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Access to language interpretation services at health care facilities providing care to adults diagnosed with HIV in the United States, 2019

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Abstract

Introduction. People with limited English proficiency (LEP) experience barriers to health care access and optimal outcomes. Language interpretation services can facilitate clear communication—which is key to effective HIV care and treatment.

Methods. We analyzed weighted data from the 2019 cycle of the Medical Monitoring Project (MMP), a cross-sectional, complex sample survey of U.S. adults with diagnosed HIV, and data from the 2021 MMP Facility Survey, a survey of facilities providing care to 2019 MMP respondents. We estimated the percentage of people with HIV (PWH) with LEP who received care at facilities offering language interpretation services and facilities providing language interpretation services, overall and by selected characteristics.

Results: Overall, 89.9% of PWH with LEP received care at a facility with language interpretation services; and 83.6% of facilities provided language interpretation services. PWH with LEP who were unemployed were less likely than those who were employed to receive care at a facility with language interpretation services. Facilities that were Federally Qualified Health Centers, were not private practices, received Ryan White HIV/AIDS Program funding, and accepted public health care coverage were more likely to provide language interpretation services than facilities without these characteristics.

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AUTHOR CONTRIBUTION

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to its submission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest financial or otherwise.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The Medical Monitoring Project is a public health surveillance activity, not research; thus, IRB review and approval are not required.

HUMAN AND ANIMAL RIGHTS

Although the Medical Monitoring Project is not research, the Helsinki Declaration was followed when collecting data on respondents.

CONSENT FOR PUBLICATION

Informed consent was obtained from all respondents.

AVAILABILITY OF DATA AND MATERIALS

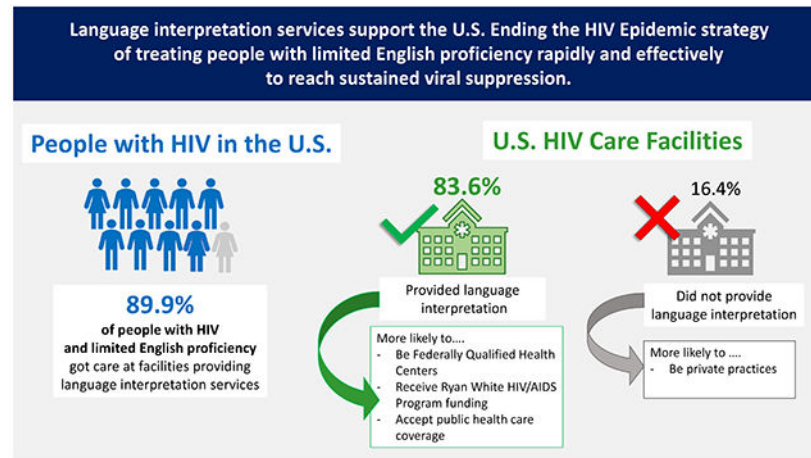
The data and supportive information is available within the article.

STANDARDS OF REPORTING

Strobe guidelines were followed.

Conclusion: Our findings demonstrate that most HIV care facilities are providing access to language services to PWH with LEP in the United States.

Graphical Abstract



Keywords

HIV; language; limited English proficiency; communication; interpretation services

SDG Keywords

Good health and well-being; reduced inequalities

Introduction

The number of people with limited English proficiency (LEP) in the United States is increasing [1]. People with LEP do not speak English as their primary language and have limited ability to read, write, and speak English [2]. According to U.S. Census data, among people who spoke a language other than English at home, 8.2% had LEP [3]. From 2015–2018, adults with LEP accounted for almost 10% of all adults with diagnosed HIV in the United States [4]. People with LEP experience disparities in health care access and outcomes. Compared with people without LEP, people with LEP reported more trouble understanding medication instructions, experienced more adverse medication reactions, experienced greater lengths of stay in hospitals, were more likely to lack a usual health care provider, and were more likely to be overdue for preventive care and screening [5-8]. In a scoping review of the literature, people with LEP often expressed that they were inadequately informed or failed to understand their diagnosis, medication management, potential treatment implications, and the resources accessible to them [9]. In another study, people with LEP described how language barriers negatively affected their confidence in making decisions about their medical care [10].

