Published in final edited form as:

Cancer Causes Control. 2017 October ; 28(10): 1157–1166. doi:10.1007/s10552-017-0935-6.

A qualitative investigation among men who have sex with men on the acceptability of performing a self- or partner anal exam to screen for anal cancer

Seyram A. Butame¹, Sylvia Lawler², Joseph T. Hicks³, J. Michael Wilkerson², Lu-Yu Hwang³, Sarah Baraniuk⁴, Michael W. Ross⁵, Elizabeth Yu Chiao⁶, and Alan G. Nyitray³

¹Department of Management, Policy, and Community Health (MPACH), School of Public Health, The University of Texas Health Science Center at Houston, 1200 Pressler St., RAS -E903K, Houston, TX 77030-3900, USA

²Department of Health Promotion and Behavioral Sciences, School of Public Health, The University of Texas Health Science Center at Houston, Houston, TX, USA

³Division of Epidemiology, Human Genetics and Environmental Sciences, Center for Infectious Diseases, School of Public Health, Houston, The University of Texas Health Science Center at Houston, Houston, TX, USA

⁴Department of Biostatistics, Coordinating Center for Clinical Trials, School of Public Health, The University of Texas Health Science Center at Houston, Houston, TX, USA

⁵Program in Human Sexuality, University of Minnesota, Minneapolis, MN, USA

⁶Department of Internal Medicine, Baylor College of Medicine Houston, Houston, TX, USA

Abstract

Purpose—Persistent infection with oncogenic human papillomavirus (HPV) is the primary cause of anal cancer, a disease that disproportionately affects men who have sex with men (MSM); however, there is no uniform screening protocol to detect anal cancer. This qualitative study explores whether a self-anal exam (SAE) or partner anal exam (PAE), that includes self-palpation or palpation of a partner's anal canal, is an acceptable and self-efficacious screening test, which will cue appropriate follow-up care in MSM.

Methods—Twenty-four MSM living in Houston took part in four focus group sessions eliciting their responses to a study teaching them to perform an SAE or PAE (SAE/PAE). Participants were asked about the acceptability and feasibility of executing an SAE/PAE routinely. Thematic analysis of session transcripts was used to identify common patterns in participant responses. Results: Overall, participants expressed self-efficacy for performing an SAE/PAE and voiced a preference for being taught the procedure by a clinician. Participants agreed that they would consult with a clinician if they ever discovered an abnormality while performing an SAE/PAE. A lack of knowledge about anal cancer among MSM may present a barrier to adopting SAE/PAE. In discussing their experience of the exams, some participants suggested that it could become a routine practice for them.

Conclusions—Our findings suggest that SAE and PAE, as a screen for anal cancer, are acceptable and feasible to MSM. Future research should explore attitudes and beliefs of MSM, with the aim of improving anal cancer education and understanding of pathologic findings.

Keywords

Gay men; Cancer screening; HPV; Anal dysplasia; Qualitative research

Introduction

Anal cancer is a rare form of cancer in the U.S., with an estimated 7,270 incident cases in 2015 [1]. However, the overall age-adjusted incidence rate of this disease has been rising over the past three decades [2, 3], with some studies reporting a three-fold increase in incidence [2]. Squamous cell carcinoma of the anal canal (SCCA) has been identified as the most common form of anal cancer, accounting for 85% of the total cases [4]. Persistent infection with oncogenic human papillomavirus (HPV) is believed to be a major contributing factor to the development of SCCA and has been linked to 90% of all disease cases [3, 5]. Men who have sex with men (MSM), particularly HIV-positive MSM, is the U.S. sub-population most affected by anal cancer. The estimated incidence of anal cancer among HIV-negative MSM ranges between 5 and 36 per 100,000 person-years (py) of follow-up [6, 7] and for HIV-positive MSM it can be as high as 274 per 100,000 py [8].

MSM in the U.S. are at a high risk of HPV persistence [9, 10] and hence developing high-grade intraepithelial lesions (HSIL) and anal cancer [11]. And despite the availability of vaccines that target HPV types are known to cause the majority of cancer cases and genital warts, the MSM population still remains at risk for the disease [12] due, in part, to a lack of awareness of anal cancer and its relationship with HPV [13, 14]. Furthermore, public health campaigns focusing on HPV vaccinations may bypass the at-risk MSM population, partly because uptake of HPV vaccines among adult males, less than 26 years, is generally low and vaccines are not licensed for persons over age 26 [12, 15]. Thus, adult populations at risk for anal cancer require some other means of detection and prevention. An effective screening modality, like digital anorectal exams, could spur early detection among adult males and MSM in particular [16].

