Original Research Article

HIV Care Access During the COVID-19 Pandemic as Perceived by Racial/Ethnic Minority Groups Served by the Ryan White Program, Miami-Dade County, Florida

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Abstract

The Ryan White Program (RWP) in Miami-Dade County, Florida made several modifications to keep HIV care accessible during the COVID-19 Pandemic, including expanding telehealth services, increasing access to HIV medications, and waiving required lab tests for service recertification. We assessed ease of access to medical providers, medical case managers, and antiretroviral medications during the COVID-19 Pandemic among 298 Non-Hispanic Black, Hispanic, and Haitian people with HIV (PWH) served by the RWP Part A, Miami-Dade County, Florida using a telephone-administered survey between October 2020 and January 2021. Overall, most clients reported similar or better access compared to before the Pandemic. Use of videocalls to communicate with HIV medical providers varied by race/ethnicity: Hispanics (49.6%), Non-Hispanic Blacks (37.7%), and Haitian clients (16.0%). Results suggest the modifications helped maintain access to care during an unprecedented health crisis. Permanently adopting many of these modifications should be considered to continue to facilitate access to care.

Keywords

COVID-19, Ryan White Program, HIV care

Introduction

In addition to its widespread social and economic impacts, the Coronavirus Disease-2019 (COVID-19) Pandemic has disrupted HIV prevention, testing, care, and treatment services globally.[1–4] Disruptions are due to physical distancing mandates, reduced health care provider availability due to diversion of providers to COVID-19 care, and to efforts to reduce the potential exposure of people with HIV (PWH) and of staff to the SARS-CoV-2 virus, the virus that causes COVID-19 illness, in clinics.[5–8] These disruptions may exacerbate existing disparities in HIV care outcomes. A study of 27 South Carolina Ryan White clinics found that 26% were closed and over half of the clinics had partial disruptions of clinical and support services beginning in March 2020; these disruptions were more likely to occur in areas with a higher prevalence of uninsured

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individuals.[9] Decreased viral suppression has been reported among especially vulnerable PWH, particularly homeless populations in San Francisco in April 2020 during a lock-down period, compared to December 2019-February 2020.[10] However, viral suppression levels were maintained in a clinic in Boston that quickly implemented telemedicine.[11] Any disruptions in the provision of HIV medical care, support services, and antiretroviral medications could potentially have widespread consequences with respect to increased HIV incidence and increased morbidity and mortality among PWH, possibly derailing progress of the Ending the HIV Epidemic Initiative.[12] Modeling studies directed toward HIV-positive men who have sex with men (MSM) in the US estimated that disruptions in ART resulting in a 10% reduction in viral suppression over 6 months could lead to a 6.4% increase in new HIV infections and a 9.5% increase in deaths during the subsequent year.[13]

Miami-Dade County, Florida, with a population of 2.7 million people,[14] and the highest HIV diagnosis rate of any metropolitan area in the United States,[15] has been heavily impacted by the COVID-19 Pandemic. A series of measures were undertaken to control SARS-CoV-2 transmission beginning in March 12, 2020, when Miami-Dade County's mayor declared a State of Emergency due to community-wide transmission of SARS-CoV-2.[16] This was followed by several closure orders for non-essential retail establishments and public places to prevent people from congregating.[17] On March 25, people aged 65 and older and those with health conditions, including immunocompromised individuals, were advised to stay home.[18] This was extended to all people on March 26.[19] The measures were loosened in late May, after the numbers of new infections declined, but the community experienced a second large wave of infections from June 2020 to September 2020, and a third wave from November 2020 to February 2021.[20] By January 29, 2021, about the time that data collection for this study was completed, 13.5% of the entire county's population had been diagnosed with COVID-19, and there were 4845 reported deaths.[14,21]

Consistent with guidance from the Health Resources and Services Administration,[22] the State of Florida and Miami-Dade County Ryan White Program (RWP), the provider of last resort serving uninsured and underinsured PWH,[23] made several modifications to preserve access to care. For the RWP Part B AIDS Drug Assistance Program (ADAP), these included suspending the requirement of a viral load test result within the last 6 months for ADAP recertification,[24] allowing ADAP recertification to occur without a physical office visit,[25] and expanding use of drive-through, mail and home delivery of antiretroviral medications. For RWP Part A and Minority AIDS Initiative HIV care programs, these included a similar waiver of re-enrollment lab tests, relaxing re-enrollment timelines,[26] and significant expansion of telehealth to allow medical case management, visits with clinical HIV medical and oral health-care providers, and mental health and substance abuse outpatient care to occur by telehealth (R. Ladner, Behavioral Science Research, Personal Communication, August 26,

2021). These types of changes were implemented by various Ryan White Programs throughout the US, but it is not known how these changes impacted client care and whether there were disparities in the population groups who most benefited from them.[27]

To assess access to HIV care and COVID-19 Pandemic-related hardships among Non-Hispanic Black, Hispanic and Haitian PWH served by the Miami-Dade County RWP, we conducted a survey by telephone with 291 RWP clients between October 2020 and January 2021. The objective was to assess RWP client access to HIV medical providers, medical case managers and antiretroviral medications, and determine whether access varied by racial/ethnic and gender groups.

Methods

Design and Participants

This was an exploratory, descriptive, cross-sectional study of adults living with HIV infection who received medical case management through the RWP and who self-identified as being African American, Hispanic/Latinx, or Haitian. (Together, these three racial/ethnic groups comprise 93% of clients served by the Miami-Dade County RWP.[28]) Based on the distribution of RWP clients by ethnic group, the survey targeted a quota sample of 100 African American respondents, 130 Hispanics and 70 Haitians, roughly half women and half men, to obtain large enough numbers in each racial/ethnic group to be able to describe their experiences. Potential participants were initially identified from lists of RWP clients who had previously provided consent to be contacted for research. Up to five attempts were made to reach all 743 people on the list, but 624 (84.0%) could not be reached, either due to the phone number no longer being in service or the person not answering the call, and of those reached, 15 (2.1%) refused. The remaining 104 agreed to participate. An additional 187 participants were recruited from RWP adult clients from the same racial/ethnic groups, who were concurrently participating in an annual RWP client experience telephone survey and who consented to participate in the additional research (less than 20% refused). The surveys were conducted between October 2020 and January 2021.

