Sensitive Health Topics With Underserved Patient Populations: Methodological Considerations for Online Focus Group Discussions

Sari L. Reisner[1,2], **Renee K. Randazzo**[2], **Jaclyn M. White Hughto**[2,3], **Sarah Peitzmeier**[4], **L. Zachary DuBois**[5], **Dana J. Pardee**[2], **Elliot Marrow**[2], **Sarah McLean**[2], and **Jennifer Potter**[1,2]

[1]Harvard University, Boston, Massachusetts, USA

[2]Fenway Health, Boston, Massachusetts, USA

[3]Yale University, New Haven, Connecticut, USA

[4]Johns Hopkins University, Baltimore, Maryland, USA

[5]California State University, Long Beach, Long Beach, California, USA

Abstract

Online focus group discussions provide an anonymous environment to assess sensitive, health-related experiences that may be difficult to discuss utilizing traditional face-to-face modalities, particularly for marginalized populations such as female-to-male trans masculine (TM) transgender individuals. This article reviews the history, advantages, and disadvantages of online focus groups, with an emphasis for research about sensitive issues with stigmatized, rare, and/or geographically dispersed patient populations. The article then evaluates the success of online focus group discussions as a case study using data from four asynchronous online focus groups conducted between September 2015 and February 2016 that explored topics related to sexual health care access with U.S. TM adults ($N = 29$). The rationale for selecting an asynchronous online methodology is described along with the unique methodological considerations that emerged in developing the study protocol. We conclude by sharing lessons learned, including innovations for maximizing participant engagement and comfort to elicit rich qualitative data.

Keywords

A focus group is a form of qualitative research in which a group of people are asked to discuss their perceptions, beliefs, and attitudes on a topic of interest. Historically, focus group discussions have been asked in face-to-face interactive group settings (Kitzinger,

2007; Krueger & Casey, 2014). More recently, online methods have been developed, refined, piloted, and implemented as alternatives to face-to-face focus group discussions, particularly for hard-to-reach populations (DuBois et al., 2015; Woodyatt, Finneran, & Stephenson, 2016; Ybarra, DuBois, Parsons, Prescott, & Mustanski, 2014). In an online focus group discussion, a moderator poses questions to a group of prescreened participants in written, audio, or video format via a web-based platform, encouraging group members to discuss, respond, and interact by typing words rather than speaking them aloud (Stewart & Williams, 2005).

The current article critically reviews the history, advantages, and disadvantages of online focus group discussions, particularly for research about sensitive topics with stigmatized, rare, or geographically dispersed patient populations. Considerations for the design and implementation of asynchronous online focus groups (discussion threads wherein participants are not all online at the same time and can thus respond at their convenience) are provided via a case study. Specifically, we describe four asynchronous online focus group discussions conducted by the Trans Masculine Sexual Health Collaborative for U.S. patients on the trans masculine (TM) continuum—individuals assigned a female sex at birth who identify as men, male, trans male, transgender men, female-to-male (FTM), genderqueer, nonbinary, or another diverse trans masculine gender identity. These online focus groups were conducted as part of a mixed-methods biobehavioral study at Fenway Health in Boston, MA, to explore methods of preventive sexual health screening with 150 sexually active TM adults. The primary aim was to assess the noninferiority and acceptability of utilizing a frontal/vaginal self-swab as compared with a provider-collected cervical swab for human papillomavirus (HPV) DNA testing and cervical Papanicolaou (Pap) test for cervical cancer screening (main clinical findings are forthcoming).

The online focus groups sought to discuss barriers and facilitators to sexual health care services for TM adults, including ways to optimize prevention and treatment of sexually transmitted infections (STIs) and improve access to routine cervical cancer screening. We describe the rationale for selecting an asynchronous online methodology, examine the unique considerations that emerged in developing the study protocol, and share the lessons learned in implementation, including innovations for maximizing participant engagement and comfort to elicit rich data.

Online Focus Groups: History, Methodological Considerations, and Utility

Evolution of Online Focus Groups

Originally developed on the basis that decisions are often made in discussion with others, focus groups generate interaction between participants, which can facilitate individual disclosure of unconscious or otherwise less accessible information (Duggleby, 2005). Lack of participant consensus, a common focus group phenomena, also contributes to data richness helping researchers to identify areas of agreement and controversy within group norms (Kitzinger, 1994). The unique ability of focus group discussions to tap into social interactions has popularized it as a qualitative method in many health care studies, given that health care encounters and delivery are interactive processes (Asbury, 1995; Thomas, Wootten, & Robinson, 2013; Watson, Peacock, & Jones, 2006).

Nearly as soon as the Internet gained popularity in the early 1990s, companies began using online focus group discussions to study consumer attitudes, with the practice of designing both synchronous (real-time chats) and asynchronous focus groups increasing rapidly as technology improved (Stewart & Williams, 2005). Online data collection is now part of the mainstream catalogue of methodological choices for qualitative research, as illustrated by the regular inclusion of online research sections in contemporary social science methods textbooks (Bloor, 2001; Denscombe, 2003; Miller & Brewer, 2003; Williams, Clausen, Robertson, Peacock, & McPherson, 2012).

Advantages and Disadvantages of Online Focus Group Discussions

Over the past two decades, increased attention toward online environments as distinct and dynamic sociocultural contexts has generated both anxiety and excitement among researchers regarding the use of focus group methods previously reserved for face-to-face settings (Hine, 2000). There are many benefits to online focus group discussions. First, online focus groups do not depend on finding and paying for a confidential physical setting for group meetings to take place, saving researchers and participants the time and money associated with traveling to a research site (Reid & Reid, 2005). Second, when the online medium is text-only, the cost of hiring transcribers is eliminated and accuracy is improved given that transcripts are produced by participants as they type (Walston & Lissitz, 2000). Third, conducting focus group discussions online allows for participation across a wide geographic area, providing the potential for greater diversity and/or greater geographic dispersion among participants sampled. Fourth, for "sensitive topics" and/or "hard-to-reach" populations, the anonymity and convenience of an online focus group discussion may allow researchers to access segments or subgroups of the population who may otherwise be unwilling to participate in face-to-face focus groups (Prescott et al., 2016).

At the same time, one of the most widely cited disadvantages to using online focus group discussions is the lack of face-to-face interaction. Virtual settings have been argued to limit the extent to which online focus group participants can demonstrate nonverbal signals, which may lead participants to misunderstand one another or researchers to miss nuances in meaning conveyed through body language (Denscombe, 2003; Mann & Stewart, 2000). It has also been suggested that the less personal nature of the online environment negatively affects the group dynamic (Mann & Stewart, 2000; Moloney, Dietrich, Strickland, & Myerburg, 2003; Stewart & Williams, 2005), as the sense of participant engagement and immediacy of responses are lacking (Matthews & Cramer, 2008; O'Connor & Madge, 2003). Indeed, online focus group participants have more time to ponder questions and edit responses before posting; thus, researchers employing this methodology may forfeit some of the ability to capture spontaneity in responses (Tuttas, 2014). Previous analyses of focus group transcripts have found that online participants tend to contribute shorter comments and elicit fewer words of agreement compared with participants in face-to-face groups (Schneider, Kerwin, Frechtling, & Vivari, 2002). However, research has also shown that although the format of data generated from online and in-person focus groups may differ, content generated by focus group discussions online and face-to-face is notably similar (Woodyatt et al., 2016). It has also been suggested that the moderator's lack of physical

presence may limit the moderator's control over group interactions and allow potential deviations far from the research topic (Underhill & Olmsted, 2003).

