**Supplemental Digital Content**

**Section 1: Information about Mecklenburg County and Local HIV-Related Data**

Mecklenburg County includes Charlotte, a major metropolitan area and largest city in North Carolina, and where nearly all of the intervention population lives. Approximately thirty percent (277,728) of the total population of Mecklenburg County (919,628 in 2018) is Black.1 In 2018, 73% of new HIV diagnoses in Mecklenburg County (n=255) were among Black people and African Americans (n=186) and 85% were among men (n=216); 76% (n=164) of these men cited having sex with men as the factor that placed them at risk.2 In a recent study, researchers suggested that PrEP use in the Charlotte area is under-utilized by Black persons and African American as well as people who are under insured.3,4

**Section 2: Supplemental Information About Stakeholder Groups**

* 1. **Advisory PrEP-MECK Coalition**

During 2 in-person (before the COVID-19 pandemic) and 1 virtual meetings (during the COVID-19 pandemic), the coalition members (1) informed the focus group discussions (FGDs) and in-depth interviews (IDIs) we conducted, providing advice to ensure that the research was firmly grounded within the context of Black same gender–loving men (BSGLM) in Mecklenburg County, North Carolina; (2) reviewed and discussed the FGD and IDI research findings and determinants of PrEP uptake among BSGLM; and (3) brainstormed about and suggested numerous potential implementation strategies to address the determinants. Members of the local Mecklenburg County Getting to Zero Committee (who lead the local Ending the HIV Epidemic [EHE] programmatic efforts) joined the last PrEP-MECK Coalition meeting and contributed to the discussion of potential implementation strategies. We also held an additional (virtual) meeting at the beginning of the COVID-19 pandemic to check in to see how members were doing, provide a status update on the grant activities with a brief verbal description and discussion of interim FGD findings, and brainstormed ideas for recruiting participants for the remaining data collection activities during the pandemic. Seven to 10 community representatives attended each meeting.

* 1. **Mecklenburg County PrEP Initiative Clinic Representatives Workgroup**

During 6 virtual meetings (1 meeting pending as of publication submission), the 4 Mecklenburg County PrEP Initiative (MCPI) clinic representatives (1) shared their experiences with clinic-initiated activities to increase PrEP uptake, their current client demographic characteristics, and their aspirations for engaging new clients; (2) reviewed and discussed the clinic assessment findings and the key determinants of PrEP uptake among BSGLM identified from our FGD and IDI findings; (3) brainstormed potential implementation strategies at the provider and clinic levels to address the selected key determinants by considering all clinics’ collective past successful approaches to increasing PrEP uptake and reviewing provider- and clinic-level strategies identified in the Expert Recommendations for Implementing Change (ERIC) compilation of implementation strategies5 and the scientific literature6,7; (4) selected clinic-level implementation strategies to evaluate in the future pilot evaluation, focusing on adopting changes at the clinic level that can make PrEP easier to access (suggestions for client-level implementation strategies were also offered); (5) provided feedback on the proposed client-level “engage the consumer” implementation strategies that are directed toward BSGLM; and (6) described current metrics collected among clients at the clinics, selected potential patient outcomes, and discussed an overall study design for the future pilot evaluation (details about outcomes will be provided elsewhere).

* 1. **Client-Level Implementation Strategy Workgroup**

During a series of semi-monthly meetings, the team (1) reviewed and discussed the most salient determinants of PrEP uptake among BSGLM identified from our FGD and IDI data; and (2) brainstormed potential client-level implementation strategies to address the selected determinants by considering strategies suggested by the PrEP-MECK Coalition, the community-based organization’s (CBO’s) past successful approaches to increasing PrEP uptake, and potential strategies identified in the ERIC implementation strategies5 and the scientific literature.6,8,9 Next, during a series of smaller workgroup weekly meetings, the CBO and research staff, together with investigators input, (1) linked the key determinants identified to the most appropriate “engage the consumer” approaches, and (2) used the FGD and IDI findings coupled with the expertise of CBO staff to develop a range of “engage the consumer” content to pretest in FGDs.