Digital anorectal exams (DARE) provide a means for detecting a number of palpable anal pathologies including condylomas, skin tags, hemorrhoids, and anal fissures. Adult males in particular, can benefit from such a screening modality, as current research suggests that anal cancer may present palpable tumors and condylomas more often in men than it does in women [17]. Additionally, current research suggests that MSM may find the process of self-examining the anal canal as acceptable, given that self-anal swabbing for sexually transmitted infections has been shown as successful [18, 19]. Finally, the full length of the anal canal is relatively easy to access by an individual, making it convenient to palpate [20]; thus, a self- or partner anal exam may be a feasible means of assessing anal health.

Other screening modalities under investigation like anal Papanicolaou (Pap) tests and high-resolution anoscopy (HRA) performed by clinicians [21] may present barriers to public health initiatives targeting early detection and prevention among adults and MSM

specifically. For instance, anal Pap tests and HRA exams may raise issues of cost, embarrassment, and the stigmatization associated with having an exam performed by a health professional [22]. Furthermore, there is a shortage of skilled medical professionals in the U.S. that perform anal Pap tests and HRA exams [23]. Such contextual issues may deter MSM from seeking out necessary preventative care. Hence, self-anal exams, performed individually or with the assistance of a partner, may be a viable option for screening for anal cancer if they promote the detection of early invasive cancers when treatment is very likely to be successful [24, 25]. Before efficacy trials could determine the ability of self-anal exams to reduce anal cancer morbidity and mortality, formative research regarding the acceptability of these novel exams should be conducted.

Consequently, the central objective of this qualitative study was to assess whether performing a self- or partner anal exam (SAE/PAE) was acceptable, self-efficacious, and perceived as safe among MSM living in Houston, TX. We also sought to know if performing an SAE/PAE would trigger intentions to seek subsequent health care services from health professionals, in the event of detecting an anal abnormality like skin tags, hemorrhoids, and fissures in the anal canal. Qualitative research methods provide an opportune means of exploring this issue because they elicit the personal narratives of MSM in a structured environment. Based on anecdotal reports that some men already perform self-anal exams and are able to detect anal abnormalities [26], we conjectured that the SAE and PAE would be acceptable to MSM participating in the study.

Methods

Overview of parent study

This qualitative investigation was derived from a larger study that examined the feasibility of self- or partner anal exams among MSM [27]. The parent study tested the hypothesis that an SAE/PAE performed by lay MSM would have moderate or substantial agreement with a DARE performed by a clinician. The sensitivity of DARE has been estimated at 90% [28]. The investigation further sought to determine factors independently associated with concordance between an MSM SAE/PAE and a clinician DARE. The third aim, and the one from which this study is derived, sought to assess whether lay MSM taught to perform an SAE/PAE would find the procedure to be acceptable, self-efficacious, safe, and whether it triggered intentions to seek further care from health professionals.

Utilizing a stratified recruitment strategy, the authors enrolled 149 single MSM and 26 MSM couples residing in Houston, Texas. Recruitment relied on flyers posted at health clinics in the Houston metropolitan area and face-to-face recruitment by clinicians and case managers from these local clinics. Recruitment also targeted the general MSM community through the use of peer leaders, flyers at gay venues like bars, publicity at mass events, gay print media advertisements, and gay social websites and social apps. Inclusion criteria were that they spoke English, acknowledged having had sex with men in their lifetime, were between 27 and 80 years old, had not had a clinician perform a DARE in the prior 3 months and did not have a current positive diagnosis for any of five possible anal pathologies: condyloma, hemorrhoids, anal fissures, skin tags, or malignant tumors. Participants were enrolled over a 12 month period during 2015 and 2016. The study protocol was approved by the human

subjects committees of all participating institutions and written and informed consent was obtained from all participants.

MSM were taught how to perform a 3-step SAE/PAE by a clinician (Step 1—Put on exam gloves and lube a finger, Step 2—Touch the anal opening and feel for an abnormality, and Step 3—Insert finger up to the second knuckle and try to feel 360 degrees of the anal canal. Persons performing the SAE were also encouraged to switch hands and to feel 360 degrees of the anal canal). The procedure was taught using an anatomically correct pelvic mannequin that allowed palpation of both a healthy anal canal and an anal canal with a 7 mm induration indicative of an anal canal malignant tumor (Kyoto Kagaku Co., Kyoto, Japan) and illustrative diagrams, as per Fig. 1. The participant then received a DARE from the clinician and then examined themselves in private using the SAE/PAE procedure. MSM who joined the study as partners followed the protocol used by single MSM, the exception being that both partners were taught the PAE procedure, both received a digital anal exam by the clinician, and then both performed the PAE on each other (Fig. 1 illustrates the protocol for single MSM participating in the study). The subsequent qualitative study drew focus group participants from this parent study.

Study procedure

Our study invited MSM enrolled in the parent study ($n = 24$) to participate in one of four focus group sessions, taking place over several months in 2015. The focus group sessions each lasted approximately 1 h and all participants received 10.00 USD as compensation for their time. The focus group facilitator (A.G.N.) followed a guide (Fig. 2) that prompted the participants to discuss general perceptions about performing a self-anal exam or performing an anal exam on a partner. They were prompted to discuss the role of the clinician in teaching the SAE/PAE procedure, as well as matters relating to self-efficacy and acceptability of performing the exams. Each session was recorded and transcribed for analysis.