Survey Instrument: Participants were asked demographic questions including questions about gender, race/ethnicity, country of birth, preferred language, age group, sexual orientation, education level, employment, and how many adults and children lived in the household. RWP administrative records provided data on household income (as percent of the Federal Poverty Level) and whether the participant was enrolled in an Affordable Care Act marketplace insurance plan.

Participants were asked if they had communicated with their HIV medical provider and with their RWP medical case manager with the following questions: "Since the COVID-19 Pandemic began, have you been in touch with your HIV doctor either in person or some other way?" "Since the

COVID-19 Pandemic began, have you been in touch with your medical case manager either in person or some other way?" Participants were then asked how they had been in contact with them: "And specifically, how have you been in touch with your HIV doctor?" with the following modalities offered as responses: "In person", "By phone," "By video call", "By email", and "By text messaging." Participants could respond "yes" to multiple modalities. Participants were also asked how they obtained their HIV medication during the Pandemic: "Since the COVID-19 Pandemic began, how have you been getting your HIV medications?", with the following options offered as responses: "In person, from the ADAP pharmacy," "In person, from another pharmacy," "Delivery in the mail," and "Delivered in person [home delivery]." Participants could respond "yes" to multiple modalities.

To assess ease of accessing care, participants were asked the following three questions: "Compared to before the COVID-19 Pandemic, how easy has it been to get the help you needed from your HIV doctor?" "Compared to before the COVID-19 Pandemic, how easy has it been to get the help you needed from your medical case manager?" and "Compared to before the COVID-19 Pandemic, how easy has it been to get your HIV medications?" The responses included: "much easier," "somewhat easier," "about the same," "somewhat harder," "much harder."

The survey instruments were translated into Spanish and into Haitian Creole. For each language there were at least two different native speakers who translated or reviewed the translations. The instrument was piloted in all three languages (English, Spanish and Haitian Creole) and revised as needed.

Analysis: Descriptive analyses of the demographic variables were conducted, as well as how individuals were accessing care and the reported ease of accessing this care. The differences in demographic characteristics between racial/ethnic and gender groups were tested using chi square and Fisher's Exact test as appropriate, using SAS Version 9.4.[29] The seven participants who were neither cisgender male nor cisgender female were included in descriptive analyses as 'Other' but excluded from the logistic regression models to avoid the model convergence failure caused by the small number of observations. The bivariate analyses using chi square or Fisher's Exact test were conducted to examine the unadjusted associations between the demographic variables and each dependent variable of interest: ease of access to HIV doctor, ease of access to medical case manager, and ease of obtaining HIV medications during the Pandemic compared to before the Pandemic. For assessing differences by demographic characteristics, responses for ease of accessing their HIV doctor, case manager, and HIV medications were grouped into two categories: 1) reporting "much easier," "somewhat easier," or "same' and 2) reporting "somewhat harder" or "much harder." Age group, race/ethnicity, and gender, as well as all factors associated with ease of accessing care with a P-value < 0.2, were included in a multiple logistic regression model to examine their adjusted effect on each of the three dependent variables respectively. Interaction effects

with race/ethnicity, age, and gender were assessed for those variables that were significant in the model.

Ethical Approval and Informed Consent: Our study was approved by The Florida International University Social Behavioral Institutional Review Board (approval no. IRB-17-0234). All participants provided verbal informed consent because the entire interaction was over the telephone due to the COVID-19 Pandemic safety concerns. The extensive informed consent process was conducted prior to the interview, and the interviewer documented the consent.

Results

Demographic Characteristics: Of the 298 participants, 148 (49.7%) were cisgender women, 143 were cisgender men (48.0%), and 7 (2.3%) were transgender or non-binary (3 transgender women, 1 transgender man, and 3 non-binary) (Table 1). With respect to self-reported race/ethnicity, 129 (43.3%) were Hispanic, 116 (38.9) were Non-Hispanic Black (excluding Haitians), and 53 (17.8%) were Haitian. The largest age group was 55 years of age and older (37.9%), and the smallest 18-34 years of age (13.4%). About a quarter (26.6%) reported their sexual orientation as gay or lesbian, and this varied by race/ethnicity (41.1% among Hispanics, 20.9% among Non-Hispanic Blacks, and 3.9% among Haitians) (P <0.001). Just over half of the interviews (50.3%) were conducted in English, but 58.6% of the participants were not born in the United States, with this varying by race/ethnicity (88.7% among Haitians, 85.2% among Hispanics, and 15.5% among Non-Hispanic Blacks) (P <0.001). With respect to income, 42.9% lived in households with income below 100% of the Federal Poverty Line (FPL). Just over half were employed full-time prior to the Pandemic (50.2%), and a further 23.6% were employed part-time. Sixty-six respondents (22.2%) were enrolled in Affordable Care Act marketplace health insurance (an option for RWP clients with household incomes greater than 100% of the FPL). Sixty-four (21.5%) had not completed a high school education, and this varied by gender (28.4% among cisgender women vs 14.0% among cisgender men) (P = .003) and race/ethnicity (14.0% among Hispanics, 22.4% among Non-Hispanic Blacks and 37.7% among Haitians) (P <0.001). Fifty (33.8%) of cis-gender women reported having one or more children in the household compared to 30 (21.0%) of cis-gender men (P = .012). Most (77.4%) had another adult living in the household with them.

How Care was Accessed during the Pandemic: More participants reported that it was much easier (n = 21) or somewhat easier (n = 54) to access their HIV medical provider during the Pandemic, compared with before the Pandemic, than reported that it was somewhat (n = 45) or much harder (n = 19) (Table 2). All but seven participants had been in contact with their HIV medical provider since the Pandemic began, and the percentage in contact with their HIV medical provider did not vary by race/ethnicity or gender. Of the 291 participants who had contact with the HIV medical provider, 67.7% had

Table 1. Demographic Characteristics of Study Sample by Gender and Race/Ethnicity.

