1. Introduction
This annual report of the NHS Greater Glasgow and Clyde (NHS GGC) Managed Clinical Network (MCN) for Diabetes covers the developments in diabetes services over the time period from April 2012 to March 2013.

2. Epidemiology
NHS GGC is the largest health board in Scotland providing services to a population of approximately 1.2 million people. This includes some of the most deprived communities in Scotland, as well as large minority ethnic (mainly South Asian) and asylum seeker communities.

2.1. Diabetes Register
The Scottish Diabetes Survey (SDS) 2012\(^1\) shows a total of 59,121 people with diabetes resident in the GGC area. This equates to a crude prevalence of 4.89% of the population, compared to 4.7% last year. This is slightly below the Scottish average prevalence of 4.92%.

The diabetic population can be broken down by diabetes type as follows:

<table>
<thead>
<tr>
<th>Type 1 diabetes</th>
<th>Type 2 diabetes</th>
<th>Other (e.g. gestational diabetes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,366 patients</td>
<td>52,236 patients</td>
<td>519 patients</td>
</tr>
<tr>
<td>10.8%</td>
<td>88.4%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

2.2. New Diagnosis
The SDS 2012 reports that in GGC 228 patients were newly diagnosed with type 1 diabetes. This equates to 19 cases per 100,000 population, the same as the Scottish average rate of 19 cases per 100,000 population. 4,131 new cases of type 2 diabetes were identified, a rate of 341 cases per 100,000 population. This is slightly below the Scottish average of 343.

The trend in new diagnoses since 2009 is shown in the chart below:

2.3. Mortality
For 2012/13, the mortality rate of diabetes patients in the previous year was 3.7%, a slight increase on the last year’s rate of 3.53%.

2.4. Blood Glucose Control
The SDS 2012 data highlights that achieving good blood glucose control remains challenging.

Rates of poor glycaemic control (HbA1c of >75mmol/mol (9%)) in Type 1 diabetes were lower than the Scottish average in GGC, with 36.1% of patients in GGC having poor control, compared to 39.3% of patients in Scotland as a whole.

In Type 2 diabetes, however, the GGC rate is 16.6% of patients with an HbA1c of >75mmol/mol (9%), higher than the Scottish average of 15.5% of patients.

3. Diabetes Services in Glasgow and Clyde
Within NHS GGC adult diabetes services are provided within eight acute sites (Gartnavel General Hospital, Stobhill Hospital, Glasgow Royal Infirmary, Victoria Infirmary, Southern General Hospital, Royal Alexandra Hospital, Vale of Leven Hospital, and Inverclyde Royal Hospital) and approximately 270 GP practices.

3.1. Type 1 Diabetes Services
The care of type 1 diabetes patients is generally delivered in secondary care. The majority of this care is provided in dedicated diabetes outpatient clinics staffed by multi-disciplinary diabetes teams with medical, nursing, dietetic and podiatry input.

3.2. Type 2 Diabetes Services
Type 2 diabetes patients receive their care in primary care and only access secondary care diabetes services for complex care needs. The majority of GP practices in NHS GGC offer a Local Enhanced Service (LES) for diabetes. The LES expands on the diabetes care measures that are part of the Quality Outcomes Framework (QOF) to ensure that type 2 diabetes patients receive a comprehensive annual review of their condition, are offered patient education and are signposted to relevant services regarding health related behaviours, e.g. physical activity or diet.

3.3. Diabetic Retinal Screening (DRS)
The primary aim of the retinal-screening service is the detection of referable (sight threatening) retinopathy. The secondary aim is the detection of lesser degrees of diabetic retinopathy.

According to SDS 2012 data, 86% of diabetes patients were recorded on SCI-Diabetes as either having had their eyes screened, being seen by ophthalmology or being suspended from retinal screening for clinical reasons, in 2012/13. This is an improvement on last year’s figure of 84.8%.
The main reasons for patients not being screened include - patient already attending ophthalmology; patient cancelled or DNA’d appointments; patient not fit enough to attend; and patients being recently diagnosed or recently moved into the health board area. Screening was carried out at a total of 4 hospital and 18 health centre and clinic locations throughout the health board area from Lennoxtown to Greenock.

3.4. Paediatric Diabetes Services
The GGC Children’s Diabetes Service is delivered from three sites: Royal Hospital for Sick Children at Yorkhill, Royal Alexandra Hospital and Inverclyde Royal Hospital. In 2012 the total number of patients attending the Children’s Diabetes Service was 622. 515 patients were resident in GGC, the other 107 came from neighbouring Health Board areas, with NHS Highland (53 patients) and NHS Lanarkshire (33 patients) being the most significant.

The number of new cases of Type 1 diabetes was 75, compared to 81 in 2009, 68 in 2010 and 89 in 2011. 28% of all new cases were recorded as DKA at diagnosis.