Two co-authors [S.A.B. and S.L.] thematically analyzed the transcripts using NVivo 10 software [29]. Working independently, they began by open coding the transcript from the first focus group, which was followed by axial coding to arrive at the final coding taxonomy. Then coming together, they compared their coding schemas to arrive at a common codebook, which they then applied to the transcripts from the remaining three focus group sessions. Throughout the iterative data analysis processes the other co-authors reviewed the coded transcripts, while providing feedback and comments to the main coders. The analysis sought out common themes expressed by the respondents, like instances where matters of self-efficacy and acceptability of the SAE/PAE procedures were raised.

Results

Table 1 shows the breakdown of the aggregated demographic characteristics of the participants from the four focus group sessions. Focus group participants resembled enrollment in the parent study with regard to age and race but not ethnicity. The ages of participating MSM ranged from 31 to 76 years and the mean age was 54 years. Fourteen of the participants self-identified as black or African American (58%), eight identified as white

or Caucasian (33%), one as Asian (4%) and one as Hispanic or Latino (4%). The results from the clinician's examination of the participating MSM found that only one of 24 participants had an anal abnormality. However, two of the participating MSM reported an anal abnormality when they carried out the SAE in private (data from parent study).

In analyzing the focus group transcripts, we identified seven general themes: Self-efficacy regarding SAE/PAE; Knowledge of anal cancer and HPV; Expectations about the SAE/PAE; Factors influencing SAE/PAE performance; Interactions with clinician teaching SAE/PAE; Norms affecting SAE/PAE performance; and Intentions to regularly perform SAE/PAE and seek health care. We grouped these seven themes into three overarching categories: Individual factors, Environmental factors, and Behavioral factors (Table 2). Factors influencing SAE/PAE performance was the theme most frequently observed in our analysis as it came up 49 times across all four focus groups. Self-efficacy regarding SAE/PAE and interactions with clinician teaching SAE/PAE were the next most frequent themes, given we identified 26 instances where each theme was raised, across the four focus groups. The theme of Intentions to regularly perform SAE/PAE and seek health care was the least frequently raised theme, only being brought up during the first two focus groups. We expound on each theme below and provide sample quotes from participants that illustrate each theme. The sample quotes are unchanged, but we offer some contextual information, where relevant, using square brackets.

Individual factors

Self-efficacy regarding SAE/PAE procedure—Perceptions of self-efficacy have to do with the participant's confidence in his ability to perform an SAE/PAE as taught by the clinician. Most participating MSM seemed confident in their ability to carry out the procedure, with one noting that, "It was easy as pie." During each focus group session, some participants acknowledged how having been taught the procedure in-person by a trained clinician ensured that they learned how to do it with ease. One participant qualified this point by suggesting that, "It shouldn't have been difficult for anybody." For some participants being able to perform an SAE/PAE was a matter of following the instructions and listening carefully to the health professional. One participant noted, "[I] Just followed the instructions. And then we had to practice anyway, so it wasn't—no problems. Not for me anyway." Other participants were more detailed in their assessments, like the participant below who commented on finding the right position to carry out the procedure comfortably:

It's just one of those things that unless it's obvious, you're looking, and you need to be conscious [in reference to palpating for a tumor] ... And then the inspection, the hard part for me was finding the most comfortable position. I need to work on that.

These comments suggest that if taught to perform the procedure properly, MSM are able to develop the self-efficacy necessary to do so.

Knowledge of anal cancer and HPV—During each focus group participants expressed perspectives that were unique to themselves and their experiences with the SAE/PAE procedure that was taught to them. One such issue was their knowledge of anal cancer and HPV. For example, one participant in commenting on the clinician who taught them the

SAE/PAE said, “I was really surprised at the statistical information she [clinician] gave—how prevalent it was”. Another participant noted:

And so I’m fairly well informed about what’s going on, but nothing ever has been broached about the anal cancer or the numbers.

Yet another participant, upon learning of anal cancer risk and the relation to HPV, remarked on how learning to perform the SAE/PAE procedure was educational:

What I got more out of it [participating in the study] was education. Prior to this, I didn’t even know it was a concern. I’d heard of prostate cancer, prostate—and I kind of assumed, like they said, that’s what it was. I wasn’t even aware of anal cancer as a concern I should even have. I was never aware if a test was even necessary for me.

Another participant during the conversation suggested that they had no knowledge of anal cancer being a disease that could be screened for and that it was not something he had discussed with his physician in prior visits:

Let’s back up to the PAP testing [in reference to anal Papanicolaou testing for anal cancer brought up during the discussion]. I didn’t even know they did it on men till I came here. My doctor’s never offered me any. He’s straight, but he treats a lot of—I mean he has a big [group of] gay patients, you know, a lot of them. And so, I was just...he’s never recommend that before. You know, so at least it’s [participating in the study] armed me with some information [for] when I go see him the next time.

