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New Aussie STI self-test could revolutionise disease detection

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Clinicians and scientists are hopeful that world-first Australian innovations in self-testing for sexually transmitted diseases will reduce their prevalence – particularly among high risk groups – as well as lowering the burden on the health system from clinic and laboratory-based tests.

Sydney-based Atomo Diagnostics has partnered with Melbourne's Burnet Institute to develop a syphilis test that would not only be [Australia's first self-test](#) for the disease but the first syphilis test in the world to be able to differentiate between active and past infections.

Atomo is also the manufacturer of [Australia's leading HIV self-testing kit](#), and the company and sexual health experts believe the [overlap between groups at risk for both HIV and syphilis](#) presents an opportunity to integrate self-tests for the two diseases with pre-exposure prophylaxis (PrEP) medication for HIV.

Currently, patients must attend a GP or sexual health clinic and submit to blood tests for HIV and other STIs every three months in order to qualify for PrEP – antiretroviral medication taken prior to potential exposure to reduce the risk of transmission of the disease.

Melbourne Sexual Health Centre physician Jason Ong said while [self-tests](#) were not quite as sensitive as laboratory-processed blood tests (the Atomo HIV self-tests have a 99.6 per cent accuracy rate), there were “trade-offs” that meant their use could offer a net benefit to the health system by making PrEP and testing available to people who avoid clinics because of distance, stigma or inconvenience.

“If you are able to access a person that would not want to see a doctor, and you can get them on to PrEP, the benefit will largely outweigh any risks,” Professor Ong said.

He said he was hopeful of moving towards a “hybrid” model, where PrEP users were required to test at a clinic every six months rather than every three months, if they submitted to self-testing in the interim.

“If we move from three to six months, that helps a lot in terms of demand for our services,” Professor Ong said. “It frees us up to see other clients who need us and can’t see us because we’re too full.”

The [prevalence of syphilis is surging](#) – up 300 per cent in Australia over the past decade – partly as a result of reduced condom use as the threat posed by HIV diminished with the development of anti-retroviral drugs.

Burnet Institute deputy head of HIV and STI prevention Michael Traeger said the capacity to enable patients to self-test for both diseases at once would be “advantageous” among groups at risk for both diseases, such as gay and bisexual men.

Dr Traeger said an even greater benefit could come from the capacity of syphilis self-tests to give results within minutes, enabling immediate treatment.

“The beauty of a self-test in a clinical setting is that you can have a result within 15 minutes and begin treatment the same day, so you’re not losing people to follow-up,” he said.

The effects of syphilis – which include damage to the brain, spinal cord, heart, eyes and other body parts – are particularly acute in babies of infected women.

In the eight years to 2024, 99 cases of congenital syphilis were recorded in Australia, with 33 related infant deaths.

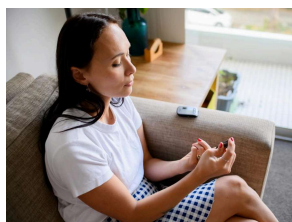
Cases have been soaring in Indigenous communities, with the notification rate for Aboriginal and Torres Strait Islander women aged 15-44 rising from 56 cases per 100,000 in 2011 to 227 cases per 100,000 in 2021, compared with 1.1 per 100,000 in 2011 and 9.2 per 100,000 in 2021 among the general population of women of reproductive age.

Atomo and the Burnet Institute received \$2.44m in federal funding last November to commercialise the syphilis test for both professional and home use.

Atomo chief executive John Kelly said early clinical studies had been promising, with a larger trial due to commence early next year to satisfy Therapeutic Goods Administration requirements. “We’re very grateful for the government support to get the product to market, and we’re keen to do that as quickly as we can,” Mr Kelly said.

“It’s a really good example of Australian researchers and companies working together.”

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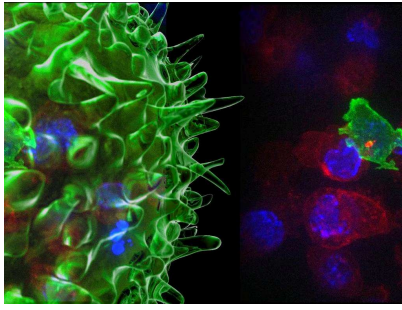
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