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## Gay and bisexual men's experiences using self-testing kits for HIV and rectal and urethral bacterial sexually transmitted infections: Lessons learned from a study with home-based testing

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### Abstract

This study investigated the experiences of gay, bisexual, and other men who have sex with men (GBM) conducting HIV and sexually transmitted infection (STI) self-testing procedures. We analyzed mixed-methods data from 11 GBM who self-tested HIV-positive and 1,070 HIV-negative GBM who completed the HIV self-testing and STI self-sampling procedures. Nearly all (99%) reported ease in urine-based STI self-sampling and most (90%) found rectal swab self-collection easy. Most (94%) checked their rapid-HIV self-testing results during the correct window (20-40 minutes), and nearly all (99%) trusted their HIV results. Recommendations for future self-testing procedures are provided based on findings from free-response data.

### Keywords

HIV; sexually transmitted infections; HIV self-testing; HIV testing; men who have sex with men

### Introduction

Gay, bisexual, and other men who have sex with men (GBM) are disproportionately affected by HIV and other bacterial sexually transmitted infections (STIs) compared to heterosexual men in the United States (US) (Centers for Disease Control and Prevention (CDC), 2017a,

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2017b). HIV incidence among the general population is decreasing in the US, but GBM still account for 84% of new HIV infections among males and incidence rates of bacterial STIs—such as chlamydia and gonorrhea—are rising among this population (CDC, 2017a, 2017b). HIV testing is an important entry point into the HIV care continuum or HIV prevention cascade. Individuals who test HIV-positive are entered into the HIV care continuum (Bradley et al., 2014; Gardner, McLees, Steiner, Del Rio, & Burman, 2011), where linkage and sustained engagement in care is key to viral suppression and halting onward HIV transmission upon undetectable viral load (Cohen et al., 2011). Alternatively, individuals who test HIV-negative are considered part of the HIV prevention cascade (Hargreaves et al., 2016; McNairy & El-Sadr, 2014), where interventions can target ongoing HIV testing and prevention options including pre-exposure prophylaxis. Moreover, HIV and STI testing are synergistically linked within prevention efforts because an estimated 10% of HIV infections are attributable to chlamydia and gonorrhea infections (Jones et al., 2019).

GBM have many barriers to clinic-based HIV/STI testing. Concerns about confidentiality and privacy, perceptions of having an STI or engaging in HIV risk, and worries about cultural incompetence were described as barriers to GBM participating in clinic-based HIV/STI testing previously (Malebranche, Peterson, Fullilove, & Stackhouse, 2004; Mimiaga, Goldhammer, Belanoff, Tetu, & Mayer, 2007; Pharr, Lough, & Ezeanolue, 2015; Wong et al., 2012). Individuals seeking to avoid multiple stigmas surrounding HIV, STIs, and same-sex sexual practices can make attending clinic-based testing challenging (Malebranche et al., 2004; Morris et al., 2014; Wong et al., 2012), particularly in publicly funded centers with open waiting rooms that do not allow testing in a discrete and private manner. Moreover, individuals may avoid clinic-based testing because of concerns about provider insensitivity and limited provider competence in working with GBM (Malebranche et al., 2004; Mimiaga et al., 2007). Empowering GBM to engage in HIV testing through home-based strategies could provide men with greater confidentiality and privacy with fewer concerns of stigma and provider bias.

The use of the OraQuick<sup>®</sup> In-Home HIV Test—approved by the US Food and Drug Administration in 2012 for HIV self-testing (USFDA, 2012)—is one mechanism to increase access to testing beyond the clinic setting. HIV self-testing is acceptable to many—including GBM—and accuracy is comparable to provider-assisted testing in clinical settings (Bavinton et al., 2013; Bilardi et al., 2013; Johnson et al., 2017; Krause, Subklew-Sehume, Kenyon, & Colebunders, 2013; Merchant et al., 2017; Sharma, Stephenson, White, & Sullivan, 2014), but research is limited on their use outside of clinical settings. Moreover, STI self-sampling in clinical settings is also feasible (Lunny et al., 2015; van der Helm et al., 2009) and ongoing studies are now incorporating home-based STI self-sampling with samples mailed to a lab for analysis, but little is known about the experiences of GBM conducting these procedures without healthcare provider assistance. Further research was needed to understand HIV/STI self-testing experiences to provide recommendations for future intervention development and study protocols or programs with self-testing components.