Despite potential disadvantages, online focus group discussions are becoming increasingly popular in an ever more digital world (Woodyatt et al., 2016). While some research has shown the potential for participants in online groups to illicit more concise statements than participants in face-to-face focus groups (Schneider et al., 2002), other comparative studies have found that participants in both online and face-to-face focus groups produced similar numbers of comments and unique ideas (Abrams, Wang, Song, & Galindo-Gonzalez, 2014; Schneider et al., 2002; Underhill & Olmsted, 2003). At issue, then, is the quality of collected data. Past research (Abrams et al., 2014; Turney & Pocknee, 2005) indicates that key elements of study design and implementation, including characteristics of the web-based platform, number of participants, duration of the focus group, and content and frequency of moderator comments, are crucial factors in facilitating the production of rich data online.

Methodological Considerations for Online Focus Group Discussions

The process of planning and conducting online focus group discussions involves many key decisions, including choosing a synchronous or asynchronous format, selecting a user interface, and determining the number of participants and duration of the group. Synchronous online focus groups are essentially real-time chats, whereas asynchronous online focus groups function more like a bulletin board where participants do not all need to be online at the same time. It has been shown than synchronous online focus group discussions tend to produce shorter, sometimes disjointed comments from participants all typing at the same time, whereas asynchronous online focus groups produce longer narrative contributions that may reflect the autonomy of participants and their ability to reflect and answer questions at their leisure (Graffigna & Bosio, 2006). In terms of selecting an appropriate interface, an online platform should be selected to maximize anonymity and ease of use (Abrams et al., 2014). Most research textbooks advocate for focus group discussions to have between six and eight participants, warning that if a group is too large, moderation becomes complex and moderator efficacy may be reduced (Bloor, 2001). In fact, some researchers have found that fewer participants in asynchronous online focus groups can lead to rapid group atrophy (i.e., lack of posting, absence of group identity; Stewart & Williams, 2005). Alternately, online groups comprised of a greater number of participants can allow for longer discussions in the form of threading, wherein people reply directly to a specific comment from another participant (Stewart & Williams, 2005).

The degree and type of involvement of the moderator(s) is another important aspect of focus group design. When implementing focus groups, decisions about moderator behavior must be considered with a goal of maximizing group member participation, including drawing out those who might be less "verbose" and posing clarifying questions to those whose comments might be vague or hard to follow. As with in-person focus groups, too high a level of questioning from the moderator can lead to single-word answering by participants, rather than stimulating discussion and interaction among participants (Murray, 1997; Stewart & Williams, 2005).

Facilitating cohesion among group members is a key concern in moderating focus group discussions, particularly those occurring online. The privacy of online focus groups allows moderators to foster greater openness, freedom of expression, and group cohesion among participants compared with face-to-face groups (Graffigna & Bosio, 2006; Stancanelli, 2010). One method used by moderators to promote group cohesion and elicit rich data is the use of "storytelling." By encouraging participants to share their experiences, moderators can help produce vivid stories and boost empathy among participants (Yu, Taverner, & Madden, 2011). In an online study employing storytelling methods as a means to share health care experiences, participants not only found digital stories to be a highly acceptable method to share their feelings and emotionally connect with other participants, but they also found the cathartic disclosure of shared health care experiences to be therapeutic (Yu et al., 2011).

Finally, the methodological approach to analyzing data is another important consideration. While some researchers contend that the less personal nature of the online medium can increase the potential for misinterpretation of participant's written communication (Carey & Smith, 1994), others have found that participants are able to express themselves effectively (Kenny, 2005; Tates et al., 2009). When analyzing data, attention to text-based communication is required, both in terms of the content as well as punctuation, spacing, and use of short-hand markers (e.g., "LOL" to indicate laughter; Stewart & Williams, 2005).

Utility for Specific Populations and Health Topics

Topics that are sensitive or considered private in nature are often difficult to discuss in-person; however, this barrier is often overcome by the anonymity that online focus group discussions provide. An online format may also facilitate participation by segments or subgroups of the population who may otherwise be unwilling to take part in face-to-face focus groups, particularly highly stigmatized groups. As individuals cannot be seen online, anonymity is possible; furthermore, a written asynchronous format allows for emotional distance (Fox, Morris, & Rumsey, 2007; Hiltz, Johnson, & Turoff, 1986; Walther & Burgoon, 1992). Online focus groups have also been shown to be a better facilitator of participation and lead to fewer socially desirable responses from participants compared with face-to-face discussions, particularly for sensitive issues or topics related to sexual health (Tates et al., 2009). The anonymity of the setting also makes it easier for researchers to recruit socially excluded, marginalized, or stigmatized populations who may be "hard-to-reach," such as those affected by HIV/AIDS, sexual and gender minority (lesbian, gay, bisexual, transgender, queer/questioning [LGBTQ]) youth and adults, sex workers, and people with criminal records (Grady, 2000; Graffigna & Bosio, 2006; Im & Chee, 2003; Prescott et al., 2016; Seymour, 2001; Strickland et al., 2003).

Online Focus Group Discussions for LGBTQ Health

Online environments are a normative place for LGBTQ people to interact, given evidence that LGBTQ individuals already use the Internet to look for sexual health information (Gauthier & Chaudoir, 2004; Hillier, Mitchell, & Ybarra, 2012; Magee, Bigelow, DeHaan, & Mustanski, 2012; Mitchell, Ybarra, Korchmaros, & Kosciw, 2014; Mustanski, Lyons, & Garcia, 2011) and social support (Hillier et al., 2012; White Hughto, Hidalgo, Bazzi, Reisner, & Mimiaga, 2016; Ybarra, Mitchell, Palmer, & Reisner, 2015). The Internet also

offers access to virtual spaces that LGBTQ people, particularly LGBTQ youth, perceive to be safer to socialize in than offline settings (Gay, Lesbian, & Straight Education Network, 2013; Hillier et al., 2012; White Hughto, Pachankis, Eldahan, & Keene, 2016). Capitalizing on the familiarity of online settings, researchers have begun to explore the health of LGBTQ populations through online focus group discussions (DuBois et al., 2015; Thomas et al., 2013; Woodyatt et al., 2016; Ybarra et al., 2014). Ybarra and colleagues (2014) used online focus groups to explore attitudes about sexual behavior and sexual health among gay and bisexual male youth and found that communicating in online environments was not only familiar and nonthreatening but also offered participants the opportunity to disclose sensitive information about their sexual behavior and identities in a secure setting that they may not otherwise have divulged (Ybarra et al., 2014). As noted previously, research suggests that sharing personal experiences with similar others can have a therapeutic effect by reducing the mental health sequelae of LGBTQ-related stigma (Yu et al., 2011). In addition to reducing participants' sense of isolation through the sharing of experiences, Ybarra and colleagues also found that focus group involvement led to positive changes in participant attitudes about sex and plans to engage in healthier sexual behaviors (DuBois et al., 2015; Ybarra et al., 2015). While burgeoning research has demonstrated the success of online focus group discussions with sexual minority youth, no studies to our knowledge have examined the utility of online focus groups for transgender populations—a segment of the LGBTQ population that faces unique health risks pertaining to gender minority stress and gender affirmation.

Online Focus Groups in Action: A Case Example From Trans Masculine (TM) Sexual Health

TM Individuals Face Inequities in Preventive Sexual Health Screening

A growing body of research suggests disparities in preventive sexual health screening between individuals of TM experience and cisgender (non-transgender) populations, including lower rates of screening for cervical cancer (e.g., Pap tests; Peitzmeier, Khullar, Reisner, & Potter, 2014) and STIs (e.g., HPV; Reisner, Perkovich, & Mimiaga, 2010; Reisner, White, Bradford, & Mimiaga, 2014). Recent studies also highlight unique barriers to sexual health screening for TM people, including the potential for physical and psychological discomfort during pelvic examinations when genitals may not be concordant with a patient's gender identity, harm caused by insensitive or uninformed providers, patient anxiety regarding disclosure of transgender identity, inadequate care due to clinician misconceptions that TM individuals are not at high risk for cervical cancer or STIs (and thus do not need screening), and nondisclosure of sexual behavior history (Dutton, Koenig, & Fennie, 2008; Reisner et al., 2015; White Hughto, Murchison, Clark, Pachankis, & Reisner, 2016; White Hughto, Reisner, & Pachankis, 2015). While health care barriers are well-documented among this patient population, more information is needed to understand the individual, social, and structural facilitators to sexual health care utilization to inform clinical care and practice guidelines for this under-served patient group.

