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Editorial

A verbal invitation and specimen collection on the spot are crucial to maximise sexually transmissible infection testing uptake in non-traditional settings

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Abstract. Non-traditional settings offer an opportunity to increase access to sexually transmissible infection testing for at-risk populations, but they have not yet proven to be an efficient option and current models are unlikely to be effective if scaled up.

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The advent of nucleic acid amplification tests (NAATs) has made it possible to target at-risk populations for sexually transmissible infection (STI) screening in non-traditional settings. NAATs allow specimens to be mailed to a diagnostic laboratory, creating more flexibility and convenience for those being tested. Options for screening include the establishment of online sites where people can request a specimen test kit through the mail, or through non-traditional settings such as in pharmacies, sporting venues and entertainment venues. In this issue of *Sexual Health*, Habel *et al.* describe the results of a study in the United States in which they assessed the feasibility and acceptability of pharmacy- and home-based chlamydia, gonorrhoea and trichomonas screening among emergency contraception (EC) users.[1]

The study comprised two parts: one pharmacy based and the other based online through Facebook; both offering free testing. In the pharmacy-based study, customers purchasing EC from eight pharmacies in Manhattan received a voucher attached to their EC pack inviting them to have a free STI test at an onsite medical clinic. While it was unclear how many people sought EC from participating pharmacies during the 16-month study period or how many were actually informed about the STI testing verbally by the pharmacist, only 38 were tested, representing a '*small fraction*' of those eligible, and none tested positive for chlamydia, gonorrhoea or trichomonas.

In the online testing study, Facebook advertisements were used over a 12-month period to target EC users and connect them with an online STI testing site where they could request a free home test kit and mail it to the laboratory for testing. Of 45 766 responses to the advertisement, only 6% took the eligibility screener. Of 804 eligible to participate, 290 (36%) requested a test kit and only 81 (28%) test kits were returned, corresponding to 10% of those eligible being tested. The prevalence of chlamydia among those tested was 4.9% and 2.5% for trichomonas; no cases of gonorrhoea were diagnosed. While the testing offered was free of charge, the test kits cost $55 (US) each and the Facebook advertisements cost $50 000, which corresponded to a cost of ~$800 per test done and $11 000 per STI diagnosed. Given that this component was conducted in 2011/2012, it is quite possible that advertising costs have since reduced and the cost per test conducted would be lower now.

These low STI testing rates are not surprising. Pharmacy-based STI testing has tended to deliver modest testing rates[2] and has largely been based on the model of providing test kits for home-based specimen collection and mailing to the laboratory. A significant limitation of these studies has been that few have monitored how many people visiting the pharmacy were eligible for STI testing, so participation rates have not been reported. Instead, they have recorded testing rates among those who took a home-test kit. Specimen return rates are generally low, with a recent systematic review finding that between 12% and 28% returned a kit in opportunistic screening studies.[2] A subsequent Australian-based study included a $10 cash incentive to both the providers and consumers of chlamydia testing in Australian pharmacies. Pharmacy staff invited young people attending for any reproductive or sexual health reason to have a test and participants could leave a specimen at the pharmacy. This study was very successful, finding that 93% of 979 test kits provided were returned for testing.[3] Habel *et al.* provided a $20 Amazon voucher to participants, but they did not provide any incentive

to pharmacy staff and when investigated, only three of eight pharmacies told the study '*secret shopper*' about the availability of STI testing. Most pharmacies in Australia are small businesses and there needs to some incentive for them to promote testing, but given that the Australian government is currently reducing financial incentives for primary care activities in general practice,[4] it is unlikely that financial incentives will be sustainable in the long term.

Online STI testing has also suffered from low testing rates. A systematic review of online testing programs found specimen return rates ranged from 22% to 63%.[5] A population-based trial in The Netherlands in which a random sample of 16- to 29-year-old men and women were mailed an invitation to request a chlamydia testing kit online found only 20% requested a test kit, and of these 79% returned the kit, corresponding to only 16% of those eligible being tested.[6] An Australian-based study developed an online STI testing program that was widely advertised via websites, Facebook, posters, flyers, business cards, wrist bands and school and community nurses, and targeted a population size of 191 210 15- to 24-year-olds.[7] Over a 10-month period, a total of 28 individuals were tested at a cost of $750 per person tested. Nearly three-quarters (20 of 28) of tested individuals were referred to the site from school or community nurses, suggesting that an invitation from a healthcare professional was needed to maximise uptake in this population group.

So, how can test uptake be increased among these high-risk populations? Outreach STI testing models that offer a test and provide specimen collection on the spot have produced the highest return rates. A 2013 systematic review of outreach testing targeting young adults in venues such as sporting clubs, street settings, leisure settings, workplace, higher education facilities or family courts found that 80% of those invited to test provided a specimen for testing.[8] The review was unable to disentangle the specific program features that may have contributed to high testing uptake, but did note that participation appeared to be to greater where screening was offered within an existing venue rather than when people were approached in a public community area. Some potentially beneficial program aspects included the use of peers to approach potential participants, recruitment in a venue with support of trusted staff and colleagues (such as sporting clubs), the use of incentives and offering a range of methods such as email, phone or SMS to provide participants with their results.

Importantly, these outreach testing programs provided free testing. Although, the costs of STI testing were borne by this study, Habel *et al.* asked pharmacy and Internet testers whether they would use a STI home test kit from the pharmacy if it was free or if a cost was involved.[1] Between 70% and 83% participants reported they were willing to purchase a home test kit if it cost $25, and over 90% expressed willingness to test at home if it were free. It is important to note however, that saying you would be likely to use a STI home test kit does not necessarily lead to providing a specimen for testing as Habel *et al.* found,[1] with nearly all of those who did not return their online STI home test kit reporting in their questionnaire that they would be likely to use a STI home test kit from the pharmacy. Further, although the concept of a fee appeared to only deter a minority of participants, it is possible that such a fee would bias availability of the kits towards older and more educated people who are potentially at lower STI risk than less financially secure or younger adults who are at increased risk of STIs.

Who pays for such outreach testing is another key issue. In the study by Habel *et al.*, the costs of the testing programs were covered by the research program.[1] While charging tests to Medicare may improve the financial viability of such programs in Australia, regulatory barriers requiring a doctor to consult a patient in order for a test to be Medicare eligible mean this is not currently an option for funding outreach testing in Australia, unless a doctor is present.[9]

A verbal invitation to have a STI test appears to be crucial for maximising testing uptake. A recent study in Australian primary care clinics involving a consecutive sample of over 4000 men and women aged 16–29 years attending for any reason (over 85% were for a non-sexual health reason) found that over 70% of those invited to have a chlamydia test were tested, suggesting that most people will accept an invitation to have a test even if they do not believe they are at risk of a STI; they just need to be asked.[10] Another chlamydia testing study in Australian primary care found patients attending clinics that did not cater for specimen collection (i.e. the patient had to attend a pathology collection centre off site from the clinic) were 40% less likely to provide a specimen for testing even when a doctor ordered one.[11] This finding suggests that provision for specimen collection when a test is offered is another crucial aspect of maximising STI testing uptake.

Non-traditional settings offer an opportunity to increase access to STI testing for at-risk populations, but it has not yet been proven that they are an efficient option and current models are unlikely to be effective if scaled up. Programs relying on financial incentives are difficult to sustain, and suitable models for how outreach programs can be funded given the constraints of the Medicare system in Australia need to be considered. What we do know, is that there needs to be a verbal invitation to test and there must be the provision of facilities to collect and deposit specimens where and when the invitation is made to encourage testing uptake in non-traditional settings.

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