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Needs Assessment HIV Testing Among MSM

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&

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Abstract

Background: In order to reduce the number of people unaware of their HIV diagnosis and to encourage regular testing, it is important to have testing facilities that fit the need of their users. A first step towards reaching optimal testing conditions is to investigate the needs, specifically among high-risk groups such as men who have sex with men (MSM). The needs of MSM for HIV testing, and why they prefer certain test facilities are largely unknown. In the present study, we aim to fill this void with a needs assessment.

Methods: This study was a web-based survey, published on several (gay) websites exploring testing behavior and testing needs. Needs were measured with 21 facility characteristics, stratified for MSM who never or ever tested, further divided in irregular tested or regular tested.

Results: A total of 179 MSM aged 16 to 70 years completed the survey of whom 13.4% never tested for HIV. Of the ever tested MSM 53.5% was irregular tested. Never tested and irregular tested MSM had significant lower test intentions than regular tested MSM. Never tested MSM have higher needs for testing in weekends, anonymity, privacy and choosing the type of test compared to ever tested MSM. Irregular testers have higher need for choosing the type of test and less need for 24/7 accessibility of the facility compared to regular testers. The STI clinics are the preferred test location amongst all MSM.

Conclusions: Testing facilities in the Netherlands work well, as the never tested group is small. However, there are some improvements that can help changing the consistency with which MSM test and further reduce the group of never and irregular testers, who have been at risk of acquiring HIV.

Keywords: MSM, HIV testing, Needs, Intention to test

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Introduction

In the Netherlands the first 90 of the 90-90-90 target, having 90% of all people living with human immunodeficiency virus (HIV) diagnosed has almost been reached (UN AIDS, 2014). The target for 2020 is to have 90% of all HIV cases diagnosed, to have 90% of those people in healthcare, and to have 90% of those people treated to the point of having an undetectable viral load. Presently, an estimated 88% of the people in the Netherlands living with HIV is aware of their diagnosis (van Sighem et al., 2015). Despite being within range of the target, there is still a group of 12% with an unknown HIV status. The largest group at risk in the Netherlands is men who have sex with men (MSM). In 2014, 68% of the newly diagnosed HIV infections were found among MSM (van Oeffelen, 2015).

Diagnosing people with HIV is important, as it is estimated that 90 percent of the new infections are transmitted by people unaware of their diagnosis (Bezemer et al., 2010). Moreover, early diagnosis of HIV results in better health outcomes, and ultimately in decreases in HIV transmission. In other words, the sooner HIV is diagnosed and a treatment is received the better (Chesney & Smith, 1999). In order to reduce the number of people unaware of their diagnosis and to encourage earlier diagnosis, it is important to motivate testing by for example removing testing barriers, and thus have testing facilities that fit the need of their users.

Therefore, a first step towards reaching optimal testing conditions is to investigate testing needs, specifically among high-risk groups such as MSM. Currently, the needs of MSM for HIV testing and why they prefer certain test facilities are largely unknown (De Wit & Adam, 2008). In the present study, we aim to fill this void with a needs assessment.

MSM and HIV testing

Van Sighem and colleagues (2015) have estimated that in the Netherlands, approximately 11,500 MSM are living with HIV, of whom 12% with an undiagnosed HIV infection. Other researchers using a different method, estimated this number to be even higher, approximately 15,590 MSM and 31% undiagnosed (Op de Coul et al., 2015). Although these different numbers indicate that it may be difficult to estimate the exact amount of MSM who have HIV without knowing it, regardless of the exact number it is important that this group get tested and diagnosed. Therefore, STI AIDS Netherlands developed a strategy to detect these undiagnosed MSM, by focusing on several prevention strategies, including 'more and easier testing' (SOA AIDS Nederland, 2013).

The strategy concerning sexually transmittable infections (STI's) and HIV among MSM in the Netherlands in 2013-2018 mainly aims at timely testing and earlier treatment to improve health and reduce transmission. This strategy includes HIV testing guidelines for MSM. The advice is to test twice a year, in order to be aware of your own HIV status, and to detect infections in an early stage (SOA AIDS Nederland, 2013). Nevertheless, it seems that this testing guideline is not achieved. Only an estimated 16% of MSM test two times a year and 35% tests once a year (Vriend et al., 2015). Testing irregularly or not at all could result in late diagnoses among MSM. This is evident from the estimation in the study of van Sighem and colleagues (2015), indicating that 29 % of the undiagnosed MSM has been infected for less than a year, 54% has been infected for one to five years and 16% has been infected for more than five years.

Thus, to reduce the number of undiagnosed MSM and lessen the time between infection and diagnosis, the needs for HIV testing have to be clear. In the current study the propose is that the needs of MSM differ, depending on their testing regularity, and experience with HIV tests.

Therefore, the existing test facilities and their (dis)advantages and the assessed needs of MSM will be discussed.

HIV testing facilities and needs

In the Netherlands, several facilities for HIV testing are available (Aids Fonds, 2016). Of the MSM who tested HIV-positive in 2014, 42% tested STI clinic, 31% at a hospital, 19% at a general practitioner (GP), and 8% used other facilities(van Oeffelen, 2015).The facilities where most people test are the GP and STI clinics that are specialized in municipal health services (van Oeffelen, 2015). The study will focus on four facilities: GP, STI clinic, Testlab and self-tests. Besides this test there are other facilities to test, such as hospital or outreach test, but they will not be discussed in this study.

A GP-appointment can be planned within a week, which is fast compared to STI clinics. In practice, the average waiting time for an appointment at the STI clinic is up to a month. Waiting lists are a limitation of the availability of the test facility. In addition, both facilities have limited opening hours, which is a limitation of the accessibility. An advantage of the GP might be the familiar environment and personal contact. At the STI clinic, the advantage might be that testing is anonymous. At both facilities, HIV is tested with blood tests, where blood samples are drawn and analyzed at a laboratory. The test result is known and communicated within a week. At the STI clinic, it is also possible to do a quick test, whereby the result is known within 20 minutes. There is a difference in payment between the testing facilities. The costs of the test at the GP are part of the compulsory excess. At the STI clinic, MSM test free of charge.

Remarkably, the majority of MSM test at the GP and STI clinic, while these characteristics (waiting times and limited opening hours, limitations of availability and accessibility), have been shown to be barriers to testing (Deblonde et al., 2010; Dowson, Kober, Perry, Fisher, & Richardson, 2012). Thus, do Dutch MSM just deal with the limitations or do

their needs differ from the needs of MSM in these studies? Or could testing behavior, maybe more regular by a larger proportion of Dutch MSM, further be improved by increasing the accessibility and availability of the test facilities (e.g. no waiting lists, broader opening hours, and lower costs at the GP).

Other available test options, such as online testing, are not restricted by barriers such as waiting lists and opening hours, and therefore might be more fitting to the needs of MSM for testing. One of the options is 'Testlab' (MantotMan, 2015). Testlab is a new testing facility for MSM. On this website, a laboratory form is available to download. With this form, someone can go to a connected laboratory to get tested, by giving a blood sample. The test result is communicated on a restricted page of the website, and the test is available free of charge for MSM (MantotMan, 2015; Aids Fonds, 2016). For now, Testlab is available in Amsterdam, Rotterdam-Rijmond, Haaglanden, and Regio Noord. The test facility aims to make HIV testing easier and provide a better fit to the needs, by offering a test that is anonymous, free of charge, and available at any time (MantotMan, 2015). A barrier of Testlab is the limited availability. MSM might have a need for this testing option throughout the Netherlands.

Finally, there are self-tests that can be performed at home. The result is available immediately (i.e., comparable to pregnancy tests). Research shows that it is hard to use the test appropriately, because it requires a deeper understanding of how the test works. When not using the test correctly, the test might give a false outcome (Schnall, John, & Carballo-Dieguez, 2015). Due to their unreliability the tests are usually discouraged (Granade, Parekh, Phillips, & McDougal, 2004; Pai et al., 2012). Self-tests, however, are still in development. The first HIV test that is reliable, is 'OraQuick,' which is an oral swab test that does not require blood

(Granade et al., 2004), but this test is not yet available in the Netherlands. Advantages of self-tests are that the test can be taken at anytime, anywhere, and is completely anonymous.

Due to the large difference between these four testing options and their (dis)advantages MSM might choose different testing options. In addition, some MSM might have different needs than others. Therefore, it is useful to study testing behavior and perceived barriers more in depth based on a behavioral theory.

HIV testing behavior and needs

The Theory of Reasoned Action Approach (TRAA) is a useful general model for analyzing determinants of behavior, that has served as a base for several HIV prevention efforts and explaining health risk behavior, which makes it valuable for exploring HIV testing behavior and needs (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Fishbein, 2008). TRAA is shown in Figure 1 and is an integrative model that combines the theory of reasoned action (TRA), the theory of planned behavior (TPB) and environmental determinants (Ajzen & Fishbein, 1980; Fishbein, 2008)

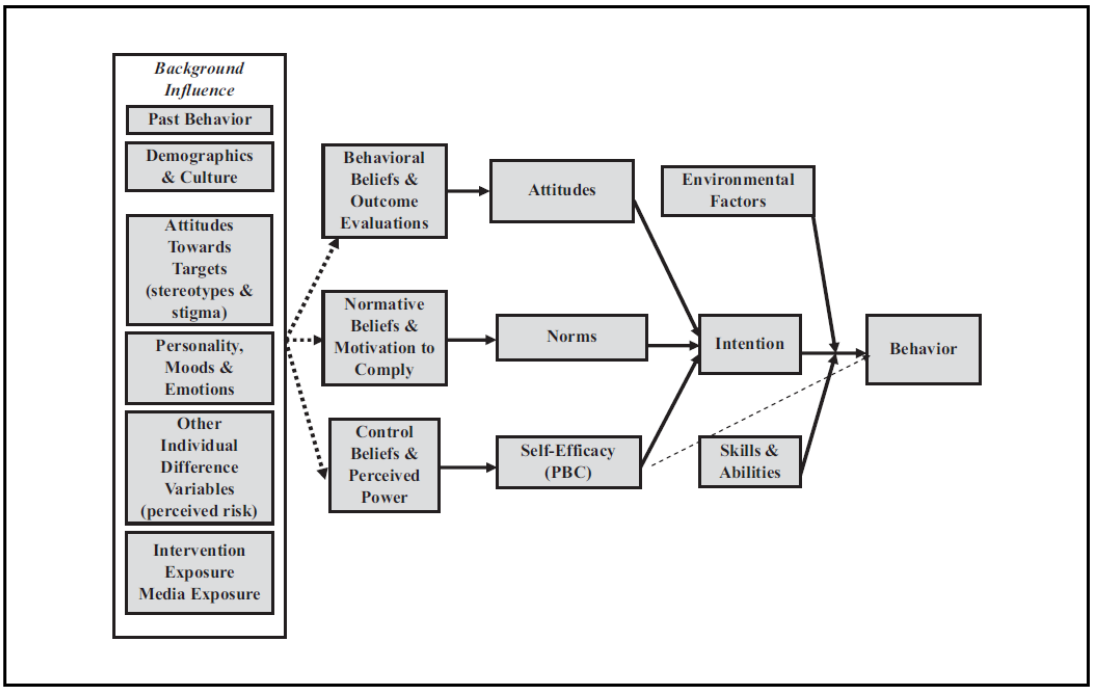

Figure 1:Theory of Reasoned Action Approach (Fishbein, 2008)

The main influences on behavior, as seen in Figure 1, are intentions, skills and abilities, and environmental determinants. In this study, the focus will be on intention to test and the environmental determinants, to investigate the needs of MSM and the relation to test behavior. Notably, the environmental determinants we already described in combination with the test facilities, and were barriers of availability (e.g. waiting lists) and accessibility (e.g. limited openings hours) of the test facilities.