In our previous research on this topic (Agénor et al., 2016; Peitzmeier et al., Submitted for Publication; Peitzmeier, Reisner, Harigopal, & Potter, 2014), members of the study team

were interested in conducting in-person focus group discussions, but there was not enough willingness to participate in the Boston-area TM community, likely due to privacy and anonymity concerns. We ultimately conducted one-on-one, in-depth interviews in-person so that sensitive topics could be discussed more privately but later received feedback that participants' friends, who were highly dysphoric about their bodies or who had endured traumatic experiences with sexual health screenings, did not feel comfortable discussing these distressing topics via an in-person interview. In an attempt to garner a broader range of experiences from the TM community, and not just the experiences of those selective individuals who were relatively comfortable discussing Pap tests, we created an online survey on barriers and facilitators to sexual health screening for TM patients. While the survey was somewhat successful at engaging a broader swath of the TM population, many participants did not finish the survey, which was potentially indicative of low engagement and lack of acceptability with the format. The online survey was also limited in its ability to gather in-depth information from participants. Furthermore, lack of interaction with other participants and the absence of an interviewer/moderator meant that short or inadequate responses to open-ended questions could not be probed to elicit richer content.

Given the limitations of in-depth interviews and online surveys and the impossibility of in-person focus groups with this population, in the current study, we opted to implement online focus group discussions to obtain the type and quality of information that is typically gleaned from in-person focus groups (e.g., group norms, consensus, and controversy). The privacy and ease of access of online focus groups also allowed us to maximize engagement of members of the TM population who might not be willing or able to participate in-person and who may not be reached utilizing traditional face-to-face qualitative research methods. Due to the sensitive nature of sexual health topics in general, and for TM individuals specifically given the discordance of sex assigned at birth and current gender identity, our study team hypothesized that online focus groups would provide an ideal format to elicit the information needed to understand barriers and facilitators to sexual health care, improve access to sexual health-related services, and develop best practices for conducting sexual health screening with this underserved and stigmatized population.

Implementing Online Focus Group Research With TM Adults

The purpose of the online focus group discussions was to collect comprehensive data about the sexual health care needs and experiences of U.S. TM adults including barriers and facilitators to accessing preventive sexual health care, perceptions of different screening techniques, needed resources for TM communities, and ideas for engaging transgender community members in research and health care. All study activities were approved by the Institutional Review Board at the primary organization responsible for the study protocol and data collection (Fenway Health, FWA00000145) in Boston, MA.

Recruiting a "hard-to-reach" population—Between September 2015 and February 2016, four focus group discussions were conducted with a total of 27 TM participants from across the United States. Participants were purposively sampled and recruited using multiple strategies to achieve a diverse sample in terms of race/ethnicity, gender identity (e.g., nonbinary such as genderqueer and binary including transgender men), sexual orientation

(e.g., gay, bisexual, queer), and recruitment mode (e.g., listservs, online advertisement postings; Reisner et al., 2014). Active recruitment included outreach at the in-person clinical study site, community-based organizations, and social events. Participants were also asked to refer friends, coworkers, or acquaintances who may have been eligible. Passive approaches included posting of focus group information via flyers at the study site, as well as via electronic and online platforms which included the study website, national and local transgender community listservs, and through paid and unpaid media (e.g., postings/ advertisements on Craigslist.org and LGBTQ print and online outlets). Recruitment emails were also sent to partnering health care, advocacy, policy, and community organizations.

Individuals were screened via phone by study staff for study eligibility (see below). For all focus groups, individuals were eligible to participate if they were age 18 years or older; assigned a female sex at birth and now self-identify as a man, TM, trans man, FTM, transgender, genderqueer/nonbinary, transsexual, male, and/or another diverse transgender identity or expression; able to read and write in English; had access to the Internet; and were willing and able to complete the informed consent process (see below).

Overall, 42 individuals were screened, 42 were eligible, 36 completed the online consent process, 28 completed the quantitative survey, 27 logged into the online focus group platform for being assigned a participant number, and 25 were eligible for the gift card incentive (92.6%) as they completed at least half the total number of questions asked of focus group participants.

Assessing sensitive topics using a focus group guide—To inform the development of a focus group discussion guide, the study team first conducted a review of prior research on TM sexual health and access to preventive health care screening services, including gaps in existing research. Next, the guide was drafted by the study team and refined and finalized with active input from a TM community Task Force, comprised of six community members who were convened to collaborate and guide the team on all study activities. Task Force members received incentives for their participation in meetings and review of study instruments.

We utilized an adaptive qualitative research design whereby we iteratively refined the focus group guide from one focus group to the next, building on experiences learned from each focus group. All focus groups included the following five topic areas: (a) perceived risk of HPV and other STIs among TM individuals, (b) acceptability of various sexual health prevention screening techniques for TM individuals, (c) specific barriers and facilitators of screening techniques for patients based on geographical location and health care delivery systems, (d) desired sexual health screening resources for patients, and (e) ways of disseminating information on preventive sexual health screening. A sample of focus group guide discussion questions implemented in the final online focus group is available in the appendix.

Conducting online focus groups—Each focus group discussion was conducted using an asynchronous bulletin board method of online data capture. Between six and eight participants were included in each group to achieve a balance between depth of discussion

and group member familiarity (Stewart & Williams, 2005). Asynchronous focus group discussions consisted of a series of posted questions and participant responses occurring over a 3-day period. No video or audio was recorded and real-time interaction among participants did not occur. The rationale for an asynchronous method of data capture was to (a) engage a geographically diverse national sample of TM individuals, rather than just those in the greater Boston area; (b) facilitate individual participant engagement, as participants were not able to interrupt one another, allowing each participant to share as much as they wished; (c) increase participant comfort given that all participants were afforded anonymity as compared with traditional, in-person focus groups where face-to-face interactions would have been required; (d) reduce participant burden as the online platform provided participants with more time to respond to questions and participants did not need to devote a great deal of time to participate to answer each question set (i.e., the time participating was spread over a 3-day period); and (e) allow flexibility in terms of scheduling focus group times, enabling those in different time zones and/or busy schedules to participate.

Prior to participation, study staff contacted and screened potential participants by phone to ensure eligibility. This initial phone screening was implemented to mitigate concerns that someone might falsely claim to be eligible and participate in the online focus group discussion, as eligibility could be more confidently assessed during a phone conversation than via email or online. Phone screenings also limited the capacity for an individual to enroll more than one time given that phone number and email were collected at screening so that duplicate participation could be avoided. Following the completion of the phone screening, eligible participants were emailed a link to an online informed consent form containing the details of the study, including risks and benefits to participation. Participants were asked to contact staff should they have any questions prior to consenting to participation. Once consent was provided, study staff emailed the participant instructions on how to create a unique login and password as well as information about the online focus group platform with links to instructional videos.

A secure asynchronous bulletin board software was adapted specifically for the present study to allow participants to participate anonymously. Upon joining a focus group for the first time, participants were assigned a unique online focus group ID (i.e., Participant 1, Participant 2) to ensure anonymity. Participants were then individually asked via private message to provide the unique identification given to them at enrollment to link their responses to their enrollment data and to ensure that all participants had been screened and found eligible.