## Methods

### Participants

A US nationwide sample of GBM was recruited between April 2014 and October 2014 as part of the *One Thousand Strong study* (Groves et al., 2016a, 2016b). Participants were recruited using a marketing firm (i.e., Community Marketing and Insights), which has a panel of over 22,000 GBM located in the US. Purposive sampling was used for recruitment to ensure adequate representation of same-sex households based on age, race/ethnicity, and US geography. Participants had to report being 18+ years of age, cisgender male, and identify as gay or bisexual to be eligible. Men also needed to be able to complete online surveys in English, have access to a device that could take a digital photo, provide a non-PO Box mailing address to receive the testing kit, and report residential stability (i.e., no more than two moves in the past six months). Having sex with a man in the past year and willingness to complete the HIV/STI self-testing procedures were also required for participation. All study procedures were approved by the Institutional Review Board of the City University of New York.

### Procedures

HIV/STI testing materials were mailed in a discreet box. Participants completed the HIV/STI testing with an accompanying online video that introduced the study and provided instructions for the HIV and STI (chlamydia and gonorrhea only) testing procedures. The video was produced by a professional production company, through collaboration with the research team. The script was developed to be culturally relevant to GBM, included a diverse array of both actors and research staff representing the racial, ethnic, age, and other diversity of the GBM community, and utilized humor to address sensitive issues such as rectal swabbing and urinating in a cup. Video instructional procedures demonstrated: 1) unpacking the HIV/STI testing box upon receipt, 2) the materials and instructions necessary for postal shipping to the STI testing laboratory, 3) urine and rectal STI sampling procedures, and 4) HIV self-testing procedures. A narrator described procedures while an on-screen model performed each one, providing tips and tricks to support successful self-testing.

Chlamydia and gonorrhea lab-based testing was conducted using the Abbott m2000 Real-Time Assay with participant self-collection of urine and rectal swab samples. HIV self-testing was conducted using the OraQuick<sup>®</sup> In-Home HIV Test (i.e., third generation rapid-HIV test), with the testing procedures similarly demonstrated with an accompanying video. The HIV self-testing video also provided visual and printed on-screen instructions for: 1) how the test works (i.e., HIV-antibody testing); 2) the associated window period (i.e., three months); 3) how to self-administer the HIV test; 4) interpreting reactive (positive), non-reactive (negative), and invalid results; 5) what to do if the test came back reactive indicating a potential HIV-positive result, and 6) how to upload a digital photo of the HIV test paddle. The video was about 11 minutes in length and was embedded into Qualtrics survey software. After completing the testing procedures, a post-test survey immediately followed the video and collected mixed-method evaluation data, provided real-time monitoring of HIV/STI testing kit procedure completion, and triggered a trained clinician to follow-up with anyone who self-tested HIV-positive. When laboratory results indicated a positive STI result, men

were called with the results to facilitate treatment follow-up with their local provider or free clinic. Negative STI results were delivered via email.

## Measures

**Demographics and prior HIV testing.**—Participants were asked to report their age, race/ethnicity, educational attainment, income, geographic region of residence determined from postal codes, and prior HIV testing history. Individuals who reported at least one prior HIV test in their lifetime were coded as having previously tested for HIV.

**At-home testing video feedback.**—We asked participants about their testing experiences in an online survey after the demonstration video and subsequent HIV/STI testing. We sought feedback on the at-home testing video with the following question statement: “The video on at-home testing was...” Response categories ranged from 1 (*very useful*) to 5 (*not useful at all*) and were coded as useful if they reported *useful* or *very useful*.

