



A qualitative exploration of facilitators and barriers to meningitis vaccination uptake among men who have sex with men

Amy K. Johnson^{a,b,c,*,1}, Christian N. Adames^{c,d}, Gregory Phillips I.I.^{c,d}

^a Center for Gender, Sexuality and HIV Prevention, Division of Adolescent Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, United States of America

^b AIDS Foundation of Chicago, Chicago, IL, United States of America

^c Northwestern University Feinberg School of Medicine, Chicago, IL, United States of America

^d Institute for Sexual and Gender Minority Health and Wellbeing, Northwestern University, Chicago, IL, United States of America

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ABSTRACT

Invasive Meningococcal Disease is a deadly, but preventable disease, with community outbreaks occurring at rate of 9.5 per year. Serogroup C Invasive Meningococcal Disease (IMD) community outbreaks in men who have sex with men (MSM) have been reported with greater frequency in large urban areas since 2010. An effective vaccine exists that can temper and control outbreaks, and is recommended for MSM in outbreak settings; however very little is known about the perceptions, barriers and facilitators to IMD vaccine uptake among MSM. Optimizing awareness and vaccine uptake for MSM is a high priority to reduce and control IMD outbreaks. To that end, we conducted focus groups with MSM during an active IMD outbreak to inform development of a tailored intervention strategy. Participants discussed facilitators (e.g., logistics, relationships, health literacy) and barriers (e.g., fear of disclosure, medical distrust) to vaccination, as well as ideas for intervention strategies (e.g., incentives, use of internet outreach).

1. Introduction

Invasive Meningococcal Disease (IMD) is a deadly but preventable disease that disproportionately impacts unvaccinated individuals (CDC, 2016). Approximately 600–1000 people contract meningococcal disease in the United States each year, with community outbreaks occurring at a rate of 9.5 per year (Association NM, 2018; Prevention CfDCA, 2017; Prevention CfDCA, 2014). While meningococcal disease is considered rare, it has a high case fatality, with 10–15% of those who contract the disease dying. Vaccination can temper and control outbreaks, however little is known about optimal ways to promote routine vaccination among subpopulations at heightened risk of exposure. Barriers and facilitators to compliance with IMD vaccination during outbreaks have not been well documented. College students are a population that experiences a disproportionate amount of outbreaks of meningitis. Vaccination education and mandatory regulations have influenced IMD vaccination among college students; one study found the rate of IMD vaccination was higher for women compared to men and younger students compared to older students (Collins et al., 2003).

In addition, low-cost interventions such as vaccine education via mailed pamphlets have also been shown to increase rates of IMD vaccination among college students (Collins et al., 2003). While little is known about methods to increase IMD coverage among MSM, previous studies have identified barriers and facilitators to hepatitis B and HPV vaccination among MSM (Gerend et al., 2016; Rhodes and Hergenrather, 2002). Barriers found among MSM include low perceived risk, relationship with providers (e.g., feeling providers are not comfortable discussing same-sex sexual behavior), and limited access to health care; facilitators include believing the vaccine was safe and effective, and feeling the disease was severe.

Serogroup C IMD community outbreaks in men who have sex with men (MSM) were first recorded in 2001 and, beginning in 2010, have been reported with greater frequency in large urban areas across North America (e.g., Toronto (Zhou et al., 2012), New York City (Kratz et al., 2015), Los Angeles (Nanduri et al., 2016)) and Europe (e.g., Berlin, Paris) (Thigpen et al., 2011). These community outbreaks have prompted changes in disease surveillance to include monitoring sexual behavior of cases and advocating for routine vaccination

* Corresponding author at: Center for Gender, Sexuality and HIV Prevention, Division of Adolescent Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, United States of America.

E-mail address: akjohnson@luriechildrens.org (A.K. Johnson).

¹ Mailing address: 225 E. Chicago, Box 161, Chicago IL, 60611.

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recommendations for all MSM. Reasons for outbreaks among MSM are unclear, but are hypothesized to be due to increased close social networks, increased number of social contacts, and non-specificity of flu-like symptoms that slows recognition of disease (Simon et al., 2013).

