HHS Public Access

Author manuscript

Sex Transm Dis. Author manuscript; available in PMC 2025 December 01.

Published in final edited form as:

Sex Transm Dis. 2024 December 01; 51(12): 810–816. doi:10.1097/OLQ.0000000000002059.

Feasibility and Acceptability of a Prospective Syphilis Sexual Network Study for Sexual Minority Men

JaNelle M Ricks, DrPH[1], **Morgan Spahnie, BSPH**[2], **Stacy Endres-Dighe, MPHc**[2], **Sara Conroy, PhD**[3], **William C Miller, MD, PhD, MPH**[2], **Abigail N Turner, PhD**[2,4]

[1]College of Public Health, Division of Health Behavior and Health Promotion, Ohio State University, Columbus, OH, USA

[2]College of Public Health, Division of Epidemiology, Ohio State University, Columbus, OH, USA

[3]College of Medicine, Center for Biostatistics, Ohio State University, Columbus, OH, USA

[4]College of Medicine, Department of Internal Medicine, Ohio State University, Columbus, OH, USA

Abstract

Background: In preparation for a prospective syphilis network study of sexual minority men, we conducted a mixed-methods formative study with the following objectives: a) assess acceptability of respondent driven sampling (RDS), b) assess acceptability of study procedures, c) social network seed selection, and d) pilot an ecological momentary assessment (EMA) study to assess social networking, sexual and substance use behavior.

Methods: We conducted in-depth interviews with eight providers serving sexual minority men and five focus group discussions with 34 sexual minority men, prioritizing four target populations: 1) young Black sexual minority men, 2) on PrEP, 3) living with HIV, 4) not engaged in care. The 4-week EMA pilot was conducted with 40 sexual minority men. EMA survey responses were analyzed to evaluate how different compensation levels influenced response rates. Brief exit surveys were used to assess EMA app acceptability.

Results: Primary themes identified through qualitative data collection: 1) importance of developing trust and maintaining confidentiality during proposed recruitment activities, 2) importance of compensating participants appropriately for study activities, and 3) cultural considerations for increasing visibility and participation of young Black sexual minority men. All EMA participants reported being “completely comfortable” reporting sexual behavior through the app. Most (78%) preferred the app to in-person interviews. Several participants identified technical issues with the app, including not receiving push notifications and spontaneous closure.

Conclusions: This mixed-methods formative study allowed for adjustments to and tailoring of the planned network study, including recruitment protocols, compensation type and amount, and EMA survey wording and response items.

Corresponding author JaNelle Ricks, Division of Health Behavior and Health Promotion, College of Public Health, Ohio State University, 356 Cunz Hall, 1804 Neil Ave, Columbus, OH, 43210 USA, ricks.13@osu.edu.

Competing interests

The authors declare that they have no competing interests.

Summary

A mixed-methods formative study informed adjustments to and tailoring of the planned network study, including recruitment protocols, compensation type and amount, and EMA survey wording and response items.

Keywords

men who have sex with men; feasibility; ecological momentary assessment; focus group; sexual network; sexually transmitted infection; syphilis

Introduction

The resurgence of syphilis in the United States (U.S.), characterized by a more than twofold increase in primary and secondary cases between 2012 and early 2021, has sparked heightened public health concerns, especially within sexual minority populations.[1] Sexual minority men (SMM) in particular are disproportionately affected.[2]

Columbus, Ohio is facing a parallel syphilis epidemic. Between 2017 and 2020, syphilis cases have doubled.[3] Most cases are among black SMM under 35 years. But white SMM, especially those aged 35–54 years, also experience significant morbidity. SMM in Columbus may be classified in three behavioral groups: unprotected sex only (engaged in unprotected sex, but not other sexual behaviors), partner seekers (seeking out different types of sexual partners), and multiple behaviors (engaged in multiple types of sexual behaviors).[4] SMM risk profiles are likely dynamic over time. Effective interventions to curb the syphilis epidemic require a comprehensive understanding of who is susceptible to infection, when they are at risk, and where these risks manifest.