**Ease of HIV/STI self-testing.**—Individuals were asked how difficult the urine and rectal STI procedures were with the following question statements: “The procedures for urine [rectal] STD testing were...” Response categories ranged from 1 (*very easy*) to 5 (*very difficult*). Urine and rectal STI sampling were coded as easy if they reported *easy* or *very easy*. Participants were asked to report when they viewed the result of their HIV test with the following question: “For your HIV test, how long did you wait before you read the results?” Response categories included intervals of ten to eleven minutes (i.e., *less than 10 minutes*, *10-19 minutes*, *20-29 minutes*, *30-40 minutes*, *41-50 minutes*, and *more than 50 minutes*) to facilitate assessment of testing within the correct window (i.e., 20-40 minutes). Individuals who reported ease in urine STI sampling, ease in rectal STI sampling, and checking their HIV test result within the correct window period were coded as not having any difficulty in HIV/STI self-testing.

**Trustworthiness of HIV test result and free-response feedback.**—We asked participants how much they trusted their HIV test results with following question: “How trustworthy are you of your HIV test results today?” Response categories ranged from 1 [*completely trustworthy (I can trust these results)*] to 4 [*completely untrustworthy (I cannot trust these results)*], and individuals were coded as trusting their HIV test result if they responded *somewhat* or *completely trustworthy*. Finally, we asked a free-response question at the end of the survey used for qualitative analysis: “Do you have any additional feedback about the testing you completed today?”

## Data Analysis

Data analysis was stratified by HIV testing result. Both quantitative and qualitative data were analyzed in this mixed-method study. We report descriptive statistics using frequency measures for quantitative data. Bivariate associations between individuals who reported ease in HIV/STI self-testing procedures were compared across demographics and prior HIV testing by chi-squared comparisons and logistic regression for the sample who tested HIV-negative. Data for qualitative analysis of the HIV-negative sample were selected based on whether participants reported difficulty with any of the testing procedures or errors;

however, we report all data for those who tested HIV-positive. Free-response data were analyzed if the HIV-negative participants were coded as having any difficulty in HIV/STI self-testing procedures. The purpose of the free-response data analysis was to identify any issues individuals had with HIV/STI self-testing not captured by the quantitative data—a valid ‘safety net’ method of inquiry (O’Cathain & Thomas, 2004). Thematic analysis (Spencer, Ritchie, Ormston, O’Conner, & Barnard, 2014) of the free-response data was conducted by two analysts through an iterative process of identifying initial themes, recoding after codebook refinement, and extracting representative quotes for evidentiary illustrations of the resulting themes. All coding discrepancies between analysts were discussed and resolved.

## Results

Of the 1,268 GBM who were sent an HIV/STI self-testing kit, 85% ( $n = 1,082$ ) completed the testing procedures with conclusive results. Free-response data from the 43 men who completed the testing procedures but were not enrolled (e.g., samples not received by the lab, inconclusive results) did not meaningfully differ from the enrolled sample and thus were not reported. Eleven participants had reactive HIV test results and were referred to confirmatory testing and counseling via our telephone response protocol. Of the 1,071 HIV-negative GBM confirmed by testing, one participant did not complete the post-test survey, resulting in mixed-method data reported from 1,070 HIV-negative GBM.

### Reactive HIV-Test Result Findings

Of the 11 men who had a preliminary reactive HIV-positive result, ten (90.9%) checked their rapid-HIV self-testing results in the correct window (i.e., 20-40 minutes). Ten (90.9%) thought their results were trustworthy, with six reporting somewhat trustworthy and four reporting completely trustworthy responses. The eleventh person reported their results as somewhat untrustworthy. Results regarding the instructional video and STI self-sampling procedures were similar to the larger sample of men who tested HIV-negative (discussed in detail later).

Limited free response data were available from those who tested HIV-positive, but the two men who provided data had different reactions to the HIV test result. One reported feeling thankful for the testing opportunity. The 39-year-old Latinx man stated: *“Thank you for giving me the courage to confirm something I had suspected for some time but was too scared to face on my own.”* In contrast, another participant reported significant distress, which was indicative from the 61-year-old White man’s response: *“The results are making me sick, and depressed.”* Per the HIV-positive response protocol, all participants who indicated an HIV-positive test on the survey or uploaded a reactive test result were contacted by research staff for a check-in and referral to HIV confirmatory testing and counseling. This check-in was supplemental to the Oraquick<sup>®</sup> materials about counseling and confirmatory testing referrals.