The most recent reported IMD outbreak among MSM occurred in Chicago. This outbreak was slowly evolving and sustained, and accounting for 10 cases and 2 deaths between 2015 and 16 (Anon, 2016). Like other reported outbreaks, Black MSM (BMSM) and HIV-positive MSM were disproportionately impacted in the Chicago outbreak, representing 80% of verified cases (Health CDoP, 2015). HIV-positive MSM are at increased risk of IMD, particularly if they have detectable HIV viral loads (e.g., 4.5 times more likely to have IMD compared to those with viral suppression) (Miller, 2014). The IMD vaccine is recommended for all people living with HIV, and for all MSM during active outbreaks. Vaccines are available for no cost at multiple public health clinics across the city as well as through insurance coverage through routine primary care. The Chicago Department of Public Health (CDPH) expanded its vaccination efforts during the outbreak to distribute 18,000 vaccinations to various clinics and community-based organizations serving populations most impacted – BMSM and MSM living with HIV (Health, 2016). However, despite this effort, CDPH reports that two-thirds of MSM in Chicago are not vaccinated against meningitis, and 90% of HIV-positive MSM have not received both required doses of the vaccine (Health CDoP, 2015). Leveraging the HIV treatment and care system should be an effective means to promote vaccination, however, rates of vaccination during this effort were suboptimal. In general, preventive vaccine uptake among adults is greater among individuals who are White, have health insurance, have greater healthcare access, and have a pre-established healthcare provider relationship (Williams et al., 2015).

Social determinants of health such as lower socioeconomic status, reduced access to education, higher unemployment rates, increased incarceration, and discrimination significantly contribute to health disparities experienced by BMSM (Cheatham et al., 2008; Freimuth and Quinn, 2004; Grande et al., 2013; Hammond et al., 2010; Krieger et al., 2003). Furthermore, Black men, in general, suffer disproportionately from poor health when compared to other racial, ethnic, and gender groups in the US (Brondolo et al., 2009; Fiscella et al., 2000; Pathak, 2018). They attend fewer annual healthcare appointments, are less likely to seek help from physicians, and their health-seeking behaviors are not influenced by problem severity (Kinsler et al., 2007). Medical mistrust resulting from perceived or experienced mistreatment, stigma, and discrimination is associated with lower utilization of healthcare (Kinsler et al., 2007; Powell et al., 2016). Finally, the intersection between racial and sexual minority status among BMSM result in increased experiences of stigma and discrimination, both of which lead to poorer health outcomes (Aral et al., 2008; Dumont et al., 2013; Millett et al., 2007).

Optimizing awareness and vaccine uptake for all MSM is a high priority to reduce and control IMD outbreaks. Little is known about the barriers and facilitators to IMD vaccine uptake among MSM. In this report, we describe the findings from qualitative research that was conducted to inform the development of an intervention strategy to increase vaccine uptake and meningitis awareness among MSM. We sought input from participants on their: a) baseline level of meningitis knowledge and risk perception; b) vaccination knowledge and experience, including perceived barriers and facilitators to vaccine uptake; and c) reactions to proposed interventions and the potential for diffusion of meningitis vaccination information through their networks. In contrast to population-level interventions designed to increase vaccination awareness and uptake universally, it is possible to design interventions that specifically target networks that have a high risk of exposure by leveraging existing relationships within the impacted community (Kelly, 2004). Based on previous network based interventions, we hypothesize that activating awareness and perception of risk through popular opinion leaders may impact health and vaccination-

seeking behavior among BMSM (Jones et al., 2011).

2. Methods

2.1. Procedures

Four focus groups were conducted with subgroups of MSM who have been disproportionately impacted by IMD outbreaks in Chicago: young MSM (YMSM; ages 18–24 years), BMSM, and MSM living with HIV ($n = 2$). Participants were recruited in two ways: 1) through the Third Coast Center for AIDS Research “CHAMP” registry, which is a research registry that includes contact information for Chicagoland residents ages 16 and older, focusing on YMSM, populated through online and venue-based outreach, and 2) through outreach by local Ryan White case managers (for groups with MSM living with HIV). Participants were screened for eligibility and, if interested and eligible, scheduled for one of the four focus groups. In order to participate in any of the focus groups, participants had to meet all of the following inclusion criteria: 1) at least 18 years old; 2) male sex assigned at birth; 3) resident of the Chicagoland area; 4) report at least one instance of sex with a man in the previous 6 months; 5) able to speak and understand English; and 6) willing and able to provide informed consent. Additionally, each focus group had unique eligibility based on subgroup; for the YMSM group all participants were between the ages of 18 and 29 years old; for the HIV positive MSM group all participants self-identified as living with HIV; and for the BMSM group all participants reported their race as Black or African American. All participants provided informed consent prior to participation and were compensated \$50. The study was approved by the Institutional Review Board at Northwestern University. Prior to beginning the focus group, participants completed a brief self-administered survey. The survey included demographic items (age, race/ethnicity, education level, sexual orientation, employment status) as well as an assessment of meningitis awareness (e.g., “Had you heard of meningitis before this focus group?”). Focus groups were facilitated by the first author and were staffed by a multidisciplinary team with experience and expertise working with MSM and HIV-positive individuals. The team also included an on-call clinician in case the need arose for clinical support.