Intention is the willingness and readiness to perform a particular behavior and is determined by attitudes and beliefs about HIV and HIV testing, social norms and self-efficacy to perform a HIV test (Fishbein, 2008). Intention is the most proximal determinant of behavior, which makes intention a main predictor of behavior (Brug, 2007). However, intentions do not always translate into action, so some people have the intention to be tested, but do not actually get tested. This phenomenon has also been coined as the intention-behavior gap (Sheeran, 2002). Even testers with good intentions can be held back from testing by perceived barriers, such as risk perception, fear for a positive test result, stigma and environmental barriers (Deblonde et al., 2010; Dowson et al., 2012; Mikolajczak et al., 2006).

In the next paragraphs, different testing habits will be explained by intention and the different determinants that influence intention. Therefore, four different groups of testers will be used: ever tested, never tested, regular tested and irregular tested concerning intention.

A study in England found that intention influenced testing behavior of MSM (Knussen, Flowers, & Church, 2004). Specifically, the intention to test was influenced by previously taken tests, higher number of sexual partners, being aware of their risk and perceived social norm for HIV testing (Knussen et al., 2004). These determinants increase intention and are comparable to the determinants that influence intention in the TRAA. Therefore, we would expect that MSM,

who already do regular tests, had more sexual partners, perceived that their own sexual behavior had been risky and perceived a stronger norm for testing. For this group, it is important to investigate whether the current testing facilities fit their needs already, or do they deal with current facilities despite having other needs?

There is another group of MSM, who have tested in the past, but this behavior has not become regular testing behavior. MSM that took a HIV test at some point (recently or long ago) but do not test regularly, might be MSM that perceive barriers for HIV testing, were not satisfied with the test, or are unaware of their own (current) risk for a HIV infection (Dowson et al., 2012; Knussen et al., 2004). Therefore, the expectation is that MSM with intention, but do not test regularly behave less risky, meaning have fewer casual sex partners, less unprotected anal intercourse (UAI) and do not see themselves at risk for getting HIV. The propose is that these MSM might become regular tested, if the barriers are reduced, or they are made aware of their risk, and increase social norms for testing.

A group of MSM will have never been tested. Studies showed that these MSM are mainly younger, have a regular partner, are not aware of their risk, have no anal intercourse (AI), have less social engagement (including being less out) or living outside of large metropolitan areas (den Daas, Doppen, Schmidt, & de Coul, 2016; den Daas, Goenee, Bakker, de Graaf, & de Coul, 2015; Margolis, Joseph, Belcher, Hirshfield, & Chiasson, 2012; Mikolajczak, Hospers, & Kok, 2006). When MSM have intention to test, but do not test the expectation is that, they might have lower self-efficacy, social norm and perceived fear. That might display a need for professional help or anonymity.

Finally, regardless of previous experiences with testing there might be MSM with no intention to test. This lack of intention might be caused by negative attitudes and beliefs about

HIV testing, perceived barriers or negative experiences with HIV tests (Ajzen & Fishbein, 1980; Knussen et al., 2004). Therefore, the propose is that these MSM might have the need for fewer environmental barriers and easier access to facilities, because of the perceived barriers to test. Overall, the expectation is that needs will differ between depending on previous behavior and intentions to test.

Present study

In the present study, the aim is to gain insights into the needs of MSM for HIV testing and what facility they choose/prefer for testing. Explorative we want to know what the needs are in general. In addition, we hypothesize that the needs of MSM differ depending on their past testing behavior, whether testing is habitual or not, and at what facility MSM tested. Therefore, the hypothesize is that there are differences in needs (anonymity, privacy, costs, etc.) and intention to test for never versus tested and regular versus irregular tested MSM. For never tested MSM the hypothesis is that they are younger, have fewer casual partners, behave sexually less risky and therefore have lower intention to test compared to tested MSM. They might have needs for anonymity, privacy and easy access to test facilities. For irregular tested MSM the hypothesis is that they were less aware of their risk, do not feel the needs to test regular and have lower intention to test compared to regular testers. They have needs for less barriers and easy testing. To investigate this, an online survey among MSM will be used. The survey will assess MSMs needs for taking a HIV test by facility characteristics, satisfaction of tested MSM and several psychological determinants related to the TRAA (Fishbein, 2008).

Method

Participants

A Dutch cross-sectional internet survey was completed between March 2, 2016 and April 8, 2016 by 257 respondents. The participants were recruited in cooperation with SOA Aids Nederland and through advertising on several different online media, such as gay.nl and gaysite.nl. In addition, the snowball technique was used by asking respondents after they completed the survey to invite their partners and friends by forwarding the link of the survey.

Participants who indicated that they were younger than 16, women and heterosexual, were directed to another questionnaire or directed to the end of the questionnaire and excluded from this study. In total 14 women, one heterosexual, one man under 16 years and 62 incomplete surveys were excluded.

Survey

The self-reported survey included 38 items and was categorized into six themes containing measures for control, HIV testing behavior, needs for HIV testing, psychological variables, demographic variables and sexual behavior. A full detail of the survey is provided in Appendix 1.

Control questions. The two control questions were "I'm a…" with the answers "man, woman and otherwise, namely" and "To whom do you feel sexually attracted?" with the answer options "Only men, mainly men, to men as well as women, mainly women, only women?".

HIV testing needs. HIV testing needs were measured with nine questions for example, "Indicate how important you find these reasons for doing an HIV test" with six items, "having complaints, warned by a sex partner, concern about assumed risk, new casual sex partner, monitor HIV status regularly and certainty HIV negative" measured on 7-point scales ranging from 1 (not important at all) to 7 (extremely important). The other eight questions were measured

with a 21-facility characteristics on 7-point scales ranging from 1 (not important at all) to 7 (extremely important). For the all facility characteristics see table 4.

HIV testing behavior. HIV testing behavior was measured with eight questions. The first test behavior question was "Have you ever been tested for HIV?" with the answer options "no, yes and I did not have HIV, yes and I have HIV, yes I am still waiting for the test result and I do not know". Based on this question, a routing was applied; MSM who never tested, got four questions about what they hypothetically find important for HIV testing in the future for the four possible test facilities. For example, "Why would you tested at the GP?" with the list of 21-facility characteristics to choose.

The remaining MSM, who had tested for HIV previously, testing behavior were assessed with six items. The questions are about the test behavior and test facilities were they have tested. For example, "Do you test regularly for HIV?" with the answer options "no not regular, yes every 3 months, yes every 6 months, yes every year or other" or "Why were you tested at the GP? Choose the reasons that apply" with the same 21-facility characteristics to choose as for never tested MSM like "Appointment within a week, personal contact with the GP or cost". For the facilities they had tested at, they were asked to rate if they were satisfied with the test on a 7-point Likert scales ranging from 1 (totally not satisfied) to 7 (totally satisfied).

Psychological variables. These variables were divided into five topics. All measures were scored on 7-point Likert scales ranging from 1 (totally disagree) to 7 (totally agree), unless stated otherwise.

Intention to test was measured by three items. For example, "I am planning to perform a HIV test soon" on a 7-point scale from 1 (*no intention*) to 7 (*high intention*). Cronbach's Alpha of the scale was .83.

Attitude was measured by two items measured on a sematic differential with each three sets of bipolar evaluative adjective scale to rank on a 7-point scale. For example, "HIV testing is…" on a 7-point scale from difficult (1) versus easy (7), unimportant versus important and useless versus useful. The Cronbach's Alpha for all six items was .78.

Self-efficacy was measured by four items. The items were related to being able to perform regular tests, the ability to make an appointment for a HIV testing within office hours, motivation to protect oneself from HIV and the ability to start a conversation about HIV testing with the nurse or doctor. The Cronbach's Alpha for all six items was .59.

Social norm included five items. One item about knowing the HIV status of regular partners, one about knowing the HIV status of casual partners, one measured the social support for HIV testing and two concerned the view of friends about HIV testing. Alpha of the scale was .68.

Anxiety was measured with four items. The first two items were about anxiety for blood tests and a positive test result. The other two items were uncertainty about the HIV status and stress of waiting for test results. The Cronbach's Alpha for all six items was .46.

Additional variables. The additional variables were eight variables. These general variables were measured to analyze possible unique contributions to the prediction of the needs.The demographic variables included four items: age, country of birth, numbers of one's zip code as a reflection of the distribution of MSM within the Netherlands and educational level. Sexual risk behavior was measured with four items: number of regular partners, number of casual partners, anal intercourse (AI), and condom use during AI. For example, do you have one regular partner? With the answer options: Yes, yes but more than one or no.

Procedure

The survey was programmed by using 'Easyresearch'. For participants, an online link was available through which the survey could be reached and completed on every device that had internet access (mobile phone, tablet, laptop and computer). Respondents who wanted to participate in the study got a personal link to the survey. First, they read the information about the aim of the study. The participants then filled out the informed consent, subsequently they filled out the survey. After completing the survey, respondents were thanked for their participation. The participants were not debriefed and did not receive any credits or gifts.

Data analyses

Analyses were conducted with SPSS (version 20.0.0.0). Univariable and multivariable regression analysis were used to analyze the characteristics of the study sample. Independent T-tests and Chi-square tests were performed to compare the needs of MSM between different groups. A hierarchical 4 step multiple regression analysis was employed to identify associations between intention to test, TRAA variable, sexual behavior and HIV testing behavior.

A Factor analyses were performed to reduce the large number of facility characteristics into a more meaningful, smaller set of factors and differences between the factors. To investigate the underlying structure of the 21-ifacility characteristics,the facility characteristics were subjected to principal axis factor analysis with varimax rotation.

Results

Study population

The total survey was completed by 179 (*69.65%)* MSM. The mean age of the participants (*N = 179*) was 35.54 years (*SD* = 13.62; range 16-70). A majority of the respondents (80.44%) indicated that they were only attracted to men, 93.85 % was born in the Netherlands, and 69.83% had completed or was highly educated. The mean amount of money MSM were prepared to pay for a HIV test was 21.57€ (*SD* = 23.37*,* range 0 €-100 €), with 18.4% of MSM indicating they did not want to pay for the test. Most of the MSM (63.12%) had one regular partner. On average MSM had 7.13*(SD* = 17.12*)* casual sex partners in the past six months. Of the MSM 93.30% reported AI, of whom 10.18% always had unprotected AI.

Never versus ever tested MSM

The proportion of MSM who never tested for HIV was low (13.41%, *N* = 24), many MSM indicated they did previously test for HIV (86.59%, *N* = 155). Of those who were tested for HIV, 7.09% (*N* = 11) was tested HIV positive, 91.61% (*N* = 142) was diagnosed HIV negative at their last test, and 1.29% (*N = 2*) was waiting for the result of their HIV test at the time they filled in the survey.

