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Qualitative analysis of patient and key informant interviews to inform integration of HIV pre-exposure prophylaxis services into gynecology care in Alabama

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Abstract

Background: HIV pre-exposure prophylaxis (PrEP) use is low among Southern, Black cis-gender women (CGW). Gynecology clinics are well-positioned to integrate PrEP services as a component of sexual and reproductive healthcare for CGW.

Objectives: Identify key determinants to PrEP implementation into routine gynecologic care.

Design: Qualitative, in-depth interviews (IDIs).

Methods: We conducted IDIs with key informants (i.e., physicians, nurses, medical assistants) and focus group discussions (FGDs) with patients accessing care in a gynecology clinic serving under- and uninsured women in Alabama. IDIs explored individual-, setting-, and process-level factors that may impact PrEP care implementation in a clinic serving approximately 3000 women yearly, 64% of whom are Black women.

Results: Ten key informants participated in individual IDIs (median age 33.5, range 24–58 years, 80% female); 20 women participated in either 1 of 4 FGDs ($n=8$) or an individual IDI ($n=12$); median age 32, range 19–44. The following themes emerged: (1) patient- and provider-level stigmas related to sexuality, sexually transmitted infections (STIs), and HIV limit discussions about sexual health and HIV prevention. (2) Providers report limited knowledge about prescribing and monitoring PrEP, which is reflected in patient's observations that providers do not routinely initiate discussions about HIV prevention or PrEP. (3) Providers utilize a more risk-based approach to PrEP counseling; patients expect non-targeted, comprehensive sexual health information. (4) Structural and social barriers will be challenges to implementing PrEP in routine gynecological care. (5) Patients and providers support a clinic-wide approach to integration of PrEP into gynecology clinics.

Conclusion: Discussions around sexual health and STIs are limited in routine gynecologic care, but patients expect comprehensive counseling from knowledgeable providers. Additional provider training may increase comfort discussing and providing PrEP. These findings will inform development of implementation strategies to integrate PrEP care into gynecologic services.

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Plain language summary

Analysis of interviews with patients and clinic staff to inform HIV prevention services in a gynecology clinic in Alabama

HIV pre-exposure prophylaxis, PrEP, is a medication that prevents HIV, but it is not widely used in the U.S. South. We interviewed patients and clinic staff at a gynecology clinic that serves under- and uninsured women in Alabama to inform how the clinic should incorporate PrEP prescription services into routine care for women. Ten staff members and 20 patients participated in either a focus group discussion or an individual interview. We learned the following things from these interviews: (1) There is stigma related to sexual health that makes it difficult for doctors and patients to discuss HIV prevention. (2) Healthcare providers do not have much education on how to prescribe and monitor PrEP. (3) Patients want sexual health information to be given to all patients, whereas providers often provide information about sexual health to specific patient populations. (4) There are factors that make it challenging to incorporate PrEP into gynecologic care, like limits on clinic staff, time, and space. (5) Both patients and providers support involving many staff members in the process of adding PrEP to gynecologic care to make the process work more smoothly. It will be important to train providers and other staff on discussing, providing, and monitoring PrEP for their patients.

Keywords

women's health, sexual health, HIV prevention, pre-exposure prophylaxis, qualitative research

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Introduction

HIV incidence in the United States is decreasing; however, racial and geographic disparities persist due to structural and contextual barriers.[1] These disparities disproportionately impact Black cis-gender women (CGW) in the South (CDC South census region).[2,3] In 2021, Black women accounted for 54% of new HIV diagnoses among women,[3] while only representing 14% of U.S. women ages 15–44.[4] Black women in the South are particularly vulnerable to HIV acquisition, being 14 times more likely to be diagnosed with HIV compared to their White counterparts due to factors such as stigma, poverty, systemic racism and bias, and inadequate access to medical care.[1,3] Tailored interventions are needed for Black women in the South.

In response to persistent HIV disparities, the U.S. Department of Health and Human Services launched the Ending the HIV Epidemic (EHE) initiative in 2019. This coordinated effort aims to reduce the U.S. incidence of HIV infection by 75% in 2025 and 90% in 2030 via a focus on priority populations and geographic hotspots.[5] Expanding access to pre-exposure prophylaxis (PrEP) is a key strategy for reducing incidence.[5] PrEP use dramatically reduces the risk of HIV acquisition[6,7] in all populations. In Alabama, a state prioritized by EHE due to its high proportion of people with HIV living in rural communities, Black individuals have the highest unmet need for PrEP across all racial groups, making up 31.2% of PrEP users despite bearing 60.8% of new HIV cases.[5,8,9] Additionally, women in the state account for only 8.9% of PrEP prescriptions.[10] Increasing PrEP uptake among Black CGW living in the U.S. Southern could result in significant public health gains.

To fully understand and address these disparities, an intersectional lens is critical. Intersectionality, as conceptualized by Crenshaw,[11,12] describes how overlapping social identities (e.g., race, sex, class, and sexuality) intersect, resulting in experiences of oppression and privilege that affect health outcomes.[13,14] Approaching systems of discrimination (e.g., racism, sexism, classism) individually fails to capture the full complexity of the social determinants of health. The intersectional framework recognizes that systems of discrimination are not mutually exclusive but interlocked, thereby creating compounded disadvantages for those with multiple intersecting social identities. Individual experiences of those with multiple intersectional identities are reflective of structural-level inequalities that uphold systems of discrimination.[15] Therefore, an intersectional framework is essential to understanding the complexity of the social determinants of health and systemic changes are needed to effectively address health disparities.

