

A national program to scale-up decentralized HCV point-of-care testing and treatment in Australia

Authors:

Grebely J¹, Markus C², Causer LM¹, Silk D¹, Comben S¹, Hosseini-Hooshyar S¹, Lloyd AR¹, Martinez M¹, Shaw I¹, Cunningham P^{1,3}, Fowle C⁴, Cunningham EB¹, Marshall AD^{1,5}, Byrne M¹, Treloar C⁵, Shih STF¹, Gray RT¹, Wiseman V^{1,6}, Applegate TL¹, Guy R¹, Martinello M¹, Hajarizadeh B¹, Lafferty^{1,5}, Dimech W⁷, Cabuang L⁷, Kerr S⁸, Read P^{1,9}, Pedrana A¹⁰, Sheehan Y¹, Thompson AJ¹¹, O'Loan J¹², O'Flynn M¹², Dore GJ¹, and Matthews S² on behalf of the National Australian Hepatitis C Point-of-Care Testing Program

¹The Kirby Institute, UNSW Sydney, ²Flinders University International Centre for Point-of-Care Testing, Flinders Health and Medical Research Institute, Flinders University, ³New South Wales State Reference Laboratory for HIV, St Vincent's Centre for Applied Medical Research, ⁴Hepatitis Australia, ⁵Centre for Social Research in Health, UNSW Sydney, ⁶Department of Global Health and Development, London School of Hygiene & Tropical Medicine, ⁷National Reference Laboratory, Australia, ⁸Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine, ⁹Kirketon Road Centre, South Eastern Local Health District, NSW Health, ¹⁰Burnet Institute, ¹¹Department of Gastroenterology, St Vincent's Hospital and the University of Melbourne, ¹²Kombi Clinic.

Background: Fingerstick point-of-care HCV RNA testing enables diagnosis and treatment in a single-visit, increases testing acceptability, and reduces loss to follow-up, addressing the drop-off in the HCV care cascade. This analysis evaluated HCV testing and RNA prevalence in a national program to scale-up point-of-care HCV testing.

Methods: The National Australian HCV Point-of-Care Testing Program is evaluating the scale-up of point-of-care HCV testing (antibody: Bioline HCV test; RNA: Xpert HCV Viral Load Fingerstick test) at 89 sites in Australia, including drug treatment clinics, needle and syringe programs, prisons, mental health services, homelessness services, Aboriginal Community Controlled Health Organisations, and mobile outreach clinics through an observational study. The program facilitates point-of-care testing for anyone at risk of HCV or attending a service providing care for people at risk of HCV. The program also includes standardised operator training for non-laboratory staff and quality assurance program. Immediate HCV RNA testing is performed in settings with high HCV antibody prevalence ($\geq 15\%$, drug treatment, needle syringe programs and prisons). HCV antibody testing with reflex RNA testing is performed in settings with low HCV antibody prevalence ($< 15\%$, mental health, homelessness).

Results: Between January and October 2022, 31 sites (community, n=22; prison, n=9) have been established in five states/territories (97 operators trained) with 4,395 HCV point-of-care tests performed (antibody, n=477; RNA, n=3,918) in the community (n=1,230) and prisons (n=3,165). Among those receiving HCV RNA testing, 538 people (14%) have current HCV infection (community, 16%; prison, 19%).

Conclusion: This program is the first internationally to evaluate scale-up of point-of-care HCV testing in different settings, providing critical information on this approach towards reducing HCV prevalence. Standardised operator training and quality assurance have been critical for success. Facilitators and barriers to testing, scale-up and treatment uptake will be identified, informing the feasibility of HCV point-of-care testing scale-up in other global settings.

Disclosure of Interest Statement: This study has received funding from the Australian Department of Health (LD21/1305), NSW Health, AbbVie, Gilead Sciences, and Cepheid.