



Published in final edited form as:

J Racial Ethn Health Disparities. 2026 April ; 13(2): 1106–1114. doi:10.1007/s40615-025-02319-7.

Addressing Stigma and Privacy Through Telemedicine: Qualitative Findings on Enhancing HIV Care Engagement Among Racial and Ethnic Minority Groups

Neal Carnes¹, Linda J. Koenig¹, Aisha L. Wilkes^{1,2}, Deborah Gelaude¹, Yamir Salabarría-Peña^{1,3}, Marie Johnston¹

¹Division of HIV Prevention, STD and TB Prevention, Centers for Disease Control and Prevention, National Center for HIV, Viral Hepatitis, Atlanta, GA, USA

²Office of Science, National Center for Injury Prevention and Control, CDC, Atlanta, GA, USA

³Division of STD Prevention, STD and TB Prevention, Centers for Disease Control and Prevention, National Center for HIV, Viral Hepatitis, Atlanta, USA

Abstract

We conducted a demonstration project of telemedicine HIV care services at the University of Florida (UF) College of Medicine, Jacksonville. Our sample focused on members of racial and ethnic minority groups living in an urban setting. As part of the project's evaluation, we conducted 13 focus groups. Focus groups assessed patient, staff, and provider experiences with facilitating or hindering factors to engaging in telemedicine. We also explored the decision-making processes among people with HIV (PWH) to engage or not in telemedicine. The 46 focus group participants included 21 PWH: 12 PWH who accepted and nine who declined participation in telemedicine. The remaining 25 focus group participants were comprised of medical, clinical support, and community-based organization staff who supported the demonstration project. An unexpected finding that emerged in the focus group narratives detailed that some PWH who accepted telemedicine visits appreciated that telemedicine minimized the stigma they have experienced during in-person healthcare encounters. Among PWH who declined a telemedicine visit, they felt the extension of service into their personal world invaded their privacy, created routes for stigma should their HIV status be disclosed outside the healthcare setting, and raised concerns about confidentiality in virtual settings. Like the PWH, the professionals were mixed in their opinions in that some felt telemedicine facilitated care while others raised concerns. Findings point to the importance of allowing PWH to select the format (in-person or via telemedicine) in which

[©]Neal Carnes, Ncarnes@cdc.gov.

Author Contribution All authors contributed to the study conception, design, and editing of this manuscript. Material preparation, data collection, and analysis were also collectively performed by all authors. The first draft of the manuscript was written by Neal Carnes, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Consent for Publication The authors affirm that this manuscript deidentified all individual participants and that no one participant's data is presented in a manner inconsistent with the informed consent process.

Ethical Approval The University of Florida's Institutional Review Board approved the focus group's protocol and voluntary consent process (IRB Approved# 201702661).

Consent to Participate Informed consent was obtained from all individual participants included in this study.

Competing Interest The authors declare no competing interests.

their HIV care is rendered and highlight the importance of intervening to decrease healthcare facility-based stigma.

Keywords

Privacy; Stigma; Human immunodeficiency virus (HIV); Members of racial and ethnic minority groups; Telemedicine

Background

In the USA, HIV continues to be characterized by disparities, with a pervasive disproportionate disease burden among groups that have been socially and structurally marginalized. Rates of new diagnoses among Black or African American people (hereafter referred to as Black people) are nearly 7 times that of White people and nearly 4 times that of White people among Hispanic or Latino people [1]. Gay, bisexual, and other men who report male-to-male sexual contact account for 70% of new diagnoses despite representing just 2% of the adult population [1, 2]. Disparity also exists among women, in that Black women make up 13% of the female population, yet 55% of new HIV diagnoses among females [3]. Geographic disparities also exist. More than half of all new diagnoses occur in the US South [1], where HIV stigma is prevalent [4].

Similar disparities can be seen in HIV care outcomes. For example, relative to White people, Black people have lower rates of viral suppression [5], which is essential to prevent morbidity and mortality. Retention in HIV care and adherence to antiretroviral therapy (ART) are necessary to achieve and maintain viral suppression [6, 7]; yet in 2021, only 54% of people in the USA with diagnosed HIV (PWH) were retained in care [5]. Despite decades of advancement in HIV care and prevention, HIV-related stigma persists and occurs across communities disproportionately affected by HIV.

Stigma, a discrediting attribute of a person or group such as one's minority racial or ethnic identity as well as HIV status, "remains one of the biggest challenges in the social response to HIV/AIDS," (Chambers et al., 2015, p. 1 of 17) [8, 9]. Stigma and its relationship to privacy (maintaining the confidentiality of one's personal information to prevent being stigmatized) are defining social forces that hinder people's experience with the HIV continuum: getting tested, linking and remaining in care, adhering to treatment, and achieving viral suppression [10–19]. A body of this research speaks to stigma and privacy as experienced barriers among people of minority race and ethnicity [13, 15, 16, 20]. A particular concern regarding stigma as a barrier to HIV care and treatment regards facility-based stigma, when the healthcare staff or clinic itself is the stigmatizing agent [21]. Addressing facility-based stigma is critical given HIV care and treatment requires medical intervention to achieve health, e.g., viral suppression.