The raw mean HbA₁c for all Type 1 patients was 66mmol/mol and the mean of means was 65mmol/mol. The following graph shows the historical development of good and poor glycaemic control for the years 2007 to 2012:

This shows that a cross-over point has been reached where the number of patients with good control now exceeds the number of patients with poor control.
3.5. Patient Education
(a) Type 1 Education
Currently, this includes DAFNE (Dose Adjusted for Normal Eating), DICE (Diabetes, Insulin and Carbohydrate Education) and BUDDIE (Better Understanding of Diabetes, Diet and Insulin Education) training. DAFNE is delivered at the Victoria ACH, Southern General Hospital and Stobhill ACH. DICE is delivered at Gartnavel General Hospital. The BUDDIE programme was started in 2010 at the Royal Alexandra Hospital.

Attendance figures for the three programmes for 2009 to 2012 were as follows:

<table>
<thead>
<tr>
<th>Programme</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUDDIE</td>
<td>-</td>
<td>6</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>DAFNE</td>
<td>65</td>
<td>114</td>
<td>104</td>
<td>96</td>
</tr>
<tr>
<td>DICE</td>
<td>69</td>
<td>69</td>
<td>49</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>134</strong></td>
<td><strong>183</strong></td>
<td><strong>178</strong></td>
<td><strong>173</strong></td>
</tr>
</tbody>
</table>

(b) Type 2 Education
Type 2 patient education is predominantly delivered in the form of DESMOND (Diabetes Education and Self Management for Ongoing and Newly Diagnosed) focussing on newly diagnosed patients within the first year of diagnosis. Some areas have also been piloting the use of Conversation Maps for Type 2 diabetes patients.

In 2012/13 a total of 693 patients attended a DESMOND course, up from 669 patients in the previous year and continuing a longer-term upward trajectory. The utilisation of existing DESMOND capacity in GGC continues to be sub-optimal at 66% of available spaces having been taken up by patients.

3.6. Insulin Pump Service
Following the publication of CEL 4 (2012) in late February 2012, which has set targets for insulin pump therapy for all Scottish Health Boards to achieve over the next three years, there have been a number of changes in the provision of insulin pump therapy in NHS GGC. GGC adult pump services were previously provided at the Diabetes Centre at Gartnavel General Hospital, and at the Royal Alexandra Hospital in Paisley. This has been extended to include the Southern General Hospital and Stobhill Hospital. The paediatric pump service is based at the Royal Hospital for Sick Children at Yorkhill.

As of 31 March 2013, a total of 216 NHS GGC patients were on an insulin pump, 104 patients under the age of 18 and 112 adult patients. This equates to 19.5% of the paediatric Type 1 population and 1.9% of the adult Type 1 population, respectively. The national target set out in CEL 4 (2012) of 25% of paediatric patients to be on pump therapy is projected to be met by August 2013.

3.7 IT Support for Diabetes
Diabetes care is recorded using the national SCI-Diabetes information system. This is a replacement system for the two separate systems that were previously in use:

1. SCI-DC Clinical – this has been used by secondary care clinicians and runs as a local diabetes system at each hospital
2. SCI-DC Network - this was a networked system accessible via the web, used primarily by primary care staff but also available to secondary care clinicians.

Data from GP systems and SCI-DC Clinical is extracted daily to populate SCI-Diabetes. This information also forms the basis of the annual Scottish Diabetes Survey.

Work has been ongoing throughout the second half of 2012/13 to implement SCI-Diabetes in NHS GGC. In January 2013 SCI-DC Network was replaced by SCI-Diabetes, with SCI-DC Clinical remaining in place for secondary care users, due to be replaced by SCI-Diabetes in May 2013.

4. Managed Clinical Network for Diabetes

4.1. Purpose of the MCN

The primary purpose of the MCN is to ensure there exists a coherent and planned approach to diabetes services in the NHSGGC area to prevent wherever possible, and treat where necessary, diabetes mellitus and its consequences. These services must be high quality, equitable, evidence-based and tailored to the needs of patients and carers.

4.2. Objectives of the MCN

The objectives of the MCN are:

- Through this ensure the provision of comprehensive and connected services in primary and secondary care underpinned by a clear service and care pathway. This should clearly outline the roles of the different professionals working in diabetes and provide a basis for improved joint working to be tested and developed.
- Establish and maintain an evidenced based understanding of the incidence/prevalence of diabetes in Glasgow and its complications and the needs of patients and carers within NHS GGC.
- Review and update NHS GGC protocols and guidelines for diabetes care, in line with national guidelines and in collaboration with other MCNs/professional groups where care areas overlap.
- Ensure that patients have equity of access (based on need) to defined high standards of care and consistent delivery of these across NHS GGC.
- Ensure close collaboration with health promotion, other MCNs and professional groups to deliver health related behaviour programmes that promote both community and person level interventions for primary and secondary prevention.
- Ensure close collaboration with pharmacy services on the implementation of guidelines.
- Review, monitor and audit performance of services and identify areas for development.
- Ensure integration of these proposals into the local health planning processes.
- Ensure effective interagency and interprofessional working to optimise patient care.
- Ensure best use of diabetes resources in line with agreed priorities.
4.3. MCN structure
The MCN is led by a Lead Clinician. This post is held by Dr Andrew Gallagher, Consultant Diabetologist at the Victoria ACH. The Lead Clinician is supported by the MCN Coordinator, Carsten Mandt.