The epidemiology of syphilis is complex, and the epidemiological features of the current epidemic are unclear. This epidemic may be facilitated by recent changes in the social, behavioral, and biomedical contexts. In the last decade, SMM have greater social connectedness, and access to sex partners, online and through smartphone apps.[5,6] Treatment as prevention for HIV infection, Undetectable=Untransmittable (U=U) messaging (i.e., one with undetectable viral load cannot sexually transmit HIV), and pre-exposure prophylaxis (PrEP) to prevent HIV acquisition may lead to changes in sexual risk behavior.[7] Cumulatively, these changes may have upended the successful syphilis control efforts in the early aughts. A comprehensive understanding of the epidemiological complexities of syphilis transmission is vital to informing the development of effective prevention interventions.

In preparation for a multi-site egocentric network study to investigate the syphilis epidemic among SMM (Network Epidemiology of Syphilis Transmission (NEST)[8], we conducted a mixed-methods formative study. The key objectives of this work were to assess a) the acceptability of respondent driven sampling (RDS), b) acceptability of study procedures, c) social network seed selection, and d) a pilot ecological momentary assessment (EMA) study.

This paper provides an overview of the formative study, including employed methodologies, key findings, and adjustments made to the planned longitudinal study.

Materials and Methods

NEST was conducted in three U.S. cities: Columbus, Ohio; Baltimore, Maryland; and Chicago, Illinois. This report includes data from the formative study conducted at the Columbus site between December 2017 and July 2018. Informed consent was obtained from all individual participants included in the study. Study procedures were approved by the Ohio State University Institutional Review Board.

Three methods of data collection were used to assess acceptance and feasibility of the planned prospective cohort study including: 1) focus group discussions (FGDs) conducted with SMM; 2) in-depth key informant interviews (IDIs) with healthcare providers serving SMM in Columbus; and 3) a brief, app-based EMA pilot study.

Focus Group Discussions

FGD participants were recruited by project staff and community partners via flyer distribution at a variety of venues (i.e., sexual health clinics, community events, other sites identified from participant feedback such as non-LGBTQ+ designated social spaces and college campuses). Four SMM subgroups at high-risk for syphilis were targeted for recruitment including: 1) young Black SMM, 2) SMM on PrEP, 3) SMM living with HIV, and 4) SMM not engaged in care. Membership in one or more of these groups was not mandatory for eligibility, however, recruitment efforts were strategically aimed at ensuring their inclusion and representation.

Eligible participants reported penile-anal or penile-oral sex with a man at least once during the last 12 months; were aged 18 years or older; resided, worked, or received medical services in Franklin County; were able to provide informed consent; could read and speak English. FGDs were held in private spaces allowing open conversation (Please see Table 1 for Discussion Guide). Discussions were audio-recorded and lasted approximately one hour. Discussions included acceptability of RDS[9] (RDS uses members of a hidden population recruit other members), identification of potential RDS seeds, preferred communication strategies, privacy/confidentiality concerns, and other study procedures.

FGD transcripts were transcribed verbatim and analyzed using a deductive coding protocol that allowed for conceptual coding of emerging patterns of themes.[10] First, each transcript was reviewed to determine keywords and phrases common amongst discussions. Commonalities were coded and categorized by theme. Next, coded data were either further summarized into subcategories or consolidated. Finally, the research team discussed emergent themes and illustrative quotes to determine implications for the prospective study.

In-depth Interviews

Targeted sampling was used to recruit IDI participants. A list of preferred healthcare providers who frequently serve SMM was generated by the study team, in collaboration with community partners. One-on-one interviews were held in private spaces allowing open

conversation (Please see Table 2 for Interview Guide). Discussions were audio recorded, lasted approximately 30 minutes and included questions about acceptability of recruitment strategies, identification of community partners and potential RDS seeds, and potential barriers to implementation. Data analysis followed the protocol used for FGDs (outlined above).

Ecological Momentary Assessment Pilot

EMA involves repeated sampling of subjects' current behaviors and experiences in real time, in subjects' natural environments. The goal of the present EMA pilot was to test the feasibility and acceptance of using an EMA app to capture near real-time data on anal and oral sex, consumption of alcohol and drugs, use of hook-up and social networking apps, and other behaviors daily.

EMA participants were recruited from those who had completed FGDs as well as men who contacted study staff with interest in participating in FGDs after data saturation was reached and FGD recruitment ended. Participants downloaded the EMA application to their personal smartphone and received training on its use from project staff. Participants were instructed to always carry their phones ensuring response to prompts and to self-initiate event reports about sexual encounters at any time. At the conclusion of the 4-week period, participants completed a brief exit survey to assess EMA application acceptance.

