

Impact of the introduction of community-led molecular point-of-care testing for sexually transmitted infections on testing uptake and infection detection in remote and regional Aboriginal and Torres Strait Islander communities in Australia.

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Background: Remote and regional Aboriginal and Torres Strait Islander communities in Australia face high rates of chlamydia(CT), gonorrhoea(NG) and trichomonas(TV), where significant distances to centralised laboratories hinder timely diagnosis. We evaluated the impact of introducing molecular point-of-care testing (POCT) for these sexually transmitted infections(STIs), performed by primary care staff, on testing uptake and infections detected.

Methods: We conducted an interrupted time series analysis to assess changes and compare the average monthly tests and infections detected before (9 months) and after (15 months) introducing molecular POCT as part of the Test, Treat ANd GO (TTANGO2) STI program (2016-2019). We included routine testing data from 20 clinics among Aboriginal and Torres Strait Islander people aged 15-54 years.

Results: During the evaluation, 17,437 CT/NG tests and 14,173 TV tests were performed; most were among women (69% and 64%) and those aged 15-34 (72% and 68%). There was an immediate, large increase in CT/NG tests (26%, $p<0.001$) when CT/NG POCT was introduced, and a 15% increase in mean monthly tests in the after compared with the before period (764 vs 663 before, $p<0.001$). Similarly, there was an immediate, large increase in TV tests (21%, $p=0.004$) when TV POCT was introduced, and a 30% increase after compared with before (646 vs 498, $p<0.001$). Infections detected increased immediately for NG (by 30%, $p=0.017$) and TV (by 29%, $p=0.034$) but not for CT (9%, $p=0.616$).

Conclusion: This analysis uniquely demonstrated that the introduction of molecular POCT increased STI testing and early detection in remote and regional primary care clinics where laboratory testing was already available. In addition to the already proven individual benefits, the additional diagnoses and timely treatment observed likely contributed to reduced onward transmission and sequelae of infection. To optimise these benefits, support for primary care services is crucial for greater uptake of molecular POCT.

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Aboriginal and Torres Strait Islander approvals: The study was approved by the Western Australian Aboriginal Health Ethics Committee, Far North Queensland Human Research Ethics Committee, Aboriginal Health Research Ethics Committee of South Australia, Central Australian Human Research Ethics Committee, Human Research Ethics Committee of NT Health and Menzies School of Health Research, Townsville Hospital and Health Service Human Research Ethics Committee, and the Kimberley Aboriginal Health Forum Research Sub-committee. The TTANGO2 program was governed by an Executive Group which included representatives of state and territory peak Aboriginal Community Controlled Health Organisations and partnering Aboriginal Community Controlled Health Services.