MSM tested at 1.3 facilities (*SD*=0.78), 94 MSM (60.65%) tested once or more times at one test facility, 51(32.90%) tested at two different facilities and 10 (6.45%) tested at three or more facilities. In line with the literature of van Oeffelen and colleagues 2015 the majority of 109 MSM tested at a STI clinic, 45 MSM tested at the GP, 36 MSM at Testlab, 5 MSM performed a self-test, and 20 MSM tested at another facility. Notably, satisfaction of testing at the GP (*M* = 5.33, *SD* = 1.82) was significantly lower than at the STI clinic (*M* = 6.14*, SD* = 1.02), and Testlab (*M* = 6.25*, SD* = 1.20); respectively *t*(128) = -7.55*, p* <.01, and *t*(35) = -12.09*,*

$p < 0.1$. Moreover, only 42.23% of MSM that have tested at the GP would go to their GP again for a test. Retesting at the GP ($M = 4.96$, $SD = 2.06$) was significantly lower compared to STI clinic ($M = 6.39$, $SD = 0.99$; $t(24) = -3.09$, $p < .01$). At the STI clinic 82.62% would test again, 94.46% who tested at Testlab would test there again, and 60.04% would test again with a self-test. Of the people who would test at another facility, most chose to test at the STI clinic and of the MSM tested at the STI clinic, 22.93% would change to Testlab.

Never tested MSM were asked where they would do a HIV test, 70.81% indicated that they would wanted to test at the STI clinic, 16.74% by means of a self-test, 8.35% at the GP and 4.21% at Testlab.

Characteristics associated with never been tested for HIV in univariable regression analysis, as seen in Table 1, were age, number of regular partner, number of casual partners in the last six months and AI compared to ever tested MSM. Never tested MSM were, as expected, particularly likely to be younger than 25 years (58.33%), did not have a regular partner, had fewer casual sex partners in the past six months, and have not had AI. In multivariable regression analysis to adjust for the other characteristics, MSM who did not have a regular partner had higher odds to never be tested for HIV (adjusted odds ratio *(aOR)* 5.13, 95% confidence interval *(CI)* 1.15 - 22.97).

Table 1.
Characteristics of ever and never tested MSM in the Netherlands.

	Total N (%)	Ever tested N (%)	Never tested N (%)	OR (95% CI)
Completed questionnaire	179(100)	155(86.6)	24 (13.4)	-
Age (years)				
>40	60(33.5)	59(38.1)	1(4.2)	1
25-40	71(39.7)	62(40.0)	9(37.5)	8.57(1.05-69.69)
<25	48(26.8)	34(21.9)	14(58.3)	**24.29(3.06-192.95)**
Residence				
Amsterdam, Rotterdam, Utrecht	48(26.8)	45(29.0)	3(12.5)	**NS**
Other	131(73.2)	110(70.0)	21(87.5)	
Educational level				
High	125(69.8)	108(69.7)	17(70.8)	NS
Low	54(30.2)	47(30.3)	7(29.2)	
Country of birth				
Netherlands	168(93.9)	144(92.9)	24(100)	NS
Other	11(6.1)	11(7.1)	0(0)	
Sexual preferences				
Only men	144(80.4)	126(81.3)	18(75.0)	NS
Mostly men	30(16.8)	26(16.8)	4(16.8)	
Other	5(2.8)	3(1.9)	2(8.2)	
Regular partner				
Yes	113(63.1)	103(66.5)	10(41.7)	1
No	66(36.9)	52(33.5)	14(58.3)	**2.77(1.15-6.67)**
Number of casual sex partners last 6 months				
More than 6	43(24.0)	42(27.1)	1(4.1)	**1**
2-5	71(39.7)	64(41.3)	7(29.2)	4.59(0.55-38.70)
1	24(13.4)	18(11.6)	6(25.0)	**14.00(1.57-124.821)**
No sex partners	41(22.9)	31(20.0)	10(41.7)	**13.55(1.65-111.46)**
AI				
Yes	167(93.3)	152(98.1)	15(62.5)	1
No	12(6.7)	3(1.9)	9(37.5)	**30.4(7.42-124.54)**
Unprotected AI				
Never	40(24.0)	35(22.6)	5(20.8)	NS
Sometimes	82(49.1)	77(49.7)	5(20.8)	
Often	28(16.8)	27(17.4)	1(4.1)	
Always	17(10.2)	13(8.3)	4(16.7)	

Bold printed statistics differ significantly ($p < .05$).
*High education= tertiary education (ISCED-1997 levels 5 and 6).

Irregular versus regular tested MSM

As most MSM in our sample previously tested for HIV negative (*N*=144) the MSM were divided into those who tested regularly (*N*=67; according to the guidelines to test two times a year (SOA AIDS Nederland, 2013)) and those who tested irregularly (*N*=77;). Irregularly tested MSM, were those who tested less than once a year. Among MSM who had tested, 52.17% (*SD* = 0.89) tested within the last six months. Of regular tested MSM, 53 tested at a STI clinic, 14 at the GP, 21 at Testlab, one by means of a self-test, and 10 at another facility. Of Irregular tested MSM, 49 tested at the STI clinic, 23 at the GP, 14 at Testlab, four by means of a self-test and 12 at another facility.

Characteristics associated with irregular testing behavior in univariable regression analysis were age, and number of casual sex partners in the past six months (Table 2). Irregular testers were particularly likely to be older than 40 years (*42.85 %*). The fewer casual partners' irregular testers reported in the past six months, the higher the odds of being an irregular tester. In multivariable regression analysis, these associations with age and number of casual partners remained significantly associated with testing irregularly.

Table 2.
Characteristics of regular and irregular tested MSM in the Netherlands.

	Total N (%)	Regular N (%)	Irregular N (%)	OR (95% CI)	aOR (95%CI)
Completed questionnaire	144	67(46.5)	77(53.5)		
Age (years)					
<25	34(23.6)	21(31.3)	13(16.8)	1	1
25-40	57(39.6)	26(38.8)	31(40.3)	1.92(0.81-4.58)	2.79(0.95-8.20)
>40	53(36.8)	20(29.9)	33(42.9)	**2.67(1.10-6.47)**	**6.95(2.12-22.81)**
Residence					
Amsterdam, Rotterdam, Utrecht	40(27.8)	18(26.9)	22(28.6)	NS	NS
Other	104(72.2)	49(73.1)	55(71.4)		
Educational level*					
High	100(69.4)	47(70.1)	53(68.8)	NS	
Low	44(30.6)	20(29.9)	24(31.2)		
Country of birth					NS
Netherlands	135(93.8)	63(94.0)	72(93.5)	NS	
Other	9(6.2)	4(6.0)	5(6.5)		
Sexual preferences				NS	NS
Only men	117(81.3)	55(82.1)	62(80.5)		
Mostly men	24(16.7)	10(14.9)	14(18.2)		
Other	3(2.0)	2(3.0)	1(1.3)		
Regular partners				NS	NS
Yes	97(67.4)	41(61.2)	56(72.7)		
Non	47(32.6)	26(38.8)	21(27.3)		
Number of casual sex partners last 6 months					
More than 6	36(25.1)	27(40.2)	9(11.7)	1	1
2-5	64(44.4)	31(46.3)	33(42.9)	**3.19(1.23-7.85)**	**6.70(2.17-20.64)**
1	16(11.1)	3(4.5)	13(16.9)	**13.00(3.01-56.24)**	**33.02(5.70-191.10)**
No sex partners	28(19.4)	6(9.0)	22(28.6)	**11.00(3.39-35.67)**	**22.26(5.03-98.58)**
AI					
Yes	141(97.9)	66(98.5)	75(97.4)	NS	NS
No	3(2.1)	1(1.5)	2(2.6)		
Unprotected AI				NS	NS
Never	34(23.6)	16(23.9)	18(23.4)		
Sometimes	70(48.6)	29(43.3)	41(53.2)		
Often	27(18.8)	19(28.4)	8(10.4)		
Always	10(6.9)	2(3.0)	8(10.4)		

Bold printed statistics differ significantly ($p < .05$).
*High education= tertiary education (ISCED-1997 levels 5 and 6).

Reasons for HIV testing

The most important reason for MSM to perform a HIV test was being warned by a sex partner and the least important reason was having a new sexual partner (see Table 3 for an overview). There were significant differences in importance for reasons for HIV testing among the MSM with different previous testing behavior. MSM who never tested for HIV rated concerns about possible risk behavior, monitoring their HIV status regularly, and felt knowing their own HIV status significantly less important than ever tested MSM, respectively $t(177) = 2.33$, $p < .05$, $t(177) = 4.50$, $p < .01$ and $t(177) = 2.56$, $p < .05$. Similar differences were found between irregular and regular tested for the reasons for HIV testing monitor HIV status regularly $t(142) = 3.71$, $p < .01$ and felt knowing their own HIV status $t(142) = 2.73$, $p < .01$) was less important compared to regular tested MSM. There was no significant difference between the groups for other reasons to test for HIV.

Table 3.
The mean importance scores for reasons for HIV testing and mean scores by subgroup.

	Total N=168 Mean(SD)	Never tested N=24 Mean(SD)	Tested N=144 Mean(SD)	Regular N=67 Mean(SD)	Irregular N=77 Mean(SD)
Having complaints	5.82(1.81)	5.92(1.28)	5.80(1.88)	5.99(1.83)	5.57(1.93)
Warned by his sex partner	6.50(1.23)	6.63(0.65)	6.48(1.30)	6.52(1.26)	6.53(1.34)
Concern about assumed risk	5.97(1.35)	**5.38(1.53)[a]**	**6.06(1.29)[a]**	6.13(1.28)	6.00(1.38)
New casual sex partner	4.75(1.79)	4.71(1.68)	4.75(1.81)	4.99(1.76)	4.60(1.89)
Monitor HIV status regularly	5.53(1.63)	**4.21(1.77)[a]**	**5.74(1.51)[a]**	**6.18(1.18)[b]**	**5.26(1.71)[b]**
Certainty HIV negative	5.57(1.40)	**5.08(1.56)[a]**	**5.86(1.35)[a]**	**6.13(1.09)[b]**	**5.52(1.54)[b]**

Bold printed statistics differ significantly with p<.05 for the comparison between [a] never tested versus ever tested and [b] regular vs irregular.

Needs

Almost all facility characteristics were rated important, as shown in Table 4. Reliability of the test was rated most important, and lowest rated characteristic was advice of friends for testing. Investigating testing needs for the different test-experience groups separately shows some differences (Table 4).

To investigate the underlying structure of the 21-facility characteristics a factor analysis was performed. Five factors (with Eigenvalues exceeding 1) were identified. In total, these factors accounted for 54.01% of the variance in the question. The first underlying factor was quality of the healthcare provider consisting of five facility characteristics about perceived contact with the health care provider, information about sexual risk behavior and care after the test result, with Cronbach's Alpha .72. The second, time consideration consisting of six facility characteristics all about time means, (contact for) appointments, waiting times till appointment, and the time to receive the test results, with Alpha .69. Contextual variables consisting of five facility characteristics and were about the context of the test like anonymity, privacy and the way of receiving the test result, with Alpha .67. Practical conditions, consisting of four facility characteristics, and is all about practical barriers to test like accessibility and availability, with Alpha .59. Reliability of the HIV test considering one item, see Table 4 for all facility characteristics of each factor.