Safe and effective health care relies on clear communication between health care providers and patients. Professional interpretation services can enable clear verbal communication

[11]. Unfortunately, people with LEP often rely on ad hoc or untrained interpreters, such as family members, friends, or other people who are untrained or do not uphold the clinical standards of a professional interpreter [10, 12].

One of the four key strategies of the Ending the HIV Epidemic (EHE) initiative is to “treat people with HIV rapidly and effectively to reach sustained viral suppression” [13]. Treating PWH with LEP requires providing HIV care and treatment in a language they understand, which can be accomplished with language interpretation services. To our knowledge, no study has examined the availability of language assistance in facilities where PWH with LEP receive care. Thus, our objectives were to 1) describe the percentage of PWH with LEP who received HIV care at a health care facility offering language interpretation services, overall and by selected characteristics and 2) describe the percentage of HIV care facilities providing language interpretation services, overall and by selected characteristics.

Materials and Methods

For this analysis, we used data from the Medical Monitoring Project (MMP)—an annual, cross-sectional survey designed to produce nationally representative estimates of the behavioral and clinical characteristics of adults with diagnosed HIV in the United States—and the MMP Facility Survey (MMPFS)—a survey of HIV medical facilities that collected data on facility characteristics, including provision of clinical and supportive services.

Medical Monitoring Project (MMP) methods

MMP methods are described in depth elsewhere [14]. In brief, MMP used a two-stage sampling method. During the first stage, 16 states and Puerto Rico were sampled from U.S. states, the District of Columbia, and Puerto Rico. During the second stage, simple random samples of eligible persons were drawn from the National HIV Surveillance System (NHSS), a census of persons diagnosed with HIV in the United States. Eligibility criteria included being alive on the date of sampling, living with diagnosed HIV, being ≥ 18 years old, and living in one of the sampled jurisdictions. Every year, 9,700 persons are sampled.

We included data collected via phone or in-person interviews and medical records abstractions from June 2019–May 2020. Bilingual staff interviewed monolingual Spanish speakers using a Spanish-translated questionnaire. Interpreters interviewed non-English and non-Spanish speakers. Data were weighted based on known probabilities of selection at state or territory and person levels, adjusted for person nonresponse, and post-stratified to known population totals by age, race, ethnicity, and sex at birth from NHSS.

Because MMP is part of routine public health surveillance it was determined to be non-research. Participating jurisdictions obtained local institutional review board approval to collect data when required. Informed consent was obtained from all respondents.

MMP Measures: We limited our analysis to respondents with LEP. Respondents were asked, “Do you speak a language other than English at home?” If they self-reported speaking a language other than English at home, they were asked “How well do you speak English?” with the following response options: very well, well, not well, not at all. We

defined respondents as having LEP if they self-reported speaking a language other than English at home and speaking English less than “very well” (n=525). These questions are a valid measure of English language proficiency [15].

Respondents living in Puerto Rico were excluded since English is not the primary language there. Respondents who spoke a language other than English at home were asked what language they spoke. We dichotomized the language spoken in the home because of small sample sizes: Spanish and non-Spanish languages (English excluded) (e.g., Chinese, Arabic, Haitian Creole). Place of birth was categorized into countries and regions (e.g., Mexico, Central America, Caribbean). Ethnicity was categorized into Hispanic/Latino and not Hispanic/Latino because of small sample sizes. Respondents who identified as Hispanic/Latino reported their Hispanic or Latino origin (e.g., Mexican, Puerto Rican), allowing for more than one category. We obtained additional demographic data (age, educational attainment, employment, household income, and health insurance) from the MMP interview. The federal poverty level (FPL) was based on the household income of the respondent during the prior calendar year. All measures included in this analysis were based on the past 12 months unless otherwise indicated.

MMP Facility Survey (MMPFS) methods

MMP Facility Surveys (MMPFS) methods are described in depth elsewhere [16]. We used data from the 2021 MMPFS. The MMPFS was sent to a census of 1,023 HIV medical care facilities that MMP respondents identified as their most frequent source of HIV care from June 2019 to May 2020. Staff who completed the MMPFS were senior facility administrators, nurse managers, or clinical directors. Staff at 455 facilities (45%) completed a 30-minute questionnaire online or by mail or phone. An additional 59 facilities (6%) completed a shortened subset of the questionnaire that took about 5 minutes to complete. We used publicly available datasets to collect administrative data for all facilities to identify their Underserved Area/Population designation, and Primary Care Health Professional Shortage Area designation [17]. We weighted data based on weighting classes informed by a nonresponse analysis to reduce any bias in facility-level estimates caused by nonresponse. For facility-level estimates, we used the weighted data from the 45% of facilities that responded to the full survey, since there were no significant differences between facilities responding to the full versus shortened surveys. For respondent-level estimates, we linked facility data to MMP respondent data using imputation methods to account for missing data due to facility nonresponse using all available information from both the full and abbreviated surveys. The imputation methods ensured that respondent-level facility estimates had no missing values and minimized potential non-response bias.

