

Improved HCV Case Finding Using Dried Blood Spot (DBS) Testing

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Broader Reach

Screening more at risk population for HCV

Priority Populations

Custodial, IVDU & Indigenous communities

Minimally Invasive

Finger-prick, alternative to venepuncture

for all of
us

Study Design

Prospective validation for Therapeutic Good Administration (TGA) licensing

1

Paired collection

1,286 individuals across six NSW custodial settings — DBS (finger-prick) + EDTA plasma via venepuncture

2

HCV RNA testing

Roche Cobas 6800 HCV assay (LoD 400 IU/mL), 3.5hrs TAT

3

Anti-HCV antibody testing

Abbott Alinity i Anti-HCV assay, 40mins TAT

4

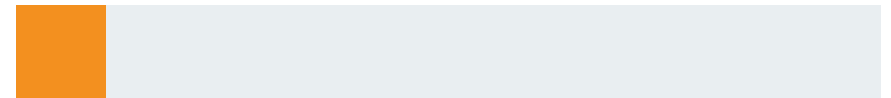
Comparative analysis

Concordance, sensitivity, specificity, stability, precision, cross-reactivity, interfering substances, seroconversion

Sample Composition

1,286

paired DBS + EDTA plasma specimens



133 RNA-positive (10.3%)

1,153 RNA-negative (89.7%)

Genotypes identified: 1a, 2b, 3a — reflecting Australia's prevalent HCV strains

Results: DBS Performs on Par with Plasma

Roche Cobas® HCV RNA

98.2% 99.7% 99.4%

Sensitivity

Specificity

Concordance

Stable at -80°C long-term; no cross-reactivity with ARVs, other pathogens or interfering substances

Abbott Alinity i Anti-HCV

98.9% 100% 99.5%

Sensitivity

Specificity

Concordance

Reactivity maintained after 4 weeks at -80°C; excellent inter/intra-assay precision

Conclusion

DBS testing offers robust analytical and clinical performance comparable to conventional venepuncture-based methods. This validation supports its inclusion as the **first TGA-approved dried blood spot test for HCV in Australia** — a scalable diagnostic pathway that expands case-finding in exactly the populations facing the greatest barriers to testing, supporting progress toward NSW Health's 2028 HCV elimination targets.