Table 4**.**

Factors by the facility characteristics with mean importance scores by facility characteristics for each group and total of means by factor.

Factor	Facility characteristics	Total N=168 M(SD)	Never tested N=24 Mean(SD)	Tested N=144 Mean(SD)	Regular N=67 Mean(SD)	Irregular N=77 Mean(SD)
Quality of the healthcare provider	Personal contact with care provider	4.82(1.74)	4.83(1.52)	4.88(1.76)	4.84(1.89)	4.79(1.69)
	Expertise care provider	6.21(1.28)	6.25(0.79)	6.22(1.31)	6.10(1.35)	6.30(1.35)
	Friendliness care provider	5.90(1.29)	5.67(1.49)	5.97(1.23)	5.94(1.27)	5.95(1.26)
	Advice sexual risk behavior	4.10(1.87)	4.42(1.82)	4.06(1.85)	4.12(1.78)	3.97(1.97)
	Care after test	5.94(1.35)	5.79(1.10)	5.97(1.36)	5.97(1.17)	5.96(1.57)
	Mean of factor	5.40(1.04)	5.40(0.85)	5.40(1.09)	5.39(1.05)	5.39(1.13)
Time consideration	Appointment	5.63(1.45)	5.46(1.44)	5.59(1.49)	5.70(1.30)	5.61(1.57)
	Within 7 days appointment	5.98(1.43)	6.04(1.16)	5.99(1.44)	6.09(1.31)	5.86(1.60)
	24/7 Phone/online accessibility	4.23(1.99)	4.58(1.71)	4.23(2.02)	**4.55(1.96)[b]**	**3.84(2.05)[b]**
	Without appointment	5.05(1.96)	5.54(1.25)	4.99(2.03)	4.97(2.01)	4.96(2.09)
	Testing in weekend	4.52(2.04)	**5.42(1.44)[a]**	**4.36(2.11)[a]**	4.42(2.06)	4.32(2.14)
	Test result within one hour	4.73(1.64)	5.25(1.33)	4.64(1.63)	4.43(1.69)	4.82(164)
	Mean of factor	4.91(1.25)	**5.37(0.85)[a]**	**4.82(1.30)[a]**	4.89(1.26)	4.76(1.34)
Contextual variables	Anonymity	5.32(1.87)	**6.13(1.30)[a]**	**5.24(1.93)[a]**	5.01(1.93)	5.32(1.92)
	Privacy	5.98(1.56)	**6.38(0.77)[a]**	**5.97(1.61)[a]**	5.72(1.74)	6.09(1.55)
	Type of test	4.24(1.98)	**5.21(1.69)[a]**	**4.10(1.99)[a]**	**3.66(1.86) [b]**	**4.45(2.02)[b]**
	Way of receiving test results	5.47(1.49)	5.67(1.24)	5.50(1.52)	5.18(1.54)	5.66(1.49)
	Advice friends	3.61(1.82)	3.50(1.84)	3.65(1.78)	3.54(1.83)	3.70(1.81)
	Mean of factor	5.29(1.24)	**5.84(0.85)[a]**	**5.15(1.27)[a]**	**4.89(1.28) [b]**	**5.38(1.23)[b]**
Practical conditions	Within office hours on weekdays	5.43(1.57)	5.58(1.28)	5.36(1.63)	5.49(1.36)	5.32(1.82)
	Travel time	5.02(1.75)	5.17(1.58)	5.02(1.76)	4.91(1.84)	5.06(1.74)
	Advice education/advertising	4.18(1.84)	3.83(1.74)	4.19(1.83)	4.15(1.78)	4.31(1.93)
	Costs	5.60(1.58)	5.88(1.33)	5.51(1.66)	5.57(1.70)	5.55(1.54)
	Mean of factor	5.40(1.08)	5.52(0.91)	5.40(1.10)	5.42(1.05)	5.38(1.14)
Reliability of the test	Reliability of the test/ Mean of factor	6.90(0.30)	**6.75(0.44)[a]**	**6.92(0.28)[a]**	6.94(0.24)	6.91(0.30)

Bold printed statistics differ significantly with p<.05 for [a] never tested versus ever tested and [b] regular vs irregular per facility characteristic or total of factor.

Findings showed that MSM who never tested attached more importance to the factor time consideration, $t(177) = 2.59$, $p <. 05$, and contextual variables, $t(177) = 3.19$, $p < .01$, compared to tested MSM. Never tested MSM scored on these factors significantly higher than ever tested MSM. Participants who were never tested found it more important to be able to test in weekends, $t(166) = 2.36$, $p < .05$, to be able to test anonymously, $t(166) = 2.31$, $p < .05$, to be able to test with privacy, $t(166) = 2.20$, $p < .05$, and found the type of test that of importance, $t(166) = 2.62$, $p < .01$, compared to ever tested MSM. The only factor that never tested MSM rated significantly lower than tested MSM is reliability of the test, $t(177) = -2.49$, $p < .05$.

Irregular testers reported a higher importance for contextual variables $t(142) = 2.34$, $p < .05$ than regular testers. Irregular testers found the ability to contact test facilities 24/7 by phone or online accessibility of the test facility significantly less important ($t(142) = -2.11, p < .05$) and the opportunity to choose the type of test significantly more important ($t(142) = 2.45, p < .05$) than regular testers.

Test facilities and needs

Participants indicated which of the facility characteristics determined their choice for that particular testing facility, or which characteristics hypothetically would determine their choice for this facility (if they had not previously tested at this facility). Participants who never tested (at that location) were denominated as unexperienced, to emphasize they might have tested previously just not at that particular facility. MSM who previously tested at the facility were denominated as experienced with the facility. Table 5 shows the results of these ratings compounded for the factors and the facility characteristics.

Table 5.

Absolute count of facility characteristics by facility for experience vs. unexperienced testers and total persons who chose the factor as important.

		GP		STI clinic		Testlab		Self- test	
Factor	Facility characteristics	Exp. N=45 (25.6%)	Unexp. N=131 (74.4%)	Exp. N=109 (62.3%)	Unexp. N=66 (37.7%)	Exp. N=36 (21.3%)	Unexp. N=133 (78.7%)	Exp. N=5 (6.7%)	Unexp. N=129 (96.3%)
Quality of the healthcare provider	Personal contact	24(53.3)ˣ	60(45.8)	31(28.4)ˣˢ	20(30.3)	5(13.9)ˢ	21(15.8)	2(40.0)	25(19.4)
	Expertise	14(31.1)ˣ	47(35.9)	54(49.5)ˣ	25(37.9)	-	-	-	-
	Friendliness	16(35.6)ˣ	43(32.8)	31(28.2)ˣ	16(24.2)	-	-	-	-
	Advice sexual risk behavior	2(4.4)ˣ	14(10.7)	10(9.2)ˣ	6(9.1)	6(16.7)	6(4.5)	0(0)	9(7.0)
	Care after test	9(20.0)	25(19.1)	16(14.7)ˢ	12(18.2)	2(5.6)ˢ	3(2.3)	0(0)	3(2.3)
	Total⌂	38(84.4)ª≈	81(61.8)	66(60.5)ˣ	36(54.5)	10(27.8)≈	25(18.8)	2(40.0)	27(20.9)
Time consideration	Appointment+	21(46.7)≈	43(32.8)	16(14.7)	6(9.1)	19(52.8)*≈	37(27.8)*	1(20.0)	34(26.4)
	Test whenever it suits me	-	-	-	-	28(77.8)*	64(48.1)*	3(60.0)	76(58.9)
	Phone/online accessibility	5(11.1)ˢ≈	22(16.8)	21(19.3)	12(18.2)	6(16.7)ˢ≈	15(11.3)	0(0)	3(2.3)
	Without appointment	-	-	-	-	25(69.4)*	38(28.6)*	3(60.0)	57(44.2)
	Time to test result	11(24.4)ˣ	24(18.3)	31(28.4)ˣˢ	13(19.7)	11(30.6)*ˢ	20(15.0)*	2(40.0)	10(7.8)
	Total⌂	25(55.6)≈	54(41.2)	46(42.2)	23(24.8)	32(88.9)ª≈	68(51.1)	3(60.0)	67(51.9)
Contextual variables	Anonymity	0(0)ˣ≈	7(5.3)	54(49.5)ˣˢ	36(54.5)	28(77.8)*ˢ≈	66(49.6)*	3(60.0)	59(45.7)
	Privacy	3(6.7)	17(13.0)	44(40.4)ˢ	24(36.4)	15(41.7)ˢ	38(28.6)	3(60.0)	32(24.8)
	Type of test	-	-	-	-	4(11.1)	18(13.5)	1(20.0)	22(11.7)
	Way of receiving test results	5(11.1)	14(10.7)	23(21.1)ˢ	14(21.2)	8(22.2)*ˢ	10(7.5)*	0(0)	4(2.2
	Advice friends	2(4.4)	4(3.1)	7(6.4)	3(4.5)	2(5.6)*	3(2.3)*	0(0)	1(0.8)
	Total ⌂	10(22.3)ˣ≈	35(26.7)	83(76.1)ª ˣ	43(65.2)	31(86.1)ª≈	84(63.2)	4(80.0)ª	96(74.4)
Practical conditions	Within office hours on weekdays	38(17.1)ˣ	21(16.0)	23(21.2)ˣ	12(18.2)	-	-	-	-
	Travel time	22(48.9)≈	72(55.0)	46(42.2)*	15(22.7)*	18(50.0)*≈	128(21.1)*	4(80.0)	42(32.6)
	Advice education/advertising	1(2.2)ˣ	3(2.3)	9(8.3)ˣˢ	5(7.6)	5(13.9)ˢ	9(6.8)	0(0)	3(2.3)
	Costs	4(8.9)ˣ	12(9.2)	73(67.0)ˣ	42(63.6)	24(66.6)*	31(23.3)*	0(0)	18(14.0)
	Total⌂	24(53.3)ˣ≈	81(61.8)	92(84.4)ª ˣˢ	47(71.2)	34(94.4)ª ˢ≈	88(66.2)	4(80.0)ª	63(35.20)
Reliability of the test	Reliability	13(28.9)*ˣ	60(45.8)*	70(64.2)ˣˢ	40(60.6)	25(69.4)*ˢ	33(24.8)*	2(40.0)	13(10.1)
	Total	13(28.9)ˣ	60(45.8)	70(64.2)ˣ	40(60.6)	25(69.4)	33(24.8)	2(40.0)	13(10.1)

Exp.= MSM that had experience with the facility, Unexp.= MSM never tested and tested MSM with no experience at the facility.

Appointment+GP=within a week, STI clinic=waiting time until appointment, Testlab and self-test within two days.

*significant (p<.05) difference between Exp. and Unexp of facility.

ˣGP vs STI clinic, ˢSTI clini vs Testlab, ≈GP vs Testlab statistics differ significantly (p<.05) Exp. between facilities.

ª Important factor at the location for exp. >70%.

⌂ Total= absolute number of participants who chose one or more characteristics of the factor.

The facility characteristics did not differ significantly between experienced and unexperienced for GP and STI clinic, with the exception of reliability of the test for the GP was significantly more often chosen by the unexperienced MSM compared to experienced MSM, ($\chi^2(1) = 3.95, p < .05$). Moreover, travel time for the STI clinic, was significantly more often chosen by the experienced MSM ($\chi^2(1) = 6.87, p < .01$) compared to unexperienced. MSM. For Testlab ten facility characteristics differed between the groups. Self-test was not tested because of the small number of participants who had experience with self-testing.