All EMA participants received $30 for enrolling and had the opportunity to receive a bonus payment of $30 if they completed at least 6 of the 8 study-initiated surveys, which were in response to a push notification, over the 4-week study period. Participants were split into two groups to test compensation schemes: Group A (higher compensation) and Group B (lower compensation).

Group A: During weeks one and two, participants in Group A were asked to respond to study-initiated surveys twice weekly (paid $5 per completed study-initiated survey) and to self-initiate event reports once daily (paid $3 for completed self-initiated surveys). During weeks three and four, participants in Group A were asked to continue responding to two study-initiated surveys per week (no change in compensation) and were encouraged to continue submitting daily self-initiated reports although they were no longer compensated for this survey type.

Group B: During weeks one and two, participants in Group B were asked to respond to prompts through the application twice weekly (paid $3 per completed study-initiated survey) and to self-initiate event reports once daily (but not paid for completed self-initiated surveys). During weeks three and four, participants in Group B were asked to continue responding to two study-initiated surveys per week (no change in compensation). Participants were encouraged to continue submitting daily self-initiated reports (no change in compensation).

Results

Focus Group Discussions and In-depth Interviews.

Thirty-four SMM participated in five FGDs (Table 3). Representation of our four priority target groups was as follows: 15 young Black men, 7 men on PrEP, and 6 men living with HIV. Six participants did not endorse membership to one of these groups. Recruitment of men not engaged in care was unsuccessful. The average age was 33.1 years (range: 20–58). Most participants identified as white (54.5%) and gay (90.9%) and were employed full-time (69.7%). All participants reported being engaged in care. Eight healthcare providers completed key informant IDIs. In addition to receiving feedback on logistics and basic study procedures, three primary themes emerged from these FGDs and IDIs: 1) developing trust and maintaining confidentiality; 2) appropriately compensating participants; and 3) cultural considerations.

Theme 1. Trust and confidentiality.—Developing trust and maintaining confidentiality was discussed ardently in both the FGDs and IDIs, often emerging from conversations about what might prevent SMM from participating or referring others via RDS to this project. Positive perceptions of safety among potential participants were routinely linked to trust and confidentiality, with a strong emphasis on the credibility and perceived intentions of study staff:

> The biggest situation that would make you successful would be if the person asking for their participation was somebody that they thought was like them. So that I think is very key. If that isn't necessarily the case, the person has to be very visible (in their community) and somebody who is out for their best interest. Even if they don't look like them…I think that that would give you a kind of greater opportunity to make them kind of trust that you're just not coming down here to use them and go back to wherever you're from and it's not going to, you know, there's nothing in it for them. [IDI 2 participant]

IDI participants routinely emphasized the necessity of building rapport incrementally and intentionally:

> The other thing that would be valuable would be to not ask them to (enroll or serve as an RDS seed) on the first visit but develop a rapport and try to see if there's any way that you can explain the value (of participation). [IDI 2 participant]

> Have someone (on the study staff) that can have a good relationship, build a relationship with the patient a little bit overtime there. So that people know that they know him and they'll be more comfortable and then build a little bit of a relationship with quality (at each visit). [IDI 4 participant]

In focus groups, younger members discussed confidentiality as a way to project safety to potential participants who may not feel comfortable participating in a project targeting SMM:

> Something as easy as just saying "completely confidential," things like that. It would incentivize those people who are in the closet. People who are

> experimenting. I know, for example, I (participated in) something when it was a completely confidential meeting and I was still in the closet. I did it because I knew deep down I was (gay) and it ended up being fruitful for me. [FGD 3 participant]

Adjustments made to the longitudinal study protocol prior to its implementation

To optimize trust and rapport with study staff, participants interacted with the same staff members at each visit over 2-year study period. When collecting sexual network information, nicknames and no identifying information was collected for sex partner enumeration. To support trust and confidentiality throughout the RDS process, we attempted to select recruitment seeds with broad and diverse social circles as well as men identified by participants as trusted opinion leaders in their community. RDS recruitment coupons listed no identifying information linked to the recruiting participant.

Theme 2. Participation incentives.—Across FGDs, several members suggested that the financial incentives offered would be valued according to the social position of the target population (“*Are we talking about recruiting people who live in the suburbs and make over $50,000 a year or are we talking about people who make $15,000 to $20,000 a year and what do they need?” - FGD 2 participant).* Young Black SMM in particular focused on prioritizing incentives that may have greater appeal to men in a lower SES stratum. Recommendations included prioritizing cash incentives over gift cards, offering gift cards to grocery store chains that sold necessities ranging from gasoline to personal care items to groceries, or incentivizing based on an income-based sliding scale.

