristics of non-US-born adults with diagnosed HIV in the United States – Medical Monitoring Project, 2015–2017 (N = 1054).

Characteristics	*n*	Weighted Column %	95% CI
Region of birth			
Africa	95	8.8	5.9–11.8
Asia and the Middle East	71	7.1	4.8–9.4
Caribbean	221	22.5	18.1–26.9
Central America excluding Mexico	104	10.8	8.3–13.3
Europe and Canada	75	7.2	5.1–9.3
Mexico	289	31.3	25.8–36.9
South America	110	12.2	9.5–14.9
Age at migration (Years)			
<18	247	23.5	20.5–26.4
≥18	805	76.5	73.6–79.5
Time in the United States (Years)			
<5	64	6.2	4.4–8.0
5–9	87	7.9	5.9–10.0
≥10	901	85.9	82.9–88.8
Date of diagnosis relative to immigration			
≥5 years before arrival	54	4.3	3.0–5.6
1–4 years before arrival	44	4.6	3.1–6.1
Same year as arrival	41	4.5	2.9–6.1
1–4 years after arrival	181	18.2	15.4–20.9
5–9 years after arrival	192	18.4	15.4–21.3
≥10 years after arrival	539	50.1	46.2–53.9
Speaks language other than English at home	799	77.1	73.9–80.4
Speaks English well or very well	778	73.4	70.0–76.8

Notes: CI, Confidence Interval; all percentages are weighted; all measures are self-reported.

Table 2.

Sociodemographic characteristics of adults with diagnosed HIV by place of birth, United States – Medical Monitoring Project, 2015–2017 (*N* = 7617).

	Non-US-born (*n* = 1054)		US-born (*n* = 6563)		
Characteristics	***n***	**Weighted Column % (95% CI)**	***n***	**Weighted Column % (95% CI)**	***P*-value**
Gender					
Male	751	73.5 (69.8–77.2)	4,771	76.3 (74.0–78.5)	0.23
Female	287	26.5(22.8–30.2)	1,701	23.7 (21.5–26.0)	
Race/ethnicity					
White, non-Hispanic	93	7.9 (6.0–9.8)	2,225	33.7 (28.4–39.0)	<.001
Black, non-Hispanic	261	23.0 (19.3–26.6)	2,955	43.9 (36.4–51.4)	
Hispanic, or Latino	613	61.1 (56.4–65.8)	1,006	16.3 (9.8–22.9)	
Others	86	8.0 (5.8–10.2)	375	6.1 (4.9–7.3)	
Age (Years)					
18–34	129	13.1 (10.5–15.8)	1,053	17.2 (15.9–18.5)	<.001
35–44	272	27.4 (23.7–31.2)	1,143	17.8 (16.5–19.2)	
44–54	399	36.6 (33.2–40.1)	2,165	32.6 (31.4–33.8)	
≥55	254	22.8 (19.5–26.1)	2,202	32.4 (30.7–34.0)	
Education					
<High school	284	27.3 (23.8–30.9)	1,146	17.0 (15.0–19.0)	<.001
High school diploma or equivalent	248	23.0 (20.0–25.9)	1,685	25.2 (23.8–26.6)	
>High school	517	49.7 (45.4–54.0)	3,729	57.8 (55.0–60.6)	
At or below federal poverty level	472	47.0 (42.4–51.6)	2,746	43.7 (40.5–46.8)	0.16
Homelessness	72	6.6 (4.6–8.6)	588	8.7 (7.7–9.7)	0.11
Health care coverage					
Any private insurance	353	34.4 (30.2–38.6)	2,263	35.3 (33.0–37.6)	<.001
Public insurance only	481	42.4 (38.4–46.4)	3,802	56.1(53.3–59.0)	
Ryan White/ADAP only	186	20.0 (16.1–23.9)	373	6.3 (4.4–8.1)	
Unspecified insurance & uninsured	18	3.2 (1.3–5.1)	102	2.3 (1.5–3.1)	
Had any Ryan White coverage [a]	567	54.4 (50.3–58.4)	2,989	43.1 (41.3–44.9)	<.001
Received Care at a Ryan White-funded facility [b,c]	751	73.9 (69.0–78.8)	4,311	66.6 (59.6–73.5)	0.01

Notes: All percentages are weighted; the time period is 12 months prior to interview unless otherwise noted; all measures are self-reported unless otherwise noted.

