

Optimising point-of-care testing services for diabetes management in the Victorian Mallee Track

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Introduction: Since 2004, the Community Point-of-Care Services Unit at Flinders University has assisted the Mallee Track Health and Community Services (MTH&CS) and its associated general practice at Ouyen in rural Victoria with a point-of-care testing (POCT) service for diabetes management. The POCT devices initially set up at MTH&CS were the DCA 2000 (for measuring HbA1c) and the Cholestech LDX (glucose and lipids). In recent years, further options for performing these point-of-care tests have become available on the Australian market. New POCT devices include the DCA Vantage (HbA1c), Nova StatStrip (glucose) and Abaxis Piccolo Xpress (glucose, lipids and liver enzymes).

Aim: The aims of this project were to compare the analytical performance of the original and new POCT devices, with a view to optimising POC services for diabetes management at Ouyen, and to assess stakeholder satisfaction with the POCT service.

Methods: A patient comparison study (involving 103 samples from 61 diabetes patients) was conducted by comparing POCT results for HbA1c, glucose, lipids and liver enzymes obtained on the original and new suite of POCT devices with the results obtained on these same samples by the local accredited pathology laboratory. The local nurse operator (GB) performed all POCT analyses on-site. Stakeholder satisfaction was assessed using a qualitative questionnaire for patients with diabetes (n=61) at Ouyen and by focus interviews with the nurse POCT operator and the local general practitioner.

Results: The DCA Vantage and Piccolo devices exhibited the best analytical performance and met the analytical goals for both accuracy and reproducibility against which performance was assessed. Using these two devices, an improved suite of tests for diabetes management (HbA1c, glucose, lipids and liver enzymes) was available. Sixty of 61 diabetes patients completed the satisfaction questionnaire. A statistically significant improvement in satisfaction was

reported with the new devices by diabetes patients (Fisher's exact probability, $p < 0.05$). Patients, as well as the POCT operator and GP, showed high levels of satisfaction with POCT in terms of convenience, acceptability, and confidence in test results.

Conclusion: This study supports the effective use of POCT in rural general practice settings and represents the first field evaluation of the Piccolo in Australia. Based on the study findings, the MTH&CS have purchased a DCA Vantage and a Piccolo device for continuing use in the diabetes clinic at Ouyen, and are intending to replicate the diabetes management service (in partnership with Flinders University) at the nearby town of Sea Lake.