### HIV-Negative Results: Quantitative Findings

Of the 1,070 HIV-negative men who successfully completed the procedures, the majority were White (71.3%) and had a Bachelor's degree or more education (55.7%). Nearly half (46.3%) had incomes at or above \$50,000 annually, and the mean age was about 40 years old (range: 18-79 years). Most (94.2%) had been tested for HIV at least once before in their lifetime, and men were relatively equally distributed across the Northeast (19.0%), Midwest (17.9%), South (35.2%), and West (27.9%). A more complete description of sample demographics is reported in Table 1.

Nearly all (95.6%,  $n = 1,023$ ) men found the self-testing instructional video useful for demonstrating the HIV/STI self-testing procedures. Similarly, nearly all (98.9%,  $n = 1,058$ ) reported that the urine-based STI self-testing was easy, and 89.6% ( $n = 959$ ) found rectal swab self-collection for STI testing easy. Most (94.3%,  $n = 1,009$ ) checked their rapid-HIV self-testing results in the correct window, and nearly all (99.3%,  $n = 1,062$ ) reported trust in their HIV self-testing results. Eighty-four percent of men ( $n = 896$ ) were coded as not having any difficulty in the HIV/STI self-testing procedures based on ease of urine sampling, ease of rectal sampling, and checking their HIV test in the correct window.

In bivariate analyses, geographic location was significantly associated with ease in HIV/STI self-testing. Men in the Northeast had the lowest rates (77.8%) of reporting ease in self-testing (i.e., more men had difficulty in testing in this region) compared to the other regions with ease in self-testing reported by 83.3% or more of respondents; men in the Midwest had the least amount of difficulty in self-testing procedures. No significant differences were found between age, race/ethnicity, education, income, or prior HIV testing on HIV/STI self-testing ease (see Table 1 for complete results).

### HIV-Negative Results: Free-Response Data Findings

We analyzed free-response data from the 174 men (16.3% of the sample) who reported difficulty in one or more aspects of HIV/STI self-testing. Among the 85 respondents who provided free-response text, 21 (24.7%) indicated narrative of an overall positive response to HIV/STI self-testing (e.g., *"Everything was very clear and well-done."* Latinx man, 42 years old), 13 (15.3%) indicated a mixed (i.e., both positive and negative) response (e.g., *"Was an interesting experience and I really had to make myself do it."* White man, 58 years old), 28 (32.9%) a negative response (e.g., *"The video fail[ed] in the middle of the testing, which did not inspire confidence in what I was doing but I moved forward."* White man, 50 years old), and 23 (27.1%) a response not indicating overall impressions of the procedures (e.g., *"Sorry for taking so long to complete."* White man, 33 years old). Three (3.5%) individuals had unanswered questions evident from their text.

**Demonstration video and instructions.**—Men provided mixed responses about the video in free-response data (see Table 2 for representative quotes). Five respondents found the video helpful because, for example, it included information not presented in the printed materials provided to them; without the video, they would have had unanswered questions that could have prevented them from completing the self-testing procedures. Including the video added a level of complexity for at least two participants, though, as one individual

reported difficulty viewing the instructional video on his device and another had trouble with the video freezing throughout. Similarly, ten participants reported some level of confusion and two people found contradictory instructions—between the video, OraQuick<sup>®</sup> instructions, and study pamphlet—and requested a simpler one-page fact sheet about the testing and instructions.

**HIV self-testing procedures.**—Participants reported a mixture of responses to the HIV self-testing procedures (see Table 2), which were categorized into testing anxiety, testing frequency, partner testing, and equipment-related feedback. One reported little anxiety about the HIV test because they were recently tested, perhaps indicating an anticipation of an HIV-negative result stated by another. In contrast, six others discussed anxiety regardless of the frequency of their past HIV testing. Extreme stress and anxiety was specifically reported during the 20 minutes they had to wait for their HIV test result to appear, which led two participants to seek the support of their partner during the HIV self-testing procedures and another to remark about the stress of testing alone. Five men reported equipment concerns about the HIV test kit, which were related to the visibility of the results on the paddle ( $n = 3$ ), exposure of the kit to extreme temperatures ( $n = 1$ ), and excessive packaging for the testing device ( $n = 1$ ).