At the same time, research has also shown there are actionable steps that can mitigate facility-based stigma's impact on an individual's health. For instance, Valverde and associates found that the patient-provider relationship, notably the level of engagement between the two parties, lessens the impact internalized stigma has on retention in

care [22]. Speaking across the HIV continuum, Nyblade and colleagues summarized six broad approaches to minimizing stigma's effect on HIV outcomes [23]. One approach, the structural approach, encapsulates actions such as "redress systems, and restructuring facilities" (p. e109) [23]. Telemedicine can be such a redress given it presents a new system and facility type that extends the clinical encounter by offering choice on where the patient selects to be "seen," yet telemedicine can introduce new challenges, notably to some patients' sense of privacy [24].

The purpose of the Telemedicine Demonstration Project (CDC, 2017: PS17-1710) was to tailor an existing telemedicine program in an urban clinical setting serving predominately PWH of minority race or ethnicity to improve retention in care and to characterize the experiences of patients and providers utilizing telemedicine for HIV care. Initiated in 2017, the project was situated in a USA South urban environment [25].

Methods

For this analysis, we focused on the experiences of PWH who agreed or declined to participate in telemedicine visits, as well as healthcare, clinical support, and community-based organization (CBO) staff (herein referred to as professionals) supporting the demonstration project. We conducted a secondary analysis of the overall project evaluation by focusing on the experiences participants had related to stigma and privacy in the context of the telemedicine visits. Based on extant literature, we anticipated benefits related to structural limitations, like transportation [12, 26]. However, unanticipated findings related to stigma and privacy emerged during data reviews. Due to ongoing attention to facility-based stigma experienced by PWH [27, 28] and the focus on stigma within the National HIV/AIDS Strategy for the United States 2022–2025 [29], we further explored the roles that stigma and privacy play in the preferences for telemedicine vs in-person HIV care within this larger project and as perceived by the professionals conducting or assisting with telemedicine visits.

Participant Sample and Recruitment

The methods for the Telemedicine Demonstration Project and patient eligibility criteria are described in a separate publication [25]. Table 1 provides the characteristics of the PWH demonstration project participants from which the focus group analytic subsample was drawn, each of whom was considered an "accepter" (people/person who accepted; PWA) or "decliner" (people/person who declined; PWD). PWA met the eligibility criteria for the demonstration project and voluntarily agreed to engage in HIV care via telemedicine. PWD included PWH who were approached to participate in a telemedicine visit and declined the offer, were ineligible, or scheduled a telemedicine visit but did not attend. Focus groups were conducted between March 5th and August 31st, 2020.

Table 2 characterizes the subsample of PWH and professionals who participated in respective focus groups. This subsample comprises the analytic sample for these analyses. Participating professionals were actively recruited if they were involved in providing care or assisting with the demonstration project's goal to provide HIV care via telemedicine. Active and passive recruitment were used to identify participants, though the method of recruitment

was not tracked for the analytic sample. Professionals involved in telemedicine actively recruited focus group participants among their patients. Participants were also recruited through MyChart messages, posted flyers in clinics and participating CBOs, and phone call recruitment of patients. Recruitment continued until a total of 21 PWH; 12 who accepted telemedicine visits and 9 who declined telemedicine visits voluntarily agreed to participate.

All focus group participants (patients and professionals) completed a voluntary, informed consent process. Interested volunteers were provided a copy of the Informed Consent for In-person and Virtual focus groups prior to the scheduled focus group time. The forms included contact information if the person had questions prior to their focus group. In addition, the Informed Consent was reviewed at the beginning of each focus group, and participants were asked to verbally consent to their participation at the beginning of each focus group. The University of Florida's Institutional Review Board approved the focus group's protocol and voluntary consent process (IRB Approved# 201702661). All focus group participants were offered a \$40 VISA gift card as a token of appreciation.

Data

Program evaluation of the Telemedicine Demonstration Project included qualitative and quantitative methodologies to inform the project's process and degree of success by providing capacity building from a third-party funding recipient to ensure process-informed providers and patients, marketing the project to providers and patients, costs associated with the project, and an evaluation of patient health outcomes as well as understanding the facilitators and barriers to implementing telemedicine from the patient and provider perspectives. As such, the project's overall evaluation was not limited to the qualitative data obtained during focus groups; however, as it regards the topics of interest, i.e., stigma and privacy, this data resulted solely from focus group narratives. Focus group participants provided information on their age, sex, race, and ethnicity, and for the professionals, their professional role. Responses to the section of focus group questions that addressed "factors that facilitated or hindered telemedicine use" are the focus of this analysis. Due to COVID-19 mitigation efforts enacted in early 2020, all but two focus groups consisting of PWH were hosted virtually. Focus groups were recorded and transcribed verbatim.

Analytic Approach

Following an inductive thematic analysis approach [30], meaning the findings were not theory-based nor anticipated but rather emerged in the data, focus group transcripts were reviewed by two qualitative researchers (first and fourth author) to identify narrative responses where the participant explicitly or implicitly addressed either "stigma" or "privacy." Narrative responses that explicitly addressed "stigma" or "privacy" were coded as such, following a semantic approach to thematic analysis; yet where participants used synonyms, e.g. "judging" or "confidentiality," the coders followed a latent thematic approach. In these cases where a latent approach was taken, the coders met and discussed each narrative to ensure a common understanding of "stigma" and "privacy" and to ensure both agreed with the coding decision. Once a common understanding was achieved of the respective thematic codes, the coded narratives were reviewed a second time by the same two researchers to ensure all relevant narratives were identified and coded appropriately.