		Gender				Race/Ethnicity			
	Total (n = 298)	Cis-gender Women, n = 148	Cis-gender Men, n = 143	Other,[a] n = 7	P-value[b]	Haitian, n = 53	Hispanic, n = 129	Non-Hispanic Black, n = 116	P-value[c]
Race/ethnicity					0.097	-	-	-	-
Haitian	53 (17.8)	34 (23.0)	19 (13.3)	0 (0.0)					
Hispanic	129 (43.3)	55 (37.2)	70 (49.0)	4 (57.1)					
Non-Hispanic Black	116 (38.9)	59 (39.9)	54 (37.8)	3 (42.9)					
Age Group (years)					0.156				0.064
18-34	40 (13.4)	12 (8.1)	26 (18.2)	2 (28.6)		5 (9.4)	18 (14.0)	17 (14.7)	
35-44	52 (17.5)	26 (17.6)	25 (17.5)	1 (14.3)		10 (18.9)	27 (20.9)	15 (12.9)	
45-54	93 (31.2)	48 (32.4)	43 (30.1)	2 (28.6)		19 (35.9)	46 (35.7)	28 (24.1)	
55 +	113 (37.9)	62 (41.9)	49 (34.3)	2 (28.6)		19 (35.9)	38 (29.5)	56 (48.3)	
Sexual Orientation					<.0001				<.0001
Heterosexual	199 (68.6)	141 (96.6)	56 (40.6)	2 (33.3)		47 (92.2)	65 (52.4)	87 (75.7)	
Lesbian/Gay	77 (26.6)	4 (2.7)	69 (50.0)	4 (66.7)		2 (3.9)	51 (41.1)	24 (20.9)	
Bisexual	14 (4.8)	1 (0.7)	13 (9.4)	0 (0.0)		2 (3.9)	8 (6.5)	4 (3.5)	
Language of Interview					0.175				<.0001
English	150 (50.3)	72 (48.7)	75 (52.5)	3 (42.9)		15 (28.3)	20 (15.0)	115 (99.1)	
Spanish	109 (36.6)	50 (33.8)	56 (39.2)	3 (42.9)		0 (0.0)	109 (84.5)	0 (0.0)	
Haitian Creole	39 (13.1)	26 (17.6)	12 (8.4)	1 (14.3)		38 (71.7)	0 (0.0)	1 (0.9)	
Country of Birth					0.485				<.0001
United States	123 (41.4)	57 (38.8)	64 (44.8)	2 (28.6)		6 (11.3)	19 (14.8)	98 (84.5)	
Not in United States	174 (58.6)	90 (61.2)	79 (55.2)	5 (71.4)		47 (88.7)	109 (85.2)	18 (15.5)	
Household Income as Percentage of Federal Poverty Level					0.953				0.100
<100	127 (42.9)	61 (41.5)	62 (43.7)	4 (57.1)		23 (43.4)	47 (36.7)	57 (49.6)	
100-199	116 (39.2)	58 (39.5)	56 (39.4)	2 (28.6)		25 (47.2)	54 (42.2)	37 (32.2)	
200-399	53 (17.9)	28 (19.1)	24 (16.9)	1 (14.3)		5 (9.4)	27 (21.1)	21 (18.3)	
Employed Prior to Pandemic					0.019				0.001
Full-time	149 (50.2)	74 (50.0)	74 (52.1)	1 (14.3)		27 (50.9)	75 (58.6)	47 (40.5)	
Part-time	70 (23.6)	28 (18.9)	40 (28.2)	2 (28.6)		16 (30.2)	31 (24.2)	23 (19.8)	
No	78 (26.3)	46 (31.1)	28 (19.7)	4 (57.1)		10 (18.9)	22 (17.2)	46 (39.7)	
Enrolled in Affordable Care Act Program					0.961				0.007
Yes	66 (22.2)	34 (23.0)	31 (21.7)	1 (14.3)		17 (32.1)	34 (26.4)	15 (12.9)	
No	232 (77.9)	114 (77.0)	112 (78.3)	6 (85.7)		36 (67.9)	95 (73.6)	101 (87.1)	

Table 1. (continued)

		Gender				Race/Ethnicity			
	Total (n = 298)	Cis-gender Women, n = 148	Cis-gender Men, n = 143	Other,[a] n = 7	P-value[b]	Haitian, n = 53	Hispanic, n = 129	Non-Hispanic Black, n = 116	P-value[c]
Educational Level					0.003				<.0001
Less than 12th Grade	64 (21.5)	42 (28.4)	20 (14.0)	2 (28.6)		20 (37.7)	18 (14.0)	26 (22.4)	
High School Graduate	106 (35.6)	56 (37.8)	48 (33.6)	2 (28.6)		19 (35.9)	40 (31.0)	47 (40.5)	
Some College	66 (22.2)	32 (21.6)	31 (21.7)	3 (42.9)		13 (24.5)	28 (21.7)	25 (21.6)	
College Graduate	62 (20.8)	18 (12.2)	44 (30.8)	0 (0.0)		1 (1.9)	43 (33.3)	18 (15.5)	
Number Children in Household Younger than 18					0.012				0.129
0	218 (73.2)	98 (66.2)	113 (79.0)	7 (100.0)		33 (62.3)	99 (76.7)	86 (74.1)	
1 or More	80 (26.9)	50 (33.8)	30 (21.0)	0 (0.0)		20 (37.7)	30 (23.3)	30 (25.9)	
Number of Adults in Household Excluding Participant					0.958				0.063
0	66 (22.6)	32 (22.2)	33 (23.2)	1 (16.7)		10 (20.8)	22 (17.1)	34 (29.6)	
1 or More	226 (77.4)	112 (77.8)	109 (76.8)	5 (83.3)		38 (79.2)	107 (83.0)	81 (70.4)	

[a]Other gender included 3 transgender female, 1 transgender male and 3 non-binary participants.
[b]Fisher's Exact test.
[c]Chi-square test.
Note: Missing values were as follows: sexual orientation = 8; household income as percentage of FPL = 2; employed prior to pandemic = 1; country of birth = 1; number of adults in household = 6.

seen their medical provider in person, 42.3% had communicated by phone, 39.2% using videocalls, 0.7% by e-mail, and 0.7% by text messaging (Table 2). Cisgender women and transgender/non-binary individuals were more likely to report seeing their medical provider in-person (73.3% and 85.7%), respectively than cisgender men (60.9%) (*P* = .046), while cisgender men (47.8%) were more likely to report using videocalls than cisgender women (32.2%) or transgender/non-binary individuals (14.3%) (*P* = .010). Hispanics (49.6%) were more likely to report using video calls than Non-Hispanic Blacks (37.7%) and Haitians (16.0%) (*P* <0.001).