**Rectal STI self-testing procedures.**—Six subthemes related to the rectal STI self-testing procedures were identified, including difficulty in sampling, discomfort, lubricant needs, swab depth questions, equipment issues, and concerns about fecal matter (see Table 2 for representative quotes). Fourteen individuals expressed some level of difficulty with the self-sampling procedure. Seven explicitly described the procedure as uncomfortable and lubricant was requested and/or questioned by six. Four questioned whether they inserted the rectal swab in far enough for an adequate sample. Equipment issues were reported by five related to missing parts of the testing kit, inadequate labeling, and difficulty sealing the sample in the provided container. Finally, four individuals had concerns about fecal matter contamination of the rectal swab and one suggested additional warning in the instructions.

**Urine-based STI self-testing procedures.**—Few ( $n = 3$ ) responses were found related to difficulty with the urine-based STI self-testing procedures (see Table 2). One participant reported trouble viewing the urine in the sampling tubes to verify the correct amount, and another requested additional warnings and instructions to prevent sample spillage. Finally, one participant had difficulty delineating the test tubes in the self-testing kit inclusive of three different tubes for the HIV, rectal swab, and urine sample.

**General HIV/STI testing procedures.**—General feedback about the testing procedures was provided by respondents (see Table 2). Comments were related to equipment, convenience and speed, anxiety, and future testing outlook. Twelve participants had remarks about the ease of testing, despite this analysis being limited to individuals who expressed some level of difficulty in the quantitative data. Two men specifically mentioned the short amount of time it took to complete the self-sampling and testing procedures, but two others discussed having general anxiety while completing the testing procedures. Finally, one

person mentioned that home-based testing is convenient and could help him engage in testing more regularly.

## Discussion

The overall goal of this mixed-methods research was to understand the HIV/STI self-testing experiences of GBM and provide recommendations for future studies and research. Our evaluation of the HIV/STI self-testing procedures in the *One Thousand Strong* study provides supporting evidence about the ease of GBM completing self-testing procedures as part of an ongoing research study. Nonetheless, several lessons were learned through this mixed-method evaluation. First, participants require the ability to speak to research staff should they experience a high level of distress during testing. A responsive protocol is especially needed for real-time HIV result reporting to allow research staff to follow-up with participants who self-test with a preliminary reactive, HIV-positive result, which our study incorporated. Second, although we found evidence of the importance of multiple pieces of information, we found that participants need clear and consistent instructions supporting the video demonstration to help facilitate HIV/STI self-testing. Incorporating a demonstration video with culturally relevant material was received positively among our sample of GBM, suggesting the beneficial use in future self-testing studies. Third, allowing an option for a lower resolution version of the video could help reduce technological issues experienced by a small number of research participants. Fourth, additional information about the rectal sampling procedures regarding lubricant and rectal swab insertion could remove several of the concerns associated with this procedure in future studies. Providing a card indicating the length needed to insert the swab into the rectum and a warning about the impact of lubricant use on laboratory testing could be especially helpful. Fifth, we did make mistakes in the packing of several boxes given the large volume of kits we sent out, suggesting the need for better quality assurance procedures of testing kit packaging in the future. Sixth, we made every effort to label the various pieces of the testing kit, but we acknowledge that this labeling was more focused on how the lab will analyze the STI samples, suggesting different labeling to help participants with the sampling. Finally, the need for interventions to support participant well-being during the 20 minutes of waiting for the HIV self-testing result is an area for future research.