Once coding was completed, the coded text was reviewed a third time to ensure the data matched the two themes. The thematic analytic approach was selected to assess whether participants discussed “stigma” and “privacy” as a facilitating factor or barrier to engaging in telemedicine.

Positionality Statement

Positionality: Our research team includes persons who identify as African American ($n = 1$), Hispanic/Latina ($n = 1$), White ($n = 4$), male ($n = 1$) or female ($n = 5$), and members of the LGB community ($n = 2$). We acknowledge that our social positions may have influenced how we interpreted participants’ narratives, but we hope that the diversity of our team and of our collective interpretations served to limit their impact.

Results

Participants

A total of 46 people participated in one of 13 focus groups ($n = 21$ PWH, $n = 16$ healthcare and social support providers, $n = 6$ clinical support staff, and $n = 3$ CBO staff) (Table 2). Of the 21 PWH focus group participants, 12 engaged in telemedicine visits (PWA) and nine declined telemedicine visits (PWD). The majority of PWH focus group participants identified as Black (PWA: $n = 8$, 67%; PWD: $n = 8$, 89%). A significant majority of the full demonstration project sample were also participants who identified as Black (PWA: $n = 544$, 69%; PWD: $n = 907$, 75%). The PWH focus groups were also primarily female-identified (PWA: $n = 8$, 67%; PWD: $n = 6$, 67%), which exceeded the full demonstration project sample (PWA: $n = 419$, 53%; PWD: $n = 534$, 44%). The average age of PWH focus group participants was 45.3 years for PWA (range 22–69), and 49 years for PWD (range 35–64). In alignment with the demonstration project sample, the focus groups were primarily female and Black, though the focus groups oversampled both characteristics in comparison to the demonstration project sample.

Thematic Findings

Maintaining a sense of privacy and avoiding the stigma associated with having HIV emerged as important themes for the PWH who engaged in telemedicine visits. At the same time, privacy and stigma also emerged as reasons why other PWH declined to engage in telemedicine visits. As such, stigma and privacy were at times interrelated and served as facilitating and hindering factors, depending on the beliefs and experiences of the project participants. These themes were supported in the professional focus group narratives.

Facility-Based Stigma

A primary theme that emerged among PWA was the potential for telemedicine to lessen the stigma they experienced during clinic visits — a facilitating factor to participating in telemedicine visits — a theme which did not emerge during PWD focus group discussions. Yet, PWH — PWA and PWD — reported stigmatizing experiences from clinic staff and indicated that simply being in an HIV specialty clinic makes clear one’s positive HIV status. Consistent with this, several PWA participants highlighted the benefits of not having to go into the clinic. One participant reported:

I've had nurses to even treat you like... and it's hard... I don't even know why I'm here... You know, you don't get any respect.

Another PWH who accepted a telemedicine visit stated:

...people look at me really crazy on that third floor. I'm sure they know what floor or why I'm going there. And also in the doctor's office, I don't like being stared at like I'm dessert or something like that. I don't like that.

For these PWH, avoiding the stigma associated with an HIV clinic motivated them to accept the offer to see their provider via telemedicine. In support, comments from professionals echoed the PWH's sentiments.

The other thing I've noticed is that a lot of patients who have problems coming into the clinic because they fear recognition are more willing to take a virtual visit.
(Medical Provider)

I'll add that some of my clients don't like to go to UF CARES...because it is...an HIV clinic...so this allows them to get their care without going into the clinic...
(CBO Staff)

Privacy

Not unrelated to the stigma associated with HIV, telemedicine visits can also raise privacy concerns, and in particular, the need to find a private location for the virtual visit so that others will not hear the conversation. One PWA noted in the following:

I was asked, 'Are you in a place where you have privacy [during a telemedicine visit]?'... when they asked that, I appreciated it... I felt that they considered my privacy...So that made me feel protected.

This sentiment was shared by other PWA who indicated they appreciated the providers' consideration when asking if they were in a private setting and could talk freely. Indeed, PWA endorsed that they experienced telemedicine visits as more private. One PWA indicated, "I appreciate any time I don't necessarily have to go into the hospital. The privacy that it affords."

However, the need to find a private space for a telemedicine visit was noted by some as an issue, especially if others are unaware of the patient's HIV status. One PWH who engaged in a telemedicine visit stated:

I don't tell people. Just my immediate family knows... There's HIV stigma, everybody's not cool with it... We got a lot of years before...I mean, I'm like 31 years positive. I was there from the get-go and things have changed, but they're still not good.

Moreover, several comments indicated that concerns about privacy were not solely limited to being overheard in the location of one's telemedicine visit. For example, one PWA noted that there are breaches in clinic privacy.

When you're in the rooms, they don't always close the door so anybody walking by can see. So, there's no privacy in a physical visit. So, my reaction to that (being

offered a telemedicine visit) was, ‘Okay, great, then I don’t have to worry about none of that.’

Another PWA stated, “the walls are thin [suggesting others can hear what is being said], so with the virtual [visit] you don’t have to worry about that.”