Human-centered approaches are needed to address barriers to PrEP utilization among Black CGW. Studies have identified multilevel barriers to PrEP uptake among Black women, including inadequate healthcare access, lack of PrEP awareness, low perceived risk of HIV acquisition, and HIV-related stigma.[16] Based on preliminary work with Black women in Alabama, PrEP uptake may be facilitated by multilevel interventions that address access barriers.[16–21] Healthcare settings highly utilized by CGW—especially primary care providers and obstetrician-gynecologists (OB/GYNs)—should be improved by increasing PrEP knowledge among and counseling from trusted healthcare providers.[16] Given that nearly 25% of U.S. women receive routine sexual

and reproductive healthcare from OB/GYNs,[22] gynecology clinics would be an optimal setting for integration of PrEP services to address the unmet need for PrEP among Black women in Alabama.

To successfully implement PrEP services into routine women's healthcare, insights into gynecology provider perspectives on PrEP service delivery and the clinical systems in which they provide healthcare services are needed. Understanding key factors associated with PrEP prescription among OB/GYNs is crucial as they serve as a primary provider for many women of reproductive age.[23–26] National survey data supports that OB/GYNs are more willing to prescribe PrEP than family practitioners.[27] Research has shown that Black CGW in Alabama prefer to receive PrEP services from gynecologists.[28] These findings together suggest that gynecological care settings could be ideal for delivering HIV prevention care. Title X Family Planning Clinics, which provide women's health services, while also functioning as safety-net clinics, are also desirable locations for PrEP service delivery among Southern, Black CGW.[25,29–35] Yet, in states like Alabama that limit services like PrEP within Title X Clinics, alternative settings are needed that specialize in women's healthcare and are highly accessed and desirable for PrEP service delivery among CGW. Moreover, developing multilevel interventions that improve healthcare delivery of PrEP services—specifically tailored to marginalized communities facing complex barriers due to their intersectional identities[36]—can help address HIV inequities experienced by Black CGW, which are driven by oppressive systems that perpetuate structural racism.[37]

To better understand provider- and patient-level factors that influence PrEP service delivery in a university-affiliated gynecology clinic in Alabama, we conducted concurrent qualitative interviews with key informants within the clinic and Black CGW they serve.

Methods

Study design

We conducted a phenomenological, qualitative study grounded in the situated information, motivation, and behavioral skills (sIMB) framework. sIMB constructs evaluate core information (health behavior), motivation (personal and social attitudes and beliefs about health behavior), and behavioral skills (objective and perceived skills, including self-efficacy in implementing health behaviors) perceived necessary to initiate health behaviors around PrEP uptake in the situated context of one's lived experiences, resources, and challenges.[38] The interview guides for key informants and patients were mapped to sIMB constructs. We planned to conduct five focus groups, consisting of five to six people each. However, based on difficulties convening five to six women at one time and feedback from our scientific team and patient community advisory board, we pivoted from focus groups to in-depth interviews (IDIs) due to anticipated preferences to discuss sexual health and HIV prevention services privately. Interviews and focus groups were conducted between August 2022 and March 2023.

Setting

Participants and key informants were recruited from a university-affiliated gynecology continuity clinic serving approximately 3000 under- and uninsured women in Alabama each year, with about 64% of the patient population consisting of Black women living in the greater Birmingham metropolitan service area. A dedicated team of resident physicians, nurse practitioners, medical assistants, licensed and registered nurses, and attending faculty physicians provide gynecologic care for patients within this clinical setting. Residents have 6-week rotations at the clinic, occurring every 3 months, and attending physicians supervise two to three residents during each clinic session. Services provided include preventive care, routine gynecologic care, sexual transmitted infection screening and treatment, contraceptive care, miscarriage management, as well as consultation for benign gynecologic surgery and postoperative care. Ultrasound and laboratory services are also available on site, as well as dedicated social work support.

Study participants

Key informant interviews. To evaluate process-, clinic-, and provider-level determinants of PrEP service delivery, we conducted IDIs with key informants at our partner clinical site. Key informants included attending physicians, physician trainees (i.e., residents), advanced practice providers, nurses, and medical assistants who are currently employed at the clinic. Eligibility criteria were as follows: (1) currently practicing at the participating GYN clinic, (2) English speaking, and (3) age $\geqslant$18 years.

Focus groups and IDIs of Black CGW. To assess individual patient-level determinants, we conducted focus groups and IDIs with Black CGW receiving care at the partner site to explore desired PrEP educational materials and communication strategies from gynecological care teams. Participants were recruited via convenience sampling and no women who were approached refused to participate. The eligibility criteria were as follows: (1) self-reported HIV-negative status, (2) Black CGW, (3) English speaking, and (4) age 18–45 years (this age range is based on current HIV epidemiology supporting greatest incidence among CGW aged $<$54 years).