Each online focus group discussion was facilitated by two moderators who identified as members or allies of the TM community. Focus groups took place over the course of 3 days. Each focus group participant was invited to contribute to the discussion anytime over the span of the first 2 days. Participants were asked to refrain from sharing personal identifying information during the focus group. On the third day, after having completed the study-related questions, optional follow-up questions were posted by the moderators and participants were invited to provide feedback about their experiences in the study (e.g., participant acceptability). Question sets of 4 to 10 prompts were posted by moderators twice a day (morning and evening), and participants were allowed to respond to each question set.

All participants were able to see and access each question and response thread and reply to other participants' responses and comments. Moderators monitored the discussion boards at all times during the 3 days and posted additional question prompts when necessary to elicit clarification of participant responses. Should participants have attempted to share identifying information with each other (i.e., location, phone number), moderators were prepared to intervene. Moderators were also able to send participants private messages ("back channel") to ask for clarification of a response or to remind participants to respond to a question set that had been posted. In addition to the moderators, two other members of the study team acted as observers to monitor the discussion board. Observers were able to read all participant responses, but were unable to interact directly with participants. Observers tracked participant responses and emailed the moderators when necessary to ask for further probes and clarifications. Participants had the option not to respond to any prompt they did not wish to answer; however, every participant was asked to respond to at least half of the questions per question set. Focus group participants received a US$20 Amazon credit for participating in the group. Incentives were emailed to each participant at the close of the focus group discussion.

Analyzing online focus group data—At the conclusion of each online focus group, all discussion board chat content was downloaded via secure server. The goal of the present analysis was to describe considerations for online focus group methods, outcomes of methodological decisions made by the study team, and participant acceptability of the online format which participants were prompted to describe at the end of the focus group. Data from the four focus groups were analyzed in aggregate for this analysis.

Online Focus Group Findings

List 1 summarizes a methodological framework for designing an online focus group study, including key decision points. In Table 1, we present some challenges in conducting online focus group discussions and how to minimize them. Table 2 reviews some advantages of conducting online focus groups and how to maximize advantages in implementing focus groups. As a case study, we next describe some methodological decisions, lessons learned, and challenges and advantages of using asynchronous online focus groups to discuss sexual health care with TM adults.

List 1

Methodological framework for designing online focus group studies.

1	Select participant population and topic well-suited to the method
	• Will participants find the online format easy to use? Will anonymity enhance participation in the study or disclosure of sensitive information?
2	Choose an asynchronous or synchronous format
	• Appropriate length of time, potential tradeoffs between spontaneity and thoughtfulness
3	Select and modify software
	• Choose software for participant ease of use in your population.
	• Make modifications for institutional review board (IRB) compliance (anonymous user-names, IP address logging, etc.)

4	Design focus group guide

- Unlike most in-person guides, questions should include some "probes" up front to prompt robust answers and discussion
- Begin with questions that will encourage openness and group cohesion
- Decide on number of questions and topics per day

5	Pilot test

- Adjust number of days and number of questions per day in light of participant fatigue—may be different than the number of questions appropriate in an in-person group

6	Screen participants

- Obtain participant consent
- Screen over the phone to assess eligibility criteria
- Email a link to submit demographic information
- Immediately before the focus group, send them the link to the study that links their demographic information to the anonymous username assigned to them

7	Moderate

- Consider use of moderators and observers
- Consider pace of moderation over the multi-day focus group so that it is neither too aggressive nor too passive
- Moderators remain available to receive back channel/private communication from participants

8	Download and analyze transcripts

- Download text directly. Pay attention to text-only nuances in meaning and participant threading.

Reaching diverse participants—In our study of TM sexual health, the online focus group format enabled participation from a wide geographic area, including TM people from all four geographic regions of the United States and from both small and large urban areas (see Table 3). More than 40% of the sample were racial/ethnic minorities and more than half had a household income less than US$40,000 per year. Thus, the online focus group method made it possible to reach a geographically, economically, and racially diverse sample of TM. The asynchronous online format also made the study convenient and accessible to participants with busy schedules and/or who did not want to travel far to participate. One participant commented, "This is a great way to do it. I didn't have to trek somewhere far to participate. I was able to just do it on my [smart] phone whenever I had down time."

Because information on transgender sexual health is scarce in traditional education and health care settings, information gathering via online communities is common for transgender people, making the online format feel "natural" to participants. As we heard from participants repeatedly, "All of my transition-related health information has come from the Internet, forums, and friends who are also trans-masculine." Another individual shared, "The majority of the information I get regarding my health care is through the Internet and social media, not through health care providers."

For transgender people experiencing isolation, particularly those in smaller urban areas, the Internet may be a haven for connecting with others. Participants in our study expressed a desire for connection with other trans-gender individuals, noting their appreciation that the online forum was able to link them to other TM individuals: "It is a little saddening to me

that I don't get to meet anyone and really connect with people who have such similar experiences, but that's just misplaced feelings about living somewhere where the trans population is very small."

Perhaps the most useful aspect of the online format in our study was the privacy it provided which enabled us to recruit and garner information from participants who were particularly gender dysphoric, regularly avoided health care, and/or concealed their transgender identity in health care and other public spaces for fear of discrimination. Here, several participants described being highly gender dysphoric and articulated the ways in which their gender identity limited them from engaging in the health care system:

> I'm not really out yet [about being transgender] so I try to avoid going to the Dr unless it's urgent. I do get dysphoric so it's highly uncomfortable.

> I have had many negative interactions with health care providers because of my gender identity. In the past, providers have misgendered me, even after I corrected them and told them my gender identity … Because of bad experiences with this, sometimes I am not transparent about my nonbinary identity, out of fear of being denied access to care.

> I just keep putting it off … putting it off … and even when I do finally call and make an appointment, I want to tell people that I'm trans* and need a careful provider, but I don't and the anxiety builds up and I don't go to the appointment or keep rescheduling until I absolutely need to or can find someone to go with me. I think a lot of trans people feel this way, as well as other people that face discrimination in the health care setting.

Selecting a format and interface—The online platform we used facilitated asynchronous focus group discussions in a user-friendly web environment. In collaboration with the software developer, the platform was modified to be IRB compliant, including modifications wherein (a) participants were mandated to participate anonymously using preassigned usernames such as "Participant 5," (b) participants' IP addresses were not collected by the software to ensure compliance with Health Insurance Portability and Accountability Act (HIPAA) regulations, and (c) unlike their usual terms of use, the software company would not have rights to participant data at the end of the study (please email corresponding author to obtain further information about the online platform used for this study). Given the sensitive nature of the focus group research, anonymity was essential to protect participants' identities and thus essential to enhancing data quality by fostering openness. The software developer also added a feature wherein participants can set specific comments to private, so that specific comments would be visible only to moderators, melding the benefits of a one-on-one interview with the focus group format. Participants found this format to be highly acceptable. One participant commented,

> The option to be able to provide a response and have it not visible to the other participants is really good. Even though I didn't use it, I think it allows someone the opportunity to share something really personal that may be helpful without having to share with all of the participants. Whatever you do, don't get rid of that.

By choosing to host asynchronous online focus group discussions, participants were able to make revisions to messages before posting. Although likely less spontaneous than synchronous groups, this method allowed contributions to be complex and wording carefully composed. Here a participant highlights the benefits of this feature:

> The format of this on-line forum/study was well done. It allowed participants to participate on their own time. Also, a focus group online where people write about their experiences vs. an in-person focus group, I think allows all voices to be heard as well as participants opening up differently via anonymous writing vs. face-to-face discussion where confidentiality is stressed during forum.

The written format was also positively endorsed by participants. One participant noted, "Typing is also helpful because sometimes talking isn't my primary mode of communication so I feel I was able to think, type, and be more thorough and detailed in my responses." Participant acceptability of the typed response facilitated the collection of rich and dynamic data, including stories about experiences in health care and gender identity development, sympathetic interactions between participants, and innovative ideas to improve TM health moving forward.