More participants reported that it was much easier (n = 22) or somewhat easier (n = 42) to access their medical case manager during the Pandemic compared with before the Pandemic than those who reported that it was somewhat harder (n = 25) or much harder (n = 5) (Table 2). A lower percentage (89.6%) of participants were in contact with their medical case manager than their HIV medical provider (97.7%) (*P* <0.001). The percentage in contact with their medical case manager did not vary by gender or race/ethnicity.

Of the 267 participants who were in contact with their medical case manager, 56.2% had seen their case manager in person, 74.2% had communicated by phone, 6.7% used videocalls, 7.1% by e-mail, and 7.1% used text messaging. Haitians

were more likely to report seeing their case manager in person (73.5%) than Hispanics (54.4%) and Non-Hispanic Blacks (50.0%) (*P* = .021). No Haitians had been in contact with their case manager using videocalls, compared with 11.4% of Hispanics and 4.8% of Non-Hispanic Blacks (*P* = .017).

All but three participants reported currently taking HIV medications. More participants reported that it was much easier (n = 32) or somewhat easier (n = 45) to access their HIV medications during the Pandemic compared with before the Pandemic than reported that it was somewhat harder (n = 18) or much harder (n = 7) to do so (Table 2). Of the 295 participants taking HIV medications, 37.3% reported obtaining HIV medications in person from the AIDS Drug Assistance Program (ADAP) pharmacy, 28.1% in-person from another pharmacy, 26.4% delivered through the mail, and 13.9% by home delivery. The highest percentage of people having it delivered in the mail was among Hispanics (37.5%), followed by Non-Hispanic Blacks (20.9%) and Haitians (11.5%) (*P* <.0001). The highest percentage of participants having it delivered at home was Non-Hispanic Blacks (23.5%) followed by Haitians (15.4%) and Hispanics (4.7%) (*P* <0.001).

Factors Associated with Ease of Accessing HIV Medical Provider Care during the COVID-19 Pandemic Compared to prior to the Pandemic: There were no statistically significant

Table 2. Reported Ease of Access to Care and Methods in Which Participants Accessed Care and Obtained HIV Medications by Gender and Race/Ethnicity.

		Gender				Race/Ethnicity			
	Total	Cis-Gender Women, n = 148	Cis-Gender Men, n = 143	Other Gender, n = 7[a]	P-value	Haitian, n = 53	Hispanic, n = 129	Non-Hispanic Black, n = 116	P-value
Compared to Before the Pandemic, How Easy It Was to Access HIV Provider					0.0312[b]				0.279[c]
Much Easier	21 (7.2)	4 (2.7)	17 (12.3)	0 (0.0)		3 (6.0)	7 (5.5)	11 (9.7)	
Somewhat Easier	54 (18.6)	32 (21.9)	21 (15.2)	1 (14.3)		9 (18.0)	30 (23.6)	15 (13.2)	
About same	152 (52.2)	82 (56.2)	67 (48.6)	3 (42.9)		29 (58.0)	57 (44.9)	66 (57.9)	
Somewhat Harder	45 (15.5)	21 (14.4)	22 (15.9)	2 (28.6)		7 (14.0)	24 (18.9)	14 (12.3)	
Much Harder	19 (6.5)	7 (4.8)	11 (8.0)	1 (14.3)		2 (4.0)	9 (7.1)	8 (7.0)	
Been in Touch with HIV Provider					0.388[b]				0.229[b]
Yes	291 (97.7)	146 (98.7)	138 (96.5)	7 (100.0)		50 (94.3)	127 (98.5)	114 (98.3)	
No	7 (2.4)	2 (1.4)	5 (3.5)	0 (0.0)		3 (5.7)	2 (1.6)	2 (1.7)	
In Touch with HIV Provider In-Person					0.046[b]				0.03 °[c]
Yes	197 (67.7)	107 (73.3)	84 (60.9)	6 (85.7)		41 (82.0)	78 (61.4)	78 (68.4)	
No	94 (32.3)	39 (26.7)	54 (39.1)	1 (14.3)		9 (18.0)	49 (38.6)	36 (31.6)	
In Touch with Provider by Phone					0.243[b]				0.772[c]
Yes	123 (42.3)	63 (43.2)	55 (39.9)	5 (71.4)		21 (42.0)	51 (40.2)	51 (44.7)	
No	168 (57.7)	83 (56.9)	83 (60.1)	2 (28.6)		29 (58.0)	76 (59.8)	63 (55.3)	
In Touch with Provider by Video Call					0.010[b]				0.0002[c]
Yes	114 (39.2)	47 (32.2)	66 (47.8)	1 (14.3)		8 (16.0)	63 (49.6)	43 (37.7)	
No	177 (60.8)	99 (67.8)	72 (52.2)	6 (85.7)		42 (84.0)	64 (50.4)	71 (62.3)	
In Touch with Provider by Email					0.048[b]				0.467[b]
Yes	2 (0.7)	1 (0.7)	0 (0.0)	1 (14.3)		0 (0.0)	0 (0.0)	2 (1.8)	
No	289 (99.3)	145 (99.3)	138 (100.0)	6 (85.7)		50 (100.0)	127 (100.0)	112 (98.3)	
In Touch with Provider by Text Messaging					0.023[b]				0.467[b]
Yes	2 (0.7)	0 (0.0)	1 (0.7)	1 (14.3)		0 (0.0)	0 (0.0)	2 (1.8)	
No	289 (99.3)	146 (100.0)	137 (99.3)	6 (85.7)		50 (100.0)	127 (100.0)	112 (98.3)	
Compared to Before the Pandemic, How Easy It Was to Access Medical Case Manager					0.043[b]				0.486[b]
Much Easier	22 (8.2)	9 (6.8)	13 (10.1)	0 (0.0)		2 (4.1)	8 (7.0)	12 (11.5)	