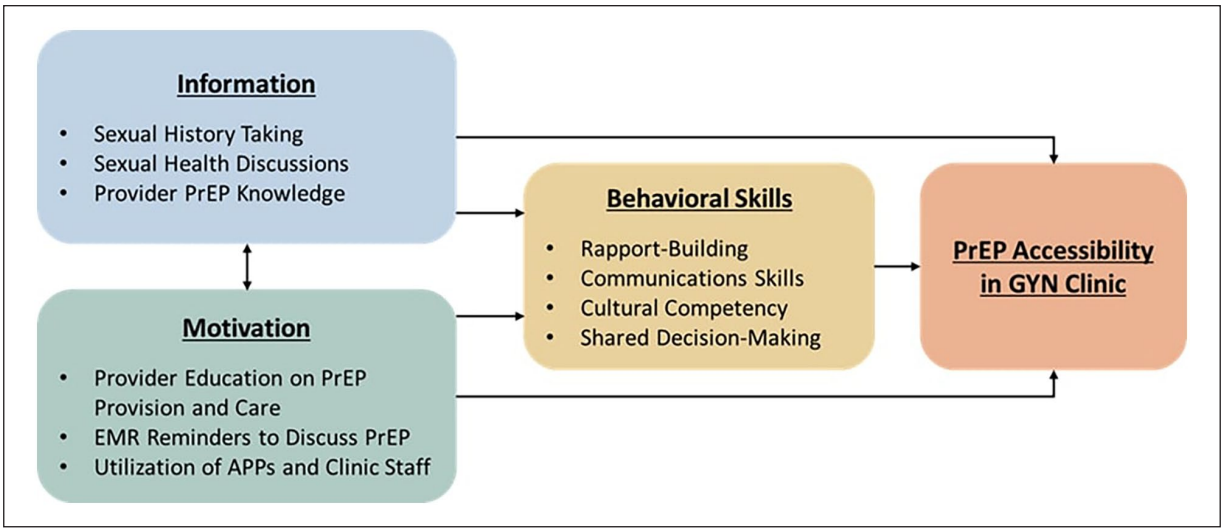

Figure 1. Thematic constructs from key informant and client interviews mapped to the sIMB model.[39]
Arrows show relationships between constructs.
APPs: advanced practice providers; GYN: gynecology; sIMB: situated information, motivation, and behavioral skills.

Study procedures

All interviews and focus group discussions (FGDs) were conducted by a trained researcher (BJ), who holds a bachelor's degree in psychology and works as a research director. The interview is a cis-gender female with 20 years of experience conducting qualitative interviews. Participants did not have a prior relationship with the interviewer; they were informed about the purpose of the research, and no repeat interviews were conducted. IDIs and FGDs were audio recorded and transcribed from the recording.

Key informant interviews. Recruitment of key informants occurred through direct referral from a gynecology provider within the clinic on the research team, via email. Interviews were conducted virtually, on secure, HIPPA-compliant platforms, by study staff trained in qualitative methods and interview techniques. Interview guides are available as supplementary material to this article.

Focus groups and IDIs with patients. Recruitment of patients occurred through flyers and direct referrals from the UAB Gynecology Continuity Clinic. Potential participants completed an online screening tool to determine whether they met eligibility criteria including demographic data. Eligible participants were contacted by study staff to schedule focus groups or interviews. Focus groups and interviews were conducted in person in private, quiet, convenient locations by study staff who are trained in qualitative methods and interview techniques. Interview guides are available as supplementary material to this article.

Statistical analyses

At the end of each interview/focus group, interviewers documented field notes including emerging topic areas for subsequent exploration. Interview transcripts were uploaded to an encrypted password protected computer. NVivo 14 (2023) qualitative data management software (QSR International, Melbourne, VIC, Australia) was used to organize coding and analysis. Preliminary codebooks included constructs from the sIMB model (Figure 1).

Content and thematic analyses were used to understand recurrent themes and experiences. Researchers compared the descriptions of experiences from key informants (medical providers and staff) and clients (patients of the continuity clinic) to understand the barriers and facilitators of implementation of PrEP services from both perspectives. Themes across provider and client interviews were compiled into a table of overlapping and contrasting constructs.[40] Saturation was met, and no additional themes would arise from additional interviews.[41] The coding team (MCP and KB) applied codes to a subset of transcripts in parallel, meeting weekly and comparing coding strategies to resolve intercoder discrepancies. Codes and definitions were adjusted until adequate inter-coder reliability was achieved.[42] Detailed inductive themes were discussed and developed by the study analysis team.

The preliminary findings were presented to two community advisory boards assembled for this study to garner feedback on study findings (i.e., member checking)[43]: one consisting of healthcare providers who work at the clinic (key informants) and the other consisting of patients who identified as Black CGW who utilize the gynecology continuity clinic. The community advisory boards agreed with the major themes presented and felt that shared quotes were reflective of current services provided and received within the clinic.

Table 1. Demographics of key informants at gynecology continuity clinic.

Key informants	*N* = 10
Age (years), median (range)	33.5 (24–58)
Sex, female, *n* (%)	8 (80)
Race/ethnicity, *n* (%)	
Asian	2 (20)
Black/African American	4 (40)
White	4 (40)
Hispanic/Latino	0 (0)
Provider role, *n* (%)	
Attending physician	2 (20)
Physician trainee	2 (20)
Nurse practitioner	3 (30)
Registered nurse	1 (10)
Licensed practical nurse	1 (10)
Certified medical assistant	1 (10)
Years of clinical practice, *n* (%)	
1–5 years	7 (70)
Greater than 15 years	3 (30)
Heard of PrEP before interview (yes), *n* (%)	8 (80)
Ever discussed PrEP with a patient (yes), *n* (%)	4 (40)
Previously prescribed PrEP, *n* (%)	0 (0)
Confidence prescribing PrEP, *n* (%)	
Very confident	1 (10)
A little confident	2 (20)
Not at all confident	6 (60)
N/A	1 (10)

PrEP: pre-exposure prophylaxis.

Table 2. Participant demographics and characteristics, gynecology continuity clinic.

Patients	*N* = 20
Age (years), median (range)	32 (19–44)
Sex, female, *n* (%)	20 (100)
Race, *n* (%)	
Black/African American	20 (100)
Ethnicity, *n* (%)	
Non-Hispanic/Latino	20 (100)
Hispanic/Latino	0 (0)
Highest level of education, *n* (%)	
Bachelor's degree	3 (15)
Some college	7 (35)
High school graduate or equivalent	6 (30)
Some high school or less	4 (20)
Health insurance status, *n* (%)	
Medicaid	13 (65)
Private insurance	5 (25)
None	2 (10)
Total household income, *n* (%)	
Less than $25K	9 (45)
25K to $34K	4 (20)
$35K to $49K	4 (20)
$50K to $74K	1 (5)
Missing, *n* (%)	2 (10)
Sexual orientation, *n* (%)	
Heterosexual	16 (80)
Bisexual	3 (15)
Asexual	1 (5)
History of syphilis or gonorrhea, past 6 months, *n* (%)	1 (5)
Unprotected sex with someone of unknown HIV status, past 6 months, *n* (%)	3 (15)
Lifetime, intimate partner violence, *n* (%)	2 (10)
Lifetime, substance use, *n* (%)	4 (20)

Ethics

All study procedures were approved by the University of Alabama at Birmingham Institutional Review Board (IRB #300008345). All participants signed an IRB-approved informed consent form prior to engaging in study procedures and after receiving information on minimal risks associated with the study and benefits as well as their rights to privacy, confidentiality, and anonymity.