2.2. Qualitative interview guide

A semi-structured focus group guide was developed that consisted of a set of open-ended questions probing about the following topic areas: 1) general health attitudes and information sources (used as a warm up); 2) baseline levels of meningitis awareness, knowledge, and risk perception; 3) vaccination knowledge and experience, including barriers and facilitators to IMD vaccination; and 4) feedback on intervention concept (see Appendix 1 for full interview guide). In addition, participants were divided into small groups and asked to complete an activity to design an intervention that would increase the uptake of meningitis vaccination among their MSM peers (i.e., YMSM for YMSM group). Finally, participants were asked for their input and opinions on a diffusion of information strategy to increase vaccination uptake. Specifically, participants were asked if they would participate in a similar intervention, suggestions on how to improve the intervention strategy, and whether they thought the intervention would be successful. The same guide was used across all focus groups and was not modified between groups. Data saturation was considered during data collection; saturation was reached once at least five unique responses were given per question set and/or repetition began.

2.3. Coding

Focus groups were recorded and transcribed verbatim. All focus groups were completed prior to beginning analysis. A codebook was created using the major topic headings in the interview guide and

refined through an open coding and continual comparison process. Codebook development and analyses were guided by the Grounded Theory approach (Corbin and Strauss, 2008). During codebook development, agreement between coders was calculated for 25% of a random selection of excerpts across all transcripts for each code - overall agreement was 80%. Initial coding discrepancies led to codebook refinement. After the codebook was finalized, two independent research staff coded the transcripts in their entirety. When discrepancies emerged in coding, coders reached consensus and assigned one final code representing 100% agreement. Using the final coded data, key themes emerged and quotes that illustrate the themes were chosen. All transcripts were analyzed in Dedoose Version 8.0.36 mixed methods cloud-based software (Dedoose, n.d.). Dedoose is a web-based software tool that allows researchers to upload transcripts, create coding schemes, and apply codes. Tools included in the software include systematic inter-rater reliability testing, data visualization, and code by descriptor analysis.

3. Results

A total of 29 MSM participated in one of four focus groups. The majority of participants identified as Non-Hispanic Black (86.2%), homosexual or gay (65.5%), were unemployed (48.3%), and were on a government insurance plan (62.1%); the mean age was 40.1 years with a range between 21 and 65 (see Table 1). Approximately one-half of the participants self-identified as HIV-positive. Seventy-nine percent of participants had heard of meningitis prior to the focus groups and over half reported being previously vaccinated (58.6%). Major response categories include barriers, facilitators and intervention feedback; themes within each of these major response categories are displayed in Table 2.

3.1. Barriers

Vaccination barriers included both those participants identified as germane to their experiences, as well as those they perceived other MSM might face. Many barriers discussed were specific to the

Table 1
Participant demographics.

	n	%
Race/Ethnicity		
Hispanic/Latinx	3	10.3
Non-Hispanic White	2	6.9
Non-Hispanic Black	23	79.3
Non-Hispanic Native Hawaiian or Pacific Islander	1	3.5
Non-Hispanic Native American or American Indian	1	3.5
Education Level		
Less than a high school graduate	1	3.5
High school graduate/GED	9	31.0
Some college	11	37.9
Bachelor's degree	5	17.2
Postgraduate degree (Master's or Doctoral)	3	10.3
Sexual Orientation		
Heterosexual/Straight	3	10.3
Bisexual	6	20.7
Homosexual, gay, or lesbian	19	65.5
Something else	1	3.5
Employment Status		
Unemployed	14	48.3
Employed part-time (< 32 h/wk)	2	6.9
Employed full-time (> 32 h/wk)	9	31.0
Unable to work for health reasons	4	13.8
Health Insurance Status		
Yes, parent's insurance plan	3	10.3
Yes, government insurance (Medicaid, Medicare, etc.)	18	62.1
Yes, private insurance	4	13.8
No coverage	3	10.3
Don't know	1	3.5

Table 2

Summary of major themes across participant groups.