These thoughts expressed by the participants highlight their lack of knowledge relating to the matter of anal cancer and HPV.

Expectations about the SAE/PAE procedure—Some participants discussed their expectations about the SAE/PAE procedure. One participant described the thoughts that played out in his mind before the clinician performed the DARE and when he had to complete the SAE on himself stating,

What are you going to find? I hope they [referring to the clinician] don’t find anything. These things go through your mind. I hope they don’t find anything. Oh, please.

Another participant also described his thoughts relating to performing the SAE/PAE procedure and his anxious state when he thought of what the clinician would find compared to what he would find:

I kind of felt almost like you were feeling, but it was—I didn’t want to do it wrong. I didn’t want to—I wanted to do it right, because she said that you were supposed to be feeling for abnormalities and I know I didn’t get that test result back. So, I was kind of like in my head a little bit about—you know—what if I do feel something? You know? And what if I don’t do it right and then she have to tell me—because she said, “I’ll share with you what I found and we’ll compare notes.”

And if I didn't do it right and then she did it right and found something, I don't know [how] I would have taken that.

Environmental factors

Under the broad category of environmental factors, that is issues that we thought of as external to the individual learning to perform the SAE/PAE, we discovered four themes: Factors influencing SAE/PAE performance, interactions with clinician teaching the SAE/PAE, and norms affecting SAE/PAE performance.

Factors influencing SAE/PAE performance—Conversations that took place in the focus groups grappled with issues that acted as barriers and issues that created opportunities for performing the SAE/PAE procedure. These issues were raised most frequently by study participants across all four focus groups. One such issue was participants who struggled to understand what they would be feeling for when they examined themselves:

Well, just to piggyback on what he just said—yeah, I wasn't exactly sure what I was supposed to be digitally feeling for. I mean, it's not like I've never inserted my finger in my anus before, for whatever reason—and I didn't know exactly what I was supposed to—was I supposed to be feeling a bump or a rupture? Because I've known how hemorrhoids felt. So it wasn't clear either, so I would say that.

In this vein, another participant also noted that, “It was difficult for me because I didn't know what I was looking for. I didn't know what I was looking for.” Such comments suggest to us that developing the SAE procedure described in this paper as a screening procedure, will require paying more attention to what participants are to feel for while palpating their anal canal.

Some participants spoke to the potential and perceived lack of cleanliness that might arise from palpating their anal canal, suggesting that it might be an impediment to performing the procedure or influence where the procedure was performed. One participant noted:

I'm a compulsive hand washer, so the less messy [referencing fecal matter] I can get my hands the better. And I think it would be very different if I were doing this in a bathroom, shower, or something like that. But I was enclosed, and we were in the doctor's office, and it was more of a hassle that I didn't want to deal with.

Some focus group conversations brought up the issue of having a partner perform the procedure on them or performing the procedure on a partner. A general response to performing a PAE was apprehension, even among some men enrolled in focus groups as single MSM. Take the one participant who taking part in the conversation as a single MSM and in response to a comment about PAEs suggested that having a stranger carry out a PAE on him would be preferable to having his partner carry out the procedure:

As far as for me, [there's] not too much that [can] embarrass me these days. But just being with another person, I just kind of felt uncomfortable. I guess because the relationship has never been on that kind of level, if you see what I mean. I guess if it would've been with a total stranger for whatever reason, it could have been enjoyable. (laughing) Just keeping it real.

Another participant in commenting about performing a PAE highlighted their discomfort, but acknowledged that it might be due to the fact that there might be larger social influences affecting how men and MSM specifically, engage others about bodies.

My friend and I have been together for eighteen years, and I don't think I've ever inserted my finger on in [referencing inserting a finger into the partner's anus]. I was embarrassed, and I didn't know why I was embarrassed—and I do know now, from listening to this gentleman. It's such a taboo subject [that is as a male discussing your anal health] ... I've been examined by other clinicians. That's no problem for me. But when she left [the clinician], I had to encourage and condone [cajole?] and—just to try the examination. And it was real uncomfortable.

Interactions with clinician teaching the SAE/PAE—Over the course of the focus group sessions, a common refrain was that having a clinician to teach the procedure in addition to having a pelvic mannequin to practice on, before they palpated their own anal canals was crucial to learning the SAE/PAE procedure. For example, one participant noted some initial apprehension to participating in the study, but acknowledged that engaging with the clinician lowered his anxiety. Furthermore, that same participant noted that the presence of the clinician ensured that any questions he had would be addressed immediately:

When she [the clinician] was explain it [the procedure], I thought it was going to be difficult at first because on the model [the pelvic mannequin]—I mean I was lost at first. Am I going to go in too deep or I don't go in deep enough. So I had to do it about three time, but I got it...if she wouldn't have showed me, basically I wouldn't have known anything about it though. So I am grateful for that.

