

# STI-X: a novel approach to STI testing in rural and regional Victoria, Australia

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## ABSTRACT

Accessing testing for sexually transmissible infections (STI) in regional and rural areas can be challenging for many people. Innovative solutions are necessary to ensure that barriers are minimised for populations who are often disadvantaged by the health system. STI-X, our STI test vending machine brings testing to local communities in areas where accessing a clinical service can be difficult due to extended wait times or where there is concern about privacy. Providing the option of a free, quick and easy STI test aims to reduce the prevalence of STIs and the burden on the primary care system.

**Keywords:** chlamydia, gonorrhoea, health promotion, HIV, rural health, sexual health, sexually transmissible infections, STI testing, vending machine.

It is challenging for individuals living in regional, rural or remote areas to access health care to test for sexually transmissible infections (STI). To help address this issue and reduce pressure on the primary health care system, the Centre for Excellence in Rural Sexual Health, looked at innovative solutions being used in Australia and internationally to increase access to STI testing and therefore put downward pressure on STI rates. With the introduction of vending machines as a dispensing mechanism for many goods, STI tests are another product that can be efficiently provided to people facing access barriers to test for STIs. This provides users with increased agency, autonomy, privacy, and convenience, which potentially addresses long GP wait times, confidentiality concerns, and travel barriers. These issues are particularly important in small towns where escaping the notice of a friend, colleague or family member can be difficult.

While there are human immunodeficiency virus (HIV) test vending machines currently in operation in Queensland and South Australia in a metropolitan university and sex-on-premises venues, our STI-X project is the first in Australia to test for multiple STIs across multiple anatomic sites of testing. It is also potentially the first worldwide to be placed in regional and rural settings. STI-X combines pathology-based testing for chlamydia and gonorrhoea via oropharyngeal, vaginal, and anorectal swabs and urine collection for urethral infections with the Atomo rapid HIV test. In the future, we aim to expand the testing kits to include syphilis and hepatitis tests.

For the pilot phase, we convened local community reference groups to determine locations within their communities for the vending machines, in addition to local marketing strategies best aimed at targeting the populations most at risk of STIs in those communities. Subsequently, we prioritise placing the vending machines in public or semi-public venues (e.g. libraries), in central, northwest, and northeast Victoria. The vending machines will be deployed for approximately 6 months per location across five rural towns or small regional cities.

The process of testing is free, simple, and fast. Users who meet one of the testing criteria of being either: (1) 16–25 years of age; (2) Aboriginal or Torres Strait Islander; or (3) a man who has sex with men, can access a test during the operating hours of the venues hosting the vending machines. These criteria reflect populations who are often at higher risk of STIs or are more likely to experience barriers to accessing appropriate services, particularly in rural and regional areas.

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To obtain a test, the user enters confidential demographic data into the vending machine. They then select whether they require a penis test kit or vaginal test kit. Each kit contains a user details form, testing equipment, instructions, a prepaid shipping label to return the box, a pen, and condoms. Users next enter their mobile phone number to generate an SMS code that users enter into the machine which then dispenses the test. Phone numbers are encrypted and only recognised by the machine to prevent dispensing multiple tests in a short timeframe. The entire process can be completed in 60–90 s.

Once the test kit has been provided, users complete the specimen collection in a private setting and specimens are then sent via Australia Post to our partner, Melbourne Sexual Health Centre (MSHC) for testing. Test results are provided via phone by MSHC clinical staff who will also arrange treatment if required, at a local regional health service. Users who return a reactive Atomo rapid HIV test are provided with manufacturer supplied information to support further

consultation with this information duplicated on a supplemental website that was designed to support this pilot.

Our evaluation will measure acceptance and initial performance. User acceptance will be measured through both a brief on-screen survey, which assesses user's opinion on speed and ease of machine use, and an included link to an online survey, which asks more in-depth demographic questions, and questions such as how the user heard about the machine, ease of test kit use, likelihood of repeat use, and feedback on the pilot. Community acceptance will be evaluated through interviews and focus groups. In addition, performance measures including frequency of test requests, percentage of specimen kits obtained where specimens are posted for testing, and number of infections detected will be analysed.

While we expect challenges to arise in the initial months of deployment, we are confident that users will find this STI testing option in regional and rural Victoria convenient and acceptable.

**Data availability.** Data sharing is not applicable as at present no new data have been generated or analysed during this study.

**Conflicts of interest.** The authors declare no conflicts of interest.

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