# Using Web Technology to Support Population-Based Diabetes Care

Scott Cunningham, B.Sc. (Hons),<sup>1</sup> Ritchie McAlpine, B.Sc. (Hons),<sup>2</sup> Graham Leese, B.M.Sc. (Hnrs), M.B.Ch.B., M.D., FRCP,<sup>2</sup> Geraldine Brennan, FRCP (Edin),<sup>2</sup> Frank Sullivan, Ph.D., FRCGP, FRCP, FHEA,<sup>3</sup> Alan Connacher, M.D.,<sup>2</sup> Annalu Waller, B.Sc., M.Sc., Ph.D.,<sup>4</sup> Douglas I. R. Boyle, Ph.D., B.Sc. (Hons),<sup>5</sup> Stephen Greene, M.B.Bs., FRCPCH,<sup>2</sup> Elaine Wilson, B.Sc. (Hons),<sup>2</sup> Alistair Emslie-Smith, FRCP,<sup>2</sup> and Andrew D. Morris, M.Sc., M.D., FRCP, FRSE, FMedSci<sup>6</sup>

# Abstract

## Background:

Managed clinical networks have been used to coordinate chronic disease management across geographical regions in the United Kingdom. Our objective was to review how clinical networks and multidisciplinary teamworking can be supported by Web-based information technology while clinical requirements continually change.

#### Methods:

A Web-based population information system was developed and implemented in November 2000. The system incorporates local guidelines and shared clinical information based upon a national dataset for multispecialty use. Automated data linkages were developed to link to the master index database, biochemistry, eye screening, and general practice systems and hospital diabetes clinics. Web-based data collection forms were developed where computer systems did not exist. The experience over the first 10 years (to October 2010) was reviewed.

## Results:

The number of people with diabetes in Tayside increased from 9694 (2.5% prevalence) in 2001 to 18,355 (4.6%) in 2010. The user base remained stable (~400 users), showing a high level of clinical utility was maintained. Automated processes support a single point of data entry with 10,350 clinical messages containing 40,463 data items sent to external systems during year 10. The system supported quality improvement of diabetes care; for example, foot risk recording increased from 36% in 2007 to 73.3% in 2010.

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Author Affiliations: <sup>1</sup>Clinical Technology Centre, University of Dundee, Dundee, United Kingdom; <sup>2</sup>NHS Tayside Diabetes Managed Clinical Network, Ninewells Hospital, Dundee, United Kingdom; <sup>3</sup>Population Health Sciences, University of Dundee, Dundee, United Kingdom; <sup>4</sup>School of Computing, University of Dundee, Dundee, United Kingdom; <sup>5</sup>University of Melbourne Rural Health Academic Centre, Shepparton, Victoria, Australia; and <sup>6</sup>Biomedical Research Centre, University of Dundee, United Kingdom

Abbreviations: (CHI) community health index, (DARTS) Diabetes Audit and Research in Tayside Study, (GENIE) GENeric Importer/Exporter, (GPASS) General Practice Administration System for Scotland, (MCN) managed clinical network, (NHS) National Health Service, (QOF) Quality and Outcomes Framework, (SCI-DC) Scottish Care Information—Diabetes Collaboration, (SEF) Scottish Enhanced Functionality

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**Corresponding Author:** Scott Cunningham, B.Sc. (Hons), Clinical Technology Centre, University of Dundee, Level 7, Ninewells Hospital and Medical School, Dundee, DD1 9SY, United Kingdom; email address <u>scott.cunningham@nhs.net</u>

#### Abstract cont.

#### Conclusions:

Shared-care datasets can improve communication between health care service providers. Web-based technology can support clinical networks in providing comprehensive, seamless care across a geographical region for people with diabetes. While health care requirements evolve, technology can adapt, remain usable, and contribute significantly to quality improvement and working practice.

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