We hypothesize the overall ease in self-testing procedures to be the result of our added video-based instructions, which were well received by the GBM in this study. Our research supports prior findings about the acceptability of HIV self-testing and the feasibility of STI self-sampling (Bavinton et al., 2013; Bilardi et al., 2013; Carballo-Dieiguez, Frasca, Balan, Ibitoye, & Dolezal, 2012; Johnson et al., 2017; Krause et al., 2013; Lunny et al., 2015; Merchant et al., 2017; Sharma et al., 2014; van der Helm et al., 2009). However, prior research has also indicated that some individuals have difficulty understanding the accompanying rapid HIV self-testing kit's instructional pamphlet in prior research (Medline et al., 2017), suggesting the importance of video-based instructions culturally tailored for the target population.

We did find that most trusted their HIV test result in our sample, contrary to previous findings about doubt in the HIV self-test's accuracy among GBM and STI clinic patients



(Bilardi et al., 2013; John, 2018). It is plausible that perceptions of accuracy are a barrier to HIV self-testing uptake and individuals who completed the HIV self-testing procedures were done because they had positive beliefs about the test. Nonetheless, these findings indicate the need for further supporting interventions during the 20-minute period of the HIV testing procedures because of the distress experienced by some. Although these concerns are similar to what could be experienced during clinic-based HIV testing (Pharr et al., 2015), home-based testing has separate challenges because clinicians and counselors may not be immediately available to respond to participant distress. Even when response protocols are in place, these protocols—including our study's protocol—are often triggered by participant activities (e.g., post-test survey), which might be delayed or avoided during distress. Expanding use of devices that electronically report when devices are opened and trigger clinician or staff follow-up could help overcome these challenges (Wray, Chan, Simpanen, & Operario, 2018). Additional video content (or alternative interventions) could also be used during the testing to support general HIV risk reduction; individuals may be particularly attentive to an intervention while they wait for their HIV test result.

We found GBM reported somewhat more difficulty in the rectal swab procedure compared to the urine-based sampling. However, rectal swab self-sampling is important for STI testing studies and programs with GBM since 84% of chlamydia and gonorrhea would be missed if only urine was tested (Marcus, Bernstein, Kohn, Liska, & Philip, 2011). Expansion of HIV and STI self-testing is needed in combination with other biomedical interventions such as HIV pre-exposure prophylaxis, which could expand access to testing and prevention services to those at higher risk (John, Rendina, Grov, & Parsons, 2017; Siegler et al., 2018).

### Limitations

This study is not without limitations. First, we only assessed the experiences of GBM who completed the HIV/STI self-testing procedures and reported sending samples to the lab for analysis. As such, we are unable to determine barriers to self-testing uptake; rather, the goal of this study was to improve the self-testing experiences among those willing to engage in this procedure. Nonetheless, 94% of GBM screened were willing to engage in HIV/STI self-testing (Grov et al., 2016b). Second, free-response data may not be as nuanced or provide opportunities for follow-up or clarification as done in qualitative interviews, thereby reducing the breadth of responses. However, free-response data collection and analysis is a valid method of qualitative inquiry (O'Cathain & Thomas, 2004). Finally, GBM in this sample were predominately White, generally older (by mean age), and had relatively high socio-economic status, potentially limiting the generalizability of our findings.

### Conclusions

In summary, most GBM who participated in our study reported no difficulty in completing the HIV/STI self-testing procedures. A culturally relevant instructional video was helpful for participants in completing these self-testing procedures, but lower resolution video options and concise written instructions should still accompany the self-testing kit in future studies and programs. Adequate labeling of all materials is important for reducing participant confusion, and the packaging of these kits should undergo quality assurance checks. The development of additional supporting interventions during the 20-minute period when

participants await their HIV self-test result could improve the testing experiences for some. Finally, self-testing studies and programs should conduct real-time HIV result monitoring to provide responsive clinical follow-up to individuals who self-test with a preliminary reactive result or experience other distress to ensure participant safety.