MMPFS Measures: The main outcome measure was whether the facility provided language interpretation services onsite or through established outside referral relationships. If a facility provided language interpretation services onsite or through referrals, we categorized the facility as providing language interpretation services. The MMPFS collected information on facility type; receipt of Ryan White HIV/AIDS Program (RWHAP) funding; types of health care coverage accepted (e.g., Medicaid, Medicare, private health insurance); use of sliding fee scale for patients without coverage; whether the facility provided HIV-

specific stigma and discrimination training for staff or training in other areas of cultural competency; and the availability of clinical (e.g., clinical case management, pharmacy) and supportive services (e.g., social work, peer support counseling, transportation assistance) onsite or by referral. The Ryan White HIV/AIDS Program (RWHAP) provides HIV medical care, medications, and vital support services to low-income people diagnosed with HIV [18]. We linked MMPFS data with MMP respondent-level data to estimate the percentages of PWH who received care at facilities with various characteristics.

Data analysis

We reported weighted percentages with 95% confidence intervals (CIs) for all respondent characteristics, and calculated prevalence ratios (PRs) with predicted marginal means to quantify differences by facility provision of language interpretation services ($P < 0.05$ considered significant). We performed all analyses, including the calculation of PRs, using SAS survey procedures and SAS-callable SUDAAN.

Results

Almost 90% of PWH with LEP received HIV care at a facility that provided language interpretation services (Table 1). People with less than a high school education were more likely than those with more than a high school education to attend a facility that provided language interpretation services (93.1% vs. 87.0%; PR, 1.07; CI, 1.01–1.13). People who were unemployed were less likely than those who were employed to attend a facility with language interpretation services (83.7% vs. 90.6%; PR, 0.92; CI, 0.84–1.02). We found no other differences in the remaining examined variables.

Among facilities providing HIV care to MMP respondents, 83.6% provided language interpretation services either onsite (62.9%) or through established referrals (20.6%) (Table 2). Federally Qualified Health Centers (FQHC) or FQHC look-alikes were more likely than non-FQHC facilities to provide language interpretation services (91.4% vs. 81.4%; PR, 1.12; CI, 1.03–1.22; Table 2). Private practices were less likely than non-private practices to provide language interpretation services (72.3% vs. 90.0%; PR, 0.80; CI, 0.72–0.90). Facilities that received RWHAP funding were more likely than those that did not receive RWHAP funding to provide language interpretation services (93.2% vs. 76.3%; PR, 1.22; CI, 1.12–1.33). Facilities that accepted (vs. did not accept) Medicaid were more likely to provide language interpretation services (86.5% vs. 69.1%; PR, 1.25; CI, 1.05–1.49) as were facilities that accepted (vs. did not accept) AIDS Drug Assistance Program (ADAP) or other Ryan White coverage (91.6% vs. 71.7%; PR, 1.28; CI, 1.14–1.43). Facilities in a primary care health professional shortage area were more likely than facilities not located in these areas to provide language interpretation services (88.5% vs. 79.6%; PR, 1.11; CI, 1.02–1.22). No differences were found among facilities located in metropolitan (vs. non-metropolitan) areas and facilities located (vs. not located) in medically underserved areas. Facilities that provided (vs. did not provide) training in other areas of cultural competency (not including HIV stigma and discrimination training) were more likely to provide language interpretation services (90.3% vs. 70.4%; PR, 1.28; CI, 1.13–1.45).

