Sexually Transmitted Diseases Sender and receiver acceptability and usability of an online partner notification tool for STI in the Netherlands --Manuscript Draft--

STD17-126R2
Sender and receiver acceptability and usability of an online partner notification tool for STI in the Netherlands
Note/Case Report
Behavioral
Partner Notification; Health Services Research; public health; Internet-based; Attitudes; HIV; Communication technologies; contact tracing
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Sexually Transmitted Diseases

Acknowledgment Form

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Corresponding Author Signature:

MARE

Date: 6-04-2017_____

To the Editor-in-Chief, Dr. William C. Miller, MD, Sexually Transmitted Diseases

Amsterdam, 27 September, 2017

Dear Dr. Miller,

Ref.: Ms. No. STD17-126 Title: Sender and receiver acceptability and usability of an online partner notification tool for STI in the Netherlands

Thank you very much for your email of 25 September 2017 accepting our manuscript (STD17-126) for publication after preparing one minor revision.

Hereby we would like to submit our revised version that has been adjusted. This letter includes our response to the comment of the reviewer; below you will find the original comment (C) and our response (R).

Sincerely yours,

MA

Martijn van Rooijen, on behalf of all authors

Authors response to the reviewer comment

C: The one remaining concern I have is that the website "sugestatest.nl" is no longer active and may confuse the readers who may miss the explanation of name change to "partnerwaarschuwing.nl". This confusion may be compounded by the prominent use of the former site name throughout the paper. Perhaps better would be to use the new name with an English translation and a comment about the name change at first mention. The name change also begs the questions why the change was made? **R**: We agree that mentioning the name change in the introduction without any explanation is confusing. As the evaluation in our manuscript concerned the tool Suggestatest.nl (the name was changed after the inclusion period) we think that using this name throughout the manuscript is appropriate.

We have omitted the name change from the introduction (line 68). In the second last paragraph of the discussion, we added a sentence mentioning the name change (including English translation of Partnerwaarschuwing.nl) and explained the reason why the name was changed (lines 242-244).

Original sentence in the introduction:

To date, Suggestatest.nl (nowadays called "Partnerwaarschuwing.nl") and CheckOUT (Portugal) are to our knowledge the only published health care provider initiated Internet-based notification systems that are designed for patients with a verified STI only.

Revised sentence in the introduction:

To date, Suggestatest.nl and CheckOUT (Portugal) are to our knowledge the only published health care provider initiated Internet-based notification systems that are designed for patients with a verified STI only.

Added sentence to the discussion:

After the inclusion period of this study, the tool was renamed to "Partnerwaarschuwing.nl" (Partnernotification.nl in English) as some notified partners reported that were confused about the name Suggestatest.nl.

1	SENDER AND RECEIVER ACCEPTABILTY AND USABILTY OF AN ONLINE
2	PARTNER NOTIFICATION TOOL FOR STI IN THE NETHERLANDS
3	
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24	Conflicts of Interest:
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- 42 initiated Internet-based partner notification application Suggestatest.nl acceptable and usable.
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- 44 other STI. An anonymous notification was perceived less acceptable.

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46 Keywords:

- 47 Partner notification, Health Services Research, Public Health, Internet-based, Attitudes, HIV,
- 48 Communication technologies, Contact tracing

50 Introduction

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52 Partner notification (PN) is the process whereby the sexual partner(s) of a patient diagnosed 53 with a sexually transmitted infection (STI) are identified and informed of their exposure to an 54 STI.¹ Many studies show a preference to notify partners face-to-face or by telephone rather 55 than with technologies like SMS or email.²⁻⁵ However, internet-based PN might be an 56 additional method to reach more partners.²

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To assist PN at the STI clinics of Rotterdam and Amsterdam, the Netherlands, an online tool 58 59 called Suggestatest.nl was developed explicitly for patients who were diagnosed with an STI 60 or HIV infection. Using this tool, index patients could send an anonymous or non-anonymous 61 notification message by email, SMS, postal mail or - with the username of their partner - to a 62 gay social network account. A general evaluation of the use of Suggestatest.nl showed that 63 this novel tool suits a small number of index clients, mainly by sending anonymous text messaging.^{6,7} Out of those intending to use Suggestatest.nl, 23% notified a partner through 64 65 Suggestatest.nl and 58% of the partners notified through Suggestatest.nl logged-in to read their notification online. 66

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To date, Suggestatest.nl and CheckOUT (Portugal) are to our knowledge the only published health care provider initiated Internet-based notification systems that are designed for patients with a verified STI only.⁸ Less is known about the acceptability of these tools for both the sender (index patient) and the receiver (notified partner). In addition, much of the published acceptability research relied on hypothetical scenarios of accessing options for PN.⁹ In this study we evaluated the acceptability and usability of Suggestatest.nl in both index patients and notified partners who have used this PN tool.