Number of participants and group duration—After careful consideration as to the number of participants and duration of groups, the present study aimed to enroll 10 participants per focus group to achieve depth of discussion and maximize familiarity among group members. Between six and eight participants ended up being active in each focus group, which was sufficient for yielding rich data and fostering familiarity and comfort among participants.

Initially, focus group discussions were designed to last 3 days, with sets of study-related questions posted twice per day for a total of six sets of questions. During the first focus group, it was found that participants did not fully engage on the third day of questions, when questions focused on personal disclosures about potentially difficult experiences (i.e., getting Pap tests). This seemed to be due to the fact that the most emotionally draining questions to answer were asked right when participant fatigue began to set in. Following the first focus group, the guide was streamlined to invite discussion on our study topic over the span of 2 days instead of 3. On the third day, after having concluded our posting of study-related questions, optional questions were posted by moderators inviting feedback about the study, and most participants opted to remain engaged on Day 3.

Facilitating group cohesion—The focus group guide was designed specifically to foster group cohesion by encouraging participants to interact and share information about their identities on Day 1 of the focus group, beginning with the first question. Discussing individual identities early on led to rapid development of group solidarity that was sustained through the duration of the forum. The sense of unity formed by the discussion of individual identities facilitated the creation of a safe space for the disclosure of sensitive topics without fear of judgment. One participant expressed thanks for being asked about his gender identity, noting,

> I especially appreciated that the first question gave us a place to explain our individual identities, instead of just taking for granted that we are all on the trans-masculine spectrum somewhere and the rest doesn't matter. That really made a difference for me.

While the online environment precludes visual familiarity with fellow participants, introductions in which participants self-defined their identities seemed to facilitate increased interaction throughout. Participants frequently referred back to initial comments made as they moved through the focus group questions. By beginning with questions about identity to facilitate group cohesion, then harnessing the momentum of interaction established during that introduction, the present study found that the energy level and thoughtful engagement of participants was well-sustained over the 2-day focus group.

Integrating storytelling through eliciting narratives—Further promoting rich data and solidarity among group members, participants were invited to not only share opinions about sexual health care, but stories about their own personal health care experiences. For example, when asking about the intersection between participants' gender identities and experiences in health care, in lieu of asking, "How do you think your gender identity affects interactions with your health care provider?" the moderator wrote, "If you feel comfortable, please share a story about a recent interaction you had with a health care provider that demonstrates how your gender identity affects interactions with a provider." While the request for personal stories is not unique to online focus groups, this method of eliciting narratives illuminated themes ranging from communication barriers to traumatic events that might not have otherwise been shared had it not been for the privacy conferred by the online setting. The encouraging of personal stories also prevented individuals from providing brief, truncated, or individual word responses.

When participants shared a distressing health care experience, group members frequently responded with validating and supportive comments. Here, one participant offered words of compassion to another participant who shared a story about discrimination in health care.

> Participant 1: I recently went to the neurologist with intermittent paralysis in my hands … and the only "problem" he listed on my discharge paperwork was "gender identity disorder." The medical system's obsession with gender is so absurd.

> Participant 2: I'm sorry to hear that. That must be extremely frustrating when you're just trying to get help for health issues totally unrelated to being transgender.

Overall, the effect of inviting storytelling served to elicit valuable data on the topic of TM sexual health care and promote supportive interactions between participants. It is also possible that the invited storytelling had a therapeutic impact on storytellers who were able to anonymously share sensitive experiences with individuals who offered emotional support. As one participant noted, "I am happy I had an opportunity to share my experience."

Moderator behavior—Optimizing the quantity and quality of moderator comments required some calibration over the course of the focus group discussions. The focus group guide served an important role in directing moderators to elicit information from participants in the initial phrasing of questions, rather than in anticipating or relying on opportunities to

probe. This method increased the likelihood of participants addressing questions comprehensively right away and allowed room for participants to interact without interruption or intrusion by the virtual voice of the moderator. For example, the focus group guide asked, "Do you think there are factors that offer greater protection to trans masculine people from STIs as compared with non–trans masculine people?" This question anticipated the opportunity to post the follow-up probe: "How do you imagine these protective behaviors differ for trans masculine people of different experiences (i.e., people of color, older individuals, people in rural areas)?" When moderator follow-up was warranted, moderators summarized participants' comments, highlighting differing opinions without drawing attention to any single participant, and encouraging group members to elaborate on a given topic. In an effort to reduce moderator probing, the guide was later revised to include the follow-up question immediately after the initial question, resulting in more streamlined answers and respondent participation.

At times, moderators found their role to be limited to the initial posting of questions, as several participants informally adopted a role like that of a moderator, posting questions to seek clarification and follow-up from others. One example of a participant's moderator-like role occurred when the group was asked about HPV vaccines. One participant took it upon himself to probe for more detail from another participant:

> Participant 5: When they first started talking about the vaccine, I was—I think 14–25 years of age. Also because it was a brand new vaccine, even if I had been (or am) of age, I don't think I would be very open to taking it.

> Participant 2: Did you have specific concerns about it? Or just general distrust of new medicine?

As a result of participants' leadership behavior, the moderator was able to post less, interjecting only when there was the need to move the conversation forward to the next topic.

Nonverbal communication—To compensate for the limitations in an online interaction which prohibit tone of voice and facial and gestural expression, participants employed creative uses of text, using punctuation and spacing to convey emotions and tone. Circumventing the potential disadvantage of absent nonverbal cues, participants used quotation marks to demonstrate skepticism, smile and wink faces to show goodwill toward one another, and capital letters to emphasize ideas. One example of using text to convey complex interactive information occurred when participants were asked to describe their gender identities. Here, one participant, who self identifies as "gender apathetic," responds to another participants' request to describe the development and evolving nature of their gender identity.

> Participant 2: <wall of text, but you asked, so … > Part of it is having had relationships and conversations with cis men (primarily geeky, weirdo friends of mine, so, definitely a skewed subset of cis men) and realising that many of them don't feel like they know what they're doing, gender (-performance) wise, that they don't feel strongly invested in Being A Man. (I think it's really easy for us as trans people to imagine that the opposite experience of our crisis/doubt/whatever is

> Absolute Conviction, and I'm sure for some people it is, but I also suspect that for a huge number of people it's just going with the flow.) … if you try to look too closely, it falls apart into "just so" stories—what *makes* me a man? What does it *mean* to be a man?

In this example, complex and philosophical ideas about gender are discussed by participants using only the tools that a computer keyboard can provide. Notice the apologetic preface bracketed by angle brackets, the capitalization in the phrase "Absolute Conviction," the asterisks emphasizing thoughts on what "*makes*" a man, and the parenthetical asides. Paradoxically, despite ostensible "limitations" in nonverbal communication in online settings, in some instances the text format allowed participants to record their own nonverbal meaning more accurately and completely than is often possible when researchers attempt to transcribe verbal exchanges in an in-person focus group. Analysis of focus group data must therefore be attentive to the nuances of typed interaction to appreciate the full meaning intended and made by participants.

Discussion

"Just as the text cannot capture the nuance of the voice, the voice cannot capture the nuance of the text" (Markham, 1998, p. 210). The nature of data generated from an online environment may be different from data obtained via face-to-face groups, but may be better suited for some populations and topics than in-person focus group discussions. In our case study with TM adults, we found that the privacy provided by the online environment enabled participants to discuss sensitive topics freely. The online platform also supported the recruitment of individuals from diverse U.S. geographic regions who would not otherwise have had the opportunity to connect in nonvirtual settings. Despite prior concerns about the ability of online focus group discussions to yield rich data and meaningful group interactions (Denscombe, 2003; Mann & Stewart, 2000; Moloney et al., 2003; Stewart & Williams, 2005), our study provides evidence that the online format, paired with this population's fluency and comfort in online communication, facilitated the collection of dynamic data on topics about which very little is known or has been published (i.e., sexual health care for TM individuals).