The significant differences between the five factors for MSM experienced with different testing facilities will be investigated, in addition with the underlying facility characteristics, to interpret the differences of the factors. The factor quality of the health care provider was significantly more frequently chosen by experienced MSM of the GP than experienced MSM of the STI clinic and Testlab, respectively $\chi^2(1)=12.12, p < .01$ and $\chi^2(1) = 4.47, p < .05$. The differences in quality of the healthcare provider between experienced GP and experienced STI clinic were caused by the determinants personal contact, $\chi^2(1) = 5.87, p < .05$, expertise $\chi^2(1) = 6.84, p < .01$, and friendliness, $\chi^2(1) = 9.89, p <. 01$, of the healthcare provider. Personal contact and friendliness were more frequently chosen by experienced GP than experienced STI and expertise more frequently chosen by experienced STI clinic than exp. GP.

The factors contextual variables, practical conditions and reliability of the HIV test were significantly more frequently chosen as important by experienced MSM of the STI clinic than experienced GP testers, respectively $\chi^2(1) = 9.29, p < .01$, $\chi^2(1) = 20.80, p < .01$ and $\chi^2(1) = 5.67, p < .05$, mainly by the differences in importance for anonymity, practical conditions by costs and reliability of the test respectively $\chi^2(1) = 23.44, p < .01$, $\chi^2(1) = 4.25, p < .05$ and $\chi^2(1) = 21.23, p < .01$.

STI clinic and Testlab only differed on the factor practical conditions, where the experienced MSM of Testlab chose the factor significantly more often than MSM at STI clinic, $\chi^2(1) = 11.47$, $p < .01$. The difference of importance of the factor between STI clinic and Testlab were caused by the difference of importance for the facility characteristics advice education/advertising $\chi^2(1) = 29.95$, $p < .01$ and no appointment within office hours on weekdays $\chi^2(1) = 14.46$, $p < .01$ more frequently chosen by experienced Testlab than experienced STI.

GP and Testlab differ on all factors, besides the factor reliability of the test. Quality of the healthcare provider was more frequently chosen by MSMS experienced GP compared to MSM experienced Testlab. All other factors were more frequently chosen by experienced Testlab than experienced GP. The differences in importance for the factors of GP and Testlab are mainly caused by the differences in testing methods and not comparable facility characteristics.

Intention to test

Independent of previous testing behavior, intentions to test for HIV were high (*M = 5.00, SD = 1.77, range 1 - 7*). Table 6 presents correlation, means and SDs of the study variables. We report the expected relations among the variables of the TRAA and between the variables of the TRAA and the intention to test for HIV. In addition, the possible influences of the other variables were explored.

Table 6.

Means, SDs, and correlations between study variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Intention															
2. Attitude testing	.35**														
3. Self-efficacy	.25**	.42													
4. Social norm	.39**	.22**	.11												
5. Attitude HIV	-.11	-.02	-.03	-.01											
6. Anxiety	.01	-.06	-.05	.02	.26**										
7. Past behavior	.32**	.42**	.20*	.36**	-.25**	.06									
8. Testing habits	.48**	.16	.17*	.12	-.12	-.12	.19*								
9. Regular partner	.21**	-.04	-.05	-.11	-.23	.13	-.06	.17*							
10. Casual partner	.25**	.12	.11	-.01	-.09	-.42**	-.14	.15	.11						
11. AI	-.18**	-.27**	-.06	-.23**	.14	-.34**	.04	.03	.18	-.09					
12. AI condom	-.17*	-.18*	-.08	-0.14	.11	.19*	-.05	-.01	-.04	-.15	.66*				
13. Age	.04	.03	.22**	.03	-.05	-.15	.19*	-.06	-.05	.19*	-.14	-.15			
14. Sexual preferences	-.13	-.09	-.05	-.17	-.06	-.01	-.14	-.20*	.14	-.04	.20*	.08	0.44		
15. Education	-.18*	-.05	-.04	-.09	.05	.02	-.15	-.03	.06	-.04	.10	.04	-.14	.04	
Mean	5.00	6.15	5.32	4.22	6.52	4.25	1.95	2.40	1.94	7.13	1.07	2.32	35.55	1.24	6.80
Range	1-7	3-7	1-7	1-7	1-7	1-7	1-4	1-4	1-3	0-200	1-2	1-5	17-70	1-6	2-9
SD	1.77	0.91	1.18	1.28	0.79	1.13	0.49	1.15	0.89	17.12	0.25	1.13	13.62	0.58	1.26

**.Correlation is significant at the 0.01 level(2-tailed).

*.Correlation is significant at the 0.05 level(2-tailed).

To test the hypothesis that intention can account for a significant proportion of the variance in test behavior, a hierarchical multiple regression analysis (MRA) with four steps for the whole study population was employed, with intention to test as dependent variable. In the first step with the variables of TRAA, attitude about HIV testing, self-efficacy and social norm, the percentage of explained variance was 15.4%, *F(3,1* with *40) = 8.84, p < .01*, with social norm the only significant beta (Table 7). Experienced social norm increases the intention to test for HIV significantly.

Table 7.
Prediction HIV test intention for TRAA variables and additional variables in a four step hierarchical multiple regression analysis.

		r	beta	beta	beta	beta
Step 1	Attitude testing	.35**	.14	.10	.07	.06
	Self-efficacy	.25**	.14	.09	.09	.09
	Social norm	.39**	.28**	.24**	.27**	.28**
	R^2		.15**			
Step 2	Attitude HIV	-.11		-.04	.03	.04
	Anxiety	.01		.05	.05	.05
	Past behavior	.32**		.02	.03	.02
	Testing habits	.48**		.42**	.39**	.40**
	R^2			.33**		
Step 3	Regular partner	.21**			.20**	.20**
	Casual partner	.25**			.22**	.23**
	AI	-.18*			-.01	-.03
	AI condom	-.17*			.07	.07
	R^2				.42**	
Step 4	Age	.04				-.05
	Sexual preferences	-.13				.06
	Education	-.18*				-.35*
	R^2					.44**

** significant at the 0.01/* significant at the 0.05

Possible influences of the other variables were analysed by selecting variables with a direct relation with intention, and subsequently adding these to the regression. Adding attitude about HIV, anxiety, past behavior and testing habits in the second step to the regression, significantly increased the percentage of explained variance to 32.8%, *F (7,136) = 9.47, p < .01*, with additional testing habits significantly associated with intention to test for HIV.

In the third step sexual behavior was added to the regression and this increased the percentage of explained variance significantly to 41.7%, $F\ (11,132) = 8.59,\ p < .01$, with additional regular and casual partners with significant betas.

In the last and fourth step, demographical variables were added to the regression, such as age, sexual preference and education. This increased the percentage of explained variance significantly to 43.8%, $F(14,129) = 7.19,\ p <.\ 01$. The significant predictors of intention were social norm, testing habits, regular and casual partners.

In line with our hypothesis that never tested and irregular tested MSM had a lower intention to test, we found that intention was significantly lower among MSM who had not tested ($M = 3.68,\ SD = 1.49$) than in tested MSM ($M = 5.23,\ SD = 1.71$, $t(166) = 4.17,\ p < .01$). Lower intentions were also found among irregular testers ($M= 4.38,\ SD= 1.76$) compared to regular testers ($M = 6.20,\ SD = 0.99$, $t\ (123) = 7.77,\ p < .01$).

The variables of the TRAA separately show that there are differences between the subgroups. Attitude about HIV testing was rated significantly lower by never tested MSM ($M = 5.18,\ SD = 1.01$) than by tested MSM ($M = 6.31,\ SD = 0.78$) and irregular ($M = 6.07,\ SD = 0.87$) and regular tested ($M=6.60,\ SD = 0.56$), respectively $t(166) = 6.30,\ p < .01$ and $t\ (142) = 4.19,\ p < .01$. The same was found for self- efficacy, which was lower for never tested ($M = 4.88,\ SD = 1.14$) versus ever tested ($M = 5.39,\ SD = 1.17,\ t\ (166) = 2.00,\ p < .05$) and irregular ($M = 5.08,\ SD = 1.15$) versus regular testers ($M = 5.75,\ SD = 1.10,\ t(140) = 3.58,\ p < .0)$. Social norm only differed significantly between never tested ($M = 3.23,\ SD = 1.19$) and tested MSM ($M = 4.40,\ SD = 1.22,\ t(3) = 4.41,\ p < .01$).

Because of these differences in intention and the determinants of the TRAA the regression analysis was also performed separately for the different subgroups, with the same

determinants as depicted in Table 7. The pattern of results of the regression for never tested MSM differed compared to the regression of the whole study population, and showed that intention to test for HIV, in step four, was strongly associated with attitudes about HIV testing (*beta = .59, p = .017*), and having a regular partner (*beta = .50, p = .029*), the percentage of explained variance was 76.0%. In contrast to the whole study population in this analysis, the social norm was not significant. For ever tested, regular and irregular tested the results did not differ compared to the regression of the whole study population. The regression for regular testers showed no significant changes and determinants.

Discussion

The aim of this study was to gain insight into the needs of MSM for HIV testing and what facility they choose/prefer for testing. The results confirm that the selected facility characteristics indeed play an important role for HIV testing. The findings show that, as hypothesized, needs differ depending on past testing behavior, whether testing is habitual or not, and at what facility MSM tested. Therefore, the discussion will focus on the needs of the various groups separately, namely never versus ever tested and irregular versus regular tested. The needs of the testers and how that suits to the test facilities will be discussed. In addition, differences in intention between the various testers will be discussed, since the past test behavior is decisive for the differences in needs.

Needs never versus ever tested

MSM who never tested for HIV prefer testing facilities where they can test in weekends, anonymity and privacy are guaranteed and where they have the possibility to choose the type of test more so than MSM who have tested before. They rate the reliability of the test as less important than tested MSM, which might be caused by no experience with testing and the lack of

knowledge about unreliable tests. Similar high importance for never and ever tested MSM were found for expertise and friendliness of the healthcare provider and an appointment within seven days. Therefore, never tested MSM have a need for easy access to the test facilities even in weekends and testing at any time they want to test.

Based on these needs the STI clinic is assumed to be a good fit to the needs of MSM for the expertise, friendliness, anonymity and privacy. In addition, this corresponds to the choice of never tested MSM. However, barriers to test at the STI clinic might be the waiting lists for an appointment; therefore Testlab might be an even better fit, although there is no personal contact with a the healthcare provider when testing via Testlab.

Needs irregular versus regular tested

Irregular testers rate the opportunity to choose the type of test, similar to MSM who never tested, as more important, compared to regular testers. Irregular testers also have need for privacy, opportunity to choose the type of test, expertise of the healthcare provider and reliability of the test. The assumed best fit to their needs is the STI clinic, because of the privacy, expertise and reliability of the test, or Testlab, because of the privacy and reliability of the test. The fit with current facilities is important, as irregular testers with good fit to facilities might become regular testers over time.