**Section 3: Supplemental Information About the Focus Group Discussions and In-depth Interviews**

* 1. **Recruitment and Participant Selection**

The CBO and clinic partners recruited participants via social media and direct outreach to current clients. We purposefully selected participants10 who were aged 18 to 39 years for the FGDs and 18 years and older for the IDIs, identified as Black or multiracial including Black, identified as cisgender male, had anal sex with another man in the past year, and were not living with HIV (self-reported). For the FGDs, we focused on recruiting BSGLM who had not previously taken PrEP in the following age groups: 18 to 24 years, 25 to 30 years, and 31 to 39 years. For the IDIs, we included BSGLM who were currently taking PrEP and those who were no longer engaged in PrEP care.

* 1. **Data Collection**

CBO staff and other local partners moderated the digitally recorded FGDs after participating in a FGD facilitation training. The FGDs were conducted in person (before the COVID-19 pandemic) and virtually (during the COVID-19 pandemic).

At the beginning of the FGDs, we showed a brief video, developed by Project Inform, about PrEP11 that is directed toward same gender–loving men of color. We also distributed and reviewed a 1-page PrEP factsheet developed by the Centers for Disease Control and Prevention that included information on “What is PrEP?,” “Is PrEP Right for You?,” “Visit Your Health Provider,” and “How You Can Get Help to Pay for PrEP.” The factsheet is no longer available on the CDC website.

After any questions were answered about PrEP,we explored participants’ perspectives on how BSGLM in their community view (1) predisposing factors, such as PrEP awareness, attitudes, and beliefs, including constructs of the Health Belief Model12 and Stages of Change (Transtheoretical] Model13); (2) reinforcing factors that support or encourage PrEP use, such as perceptions of social norms, social support, stigma and discrimination, and medical mistrust, and provider interactions; and (3) enabling factors that must be in place to use PrEP, such as the availability of resources and the availability and accessibility of services. To better understand the stage of PrEP readiness that BSGLM might be in, a description of 4 stages (preparation, contemplation, preparation, and action) was provided and participants selected and discussed the readiness stage they felt best represented BSGLM in Charlotte. To aid in the discussion of barriers to PrEP uptake, participants were presented with a list of 8 potential barriers to visiting a clinic (eg, scheduling, transportation, location of clinics) on poster boards in the room and asked to place a sticker on perceived salient barriers for BSGLM (an adapted approach was used in the virtual FGDs); the top 2 barriers identified were discussed. Lastly, we explored participants’ suggestions for future implementation strategies to increase PrEP uptake among BSGLM starting with open-ended questions and followed by direct questions on specific strategies (ie, use of influencers, peer testimonials, and PrEP navigation).

Research staff conducted the one-on-one IDIs on the telephone, which were digitally recorded with participant permission. We explored predisposing, reinforcing, and enabling factors that contributed to current PrEP users’ motivation for taking PrEP, support in taking PrEP, and strategies to manage barriers, as well as PrEP discontinuers’ reasons for stopping PrEP and any plans for re-initiation. We also explored potential PrEP uptake implementation strategies, using an open-ended question followed by probes on the use of influencers, peer advocates, and PrEP navigators. Additional findings from the IDIs will be described elsewhere.

Semi-structured interview guides were used for both the FGDs and IDIs.

* 1. **Data Analysis**

We used applied thematic analysis14 to identify the salient PRECEDE-PROCEED model15 factors described in the FGDs and IDIs that influence PrEP uptake. All FGDs and IDIs were transcribed verbatim, following a transcription protocol,16 and were analyzed separately using the same overall analytical approaches. Using NVivo 12,17 2 analysts applied structural codes to segment participants’ narratives into a priori conceptual categories (eg, text describing factors related to PrEP costs), followed by inductive, content-driven codes for each of the conceptual categories (eg, text describing perceptions of unaffordable PrEP costs). Intercoder reliability assessments were conducted throughout the analysis. Coding discrepancies were resolved through analyst discussions, and transcripts were recoded and the codebook was revised as needed. Analysts organized content codes into emergent thematic groups and summarized the most salient themes together with illustrative quotes.

* 1. **Additional Results**

Participant quotes on “engage the consumer”5 implementation strategy approaches are found below in Supplemental Table 1.