In contrast, some PWH who declined telemedicine visits felt that the only way for the visit to be truly private is by having in-person, one-on-one appointments with their provider. First, as one PWD stated, it eliminates the transfer of information over technological devices, thus eliminating the possibility for private medical information to be lost or stolen. Second, it eliminates questions about who may be listening. As one PWD stated, “I prefer to be at the doctor’s office because I don’t want my business to be all everywhere by me working around other people [noting they would have to take a telemedicine visit while on break at work].” In addition, some patients may be concerned about providers viewing their home during a telemedicine visit. A social service provider expressed that telemedicine appointments gave them the opportunity to observe patients’ home environment; however, not all patients want professionals to see their home or personal space. One CBO staff member succinctly connected privacy with HIV stigma.

I think we have to address client vulnerability, this is my most private information, this [is] something that I’m going to share and it’s something that I probably don’t feel very comfortable sharing with the community and you’re asking me to place this in a forum and I may not be completely sure that this forum is a place that I’m going to maintain that, who else is hearing on the other side type of thing. I think when we begin to address those concerns and look at the unknowns, the fears, and remember, HIV, from the beginning, has been something that folks have internalized a lot of shame and guilt and things like that around their HIV infection and I think that’s part of the package...

Discussion

Telemedicine offered some PWH a sense of privacy, one that moderated the HIV stigma made explicit by HIV clinic visits. This finding is supported by other research conducted in light of COVID-19 shelter-in-place efforts and how telemedicine allowed some continuity in HIV care services [31]. For PWA and PWD and as supported by the professionals that participated in a focus group, it was clear each group considered how telemedicine enhanced or mitigated the concerns they have as they engage in HIV care.

For some PWH, telemedicine also exposed or exacerbated privacy concerns related to stigma, either because a private location could not be assured or because of fears related to the security of the technology or confidentiality concerns at the clinic [32]. For some, a private place for a virtual visit might not be possible. For PWH fearful of inadvertent disclosure, providers may wish to engage in a discussion about assistance with disclosure. For those concerned about confidentiality, a review of the telemedicine visits security procedures may be warranted [33]. Patient age and race may potentially mediate telemedicine use in relation to privacy and stigma as some studies have found older populations and Black people less likely to engage in telemedicine [34–36]. Yet when

Choi et al. (2022) looked at possible explanations for age differences, variations were partly explained by technology ownership and internet access as much as patient willingness or distrust in telemedicine [35]. Complicating this literature, in a study on age and racial differences in telemedicine use among PWH, those 46 to 60 years of age were more likely to engage in telemedicine visits than their younger counterparts, and in support of Choi et al.'s (2022) finding, this study found the type of technology, e.g., telephone compared to internet-based video appointments, to be favored among older populations [37, 38]. As regards the differences between races, the variation was also explained, in part, by technology and internet access as much as other concerns [37]. These variations in findings support our speculation that individual context is key to understanding how a PWH views telemedicine as an option.

An individualized approach may be essential to addressing the disparities plaguing people who are racial and ethnic minorities given the intersectionality of racism, nativism, homophobia, and HIV status, to note a few, and how few stigma interventions address the compounding impact for the people living with HIV who are also Black, Hispanic, gay, and a woman [39]. Ascertaining whether someone has access to a private space, whether the patient has disclosed their HIV status to those with whom they live, and whether individuals in their household would react negatively if they were to discover the patient's HIV status, is important to determine before initiating telemedicine visits. In addition, clinic administrators and department chiefs should pose similar questions to their providers. Do providers' training and backgrounds equip them to ask patients sensitive questions about privacy and stigma, and are they ready to act on the responses? Are they open to hearing about patients' preferences for telemedicine, and can the clinic accommodate those preferences? Are providers comfortable with the various technologies involved in telemedicine, and, if not, are they willing to engage in necessary training? Enhanced expectations for both patients and providers will help to establish and strengthen the patient-provider relationship.

A central issue regarding stigma and privacy for the PWH who accepted a telemedicine visit regarded the desire to avoid facility-based stigma. Going into an HIV clinic or the office of a known HIV provider, being seen by a novice HIV provider, as well as interactions with clinic staff that may not be sensitive to the patient population can result in negative experiences that affect the PWH's encounter and desire to return. This can be especially problematic in areas with limited healthcare options as well as clinics where racial and sex discrimination overlap with HIV-related stigma [40]. Whether the bias being expressed is conscious or unconscious, encounters with clinic staff and medical providers are key to a successful healthcare encounter, especially when care is required consistently, as is the case for PWH, especially those who live intersecting identities and characteristics stigmatized and discriminated against in society and its healthcare institutions. Research has shown that when medical providers and clinic staff gauge and modify any stigmatizing attitudes or beliefs they hold, or engage in interventions that assist with cultural awareness and sensitivity, the patient-provider relationship and clinic experience are improved as are the patient's health outcomes [27, 41]. Such inspections of bias need to happen at the intersections of identities and personal circumstances as the attitude and belief in need of inspection and a sympathetic lens may regard one's beliefs about race, ethnicity, sexuality, sex, housing status, prior engagements with the legal system, and other stigmatized social

positions [42]. The healthcare setting, comprised of clinical and non-clinical staff, must be judgment-free, open to understanding the patient's social situation, and accepting that stigma has no place in healthcare [43].