Adjustments made to the longitudinal study protocol prior to its implementation

In response to this feedback, cash incentives were provided instead of gift cards and the incentive amount was increased from $20 to $60 for each completed study visit. This alteration took into careful consideration the substantial time commitment of 1.5–2 hours required for each study visit, potential participant transportation costs, as well as the burden associated with the collection of biological samples.

Theme 3. Cultural considerations.—Of the four target demographics recruited for this project (young Black SMM, SMM on PrEP, SMM living with HIV, and SMM not engaged in care), young Black SMM offered the most distinct feedback on how to tailor recruitment of their community in the forthcoming study. As this participant summarized, there was an overall sentiment of feeling excluded or underprioritized by existing or past local research efforts targeting SMM:

> I feel like this is the first time I’ve heard of anything where they want to ask me how I feel about this stuff. And you know, I’ve seen a lot of stuff (study recruitment materials). I mean, I’m at the hospital and they seem to have stuff going on but it’s usually not anything in regard to where I stand. [FGD 2 participant]

For some of those with prior research experience, two subthemes presented themselves. One referenced minimal effort expended in recruiting diverse samples, including lack of interagency collaboration with local affinity groups and other community-based organizations:

> I see enough of it (research opportunities), I just think that there isn't enough communication from the organizations that are hosting these studies to see how they can pull in different organizations that actually have the demographics they are looking for. But that's the biggest issue, is that the communication between each organization is not there. [FGD 2 participant]

A second subtheme related to ambiguous recruitment material. For example, determining if they were the intended target population of a research opportunity often required using a cipher to decode recruitment language that was taught to them exclusively in local community-based social and wellness groups for young SMM of color, a disadvantage to men without knowledge of or access to this information:

> If you take the time to read it, you'll actually understand that it's probably, you know, targeted towards a demographic that you live in…so if you're paying attention to what the study is asking for there's certain keywords that we were taught that, well, there's certain keywords in every study that helps you identify if this is for you or not…Make sure when you're reaching out to the demographics that you want, that you have people on your flyer that represents that demographic. [FGD 2 participant]

When asked about appropriate recruitment locations, similar to white SMM, young Black SMM listed a number of local bars, social clubs and other venues with a reputation for offering LGBTQ+ people space to socialize and receive services. Several indicated that these enclaves, although created in response to sexual minority stigma and discrimination, may be sites for socio-spatial stigmatization of SMM of color and therefore not inclusive venues for recruitment:

> So let me be frank. So there is not a place for [SMM] of color other than the normal tracks parties which happen during Pride when all the promoters decide to collaborate and have different parties. But on a normal basis, you are not going to find a mass majority of [SMM] of color in any of the bars here in Columbus. [FGD 2 participant]

Adjustments made to the longitudinal study protocol prior to its implementation

These emergent themes brought to light several points for the study team to consider while finalizing the longitudinal study protocol (Table 4). Specifically, we used representative images that tested positively in previous studies targeting young Black SMM. Additionally, recruitment was expanded beyond LGBTQ+ venues to reach men socializing in other spaces.

Ecological Momentary Assessment

The 4-week EMA pilot was completed by 40 SMM. All participants reported being "completely comfortable" (85%) or "mostly comfortable" (15%) reporting their sexual behavior through the app. Notably, most participants (78%) preferred the app to in-person interviews. Across the two compensation schemes, response rates differed between groups on days they were not asked to complete a study-initiated (initiated following a push notification) survey. For example, participants submitted over twice as many self-initiated

(initiated without a push notification) surveys when they were paid versus not paid (paid mean = 15.5 vs unpaid mean = 7.0). But responses for study-initiated surveys did not differ on push notification days, despite the groups being paid different amounts (group A mean = 6.2 surveys vs group B mean = 6.8 surveys). A comprehensive analysis looking at the content of survey responses for the EMA pilot is presently under development.

Adjustments made to longitudinal study protocol prior to its implementation

Several participants identified technical issues with the app, including not receiving push notifications and spontaneous app closure. Qualitative findings from the exit survey guided modifications to the survey content based on linguistic and face validity (e.g., inclusion of non-binary/transgender sex partners, distinguishing main/casual/anonymous sex partners, distinguishing new partners, HIV status of partners, use of sex toys, slight wording adjustments for enhanced participant understanding) (see Table 4). Based on the differences in completion rates between the two groups, we set compensation for completing surveys at $3 for study-initiated surveys, and $1 for self-initiated surveys.