In contrast, regular testers do not value context as highly as never and irregular testers, they do not express to need the opportunity to choose a test, and facilities that are open on weekends, anonymous or private. Possibly, experience with testing removes practical barriers, such as limitations in accessibility and availability. All facilities fitted their needs one way or another, which might make them regular tester. Therefore, the standard facility to test should be the GP for regular tester. Future research should focus on investigating if the test facilities

actually fit their needs or if they just deal with the barriers. By knowing that facilities might could improve, that testing will be easier for regular testers.

Intention to test

The differences in importance for the different facility characteristics and the influence of whether MSM test or not can be explained by the variances and influences of intention to test. As hypothesized variances in attitude, social-norm, self-efficacy and test regularity can account for a significant proportion of the intention to test. In finding, the relevant determinants that influence intention to test for MSM in general, the TRAA was helpful. Fifteen percent may be considered as a relatively small amount, however, this is quite a deal considering the amount of possible variables that can predict intention, for example genes, risk perception and so on. Adding additional variables, the explained variance was almost three times as much. The variables contribute to the explanation of the variance in intention. A part of the variance still leaves unexplained. This is not contrary to expectation, because the study did not capture all variables that predict intention. One important variable might be risk perception that has not been taken into account. Risk perception is the judgment or evaluation of a situation of risk based on beliefs, attitudes or experiences (Brug, 2007). The extent to which MSM perceive risk can contribute to intention to test (MacKellar et al., 2005). Therefore, in future research risk perception should be added to the research to investigate if risk perception increases the explained variance of intention.

For the whole sample MSM with stronger intentions to test were regular tested. They were mainly 25-40 years. They behaved riskier, which is reflected by having more casual sex partners and more unprotected anal intercourse (UAI) compared to irregular tested. In addition, regular tested perceive a social norm for testing. Stronger intentions to test are formed by sexual

risk behavior and perceived social norm for testing. It is to be expected that higher intention to test ensured that they are less affected by testing barriers.

Irregular testers' intention was higher than never tested, but lower than regular tested MSM; they were mainly older than 40 years and behaved sexually less risky compared to regular tested, which was reflected by having fewer casual partners compared to regular tested. Less risky behavior lowered their intention to test, which could have explained their irregularly testing. The assumption is that they have an intention to test, but do not test because they might think they are not at risk, so that they do not have to test. However, less risky behavior does not mean that they are not at risk and test regularly. Based on the strength of their intentions compared to never tested MSM, but not testing their testing behavior might be influenced by an intention-behavior gap. By increasing awareness about their risk, the intention to test might increase and irregular testers might become regular tester's overtime. Future research is needed to investigate this.

The less risky sexual behavior is also applicable for never tested MSM. Their intention to test was the lowest compared to irregular and regular tested; they were mainly younger than 25 years, had no regular partner, fewer casual partners and were more likely to never having had AI compared to tested MSM. That is in line with the findings in previous studies concerning the determinants of never tested MSM (den Daas et al., 2016; den Daas et al., 2015; Margolis et al., 2012; Mikolajczak et al., 2006). In addition, they had lower concerns about their assumed risk for getting HIV, found it less important to be certain about their HIV status and felt no need to monitor their HIV status compared to tested MSM. Because of their less risky behavior, it may be assumed that they feel there is no need for them to test if they do think they did not put themselves at risk (Knussen et al., 2004). However, performing less risky sexual behavior does

not mean that never tested MSM were free from risk. Besides that, attitude about HIV testing is an important influence of intention of never tested MSM. They had a significantly less positive attitude about HIV testing than tested MSM, which may affect their final behavior not to test. They need to be aware about their actual risk and change their attitude about testing to increase intention to test (MacKellar et al., 2005).

To summarize, there are major differences in needs and intention among the various testers, so that some facilities fitted the needs better than other facilities. To change or improve testing facilities and intention to test, practical implications for reaching optimal testing conditions and influencing testing regularity will be discussed.

Practical Implications

Making HIV testing as easy, and suitable to the needs as possible to increase testing behavior of never and irregular tested MSM is possible with the findings. The improvement or changes should mainly focus on creating easy access to the facility with appointments within a week, as low as possible cost, and improving or clarifying the expertise of the healthcare provider. It seems to be impossible to create a one size fits all facility that fits all different needs. It is possible, however, to change some of the current facility characteristics that would result in more suitable facilities that better fit the distinct needs of the MSM.

For example, the improvements for the GP should mainly focus on decreasing costs for testing and increasing the expertise of the GP, resulting in better fit of needs and a decrease in testing barriers for testing at the GP. In addition, the satisfaction of testing at the GP could increase by the improvements. Future research should focus on the opportunities to decrease costs and increasing and promoting of expertise of the GP.

For the STI clinic, besides that the STI clinic seems to be a well fit to the needs, waiting lists might be a barrier to test. It seems to be impossible to reduce the waiting list because of the limitations of the budget of STI clinics. Therefore, a recommendation is to redirect or recommend MSM who are regular testers to test at a test facility without waiting list, to for example Testlab. By recommending regular testers, the testers with the lowest impact of testing barriers, to other facilities, waiting lists at the STI clinic may decrease. The places released by the redirecting of the regular testers, are open for never tested and irregular tested MSM. They have fewer waiting time to test at STI clinics and less barriers for testing. Future research should focus on redirecting testers to the best suitable test and how that affects the test behavior.

The practical implications to increase the knowledge among MSM about the test facility, so that they are aware of the facility. In addition, the possibilities to increase the availability throughout the Netherland should be considered, so that MSM in the Netherlands have access to the facility without any barriers of availability. For self-tests implications are to make them available in the Netherlands for HIV testing. Future research in depth is needed, to research the reliability of the test and the needs of MSM for self-test, because the number of MSM who tested with a self-test was too small to use.

Suitable testing facilities are only effective if MSM have intentions to test. Therefore, some practical implications for future prevention and educational activities are needed to motivate MSM to test (regularly) (Albarracin et al., 2001; Fishbein, 2008). The finding that never and irregular tested are mainly not taking an HIV test because of their lower intention to test compared to regular tested MSM implies that considerable effort should be devoted to increase intention to test. One way of doing so might be to increase awareness about risk and communication on the benefits that are associated with HIV testing (Mikolajczak et al., 2006).

Future research is needed to investigate more in depth what influence the intention to test and how interventions can increase intention to test at suitable test facilities.

Strengths and limitations

There are several strengths of the current study. For example, MSM could respond at any time it suits them and the survey was completely anonymous and private, data cannot be traced back to a respondent. In a short time a lot of MSM could be reached. In addition, answers to questions cannot be influenced by an interviewer or observer and the comparability of the optional answer is guaranteed and statistical analyses in depth could be performed for analyzing the subgroups and the correlations between variables. The way of recruiting MSM is probably more generalizable than a traditional paper-pen questionnaire, because there is no evidence that Internet-based questionnaires are less reliable than other methods. In this light, this way of recruiting MSM could actually be a strength of the study because we might reach more sexually active MSM, who have needs for HIV testing. Also, MSM could be reached through the Internet, because 94% of the Dutch population of 12 years and older has access to the internet (at home) (CBS,2016). The advantage of online recruitment is, that MSM who are already active on the internet can easily fill out the questionnaire and no extra effort is needed to send the questionnaire back.

Despite these strengths, there are some limitations that should be acknowledged. A limitation is that participants were self-selected, not allowing to assess differences between responders and non-responders. MSM who attach importance to HIV testing might be inclined to respond to the survey. The needs of MSM who might perceive most barriers to test be missed. Thus, the sample may not be representative for all MSM and therefore the results cannot be generalized to the total population of MSM in the Netherlands.

Furthermore, responses are subjective; answers do not have to be true, whereby a self-report bias may occur. This could have affected the needs of MSM. MSM might give socially desirable answers and are not fully true about their needs. However, since the survey aims to improve testing facilities and responses in the survey are anonymous and private, the aim is that the self-reported bias is small. In addition, a limitation is the correlational character of the study. It was not possible to research causal relations. Future research should focus decreasing the self-selection and self-reported bias by investigating needs with a control for the self-reported bias, by the selection of respondents at the different facilities based on their testing habits and diagnosis to have evidence for their answers.

Keeping these limitations in mind, we believe that the present findings contribute to first insights and a better understanding of the HIV testing needs among Dutch MSM. The results can help to improve the fit of the test facilities to the needs of MSM for HIV testing and aimed at motivating Dutch MSM to take an HIV.

Conclusion

In conclusion, this study was to gain insight into the needs of MSM for HIV testing and what facility they choose/prefer for testing. In order to reach the 90-90-90 goal in the Netherlands, it is important to focus on MSM who are living with HIV but have not been diagnosed yet. The current study revealed that available testing facilities in the Netherlands work well, as only a small group of MSM has never been tested. Nevertheless, there are some improvements that can help changing the consistency with which MSM test and further reduce the group of never and irregular tester, who have been at risk of acquiring HIV. By improving and or changing, some of the facility characteristics test facilities might lead to a better fit to the needs of MSM and an increasing in testing regularity.

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Appendix 1: Survey

Behoeftenpeiling MSM hiv-testen

Behoeftenonderzoek hiv-testen

Beste deelnemer,

Dit is een onderzoek naar de behoeften van homo- en biseksuele mannen voor hiv-testen. Je kunt de vragen ook beantwoorden als je nog geen ervaring met hiv-testen hebt. Met de resultaten willen we erachter komen of Nederlandse homo- en biseksuele mannen tevreden zijn over het testaanbod en of het beter kan.

In totaal duurt het invullen van de vragenlijst ongeveer 10 minuten. Het gaat vooral om meerkeuzevragen. Alle gegevens worden volledig anoniem verwerkt, worden niet met anderen gedeeld en zijn niet te herleiden.

Bij eventuele vragen of opmerkingen over de vragenlijst kun je contact opnemen met de onderzoekers van deze studie.

Alvast bedankt voor je medewerking!

Contactgegevens:
Anne-Marit Kroes
anne-marit.kroes@rivm.nl

Toestemmingsverklaring

Bedankt dat je mee wilt doen aan dit onderzoek. Door verder te gaan met deze online vragenlijst, ga je akkoord met de onderstaande vier punten.

1. Ik heb de informatie over het onderzoek gelezen, weet waar het over gaat en ben hiermee voldoende geïnformeerd.
2. Ik weet dat meedoen vrijwillig is.
3. Ik weet dat alle gegevens volledig anoniem verwerkt zullen worden.
4. Ik geef toestemming om mijn gegevens te gebruiken voor de doelen van dit onderzoek.

- ❑ Ik ga akkoord en ik wil meedoen aan dit onderzoek.

Ik ben...

- ❑ Man
- ❑ Vrouw
- ❑ Anders, namelijk... _____

Tot wie voel jij je seksueel aangetrokken?

- ❑ Alleen tot mannen
- ❑ Voornamelijk tot mannen
- ❑ Evenveel tot mannen als tot vrouwen
- ❑ Voornamelijk tot vrouwen
- ❑ Alleen tot vrouwen
- ❑ Anders, namelijk…. _____

Bedankt voor je interesse in de vragenlijst, deze vragenlijst is bedoeld voor homo- en biseksuele mannen. Er is een ander onderzoek die beter geschikt is. Als je daaraan mee wil doen heel graag en kopieer de link:

https://response.easyresearch.se/s.asp?WID=1051956&Pwd=97648783

Hieronder worden mogelijke aanleidingen of redenen omschreven voor het doen van een hiv-test.