The full structure of the MCN is detailed in Appendix 1.

4.3.1. The MCN Steering Group
The Steering Group includes representation from all MCN Subgroups and key stakeholders from the diabetes community and it ratifies the output from the MCN subgroup’s work programme. Its key responsibilities include:

• Developing and overseeing the activities of the MCN subgroups
• Monitoring progress against deliverables
• Ensuring that the Group and subgroups work in accordance with their terms of reference
• Reporting formally to the Executive Group on subgroup project status
• Ensuring that the principles of patient focus and public involvement are integral to MCN business.

4.3.2. The MCN Executive
The Executive group is responsible for informing and deciding on key planning and service development issues for diabetes services. It determines the strategic direction for the MCN, informed by national diabetes strategies and ensures that this is progressed through the MCN subgroup structure. Its key responsibilities include:

• Providing the Steering Group with strategic context and direction
• Accepting ultimate accountability for delivering expected business benefits
• Resolving issues outside of the scope of the Steering Group, i.e. resolving any inter-agency issues or conflicts hampering progress
• Overseeing matters of governance

4.3.3 MCN Subgroups
The MCN subgroups can either be long standing or short life working groups, set up to achieve specific pieces of work. These groups report back to the steering group. The current subgroups for the Diabetes MCN are detailed in the structure in Appendix 1.

5. Key MCN Work in 2012/13
Revised Guidelines for the Management of Diabetes
The GGC guidelines on the management of diabetes were updated in May 2012 to take account of recent developments in treatments and reflect new national guidance and best practice. The updated guidelines are available on the MCN website: http://library.nhsgg.org.uk/mediaAssets/My%20HSD/Diabetes%20Guidelines-2012.pdf

Patient Education
A strategic framework for patient education had been published in 2011 outlining the key principles that should underpin the future development of patient education provision in GGC.
To progress the implementation of the key recommendations laid out in the framework two working groups were set up to look at Type 1 and Type 2 education respectively. These have developed detailed education pathways for patient education that set out what education needs to be available for patients with Type 1 or Type 2 diabetes along the patient pathway. Sets of recommendations on how best to achieve sustainable provision of education to meet these requirements will then be published in 2013/14.

**Patient Information**
A review of patient information resources (e.g. leaflets) that are routinely provided to patients has been carried out to identify which resources are being used, which key messages they cover and what gaps and variations in practice exist. Building on this review, a set of core resources is being defined that supports the provision of patient education across all stages of the patient pathway.

**Foot Care**
Building on the Expectation of Footcare that was developed in 2011/12, the provision of foot care, and diabetic foot screening in particular, has been re-designed. Screening of patients who are deemed at low risk of ulceration is now carried out by non-specialists which has freed up specialist podiatry time to focus on caring for high-risk patients and those with active foot disease.

**Inpatient Care**
Three wards in GGC (one each at the Western Infirmary, the Southern General Hospital and the Victoria Infirmary) are participating in the Scottish pilot of Think Glucose, a programme developed in England by NHS Diabetes to improve inpatient diabetes care. This focuses on raising staff awareness of key aspects of diabetes care that impact on inpatient care, namely hypoglycaemia and hyperglycaemia awareness and treatment and safe insulin use.

**SCI-Diabetes Implementation**
Extensive testing of the new national clinical system for diabetes, SCI-Diabetes, was carried out across primary and secondary diabetes services to ensure that the new system is fit for purpose and data migration from the old systems, SCI-DC Network and SCI-DC Clinical is secure and safe. Following the successful tests the new system was introduced to first of all replace SCI-DC Network in January 2013 with the replacement of SCI-DC Clinical due in May 2013 (please also see page 6 for more detail on IT system support for diabetes care).

**Expectation of Care**
A process has been set up to define the expectation of care for persons with Type 1 and Type 2 diabetes respectively. This work is anticipated to conclude in 2013/14. It is intended to provide a clear description of the core standard of good quality, evidence-based diabetes care that any patient with either Type 1 or Type 2 diabetes can expect from NHS GGC diabetes service.
Appendix 1 – MCN Structure 2012/13

NHS Greater Glasgow and Clyde Diabetes Managed Clinical Network

MCN Steering Group

Executive Group

Primary / Secondary Care Interface Group
Foot Group
Inpatient Group
Staff Education Group
IT Group
Patient Focus and Public Involvement
Transitional Care Group
Type 1 Patient Education Group
Type 2 Patient Education Group
Ethnicity & Inequalities Group
Heart Stroke and Diabetes Forum
Audit Group