	YMSM	BMSM	HIV + MSM
Barriers			
Fear of needles	X		
Being uninsured-unsure of ability to pay		X	X
Lack of time	X		
Allergies		X	
Religious beliefs		X	X
Sexual minority stigma (fear of disclosure)	X	X	
Distrust of medical providers/medical system		X	
Fear of negative side effects/immune system reaction			X
Fatalism			X
Facilitators			
Low to no cost	X	X	X
Ease of access (vaccine availability/locations)	X	X	
Personal relationships	X	X	X
Health information (disease & vaccine specific)	X	X	
Intervention strategies			
Network based (popular opinion leader)	X	X	X
Incentivize vaccination		X	X
Use celebrity influence		X	
Conduct outreach/messaging online	X		X

individual-level and, such as a fear of needles, being uninsured, lack of time for scheduling, and allergies;

For example, a participant explained one reason someone may not be vaccinated:

"Simple. If they are allergic, they can't get it."

[YMSM participant]

Describing his father's hesitancy towards vaccination as stemming from a fear of needles, one participant described potential vaccination barriers:

"He doesn't trust needles. Actually it runs in the family-people that is scared of needles. I'm the only one that's not. My family has questions like, "what do we have needles for?"

[BMSM participant]

Finally, participants discussed implications of religious beliefs-while this did not impact any of the participant's decisions on vaccinations, it was discussed as a potential barrier to vaccination:

"Some people are forced to not take it- like family, it could be religious."

[YMSM participant]

Other barriers were discussed in the context of identifying as gay or bisexual (or MSM) and/or identifying as a person of color such as experiencing stigma, fear of disclosure, distrust of medical providers based on historic mistreatment and experiences of homophobia.

A participant described a deep seeded distrust of the medical system within the Black community that impacts vaccination acceptance and acts as a barrier to accessing healthcare:

"There's this myth that society is out to kill Black men. And, we do have to be careful, because it started a long time ago. When they brought us over here, using us as guinea pigs, and trying to wipe us out and stuff."

[BMSM participant]

Another participant explained that due to the recent social marketing campaign and media promotion characterizing the local meningitis outbreak occurring in MSM, there may be a hesitancy to access vaccination due to fear of disclosure. He describes this hesitancy:

"If we're talking about a meningitis situation, and you're on the DL and you're not really interested and getting outed... then you have to go and get this meningitis vaccine during an outbreak. Then, there's all these ads that say that gay men are more likely to get it... there's still a reason to not get it if you feel like you might get outed."

[YMSM participant]

HIV-positive participants identified barriers to vaccination specific to living with HIV, such as a concern that the vaccination may interfere with their HIV medication or impact their immune system:

"I understand the point of it, but wonder about the side effects in my own body."

[HIV-positive MSM participant]

HIV-positive participants were also the only group to discuss ideas of fatalism as a barrier to vaccination. Participants described that their destiny was already determined; therefore a vaccination would not make a difference in terms of disease acquisition. Additionally, two participants described their reasons for declining vaccinations due to their belief in a higher power:

"My higher power protects me. So, if it's by God's will, I got a lot out of that one, it's God's will, you know what I'm saying, just like catching HIV, it's all part of the plan."

[HIV-positive MSM participant]

"Nothing that anyone can tell me can really turn me away from my higher power, and that if God's will be done, it'll be done."

[HIV-positive MSM participant]

YMSM participants unanimously accepted the idea of vaccination, and thus discussed various individual and structural barriers to meningitis vaccination from a theoretical perspective. In contrast, in each of the remaining three focus groups, participants discussed barriers they faced related to vaccination. Two participants failed to elaborate on their hesitancy and simply stated that they could not be swayed by any information:

"I'm not gonna do it. It might work 100%, but I'm not doing it."

[HIV-positive MSM participant]

"Yeah, I don't do all that. You telling me, I gotta get the flu shot- I ain't had a flu shot a day in my life. I'm not going to take it. No I'm not getting no vaccines."