Broadly speaking, stigma remains an essential determinant impacting HIV treatment utilization, affecting engagement in and adherence to care [23]. Left unaddressed, it will continue to hamper domestic efforts to end the HIV epidemic by 2030 [44, 45], particularly in the South where over half of all new diagnoses between 2017 and 2021 occurred [1]. Future programs will want to ensure that PWH feel a sense of privacy regarding their health information, not exclusively but particularly when they initiate telemedicine visits. Making available both in-person as well as telemedicine visits based on patient's perspectives and personal circumstances and emphasizing measures to protect private health information may afford a greater sense of privacy and control while minimizing external and internal dynamics of stigma. Further, strategies and interventions, including an evidence-based toolkit with specific events intended to reduce facility-based stigma (e.g., standing up a secret shopper program), have been identified and can assist programs in developing activities to measure and mitigate stigma [46–50].

There are several important limitations to these analyses. First, this was a small convenience sample from a very specific setting. This not only limits the ability to speak more definitively about which individuals or groups of PWH could benefit from telemedicine as it regards privacy and stigma, but also limits our ability to generalize to other settings. Second, we did not assess for nor were we able to provide the requisite technology to all potential participants; thus, some PWH who were eligible may not have been able to participate due to this barrier thereby creating a selection bias. While we attempted to mediate this bias by partnering with agencies that serve the population, this modification may not have addressed the need in a manner acceptable to the PWH who might have otherwise selected to engage in telemedicine. Third, because we did not intend to study stigma and privacy per se nor anticipate these phenomena as a barrier or facilitator in this project, we did not assess the relative significance of these — alone or in relation to other structural barriers. As such, we do not know whether these factors were essential in the choice to participate in telemedicine or not. Related, because the stigma- and privacy-focused narratives that are the basis for these analyses were unexpected and did not result from a direct inquiry about stigma and privacy, the perspectives of the professionals cannot be interpreted as a uniform provider perspective on the role facility-based stigma and privacy play in telemedicine. That such findings are infrequent in our focus group transcripts is not surprising given that staff may not be attentive to the facility-based stigma occurring at their institution or from their behaviors. We extracted professional narratives to demonstrate the complexity of the findings and the importance of choice from a patient and professional perspective, but further evaluation will be needed to fully explore healthcare staff perspectives. Finally, we did not anticipate nor assess the effect COVID-19 mitigation efforts may have had on the demonstration project overall (most of which was conducted prior to the COVID-19 pandemic) or the focus groups from which program evaluation data for this analysis were extracted. As such, we cannot speak to how these findings will inform telemedicine as an option for HIV primary care now that most COVID-19 mitigation efforts have been lifted.

The findings support continuing to offer PWH the option of engaging in care via telemedicine while recognizing that some may want to continue in-person visits. COVID-19 allowed telemedicine to achieve a broader degree of acceptance among providers and patients for the management of HIV, and this achievement should not be overlooked as mitigation efforts are lifted [51]. The COVID-19 pandemic also resulted in greater insurance coverage to continue offering medical care via telemedicine [52]. Allowing each PWH a choice can enhance their sense of agency over privacy as well as the ability to mitigate stigma. Addressing stigma and privacy, particularly as experienced in healthcare settings, is essential to end the HIV epidemic [23, 53], especially in the South where stigma remains a significant concern [54]. Telemedicine and patient choice provide options for PWH to overcome barriers to care and treatment as it can mitigate transportation concerns, time away from work or family care, as well as stigma and privacy. In sum, telemedicine may serve as an important tool that can boost retention in HIV care, especially when the PWH is allowed to self-select what will work best for them.

Acknowledgements

The authors would like to acknowledge the staff at the University of Florida-Jacksonville who were instrumental in data collection and analyses. Those individuals include Dr. Fern Webb, Ms. Selena Webster Bass, Dr. Reetu Grewal, Ms. Jessica Peters, Ms. Kristen Morga, and Ms. Aleesha Basil.

Funding

This work was supported by the Centers for Disease Control and Prevention under cooperative agreement with the University of Florida-Jacksonville (PS17-1710).

CDC Disclaimer

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Data Availability

The data informing this analysis is available upon e-mail request to the lead author, and is subject to all applicable federal laws and regulations regarding data sharing.

References

1. CDC. HIV Surveillance Supplemental Report 2023;28(3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Accessed 13 Feb 2024.
2. Grey JA, Bernstein KT, Sullivan PS, Purcell DW, Chesson HW, Gift TL, et al. Estimating the population sizes of men who have sex with men in US states and counties using data from the American community survey. *JMIR Public Health Surveillance*. 2016;2(1):e14. [PubMed: 27227149]
3. CDC. HIV Surveillance Report, 2019. 2021;32. <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2018-updated-vol-32.pdf>. Accessed 3 Nov 2021.
4. CDC. Issue brief: HIV in the Southern United States. 2019;1:67. <https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-in-the-south-issue-brief.pdf>. Accessed 4 Nov 2021.
5. CDC. Monitoring selected national HIV prevention and care objectives by using HIV Surveillance Report. 2021;(2). <http://www.cdc.gov/hiv/library/reports/hivsurveillance.html>. Accessed 13 Feb 2024.

