

Diabetes in Scotland: Supporting shared diabetes care

The Scottish Diabetes Survey, collated annually, shows that at the end of 2015, the prevalence of diabetes in Scotland had risen to 284 123 cases (5.3% of the population [Scottish Diabetes Group, 2016]). Across all age groups, 10% have type 1 diabetes, 89% have type 2 diabetes and the remaining 1% comprise of all other types of diabetes. People aged 65 years or older make up more than half of this population ($n=148\,487$), around 15.3% of the Scottish population in this cohort.

Diabetes services in Scotland are given strategic direction and priority through the Scottish Diabetes Improvement Plan (Scottish Government, 2014). It emphasises the importance of clinical leadership, innovation and collaboration, ensuring that patient care is genuinely person-centred.

A key component underpinning diabetes services is the web-based SCI-Diabetes system. It is used in every Health Board and holds data on all patients with diabetes in Scotland. This is a genuinely shared electronic medical record that uses sophisticated data integration and record linkage to ensure that the most complete data for a person with diabetes are available to all members of the clinical team, regardless of their location or speciality. Its purpose is to ensure that patients receive the best possible care for their diabetes through informed management. It assists in the management of patients across geographical boundaries, supporting national screening services and providing speciality modules for dietetics, podiatry, paediatrics, specialist nursing and clinical support.

SCI-Diabetes is used directly by professionals, but it also receives data from a variety of data sources:

- Community Health Index (master patient index).
- All of the approximately 1000 general practices across Scotland (EMIS or Vision).

- Forty-two hospitals (direct data entry).
- Thirteen regions providing local laboratory results (SCI Store).
- National Diabetic Retinopathy Screening (DRS) System (Soarian).
- Inpatient Management: links to local patient administration systems for admission, discharge and transfer data (TOPAS, eOASIS and TrakCare).

Clinically useful features of SCI-Diabetes include:

- Flexible and fixed audit queries for quality improvement.
- Integration with home blood glucose monitors to display routinely collected patient measurements (Diasend).
- Personalised care-planning booklets facilitating the “House of Care” methodology.
- Whole patient visual data display through the DXDI-S (Diabetes Cross Disciplinary Index for Scotland).
- Prescribing timelines to assess biological impact of specific glycaemic medications.

Registration onto SCI-Diabetes can be initiated via the primary care feeds, admission to a secondary care caseload, registration onto the DRS system or via patient administration web forms. As part of the DRS registration process, primary care users review their SCI-Diabetes lists periodically to ensure that all patients eligible for screening are included.

In addition to incoming feeds, SCI-Diabetes data are transferred to external systems:

- Back-population of over 95% of GP systems: in support of single-point of data entry.
- DRS: to maintain the call-recall service.
- SCI-Diabetes audit server: for regional and national reporting.
- The Scottish Diabetes Research Network (2014): using anonymised datasets for



Scott G Cunningham

Technical Consultant, University of Dundee, Dundee



Alistair Emslie-Smith

GP, the Mill Practice, NHS Tayside and SCI-Diabetes Clinical Lead, Dundee



Deborah J Wake

Consultant Diabetologist, University of Dundee, Dundee

“User evaluation of My Diabetes My Way shows that users find it a useful tool to aid self-management by improving knowledge and motivation to make positive changes.”

epidemiological research and support for consented clinical trials.

- My Diabetes My Way: patient access to their own information.

My Diabetes My Way

My Diabetes My Way is the NHS Scotland interactive website for people with diabetes and their carers. It contains multimedia resources aimed at improving self-management and offers access to its novel electronic personal health record. Patients can use My Diabetes My Way to share information with their healthcare teams, through automatic data upload, secure messaging and online discussion forums, further enhancing communication. They can set and record their own realistic goals and receive highly tailored advice and guidance based on the current status of their results. Over 9000 patients have now logged in. User evaluation shows that they find it a useful tool to aid self-management by improving knowledge and motivation to make positive changes. GPs in Scotland wishing to make use of the service can find out more information and request information materials by emailing mydiabetesmyway@nhs.net. Discussions are underway with several interested groups in the rest of the UK and Europe.

Aims for the future

In 2016, the SCI-Diabetes team will address several strategic objectives. These include collaboration and data sharing with the following:

- Scottish Ambulance Service – to highlight and appropriately manage high-risk individuals in the community (due mid-2016).
- Ward-based connected blood glucose meters (Roche and Abbott) – to ensure the effective management of inpatients.
- WinScribe – to support letter management.
- Electronic Document Transfer Systems – to support paperless working.
- Clinical portals – to allow access to diabetes data for wider clinical teams.

With patients capturing more and more home data through meters, devices and wearables, there is significant opportunity for “big data” analysis, notifications and reporting when linked to traditional NHS datasets. With the ongoing investment in online services, Scotland will be in a prime position to support these new and emerging models. ■

Scottish Diabetes Group (2016) *Scottish Diabetes Survey 2015*. Scottish Government, Edinburgh [in press]

Scottish Diabetes Research Network (2014) *Scottish Diabetes Research Network*. SDRN, Dundee. Available at: www.sdrn.org.uk (accessed 03.06.16)

Scottish Government (2014) *Diabetes Improvement Plan*. The Scottish Government, Edinburgh. Available at: www.diabetesinscotland.org.uk/Publications/Diabetes_Improvement_Plan_2014.PDF (accessed 03.06.16)

Useful websites

- **My Diabetes My Way:** www.mydiabetesmyway.scot.nhs.uk
- **National Diabetic Retinopathy Screening system:** www.ndrs-wp.scot.nhs.uk
- **SCI-Diabetes:** www.sci-diabetes.scot.nhs.uk