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76 Materials and Methods

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78 <u>Study setting</u>

The STI outpatient clinics of Rotterdam and Amsterdam perform respectively about 12,500 and 40,000 STI consultations annually, free of charge and anonymous. In case an STI is diagnosed, the health care professional discusses the PN options and registers the patient's preference. These options consist of patient referral (supported with a contact card or - from March 2012 onward - with Suggestatest.nl), provider referral or contract referral.

84

85 <u>Suggestatest.NL</u>

Patients with a confirmed STI diagnosis (chlamydia, lymphogranuloma venereum, gonorrhea, 86 87 syphilis, HIV and/or trichomoniasis) received a nurse-generated code when they preferred to 88 use Suggestatest.nl for PN. To notify, the index patient had to login to Suggestatest.nl using 89 the nurse-generated code. For each partner, the patient had to select the method 90 (SMS/email/postal/gay dating site) and the mode (anonymous/non-anonymous) of sending the 91 notification. All partners - irrespective of the above selected method - received a standardized 92 message with a unique partner code and had to login to the website to read about the notified 93 STI or HIV, possible treatment and how to make an appointment at the STI clinic.

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95 Theoretical framework from the "Technology Acceptance Model" (TAM) was used to 96 develop the questionnaires for index patients and notified partners.¹⁰ The two factors that 97 determine TAM are "perceived usefulness" (referred to as acceptability) and "perceived ease 98 of use" (referred to as usability).¹⁰ Questionnaires on acceptability and usability to notify/be 99 notified through Suggestatest.nl of STI and HIV were offered online to all participants 100 regardless their diagnosis/received notification. After the index patient had sent a

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101 Suggestatest.nl notification, an invitation window popped-up to complete an online 102 questionnaire. Partners were recruited for an online questionnaire after reading their STI 103 notification online. After completing the questionnaire, participants were asked to fill-in their 104 email address to receive an additional online questionnaire after 2 weeks. The online 105 questionnaires were collected from March 2012 until June 2013 (Supplementary Tables 1 & 106 2). Because the online response of partners was low, partners visiting the STI clinics and 107 notified through Suggestatest.nl (who had not yet filled-in an online questionnaire) were 108 recruited from July 2012 until June 2013 to fill in a paper-and-pencil questionnaire.

109

110 Statistical analysis and data collection

111 All questionnaire data were analyzed in IBM SPSS Statistics version 21 (IBM Corporation, 112 Armonk, New York, USA). The acceptability and usability scores were constructed from the 113 mean of the items included. Constructs were only calculated if none of the items for this 114 construct had a missing values. For each construct, the reliability was calculated using the 115 Spearman-Brown statistic (2-items) or the Cronbach's coefficient alpha (α) (3 or more 116 items).¹¹ Reliability values of ≥ 0.7 were assumed acceptable and all were 0.75 or above. 117 Frequency of Internet use for arranging personal matters was categorized in less frequent 118 (scores 1-3) and frequent (scores 4-5). Respondents and non-respondents were compared with 119 the chi-squared test or Fisher's exact test and the Mann-Whitney U test. Using the 120 Independent t test, the mean scores of notified partners who responded to the online and those 121 who responded to the paper-and-pencil questionnaires, were compared. The paired t-test was 122 used to compare scores on different items within the same group. P values of less than 0.05 123 were considered statistically significant.

- 124
- 125 Ethics

- 126 This study was waived by the Medical Ethical Committee of the Erasmus University of
- 127 Rotterdam, because Suggestatest.nl was an extension of standard care.

131 Index patients

- 132 During the study period, 112 (19.8%) out of 565 Suggestatest.nl users completed the
- 133 questionnaire (Supplementary Figure 1). Response was higher among MSM (27.7%),
- 134 compared to heterosexual men (13.1%) and women (17.0%, p=0.002), and responders
- 135 notified a higher median number of partners than non-responders (Supplementary Table 3).
- 136 Four responders were newly diagnosed with HIV.

