Public health impact of molecular POC testing for COVID-19 in remote Aboriginal and Torres Strait Islander communities during the pandemic in Australia

Authors:
Hengel B[1], Causer LM[1], Smith K[1,] Applegate TL[1], Patel P[1], Cooney L[1], Andrewartha K [2], Casey D[4], Anderson L[3], Papa R[1] Hui B[1], Regan DG[1], Matthews S[2], Guy RJ[1] on behalf of the COVID-19 Point-of-Care Testing team and Clinical Advisory Group.

[1] Kirby Institute, UNSW Sydney, NSW, [2] Flinders International Centre for Point of Care testing, Flinders University, SA, [3] Kimberley Aboriginal Medical Services, Broome, Australia,[4] National Aboriginal Community Controlled Health Organisation, Canberra, ACT

Background: To ensure equitable access to testing, minimise delays in diagnosis, and inform rapid public health responses for isolated Aboriginal and Torres Strait Islander communities, molecular point-of-care (POC) COVID-19 testing was implemented at 105 rural/remote primary health services nationally. We describe the scale and health impact of this program from May 2020 to August 2022.

Methods: Using programmatic data, we describe testing coverage and positivity over three epidemiologic periods in Australia (1 = no community transmission, 2= community transmission <2 jurisdictions, 3= network-wide community transmission). We compared the trajectory of cases in the real-world (first COVID-19 cases identified via POC leading to same-day public health responses) to a modelled counterfactual assuming (first COVID-19 cases identified via laboratory testing, resulting in a 6-day delay in public health responses).

Results: Most health services (66%) were in very remote areas. From May to August 2022, 72,624 patient tests were performed: 67% in Aboriginal and/or Torres Strait Islander peoples and 56% in women. A quarter (25%) of the total population (unique individuals) had a COVID-19 POC test (average weekly POC testing rate was 0.3%). Overall test positivity was 6%, ranging from 0.2% (period 1), to 2.9% (period 2) and 21% (period 3). Once the first case was detected, POC test positivity for the following 40 days across all communities was 28.5%. Based on modelled predictions we estimate, ~100,000-120,000 infections were averted due to POC facilitating same-day public health responses, compared to 6-day delay.

Conclusion: The national POC network maximised and prioritised access to rapid testing in Aboriginal and Torres Strait Islander peoples. By strong integration of POC testing within health services and public health responses, there was a substantial health impact realised. The program continues to be, an integral part of Australia's response.

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