[HIV-positive MSM participant]

3.2. Facilitators

Participant-discussed facilitators fell into three main themes: logistics, relationships, and health literacy. Unlike barriers to vaccination in which participants discussed ideas specific to identity (as a racial/ethnic minority, as MSM, and/or as a person living with HIV), facilitators were discussed more generally.

In terms of logistics, the primary facilitator of vaccine uptake reported by participants was access to low or no cost vaccination, either through insurance or other subsidies.

"I imagine the best case scenario is if it was free...that would be most convenient. I can just stop in and get that shot...that would be ideal, but I don't know the logistics of this vaccine, and nothing is for free in this world."

[YMSM participant]

Other logistic facilitators included availability of vaccines, accessibility of vaccination locations, and influence of vaccine requirements. Suggestions to enhance these facilitators include using mobile health units, having vaccines available at all pharmacies, and increasing awareness around required vaccines for school entry. One participant suggested a facilitator would be ease of access:

"I said, essentially, if someone was already like near a space of time where I am going to be, and they're like offering this...like at schools...they camped out for a whole day, and offered vaccinations all day. If you're already there, or if they do it at your workplace sort of thing- it's like not having to bend over backwards to get this vaccine."

[BMSM participant]

Participants stressed the importance of relationships as a facilitator to vaccine uptake, highlighting the role of medical professionals, romantic partners, and peers:

"I immediately took it. My infectious disease doctor keeps me informed of whatever she comes across. Based off her information, I said to go ahead and give me it."

[HIV-positive MSM participant]

"It would impact me positively if a friend got the vaccine and then I was offered it, it would help me to know about what the vaccine is."

[YMSM participant]

Finally, participants discussed the role of health literacy as a facilitator, focusing on access to health information, including knowledge of disease and prevention, as well as previous vaccination experience and information about side effects.

"Just knowing about what the disease can do to you really. If someone told me what the disease can do, what the side effects are, I'd probably be more inclined to take it."

[BMSM participant]

Further, participants discussed being unsure about the prevalence and severity of meningitis, particularly within their own communities:

"If I knew someone who had the disease; one of my friends had it and said he was in a coma; the fact that the city [health department] is highlighting we should get the vaccine, I think maybe I'm at risk."

[YMSM participant]

"I used to not take the flu shot, but then I got the flu, so now I do the shot. Same with this one [referring to the meningitis vaccine]."

[BMSM participant]

3.3. Feedback on intervention strategy

Focus group facilitators described a network-based intervention strategy to increase IMD vaccination awareness and uptake among MSM. The proposed intervention strategy would adapt the Popular Opinion Leader (POL) approach to train a small cohort of BMSM to serve as peer change agents to promote awareness and acceptability of the meningitis vaccine (Kelly, 2004). Most reviews of the proposed intervention strategy were positive; however, participants suggested revisions such as incentivizing vaccination, conducting online outreach via Facebook and other social media, as well as using celebrities to promote awareness.

"If I had a friend who was trained, I would feel more obliged to listen to him. He has the training. It would make me realize this is very serious. It'd make me want to get the vaccination."

[YMSM participant]

One participant expressed concern about his own ability to be an opinion leader:

"I don't know enough people; my circle isn't big enough; I don't know that many MSM- my network is made up of all kinds of people."

[HIV-positive MSM participant]

Participants worked in small groups to design and propose their own interventions to increase vaccination. A number of proposed interventions were not practical. Recommendations included combining all vaccines into one shot given to children, televising a commercial with Barack Obama promoting the vaccine, and incentivizing the vaccination with extravagant gifts. However, other strategies were feasible and should be considered to promote vaccination among MSM:

"The world has become a world of technology, we would do commercials, get out to clubs, dating apps- Jack'd, Grindr- and social media to get the

word out.”

[YMSM participant]

“We would empower them. We would let them know that meningitis could change your life. It can lead to death, so we would definitely get the word out there.”

[HIV-positive BMSM participant]

4. Discussion

To our knowledge this is the first study to qualitatively examine meningitis knowledge, barriers, and facilitators to vaccination uptake among a diverse sample of MSM. Our study was conducted during an active outbreak when meningitis vaccination was recommended for all MSM. Our findings are congruent with studies investigating barriers and facilitators to HPV and Hepatitis vaccination among MSM, specifically, barriers of being uninsured, lacking ability to pay and distrust of the medical system and facilitators being relationships with providers and health education (Gerend et al., 2016; Rhodes and Hergenrath, 2002). Our study builds on the literature by incorporating findings from MSM living with HIV; two subthemes emerged unique to this subgroup: fear of immune system reaction and fatalism (idea that what will happen will happen). Knowledge of these unique barriers can inform intervention strategies unique to men living with HIV.