Discussion

We used a formative study to finalize development of an egocentric network study targeting SMM in Columbus, Ohio. In FGDs and IDIs, SMM and local healthcare providers discussed trust and confidentiality and cultural considerations as primary qualitative themes related to acceptability of the proposed RDS recruitment strategy. Focus group suggestions about participant incentivization diverged between structuring based on altruistic and financial motivations of participants. Additionally, the FGDs demonstrated that SMM value their research contributions and possess a desire for commensurate compensation. Despite technological challenges, the EMA pilot established the app and survey design as appropriate tools to capture SMM sexual behavior.

In the qualitative data, the most important factors that might affect acceptance of the proposed RDS recruitment strategy (e.g., stigma, incentive levels, study location) were confidentiality and trust. Confidentiality was manifested as confidence in study staff and peer's ability to maintain confidentiality; trust represented perceived levels of trust in study staff and peers. Globally, RDS has become a popular alternative to conventional forms of sampling harder-to-reach populations for STI/HIV epidemiological research (e.g., convenience sampling, venue-based sampling)[11], but successful use hinges on its acceptability to the target population. Our findings align with prior sexual health research that used RDS to recruit SMM. For example, in a study evaluating participation in HIV clinical trials, young SMM are more likely to participate if recruited by trusted peers rather than strangers (i.e., less familiar peers or study staff). Additionally, recruitment seeds stated a strong preference to recruit peers who they thought could be trusted to keep their involvement in the study confidential.[12]

Other qualitative data about recruitment from young Black SMM illuminated inclusion, visibility and cultural consideration themes. Participants indicated dissatisfaction with prior recruitment strategies for local studies targeting SMM, citing a perceived lack of effort to include men from their community. To be more inclusive, they stressed the importance of

young Black SMM seeing themselves reflected in images used on recruitment materials. This theme is corroborated by a qualitative study among Black and Latino SMM in New York City which found that HIV testing campaigns targeting their demographic should be maximally inclusive and make men of color visible during recruitment.[13] Other studies have similarly demonstrated that using inclusive images were correlated with increases in HIV testing among the targeted communities of color.[14–17] Ideally, development of this messaging is done in conjunction with members of the priority community.

Regarding participant incentives, it was evident that the compensation offered to participants was valued materially and symbolically and was expected to be set at a level that reflected participants' value. Generally, research incentivization remains a contentious issue.[18–21] It can, however, have pronounced implications for participants' experiences of the research process (e.g., feeling valued versus feeling exploited), and thus deserves to be evaluated to ensure participants are equitably compensated for the expertise that they provide.

The primary purpose of the EMA pilot was to assess feasibility and acceptance of this methodology to capture near, real-time data on daily sexual, drug use and social networking behaviors. This method of data collection was found to be acceptable to all participants, and even preferred by most to in-person interviews. This finding has been similarly reflected in prior studies of SMM. Given high rates of acceptance and effectiveness, EMA through smartphone technology is primarily used in interventions targeting stigmatized behaviors such as unprotected sex or substance use.[22] Regarding the amount paid for participation, we observed that compensation motivated higher completion of an EMA daily survey, though the specific amount of compensation mattered less. This aligns with findings of a recent meta-analysis of EMA designs.[23] No association was found between the amount of incentives and participation compliance. Providing any kind of incentive (monetary or otherwise) is associated with higher participation rates compared with no incentives. One experimental study on providing monetary incentives or not confirmed that compensating participants for an intensive EMA study increased both data quality and willingness to participate.[24]

Formative work such as this provides a valuable opportunity to engage stakeholders in the research design process. It demonstrates commitment to building trust, collaboration and respect with priority populations. This mixed-methods formative study provided input to refine protocols and procedures of a planned syphilis networking study by tailoring to the needs and preferences of SMM in Columbus. Our findings also support the feasibility and acceptability of using an app-based daily EMA survey to assess sexual and stigmatized behavior in SMM.

Acknowledgements

The authors are grateful to the study participants who generously gave their time to support this work.

Funding

This work was supported by Centers for Disease Control and Prevention (CDC) Cooperative Agreement U01PS005170. The content is solely the responsibility of the authors and does not necessarily represent the official views of the CDC.