137

138 The majority of index patients reported that they were able to notify more partners than

139 without the existence of Suggestatest.nl (Table 1). The acceptability and usability to use

140 Suggestatest.nl to notify sexual partners of HIV was rated significantly less acceptable and

141 usable (3.0 and 3.6, respectively) than notifying of another STI (4.4 and 4.7, respectively;

142 p<0.001; Table 1). Among MSM, the overall acceptability was higher (4.4) than among non-

143 MSM (4.1; p=0.007) whereas the overall usability was not different (4.5 versus 4.4,

144 respectively; p=0.28).

145

146 Notified partners

Out of 2,030 notified partners, 163 (8.0%) responded to the questionnaires (53 online and 110 offline at the STI clinic) (Supplementary Figure 1). Notified partners who filled-in the questionnaire were comparable to those who did not respond (Supplementary Table 1). The acceptability and usability scores of online and offline responders were not significantly different. Of the 106 partners who were notified of HIV exposure, three responded to a questionnaire.

154	Most notified partners preferred to receive a non-anonymous notification via SMS (Table 2).
155	Partners who were notified anonymously rated their notification less acceptable (2.7) than
156	partners who were notified by name (4.4; p<0.001) (Table 2). The acceptability and usability
157	to be notified of HIV through Suggestatest.nl was rated significantly less acceptable and
158	usable (3.3 and 3.2, respectively) than being notified of another STI (both 4.4; p<0.001). The
159	overall acceptability and usability scores of Suggestatest.nl (4.1) did not differ between MSM
160	and non-MSM (p=0.28 and p=0.50).
161	

164 Discussion

165

166 Statement of principal findings

The online PN tool Suggestatest.nl was rated acceptable and usable by both senders (index
patients) and receivers (notified partners). Both groups were less positive about
Suggestatest.nl to notify /get notified of HIV than of another STI. Partners notified
anonymously perceived their mode of notification less acceptable than those notified by
name.

172

173 Strengths and weaknesses of the study

While most papers on acceptability of electronic PN relied on hypothetical scenarios, we measured acceptability and usability in a real setting, in both patients and partners who used Suggestatest.nl.⁹ Moreover, we measured the opinion of both MSM and heterosexuals who used Suggestatest.nl. Patients who chose to use Suggestatest.nl may be more enthusiastic about Suggestatest.nl than STI patients in general. However, their partners who did not have any choice in the method of how they received a notification, were also generally positive about Suggestatest.nl.

181

For our study, we recruited notified partners when they visited the website to read their notification or during the resulting consultation at the STI clinic. Unfortunately, the overall participation rate of notified partners was low (8%). This might have resulted in overestimated acceptability and usability scores, making it difficult to generalize the measured opinion to the general STI clinic population. Due to missing notification codes of 43 notified clients, no information of the received notification was known.

188

The questions concerning the acceptability and usability of using Suggestatest.nl to notify of HIV exposure were mainly answered by patients and partners who notified or were notified of an STI other than HIV. As a consequence, the lower acceptability and usability to notify of HIV through Suggestatest.nl were mainly hypothetical. Theoretically, the usability to notify partners of STI or HIV exposure through Suggestatest.nl should be comparable because it uses the same system with identical actions. However, the construct of usability was rated lower for HIV than other STI, indicating that it probably did not measure usability only.

197 Comparison with other studies

A study among Peruvian MSM and transgender women diagnosed with STI showed that the introduction of a hypothetical Internet-based PN system resulted in a dramatic increase in anticipated notification of secondary partners.¹² In our study, almost 80% of the index patients reported that they had notified more partners than they would have done without the existence of Suggestatest.nl.

203

204 A study among Spanish MSM of their anticipated notification behavior showed that face to 205 face or a phone call were the preferred methods to notify of STI or HIV for both stable and casual partners.¹³ An identifiable SMS was the next most popular method to notify stable and 206 207 casual partners of STI or HIV. The preference for sending an identifiable SMS contradicts our findings: most patients notified their partners anonymously.^{6,7} A similar effect was seen in a 208 209 UK study: the preference of respondents for a partner notification method was dependent on whether they see themselves as index patients or contacts.¹⁴ Another possibility is that 210 211 patients in our study who were willing to send an identifiable SMS or email have used their 212 own mobile or email and only those with interest in sending an anonymous notification have 213 used Suggestatest.nl.