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### Declaration of Interest

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**Table 1**

Demographics of individuals who self-tested HIV-negative and their associations with ease of HIV/STI self-testing (n = 1,070)

Categorical Variables	No Difficulty in HIV/STI Self-Testing Reported				$\chi^2$
	<i>n</i>	Column %	<i>n</i>	Row %	
Race/Ethnicity					0.35
Black	83	7.8	69	83.1	
Latino	134	12.5	114	85.1	
White	763	71.3	639	83.8	
Other/Multiracial	90	8.4	74	82.2	
Education					1.82
Less than Bachelor's degree	474	44.3	405	85.4	
Bachelor's degree or more	596	55.7	491	82.4	
Income					0.20
Less than \$20k per year	213	19.9	180	84.5	
\$20k to \$49k per year	362	33.8	304	84.0	
\$50k or more per year	495	46.3	412	83.2	
Geographic Region					8.58*
Northeast	203	19.0	158	77.8	
Midwest	192	17.9	169	88.0	
South	377	35.2	314	83.3	
West	298	27.9	255	85.6	
Prior HIV testing (lifetime)					0.11
No	62	5.8	51	82.3	
Yes	1,008	94.2	845	83.8	
Continuous Variables	<i>M</i>	<i>SD</i>	<i>OR</i>	<i>SE</i>	
Age (range: 18-79)	40.2	13.8	1.00	0.01	

Notes:

\*  $p < 0.05$ ;

\*\*  $p < 0.01$ .

**Table 2**

## Evidentiary examples of free-response data

**Demonstration video and instructions evidentiary examples**

The video is necessary as there is some information that is not on the printed materials [from OraQuick<sup>®</sup> and the study's complementary pamphlet]. (White man, 60 years old)

The instructional video was the most helpful, but should have included the tip [to clean the rectum first to avoid] fecal matter [on the sampling probe] as well. (Latinx man, 26 years old)

My video kept freezing... I would have been lost [without] the printed instructions. (White man, 65 years old)

[I] would've preferred that all the instructions/tips/helpful hints were included on one sheet of paper [because I] kept going back and forth between pieces of paper to make sure I covered everything, which made me a little nervous and frustrated. (Black man, 33 years old)

The instructional video was awesome. You guys are so funny. Right on! (Black man, 29 years old)

**HIV self-testing evidentiary examples**

I had bloodwork done a month ago. I was not too worried about the results of the HIV test. (Latinx man, 26 years old)

It is always very stressful the 20 minutes wait for the results on the HIV test. (Latinx man, 50 years old)

I had never done an HIV home test before, and as they say the 20-minute wait was the longest 20 minutes... My partner was sitting next to me as we were waiting for the results. (White man, 52 years old)

The only concern I have with this [test kit] was the line indicating the result was very faint! ... The line was barely visible. (White man, 33 years old)

**Rectal STI self-testing evidentiary examples**

It was difficult for me to insert the swab into rectum. (Multiracial man, 36 years old)

The anal swab was a bit uncomfortable, and I was unsure if I went in far enough. (White man, 31 years old)

All tests were easy to administer but the swab for the rectal test was too flimsy and too dry to insert well into the rectum. (White man, 54 years old)

Any way to have the swab for rectal testing have lubricant? (White man, 45 years old)

I had trouble getting the stick for the rectal swab to break. I had to cut it with scissors. (White man, 41 years old)

I'm concerned about contaminating the rectal swab ... [with] fecal matter. (Multiracial man, 46 years old)

**Urine-based STI self-testing quotes**

It was very difficult to view the level of urine in the test tube. Hence, I couldn't tell whether there was too much or too little urine in the kit. (White man, 69 years old)

Add additional warnings to the training videos about not spilling the fluid in the test tubes. (White man, 51 years old)

I messed up the first test because it was not clear to me which test tube to use [for which sample]. (White man, 63 years old)

**General testing feedback evidentiary examples**

I think the whole procedure was very easy to do, took very little time, and was an essential tool. (White man, 36 years old)

There was no pipette or bio-hazard bag included in my test kit... but I didn't let that stop me from participating. (Latinx man, 43 years old)

I think that on average it took me 35 minutes to complete all the tests, including the time waiting on the HIV test. Now that I know the procedure, the next time I have to take these tests should go quicker and easier. (White man, 33 years old)

It was absolutely nerve wracking to take all of these [tests] alone. It doesn't matter how many times you have it done, it's never easy. (White man, 34 years old)

I like the convenience of home testing. I'm more apt to do it regularly. (White man, 57 years old)