Our study provides insight into the potential development of interventions for MSM that can invigorate both vaccination uptake and general healthcare engagement. Specifically, refinement of network-based and POL approaches were seen as viable options for a proposed intervention. The popular opinion leader model is based on the social diffusion theory with the premise that behavior change in a population can be initiated and then “diffused” to others if enough existing and influential leaders within the community visibly adopt, endorse, and support a behavior (e.g., vaccination). (Kelly, 2004)

HIV-positive participants valued their medical provider's recommendations and reported this as their most trusted source of health information; in contrast, HIV-negative participants did not report strong relationships with medical providers. This finding is not particularly surprising, as HIV-positive individuals are more likely to be engaged in regular medical care relative to their HIV-negative counterparts. Despite this difference, participants from all groups discussed facilitators to vaccination such as availability (e.g., location), cost, and knowledge about the disease. The POL approach may be an effective strategy to diffuse information about meningitis (prevalence, severity) as well as information about the vaccine (availability, cost, potential side effects), which would leverage the facilitators mentioned by participants. Further, the POL model would address a few reported barriers, specifically, using trusted peers to diffuse information may mitigate medical distrust and fears of sexual orientation/behavior disclosure.

There were a few themes that emerged for specific subgroups of our participants (YMSM, HIV-positive MSM, and BMSM). Overall YMSM were the most receptive to receiving the vaccine with it being unanimously accepted by our participants, thus barriers reported were hypothetical. Future studies should probe this further to elucidate barriers to vaccination specific to YMSM. Barriers to vaccination that emerged specifically for our HIV-positive participants included the idea that the future had already been planned and that a higher power was dictating what was happening, both of these beliefs made participants feel like vaccination was unnecessary. As routine vaccination is recommended for all people living with HIV, it will be important to discuss and address fatalism within intervention strategies. Finally, BMSM reported distrust of the medical system as a barrier to vaccination; given historical context of the mistreatment by the medical system this is an expected finding. Future studies should explore viable solutions to address distrust and its subsequent impact on preventative health care for BMSM.

Study findings should be interpreted in light of some limitations. First, our study took place in Chicago during an active outbreak in which the local health department conducted a large vaccination and awareness-building campaign that included distributing 18,000 vaccinations to various clinics and community-based organizations, outreach to providers, and a media campaign – all to increase awareness among populations most impacted by the outbreak in Chicago (Health, 2016); thus awareness of meningitis and acceptability of the vaccine may be different in other non-outbreak settings. In the midst of our study, Advisory Committee on Immunization Practices (ACIP) recommendations were updated to encourage routine use of the IMD conjugate vaccine for people living with HIV over the age of two months, including outside of active outbreak periods (MacNeil et al., 2016)- this may also have impacted awareness and acceptability of the vaccine. Focus group participants were purposively recruited and thus might not be representative of the general population of MSM in Chicago. However, we view their contributions as an important start to understanding optimal ways to address vaccination disparities. Despite these limitations our study was conducted to ensure rigor and reproducibility by applying grounded theory to the study methodology, recording data objectively through audio and professional transcription, using a coding scheme, and by using a computer program to assist in data analysis (Seale and Silverman, 1997).

5. Conclusion

The results of this study highlight the barriers and facilitators to IMD vaccine uptake among subpopulations of MSM. Of note, our study demonstrates that MSM find popular opinion leader style intervention techniques to be a feasible option as a potential intervention for increasing awareness and acceptability of the meningitis vaccine. Further studies are needed to develop and test tailored intervention strategies to increase meningitis awareness and vaccine uptake among MSM, which in turn will temper and may control community outbreaks of meningitis.

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Conflict of interest statement

The authors declare there is no conflict of interest.

Appendix 1. Focus Group Guide

DISCUSSION GUIDE OUTLINE

- Understand how participants access health information (specifically vaccination information).
- Understand participants' baseline level of meningitis knowledge and risk perception.
- Understand participant's vaccination knowledge and experience, including perceived barriers and facilitators to vaccine uptake.
- Understand participants' reactions to the intervention.
- Understand potential for diffusion (including mode) through participants' networks.