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217 the same effect was seen: notified partners were less positive about the fact that their 218 Suggestatest.nl notification was anonymous but were still content about Suggestatest.nl. 219 220 Implications for clinicians and policymakers 221 It seems that, according to the opinion of our patients, STI clinics should offer an online PN 222 tool like Suggestatest.nl. As stated by Hottes et al, a web-based PN service like inSPOT should be supplementary to traditional PN tools.¹⁵ After developing a PN website, the costs of 223 224 facilitating online PN are relatively low and it can easily be offered as an addition to already 225 existing traditional tools. Based on our findings we would recommend to incorporate the 226 possibility to notify anonymously. 227 228 Patients could be asked to immediately start filling in the contact information of their partners 229 in Suggestatest.nl when they are at the STI clinic for a treatment consultation. Possibly, 230 patients are then more motivated to notify their partners than later at home, and public health 231 nurses could assist with this process. However, it is also important to offer Suggestatest.nl use 232 at a later stage, because at the STI clinic the majority of participants reported that they were 233 unable to fill in contact details of all partners. 234 235 Unanswered questions and future research 236 We recognize that there is a possible trade-off between reaching more partners by the 237 implementation of a low threshold online PN tool and the quality of the sent notification: as

In a review of the acceptability of electronic PN a pattern emerged across studies showing

that anonymity was less acceptable than the electronic delivery method itself.⁹ In our study,

many partners do not read their online notification (42%; e.g. because they think it is an

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239	unsolicited message/spam), the sent notification might not have resulted in health care
240	seeking. ⁶ Future research should focus on the most suitable ways of directing online notified
241	partners into care. After the inclusion period of this study, the tool was renamed to
242	"Partnerwaarschuwing.nl" (Partnernotification.nl in English) as some notified partners
243	reported that were confused about the name Suggestatest.nl.
244	
245	Our study mainly focusses on patients who chose to use Suggestatest.nl and their partners in
246	which participation was low. For generalizability, more research is necessary which measures

the opinion of all notified STI-clinic clients regarding online partner notification.

248	Contributors:
249	MvR, and RK designed the study protocol, supported by HG, TH, and HV. PV was
250	responsible for the development of the Suggestatest.nl website and the implementation of the
251	online questionnaires. MvR performed the statistical analyses supported by HG, MvV, and
252	HV. MvR, HG and HV drafted the paper, all authors commented on draft versions, and all
253	approved the final version.
254	
255	Previously presented:
256	Information from this paper has been disseminated during a poster presentation at the STI &
257	AIDS World Congress (17 July 2013, Vienna, Austria; abstract number P5.003).
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- 273 questionnaires. We would like to thank Udi Davidovich for his suggestions on analysis of the
- 274 measured questionnaire data.

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110

111 Statistical analysis and data collection

112 All questionnaire data were analyzed in IBM SPSS Statistics version 21 (IBM Corporation, 113 Armonk, New York, USA). The acceptability and usability scores were constructed from the 114 mean of the items included. Constructs were only calculated if none of the items for this 115 construct had a missing values. For each construct, the reliability was calculated using the 116 Spearman-Brown statistic (2-items) or the Cronbach's coefficient alpha (α) (3 or more 117 items).¹¹ Reliability values of ≥ 0.7 were assumed acceptable and all were 0.75 or above. 118 Frequency of Internet use for arranging personal matters was categorized in less frequent 119 (scores 1-3) and frequent (scores 4-5). Respondents and non-respondents were compared with 120 the chi-squared test or Fisher's exact test and the Mann-Whitney U test. Using the 121 Independent t test, the mean scores of notified partners who responded to the online and those 122 who responded to the paper-and-pencil questionnaires, were compared. The paired t-test was 123 used to compare scores on different items within the same group. P values of less than 0.05 124 were considered statistically significant.

- 125
- 126 Ethics

- 127 This study was waived by the Medical Ethical Committee of the Erasmus University of
- 128 Rotterdam, because Suggestatest.nl was an extension of standard care.

132 Index patients

- 133 During the study period, 112 (19.8%) out of 565 Suggestatest.nl users completed the
- 134 questionnaire (Supplementary Figure 1). Response was higher among MSM (27.7%),
- 135 compared to heterosexual men (13.1%) and women (17.0%, p=0.002), and responders
- 136 notified a higher median number of partners than non-responders (Supplementary Table 3).
- 137 Four responders were newly diagnosed with HIV.