Facilities that provided (vs. did not provide) other clinical (e.g., clinical case management, pharmacy) and support services (e.g., peer support, transportation, housing, and food assistance) onsite or by referral were more likely to provide language interpretation services (Table 2). For example, facilities that provided clinical case management, other case management, or patient navigation onsite (89.6% vs. 69.9%; PR, 1.28; CI, 1.12–1.46) or by referral (90.6% vs. 79.5%; PR, 1.14; CI, 1.05–1.24) were more likely than those that did not to provide language interpretation services. Facilities that helped with subsistence needs (e.g., housing, transportation, food) onsite (92.3% vs. 75.3%; PR, 1.23; CI, 1.12–1.34) or by referrals (91.1% vs. 64.3%; PR, 1.42; CI, 1.22–1.65) were more likely than those that did not to provide language interpretation services. Facilities that provided none of these clinical and supportive services onsite (67.1% vs. 88%; PR, 0.76; CI, 0.64–0.90) or by referral (42.3% vs. 89.7%; PR, 0.47; CI, 0.34–0.66) were less likely than facilities that provided at least one of these services onsite or by referral to provide language interpretation services.

Discussion

We found that 89.9% of PWH with LEP received care at facilities that provided language interpretation services. This is a positive finding since language is one of the most common barriers to accessing and using health care among people with LEP and patients with LEP prefer having an interpreter or a health care provider who speaks their language [9, 19]. For people with LEP, professional interpreters are preferable to ad hoc interpreters (e.g., family, friends, and untrained professionals) who are more likely to make mistakes, misinterpret information, provide low-quality communication, and ignore sensitive topics [12]. Furthermore, using a professional interpreter has been associated with clinical care that approaches or is equal to the care patients without language barriers receive [20]. Using a professional interpreter lowers communication mistakes, improves patient understanding, and increases patient satisfaction [20]. We found access to language interpretation services among those with LEP to be relatively equitable, with no differences in most of the demographics and Social Determinants of Health (SDOH) characteristics assessed.

People with LEP with less than a high school education (a SDOH often associated with suboptimal health outcomes) were more likely than those with more education to attend a facility with language interpretation services. This is a promising finding, as having less education and limited proficiency in the dominant language of the country someone resides in is a predictor of low health literacy, which has been associated with difficulties understanding medical instructions, difficulties communicating with a provider, poor patient satisfaction, and suboptimal health outcomes [19, 21]. Language interpretation services may reduce communication barriers that people with LEP and less than a high school education face when accessing and using health care.

People with LEP who were unemployed were less likely than people with LEP who were employed to receive care at a facility with language interpretation services. Although we did not collect information on immigration status, it is possible that a proportion of PWH with LEP who are unemployed may be undocumented immigrants. Undocumented immigrants face employment challenges in the United States, as they have no work authorization and are faced with work eligibility restrictions [22]. Alternatively, some undocumented immigrants

might be working without a work authorization and might be afraid to report their employment. With some specific exceptions, undocumented immigrants are prohibited from enrolling in most federal benefit programs and are ineligible for public health insurance like Medicare or Medicaid [23]. Undocumented immigrants might not seek assistance when accessing health care for fear it would expose their unlawful status in the United States. Furthermore, undocumented immigrants might seek care at facilities without robust safety net programs, since they might assume they are ineligible for any assistance or might fear attempting to access programs that might reveal their undocumented status. Future studies should explore this finding further.

Most HIV care facilities provided language interpretation services onsite or through referrals. A key strategy of the EHE initiative is to treat PWH “rapidly and effectively to reach sustained viral suppression” [13]. For people with LEP, HIV care and treatment must be provided in linguistically appropriate ways to be effective. Furthermore, the National HIV/AIDS Strategy (NHAS) outlines some strategies for reducing HIV-related disparities, including strengthening the enforcement of civil rights laws that relate to language services and linking PWH to culturally and linguistically appropriate care [24]. Our findings demonstrate that most HIV care facilities are taking steps to “provide meaningful access to people with LEP,” as required by Title VI of the Civil Rights Act of 1964 and Section 1557 of the Patient Protection and Affordable Care Act [25, 26].

HIV care facilities that accepted Medicaid, ADAP, or other Ryan White coverage were more likely than those that did not to provide language interpretation services. Having language interpretation services available in facilities that accept health insurance or coverage options for people with low incomes and those who are uninsured or underinsured is important because studies have found that people with LEP are more likely to be poor, uninsured, or publicly insured than people without LEP [6-8].