Geef aan hoe belangrijk je deze vindt voor het doen van een hiv-test

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
Het hebben van klachten	❑	❑	❑	❑	❑	❑	❑
Het gewaarschuwd zijn door een sekspartner	❑	❑	❑	❑	❑	❑	❑
Uit bezorgdheid over gelopen risico	❑	❑	❑	❑	❑	❑	❑
Het hebben van een nieuwe losse sekspartner	❑	❑	❑	❑	❑	❑	❑
Regelmatig laten testen ter controle	❑	❑	❑	❑	❑	❑	❑
Om zekerheid te hebben	❑	❑	❑	❑	❑	❑	❑

Hoe belangrijk vind je de volgende omstandigheden met betrekking tot hiv-testen

Hoe belangrijk vind je het…

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
…dat de reistijd tot de testlocatie korter dan half een uur vanaf je huis/werk is	❑	❑	❑	❑	❑	❑	❑
…om een afspraak in te kunnen plannen	❑	❑	❑	❑	❑	❑	❑
...om zonder afspraak te kunnen testen	❑	❑	❑	❑	❑	❑	❑
...te kunnen testen in het weekend	❑	❑	❑	❑	❑	❑	❑
…dat de openingstijden aansluiten bij jouw agenda	❑	❑	❑	❑	❑	❑	❑
…om binnen 7 dagen terecht te kunnen voor een test	❑	❑	❑	❑	❑	❑	❑
...om 24 uur per dag, 7 dagen per week contact(telefonisch/online) op te kunnen nemen met testlocatie	❑	❑	❑	❑	❑	❑	❑

Hoe belangrijk vind je de volgende omstandigheden met betrekking tot hiv-testen

Hoe belangrijk vind je (het)…

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
...dat je anoniem (niet hoeven opgeven van je persoonlijke gegevens) kunt laten testen	❑	❑	❑	❑	❑	❑	❑
...dat je kunt testen zonder dat mensen uit je omgeving(familie/vrienden) daar achter komen	❑	❑	❑	❑	❑	❑	❑
...persoonlijk contact met de zorgverlener die de test afneemt	❑	❑	❑	❑	❑	❑	❑
...de deskundigheid van zorgverlener die de test afneemt	❑	❑	❑	❑	❑	❑	❑
...de vriendelijkheid van zorgverlener die de test afneemt	❑	❑	❑	❑	❑	❑	❑

Hoe belangrijk vind je de volgende omstandigheden met betrekking tot hiv-testen

Hoe belangrijk vind je het…

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
...te kunnen kiezen op welke manier de test wordt gedaan (Bloedprikken,wattenstaafje,plasje)	❑	❑	❑	❑	❑	❑	❑
…dat de test een kloppende uitslag geeft	❑	❑	❑	❑	❑	❑	❑
…om binnen een uur de testuitslag te ontvangen	❑	❑	❑	❑	❑	❑	❑
...om te kunnen kiezen op welke manier je de	❑	❑	❑	❑	❑	❑	❑

testuitslag krijgt (persoonlijk, telefonisch, SMS/App of brief)							
…om advies te krijgen van de zorgverlener over seksueel risicogedrag	❑	❑	❑	❑	❑	❑	❑
…om geholpen te worden na testuitslag (behandeling/partnerwaarschuwing)	❑	❑	❑	❑	❑	❑	❑

Hoe belangrijk vind je de volgende omstandigheden met betrekking tot hiv-testen

Hoe belangrijk vind je…

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
…advies van je vrienden voor de keuze van een test	❑	❑	❑	❑	❑	❑	❑
…advies van voorlichting en reclames	❑	❑	❑	❑	❑	❑	❑
...kosten van de test	❑	❑	❑	❑	❑	❑	❑
...een andere reden, namelijk…	❑	❑	❑	❑	❑	❑	❑

_____
__

Welke van de omstandigheden van de vorige vraag vind je het belangrijkst?

Geef een top 3 van de belangrijkste omstandigheden
1.
2.
3.

Ben je ooit op hiv getest?

(door huisarts, soa-polikliniek, zelftest, of anderzins)

- ❑ Nee
- ❑ Ja, de uitslag was dat ik geen hiv had (hiv negatief)
- ❑ Ja, de uitslag was dat ik hiv heb (hiv positief)
- ❑ Ja, ik wacht nog op de testuitslag
- ❑ Weet ik niet

Dit onderzoek gaat over behoeften om op hiv te laten testen. Je gaf aan al hiv te hebben. Wij willen je dus vragen terug te denken aan de hiv-test. Beantwoord de vragen aan de hand van je ervaring.

Je gaf aan ervaring te hebben met een hiv test. De volgende vragen gaan over jouw testgedrag,waar je je hebt laten testen en hoe je dit hebt ervaren

Wanneer heb je je voor het laatst op hiv laten testen?

- ❑ 0-6 maanden geleden
- ❑ 6-12 maanden geleden
- ❑ Meer dan 12 maanden geleden
- ❑ Weet ik niet meer

Test je regelmatig op hiv?

- ❑ Nee, niet regelmatig
- ❑ Ja, ongeveer iedere 3 maanden
- ❑ Ja, ongeveer iedere 6 maanden
- ❑ Ja, ongeveer ieder jaar
- ❑ Anders, namelijk… _____

Waar ben je ooit op hiv getest?

(meerdere antwoorden mogelijk)

- ❑ Huisarts
- ❑ Soa-poli
- ❑ Man tot Man.nl
- ❑ Zelf-/Labtest zoals Time to test.nl of anders…
- ❑ Hiv test op locatie (evenement, sauna of anders…)
- ❑ Andere locatie

Je gaf aan op een andere locatie getest te zijn?

Andere locatie,namelijk... _____

Je gaf aan een zelftest te hebben gedaan.
Welke zelf-/labtest heb je gedaan?

(meerdere antwoorden mogelijk)

- ❑ Time to Test
- ❑ Soa-poli online
- ❑ Weet ik niet meer
- ❑ Anders, namelijk... _____

Je gaf aan een hiv-test op locatie te hebben gedaan.
Waar heb je je laten testen?

(meerdere antwoorden mogelijk)

- ❑ Nachtclub/discotheek
- ❑ Evenement/festival/dansfeest
- ❑ Homo ontmoetingsplek/cruise plekken
- ❑ Homosauna
- ❑ Weet ik niet meer
- ❑ Anders, namelijk…. _____

Waarom heb je je bij de huisarts laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Doordeweeks binnen kantooruren testen
- ❑ Afspraak binnen een week
- ❑ Telefonische / online bereikbaarheid
- ❑ Niet anonym
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact huisarts
- ❑ Deskundigheid huisarts
- ❑ Vriendelijkheid huisarts
- ❑ Advies krijgen over seksueel risicogedrag
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week
- ❑ Manier waarop je de testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om naar huisarts te gaan
- ❑ Advies voorlichting / reclames
- ❑ Kosten (evt. eigen risico)

Waarom heb je je bij de soa-poli laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Doordeweeks binnen kantooruren testen
- ❑ Wachttijd tot afspraak
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact verpleegkundige
- ❑ Deskundigheid verpleegkundige
- ❑ Vriendelijkheid verpleegkundige
- ❑ Advies krijgen over seksueel risicogedrag
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week
- ❑ Manier waarop je de testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om naar soa-poli te gaan
- ❑ Advies voorlichting / reclames
- ❑ Geen kosten

Waarom heb je je via Man tot Man.nl laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Testen zonder afspraak
- ❑ Testen wanneer het mij uitkomt
- ❑ Binnen twee dagen kunnen testen
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Geen persoonlijk contact
- ❑ Geen advies seksueel risicogedrag
- ❑ Manier testafname kunnen kiezen
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden
- ❑ Advies voorlichting / reclames
- ❑ Kosten

Waarom heb je je met een zelf/labtest laten tesen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Testen zonder afspraak mogelijk
- ❑ Testen wanneer het jou uitkomt
- ❑ Binnen twee dagen kunnen testen
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Geen persoonlijk contact
- ❑ Geen advies seksueel risicogedrag
- ❑ Manier testafname kunnen kiezen
- ❑ Testuitslag betrouwbaar is
- ❑ Binnen een week testuitslag
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)

- ❑ Advies van vrienden
- ❑ Advies voorlichting / reclames
- ❑ Kosten

Waarom heb je een hiv-test op locatie gedaan?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Geen reistijd
- ❑ Testen zonder afspraak
- ❑ Makkelijk toegankelijk
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact verpleegkundige
- ❑ Deskundigheid verpleegkundige
- ❑ Vriendelijkheid verpleegkundige
- ❑ Advies over seksueel risicogedrag
- ❑ Kunnen kiezen manier testafname
- ❑ Testuitslag is betrouwbaar
- ❑ Testuitslag binnen een uur
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om een hiv test op locatie te doen
- ❑ Advies voorlichting / reclames
- ❑ Geen kosten

[LocAnders]: Waarom heb je je hier laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Geen reistijd
- ❑ Testen zonder afspraak
- ❑ Altijd kunnen testen
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact verpleegkundige
- ❑ Deskundigheid verpleegkundige
- ❑ Vriendelijkheid verpleegkundige
- ❑ Advies over seksueel risicogedrag
- ❑ Kunnen kiezen manier testafname
- ❑ Testuitslag is betrouwbaar
- ❑ Testuitslag binnen een uur
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om een hiv test op locatie te doen
- ❑ Advies voorlichting / reclames
- ❑ Geen kosten

Hoe tevreden was je met de test...

	Heel ontevreden						Heel tevreden
	1	2	3	4	5	6	7
bij de huisarts?	❑	❑	❑	❑	❑	❑	❑
bij de soa-poli?	❑	❑	❑	❑	❑	❑	❑
Man tot Man.nl?	❑	❑	❑	❑	❑	❑	❑
met de zelf-/labtest?	❑	❑	❑	❑	❑	❑	❑
de hiv-test op locatie?	❑	❑	❑	❑	❑	❑	❑
[LocAnders]	❑	❑	❑	❑	❑	❑	❑

Zou je je weer bij deze locatie laten testen?

	Zeker niet						Zeker wel
	1	2	3	4	5	6	7
Huisarts	❑	❑	❑	❑	❑	❑	❑
Soa-poli	❑	❑	❑	❑	❑	❑	❑
Man tot Man.nl	❑	❑	❑	❑	❑	❑	❑
Zelf-/labtest	❑	❑	❑	❑	❑	❑	❑
Hiv-test op locatie	❑	❑	❑	❑	❑	❑	❑
[LocAnders]	❑	❑	❑	❑	❑	❑	❑

Je gaf aan nog nooit een hiv-test te hebben gedaan.
Stel je zou nu een hiv-test gaan doen.
Waar zou je de test willen gaan doen?

Stel je zou je willen laten testen bij je huisarts.

(Huisarts = Je doet de test bij de huisarts en krijgt de uitslag)

Waarom zou je naar de huisarts gaan?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Doordeweeks binnen kantooruren testen
- ❑ Afspraak binnen een week
- ❑ Telefonische / online bereikbaarheid
- ❑ Niet anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact huisarts
- ❑ Deskundigheid huisarts
- ❑ Vriendelijkheid huisarts
- ❑ Advies krijgen over seksueel risicogedrag
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week
- ❑ Manier waarop je de testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om naar huisarts te gaan
- ❑ Advies voorlichting / reclames
- ❑ Kosten (evt. eigen risico)

Stel je zou je willen laten testen bij de GGD of soa-poli.

