TITLE: Point-of-Care Testing for Hemoglobin A1C: Clinical Effectiveness

DATE: 10 September 2010

RESEARCH QUESTION:

What is the comparative clinical effectiveness of point-of-care monitoring devices versus traditional laboratory testing for hemoglobin A1c measurement in community-based settings?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 8, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between October 1, 2007 and August 31, 2010. No filters were applied to limit the retrieval by study type. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials (RCTs) and economic evaluations.

This an update to the 2007 CADTH report Point-of-Care HbA1c Testing vs Laboratory-Based HbA1c Testing: Validity, Reliability, and Cost-Effectiveness (October 2007). One randomized controlled trial, and corresponding economic analysis, regarding the comparative clinical effectiveness of point-of-care (POC) monitoring devices versus traditional laboratory testing for hemoglobin A1c (HbA1c) measurement in community-based settings was identified. No health
technology assessments, systematic reviews, or meta-analyses were identified. Additional articles of interest can be found in the appendix.

OVERALL SUMMARY OF FINDINGS:

One RCT compared the effectiveness of POC testing of HbA1c to laboratory tests.¹ Blood and urine sample were taken from both the intervention (POC test) and control (laboratory test) groups. The POC test was found to be non-inferior to pathology lab testing for patients with HbA1c levels within the target range and for patients with results improved from baseline.¹ The cost-effectiveness portion of this study concluded POC testing resulted in a non-significantly higher direct cost per patient to the health care sector, but resulted in significant cost savings to the patient.²
REFERENCES SUMMARIZED:

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses
No literature identified.

Randomized controlled trials


Economic evaluations


PREPARED BY:
Health Technology Inquiry Service
Email: htis@cadth.ca
Tel: 1-866-898-8439
APPENDIX – FURTHER INFORMATION:

Non-randomized studies


Review articles