Compared with our previous in-person qualitative data collection on this topic and with this study population (Agénor et al., 2016; McDowell et al., Submitted for Publication; Peitzmeier, Agénor, et al., Submitted for Publication; Peitzmeier, Khullar, et al., 2014; Peitzmeier, Reisner, et al., 2014; Potter et al., 2015), we found that the online focus group format utilized here yielded a type and quality of data collected that would likely not have otherwise been possible using an in-person format. These findings replicate previous methodologic research regarding online focus group discussions (Woodyatt et al., 2016), including with gay and bisexual cisgender males. Furthermore, the use of online focus group discussions with TM adults has implications for research validity and ethics. For example, it is possible that our results may be more generalizable, compared with data obtained from in-person face-to-face focus groups, in that they reflect the views of more marginalized as well as more geographically diverse subgroup of the population. In addition, transgender people are often excluded from research and/or historically have been collapsed with other

population groups (Perez-Brumer, Oldenburg, Reisner, Clark, & Parker, 2016), rather than have their distinct and specific health needs assessed and considered. Equitable access to research participation and the ability to contribute data on health care needs to improve health care service delivery and responsiveness represent important dimensions of inclusion in population health (Deutsch, Radix, & Reisner, 2016).

For the topic of TM sexual health care, we found that online focus group discussions had the ability to bring together voices from a marginalized group of trans masculine adults in need of social support, suggesting the future potential of online intervention methods to roll-out sexual health information, programming, and services. In addition to helping socially isolated participants feel connected, moderator-encouraged storytelling enabled participants to disclose distressing health care experiences and obtain support and resources from other participants. To overcome the potential challenges of lacking nonverbal communications in the online environment (Denscombe, 2003; Mann & Stewart, 2000), participants creatively employed punctuation and spacing to articulate their feelings, tone, and empathy for one another. The text-based format was particularly useful for TM community members, with several participants noting their preference for written over verbal communication. The written format also allowed participants to compose their responses at their own pace, control their responses according to what they felt comfortable disclosing, and anonymously share sensitive stories—all of which may have served to reduce the anxiety and uncertainty that many TM may experience in social interactions (Poteat, German, & Kerrigan, 2013; Reisner et al., 2010).

It is possible that an asynchronous online focus group discussion format (i.e., not real-time) could have resulted in delays in communication that could hinder group cohesion; however, in practice, the online format that was selected actually facilitated group solidarity in TM adults. Beginning with a description of their own gender identities using their own words, participants continued to meaningfully engage with one another and consistently responded to one another's comments without moderator intervention. Given the sensitive nature of sexual health screening for TM individuals, online focus group discussions were an ideal format to elicit the information needed to improve the community's access to care and develop best practices for conducting sexual health screening with this underserved population.

Conclusion

The present study demonstrates the acceptability and feasibility of using asynchronous online focus group discussions to garner sensitive, sexual health information from a diverse sample of TM adults. The success of our study may be attributed to specific characteristics of the population (e.g., TM participants' comfort with the online modality, their eagerness to share personal experiences and connect with other TM adults), the sensitive nature of the research (i.e., topic of sexual health is an underresourced area of TM health), and the unique capabilities of online methods (e.g., privacy, text-based, remote access, asynchronous/not in real-time). Findings suggest that online focus group discussions may offer unique advantages for research with rare, geographically dispersed, or marginalized populations and/or on sensitive topics that may be difficult to discuss in-person. Population

characteristics and the sensitivity of the research topic should be considered when designing, implementing, and analyzing qualitative focus group research in online settings. Future health-related research utilizing online focus groups should be conducted and assessed for feasibility and acceptability in diverse populations.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

References

Abrams KM, Wang Z, Song YJ, Galindo-Gonzalez S. Data richness trade-offs between face-to-face, online audiovisual, and online text-only focus groups. Social Science Computer Review. 2014; 33:80–96.

Agénor M, Peitzmeier SM, Bernstein IM, McDowell M, Alizaga NM, Reisner SL, … Potter J. Perceptions of cervical cancer risk and screening among transmasculine individuals: Patient and provider perspectives. Culture, Health & Sexuality. 2016:1–15.

Asbury JE. Overview of focus group research. Qualitative Health Research. 1995; 5:414–420.

Bloor M. Focus groups in social research London: Sage; 2001

Carey MA, Smith MW. Capturing the group effect in focus groups: A special concern in analysis. Qualitative Health Research. 1994; 4:123–127.

Denscombe R. The good research guide 2. Maidenhead, England: Open University Press; 2003

Deutsch MB, Radix A, Reisner S. What's in a guideline? Developing collaborative and sound research designs that substantiate best practice recommendations for transgender health care. AMA Journal of Ethics. 2016; 18:1098–1106. [PubMed: 27883301]

DuBois LZ, Macapagal KR, Rivera Z, Prescott TL, Ybarra ML, Mustanski B. To have sex or not to have sex? An online focus group study of sexual decision making among sexually experienced and inexperienced gay and bisexual adolescent men. Archives of Sexual Behavior. 2015; 44:2027–2040. [PubMed: 25925896]

Duggleby W. What about focus group interaction data? Qualitative Health Research. 2005; 15:832–840. [PubMed: 15961879]

Dutton L, Koenig K, Fennie K. Gynecologic care of the female-to-male transgender man. Journal of Midwifery & Women's Health. 2008; 53:331–337.

Fox FE, Morris M, Rumsey N. Doing synchronous online focus groups with young people methodological reflections. Qualitative Health Research. 2007; 17:539–547. [PubMed: 17416707]

Gauthier DK, Chaudoir NK. Tranny boyz: Cyber community support in negotiating sex and gender mobility among female to male transsexuals. Deviant Behavior. 2004; 25:375–398.

Gay, Lesbian & Straight Education Network. Out online: The experiences of lesbian, gay, bisexual and transgender youth on the Internet 2013 Retrieved from http://b.3cdn.net/glsen/30f597304753f6759f_4nm6268oj.pdf

Grady H. Virtual focus group: A methodological assessment. Paper presented at the Midwest Association for Public Opinion Research Annual Convention; Chicago, IL. 2000 Nov.

Graffigna G, Bosio AC. The influence of setting on findings produced in qualitative health research: A comparison between face-to-face and online discussion groups about HIV/AIDS. International Journal of Qualitative Methods. 2006; 5(3):55–76.

Hillier L, Mitchell KJ, Ybarra ML. The Internet as a safety net: Findings from a series of online focus groups with LGB and non-LGB young people in the United States. Journal of LGBT Youth. 2012; 9:225–246.

Hiltz SR, Johnson K, Turoff M. Experiments in group decision making communication process and outcome in face-to-face versus computerized conferences. Human Communication Research. 1986; 13:225–252.

Hine C. Virtual ethnography London: Sage; 2000

Im EO, Chee W. Feminist issues in e-mail group discussion among cancer patients. Advances in Nursing Science. 2003; 26:287–298. [PubMed: 14674577]

Kenny AJ. Interaction in cyberspace: An online focus group. Journal of Advanced Nursing. 2005; 49:414–422. [PubMed: 15701156]

Kitzinger J. The methodology of focus groups: The importance of interaction between research participants. Sociology of Health & Illness. 1994; 16:103–121.