138

139 The majority of index patients reported that they were able to notify more partners than

140 without the existence of Suggestatest.nl (Table 1). The acceptability and usability to use

141 Suggestatest.nl to notify sexual partners of HIV was rated significantly less acceptable and

usable (3.0 and 3.6, respectively) than notifying of another STI (4.4 and 4.7, respectively;

143 p<0.001; Table 1). Among MSM, the overall acceptability was higher (4.4) than among non-

144 MSM (4.1; p=0.007) whereas the overall usability was not different (4.5 versus 4.4,

145 respectively; p=0.28).

146

147 Notified partners

Out of 2,030 notified partners, 163 (8.0%) responded to the questionnaires (53 online and 110 offline at the STI clinic) (Supplementary Figure 1). Notified partners who filled-in the questionnaire were comparable to those who did not respond (Supplementary Table 1). The acceptability and usability scores of online and offline responders were not significantly different. Of the 106 partners who were notified of HIV exposure, three responded to a questionnaire.

155	Most notified partners preferred to receive a non-anonymous notification via SMS (Table 2).
156	Partners who were notified anonymously rated their notification less acceptable (2.7) than
157	partners who were notified by name (4.4; p<0.001) (Table 2). The acceptability and usability
158	to be notified of HIV through Suggestatest.nl was rated significantly less acceptable and
159	usable (3.3 and 3.2, respectively) than being notified of another STI (both 4.4; p<0.001). The
160	overall acceptability and usability scores of Suggestatest.nl (4.1) did not differ between MSM
161	and non-MSM (p=0.28 and p=0.50).
162	

165 Discussion

166

167 Statement of principal findings

The online PN tool Suggestatest.nl was rated acceptable and usable by both senders (index
patients) and receivers (notified partners). Both groups were less positive about
Suggestatest.nl to notify /get notified of HIV than of another STI. Partners notified
anonymously perceived their mode of notification less acceptable than those notified by
name.

173

174 Strengths and weaknesses of the study

While most papers on acceptability of electronic PN relied on hypothetical scenarios, we measured acceptability and usability in a real setting, in both patients and partners who used Suggestatest.nl.⁹ Moreover, we measured the opinion of both MSM and heterosexuals who used Suggestatest.nl. Patients who chose to use Suggestatest.nl may be more enthusiastic about Suggestatest.nl than STI patients in general. However, their partners who did not have any choice in the method of how they received a notification, were also generally positive about Suggestatest.nl.

182

For our study, we recruited notified partners when they visited the website to read their notification or during the resulting consultation at the STI clinic. Unfortunately, the overall participation rate of notified partners was low (8%). This might have resulted in overestimated acceptability and usability scores, making it difficult to generalize the measured opinion to the general STI clinic population. Due to missing notification codes of 43 notified clients, no information of the received notification was known.

190 The questions concerning the acceptability and usability of using Suggestatest.nl to notify of 191 HIV exposure were mainly answered by patients and partners who notified or were notified of 192 an STI other than HIV. As a consequence, the lower acceptability and usability to notify of 193 HIV through Suggestatest.nl were mainly hypothetical. Theoretically, the usability to notify 194 partners of STI or HIV exposure through Suggestatest.nl should be comparable because it 195 uses the same system with identical actions. However, the construct of usability was rated 196 lower for HIV than other STI, indicating that it probably did not measure usability only. 197

198 **Comparison with other studies**

199 A study among Peruvian MSM and transgender women diagnosed with STI showed that the 200 introduction of a hypothetical Internet-based PN system resulted in a dramatic increase in anticipated notification of secondary partners.¹² In our study, almost 80% of the index patients 201 202 reported that they had notified more partners than they would have done without the existence 203 of Suggestatest.nl.

204

205 A study among Spanish MSM of their anticipated notification behavior showed that face to 206 face or a phone call were the preferred methods to notify of STI or HIV for both stable and casual partners.¹³ An identifiable SMS was the next most popular method to notify stable and 207 208 casual partners of STI or HIV. The preference for sending an identifiable SMS contradicts our findings: most patients notified their partners anonymously.^{6,7} A similar effect was seen in a 209 210 UK study: the preference of respondents for a partner notification method was dependent on whether they see themselves as index patients or contacts.¹⁴ Another possibility is that 211 212 patients in our study who were willing to send an identifiable SMS or email have used their 213 own mobile or email and only those with interest in sending an anonymous notification have 214 used Suggestatest.nl.