COREQ Guidelines were followed for the preparation of this manuscript.[44]

Results

Demographics of participants

Key informants. Key informants ($n = 10$) included attending physicians, physician trainees, nurse practitioners, registered nurses, licensed practical nurses, and certified medical assistants (Table 1). The median age was 33.5 years (range 24–58). The majority ($n = 8$, 80%) identified as cisgender female. About 40% of key informants self-identified as Black/African American, 40% identified as White, and 20% identified as Asian.

Patients. Intotal, 20 client participants participated in three focus groups (range 2–3 participants; total $N = 8$) and 12 individual IDIs. Patients reported a median age of 32 years (range 19–44), all identified as Black women; most identified as heterosexual ($n = 17$, 81%) and three as bisexual (14.3%). The majority were insured via Medicaid ($n = 14$, 66.7%) and five through private insurance (23.8%) (Table 2).

Qualitative findings

Factors affecting the frequency and depth of discussions about sexual health and sexually transmitted infection (STI) and HIV prevention during routine gynecological appointments are intersecting. Stigma and other barriers to care contribute reciprocally to these limited discussions about sexual health, perpetuating an ongoing cycle of non-discussion. Utilizing thematic and content analysis, a cognitive map of recurrent constructs and experiences has

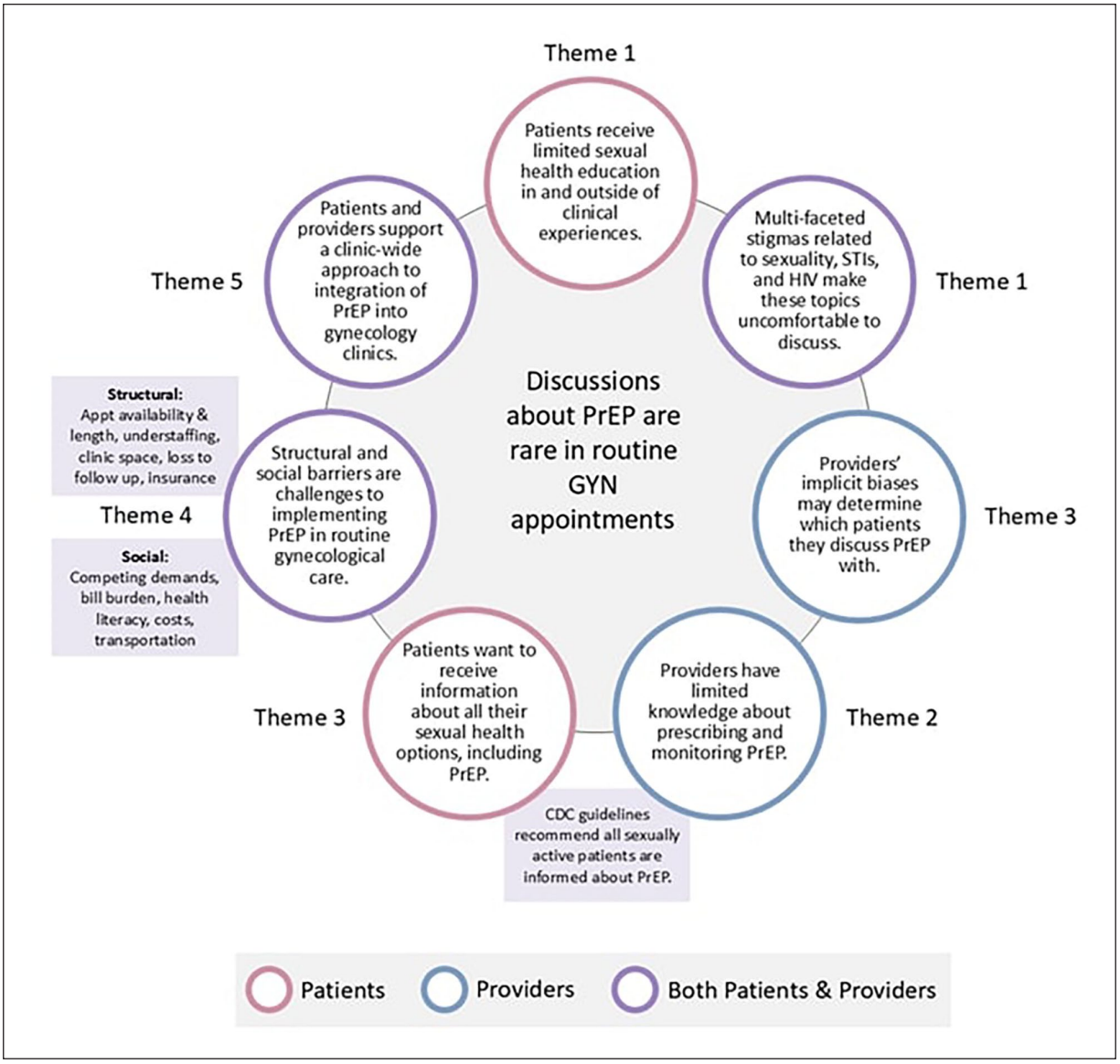

Figure 2. Emergent qualitative themes from discussions with key informants and patients.

been developed to visualize the intersecting factors that influence provider–patient sexual health discussions and respective perspectives on ideal PrEP service delivery models in gynecology settings (Figure 2). Figure 2 shows emergent qualitative themes, as presented below.