Table 2. (continued)

		Gender				Race/Ethnicity			
	Total	Cis-Gender Women, n = 148	Cis-Gender Men, n = 143	Other Gender, n = 7[a]	P-value	Haitian, n = 53	Hispanic, n = 129	Non-Hispanic Black, n = 116	P-value
Somewhat Easier	42 (15.7)	22 (16.7)	18 (14.0)	2 (33.3)		10 (20.4)	20 (17.5)	12 (11.5)	
About same	173 (64.8)	91 (68.9)	81 (62.8)	1 (16.7)		34 (69.4)	74 (64.9)	65 (62.5)	
Somewhat Harder	25 (9.4)	8 (6.1)	14 (10.9)	3 (50.0)		3 (6.1)	9 (7.9)	13 (12.5)	
Much Harder	5 (1.9)	2 (1.5)	3 (2.3)	0 (0.0)		0 (0.0)	3 (2.6)	2 (1.9)	
Been in Touch with Case Manager in person or some other way					0.906[c]				0.715[c]
Yes	267 (89.6)	132 (89.2)	129 (90.2)	6 (85.7)		49 (92.5)	114 (88.4)	104 (89.7)	
No	31 (10.4)	16 (10.8)	14 (9.8)	1 (14.3)		4 (7.6)	15 (11.6)	12 (10.3)	
In Touch with Case Manager In-Person					0.066[c]				0.021[c]
Yes	150 (56.2)	81 (61.4)	64 (49.6)	5 (83.3)		36 (73.5)	62 (54.4)	52 (50.0)	
No	117 (43.8)	51 (38.6)	65 (50.4)	1 (16.7)		13 (26.5)	52 (45.6)	52 (50.0)	
In Touch with Case Manager by Phone					0.197[b]				0.062[c]
Yes	198 (74.2)	93 (70.5)	99 (76.7)	6 (100.0)		30 (61.2)	86 (75.4)	82 (78.9)	
No	69 (25.8)	39 (29.6)	30 (23.3)	0 (0.0)		19 (38.8)	28 (24.6)	22 (21.2)	
In Touch with Case Manager by Video Call					0.272[c]				0.017[c]
Yes	18 (6.7)	6 (4.6)	11 (8.5)	1 (16.7)		0 (0.0)	13 (11.4)	5 (4.8)	
No	249 (93.3)	126 (95.5)	118 (91.5)	5 (83.3)		49 (100.0)	101 (88.6)	99 (95.2)	
In Touch with Case Manager by E-mail					0.392[c]				0.056[c]
Yes	19 (7.1)	7 (5.3)	11 (8.5)	1 (16.7)		0 (0.0)	12 (10.5)	7 (6.7)	
No	248 (92.9)	125 (94.7)	118 (91.5)	5 (83.3)		49 (100.0)	102 (89.5)	97 (93.3)	
In Touch with Case Manager by text message					0.777[c]				0.309[c]
Yes	19 (7.1)	10 (7.6)	9 (7.0)	0 (0.0)		4 (8.2)	5 (4.4)	10 (9.6)	
No	248 (92.9)	122 (92.4)	120 (93.0)	6 (100.0)		45 (91.8)	109 (95.6)	94 (90.4)	
Currently taking any medications for HIV					0.644[b]				0.584[b]
Yes	295 (99.0)	147 (99.3)	141 (98.6)	7 (100.0)		52 (98.1)	128 (99.2)	115 (99.1)	
No	3 (1.0)	1 (0.7)	2 (1.4)	0 (0.0)		1 (1.9)	1 (0.8)	1 (0.9)	
Ease of Obtaining HIV Medications					0.239[b]				0.003[b]
Much Easier	32 (10.9)	13 (8.8)	19 (13.5)	0 (0.0)		5 (9.6)	9 (7.0)	18 (15.7)	

Table 2. (continued)

	Total	Gender				Race/Ethnicity			
		Cis-Gender Women, n = 148	Cis-Gender Men, n = 143	Other Gender, n = 7[a]	P-value	Haitian, n = 53	Hispanic, n = 129	Non-Hispanic Black, n = 116	P-value
Somewhat Easier	45 (15.3)	29 (19.7)	14 (9.9)	2 (28.6)		4 (7.7)	30 (23.4)	11 (9.6)	
About same	193 (65.4)	92 (62.6)	96 (68.1)	5 (71.4)		40 (76.9)	72 (56.3)	81 (70.4)	
Somewhat Harder	18 (6.1)	8 (5.4)	10 (7.1)	0 (0.0)		2 (3.9)	12 (9.4)	4 (3.5)	
Much Harder	7 (2.4)	5 (3.4)	2 (1.4)	0 (0.0)		1 (1.9)	5 (3.9)	1 (0.9)	
Obtained HIV Medications In-Person, from the ADAP Pharmacy					0.423[b]				0.085[c]
Yes	110 (37.3)	58 (39.5)	51 (36.2)	1 (14.3)		23 (44.2)	53 (41.4)	34 (29.6)	
No	185 (62.7)	89 (60.5)	90 (63.8)	6 (85.7)		29 (55.8)	75 (58.6)	81 (70.4)	
Obtained HIV Medications In-Person, from Another Pharmacy					0.011[c]				0.015[c]
Yes	83 (28.1)	34 (23.1)	44 (31.2)	5 (71.4)		19 (36.5)	25 (19.5)	39 (33.9)	
No	212 (71.9)	113 (76.9)	97 (68.8)	2 (28.6)		33 (63.5)	103 (80.5)	76 (66.1)	
Obtained HIV Medications Delivered in the Mail					0.191[c]				0.0004[c]
Yes	78 (26.4)	32 (21.8)	44 (31.2)	2 (28.6)		6 (11.5)	48 (37.5)	24 (20.9)	
No	217 (73.6)	115 (78.2)	97 (68.8)	5 (71.4)		46 (88.5)	80 (62.5)	91 (79.1)	
Obtained HIV Medications Delivered In-Person					0.066[c]				0.0001[c]
Yes	41 (13.9)	27 (18.4)	14 (9.9)	0 (0.0)		8 (15.4)	6 (4.7)	27 (23.5)	
No	254 (86.1)	120 (81.6)	127 (90.1)	7 (100.0)		44 (84.6)	122 (95.3)	88 (76.5)	
Had a positive COVID-19 test (blood or swab)					0.46[oc]				0.296[c]
Yes	28 (9.4)	12 (8.1)	16 (11.2)	0 (0.0)		4 (7.6)	16 (12.4)	8 (6.9)	
No	270 (90.6)	136 (91.9)	127 (88.8)	7 (100.0)		49 (92.5)	113 (87.6)	108 (93.1)	