Another participant echoed similar sentiments and even suggested that the clinician alone would have sufficed for him to learn the procedure, especially since the protocol called for the clinician to not only teach the SAE/PAE procedure but perform a DARE on the participant as well:

Even without the model [the pelvic mannequin]—to have someone just do it on you and talk about it though the process—you know how it feels going in—you know how deep she went or whomever your medical provider was. You know kind of, to go all the way around [participants are taught to palpate their anal canal 360 degrees]. Now you have this muscle memory, and you feel much more comfortable doing it on yourself. Oh, this is what it felt like when [the clinician] did it, so I think I did it right.

The presence of the clinician for some participants was crucial because the clinician provided verbal cues and direction that could not be matched simply by reading illustrative diagrams about the best position to take in order to palpate the anal canal properly. One participant noted that the clinician was able to describe what he was to feel for while performing the SAE, “So if you can't bring a model [pelvic mannequin] to everyone, then you say, ‘Feel for something that feels like an M&M.’ It's the first thing into my head.”

Norms affecting SAE/PAE performance—During the focus groups some participants spoke about how certain social perceptions regarding the anus and self-examining the anal

canal can affect performing an SAE/PAE. For example, one participant suggested that boys/-men are influenced by the larger society to view their anus/anal canal as a “taboo” area of the body and this can manifest as a hindrance to properly learning and doing the SAE/PAE:

And I feel like any discussion about the anus or anything to make you feel more comfortable—because it’s always such a taboo area of your body. Just from childhood, I guess they’ll scare you and what have you. So anything that makes you feel more comfortable with it, and discussion with her [clinician], and her talking to you at the same time—it made me feel more comfortable.

Another participant echoed this sentiment when he suggested that because men are not taught to examine their bodies the way some women are, it can be a deterrent to properly learning about anal healthcare:

But if you are taught just like females—it’s two different groups. If you’re taught growing up about your body—to know about your body—except besides just the front part. Everybody knows ... You’ve got two things hanging down that do this or do that. But everybody doesn’t know what can happen in the back [anus].

Behavioral factors

Intentions to perform the SAE/PAE and seek health care—Our analysis showed that during focus, group participants raised themes that broadly focused on behavior. The issues discussed centered on how learning the SAE/PAE procedure could affect intentions to seek appropriate healthcare based on their findings and whether performing the SAE/PAE would trigger seeking out follow-up care. Some participants attending the focus group sessions suggested that they could see themselves performing the procedure regularly as a check. One participant noted that he was comfortable performing it on a monthly basis:

So what I get to do is maybe make it a once a month—like at the first of the month—to go ahead and check, just to be on the safe side, because then I go ahead and know where to go next. And if there’s a possibility that I’m not real sure what I found, I do not hesitate to see my doctor.

Another participant noted that they could perform the SAE/PAE as a part of their daily baths for instance:

If I’m just cleaning, I may forget to check, but when I do remember, I’m like, ‘Oh, that [in reference to the SAE procedure] will take like thirty-seconds. Stick it in. It’s not a big issue for me because ... I’m used to cleaning as part of my daily hygiene regimen.

Such comments suggest to us that the SAE/PAE procedure can be tailored appropriately to a screening procedure that is acceptable to a particular population at risk for anal cancer.

Discussion

The SAE/PAE procedure, as taught to lay MSM, was perceived favorably by our focus group participants. The participants expressed self-efficacy when it came to learning and performing the procedure taught to them by a trained clinician, with some suggesting that

the procedure was easy to grasp. Some expressed apprehension about performing an SAE/PAE and if their findings would match with those of a clinician. Others were concerned about possible physical discomfort and others still, were concerned about cleanliness when it came to performing the SAE/PAE procedure. However, the participating MSM also commented on how the SAE/PAE procedure, taught by a knowledgeable and personable clinician produced a positive experience for them. Additionally, MSM accepted the study's underlying notion that learning to perform an SAE/PAE and then doing such a screening procedure could help detect anal cancer and other anal pathologies. These findings suggest that promulgating the SAE/PAE as a screening method to MSM, would be most effective if trained clinicians spearhead such an initiative.

Our results suggest that having a clinician on hand to not only teach how to perform an SAE/PAE, but to also provide contextual information about anal cancer and its link to HPV, was key to participating MSM having a positive impression of the screening procedure. For example, some participants noted that they lacked awareness of anal cancer, its relation to HPV and that they were able to learn of those issues primarily because of their interactions with the clinician who taught them the SAE/PAE. Furthermore, a screening modality like the proposed SAE/PAE will only be effective if it triggers individuals within the target population to seek appropriate follow-up care from health professionals. Some participants in our study noted that palpating an anal abnormality would trigger a level of apprehension and introspection that, in most cases, would cause them to seek out appropriate follow-up health care.