Facilities that provided various clinical and supportive services were more likely than those that did not to also provide language interpretation services. People with LEP have reported difficulty accessing care (e.g., making appointments, locating a clinic); being unaware of social services and entitlements available to them; and housing and transportation barriers [9, 19]. Because people with LEP experience these challenges, facilities that provide clinical services (e.g., clinical case management, pharmacy) and supportive services (e.g., housing, transportation) might better meet their needs than facilities that do not provide such comprehensive care. In one study, unmet needs for key HIV support services (case management, medicines through ADAP, and patient navigation) were associated with not being retained in care and not being virally suppressed [27]. Thus, it is important for health care facilities to address the clinical and supportive service needs of PWH with LEP to ensure they can remain engaged in care and become or remain virally suppressed.

Our results were subject to several limitations. The MMPFS used a census of HIV care facilities where a representative sample of PWH received HIV care; therefore, facility-level estimates do not represent all U.S. HIV care facilities. The MMPFS asked about “language interpretation services,” without specifying that such services were offered by a professional. Therefore, some facilities that reported providing language interpretation

services could be doing so with non-professional interpreters. We also did not assess the use and quality of language interpretation services in the facilities surveyed. For instance, we did not assess whether the facilities provided language interpretation services in the languages of the populations served; whether the facilities provided language interpretation services for free; how language interpretation services were provided (e.g., in person, video, telephone); and if written translation of important documents (e.g., informed consent forms) was provided. Furthermore, we could not assess whether people with LEP who sought care at facilities with language interpretation services used the service and whether the service was available in their primary language. Last, our limited sample size prevented us from assessing differences in health outcomes of PWH with LEP who received care at facilities with (vs. without) language interpretation services. Future studies can examine the extent to which health care facilities caring for PWH with LEP are implementing the National Culturally and Linguistically Appropriate Services (CLAS) standards, which create “a blueprint” for health care organizations to provide care and services that consider people’s cultural beliefs and practices, preferred languages, and health literacy [28].

Conclusion

We found that most PWH with LEP obtained HIV care at health care facilities that provided language interpretation services. Furthermore, most HIV care facilities surveyed provided language interpretation services. These are positive findings since language interpretation services can enable clear communication between patients with LEP and their health care providers. Furthermore, providing language interpretation services supports the EHE strategy of treating PWH with LEP rapidly and effectively to reach sustained viral suppression; and is a step towards providing meaningful access as required by Title VI of the Civil Rights Act of 1964 and Section 1557 of the Patient Protection and Affordable Care Act. While most HIV care facilities provided language interpretation services, we could not assess how and if they were accessed by PWH with LEP. Future studies should explore this limitation of our analysis.

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List of abbreviations

ADAP	AIDS Drug Assistance Program
CI	Confidence interval
CLAS	National Culturally and Linguistically Appropriate Services

EHE	Ending the HIV Epidemic initiative
FPL	Federal poverty level
FQHC	Federally Qualified Health Centers
HIV	Human immunodeficiency virus
LEP	Limited English proficiency
MMP	Medical Monitoring Project
MMPFS	Medical Monitoring Project Facility Survey
NHAS	National HIV/AIDS Strategy
NHSS	National HIV Surveillance System
PWH	People with HIV
PR	Prevalence ratio
RWHAP	Ryan White HIV/AIDS Program
SDOH	Social determinants of health

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Table 1.

Percentage of people with limited English proficiency (LEP) who received HIV care at a facility that offered language interpretation services onsite or by referral by selected characteristics—Medical Monitoring Project, United States 2019–2020, (N=467).