Theme 1: patient- and provider-level internalized, anticipated, and enacted stigmas related to sexuality, STIs, and HIV limit discussions about sexual health and HIV prevention

Sexual health literacy in Alabama is limited by state policies, social norms, and intersectional stigma related to race, gender, and sexuality. Providers feel like sexual health education is needed during gynecological appointments to fill in the gaps in patients' sexual health knowledge.

> "I've talked to so many young people about protecting themselves, and a lot of them really don't fully understand how they could get HIV. They still don't understand that they can also get it orally, with oral sex, and a lot don't consider oral sex as having sex . . . and so you have to explain the ways that they could possibly get STDs and HIV or whatever by their practices. . . Most people are very inquisitive and want to know. They want answers. . . Any little bit of information is like the lightbulb come on. . . A lot of them just don't know. Coming from their backgrounds or whatever, mom or dad or whomever not explaining things to them and telling them to take care of their bodies."—Key Informant Interview 8, 58-year-old Licensed Practical Nurse

> "The sex education in schools is abysmal. It's in our state constitution in a really subpar way, and so that's a huge barrier. As an adolescent health provider, that's something that is huge, and that's a problem. I think that it's a multifactorial problem that affects many, many things, and HIV is one of them and makes things like PrEP urgent and necessary when it feels very reactionary, but it's the place that we're at."—Key Informant Interview 5, 35-year-old Attending Physician

Stigma related to sexual activity is prevalent among both patients and providers and may be perpetuated by incomplete discussions about sexual health in medical settings.

> "I know the stigma of HIV, I think, still persists a lot, and both from our side and the patient side. . . I think especially in a lot of the cisgender heterosexual women, they think that that's not something that's gonna affect them at all, and [I] have definitely had that in my conversations when I've offered HIV testing like, 'Oh, I don't need that. I just want my gonorrhea, chlamydia, et cetera, testing.' I think stigma is a pretty significant barrier . . . At the end of the day, they're gonna take that one person's opinion more so than my counseling, which is fine, but it may be one of those things similar to PrEP, where they don't want to be stigmatized as someone who either has HIV, and it's misunderstood in the community what PrEP actually is, if people find out what they're taking."—Key Informant Interview 7, 29-year-old Physician Trainee

> "I think Depo is so successful 'cause we give it right there in the clinic, and so that's part of the reason I think that being able to dispense [PrEP] from a clinic would be helpful, but that brings up a whole 'nother host of issues. That's much easier said than done, and I get that. I don't know. We're still in the Bible Belt, still in the Deep South, and there's still a lot of shame and things about this and a lot of denial on both parts, on both provider and patient side."—Key Informant Interview 5, 35-year-old Attending Physician

Patients may not initiate sexual health conversations with their providers for many reasons, including limited sexual health knowledge, experiences of stigma, or medical distrust.

> "[Sexual health] is just really a touchy and sensitive topic because I'm just not used to talking to my doctors about something like that. It's one of those topics you don't really talk about like that, versus other aspects of your health or other aspects of your life, with your doctor . . .When they ask that particular question and you know you haven't experienced that or you shouldn't do that, it just makes it a little uncomfortable because it's like after they ask you that, they'll ask you more questions."—Patient IDI 4, 26-year-old Black female

Both patients and providers perceive the other as uncomfortable and unwilling to discuss sexual health including STIs and HIV.

> "There have been times when the MD, I bring the conversation up about STDs and HIV and stuff. Most doctors don't feel comfortable, like they hesitate to have a discussion with their patient."—Patient from Focus Group B

> "There's always kind of that stigma around sexual health and not being open and talking about it to a degree. That is sometimes something where certain people don't feel comfortable talking openly about it. I feel every once in a while being a male talking with my patients sometimes can be a little bit—I don't know—more of an awkward conversation for certain patients."—Key Informant Interview 4, 28-year-old Physician Trainee

STI and HIV-related stigmas further limit conversations about these topics, as they are considered taboo and seen as a consequence of socially condemned sexual activities.

> "Well, I mean, you do what you do but me honestly I probably wouldn't talk to nobody with HIV because I'm not judging, but it's just I don't trust the pills and stuff."—Patient IDI 5, 21-year-old Black female

Discussions between patients and providers at OB/GYN appointments are primarily limited to reproductive health, including pregnancy intentions, contraception, and pap smears, while discussions about sexual pleasure, function, STIs, and HIV are brief.

> "Basically, [providers] talk about condoms, talk about me takin' my medication. That's probably all. That's all. I really haven't had a one-on-one conversation about [STI testing], to be honest with you. Any doctor I ever had, we might've talked about birth control or something like that."—Patient IDI 3, 32-year-old Black female

Theme 2: providers report limited knowledge about prescribing and monitoring PrEP, which is reflected in patient's observations that providers do not routinely initiate discussions about HIV prevention or PrEP

Providers have limited knowledge about the purpose, options, and clinical monitoring of PrEP.

> "Probably, honestly, not as confident as I should be as their physician and not as comfortable just having that knowledge [about PrEP]. I think a lot of what I know is knowledge I actually gained from undergrad just doing some public health work and outreach things and then what you see on TV, which isn't what I should know, being a provider and counseling these patients for, so probably not as confident as I need to be."—Key Informant Interview 7, 29-year-old Physician Trainee

> "I think that it's a combination of drugs that you take if you are sexually active with somebody who has HIV. I think, but

> I'm not sure. . . I don't really know what it entails. I don't know. Like, do I just send you to another clinic? I can send somebody to a referral clinic, but if I'm doing it, I obviously need to [know]—what is the drug? What do you do? Do you take it every day? What is its reliability and validity? Does it work? That kind of stuff."—Key Informant Interview 10, 54-year-old Nurse Practitioner

Patients report that their providers have not provided information about PrEP during routine women's health check-ups.