Our analysis showed that the focus group participants expressed certain themes more frequently than others. For instance, the theme of 'Factors influencing SAE/PAE performance and the theme of 'Self-efficacy regarding SAE/PAE' were brought up multiple times, across all focus groups, more so than other themes. In this paper, we do not make any inferences as to whether a particular theme supersedes another, but the frequency with which certain themes were raised by focus group participants suggests that they are key issue to be considered, as we contemplate the development of an effective screening modality. For instance, the combination of detailed instructions and an anatomically correct pelvic mannequin, on which all study participants practiced palpating a healthy anal canal and an anal canal indicative of a malignant tumor, is reflected in some of the themes. Some participants acknowledged that they were just able to follow the instructions and others indicated that they knew what to feel for because of the mannequin.

The focus group results described above should be interpreted in light of certain study limitations. Most importantly, the efficacy of the SAE/PAE procedure for earlier detection of anal cancer tumors is unknown, although its feasibility is being investigated by the authors (National Institutes of Health, National Cancer Institute, 1R21CA181901-02, A.G.N.). But only if the exams are found acceptable and feasible should efficacy studies be considered. Also, while we included MSM of different races and ethnicities, educational levels and a wide age range, our findings may not be generalizable. However, we feel these results and our study methodology denote dependability. For instance, in a setting other than Houston, Texas, MSM can be recruited, taught to perform the SAE/PAE by a trained clinician, and their perspectives evaluated in the manner that we have described above. Additionally, our

use of a standard guide to facilitate the four focus group sessions (Fig. 2) supports the confirmability of our findings. In conducting focus groups, the extent to which the perspectives of the participants are not shaped by the facilitator is important and our use of a guide helped enforce this. Our study does have a small sample size of MSM participants who agreed to be in a focus group after agreeing to be in the larger parent study described above. This certainly creates the potential for selection bias. For example, it is possible that only men predisposed to self-screening or pre-disposed to commenting in a positive manner about self-screening joined the study. Nevertheless, with these limitations in mind it still may be worth reporting the contextually-specific perspectives of these lay MSM who were taught to screen themselves for anal pathologies by performing an SAE or PAE. Finally, additional study is needed on the potentially negative outcomes of self-exams used inappropriately, e.g., as referenced by one of the participants who suggested he might do the exam every day.

Future research may wish to explore attitudes and beliefs of MSM regarding the SAE/PAE procedure, with an eye towards developing educational material around anatomy and potential pathologic findings from the procedure. Given how study participants frequently raised the theme of ‘Factors influencing SAE/PAE performance’ and ‘Self-efficacy regarding SAE/PAE’, we feel this is an appropriate next step. Additionally, researchers can investigate how specific subpopulations within the general MSM population, like HIV-positive MSM, respond to the SAE/PAE procedure. Finally, the SAE procedure described has a protocol that is suitable to individual MSM self-palpating their anal canals and is also suitable to MSM palpating the anal canals of their partners. Since our focus group sessions captured the perspectives of only a few MSM in the latter group, future research should explore the partner side of this study more thoroughly.

In attempting to address the incidence of HPV-associated anal cancer among MSM living in the U.S., an option for public health practitioners to consider, is a screening modality that relies on lay MSM examining themselves or assisting their partners in examining their anal canals. Such a modality should be acceptable, be self-efficacious, and trigger appropriate follow-up care when necessary. Our findings from the analyses of focus groups suggest that the self- and partner anal exam described in this study may be one such option available to public health practitioners.

References

1. American Cancer Society. Cancer facts and figures 2015. American Cancer Society; Atlanta: 2015.
2. Chaturvedi AK. Beyond cervical cancer: burden of other HPV-related cancers among men and women. *J Adol Health*. 2010; 46:S20–S26.
3. Nelson RA, et al. Changing patterns of anal canal carcinoma in the United States. *J Clin Oncol*. 2013; 31:1569–1575. [PubMed: 23509304]
4. Johnson LG, et al. Anal cancer incidence and survival: the surveillance, epidemiology, and end results experience, 1973–2000. *Cancer*. 2004; 101(2):281–288. [PubMed: 15241824]
5. American Cancer Society. Cancer facts and figures 2013. American Cancer Society; Atlanta: 2013.
6. D’Souza G, et al. Incidence and epidemiology of anal cancer in the multicenter AIDS cohort study (MACS). *J Acquir Immune Defic Syndr*. 2008; 48(4):491–499.
7. Daling JR, et al. Correlates of homosexual behavior and the incidence of anal cancer. *J Am Med Assoc*. 1982; 247(14):1988–1990.