	People with HIV and limited English proficiency (LEP) ^a who received care at a facility with language interpretation services			
	n ^b	Row % (95% CI) ^c	Prevalence ratio (95% CI)	p-value
Total	467	89.9 (86.4–93.5)		
Language spoken at home				
Spanish	385	90.5 (87.5–93.6)	Reference	
Non-Spanish language ^d	82	87.1 (78.2–96.0) ^e	0.96 (0.88–1.05)	0.33
Country or region of birth				
Caribbean (excludes Puerto Rico)	63	91.2 (84.9–97.5) ^e	1.05 (0.92–1.20)	0.407
Central America	47	84.4 (74.6–94.1) ^e	0.97 (0.83–1.14)	0.744
Mexico	93	92.2 (86.0–98.5) ^e	1.06 (0.94–1.20)	0.266
Puerto Rico	148	89.7 (87.2–92.3)	1.04 (0.92–1.17)	0.54
South America	38	96.8 (90.6–100.0) ^e	1.12 (0.98–1.28)	0.167
United States	32	86.7 (76.3–97.0) ^e	Reference	
Another country or region of birth	45	87.0 (74.1–99.9) ^e	1.00 (0.84–1.19)	0.966
Ethnicity				
Hispanic/Latino	386	90.3 (87.3–93.4)	Reference	
Not Hispanic/Latino ^f	81	88.1 (79.3–96.9) ^e	0.98 (0.89–1.07)	0.548
Hispanic origin (among Hispanic or Latino people)				
Mexican or Chicano	101	92.9 (88.3–97.6) ^e	Reference	
Puerto Rican	152	88.4 (85.6–91.2)	0.95 (0.90–1.01)	0.164
Another or multiple Hispanic origins ^g	131	90.2 (84.3–96.1) ^e	0.97 (0.91–1.04)	0.35
Age, in years				
18–29	27	83.0 (69.6–96.4) ^e	0.93 (0.78–1.10)	0.301
30–39	73	91.3 (83.4–99.3) ^e	1.02 (0.93–1.12)	0.676
40–49	92	92.0 (84.3–99.7) ^e	1.03 (0.95–1.12)	0.563
≥50	275	89.4 (86.6–92.3)	Reference	
Educational attainment				
Less than high school	176	93.1 (88.6–97.6) ^e	1.07 (1.01–1.13)	0.035
High school diploma or equivalent	111	89.4 (84.3–94.5)	1.03 (0.95–1.11)	0.492
Greater than high school	180	87.0 (82.2–91.9)	Reference	
Employment status				
Employed	232	90.6 (86.0–95.3)	Reference	

	People with HIV and limited English proficiency (LEP)^a who received care at a facility with language interpretation services			
	n^b	Row % (95% CI)^c	Prevalence ratio (95% CI)	p-value
Unemployed	67	83.7 (74.2–93.2)	0.92 (0.84–1.02)	0.039
Other ^h	168	91.8 (88.0–95.7)	1.01 (0.94–1.09)	0.71
Household income with respect to the federal poverty level ⁱ				
<100–138% FPL	299	88.6 (84.1–93.2)	Reference	
≥139%	130	93.3 (89.4–97.2)	1.05 (1.00–1.11)	0.075
Health insurance, past 12 months				
Any private insurance	101	88.2 (80.9–95.5) ^e	Reference	
Public insurance only	277	91.3 (87.9–94.6)	1.03 (0.95–1.13)	0.404
Ryan White program coverage only or uninsured	84	88.8 (81.2–96.4) ^e	1.01 (0.92–1.10)	0.866
Attended a RWHAP-funded facility				
Yes	354	91.4 (86.5–96.3)	Reference	
No	113	86.2 (80.2–92.1)	0.94 (0.86–1.04)	0.233

Abbreviations: CI (confidence intervals); RWHAP (Ryan White HIV/AIDS Program)

^aLEP was defined as respondents who spoke a language other than English at home and spoke English less than “very well.” Respondents living in Puerto Rico were excluded because English is not the primary language there.

^bNumbers are unweighted.

^cPercentages are weighted row percentages and confidence intervals (CIs) incorporate weighted percentages.

^dWe dichotomized language spoken in the home to Spanish and non-Spanish (English excluded) languages (e.g., Chinese, Arabic, Haitian Creole) because of small sample sizes.

^eThe complement of the estimate is unstable (CV>30).

^fWe asked respondents which racial group or groups they considered themselves to be in (American Indian, or Alaska Native, Asian, Black, or African American, Native Hawaiian or other Pacific Islander, White) and whether they considered themselves to be of Hispanic, Latino, or Spanish origin. We dichotomized responses as Hispanic/Latino and not Hispanic/Latino because of small sample sizes.

^gWe asked respondents who identified as Hispanic/Latino to report their Hispanic or Latino origin, allowing for more than one category. Responses included Mexican or Chicano, Puerto Rican, Cuban, or another Hispanic or Latino origin. We categorized respondents who identified as Cuban, selected multiple Hispanic or Latino origins, or said they were another Hispanic of Latino origin as “Another or multiple Hispanic origins.”