6. Hightow-Weidman L, LeGrand S, Choi SK, Egger J, Hurt CB, Muessig KE. Exploring the HIV continuum of care among young black MSM. *PLoS ONE*. 2017;12(6):e0179688. [PubMed: 28662170]
7. Okeke NL, Clement ME, McKellar MS, Stout JE, editors. Health care utilization behaviors predict disengagement from HIV care: a latent class analysis. *Open Forum Infect Dis*. 2018;5(5):ofy088. [PubMed: 29876365]
8. Chambers LA, Rueda S, Baker DN, Wilson MG, Deutsch R, Raeifar E, et al. Stigma, HIV and health: a qualitative synthesis. *BMC Public Health*. 2015;15:1–17. [PubMed: 25563658]
9. Goffman E. Selections from stigma. *Disability Stud Reader*. 1997;203:215.
10. Sullivan MC, Rosen AO, Allen A, Benbella D, Camacho G, Cortopassi AC, et al. Falling short of the first 90: HIV stigma and HIV testing research in the 90–90–90 era. *AIDS Behav*. 2020;24:357–62. [PubMed: 31907675]
11. Iott BE, Loveluck J, Benton A, Golson L, Kahle E, Lam J, et al. The impact of stigma on HIV testing decisions for gay, bisexual, queer and other men who have sex with men: a qualitative study. *BMC Public Health*. 2022;22(1):471. [PubMed: 35264132]
12. Yehia BR, Stewart L, Momplaisir F, Mody A, Holtzman CW, Jacobs LM, et al. Barriers and facilitators to patient retention in HIV care. *BMC Infect Dis*. 2015;15:1–10. [PubMed: 25567701]
13. Lipira L, Williams EC, Huh D, Kemp CG, Nevin PE, Greene P, et al. HIV-related stigma and viral suppression among African-American women: exploring the mediating roles of depression and ART nonadherence. *AIDS Behav*. 2019;23:2025–36. [PubMed: 30343422]
14. Turan B, Smith W, Cohen MH, Wilson TE, Adimora AA, Merenstein D, et al. Mechanisms for the negative effects of internalized HIV-related stigma on antiretroviral therapy adherence in women: the mediating roles of social isolation and depression. *JAIDS J Acquired Immune Deficiency Syndromes*. 2016;72(2):198–205.
15. Crawford TN, Silverstein S, Spaulding T, Cheribin D, Murray T, Rivera J, et al. Exploring the impact of experiences with everyday and major discrimination and HIV-related stigma on engagement in HIV care among older African Americans living with HIV. *J Racial Ethn Health Disparities*. 2023;10(4):1910–7. [PubMed: 35876984]
16. Mathews A, Farley S, Conserve DF, Knight K, Le'Marus A, Blumberg M, et al. “Meet people where they are”: a qualitative study of community barriers and facilitators to HIV testing and HIV self-testing among African Americans in urban and rural areas in North Carolina. *BMC Public Health*. 2020;20(1):494. [PubMed: 32295568]
17. Katz IT, Ryu AE, Onuegbu AG, Psaros C, Weiser SD, Bangsberg DR, et al. Impact of HIV-related stigma on treatment adherence: systematic review and meta-synthesis. *J Int AIDS Soc*. 2013;16:18640. [PubMed: 24242258]
18. Rueda S, Mitra S, Chen S, Gogolishvili D, Globerman J, Chambers L, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: a series of meta-analyses. *BMJ Open*. 2016;6(7):e011453.
19. Sweeney SM, Vanable PA. The association of HIV-related stigma to HIV medication adherence: a systematic review and synthesis of the literature. *AIDS Behav*. 2016;20:29–50. [PubMed: 26303196]
20. Marellapudi A, Hussen SA, Brown DN, Fletcher MR, Henkhaus ME, Jones MD, et al. Understanding and addressing privacy and confidentiality concerns associated with the provision of mobile HIV care: a qualitative study. *AIDS Care*. 2022;34(5):575–9. [PubMed: 33938335]
21. Kalichman SC, Katner H, Banas E, Hill M, Kalichman MO. Cumulative effects of stigma experiences on retention in HIV care among men and women in the rural Southeastern United States. *AIDS Patient Care STDS*. 2020;34(11):484–90. [PubMed: 33147086]
22. Valverde E, Rodriguez A, White B, Guo Y, Waldrop-Valverde D. Understanding the association of internalized HIV stigma with retention in HIV care. *J HIV AIDS*. 2018;4(3). 10.16966/2380-5536.159.
23. Nyblade L, Mingkwan P, Stockton MA. Stigma reduction: an essential ingredient to ending AIDS by 2030. *Lancet HIV*. 2021;8(2):e106–13. [PubMed: 33539757]