**Supplemental Table 1. Participant Quotes on Potential “Engage the Consumer”**5 **Implementation Strategy Approaches**

| **Approach**  | **Quote** |
| --- | --- |
| Social media | In this day and age…everybody's tuned into social media now.—Participant in FGD #4 (ages 31 to 39) |
| Utilizing the social media outlets, and keeping the informative portion of it very simple, straight and to the point. And intriguing. Once you grab someone's attention, it's easy to get them engaged.—Participant in FGD #1 (ages 25 to 30) |
| Yes…social media…a lot of people like the quick reads. So, even a quick post or flyer could be helpful. Honestly, people sharing their stories is helpful because it helps people feel like they’re not alone.—Participant in an IDI (age 29, PrEP user) |
| Influencers | The best way would be social media. Everyone uses Instagram, Twitter, Facebook, things like that. I think in order to reach certain people, you would probably have to ally with certain types of influencers to have these discussions around PrEP and safe sex practices.—Participant in an IDI (age 39, PrEP user) |
| I think that not filtering [influencers] when you try to involve them. I think that not forgetting the fact that sex sells, and a lot of the influencers got a body, a lot of these influencers are strippers, a lot of these influencers are into things that we engage in. So, allowing them to kind of engage us in the way that they can engage us unfiltered.—Participant in FGD #1 (ages 25 to 30) |
| Online information | That’s difficult [reaching Black men with PrEP messages] because I understand that being a Black man, most Black men don’t necessarily go to the doctor a whole lot. It’s just something that we suffer from…I think…giving [Black men] the option to be able to go online. Being able to click on something and read it at their leisure and in their own time when they’re interested...that allows them to still have their own sense of privacy and not everyone knows.—Participant in an IDI (age 42, PrEP user) |
| PrEP Testimonials  | I would just say you need some testimonials. You need some people to talk about it saying what it’s done for me.—Participant in FGD #2 (ages 31 to 39)  |
| I feel like [Black gay men telling their stories about using PrEP] would put people at ease that are afraid to take it. Now of course, it's not gonna have the exact same effect on everybody; everybody's body's different. I feel like if they see enough people that have positive feelings about it, positive results, then they're gonna feel more comfortable doing it themselves. When they see 10 people that have something good to say about it, I feel like that's the big ones.—Participant in FGD #4 (ages 31 to 39) |
| [When BSGLM men talk about their experiences with other BSGLM] it's more relatable, it's open, it's a candid conversation. It's not so taboo. —Participant in FGD #1 (ages 25 to 30) |
| [From a discussion on provider trust:] Another way to persuade someone who’s had a bad experience to want to get checked up is by recommendation. I will recommend my primary care physician. So, I would say, “I see this particular doctor. I trust him. And I feel like they would take good care of you.” Something like that coming from someone they trust – me. They know and trust me, so they’re gonna take my word as credible, and they’re gonna go to see that person.—Participant in FGD #2 (ages 31 to 39) |
| Navigator | [A PrEP navigator] would be very helpful. It would ease the tension, the fear. If they've got someone to walk them in, holding their hand. Because I mean, it's a process. It's a process because it's the unknown. Because like I said, you've gotta get tested for HIV first before you get on PrEP. So, it's a whole unknown, and then you'd have to reassure them, "No matter what this test comes out as, if it's negative, fine, we want PrEP. You know, you're good. But if it comes out and you're HIV-positive, I've also got something added that you can take. We wanna get you better, or we wanna get you on the right path." So, if you have somebody in there working with them, guiding them. Because that fear as Black men will make us just go into a shell.—Participant in FGD #4 (ages 31 to 39) |
| I think it would be extremely helpful because you have someone who is really showing you step by step giving you knowledge of every single thing.—Participant in FGD #2 (ages 31 to 39) |
| I feel like some people do like that extra motivational push, and some people might not want [PrEP], but if it’s offered to them, that could help to push them along.—Participant in FGD #3 (ages 25 to 30) |

**Section 4: Supplemental Information About the Clinic and Community-Based Organization Assessments**

* 1. **Participants**

In addition to assessing the MCPI clinics’ readiness and capacity to provide PrEP care to more clients and the partner CBO’s readiness and capacity to adopt the potential client-level implementation strategies, we conducted the assessment with an additional CBO connected to a partner clinic to explore capacity.

* 1. **Data Collection**

Assessments included closed-ended questions administered via REDCap followed by open-ended questions focusing on readiness for implementation that were asked on the telephone. Supplemental Table 2 lists the clinic assessment question topics by constructs of the Consolidated Framework for Implementation Research18 (CFIR). Supplemental Table 3 lists CBO assessment question topics by CFIR. We also explored in detail the previous implementation strategies used by the clinics and CBOs to raise awareness of and increase PrEP uptake among BSGLM.