8. Diamond C, et al. Increased incidence of squamous cell anal cancer among men with AIDS in the era of highly active antiretroviral therapy. *Sexually Transmitted Dis.* 2005; 32(5):314.
9. De Vuyst H, et al. Prevalence and type distribution of human papillomavirus in carcinoma and intraepithelial neoplasia of the vulva, vagina and anus: a meta-analysis. *Int J Cancer.* 2009; 124(7): 1626–1636. [PubMed: 19115209]
10. Nyitray AG, et al. Incidence, duration, persistence, and factors associated with high-risk anal HPV persistence among HIV-negative men having sex with men: a multi-national study. *Clin Infect Dis.* 2016; 32:314–320.
11. National Cancer Institute. [Accessed 15 Oct 2016] SEER stat fact sheets: anal cancer. <http://seer.cancer.gov/statfacts/html/anus.html>
12. Markowitz, LE., et al. morbidity and mortality weekly report (MMWR). Centers for Disease Control and Prevention; Atlanta: 2014. Human papillomavirus vaccination: recommendations of the advisory committee on immunization practices (ACIP).
13. Sacher DM, et al. Knowledge of human papillomavirus and anal cancer among men who have sex with men attending a New York City sexually transmitted diseases clinic. *Int J STD AIDS.* 2012; 23(1):41–43. [PubMed: 22362686]
14. Nielsen A, et al. Awareness of human papillomavirus in 23 000 Danish men from the general male population. *Eur J Cancer Prev.* 2009; 18(3):236–239. [PubMed: 19491611]
15. Newman PA, et al. HPV vaccine acceptability among men: a systematic review and meta-analysis. *Sex Transmit Infect.* 2013; 89(7):568–574.
16. Wells JS, et al. An integrative review of guidelines for anal cancer screening in HIV-infected persons. *AIDS Pat Care STDs.* 2014; 28(7):350–357.
17. Simpson S, Turner R. Four decades of anal cancer in Tasmania, Australia: what do the case data tell us? *Sex Health.* 2012; 9(3):213–219. [PubMed: 22697137]
18. Chin-Hong P, et al. Comparison of patient- and clinician-collected anal cytology samples to screen for human papillo-mavirus–associated anal intraepithelial neoplasia in men who have sex with men. *Ann Intern Med.* 2008; 149(5):300–306. [PubMed: 18765699]
19. Dodge B, et al. Rectal self-sampling in non-clinical venues for detection of sexually transmissible infections among behaviourally bisexual men. *Sex Health.* 2012; 9(2):190–191. [PubMed: 22498165]
20. Daniel WJ. Anorectal pain, bleeding and lumps. *Aust Fam Physician.* 2010; 39(6):376–381. [PubMed: 20628675]
21. National Cancer Institute. [Accessed 26 Aug 2016] NCI News Note: Multi-center anal pre-cancer treatment and cancer prevention study launched in HIV-infected persons. 2015. <http://www.cancer.gov/news-events/press-releases/2015/anchor-trial-launch>
22. Newman PA, et al. Anal cancer screening: barriers and facilitators among ethnically diverse gay, bisexual, transgender, and other men who have sex with men. *J Gay Lesbian Soc Serv.* 2008; 20(4):328–353. [PubMed: 21165164]
23. Darragh TM, Winkler B. Anal cancer and cervical cancer screening: key differences. *Cancer Cytopathol.* 2011; 119(1):5–19. [PubMed: 21319310]
24. Ortholan C, et al. Anal canal carcinoma: early-stage tumors 10 mm (T1 or Tis): therapeutic options and original pattern of local failure after radiotherapy. *Int J Radiat Oncol Biol Phys.* 2005; 62(2):479–485. [PubMed: 15890590]
25. American Joint Committee on Cancer. Anus AJCC cancer staging handbook. In: Edge, SBA., editor. From the AJCC cancer staging manual. Springer; New York: 2010. p. 207–218.
26. Mlakar B. Proctoscopy should be mandatory in men that have sex with men with external anogenital warts. *Acta derma-tovenerologica Alpina, Pannonica, et Adriatica.* 2009; 18(1):7–11.
27. Nyitray AG, Hicks JT, Hwang L-Y, Baraniuk S, White M, Millas S, Onwuka N, Zhang X, Brown EL, Ross MW, Chiao E. A Phase 2 clinical study to assess the feasibility of self- and partner anal exams to detect anal canal abnormalities including anal cancer. *Sex Transm Infect.* in press.
28. Ong JJ, et al. Cost-effectiveness of screening for anal cancer using regular digital ano-rectal examinations in men who have sex with men living with HIV. *J Int AIDS Soc.* 2016; 19(1):20514. [PubMed: 26942721]

29. QSR International Pty Ltd. NVivo qualitative data analysis Software. QSR International Pty Ltd; Cambridge, MA: 2012.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Fig. 1.
Flowchart of clinical protocol for participants of the parent study

Focus Group Self/ Partner Anal Exam

Focus groups: To inform ongoing procedure training and alternate training formats for future studies, the PI will conduct 3* focus groups (1 each for singles, couples; and a combined group) with a total of 20 single men and 10 couples during the first 6 weeks of clinic visits.

The entire group session must be recorded. Also, the facilitator must distribute a sign-in sheet before the group begins to ensure that attendees have already signed a consent form at the clinical visit. People who have not already had their clinical visit cannot participate in the focus group.