References

1. Centers for Disease Control and Prevention. (2022a). Preliminary 2021 STD Surveillance Data. Atlanta. U.S. Department of Health and Human Services. Accessed October 25, 2023. https://www.cdc.gov/std/statistics/2021/default.htm
2. Centers for Disease Control and Prevention. (2022b). Sexually Transmitted Disease Surveillance 2020. Atlanta. U.S. Department of Health and Human Services.
3. Columbus Public Health. (2021, October). Annual Summary of Reportable Diseases 2020. Columbus & Franklin County, Ohio. Columbus Public Health. Accessed October 25, 2023. https://www.columbus.gov/WorkArea/DownloadAsset.aspx?id=2147497473
4. Rice CE, Norris Turner A, Lanza ST. Sexual Behavior Latent Classes Among Men Who Have Sex with Men: Associations With Sexually Transmitted Infections. J Sex Res. 2017;54(6):776–783. [PubMed: 27712108]
5. Beymer MR, Rossi AD, Shu SB. Assessing Self-Control and Geosocial Networking App Behavior Among an Online Sample of Men Who Have Sex with Men. J Urban Health. 2016;93(4):698–708. [PubMed: 27184573]
6. Goedel WC, Duncan DT. Contextual factors in geosocial-networking smartphone application use and engagement in condomless anal intercourse among gay, bisexual, and other men who have sex with men who use Grindr. Sex Health. 2016;13(6):549–554. [PubMed: 27712610]
7. Scott HM, Klausner JD. Sexually transmitted infections and pre-exposure prophylaxis: challenges and opportunities among men who have sex with men in the US. AIDS Res Ther. 2016;13:5. Published 2016 Jan 19. [PubMed: 26793265]
8. Copen CE, Rushmore J, De Voux A, et al. Factors Associated with Syphilis Transmission and Acquisition Among Men Who Have Sex With Men: Protocol for a Multisite Egocentric Network Study. JMIR Res Protoc. 2022;11(11):e40095. Published 2022 Nov 4. [PubMed: 36331528]
9. Heckathorn DD. Respondent-driven sampling II: deriving valid population estimates from chain-referral samples of hidden populations. Social problems. 2002 Feb 1;49(1):11–34.
10. Saldaña J. The coding manual for qualitative researchers. 2021. Sage.
11. Magnani R, Sabin K, Saidel T, Heckathorn D. Review of sampling hard-to-reach and hidden populations for HIV surveillance. AIDS. 2005;19(2):S67–72.
12. Wirtz AL, Iyer JR, Brooks D, et al. An evaluation of assumptions underlying respondent-driven sampling and the social contexts of sexual and gender minority youth participating in HIV clinical trials in the United States. J Int AIDS Soc. 2021;24(5):e25694. [PubMed: 33978326]
13. Drumhiller K, Murray A, Gaul Z, et al. "We Deserve Better!": Perceptions of HIV Testing Campaigns Among Black and Latino MSM in New York City. Arch Sex Behav. 2018;47(1):289–297. [PubMed: 28444529]
14. McOwan A, Gilleece Y, Chislett L, Mandalia S. Can targeted HIV testing campaigns alter health-seeking behaviour? AIDS Care. 2002;14:385–390. [PubMed: 12042083]
15. Olshefsky AM, Zive MM, Scolari R, Zuñiga M. Promoting HIV risk awareness and testing in Latinos living on the US-Mexico border: The Tu No Me Conoces social marketing campaign. AIDS Education and Prevention. 2007;19:422. [PubMed: 17967112]
16. Wallace SA, McLellan-Lemal E, Harris MJ, et al. Why take an HIV test? Concerns, benefits, and strategies to promote HIV testing among low-income heterosexual African American young adults. Health Education & Behavior. 2011;38:462–470. [PubMed: 21464204]
17. Wang X, Arpan LM. Effects of race and ethnic identity on audience evaluation of HIV public service announcements. Howard Journal of Communications. 2008;19:44–63
18. McKeganey N. To pay or not to pay: respondents' motivation for participating in research. Addiction. 2001;96(9):1237–1238. [PubMed: 11672486]
19. Pandya M, Desai C. Compensation in clinical research: The debate continues. Perspectives in Clinical Research. 2013;4(1):70–74. [PubMed: 23533986]
20. Permuth-Wey J, Borenstein AR. Financial remuneration for clinical and behavioral research participation: ethical and practical considerations. Annals of Epidemiology. 2009;19(4):280–285. [PubMed: 19230712]

21. Ripley E, Macrina F, Markowitz M, Gennings C. Why do we pay? A national survey of investigators and IRB chairpersons. Journal of Empirical Research on Human Research Ethics. 2010;5(3):43–56.