> "[My provider] didn't say anything to me about [PrEP] when I went and did [my appointment] the other day. I would like to know more about it."—Patient from Focus Group B, Participant 1, 35-year-old Black female

> "I'm like her, because I just had my yearly check-up and there wasn't even a conversation [about PrEP] brought up."—Patient from Focus Group B, Participant 2, 26-year-old Black female

Patients do not initiate conversations about PrEP because they are not aware that it is an option available to them.

> "Just the fact that [PrEP] can be taken for women as well as men, 'cause like the only time I heard about it was the commercial, and it just made it seem like it was only for men. When I found out about this study and it was for PrEP for women, I'm like, okay. That's great, 'cause I didn't know it at all. I'm thinking it's just only for men. Hearing about it, I would like people to know, hey. Women can do it too. They can take this as well."—Patient from Focus Group D

Theme 3: provider's implicit biases may determine the patients with whom they discuss PrEP. Patients expect non-targeted, comprehensive sexual health approaches when discussing STI and HIV prevention options, including PrEP

Providers may only initiate discussions about PrEP with patients they perceive as "high risk" for STIs and HIV, mirroring their current practices around HIV prevention counseling. Given that current CDC PrEP guidelines suggest benefit in discussing PrEP with all sexually active people,[45] this limits reach and may perpetuate stigmas and stereotypes about people that have certain medical needs.

> "I always ask if they are using birth control and if they would mind getting pregnant or not. Then that leads to if [they are] sexually active with a male or female partner. . . Then I always ask—well, I wouldn't always. It depends on the feel of the patient. While I'm there, would you like any testing, such as chlamydia, gonorrhea, trichomonas, HIV, and syphilis? Then we just go from there."—Key Informant IDI 10, 54-year-old Nurse Practitioner

> "I feel like instead of addressing with every single patient, I have realized I'm doing more of a patient-centered education, so if there are things in their history that make me worried about their exposure to HIV. Whether it's multiple partners, or history of drug use, or past history, then I bring it up to basically do an assessment of what their risk is, and determine if they need testing for HIV, and how often they need testing. I feel it's very much patient-centered instead of every patient getting those questions from me, which also makes me realize reflecting on it, that it may be missing some patients."—Key Informant Interview 1, 33-year-old Attending Physician

Patients who initiate these discussions with providers have concerns about their sexual health or are hoping to attain more knowledge from their provider about STI/HIV prevention.

> "I had a sexually transmitted disease. I think I was in high school. I think it was chlamydia. Ever since then I have had questions about how to prevent sexually transmitted diseases. . . My doctor don't usually just bring it up. I would bring it up, because it's something that I learned about it and know what it does."—Patient from Focus Group C

> "Sometimes I bring [HIV testing] up. Because every time I go to the doctor, I want to get a test to make sure that I don't have it. Even though I'm not doing anything, I still want to know. Because it can be years before you can actually really get it. That's what they said. . . Yeah, every time I go, I want to get tested to make sure—I mean for everybody—to make sure that I don't have anything. Even if I'm not sexually active, I still want to know."—Patient from Focus Group B

Patients want to receive education from their providers on sexual health, including contraceptives and preventive options like PrEP; they liken learning about these options to being informed about recommended cancer screenings or discussing weight loss plans.

> "I think I'd like [my provider to discuss PrEP with me]. It lets you know that one, well, for me it makes me think somebody is actually knowledgeable of what's out there for me to use to keep me safe. Then, also, I guess just being well-rounded with the health. I think it'll be no different than you saying, like, a doctor will tell me, like you said birth control, or even saying, 'Hey, what about these shots or these pills for weight loss?' or something."—Patient IDI 1, 34-year-old Black female

Patients call for PrEP information to be provided to all patients, not singling out any particular groups. They want the information to be readily available and detailed.

> "If I have a question or being inquisitive about something, I would go to that doctor. If I don't and the doctor has some concerns to inform me about, then I would rather the doctor come to me or call me or whatnot and tell me what I should

do in that case. I think it'd be two ways. Either if I have a question and I need to have some answers, I will go to the doctor. If the doctor should see something or think it's beneficial for my health, then I would like the doctor to come to me and tell me. . . If I had the choice, [the format I would want] will probably be reading material in general, whether it's a link or a brochure, to break down. Not just a pamphlet 'cause the pamphlet would give you some idea, but if I'm really trying to find out about this new medication that's gonna help me, I need a full breakdown from A to Z, whatever I need to know. I just need that, from A to Z, point blank. . . I want it crystal clear. I don't want you to sugarcoat or water down the situation. I want it right there. I don't want a guesstimate. I want you to know. This is something' that's not only helpful, but it helps me with longevity as far as life-wise and health-wise."—Patient IDI 8, 42-year-old Black female

Theme 4: structural and social barriers will be challenges to implementing PrEP in routine gynecological care

Other structural barriers to PrEP implementation in this clinical setting include lack of appointment availability and time, understaffing, limited clinic space, insurance coverage, and difficulties following up with patients. Participants described challenges with patients not coming to scheduled appointments and the difficulties in rescheduling when there is limited availability.

"We schedule appointments before they leave if you need the three-month follow-up. Lots of times, I'll start a birth control and, say, their blood pressure is borderline. I'm like, 'I need you to come back in three months. I need to check your blood pressure again to make sure everything looks okay so we can continue this.' They don't show up. . . . I think that's the biggest thing. I think that, yes, some will continue to show up, but I think even it's gonna be an educational, learning—kind of like you said, that it's gonna be a lot of very strict education like, 'You have to come back to do this for this to work.'"—Key Informant Interview 9, 30-year-old Nurse Practitioner

Understaffing and overbooking are structural challenges that may affect the availability of follow-up. Providers suggest adding PrEP services may be an incentive for the clinic staff to grow and expand.

"If we have a high number of patients [on PrEP], then the three-month follow-ups can get harder, because we already have difficulty getting patients in for their follow up appointments. I feel like the biggest barrier would be the time slots available for patients to come back, but that could also be more motivation for the department to continue to grow and provide more providers to have those appointments."—Key Informant Interview 1, 33-year-old Attending Physician

Providers suggested designating specific appointment times for those coming in for PrEP follow-up appointments to ensure there would be adequate availability.