**Supplemental Table 2: Clinic Assessment Question Topics**

|  |  |
| --- | --- |
| **CFIR Construct** | **Question Topic** |
| Inner Setting |
| Clinic structure | * Year established
* Services provided
* Number and type of staff
* Number and demographics of PrEP clients
* Typical wait time and PrEP patient flow
* Sources of funding
 |
| Implementation climate  | * Interest and willingness to provide PrEP to more clients
 |
| Readiness for implementation  | * Availability of resources (staff and finances) to provide PrEP to more clients
* Senior leadership commitment
* Current barriers faced with PrEP delivery
* Anticipated delivery barriers with additional PrEP clients
* Impact of the COVID-19 pandemic on PrEP care delivery
 |
| Outer setting |
| Client needs | * Perception of barriers to PrEP uptake faced by BSGLM
 |

**Supplemental Table 3: Community-Based Organization Assessment Question Topics**

|  |  |
| --- | --- |
| **CFIR Construct** | **Question Topic** |
| Inner Setting |
| Organization structure | * Year established
* Services provided, including HIV prevention services
* Number and type of staff, allocation to various services
* Number and demographics of program clients
* Sources of funding
* Anticipated new services and staffing
 |
| Implementation climate  | * Level of organizational engagement in current efforts to increase PrEP uptake among BSGLM
* Interest and willingness to increase promotion of PrEP
 |
| Readiness for implementation  | * Availability of resources (staff and finances) to implement new strategies focused on increasing PrEP uptake among BSGLM, including increasing referrals to PrEP clinics
* Ease/difficulty of integrating new implementation strategies into existing organizational structures, workflows, and systems
* Senior leadership commitment
* Current barriers faced with providing PrEP-related services
* Anticipated delivery barriers with providing PrEP-related services to more clients
* Impact of the COVID-19 pandemic on the provision of services
 |
| Outer Setting |
| Client needs | * Perception of barriers and facilitators of PrEP uptake faced by BSGLM; programs CBOs implement to alleviate barriers
* Perception of awareness and knowledge of PrEP among BSGLM
 |

* 1. **Data Analysis**

We used descriptive statistics to summarize the closed-ended questions. For the open-ended questions, we categorized similar narratives and summarized all responses.

* 1. **Additional Results**

Supplemental Table 4 describes key staffing and clinic variables from the clinic assessments.

**Supplemental Table 4. Key Clinic Staffing and Patient Variables, Mecklenburg County PrEP Initiative Partner Clinics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Clinic #1** | **Clinic #2** | **Clinic #3** | **Clinic #4** |
| Total no. staff | 13 | 9 | 30 | 8 |
| Total no. providers | 2 | 2 | 7 | 2 |
| Est. total no. of patients | 210 | 4000 | 2240 | 200 |
| Est. total no. of patients on PrEP | 168 | 40 | 600 | 50 |
| Percentage of PrEP patients who are BSGLM | 98% | 90% | 45% | 85% |
| Percentage of PrEP patients who are part of MCPIa | 100% | 70% | 20% | 80% |

aPatients’ PrEP-related costs are covered through the Mecklenburg County PrEP Initiative.

**Section 5: Study Limitations**

We had just begun conducting the FGDs and were planning to initiate the IDIs when the initial COVID-19 stay-at-home orders were enacted. We switched from in-person to virtual FGDs and were unable to recruit participants for 2 additional FGDs with BSGLM men ages 18 to 24 years that we had planned. We also were unable to reach the target number of participants per FGDs (n=6 to 8) for all the FGDs. For the IDIs, we aimed to interview 12 current and 12 former PrEP users, based on estimates of when information saturation is likely satisfied;19 however, while clinic partners could identify past clients no longer engaged in PrEP care, reaching them proved difficult as contact information had changed. Fortunately, participants in the FGDs and IDIs that we did conduct were highly engaged and the information shared was useful in helping us to determine the most salient issues we should address.

We also asked about numerous topics in the FGDs, aiming for the most salient issues for BSGLM living in Mecklenburg County to emerge through participant discussion, rather than exploring only a few *a priori* topics. Therefore, some of the salient topics identified by the participants were not discussed in great length due to time. Lastly, as with all qualitative studies, we purposefully6 selected individuals who were interested and available to participate; a different group of individuals may have shared different information that could have led to the identification of different determinants. Our collaborative community partnership approach, however, provided reassurances that the determinants identified were salient to the intervention population based on their years of experience working with BSGLM in Mecklenburg County.

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