Kitzinger J. Focus groups. In: Pope C, , Mays N, editorsQualitative Research in Health Care 3. Oxford, UK: Blackwell; 2007 2131

Krueger RA, , Casey MA. Focus groups: A practical guide for applied research New Delhi, India: Sage; 2014

Magee JC, Bigelow L, DeHaan S, Mustanski BS. Sexual health information seeking online a mixed-methods study among lesbian, gay, bisexual, and transgender young people. Health Education & Behavior. 2012; 39:276–289. [PubMed: 21490310]

Mann C, , Stewart F. Internet communication and qualitative research: A handbook for researching online London: Sage; 2000

Markham AN. Life online: Researching real experience in virtual space Vol. 6. Walnut Creek, CA: Rowman Altamira; 1998

Matthews J, Cramer EP. Using technology to enhance qualitative research with hidden populations. Qualitative Report. 2008; 13:301–315.

McDowell M, Pardee DJ, Peitzmeier SM, Reisner SL, Agénor M, Alizaga NM, … Potter J. Cervical cancer screening preferences among trans masculine individuals: Patient-collected human papillomavirus vaginal swabs versus provider-administered Pap tests. Manuscript submitted for publication.

Miller RL, , Brewer JD. The AZ of social research: A dictionary of key social science research concepts London: Sage; 2003

Mitchell KJ, Ybarra ML, Korchmaros JD, Kosciw JG. Accessing sexual health information online: Use, motivations and consequences for youth with different sexual orientations. Health Education Research. 2014; 29:147–157. [PubMed: 23861481]

Moloney MF, Dietrich AS, Strickland O, Myerburg S. Using Internet discussion boards as virtual focus groups. Advances in Nursing Science. 2003; 26:274–286. [PubMed: 14674576]

Murray PJ. Using virtual focus groups in qualitative research. Qualitative Health Research. 1997; 7:542–549.

Mustanski B, Lyons T, Garcia SC. Internet use and sexual health of young men who have sex with men: A mixed-methods study. Archives of Sexual Behavior. 2011; 40:289–300. [PubMed: 20182787]

O'Connor H, Madge C. "Focus groups in cyber-space": Using the Internet for qualitative research. Qualitative Market Research: An International Journal. 2003; 6:133–143.

Peitzmeier SM, , Agénor M, , Bernstein I, , McDowell M, , Alizaga NM, , Reisner SL, , … Potter J. "It can promote an existential crisis": Factors influencing Pap test acceptability and utilization among transmasculine individuals Manuscript submitted for publication

Peitzmeier SM, Khullar K, Reisner SL, Potter J. Pap test use is lower among female-to-male patients than non-transgender women. American Journal of Preventive Medicine. 2014; 47:808–812. [PubMed: 25455121]

Peitzmeier SM, Reisner SL, Harigopal P, Potter J. Female-to-male patients have high prevalence of unsatisfactory paps compared to non-transgender females: Implications for cervical cancer screening. Journal of General Internal Medicine. 2014; 29:778–784. [PubMed: 24424775]

Perez-Brumer AG, Oldenburg CE, Reisner SL, Clark JL, Parker RG. Towards "reflexive epidemiology": Conflation of cisgender male and transgender women sex workers and implications for global understandings of HIV prevalence. Global Public Health. 2016; 11:849–865. [PubMed: 27173599]

Poteat T, German D, Kerrigan D. Managing uncertainty: A grounded theory of stigma in transgender health care encounters. Social Science and Medicine. 2013; 84:22–29. [PubMed: 23517700]

Potter J, Peitzmeier SM, Bernstein I, Reisner SL, Alizaga NM, Agénor M, … Pardee DJ. Cervical cancer screening for patients on the female-to-male spectrum: a narrative review and guide for clinicians. Journal of General Internal Medicine. 2015; 30:1857–1864. [PubMed: 26160483]

Prescott TL, Phillips IIG, DuBois LZ, Bull SS, Mustanski B, Ybarra ML. Reaching adolescent gay, bisexual, and queer men online: Development and refinement of a national recruitment strategy. Journal of Medical Internet Research. 2016; 18(8):e200. [PubMed: 27492781]

Reid DJ, Reid FJ. Online focus groups. International Journal of Market Research. 2005; 47:131–162.

Reisner SL, Conron KJ, Scout N, Mimiaga MJ, Haneuse S, Austin SB. Comparing in-person and online survey respondents in the U.S. National Transgender Discrimination Survey: Implications for trans-gender health. LGBT Health. 2014; 1:98–106. [PubMed: 26789619]

Reisner SL, Perkovich B, Mimiaga MJ. A mixed methods study of the sexual health needs of New England transmen who have sex with nontransgender men. AIDS Patient Care and STDs. 2010; 24:501–513. [PubMed: 20666586]

Reisner SL, White Hughto JM, Dunham EE, Heflin KJ, Begenyi JB, Coffey-Esquivel J, … Cahill S. Legal protections in public accommodations settings: A critical public health issue for transgender and gender-nonconforming people. Milbank Quarterly. 2015; 93(3):484–515. [PubMed: 26219197]

Reisner SL, White JM, Bradford J, Mimiaga MJ. Transgender health disparities: Comparing full cohort and nested matched-pair study designs in a community health center. LGBT Health. 2014; 1:177–184. [PubMed: 25379511]

Schneider SJ, Kerwin J, Frechtling J, Vivari BA. Characteristics of the discussion in online and face-to-face focus groups. Social Science Computer Review. 2002; 20:31–42.

Seymour WS. In the flesh or online? Exploring qualitative research methodologies. Qualitative Research. 2001; 1:147–168.

Stancanelli J. Conducting an online focus group. The Qualitative Report. 2010; 15:761–765.

Stewart K, Williams M. Researching online populations: The use of online focus groups for social research. Qualitative Research. 2005; 5:395–416.

Strickland OL, Moloney MF, Dietrich AS, Myerburg S, Cotsonis GA, Johnson RV. Measurement issues related to data collection on the World Wide Web. Advances in Nursing Science. 2003; 26:246–256. [PubMed: 14674574]

Tates K, Zwaanswijk M, Otten R, van Dulmen S, Hoogerbrugge PM, Kamps WA, … Bensing JM. Online focus groups as a tool to collect data in hard-to-include populations: Examples from paediatric oncology. BMC Medical Research Methodology. 2009; 9:15. [PubMed: 19257883]

Thomas C, Wootten A, Robinson P. The experiences of gay and bisexual men diagnosed with prostate cancer: Results from an online focus group. European Journal of Cancer Care. 2013; 22:522–529. [PubMed: 23730947]

Turney L, Pocknee C. Virtual focus groups: New frontiers in research. International Journal of Qualitative Methods. 2005; 4:32–43.

Tuttas CA. Lessons learned using Web conference technology for online focus group interviews. Qualitative Health Research. 2014; 25:122–133. [PubMed: 25192765]

Underhill C, Olmsted MG. An experimental comparison of computer-mediated and face-to-face focus groups. Social Science Computer Review. 2003; 21:506–512.

Walston JT, Lissitz RW. Computer-mediated focus groups. Evaluation Review. 2000; 24:457–483. [PubMed: 11183483]

Walther JB, Burgoon JK. Relational communication in computer-mediated interaction. Human Communication Research. 1992; 19:50–88.

Watson M, Peacock S, Jones D. The analysis of interaction in online focus groups. International Journal of Therapy & Rehabilitation. 2006; 13:551–557.

White Hughto JM, Hidalgo A, Bazzi A, Reisner S, Mimiaga M. Indicators of HIV-risk resilience among men who have sex with men: A content analysis of online profiles. Sexual Health. 2016; 13:436–443.