216

217 that anonymity was less acceptable than the electronic delivery method itself.⁹ In our study, 218 the same effect was seen: notified partners were less positive about the fact that their 219 Suggestatest.nl notification was anonymous but were still content about Suggestatest.nl. 220 221 Implications for clinicians and policymakers 222 It seems that, according to the opinion of our patients, STI clinics should offer an online PN 223 tool like Suggestatest.nl. As stated by Hottes et al, a web-based PN service like inSPOT should be supplementary to traditional PN tools.¹⁵ After developing a PN website, the costs of 224 225 facilitating online PN are relatively low and it can easily be offered as an addition to already 226 existing traditional tools. Based on our findings we would recommend to incorporate the 227 possibility to notify anonymously. 228 229 Patients could be asked to immediately start filling in the contact information of their partners 230 in Suggestatest.nl when they are at the STI clinic for a treatment consultation. Possibly, 231 patients are then more motivated to notify their partners than later at home, and public health 232 nurses could assist with this process. However, it is also important to offer Suggestatest.nl use 233 at a later stage, because at the STI clinic the majority of participants reported that they were 234 unable to fill in contact details of all partners.

In a review of the acceptability of electronic PN a pattern emerged across studies showing

235

236 Unanswered questions and future research

We recognize that there is a possible trade-off between reaching more partners by the implementation of a low threshold online PN tool and the quality of the sent notification: as many partners do not read their online notification (42%; e.g. because they think it is an

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- 240 unsolicited message/spam), the sent notification might not have resulted in health care
- 241 seeking.⁶ Future research should focus on the most suitable ways of directing online notified
- partners into care. After the inclusion period of this study, the tool was renamed to
- 243 <u>"Partnerwaarschuwing.nl" (Partnernotification.nl in English) as some notified partners</u>
- 244 <u>reported that were confused about the name Suggestatest.nl.</u>
- 245
- 246 Our study mainly focusses on patients who chose to use Suggestatest.nl and their partners in
- 247 which participation was low. For generalizability, more research is necessary which measures
- the opinion of all notified STI-clinic clients regarding online partner notification.

249	Contributors:
250	MvR, and RK designed the study protocol, supported by HG, TH, and HV. PV was
251	responsible for the development of the Suggestatest.nl website and the implementation of the
252	online questionnaires. MvR performed the statistical analyses supported by HG, MvV, and
253	HV. MvR, HG and HV drafted the paper, all authors commented on draft versions, and all
254	approved the final version.
255	
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258	AIDS World Congress (17 July 2013, Vienna, Austria; abstract number P5.003).
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Acceptability¹ Usability¹ N=112 N=112 mean (sd) mean (sd) Arrange personal matters via internet 4.0 (0.8) 4.6 (0.7) Notify sex partners via internet 4.0 (0.9) 4.6 (0.8) Notify sex partners with SAT while at home 4.6 (0.7) 4.4 (1.0) Notify with SAT compared to former performed notification 4.0 (1.0) 4.5 (0.7) method (N=52) Notify of STI with SAT² 4.4 (0.8) 4.7 (0.7) Notify of HIV with SAT² 3.0 (1.5) 3.6 (1.4) The STI clinic offering SAT 4.8 (0.4) 4.8 (0.4) Willingness to receive notification through SAT³ 4.4 (1.0) NA⁴ NA⁴ Recommend SAT 4.6 (0.6) **Overall⁵** 4.2 (0.6) 4.4 (0.5)

 Table 1. Acceptability and usability scores and partner notification related answers of index patients who used Suggestatest.nl to notify

 sex partners, the Netherlands, March 2012 - June 2013

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	Yes	No
	N (%)	N (%)
Experience with notifying partners	53 (47.3)	59 (52.7)
Able to fill in contact information of all partners at the STI clinic	41 (36.6)	71 (63.4)
Notified more partners with Suggestatest.nl than without the	88 (78.6)	24 (21.4)
existence of SAT		

NA: not applicable; SAT: Suggestatest.nl; sd: standard deviation

¹Acceptability and usability scores ranged from 1 to 5.

²As most participants did not notify of HIV, questions about using SAT to notify of STI or HIV exposure were asked regardless of type of notification sent. Four index patients were newly diagnosed with HIV. Three rated Suggestatest.nl as very acceptable and usable to notify partners of both HIV and STI exposure (all scored 5). The other patient was less positive (HIV: 2 and 3.5; STI: 3 and 4, respectively). ³This is not based on experience but on the index patient's opinion.