Tips for Facilitator:

- Summarize what you think you have heard, and ask if the group agrees. Phrase the same question in a different way.
- Ask if anyone else has any comments on a particular question.
- Ask a follow-up question, e.g.,
 - "Can you say more about that?"
 - "Can you give an example?"
 - "John says X. How about others of you. What do you think?"
 - "How about you, Joe. [Or, "you folks in the corner over there...."] Do you have some thoughts on this?"
 - "Does anyone else have some thoughts on that?" (Look around the room, and make brief eye contact, especially with those who may not have spoken.)

Facilitator Prompts

- Thank people for coming.
- Review the purpose of the group (to gather comments about the self and partner-anal exam, suggestions about procedure training, and alternate training formats like online tutorials).
- Go over the flow of the meeting -- how it will proceed, and how the members can contribute. Lay out the ground rules.
 - Encourage open participation.
 - Encourage responding to each other's comments.
 - Discourage judgments of others' comments.
- Set the tone.
- Make sure that all opinions on that question get a chance to be heard by using the above general tips

*Protocol modified to 4 focus groups during recruitment with 4th focus group being a combined group.

Focus Group Guiding Questions

1. What are your general thoughts about actually doing your own digital anal exams to screen yourself for anal cancer?
2. What are some of your thoughts about the short talk about anal disease done by the clinician?
3. What are some of your thoughts about the model we used to help you learn to feel, or palpate, the anal canal?
4. Can you tell us what you thought about the description and pictures used by the clinician to help you understand how to do a self- (or partner) anal exam?
5. When the clinician did the anal exam on you, he described what he was doing. What did you think about that?
6. Have you ever had a self-anal exam before?
7. And then after the clinician left, you were able to try to do your own self- (or partner) anal exam.
 - a. How did that go?
 - b. What were your other thoughts as you did the procedure?
 - c. Did you feel you were prepared to try it?
8. As part of sex do you finger your own anus or others?
9. As part of hygiene, like during showering, do you finger your own anus?
10. Would you say you were satisfied that you did the procedure well?
11. What were you satisfied about? Why is that?
12. Are there things you were dissatisfied with, that you would like to see changed?
13. Were there things you really didn't like about doing the self- (or partner) anal exam?
14. (If so) What are they? Why is that? How should they change? What kinds of things would you like to see happen?
15. Would those things prevent you from doing it again?
16. Were you anxious about your results from doing the self- (or partner) anal exam?
17. If you did this at home in the future and felt that you found something, how likely would you be to go see a doctor?
18. What are your general thoughts about guys or couples doing their own digital anal exams to screen themselves for anal cancer?
19. Learning how to do the SAE/PAE required you to come here to the clinic. Do you think doing the procedure could be taught in other ways? What are some of those ways?
20. Are there other recommendations that you have, or suggestions you would like to make?

**Tell the participants about any next steps that will occur, if any.
Don't forget to thank the participants for coming!**

Fig. 2.

Focus group facilitator script (Adapted from The Community Tool Box, a service of the Work Group for Community Health and Development at the University of Kansas.)

Table 1Demographic characteristics of focus group participants ($n = 24$)

Characteristics	<i>n</i> (%)
Mean age in years (age range)	54.4 (31–76)
Hispanic/Latino	
Yes	1 (4)
No	21 (88)
Missing	2 (8)
Race/ethnicity*	
White/Caucasian	8 (33)
Black/African American	14 (58)
Asian	1 (4)
Other	1 (4)
Marital status	
Married w/partner	3 (13)
Unmarried w/partner	6 (25)
Cohabitating/living together	2 (8)
Single	13 (54)
Education	
Less than 12th Grade	5 (21)
High school/GED	4 (17)
Some college	8 (33)
Graduated college	3 (12)
Post graduate/professional School	4 (17)
Insurance	
Yes	20 (83)
No	4 (17)
Health care professional DARE result	
Normal	23 (96)
Abnormal	1 (4)
Participant self- and partner anal exam result	
Normal	22 (92)
Abnormal	2 (8)
BMI	
Normal/healthy weight	8 (33)
Overweight	9 (37)
Obese	6 (25)
Missing	1 (4)

* Reported percentages for race/ethnicity do not equal 100 due to rounding

Table 2

Overarching themes identified from thematic analysis of focus group transcripts

Major themes	Sub themes	Theme frequency per focus group			
		GRP-1	GRP-2	GRP-3	GRP-4
Individual factors	Self-efficacy regarding SAE/PAE	11	6	4	5
	Knowledge of anal cancer and HPV	5	6	4	6
	Expectations about the SAE/PAE	8	5	1	1
Environmental factors	Factors influencing SAE/PAE performance	11	16	6	16
	Interactions with clinician teaching SAE/PAE	13	4	5	4
	Norms affecting SAE/PAE performance	1	1	2	1
Behavioral factors	Intentions to regularly perform SAE/PAE and seek health care	3	7	–	–