White Hughto JM, Murchison G, Clark K, Pachankis JE, Reisner SL. Geographic and individual differences in healthcare access for U.S. transgender adults: A multilevel analysis. LGBT Health. 2016; 3:424–433. [PubMed: 27636030]

White Hughto JM, Pachankis JE, Eldahan AI, Keene DE. "You can't just walk down the street and meet someone": The intersection of social-sexual networking technology, stigma, and health among gay and bisexual men in the small city. American Journal of Men's Health. 2016; Advance online publication. doi: 10.1177/1557988316679563

White Hughto JM, Reisner SL, Pachankis JE. Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. Social Science & Medicine. 2015; 147:222–231. [PubMed: 26599625]

Williams S, Clausen MG, Robertson A, Peacock S, McPherson K. Methodological reflections on the use of asynchronous online focus groups in health research. International Journal of Qualitative Methods. 2012; 11:368–383.

Woodyatt CR, Finneran CA, Stephenson R. In-person versus online focus group discussions: A comparative analysis of data quality. Qualitative Health Research. 2016; 26:741–749. [PubMed: 26935719]

Ybarra ML, DuBois LZ, Parsons JT, Prescott TL, Mustanski B. Online focus groups as an HIV prevention program for gay, bisexual, and queer adolescent males. AIDS Education and Prevention. 2014; 26:554–564. [PubMed: 25490735]

Ybarra ML, Mitchell KJ, Palmer NA, Reisner SL. Online social support as a buffer against online and offline peer and sexual victimization among US LGBT and non-LGBT youth. Child Abuse & Neglect. 2015; 39:123–136. [PubMed: 25192961]

Yu J, Taverner N, Madden K. Young people's views on sharing health-related stories on the Internet. Health & Social Care in the Community. 2011; 19:326–334. [PubMed: 21288270]

Biographies

Sari L. Reisner, ScD, is an assistant professor of Pedicatrics at Harvard Medical School and Boston Children's Hospital, assistant professor in the Department of Epidemiology at Harvard T.H. Chan School of Public Health, and an Affiliated research scientist at The Fenway Institute at Fenway Health. His research focuses on health disparitites in LGBT populations, with specialization in transgender and gender nonconforming populations.

Renee K. Randazzo, LPC Intern is the lead clinician for the School-based Program at Out Youth in Austin, Texas. She served as the Community Liaison and research assistant for the Trans Masculine Sexual Health Collaborative at The Fenway Institute.

Jaclyn M. White Hughto, MPH, is a PhD candidate in Chronic Disease Epidemiology at the Yale School of Public Health. Her research interests include identifying the social, spatial and individual-level risk factors driving health inequities in sexual and gender minorities.

Sarah Peitzmeier, MSPH, is a PhD candidate at the Johns Hopkins Bloomberg School of Public Health focusing on sexual health and violence in marginalized populations.

L. Zachary DuBois, PhD, is an assistant professor of Anthropology at California State University Long Beach. His research applies mixed-methodological approaches to

understand social determinants of health and includes biomarker studies of stress & health among transgender men.

Dana J. Pardee, BS, is the director of Epidemiology Projects at The Fenway Institute at Fenway Health. His focus is on the implementations of patient- centered research with trangender and gender nonconforming individuals.

Elliot Marrow, AB, is a senior research assistant at The Fenway Institute at Fenway Health. His interests include community-based research, gender-based violence, and gender diversity.

Sarah McLean, MSc, is the Public Health Projects manager for Latin America at The Fenway Institute. Her research focuses on infectious disease epidemiology, HIV, and LGBT sexual health.

Jennifer Potter, MD, is an associate professor of Medicine at Harvard Medical School and directs women's health programs at both Beth Israel Deaconess Medical Center and Fenway Health in Boston, MA. Her academic work focuses on developing evidence-based, clinical and medical education interventions to improve provision of high value care for LGBT individuals.

Table 1

Addressing Potential Disadvantages of or Limitations to Online Focus Groups.

Potential Disadvantages or Limitations of Online Focus Groups	Strategies Used to Address Potential Disadvantages or Limitations
Lack of nonverbal signs (e.g., body language, facial cues, eye contact)	Pay due attention during analysis to creative uses of text (e.g., punctuation, capitalization, emojis)
Lack of immediacy in responses, forfeit capturing spontaneity	Ensure initial prompts include enough questions that participants provide more comprehensive answers on a topic and are primed to probe one another for clarification, rather than asking a single question and using moderator follow-up probes after participants respond.
Fewer words elicited as compared with face-to-face focus groups (Though similar number of unique ideas as compared with face-to-face focus groups)	Incorporate storytelling into focus group guide to maximize rich data
Less control of the topic and session by moderator	Minimize moderator comments; allow participants to ask one another for clarification and/or interact uninterrupted
Less interpersonal interaction, more challenging to create group cohesion	Include in introduction a statement of encouragement for participants to interact with one another Design first question to allow participants ample opportunity for self-introduction (without identifiers) to facilitate group cohesion
Potential group atrophy	Design online focus group (consider number of participants, duration of group) to minimize potential atrophy

Table 2

Harnessing Potential Advantages or Strengths of Online Focus Groups.

Potential Advantages or Strengths of Online Focus Groups	Strategies Used to Harness Potential Advantages or Strengths
Allows for geographic diversity	Use recruitment strategies to maximize geographic diversity (e.g., online recruitment, partnerships with geographically diverse organizations)
Greater sense of anonymity—may facilitate participation of members from stigmatized groups and/or more intimate data on sensitive topics Enables participation of individuals unwilling to discuss a sensitive topic in-person, increasing the representativeness of the sample	Ensure anonymity is mandatory (pay attention to terms and functionality of online interface; discourage participant disclosure of identifying information)
Flexibility in scheduling for busy or disabled participants	Consider multiple time zones in choosing when to post question sets
Minimizes "leadership phenomena" and social desirability bias	Craft follow-up questions when appropriate to summarize participants' comments, highlight differing opinions, and encourage elaboration
Eliminates time and cost of transcription process	Ensure data are downloadable and compatible with analysis software

Table 3

Sociodemographics of Trans Masculine Focus Group Participants.

	$n = 26^a$	
	M	**SD**
Age range (20–59)	31.5	9.5
	n	**%**
Hispanic/Latino		
Yes	3	11.5
No	22	84.6
No response	1	3.9
Race/ethnicity		
White/Caucasian	15	57.7
Black/African American	3	11.5
Asian	2	7.7
American Indian/Alaskan Native	3	11.5
Multiracial	3	11.5
Current relationship status		
Single	9	34.6
Partnered	17	65.4
Gender identity		
Man	7	26.9
Transgender/trans man/trans masculine	14	53.8
Female-to-male (FTM)	1	3.9
Genderqueer/Gender nonconforming/nonbinary	3	11.5
Agender	1	3.9
Highest level of education		
High school diploma	1	3.9
Some college or university	3	11.5
Undergraduate bachelor's degree	8	30.8
Some graduate school or more	14	53.8
Employment status		
Employed full-time for wages	15	57.7
Employed part-time for wages	4	15.4
Unemployed	7	26.9
Nonstudent	4	57.1
Student	3	42.9
Household income (in US$)		
Less than 20,000	4	15.4
20,000–39,999	11	42.3
40,000–59,999	3	11.5
60,000–79,999	0	0.0

	n = 26[a]	
	M	**SD**
80,000 or more	8	30.8
Homeless or unstably housed in past 12 months		
Yes	5	19.2
No	21	80.8
Region of the United States		
Northeast	8	30.8
Midwest	4	15.4
South	2	7.7
West	12	46.2
Current living area		
Medium to large urban area (50,000 or more people)	22	84.6
Small urban area (2,500–49,999 people)	4	15.4
Distance traveled for routine health care		
Fewer than 10 miles	13	50.0
10–30 miles	8	30.8
Over 30 miles	3	11.5
No response	2	7.7
Access to trans competent health care		
Yes, traveled further than needed to access	12	46.2
No, did not travel further than needed to access	14	53.9

[a]Study sample size $n = 27$, one participant did not complete demographic survey, $n = 26$ reported.