22. Clark V, Kim SJ. Ecological Momentary Assessment and mHealth Interventions Among Men Who Have Sex with Men: Scoping Review. J Med Internet Res. 2021;23(8):e27751. Published 2021 Aug 3. [PubMed: 34342585]

23. Wrzus C, Neubauer AB. Ecological Momentary Assessment: A Meta-Analysis on Designs, Samples, and Compliance Across Research Fields. Assessment. 2023;30(3):825–846. [PubMed: 35016567]

24. Ludwigs K, Lucas R, Veenhoven R, et al. Can happiness apps generate nationally representative datasets? -A case study collecting data on people's happiness using the German Socio-economic Panel. Applied Research in Quality of Life. 2020 Sep;15:1135–49.

Table 1.

Focus group discussion guide for formative phase of a sexual networking cohort study

RECRUITMENT
I want to start by asking you about the best places to recruit men to participate in this research project. We want to include MSM from a variety of backgrounds, including a range of ages, race/ethnicities, and of different HIV status.
• What are some of the main places around Columbus where MSM gather? • What are some events that MSM would be likely to attend? • Do you have specific ideas for locations or venues where we would be more likely to find: • What are effective ways to advertise for a research study?
One way that we plan to recruit men to join the future project is to ask the first set of participants to refer some of their eligible friends and sex partners to join. If a friend or sex partner joins the study, both that new man and the original man who referred him would receive a small payment.
• Do you think it is possible to ask men to refer their friends and sexual contacts for a research study? • Thinking about your own networks – what would you think about recruiting one or more of your friends or sex partners into the future research project? • Thinking about referring your sex partners in particular – would you have any concerns about privacy or confidentiality? • What might prevent your friends or sex partners from participating in the future project? What concerns might they have? • How should we address those concerns? • How would you encourage a friend to join the project? Especially one who is reluctant?
The men who begin the referral chain – the original group of MSM participants - are called "seeds." The best seeds will be MSM who have many diverse social connections and multiple types of relationships, such as professional, social, sexual, etc.
• Thinking again about your Columbus-based networks: can you think of particular men who would make good seeds for the future study? • Do you think these men would be willing to be contacted about this project? If so, do you have contact information (phone, email, social media) for any of them? • If you were a participant in the study, how would you prefer for staff on this project to communicate with you? • What do you think is the right amount of money to pay men to participate? • What do you think is the right amount of money to pay men to recruit their contacts? • The study visits will take place at a health clinic, most likely at Columbus Public Health (Main & Parsons Avenue). Is this a convenient location? • What hours/days should we make available for study visits?
Some of the questions we will ask participants in this study are very sensitive and personal and some people may find them embarrassing.
• Do you think we should try to hire men, women or transgender staff? • Describe the type of person (age, gender, etc.) you would feel most comfortable with when answering sensitive questions.
Participating in this study includes being tested for HIV.
• Would this requirement affect your willingness to participate in the project? Would it make you more or less willing to take part? • Would you be willing to take a home HIV test? • Would you prefer to have someone else (medical professional, study staff member) administer the test?
DATA COLLECTION
Part of this project will involve men using a smartphone app to complete a confidential weekly survey about their sexual activity. Participants would be paid for each response, even if their response is that they have not had sex that week.
• Do you have a smartphone? • Would you be willing to complete a weekly survey on your phone? • Is once a week too often, too infrequent, or just the right number? • Would you be willing to complete these surveys for [$X]? • Would you be willing to complete these surveys if you were not guaranteed payment for each one, but instead you were entered into a [weekly, monthly, quarterly] raffle for a prize? • Would you be willing to complete these surveys if you had to complete a certain number every week in order to receive payment?
CONCLUSION
Of all the things we've discussed today, what are the one or two most important thoughts you have about the project?

MSM: men who have sex with men

Table 2.