24. Harsono D, Deng Y, Chung S, Barakat LA, Friedland G, Meyer JP, et al. Experiences with telemedicine for HIV care during the COVID-19 pandemic: a mixed-methods study. *AIDS Behav.* 2022;26(6):2099–111. [PubMed: 35064390]
25. Grewal R, Jones R, Peters J, Morga K, Wilkes AL, Johnston ME, et al. Providing telemedicine services to persons living with HIV in an urban community: a demonstration project. *AIDS Care.* 2024;36(4):432–41. [PubMed: 37011383]
26. Walker D, Moucheraud C, Butler D, de Vente J, Tangonan K, Shoptaw S, et al. Experiences with telemedicine for HIV care in two federally qualified health centers in Los Angeles: a qualitative study. *BMC Health Serv Res.* 2023;23(1):156. [PubMed: 36793080]
27. Geter A, Herron AR, Sutton MY. HIV-related stigma by healthcare providers in the United States: a systematic review. *AIDS Patient Care STDS.* 2018;32(10):418–24. [PubMed: 30277814]
28. Nyblade L, Stangl A, Weiss E, Ashburn K. Combating HIV stigma in health care settings: what works? *J Int AIDS Soc.* 2009;12(1):1–7.
29. The White House. National HIV/AIDS strategy for the United States 2022–2025. Washington, D.C. 2021. <https://www.whitehouse.gov/wpcontent/uploads/2021/11/National-HIV-AIDS-Strategy.pdf>. Accessed 5 June 2022.
30. Clarke V, Braun V. Thematic analysis. *J Posit Psychol.* 2017;12(3):297–8.
31. Auchus IC, Jaradeh K, Tang A, Marzan J, Boslett B. Transitioning to telehealth during the COVID-19 pandemic: patient perspectives and attendance at an HIV clinic in San Francisco. *AIDS Patient Care STDS.* 2021;35(7):249–54. [PubMed: 34242090]
32. Smith E, Badowski ME. Telemedicine for HIV care: current status and future prospects. *HIV/AIDS-Res Palliative Care.* 2021;13:651–6.
33. Grove M, Brown LL, Knudsen HK, Martin EG, Garner BR. Employing telehealth within HIV care: advantages, challenges, and recommendations. *AIDS.* 2021;35(8):1328–30. [PubMed: 33756514]
34. Fischer SH, Ray KN, Mehrotra A, Bloom EL, Uscher-Pines L. Prevalence and characteristics of telehealth utilization in the United States. *JAMA Network Open.* 2020;3(10):e2022302. [PubMed: 33104208]
35. Choi NG, DiNitto DM, Marti CN, Choi BY. Telehealth use among older adults during COVID-19: associations with sociodemographic and health characteristics, technology device ownership, and technology learning. *J Appl Gerontol.* 2022;41(3):600–9. [PubMed: 34608821]
36. Pasquinelli MM, Patel D, Nguyen R, Fathi J, Khan M, Fernandez K, et al. Age-based disparities in telehealth use in an urban, underserved population in cancer and pulmonary clinics: a need for policy change. *J Am Assoc Nurse Pract.* 2022;34(5):731–7. [PubMed: 35353071]
37. Friedman EE, Devlin SA, Gilson SF, Ridgway JP. Age and racial disparities in telehealth use among people with HIV during the COVID-19 pandemic. *AIDS Behav.* 2022;26(8):2686–91. [PubMed: 35133528]
38. Kochar B, Ufere NN, Nipp R, Gustafson JL, Carolan P, Ritchie CS. Video-based telehealth visits decrease with increasing age. *Off J Am College Gastroenterol ACG.* 2021;116(2):431–2.
39. Kerr J, Lelutiu-Weinberger C, Nelson LE, Turan JM, Frye V, Matthews DW, et al. Addressing intersectional stigma in programs focused on ending the HIV epidemic. *Am Public Health Assoc.* 2022;112(S4):S362–66.
40. Logie CH, Wang Y, Lacombe-Duncan A, Wagner AC, Kaida A, Conway T, et al. HIV-related stigma, racial discrimination, and gender discrimination: pathways to physical and mental health-related quality of life among a national cohort of women living with HIV. *Prev Med.* 2018;107:36–44. [PubMed: 29277410]
41. Nyblade L, Mbuya-Brown RJ, Ezekiel MJ, Addo NA, Sabasaba AN, Atuahene K, et al. A total facility approach to reducing HIV stigma in health facilities: implementation process and lessons learned. *AIDS.* 2020;34(Suppl 1):S93–102. 10.1097/QAD.0000000000002585. [PubMed: 32881798]
42. Stangl AL, Atkins K, Leddy AM, Sievwright KM, Sevelius JM, Lippman SA, et al. What do we know about interventions to reduce intersectional stigma and discrimination in the context of HIV? A systematic review. *Stigma and Health.* 2022;8(3):393–408. 10.1037/sah0000414.

43. Nyblade L, Stockton MA, Giger K, Bond V, Ekstrand ML, Lean RM, et al. Stigma in health facilities: why it matters and how we can change it. *BMC Med.* 2019;17:1–15. [PubMed: 30651111]
44. Fauci AS, Redfield RR, Sigounas G, Weahkee MD, Giroir BP. Ending the HIV epidemic: a plan for the United States. *JAMA.* 2019;321(9):844–5. [PubMed: 30730529]
45. Greenwood GL, Wilson A, Bansal GP, Barnhart C, Barr E, Berzon R, et al. HIV-related stigma research as a priority at the national institutes of health. *AIDS Behav.* 2022;26(1):5–26. [PubMed: 33886010]
46. Batey DS, Whitfield S, Mulla M, Stringer KL, Durojaiye M, McCormick L, et al. Adaptation and implementation of an intervention to reduce HIV-related stigma among healthcare workers in the United States: piloting of the FRESH workshop. *AIDS Patient Care STDS.* 2016;30(11):519–27. [PubMed: 27849373]
47. Kutner BA, Vaughn MP, Giguere R, Rodriguez-Hart C, McKinnon K, Kaighobadi F, et al. A systematic review of intervention studies that address HIV-related stigmas among US healthcare workers and health systems: applying a theory-based ontology to link intervention types, techniques, and mechanisms of action to potential effectiveness. *Ann Behav Med.* 2023;57(10):801–16. [PubMed: 37318287]
48. Rodriguez-Hart C, Mackson G, Belanger D, West N, Brock V, Phanor J, et al. Reducing intersecting stigmas in HIV service organizations: an implementation science model. *JAIDS J Acquired Immune Deficiency Syndromes.* 2022;90(S1):S215–25.
49. Stangl AL, Atkins K, Leddy AM, Sievwright KM, Sevelius JM, Lippman SA, et al. What do we know about interventions to reduce intersectional stigma and discrimination in the context of HIV? A systematic review. *Stigma and Health.* 2023;8(3):393.
50. NASTAD. Stigma 2024 [Available from: <https://nastad.org/issues/stigma>. Accessed 13 Dec 2024]
51. Hung M, Ocampo M, Raymond B, Mohajeri A, Lipsky MS. Telemedicine among adults living in America during the COVID-19 pandemic. *Int J Environ Res Public Health.* 2023;20(9):5680. [PubMed: 37174198]
52. Shaver J. The state of telehealth before and after the COVID-19 pandemic. *Prim Care.* 2022;49(4):517–30. [PubMed: 36357058]
53. Andrasik M, Broder G, Oseso L, Wallace S, Rentas F, Corey L. Stigma, implicit bias, and long-lasting prevention interventions to end the domestic HIV/AIDS epidemic. *Am J Public Health.* 2020;110(1):67. [PubMed: 31800273]
54. Crockett KB, Turan B, Whitfield S, Kay ES, Budhwani H, Fifolt M, et al. Patient and provider perspectives on HIV stigma in healthcare settings in underserved areas of the US South: a mixed methods study. *AIDS Behav.* 2022;26(Suppl 1):112–24. 10.1007/s10461-021-03470-y. [PubMed: 34581951]