FORMAT

Focus group (80–90 min) + survey (5–10 min).

PART 1 – WELCOME AND REMINDERS (2 min)

- Introductions - pseudonyms, preferred gender pronouns

- Housekeeping
 - Recording for research purposes and for internal use only.
 - Lots of questions – no right or wrong answer; please elaborate; lots of “whys” and asking for explanations to clarify and understand - no judgement.
 - Everything we say in this room is considered confidential. Please don't share what you hear tonight with anyone else. We want this space to be safe and very confidential. We want you to feel comfortable telling us your thoughts and opinions.
 - Be respectful of each other's answers and allow each other a chance to speak up.

PART 2 – ICEBREAKER (3 min)

- Age, if you could go anywhere in the world where would it be?

PART 3 – GENERAL HEALTH ATTITUDES/INFORMATION (10 min) **Now I want to get an idea about...**

- Where do you get general health information from? (probe for different sources- particularly if participants list people, digital, print, etc.)
 - Probe for specific vaccine-related information
- Who/what are your trusted sources for information on your health? Why do you trust those sources?
 - Probe further if only professionals are listed.
- In what situations, if any, would you seek out advice for your health? Probe for timing of and reasons for information (i.e., pleasure, curiosity, prevention, symptoms?).
- Do you usually follow the advice you receive or seek out? Why would or wouldn't you?

Potential additional probes:

- Do you pay attention to issues related to MSM/men's health- in particular...?
- Where do you typically learn about health topics that may affect gay men?

PART 4 - MENINGITIS AWARENESS, KNOWLEDGE AND RISK PERCEPTION (15 min)

Please raise your hand if you have heard of Meningitis; tell me what you have heard about it...

- Can anyone explain how the disease is transmitted?
- Do you think meningitis is a common illness? Why or why not?
- Discuss- does everyone agree with this?
- Do you know anyone who has had meningitis?
- What are some strategies to minimize the risk of getting meningitis?
- Who do you think is at risk of getting meningitis?

There is an active outbreak of meningitis in Chicago right now- and there was one last year in 2015 as well. We are seeing outbreaks in other large cities too- like NYC and San Diego. The outbreaks have been disproportionately impacting Black people living with HIV and Black men who have sex with men.

PART 5 – VACCINE AWARENESS, EXPERIENCES, BARRIERS & FACILITATORS (20 min)

We're going to switch gears a bit now and talk more about the meningitis vaccine. There is a meningitis vaccine that is available- it's often recommended during an active outbreak.

- Has anyone here been offered the meningitis vaccine?
 - If so, what was your reaction?
 - If not, how do you think you would feel if your doctor or medical provider offered you the meningitis vaccination?

- How effective do you think the vaccine is at preventing the illness?
- What kind of side effects do you think there are?
- What might help someone decide to get the vaccine?
 - Probe for network influence
- Why might someone decide not to get the vaccine?

PART 6 – INTERVENTION CONCEPT & REACTION (25 min)

So now you all know that there is an active outbreak in Chicago impacting MSM and in particular Black MSM living with HIV, and that there is an effective vaccine available, we are interested in your thoughts about how to get more men who have sex with men vaccinated.

- We think that men might listen to their doctors when it comes to health- what do you think? Who would men listen to? (probe- would men listen to their friends? Sex partners? Other men like them?) How do we get vaccine information to men? (probe - in person? Online? Media?)

Activity- break up group into two or three smaller groups. Have each group design an intervention strategy

- If you were going to design an intervention to increase vaccine rates among men who have sex with men- what would that look like?

Our idea is to use the networks of Black MSM to get information out to people who may not be connected to medical care or medical providers. What that would look like is training a small amount of people to be ambassadors of the vaccine, and really explain to their entire network (in person, on social media, etc.) about the vaccine and reasons to get vaccinated.

- What do you think about this idea?
- If we asked you or your friends to be an ambassador in this type of intervention do you think you would participate? Why or why not?
- Do you think it would increase the rates of vaccination in the community? Why or why not?
- How can we improve this strategy? (use some of the ideas participants presented)

PART 7 – THANK YOU and SURVEY (5 min)

Thank you for your time and for sharing your thoughts and feelings with us. You will receive your monetary incentive after you fill out the short survey. Remember that all of our conversations are highly confidential, so please don't discuss what we talked about with anyone.

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