[a] Includes AIDS Drug Assistance Program (ADAP) and other RWHAP support.

[b] Any Parts A, B, C, D, or F funding.

[c] Documented in medical records.

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Table 3.

Behavioral and clinical characteristics of adults with diagnosed HIV by place of birth, United States – Medical Monitoring Project, 2015–2017 (*N* = 7617).

	Non-US-born (*n* = 1054)		US-born (*n* = 6563)		
Characteristics	***n***	**Weighted Column % (95% CI)**	***n***	**Weighted Column % (95% CI)**	***P*-value**
Binge drinking, past 30 days [a]	135	13.0 (10.6–15.3)	1,025	16.1 (14.5–17.6)	0.04
Non-injection drug use	165	15.3 (12.5–18.1)	2,101	31.7 (29.6–33.7)	<.001
Major or other depression, past 2 weeks [b]	171	15.9 (13.0–18.8)	1,447	23.3 (21.7–25.0)	<.001
Moderate to severe anxiety, past 2 weeks [c]	113	10.0 (8.0–12.0)	1,245	20.2 (18.8–21.6)	<.001
Length of time since HIV diagnosis (Years)					
<5	224	21.5 (18.5–24.4)	1,050	16.2 (15.2–17.3)	<.001
5–9	233	22.6 (19.4–25.9)	1,224	19.5 (18.0–21.0)	
≥10	597	55.9 (52.4–59.4)	4,289	64.3 (62.6–66.0)	
Stage 3 classification (AIDS)	629	59.0 (55.4–62.6)	3,817	55.2 (53.2–57.1)	0.09
Geometric mean CD4 count (cells/microliter)					
0–199	65	7.7 (5.6–9.7)	505	8.7 (7.4–10.0)	0.21
200–349	123	12.5 (10.2–14.9)	707	11.8 (10.8–12.7)	
350–499	198	21.1 (18.2–24.1)	1,036	18.0 (16.7–19.3)	
≥500	555	58.7 (55.0–62.3)	3,394	61.5 (59.4–63.6)	
ART prescription [d]	967	89.4 (86.8–92.0)	5,796	84.1 (82.0–86.3)	0.004
Retention in care [d,e]	936	87.1 (84.2–90.0)	5,487	80.0 (78.0–82.0)	<.001
100% adherent to ART, past 30 days [f]	460	45.7 (41.6–49.8)	2,622	42.8 (41.1–44.5)	0.17
Recent viral suppression [d,g]	844	77.2 (73.9–80.6)	4,994	70.9 (68.8–72.9)	<.001
Sustained viral suppression [d,h]	771	70.9 (67.5–74.3)	4,425	63.3 (61.2–65.3)	<.001

Notes: CI, Confidence Interval; VL, viral suppression; all percentages are weighted; the time period is 12 months prior to interview unless otherwise noted; all measures are self-reported unless otherwise noted.

[a] Drinking ≥ 5 alcoholic beverages in a single sitting for men, and ≥ 4 for women.

[b] Using Patient Health Questionnaire Depression Scale (PHQ-8).

[c] Using the Generalized Anxiety Disorder Scale (GAD-7).

[d] Documented in medical records.

[e] 2 visits at least 90 days apart in the past 12 months.

[f] Among persons taking ART ($n = 7188$).

[g] Most recent viral load that was undetectable or <200 copies/mL.

[h] All viral loads in the past 12 months undetectable or <200 copies/mL.