Characteristics of the PWH^a seeking HIV services at UF CARES^b and CHFMD^c considered for participation in the 2017–2020 CDC Telemedicine Demonstration Project

Table 1

	People who accepted ^d N = 784	People who declined ^e N = 1216
Race		
American Indian/Alaska Native	2 (< 1%) ^f	2 (< 1%)
Asian	3 (< 1%)	8 (1%)
Black/Black	544 (69%)	907 (75%)
Native Hawaiian/Pacific Islander	1 (< 1%)	1 (< 1%)
White	180 (23%)	209 (17%)
Other/patient refused/unknown	34 (4%)	40 (3%)
Missing	20 (3%)	49 (4%)
Ethnicity		
Hispanic	33 (4%)	39 (3%)
Non-Hispanic	709 (90%)	1099 (90%)
Unknown/refused	22 (3%)	29 (2%)
Missing	20 (3%)	49 (4%)
Sex		
Female	424 (54%)	544 (45%)
Male	350 (45%)	632 (52%)
Missing	10 (1%)	40 (3%)

^a PWH, person with diagnosed HIV infection

^b University of Florida-Jacksonville's Center for HIV/AIDS Research, Education and Service

^c University of Florida-Jacksonville's Community Health and Family Medicine Department

^d People who accepted, PWH who had at least one telemedicine visit for HIV medical care or wrap-around services, such as nutrition or case management as part of the Demonstration Project

^e People who declined, PWH seen at University of Florida-Jacksonville's Center for HIV/AIDS Research, Education and Service or Community Health and Family Medicine Department during the Demonstration Project period yet did not engage in a telemedicine visit for any medical or nonmedical service as part of the Demonstration Project. (They may have actively declined a telemedicine visit offer, had their electronic medical record reviewed, and did not meet eligibility criteria for inclusion in the demonstration project, or "no showed" for an appointment and did not reschedule.)

^f Percentages may not equal 100 due to rounding

Characteristics of focus group participants ($N = 46$), Telemedicine Demonstration Project for HIV care at UF CARES^a and CHFMD^b, 2017–2020

Table 2

	People who accepted ^c n (%)	People who declined ^d n (%)	Providers n (%)	CBO staff ^e n (%)	Clinical support staff ^f n (%)	Total
Number of focus groups	3	3	5	1	1	13
Number of participants	12	9	16	3	6	46
Mean age	45.3	49	47.9	50	46.7	48
Age range	22–69	35–64	31–65	37–63	33–58	22–65
Sex						
Female	8 (67%)	6 (67%)	10 (62.5%)	1 (33%)	6 (100%)	31 (67%)
Male	4 (33%)	3 (33%)	6 (37.5%)	2 (67%)	0	15 (33%)
Race						
Black	8 (67%)	8 (89%)	1 (6.3%)	1 (33%)	6 (100%)	24 (52%)
Other	1 (8%)	0	4 (25%)	0	0	5 (11%)
White	3 (25%)	1 (11%)	11 (68.8%)	2 (67%)	0	17 (37%)
Ethnicity						
Hispanic	2 (17%)	0	6 (37.5%)	1 (33%)	0	9 (20%)
Non-Hispanic	10 (83%)	9 (100%)	10 (62.5%)	2 (67%)	6 (100%)	37 (80%)

^aUniversity of Florida-Jacksonville's Center for HIV/AIDS Research, Education and Service

^bUniversity of Florida-Jacksonville's Community Health and Family Medicine Department

^cPeople who accepted, persons with diagnosed HIV (PWH) who used telemedicine visit

^dPeople who declined, persons with diagnosed HIV who chose not to participate in a telemedicine visit

^eCommunity-based organization staff of partnering sites

^fClinical Support Staff: these included case management, medical assistant, and customer service representative staff at UF CARES or CHFMD