[a]Other gender included 3 transgender female, 1 transgender male and 3 non-binary participants.
[b]P-value from Fisher's Exact test.
[c]P-value from chi-square test.
Note: Missing values were as follows: ease of accessing doctor = 7; ease of accessing case manager = 31; ease of getting meds = 3.

differences between those who reported that it was much harder or somewhat harder to access HIV medical providers versus the same, somewhat easier or much easier by gender, race/ethnicity, or age group (Table 3). However, increased difficulty accessing HIV medical provider was more frequently reported by those with lower household income (26.4% <100% FPL; 23.2% 100-199% FPL; 9.6% 200-399 FPL; P = .047). It was also more frequently reported by those having one or more children in the household (29.9%), compared with those without children (19.2%), but the association did not reach statistical

Table 3. Self-Reported Ease of Access to HIV Providers, Medical Case Manager and HIV Medications During COVID-19 Pandemic Compared with Prior to COVID-19 Pandemic by Demographic and Other Characteristics.

	Ease of Access to HIV Provider (n = 291)			Ease of Access to Medical Case Manager (n = 267)			Ease of Access to HIV Medications (n = 295)		
	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value[a]	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value
Total	64	227		30	237		25	270	
Gender			0.253			0.004			0.714
Cis-Gender Women	28 (19.2)	118 (80.8)		10 (7.6)	122 (92.4)		13 (8.8)	134 (91.2)	
Cis-Gender Men	33 (23.9)	105 (76.1)		17 (13.2)	112 (86.8)		12 (8.5)	129 (91.5)	
Other[b]	3 (42.9)	4 (57.1)		3 (50.0)	3 (50.0)		0 (0.0)	7 (100.0)	
Race/Ethnicity			0.345			0.301			0.033
Haitian	9 (18.0)	41 (82.0)		3 (6.1)	46 (93.9)		3 (5.8)	49 (94.2)	
Hispanic	33 (26.0)	94 (74.0)		12 (10.5)	102 (89.5)		17 (13.3)	111 (86.7)	
Non-Hispanic Black	22 (19.3)	92 (80.7)		15 (14.4)	89 (85.6)		5 (4.4)	110 (95.7)	
Age Group (years)			0.562			0.527			0.147
18-34	9 (24.3)	28 (75.7)		6 (17.7)	28 (82.4)		7 (17.5)	33 (82.5)	
35-44	13 (26.0)	37 (74.0)		4 (9.3)	39 (90.7)		4 (7.8)	47 (92.2)	
45-54	22 (24.2)	69 (75.8)		11 (12.4)	78 (87.6)		8 (8.7)	84 (91.3)	
55 +	20 (17.7)	93 (82.3)		9 (8.9)	92 (91.1)		6 (5.4)	106 (94.6)	
Sexual Orientation			0.179			0.587			0.677
Heterosexual	38 (19.6)	156 (80.4)		19 (10.8)	157 (89.2)		18 (9.2)	178 (90.8)	
Gay/Lesbian/Bisexual	24 (26.7)	66 (73.3)		11 (13.10)	73 (86.9)		7 (7.7)	84 (92.3)	
Language of Interview			0.661			0.126			0.272
English	31 (21.0)	117 (79.1)		19 (14.2)	115 (85.8)		10 (6.7)	139 (93.3)	
Not English	33 (23.1)	110 (76.9)		11 (8.3)	122 (91.7)		15 (10.3)	131 (81.7)	
County of Birth			0.438			0.132			0.314
United States	24 (19.8)	97 (80.2)		16 (14.8)	92 (85.2)		8 (6.6)	114 (93.4)	
Not in United States	40 (23.7)	129 (76.3)		14 (8.9)	144 (91.1)		17 (9.9)	155 (90.1)	
Household Income as Percentage of Federal Poverty Level			0.047			0.065			0.213
<100%	33 (26.4)	92 (73.6)		19 (16.4)	97 (83.6)		15 (11.8)	112 (88.2)	
100-199%	26 (23.2)	86 (76.8)		8 (7.9)	93 (92.1)		7 (6.1)	108 (93.9)	
200-399%	5 (9.6)	47 (90.4)		3 (6.1)	46 (93.9)		3 (5.9)	48 (94.1)	
Work			0.974			0.175			0.819
Full time	31 (21.4)	114 (78.6)		11 (8.2)	124 (91.9)		11 (7.5)	135 (92.5)	
Part time	15 (21.4)	55 (78.6)		7 (10.6)	59 (89.4)		7 (10.0)	63 (90.0)	
No	17 (22.7)	58 (77.3)		11 (16.9)	54 (83.1)		7 (9.0)	71 (91.0)	
Enrolled in Affordable Care Act Insurance Program			0.293			0.320			0.447
Yes	11 (17.2)	53 (82.8)		5 (7.8)	59 (92.2)		4 (6.2)	61 (93.9)	
No	53 (23.4)	174 (76.7)		25 (12.3)	178 (87.7)		21 (9.1)	209 (90.9)	

(continued)

Table 3. (continued)