^hOther employment includes homemaker, student, retired, and unable to work.

ⁱPercentage of the federal poverty level (FPL) was based on the household income of the respondent during the previous calendar year.

Table 2.

Percentage of HIV care facilities that provide language interpretation services onsite or by referral, overall and by selected characteristics—Medical Monitoring Project, United States 2019-2020.

	Facilities that provide language interpretation services onsite or by referral			
	n ^a	Row % (95% CI) ^b	Prevalence ratio (95% CI)	p-value
Total	384	83.6 (79.8–87.4)		
Means of providing language interpretation services				
Onsite		62.9 (58.1–67.7)	--	--
By established referral agreement		20.6 (16.6–24.7)	--	--
Facility type				
Federally qualified Health Center (FQHC) or FQHC look-alike ^c				
Yes	99	91.4 (85.4–97.4) ^d	1.12 (1.03–1.22)	0.035
No	282	81.4 (76.9–85.9)	Reference	
Hospital-based infectious disease clinic				
Yes	87	90.8 (84.4–97.1) ^d	1.11 (1.02–1.22)	0.052
No	294	81.5 (77.0–86.0)	Reference	
Hospital-based primary care clinic				
Yes	40	90.9 (81.2–100.0) ^d	1.10 (0.98–1.24)	0.231
No	341	82.7 (78.6–86.8)	Reference	
Private practice				
Yes	97	72.3 (64.5–80.1)	0.80 (0.72–0.90)	<0.001
No	284	90.0 (86.3–93.8)	Reference	
Other ^e				
Yes	140	85.7 (79.6–91.8)	1.04 (0.95–1.14)	0.415
No	241	82.4 (77.6–87.2)	Reference	
Receives RWHAP funding				
Yes	236	93.2 (89.8–96.5)	1.22 (1.12–1.33)	<0.001
No	148	76.3 (70.3–82.3)	Reference	
Types of health care coverage accepted				
Medicaid				
Yes	339	86.5 (82.7–90.4)	1.25 (1.05–1.49)	0.001
No	42	69.1 (57.4–80.7)	Reference	
Medicare				
Yes	359	84.7 (80.8–88.5)	1.20 (0.95–1.52)	0.047
No	22	70.4 (54.4–86.5) ^f	Reference	
Private insurance				
Yes	355	83.4 (79.5–87.4)	1.00 (0.85–1.18)	0.996
No	26	83.4 (70.3–96.6) ^d	Reference	

	Facilities that provide language interpretation services onsite or by referral			
	n ^a	Row % (95% CI) ^b	Prevalence ratio (95% CI)	p-value
ADAP or other Ryan White coverage				
Yes	278	91.6 (88.1–95.1)	1.28 (1.14–1.43)	<0.001
No	103	71.7 (64.3–79.2)	Reference	
Other ^g				
Yes	238	82.5 (77.6–87.4)	0.97 (0.88–1.06)	0.516
No	143	85.1 (79.1–91.1)	Reference	
Uses sliding fee scale for patients without health coverage				
Yes	265	85.9 (81.5–90.3)	1.09 (0.98–1.21)	0.094
No	109	79.0 (71.8–86.2)	Reference	
Location ^h				
Located in a metropolitan area				
Yes	359	83.8 (79.9–87.7)	1.05 (0.86–1.28)	0.592
No	25	79.8 (64.2–95.3) ^f	Reference	
Located in a medically underserved area				
Yes	194	86.2 (81.1–91.3)	1.06 (0.97–1.16)	0.219
No	190	81.5 (76.0–86.9)	Reference	
Located in a primary care health professional shortage area				
Yes	189	88.5 (83.8–93.3)	1.11 (1.02–1.22)	0.021
No	195	79.6 (74.0–85.2)	Reference	
Provides HIV-specific stigma and discrimination training for staff ⁱ				
Yes	280	85.1 (80.7–89.6)	1.06 (0.96–1.18)	0.24
No	101	80.2 (73.0–87.4)	Reference	
Provides training in other areas of cultural competency ^j				
Yes	286	90.3 (86.6–93.9)	1.28 (1.13–1.45)	<0.001
No	89	70.4 (62.1–78.8)	Reference	
Clinical and supportive services available onsite				
Clinical case management, other case management, or patient navigation				
Yes	306	89.6 (86.0–93.3)	1.28 (1.12–1.46)	<0.001
No	78	69.9 (61.2–78.6)	Reference	
Peer support counseling or peer support groups				
Yes	179	90.8 (86.4–95.3)	1.15 (1.05–1.25)	0.003
No	205	79.2 (73.8–84.6)	Reference	
Social work				
Yes	228	92.2 (88.5–96.0)	1.22 (1.11–1.34)	<0.001
No	156	75.5 (69.2–81.7)	Reference	
Assistance with transportation, housing, childcare, or food bank or meal delivery services				

