THE COST-EFFECTIVENESS OF MOLECULAR POINT OF CARE TESTING FOR CHLAMYDIA, GONORRHOEA AND TRICHOMONAS IN REMOTE PRIMARY CARE HEALTH SERVICES IN AUSTRALIA.

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Background:
In Australia almost a third of the population live in rural and remote areas, and have inequitable access to quality care which is a strong predictor of poor health outcomes. The (Test, Treat and Go) TTANGO program implemented in rural and remote Aboriginal and Torres Strait Islander communities from 2013-2024 demonstrated molecular point-of-care (POC) testing for sexually transmitted infections conducted by staff in health services improved the timeliness of treatment. Here we describe the cost-effectiveness of the approach.

Methods:

A Markov probabilistic model was constructed to simulate the patient clinical pathway using POC tests for chlamydia/gonorrhoea and trichomonas (CT/NG and TV) for attendees of a hypothetical health service, compared with sending specimens to a distant laboratory. We used data from the TTANGO program, published papers on adverse health outcomes including preterm birth and acute pelvic inflammatory disease (PID), staff costs and interviews. Outcomes were reported from the health system perspective as the cost (AUD) per quality adjusted life year (QALY) using a 12-month and 10-year time horizon. Sensitivity analyses were conducted.

Results:
Assuming at each site, an average of 300 people received at CT/NG and TV test over 12-months, the mean cost per QALY was $571 (95% CIs $510-$648) for POC testing compared to $584 (95% CIs $514-$655). Over 10-years the mean saving per person tested was $364 ($355-$373) and mean QALY gain was 0.04(0.03-0.04) with a 34% reduction in PID. Over the past four years, based on the number of POC tests conducted this would account for health system savings of $1.01M and 110 QALYs saved. The key drivers of cost-effectiveness were reduced staff time required for patient follow-up and decreased incidence of adverse health outcomes.

Conclusion:
Molecular POC testing for CT, NG and TV is effective and cost-saving in rural and remote communities compared to laboratory testing. Such tests, when part of Aboriginal and Torres Strait Islander-led strategies, can contribute to addressing inequities in access to timely treatment and reduce adverse consequences of infection.

Disclosure of Interest Statement:
TTANGO2 was funded through a National Health and Medical Research Council Partnership Grant, the Australian Government Department of Health, WA Health, and Queensland Health. The authors acknowledge the contribution to the program of many stakeholders, including participating Aboriginal community-controlled and government-funded health services, pathology providers, communities, academic research institutions, and industry.
Professor Guy, Dr Causer and Dr Matthews are investigators on a research project that receives free Streptococcus A and human papillomavirus test cartridges from Cepheid. Professor Guy is an investigator on a research project that receives funding and in-kind support from Cepheid.
No financial support was received by Cepheid. Cepheid provided GeneXpert devices and cartridges at reduced cost.
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.