	Ease of Access to HIV Provider (n = 291)			Ease of Access to Medical Case Manager (n = 267)			Ease of Access to HIV Medications (n = 295)		
	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value[a]	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value	Much Harder or Somewhat Harder, n (%)	Same, Somewhat Easier or Much Easier, n (%)	P-value
Education			0.602			0.419			0.813
Less than 12 years	11 (17.5)	52 (82.5)		9 (15.5)	49 (84.5)		4 (6.4)	59 (93.7)	
High school grade	21 (20.4)	82 (79.6)		7 (7.3)	89 (92.7)		8 (7.7)	96 (92.3)	
Some college	17 (25.8)	49 (74.2)		8 (13.3)	52 (86.7)		7 (10.6)	59 (89.4)	
College graduate	15 (25.4)	44 (74.6)		6 (11.3)	47 (88.7)		6 (9.7)	56 (90.3)	
Number of Children in Household Younger than 18			0.052			0.185			0.006
0	41 (19.2)	173 (80.8)		19 (9.7)	177 (90.3)		11 (5.1)	205 (94.9)	
1 or more	23 (29.9)	54 (70.1)		11 (15.5)	60 (84.5)		14 (17.7)	65 (82.3)	
Number of Adults in Household Excluding Participant			0.576			0.561			0.724
0	16 (24.2)	50 (75.8)		8 (13.1)	53 (86.9)		5 (7.6)	61 (92.4)	
1 or More	46 (21.0)	173 (79.0)		21 (10.5)	180 (89.6)		20 (9.0)	203 (91.0)	

[a]P-value is for the comparison between those answering "much harder" or "somewhat harder" access versus those answering "same" or "somewhat easier" or "much easier". Fisher's Exact used to test associations of age group with case manager access and ease of obtaining medications. All other associations tested with chi-square.
[b]Other gender included 3 transgender female, 1 transgender male and 3 non-binary participants.
Note: Forease of accessing HIV care provider, missing values were as follows: sexual orientation = 7; household income as percentage of FPL = 2; employed prior to pandemic = 1; country of birth = 1; number of adults in household = 6. For ease of accessing medical case manager, missing values were as follows: sexual orientation = 7; household income as percentage of FPL = 1; employed prior to pandemic = 1; country of birth = 1; number of adults in household = 5. For ease of obtaining HIV medications, missing values were as follows: sexual orientation = 8; household income as percentage of FPL = 2; employed prior to pandemic = 1; country of birth = 1; number of adults in household = 6.

significance ($P = .052$). Gender, race/ethnicity, and age group as well as the variables associated with ease of accessing HIV medical provider care at $P < 0.2$ (household income, number of children in household and sexual orientation) were included in a logistic regression model with somewhat/much harder versus the same or somewhat/much easier to access HIV medical provider as the dependent variable. However, none of the independent variables in the model was statistically significant; thus, the model output is not reported here. As a post-hoc analysis, the model was rerun removing those who reported that access to their HIV medical provider was the same during the Pandemic compared to prior to the Pandemic and thus comparing those who said that it was somewhat or much easier with those who said it was somewhat or much harder. In that model, the only factor that was significantly associated with reporting that it was harder to see their HIV medical provider was number of children (adjusted odds ratio [aOR] 2.61; 95% confidence interval [CI] 1.10-6.18). Interaction effects with

race/ethnicity, age, and gender for having a child or more in the household were tested in the post-hoc model separately, and none was significant.

Factors Associated with Difficulty of Accessing Medical Case Manager: In the descriptive bivariate analysis, only 13.2% of cisgender men and 7.6% of cisgender women reported that it was somewhat or much harder accessing their medical case managers during the Pandemic (Table 3). Three of the six transgender/non-binary individuals who accessed case managers reported that it was somewhat or much harder accessing case managers. Gender, race/ethnicity, and age group as well as the variables associated with difficulty of accessing medical case managers at $P < 0.2$ (US born, language, household income, work status prior to the Pandemic, and number of children in household) were included in a logistic regression model with somewhat/much harder versus the same or somewhat/much easier to access to medical case manager as the dependent variable. However, none of the independent

variables in the model was statistically significant; thus, the model output is not reported here. As a post-hoc analysis, the model was rerun excluding those who reported no change in ease of accessing medical case manager and thus comparing those who said that it was somewhat or much easier with those who said it was somewhat or much harder; none of the independent variables in that model was statistically significant either.

Factors Associated with Difficulty Obtaining HIV Medications: Hispanics (13.3%) followed by Haitians (5.8%) and non-Hispanic Blacks (4.4%) reported that it was somewhat or much harder obtaining HIV medications ($P = .033$) (Table 3). People with at least one child in the household were also more likely to report more difficulty than those with no children (17.7% vs 5.1%) ($P = .006$). There was no other characteristic that was statistically associated with ease of obtaining HIV medications. Gender, race/ethnicity, and age group as well as the one variable associated with access to medical care managers at $P < 0.2$ (number of children in household) were included in a logistic regression model. In the final model (Table 4), Non-Hispanic Blacks were less likely than Hispanics to report that it was somewhat or much harder obtaining HIV medications than the same or easier (adjusted odds ratio [aOR] 0.22; 95% confidence interval [CI] 0.07-0.67). Having at least one child in the household was significantly associated with reporting that it was harder to obtain HIV medications (aOR 4.27; 95% CI 1.61, 11.32). Interaction effects with race/ethnicity, age, and gender for having a child or more in the household were tested separately, and none was significant.

Table 4. Adjusted Odds Ratios and 95% Confidence Intervals for Association with Reporting That It Was "Somewhat Harder" or "Much Harder" Versus It Was the "Same," "Somewhat Easier" or "Much Easier" Obtaining HIV Medications During the Pandemic Compared to Prior to the Pandemic.

	Adjusted Odds Ratio[a]	95% Confidence Interval
Gender		
Women	0.93	0.38, 2.33
Men	ref	ref
Race/ethnicity		
Haitian	0.28	0.07, 1.08
Hispanic	ref	ref
Non-Hispanic Black	0.22	0.07, 0.67
Age group (years)		
18-34	2.36	0.66, 8.43
35-44	0.69	0.17, 2.85
45-54	1.28	0.41, 4.03
55 +	ref	ref
Number of children living in household younger than 18		
0	ref	ref
1 or more	4.27	1.61, 11.32

[a]Odds ratios adjusted for all other variables in the table. 277 observations were used in the model.

