Home-based self-sampling to test for sexually transmitted infections

A systematic review and meta-analysis suggests that taking samples at home compared with taking samples in a clinic improves the uptake of testing for sexually transmitted infections among women.

**Overview:** In 2013, approximately 450,000 diagnoses of sexually transmitted infections (STIs) were made in England (Public Health England 2014). The most common STI is chlamydia, with 208,755 diagnoses in England in 2013. Other types of common STIs include genital warts, genital herpes and gonorrhoea. Rates of STIs are highest in heterosexual people under the age of 25 years and in men who have sex with men.

Testing for many STIs involves taking a sample of the affected area, such as the cervix or inside the lower vagina in women or from the urethra in men. STI testing is available at sexual health clinics, genitourinary medicine clinics and GP surgeries. In addition, home sampling kits are available over the counter in pharmacies and online for greater convenience and privacy. NHS trusts in some areas provide home chlamydia testing kits for free to people under 25 years.

**Current advice:** Guidance from the British Association for Sexual Health and HIV on testing for chlamydia (NICE accredited) recommends first-catch urine or urethral swab as the sample of choice for men. Self-sampled lower vaginal swab or first-catch urine is the specimen of choice for women not requiring speculum examination, with lower vaginal swab the preferred option. Clinician-obtained cervical swab is recommended in women undergoing speculum examination. Public Health England guidance on detecting gonorrhoea advises testing for gonorrhoea in any setting or situation where it is clinically indicated, such as for symptomatic patients, contacts of those infected or according to sexual history.

The MHRA advises that self-test kits can have an important role to play in healthcare but should not be relied upon on their own. People who think they may have an STI should always seek advice from a healthcare provider or STI clinic.

The NICE Pathway on preventing sexually transmitted infections and under-18 conceptions brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams.

**New evidence:** Odesanmi et al. (2013) conducted a systematic review and meta-analysis to compare home-based self-sampling for STI testing with clinic-based sampling techniques. The authors searched for randomised controlled trials of home sampling (samples returned by post or self-delivery) versus clinic sampling (samples collected by clinician or patient) in women aged 14–50 years. The STIs considered were chlamydia, gonorrhoea and trichomoniasis. The primary outcome was uptake of STI testing, defined as the number of women tested as a proportion of all those who should have been tested.
A total of 6 moderate quality randomised controlled trials were identified. The trials comprised 5475 women aged 14–45 years (mean age=21.6 years) in 4 countries (USA, Denmark, Brazil and South Africa). Of these 6 trials, 5 reported a significant increase in STI testing in women offered home-based sampling compared with those offered clinic-based sampling.

Meta-analysis of 2 studies that used data from self-reports and medical records (n=1184) showed that home-based sampling improved testing uptake by about 50% compared with clinic-based sampling (risk ratio=1.55, 95% confidence interval 1.30 to 1.85, p<0.00001). When a third trial was added and data from medical records only were analysed, the effect of home-based sampling was no longer significant (p=0.14). However, these 3 studies were very heterogeneous ($I^2$=96%).

Three trials assessed whether home-based sampling affected specimen quality: 2 of these found no significant difference in the number of samples rejected from home-based sampling compared with clinic-based sampling. All of the 3 trials that measured women’s preferences with respect to sampling technique found that women preferred home-based sampling over clinic-based sampling.

This study is limited by the small number of trials analysed and the restricted number of regional, cultural and ethnic groups represented. In addition, the high uptake of STI testing observed in women offered home-based sampling could have been affected by their contact with researchers at enrolment. Lower uptake levels may be observed in real-life settings and where healthcare delivery differs.

Commentary: “Worldwide, STIs rank among the top 5 types of disease that require adults to access healthcare services. An estimated 500 million people each year are affected by gonorrhoea, chlamydia, syphilis and trichomoniiasis (World Health Organization 2013). Effective testing strategies are therefore central to controlling STIs.

“This systematic review and meta-analysis provides some evidence, estimated by the authors as ‘modest’, that home-based self-sampling for STIs among women enhances the uptake of testing. Coupled with this enhanced uptake, the review discovered no compromise in the quality of samples collected at home. This finding is important because the lab tests used in STI testing (nucleic acid amplification tests) are known to be effective and this review suggests that the quality of samples taken outside a clinical setting are as good as those taken in a clinical setting. This outcome provides reassurance that testing programmes that use home-based sampling can be undertaken confidently by women, especially since the sequelae of STIs most seriously affect them compared with men.

“It is important to develop systems that will encourage testing of people who are at risk and who would not normally access other clinical testing facilities. Home-based sampling is certainly a viable alternative and should be cost effective and seen as an adjunct to clinic-based sampling and examination. It is, however, vital that systems are in place to ensure that positive test results as a consequence of home-based sampling are treated appropriately and partner notification is undertaken (Society of Sexual Health Advisers 2004)” – Dr Dan Natin, Consultant in Genitourinary Medicine, South Warwickshire Foundation Trust, Warwick and Dr Mike Walzman, Consultant in Genitourinary Medicine and Associate Medical Director for Community Services, George Eliot Hospital, Nuneaton

Study sponsorship: This study was not funded.