"Maybe if we could—especially for our continuity patients—individualize an appointment slot, just so that way they don't miss their spot."—Key Informant Interview 3, 34-year-old Nurse Practitioner

Social barriers to PrEP implementation for this patient population include competing demands, need for daily pill taking, low medical literacy among patient populations, associated costs of PrEP follow-up and lab work, transportation, and multi-faceted HIV- and sexual health stigmas.

"Money and transportation. If we're giving them literature, what is their educational grade level? Would they understand the literature? That would be one. An iPad interpreter. We do have some Hispanic patients that come there. What kind of interpreter do we need? That type of stuff because anytime you're bringing patients in, there's always going to be that barrier to care if there is a language barrier."—Key Informant IDI 10, 54-year-old Nurse Practitioner

Participants described concerns about the costs associated with managing and taking PrEP.

"Problem is [the cost of] the medication is high. Some of it is high, and your insurance doesn't cover all of it. If it's $100 or $200 and they say at the pharmacy that your insurance doesn't cover this, some people would say, 'Well then just forget it.'"—Patient from Focus Group B

One key informant describes how the combination of social challenges and structural clinic challenges make it difficult for patients to book, attend, and reschedule appointments. They also mention how social stigma related to HIV may also impact the patient's decision to attend PrEP appointments.

"Part of the issue is the lack of access on both sides of things. The population that's served in the resident clinic tends to have more social stressors, transportation issues, financial issues, things like that, so I think that's something that has to be considered when making therapeutic decisions over there. . . . I think if we could somehow dispense it through the clinic that would be really helpful. That would help improve confidentiality. Then, same thing on the private practice side. The access is a problem. We don't have enough appointments for the number of patients that we have, and if they miss one, it gets bumped back really far, and life happens. People with the best social circumstances miss appointments, and if they have to come back for that, that's really challenging. People work. . . .I think the biggest barriers would be confidentiality, reducing social stigma, and removing access barriers."—Key Informant Interview 5, 35-year-old Attending Physician

Theme 5: patients and providers support a clinic-wide approach to integration of PrEP into gynecology clinics

Patients and providers call for utilizing support staff, nurses, medical assistants, advanced practice providers (APPs), and physicians to provide patients with information on PrEP and conduct counseling, initiation, and follow-up visits.

> "I think that it would be a really fantastic place to use an APP . . . I think providing PrEP doesn't necessarily cause a problem in our workflow. I think our workflow causes a problem in providing PrEP. . . Then, on the resident side of things, I'm not the one necessarily doing the direct counseling, and so it would very heavily depend on the comfort level of the trainee that's seeing the patient. I think that can affect the quality of the counseling and the receptiveness of the sensitive topic. . . I think that there's a lot of patient sharing, and when you have an access issue, then patients often will just take whatever appointment they can get, and I think that the APPs play a big part in that too. They really need to be educated similarly to the attendings and the residents because, like I said, they often have more face time with the patients than anyone else."—Key Informant Interview 5, 35-year-old Attending Physician

> "A lot of times they'll see multiple residents throughout their care and so making sure that everyone's comfortable prescribing [PrEP] because if I feel good about doing it, but in three months, they come back and see a resident who hadn't had any training yet, or they see a first-year resident who's still new and hasn't learned a lot about it yet or doesn't feel comfortable, or the new attending that's on that day doesn't feel comfortable with it—that would disrupt their care and something could fall through the cracks like them not get their creatinine check because they don't know that that's what's supposed to happen every three months or things like that."—Key Informant Interview 4, 28-year-old Physician Trainee

> "It can come from any doctor. It can come from my primary doctor or nurse. If they know about it and they want to tell me, I'm gonna receive the information."—Patient IDI 2, 23-year-old Black female

Discussion

The goal of this study was to identify key determinants for integrating PrEP services, tailored for Southern Black CGW, into routine gynecological care, by conducting IDIs and focus groups with women's healthcare workers and patients accessing gynecology services. Through conducting interviews grounded in the sIMB conceptual framework, contrasting and overlapping themes were identified to better elucidate the necessary multilevel strategies needed to improve PrEP service delivery within the clinic.[46,47] While both patients and providers endorsed the need to increase education around sexual health, HIV, and PrEP to address HIV-related stigma and improve patient–provider interactions, ideal approaches for delivery of PrEP services differed. Specifically, providers expressed a more focused approach to PrEP counseling based on perceived risks and patients desired integration of PrEP counseling into routine healthcare. However, both parties believed that for successful implementation, a clinic-wide approach would be needed, but still may ultimately fall short in addressing structural barriers to PrEP access.

Both patients and providers believed PrEP is an important aspect of women's healthcare; however, discussions about PrEP between patients and providers during healthcare encounters are limited. While patients preferred discussions about STI/HIV prevention to be part of routine healthcare akin to other preventive health topics (e.g., cancer screenings, nutrition, and exercise), providers reported routinely initiating conversations about STIs/HIV with patients deemed at "high risk" for STIs and HIV acquisition based on screening questions or health history. The reasons for using this "risk-based" approach are multifaceted and fueled by limited appointment times, staffing, and lack of training. Previous studies indicate that most gynecologists do not routinely obtain comprehensive sexual histories but are more likely to inquire about sexual health when relevant to the chief complaint.[48,49] Women across all age groups have wide-ranging reproductive and sexual health concerns including sexual satisfaction, family planning, HIV and STIs prevention/treatment, and intimate partner violence.[50–52] Given that lower sexual satisfaction is associated with self-reported poorer overall health,[52] routine comprehensive sexual health histories are vital to promoting overall health and well-being. Sexual history taking may be improved via proper evaluation of and education about HIV and other STIs, pregnancy and reproductive life planning, intimate partner violence, and female sexual dysfunction.[22,48,49,53–58] Furthermore, routine comprehensive sexual health histories are important for promoting inclusivity and health equity regardless of race, ethnicity, or sexual orientation.[59,60]