Discussion

Despite the challenges of the COVID-19 Pandemic, the RWP clients who participated in the study reported high levels of HIV care engagement and use of antiretroviral medications. This was true for all gender and racial/ethnic groups. Indeed, more participants reported that it was easier to access HIV care and obtain medications during the Pandemic than reported that it was harder compared with prior to the Pandemic. These results are consistent with outcomes assessed from service utilization data for the entire Miami-Dade County RWP indicating that there was only a small decline, though statistically significant, in viral suppression and retention in medical care in 2020 compared with 2019 (viral suppression 82% during 2019 vs 80% during 2020, $P < .0008$, and retention in medical care during 2019 95% vs 92% during 2020, $P < 0.0001$).[28]

It is important to note, however, that households with children reported more difficulty obtaining medications, and in the logistic regression model comparing those who had more difficulty to those who had less difficulty accessing their HIV medical provider, households with children also reported more difficulty. This might have been due to children having to learn remotely, and childcare facilities being closed during much of the Pandemic in 2020. While we have not identified a report about the role of having children on HIV care outcomes during the Pandemic, previous studies have indicated that having children in the household is associated with lower ART adherence and retention in care.[30,31]

We did find that use of videocalls varied by both gender and race/ethnicity with cisgender men being more likely to use videocalls than cisgender women and transgender/non-binary individuals. In addition, only a small percentage of Haitians used videocalls, with a higher percentage among Non-Hispanic Blacks and the highest among Hispanics. We did not locate a previous study about the acceptance of videocalls for HIV care among Haitians. However, a survey of clients of a Ryan White Program in Houston, Texas found that likelihood of willingness to use telehealth was high among US-born and higher educated individuals, and there was no difference by race/ethnicity.[32] There are many possible reasons for the differential use by gender and by race/ethnicity. They include barriers that have been previously observed among PWH in the United States, such as lack of access to broadband, costs of data usage required for videocalls, lack of a device capable of videocalls, privacy concerns, and potential distractions during telehealth.[32–36] Qualitative studies are needed to assess attitudes towards and barriers to telehealth in Ryan White Program populations.

Telehealth modalities such as videocalls do have the advantage of convenience, less travel time and expense, reduced loss of work hours, and the potential to reduce stigmatizing experiences that may occur when physically visiting a clinic (for example, being seen by others).[37,38] Acceptance is particularly high among PWH populations that have high education[32,39] and are young.[40] However, there is a critical need to carefully evaluate these care modalities, their effects on patient-provider relationships,[38] their effectiveness relative to in-person encounters,

and how to optimize these modalities for the most vulnerable individuals.[40] It is important to note that to take advantage of videoconferencing, one needs technology, technical literacy, broadband connectivity, and personal privacy,[41] all of which may be less accessible due to structural barriers for people from racial/ethnic minority and lower socioeconomic groups. Increasing the availability of telemedicine has the potential to exacerbate current health disparities between populations who have less access to technology and those who have more.[27,42]

One of the important modifications made by the RWP was expanding delivery channels for antiretroviral medications, by allowing drive-through pick-up at the ADAP pharmacy and expanding in-home delivery by mail or in person. Qualitative studies conducted among providers and female clients in the Miami-Dade County RWP indicate that many RWP clients prefer not to go to either of the two ADAP pharmacies in person. In addition to problems with lack of transportation, the ADAP pharmacies are publicly known as a pharmacy for PWH, and some PWH are afraid of being identified as having HIV if they are seen going into the pharmacy.[43]

Limitations: One important limitation of this study is that the results may not be generalizable to clients of RWP outside of Miami-Dade County. Further, because the high percentages of clients who could not be reached, it is likely that participants had a more stable living situation than RWP clients in general and more likely to have had more favorable HIV care outcomes. Viral load data from 2019 were available for 84% of the participants, and 92% were virally suppressed at the time of their last viral load in 2019. In comparison, 82% of the entire RWP population was virally suppressed.[28] In addition, women and Haitians were purposely oversampled to provide enough survey responses for these groups to be able to provide group-specific measurements. In the most recent Fiscal Year, 19.5% of RWP clients were cisgender women (compared with 50% in our sample) and 10% were Haitian (compared with 18% in our sample).[28] A second limitation is that we have no data about the quality of the telehealth infrastructure that each facility had or about the quality of the encounters that the clients had with the HIV medical providers and case managers during the telehealth visits, and how this differed from the quality of in-person visits. Indeed, participants who went to the same provider may have had different experiences depending on when they saw their provider because HIV care providers needed time to adapt to the COVID-19 Pandemic situation. Finally, because we had so few transgender and non-binary participants, we cannot make any generalizations about those groups.

Conclusion

The Infectious Disease Society of America and the HIV Medicine Association recommend that HIV care programs take advantage of the modifications that have been made in the delivery of HIV during the COVID Pandemic and keep those that have worked well.[27] Providing multiple options for accessing health care providers (i.e. telehealth, in-person) and multiple ways of providing antiretroviral therapy facilitates

tailoring of HIV care delivery to the specific needs of clients, which may improve HIV care outcomes overall.[37,41,44,45]

Our results indicate that the RWP programmatic modifications led to the maintenance and for some possibly improvement in access to care. Continuing these modifications after the Pandemic is over should be considered. These changes may help to improve client engagement in care and viral load suppression, particularly for people who otherwise face barriers such as costs of transportation and difficulty taking time off from work for medical appointments. However, further research is required, to better understand what additional assistance (such as peer support or enhanced outreach) is needed by PWH with increased difficulty accessing care, particularly among those with children. Research characterizing best practices in the use of telehealth among RWP clients is also needed. Ryan White Program clients are among the most economically vulnerable PWH and may lack technical skills to navigate videocalls, have no broadband access, not own a device to use for videocalls, or not have a private place to be in during videocalls. Finally, it will be important to learn from clients how telehealth affects their trust in and relationships with their providers.

Disclaimer

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Minority Health and Health Disparities or the National Institutes of Health.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics

Our study was approved by The Florida International University Social Behavioral Institutional Review Board (approval no. IRB-17-0234). All participants provided verbal informed consent prior to enrollment in the study.

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