In-depth interview guide for formative phase of a sexual networking cohort study

EXPERIENCE
• Can you tell me about your experience providing or facilitating (healthcare, services) for MSM in Columbus?
RECRUITMENT
Next, I want to ask you about the best places to recruit men to participate in the research. We want to include MSM from a variety of backgrounds, including a range of ages, race/ethnicities, and of different HIV status.
• What are some places around Columbus where MSM gather? • What are some events MSM would be likely to attend? • Do you have specific ideas for locations or venues where we would be more likely to find: • What are effective ways to advertise for this study?
RESPONDENT DRIVEN SAMPLING
For this study, we will use respondent driving sampling as the primary basis of recruitment into the cohort. This is a chain-referral technique that involves asking participants to recruit other MSM into the study. If a friend or sex partner joins the study, both that new man and the original man who recruited him would receive a small payment.
• Do you think it is feasible to ask men to refer their friends and sexual contacts for a research study? • What do you think might prevent MSM from referring others into this project?
The initial study participants who begin the referral chain are called "seeds" Seeds for this project will be MSM who have many, diverse social connections made up of multiple types of relationships. "Good" seeds will improve recruitment effectiveness because they have the social influence to persuade other men to participate.
• Can you think of any MSM who would make good seeds? • What would be the best way to locate MSM to be seeds for our project? • Would you be willing to help us contact MSM?
PARTNER TRACING
• What apps or websites do MSM in Columbus use to meet sex partners online?
As researchers, we take issues of privacy very seriously, and have developed in-depth protocols to protect participant confidentiality.
• What do you think are the most important concerns potential participants may have about confidentiality or privacy, particularly when we are asking them to identify their sex partners? • What steps can we take to reassure people that their privacy will be respected?
COMMUNITY PARTNERS
•What are the most important community organizations or key individuals for us to try to work with on this project?

MSM: men who have sex with men

Table 3.

Characteristics of sexual minority men (N=62)[a] participating the formative phase of a sexual networking cohort study

Characteristic	n (%)
Age	35.4 (SD 11.94)
Ethnicity	
Hispanic	2 (3.2)
Race	
Black/African American	20 (32.3)
Multi-racial	3 (4.8)
White	38 (61.3)
Refused to answer	1 (1.6)
Education	
High school diploma or GED	7 (11.3)
Some college	21 (33.9)
Bachelor's degree	13 (21.0)
Post-graduate studies	21 (33.9)
Employment[b]	
Full-time	42 (67.7)
Part-time	5 (8.1)
Student	5 (8.1)
Retired	4 (12.1)
Disabled for work	8 (12.9)
Unemployed	4 (12.1)
Insurance	
Private	39 (62.9)
Public (Medicaid, Medicare, CareSource)	19 (30.6)
Student insurance	1 (1.6)
Uninsured	3 (4.8)
Homeless in past year	4 (6.5)
Sexual Identity	
Gay	52 (84.0)
Bisexual	10 (16.1)
Priority target group[c]	
Young Black men	15 (24.2)
Men on PrEP	18 (29.0)
Men with HIV	10 (16.1)
Men not engaged in care	0

[a] Demographic information missing for 11 participants and is not included in the table

[b] Does not equal 100%. Multiple participants endorsed more than one response (e.g., student + part-time employment)

[c] Does not equal 100%. Multiple participants met criteria for more than one group; not all participants met criteria for inclusion in priority group

PrEP: pre-exposure prophylaxis

Table 4.

Pilot-informed adjustments to a planned sexual network cohort study

Category	
Recruitment	Recruitment materials featured diverse racial/ethnic representation A diversity of recruitment strategies was employed, beyond targeting local LGBTQ+-friendly venues (e.g., non-LGBTQ+-designated social spaces; college campuses)
Incentives	Cash incentives were provided instead of gift cards Incentive amount was increased EMA survey completion was incentivized
Trust and rapport	Participants interacted with the same study staff at each visit over 2-year study period
Confidentiality	Nicknames with no identifying information used for sex partner enumeration; sex partner nicknames deidentified for analysis Respondent driven sampling recruitment coupons listed no identifying information linked to recruiting participant
EMA – technical issues	Spontaneous application closures and push failures were corrected
EMA – survey design	Partner enumeration updated to include non-binary sex partners Partner enumeration updated to distinguish between main and casual partners Partner enumeration updated to identify new partners Partner HIV status added Use of sex toys added to behavior assessment Wording adjustments made for enhanced understanding (e.g., relaxed grammatical sentence structure; change “take” drugs to “use” drugs; bolding reference time frames)