Paradoxically, our study found that despite specializing in female sexual and reproductive tract care, gynecology providers expressed discomfort engaging in aspects of sexual health focused on HIV prevention, specifically PrEP. None of the provider participants had previously prescribed PrEP, and the majority (60%) had never discussed PrEP with a patient. Most providers self-reported low confidence prescribing PrEP, which is common among non-HIV specialists.[32,61–65] Low levels of provider confidence; limited provider knowledge about the purpose, options, and clinical monitoring of PrEP; and stigma related to sex and sexuality have all contributed to limited discussions about PrEP.[18–21,66] It is notable that both patients and providers perceived the other as being uncomfortable discussing STI/HIV prevention, similar to findings from prior studies.[21,67] Ultimately, different

interventions were suggested to help mitigate stigma and increase comfort around these conversations but all focused on improving knowledge. This is especially important as patients in our study endorsed preferring conversations about PrEP to be initiated by providers.[35] Unique to our study, patients also called for PrEP education from their gynecology providers for all women, regardless of provider perceived risks, with PrEP information tailored to their specific needs. Patients suggested facilitating these discussions with educational reading materials like brochures and posters available in the clinics, complimenting findings from a previous study conducted in the U.S. South.[31,68]

In addition to stigma, barriers related to integration of PrEP services into the gynecology clinic workflow and structural barriers related to accessing PrEP were perceived by both patient and providers. Providers identified lack of appointment availability and time, understaffing, limited clinic space, insurance coverage, and difficulties with continuity of care as barriers to PrEP service delivery. The impact of these structural barriers is supported by several studies conducted in family planning clinics.[30,32,33,64,68,69] Facilitators to PrEP implementation in family planning clinics included education and training for providers, patient education materials, availability of adequate resources, and leadership engagement.[30,32,33,68–70] Our study adds to the current literature by also highlighting the provider requests for PrEP-only clinic slots within the gynecology continuity space, which counters calls to fully integrate PrEP clinical services into routine women's healthcare to potentially mitigate access barriers. Barriers related to appointment availability may be diminished if the follow-up frequency could be lengthened from the 3-month timeframe. However, patients and providers alike recognized the importance of a whole-clinic approach to implementation of PrEP service delivery, utilizing support staff, nurses, medical assistants, APPs, and physicians to provide counseling, initiation of PrEP, and conduct of follow-up visits. In addition, a "PrEP coordinator" may be a useful addition to the clinic team to facilitate implementation of PrEP services.[32,68] Educational materials and trainings for clinic staff and providers can improve PrEP knowledge, address HIV- and PrEP-related stigmas, and improve self-efficacy in discussing and prescribing PrEP.[31,33]

As Bowleg discusses, limited access to PrEP for people of color, particularly Black CGW, is not driven by a single factor but rather by a combination of structural and clinical barriers that require multilevel solutions.[37] While provider and staff training can enhance the consistency of in-clinic discussions about HIV prevention with patients from diverse backgrounds, it alone is insufficient to address broader systemic challenges. These include structural barriers such as inadequate health insurance coverage, lack of Medicaid expansion, transportation and childcare difficulties, as well as clinical obstacles like understaffing, overbooking, and limited physical clinic space. To ensure equitable access to PrEP services for women in Alabama, comprehensive interventions must address barriers at the individual, clinic, and policy levels.[37]

Our study is limited by a small sample size and sampling from one clinic. While these findings may be similar in other OB/GYN clinics in Alabama or the South, the small sample size limits the generalizability of these findings. One strength of the study is the use of member checking to ensure accuracy of the results to the findings elucidated from the qualitative data. The participants and community advisory boards were presented with the aggregate findings and asked for feedback prior to finalizing the findings.

Conclusions

In conclusion, Black CGW in the U.S. South support integration of PrEP services into their routine gynecology care and desire more information about PrEP to be given to all people so each person can make informed decisions regarding their health. While the U.S. South has been identified as a priority region for EHE initiatives, inequities in PrEP coverage persist, and integration of PrEP into gynecology clinics may address gaps in PrEP coverage for Black women. Multilevel and patient-centered interventions are essential to address the themes revealed by this analysis, particularly the challenges in delivering comprehensive, culturally appropriate, and stigma-free sexual healthcare that empowers women to make autonomous health decisions.

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Statements and declarations

Ethics approval and consent to participate

All study procedures were approved by the University of Alabama at Birmingham Institutional Review Board (IRB#300008345). All participants signed an IRB approved informed consent form prior to engaging in study procedures and after receiving information on minimal risks associated with the study and benefits as well as their rights to privacy, confidentiality, and anonymity.

Consent for publication

All participants signed an IRB-approved informed consent form prior to engaging in study procedures that mentioned the information collected during the study would be used in publications while maintaining confidentiality.

Author contributions/CRediT

Madeline C Pratt: Writing – original draft; Writing – review & editing; Visualization; Formal analysis; Data curation.
Hannah Goymer: Writing – original draft; Writing – review & editing.
Kaylee Burgan: Formal analysis.
Lynn T Matthews: Writing – review & editing; Conceptualization; Methodology.
Bernadette Johnson: Investigation; Project administration.
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Mirjam-Colette Kempf: Conceptualization; Methodology; Writing – review & editing.
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Audra Williams: Conceptualization; Methodology; Writing – review & editing.
Latesha E Elopre: Conceptualization; Investigation; Funding acquisition; Writing – original draft; Writing – review & editing; Methodology; Validation; Formal analysis; Project administration; Data curation; Supervision.

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Data availability

Data supporting the study results can be provided upon request to the corresponding author's email.

Supplemental material

Supplemental material for this article is available online.

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