	Facilities that provide language interpretation services onsite or by referral			
	n ^a	Row % (95% CI) ^b	Prevalence ratio (95% CI)	p-value
Yes	235	92.3 (88.5–96.1)	1.23 (1.12–1.34)	<0.001
No	149	75.3 (69.1–81.6)	Reference	
Mental health services				
Yes	216	90.3 (85.9–94.6)	1.16 (1.06–1.27)	0.002
No	168	77.7 (71.8–83.6)	Reference	
Pharmacy				
Yes	192	89.1 (84.3–93.8)	1.12 (1.03–1.22)	0.014
No	192	79.4 (73.9–84.9)	Reference	
None of the above				
Yes	50	67.1 (56.2–77.9)	0.76 (0.64–0.90)	<0.001
No	334	88.0 (84.3–91.6)	Reference	
Clinical and supportive services available through referrals				
Clinical case management, other case management, or patient navigation				
Yes	132	90.6 (85.5–95.6)	1.14 (1.05–1.24)	0.008
No	252	79.5 (74.4–84.6)	Reference	
Peer support counseling or peer support groups				
Yes	190	93.4 (89.7–97.1)	1.26 (1.15–1.38)	<0.001
No	194	74.4 (68.3–80.5)	Reference	
Social work				
Yes	108	91.9 (86.6–97.1) ^d	1.15 (1.06–1.25)	0.008
No	276	80.0 (75.2–84.9)	Reference	
Assistance with transportation, housing, childcare, or food bank or meal delivery services				
Yes	302	91.1 (87.7–94.4)	1.42 (1.22–1.65)	<0.001
No	82	64.3 (55.0–73.6)	Reference	
Mental health services				
Yes	131	89.4 (84.2–94.7)	1.12 (1.02–1.22)	0.023
No	253	80.1 (75.0–85.2)	Reference	
Pharmacy				
Yes	157	91.7 (87.2–96.1)	1.17 (1.08–1.28)	<0.001
No	227	78.2 (72.8–83.6)	Reference	
None of the above				
Yes	25	42.3 (28.4–56.3)	0.47 (0.34–0.66)	<0.001
No	359	89.7 (86.4–93.0)	Reference	

Abbreviation: RWHAP, Ryan White HIV/AIDS Program

^aNumbers are unweighted.

^bPercentages are weighted row percentages and confidence intervals (CIs) incorporate weighted percentages.

^cWe included a link (<https://findahealthcenter.hrsa.gov/>) for facilities that did not know if they were a Federally Qualified Health Center (FQHC). FQHC look-alikes are community-based health care providers that meet the requirements of the HRSA Health Center Program, but do not receive Health Center Program funding. They provide primary care services in underserved areas, provide care on a sliding fee scale based on ability to pay and operate under a governing board that includes patients.

^dThe complement of the estimate is unstable (CV>30).

^eOther facilities included state and local health departments; the Veterans Administration; STD clinics; other community-based organizations; research facilities; correctional facilities; Indian Health Service, Tribal Health, or Urban Indian Health Center; and other types of facilities.

^fEstimates with an absolute confidence interval width ≥ 0.30 ; estimates with an absolute confidence interval width of between 0.05-0.3 and a relative confidence interval width of >130%; and estimates of 0% or 100% should be interpreted with caution.

^gOther health coverage included Veterans Administration; Tricare; and other.

^hWe used publicly available datasets from the Health Resources and Services Administration to collect administrative data for all facilities to identify their underserved area/population designation, and primary care health professional shortage area designation.

ⁱWe asked, "Does the facility provide HIV-specific stigma or discrimination training at least once for all staff who interact with patients?"

^jWe asked, "Does the facility provide training in other areas of cultural competency at least once for all staff who interact with patients?" with a link to thinkculturalhealth.hhs.gov.