(Soa-poli = Je doet de test bij de soa-poli en krijgt de uitslag. Hier is testen gratis)

Waarom zou je je bij de GGD of soa-poli laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Doordeweeks binnen kantooruren testen
- ❑ Wachttijd tot afspraak
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact verpleegkundige
- ❑ Deskundigheid verpleegkundige
- ❑ Vriendelijkheid verpleegkundige
- ❑ Advies krijgen over seksueel risicogedrag
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week

- ❑ Manier waarop je de testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om naar soa-poli te gaan
- ❑ Advies voorlichting / reclames
- ❑ Geen kosten

Stel je zou je via Man tot Man.nl laten testen.

(Man tot man biedt via hun site een test aan via een formulier en een lab waar je meteen naartoe kunt)

Waarom heb je je via Man tot Man.nl laten testen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Testen zonder afspraak
- ❑ Testen wanneer het mij uitkomt
- ❑ Binnen twee dagen kunnen testen
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Geen persoonlijk contact
- ❑ Geen advies seksueel risicogedrag
- ❑ Manier testafname kunnen kiezen
- ❑ Testuitslag betrouwbaar is
- ❑ Testuitslag binnen een week
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden
- ❑ Advies voorlichting / reclames
- ❑ Kosten

Stel je zou een thuistest willen doen.
(Een thuistest doe je thuis of bij een prikpunt/lab, je stuurt de test op en krijgt later de uitslag)

Waarom zou je een Thuistest doen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Reistijd korter dan 30 min
- ❑ Testen zonder afspraak mogelijk
- ❑ Testen wanneer het jou uitkomt
- ❑ Binnen twee dagen kunnen testen
- ❑ Telefonische / online bereikbaarheid
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Geen persoonlijk contact
- ❑ Geen advies seksueel risicogedrag
- ❑ Manier testafname kunnen kiezen
- ❑ Testuitslag betrouwbaar is
- ❑ Binnen een week testuitslag
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden
- ❑ Advies voorlichting / reclames
- ❑ Kosten

Stel je zou een hiv-test op locatie willen doen.
(Een hiv-test op locatie is een hiv-test die je op een evenement, festival, homo sauna of andere openbare plekken kan doen)

Waarom zou jij een hiv-test op locatie doen?

(Vink zoveel mogelijk onderdelen aan die van toepassing zijn)

- ❑ Geen reistijd
- ❑ Testen zonder afspraak
- ❑ Makkelijk toegankelijk
- ❑ Anoniem
- ❑ Testen zonder dat je omgeving daar achter komt
- ❑ Persoonlijk contact verpleegkundige
- ❑ Deskundigheid verpleegkundige
- ❑ Vriendelijkheid verpleegkundige
- ❑ Advies over seksueel risicogedrag
- ❑ Kunnen kiezen manier testafname
- ❑ Testuitslag is betrouwbaar
- ❑ Testuitslag binnen een uur
- ❑ Kunnen kiezen hoe je testuitslag krijgt
- ❑ Hulp na testuitslag (bij bv behandeling / partnerwaarschuwing)
- ❑ Advies van vrienden om een hiv test op locatie te doen
- ❑ Advies voorlichting / reclames
- ❑ Geen kosten

Stel je zou je nu weer op hiv-laten testen.

Waar zou je je dan laten testen?

- ❑ Huisarts
- ❑ Soa-poli
- ❑ Man tot Man.nl
- ❑ Zelf-/Labtest zoals Time to test.nl of anders…
- ❑ Hiv test op locatie (evenement, sauna of anders…)
- ❑ [LocAnders]

Waar zou je een hiv-test willen doen?

- ❑ Huisarts
- ❑ Soa-poli
- ❑ Man tot Man.nl
- ❑ Thuistest
- ❑ Hiv test op locatie

Hoe belangrijk vind je…

	Heel onbelangrijk						Heel belangrijk
	1	2	3	4	5	6	7
...dat je een hiv-test kan doen op een locatie die niet gerelateerd is aan seks?	❑	❑	❑	❑	❑	❑	❑
...de sfeer van de locatie?	❑	❑	❑	❑	❑	❑	❑
…dat je naast een hiv-test ook op andere soa's wordt getest?	❑	❑	❑	❑	❑	❑	❑
…voor het testen informatie over de test (en mogelijke uitkomsten) te krijgen, dat ongeveer 15 minuten duurt?	❑	❑	❑	❑	❑	❑	❑

Zou je herinnerd willen worden om (regelmatig) een hiv-test te doen?

(1=zeker wel en 7=zeker niet)

- ❑ 1
- ❑ 2

- ❑ 3
- ❑ 4
- ❑ 5
- ❑ 6
- ❑ 7

Hoe zou je het liefst herinnerd willen worden aan een hiv-test?

- ❑ Per brief
- ❑ Per mail
- ❑ Per SMS
- ❑ Per WhatsApp
- ❑ Via een telefoongesprek/voicemail
- ❑ Via advertenties of reclames (bijvoorbeeld online, radio of televisie)
- ❑ Via persoonlijke berichten in dating apps/websites gericht op homomannen (zoals bijvoorbeeld Grindr, Planetromeo, Gay.nl)
- ❑ Op een andere manier, namelijk ... _____

Hoe zou je het liefst de uitslag van de test willen krijgen?

- ❑ Per brief
- ❑ Per mail
- ❑ Per SMS
- ❑ Per WhatsApp
- ❑ Via telefoongesprek
- ❑ Per Internetcode op een website
- ❑ Zelf de uitslag aflezen van het test-apparaatje
- ❑ Tijdens een gesprek met een arts of verpleegkundige
- ❑ Op een andere manier, namelijk... _____

Hoeveel geld heb je over voor een hiv-test?

(vul euro bedrag in)

_____

Ik ben van plan om...

	Helemaal niet van plan						Heel erg van plan
	1	2	3	4	5	6	7
...me binnenkort op hiv te testen	❑	❑	❑	❑	❑	❑	❑
...me in de toekomst op hiv te testen	❑	❑	❑	❑	❑	❑	❑
...me in de toekomst regelmatig (bijvoorbeeld: ieder half jaar) op hiv te testen	❑	❑	❑	❑	❑	❑	❑

"Het oplopen van hiv is…"

	1	2	3	4	5	6	7	
Goed	❑	❑	❑	❑	❑	❑	❑	Slecht
Niet ernstg	❑	❑	❑	❑	❑	❑	❑	Ernstig
Niet aangrijpend	❑	❑	❑	❑	❑	❑	❑	Aangrijpend

"HIV testen is…"

	1	2	3	4	5	6	7	
Moeilijk	❑	❑	❑	❑	❑	❑	❑	Makkelijk
Onbelangrijk	❑	❑	❑	❑	❑	❑	❑	Belangrijk

Nuttelos	❑	❑	❑	❑	❑	❑	❑	Nuttig

In hoeverre ben je het eens met de volgende stellingen?

	Helemaal oneens						Helemaal eens
	1	2	3	4	5	6	7
Het lukt mij regelmatig een hiv-test te doen.	❑	❑	❑	❑	❑	❑	❑
Het gaat mij lukken als het nodig is een hiv-test te doen	❑	❑	❑	❑	❑	❑	❑
Het lukt mij een hiv-test te plannen binnen kantooruren van 9:00uur-17:00 uur.	❑	❑	❑	❑	❑	❑	❑
Ik ben gemotiveerd om mezelf te beschermen tegen hiv.	❑	❑	❑	❑	❑	❑	❑
Het lukt mijzelf over een hiv-test te beginnen bij een verpleegkundige of dokter.	❑	❑	❑	❑	❑	❑	❑

In hoeverre ben je het eens met de volgende stellingen?

	Helemaal oneens						Helemaal eens
	1	2	3	4	5	6	7
Ik ben bekend met de hiv status van mijn vaste partner(s)	❑	❑	❑	❑	❑	❑	❑
Ik ben bekend met de hiv status van mijn losse partner(s)	❑	❑	❑	❑	❑	❑	❑
Mijn partner moedigt mij aan een hiv-test te doen	❑	❑	❑	❑	❑	❑	❑
Mijn vrienden vinden testen op hiv belangrijk	❑	❑	❑	❑	❑	❑	❑
Mijn vrienden raden mij aan regelmatig een hiv-test te doen	❑	❑	❑	❑	❑	❑	❑

In hoeverre ben je het eens met de volgende stellingen?

	Helemaal oneens						Helemaal eens
	1	2	3	4	5	6	7
Als ik een hiv-test heb gedaan hoef ik niet meer onzeker te zijn	❑	❑	❑	❑	❑	❑	❑
Het wachten op de test uitslag veroorzaakt stress	❑	❑	❑	❑	❑	❑	❑
Ik ben bang voor een hiv-positieve test uitslag	❑	❑	❑	❑	❑	❑	❑
Ik ben bang voor bloedprikken	❑	❑	❑	❑	❑	❑	❑

.

Wat is je leeftijd? _____

Ben je in Nederland geboren?

❑ Ja
❑ Nee

In welk land ben je geboren?

_____

Wat zijn de vier cijfers van je postcode?

(Als je je postcode niet wilt opgeven vul dan 9999 in)

_____

Wat is de hoogste opleiding die je hebt afgerond of momenteel mee bezig bent?

- ❑ Geen
- ❑ Basisschool of lager beroepsonderwijs
- ❑ Middelbaar algemeen onderwijs (MAVO/MULO)
- ❑ Voorbereidend middelbaar beroepsonderwijs (VMBO)
- ❑ Hoger algemeen onderwijs (HAVO/VWO/Gymnasium)
- ❑ Middelbaar beroepsonderwijs (MBO)
- ❑ Hoger beroepsonderwijs (HBO)
- ❑ Universiteit (WO/postacademisch)
- ❑ Anders, namelijk…… _____

Heb je 1 vaste mannelijke partner?

- ❑ Ja
- ❑ Ja,meer dan 1
- ❑ Nee

Met hoeveel losse mannelijke partners heb je in de afgelopen 6 maanden seks gehad?

_____

Heb je ooit anale seks met mannen gehad?

- ❑ Ja
- ❑ Nee

Heb je anale seks met mannen zonder condoom?

- ❑ Nooit
- ❑ Soms
- ❑ Vaak
- ❑ Altijd

Tot slot beschrijf kort hoe jouw meest ideale hiv- (en soa) test eruit zou zien.

(Denk hierbij aan locatie, manier van testen, wachttijd, openingstijden, etc.)

_____
_____

Bedankt voor het invullen van de vragenlijst.

Ken jij nog mannen waarvan je denkt dat zij dit ook willen invullen? Kopieer de link en stuur door.

https://response.easyresearch.se/s.asp?WID=1051957&Pwd=38347724

Ter herhaling van de introductie. Mocht je nog vragen hebben over de vragenlijst kun je contact opnemen met de onderzoeker van deze studie:
Anne-Marit Kroes, anne-marit.kroes@rivm.nl.

Hier onder is nog ruimte voor iets wat je nog graag kwijt wilt.

_____
_____