⁴Usability was not applicable for these items because the questionnaires focused on the acceptability of SAT only.

2

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⁵Overall acceptability and usability are based on all items mentioned in above table except "Notify with SAT compared to former performed notification", because of a relative high number of missing values.

Table 2. Acceptably and usability scores and partner notification related answers of partners who were notified through Suggestatest.nl,

	Acceptability ¹	Usability ¹
	N=163 ²	N=163 ²
-	mean (sd)	mean (sd)
Arrange personal matters via internet	4.1 (0.8)	4.5 (0.8)
Enter a personal code online to view detailed	4.0 (1.2)	4.3 (1.1)
notification		
Read the STI-specific notification using the internet	4.0 (1.0)	4.4 (0.9)
Receive an anonymous or non-anonymous notification ³		
Anonymous	2.7 (1.5)	NA^4
Non-anonymous	4.4 (0.9)	NA^4
Receive notification via SAT compared to previously	3.6 (1.0)	3.6 (1.0)
received notification ⁵		
Receive notification of STI via SAT ⁶	4.4 (0.9)	4.4 (0.9)
Receive notification of HIV via SAT ⁶	3.3 (1.5)	3.2 (1.5)

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The STI clinic offering SAT	4.4 (0.9)	4.5 (0.8)
Willingness to send notification through SAT ⁷	4.1 (1.2)	NA^4
Recommend SAT	4.4 (0.9)	NA^4
Overall ⁸	4.1 (0.8)	4.1 (0.7)

Received in the past an STI notification through a			
method other than Suggestatest.nl (36 missings)			
Yes	64 (50.4%)		
No	63 (49.6%)		
Preferred method of receiving a notification through			
Suggestatest.nl (50 missings)			
SMS, anonymous	31 (27.4%)		
SMS, non-anonymous	56 (49.6%)		
Email, anonymous	11 (9.7%)		
Email, non-anonymous	14 (12.4%)		
Postal, anonymous	0		

Postal, non- anonymous	1 (0.9%)
Gay dating site, anonymous	0
Gay dating site, anonymous	0

NA: not applicable; SAT: Suggestatest.nl; sd: standard deviation

¹Acceptability and usability scores ranged from 1 to 5.

²Total number of questionnaires were N=163: N=53 were filled in online after sending a notification and N=110 offline when visiting the STI clinic. None of the scores were statistically different between those who responded online and those who responded offline. Due to missing answers, single items and constructs (only calculated if all items were available) were not available for all participants; for acceptability, the items were complete for (from above) 118, 150, 150, 90, 32, 47, 146, 144, 147, 128, 127 and 133 participants respectively; for usability, the items were complete for (from above) 119, 157, 149, 46, 145, 141, 146, and 136 participants respectively.

³Opinion about (non)anonymous notification was only measured for the type of received notification (N=90 anonymous, N=32 non-anonymous, N=41 missing).

⁴Usability was not applicable for these items because the questionnaires focused on the acceptability of SAT only.

⁵Only asked to N=64 partners who were notified before.

⁶Questions on acceptability and usability of SAT to notify for STI and HIV were offered to all participants regardless the type of received notification. Three partners were notified of HIV exposure. They rated Suggestatest.nl as acceptable (mean 4.7; individual scores 4, 5 and 5) and usable (mean 4.2; individual scores 3.5, 4 and 5) to notify of STI. The acceptability and usability to receive an HIV notification through Suggestatest.nl were rated 4.3 (individual scores 3, 5 and 5) and 3.2 (individual scores 3, 5 and 1.5), respectively.

⁷This is not based on experience but on the opinion of the notified person.

⁸Overall acceptability and usability based on items mentioned in above table except - because of a relative high number of missing values -"arrange personal matters via internet", "receive an anonymous or non-anonymous notification", "receive notification via SAT compared to previous received notification", "preference to send notification through SAT", and "recommend SAT". For online respondents, the first item and latter two items were asked only in the follow-up questionnaire participants received 2 weeks after completing the first one (23 out of the 53 online responders filled-in). With the latter 2 items included, the mean acceptability score was 4.1 (sd=0.7), and the total number of completed questionnaires was N=103. Supplemental Digital Content

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