Northern Ireland Assembly

Research and Information Service Briefing Paper

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Diabetes: Policies, Service Commissioning and Costs

1. Introduction

This briefing paper explores the issue of diabetes. In particular, it provides:

- A brief overview of diabetes;
- Statistics concerning the number of people affected;
- Policies and standards for diabetes care in Northern Ireland and the UK;
- Commissioning of diabetes services and service provision in Northern Ireland;
- Costs associated with diabetes care;
- Details of diabetes policies and plans in Europe, and examples of good practice elsewhere.

2. What is Diabetes?

Diabetes mellitus is a chronic, progressive and debilitating disease. According to the Department of Health in England, diabetes comprises a group of disorders with many different causes.[1] These disorders are characterised by raised blood glucose (sugar) levels, also known as hyperglycaemia. Elevated glucose in the blood occurs when the

[1] Department of Health Website. What is diabetes? Available online at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_4899874 Website accessed 6.6.12

body is unable to utilise it properly.[2] The cells in the body use glucose as a fuel, and a primary source of energy. In order for the glucose to enter the cells, it requires insulin, a hormone made by the pancreas. When the body does not produce enough insulin, or the insulin does not work properly, glucose builds up in the bloodstream.

No cure for diabetes currently exists.[3] In addition, the chronic nature of diabetes results in significant individual, social and economic costs. If left untreated, diabetes can lead to serious macro and micro vascular complications; cardiovascular disease, kidney disease, nerve and eye disease, diabetic coma, as well as premature mortality.[4,5] Costs of managing the disease increase dramatically with the development of complications. Diabetes is also a leading cause of heart disease, stroke, kidney failure, blindness, and lower limb amputation.[6] There is also a strong link between diabetes and mental ill health.

Nevertheless, evidence shows that many of the long-term complications associated with diabetes can be avoided with early diagnosis and good treatment regimens. For example, controlling blood glucose levels and blood pressure has been known to reduce the risk of diabetes-related complications. In order to reduce the risk of complications, empowering and educating people in the self-management of the disease is vital.

2.1 Type of diabetes

Two main types of diabetes are pathologically distinguished:

Type 1 diabetes (Type 1) is a life threatening auto-immune condition which develops if the body cannot produce any insulin. It occurs when the beta cells of the pancreas no longer make insulin because the body's immune system has attacked and destroyed them. This leads to increased blood glucose levels, which in turn, can cause serious damage to all organ systems in the body. Type 1 diabetes - also known as juvenile or insulin-dependent diabetes, is typically diagnosed in children, teenagers, and those under 40.[7] Around 10% of people with diabetes have Type 1 and will require daily

[2] Diabetes UK. Diabetes in the UK: key statistics on diabetes 2010: p3 Available online at: http://www.diabetes.org.uk/Documents/Reports/Diabetes_in_the_UK_2010.pdf Website accessed 6.6.12
[3] International Diabetes Federation (IDF) Management of diabetes. Available online at: http://www.idf.org/types-diabetes Website accessed 6.6.12
[4] International Diabetes Federation website. Complications of diabetes. Available online at http://www.idf.org/complications-diabetes Website accessed 1.6.12
[5] Diabetes UK. Diabetes in the UK: key statistics on diabetes 2010: p3 Available online at: http://www.diabetes.org.uk/Documents/Reports/Diabetes_in_the_UK_2010.pdf Website accessed 1.6.12
[6] Diabetes.co.uk Available online at: http://www.diabetes.co.uk/diabetes-complications/diabetes-complications.html Website accessed 6.6.12
[7] Diabetes UK. Diabetes in the UK: key statistics on diabetes 2010: p3 Available online at: http://www.diabetes.org.uk/Documents/Reports/Diabetes_in_the_UK_2010.pdf page 3. Website accessed 1.6.12

injections of insulin in order to survive.[8] They also need to maintain blood glucose within certain limits, which can be achieved through healthy diet and lifestyle choices.[9]

Type 2 diabetes, which is also known as non-insulin-dependent or late onset diabetes, is the most common form of diabetes, and affects around 90% of people with the disease.[10] People can develop Type 2 diabetes at any age, even during childhood. This form of diabetes is strongly genetic in origin, but lifestyle factors for example, excess weight, inactivity, high blood pressure and poor diet, are major risk factors for its development. Nevertheless, the burden of Type 2 diabetes falls disproportionately on older adults, minority ethnic groups and those from lower socio-economic backgrounds. The disease usually begins with insulin resistance, a condition in which fat, muscle, and liver cells do not use insulin properly.[11] At first, the pancreas sustains the added demand by producing more insulin. In time however, it loses the ability to secrete enough insulin in response to food intake.[12] A key problem is that symptoms may not be evident for many years and, by the time they appear, significant complications and co-existing morbidities may have already developed.[13] The condition requires self-management and monitoring through dietary changes, exercise and/or tablets. Insulin injections may also be required.

In addition to the two main type of diabetes, pregnant women can develop 'gestational diabetes' during the second or third trimester of their pregnancy. These women experience slightly higher levels of glucose in their blood, and at the same time, their body is unable to produce enough insulin, resulting in raised glucose levels.[14] Gestational diabetes usually abates after birth; however, women with gestational diabetes are more likely to develop Type 2 diabetes in later life.[15]

3. Statistics and Trends

Worryingly, prevalence of diabetes is escalating both in the UK and across the world, to the extent where it has reached epidemic proportions.[16] As people are living longer, this presents great challenges to patients, to healthcare systems - in terms of treatment

[8] NHS Choices Diabetes Available online at: http://www.nhs.uk/Conditions/Diabetes/Pages/Diabetes.aspx Website accessed 1.6.12
[9] Department of Health Website. What is diabetes? Available online at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_4899874 Website accessed 6.6.12
[10] International Diabetes Federation (IDF); Types of diabetes. Available online at: http://www.idf.org/types-diabetes Website accessed 1.6.12
[11] National institute of diabetes and digestive and kidney disease. Website available online at: http://archives.niddk.nih.gov/patient/today/qa.aspx Website accessed 1.6.12
[12] Diabetes UK Type 2 diabetes. Available online at: http://www.diabetes.org.uk/Guide-to-diabetes/Type-2-diabetes/?gclid=CNuwm6WPrbACFYt-fAodLxHRUw Website accessed 1.6.12
[13] International Diabetes Federation; Types of diabetes. Available online at: http://www.idf.org/types-diabetes Website accessed 1.6.12
[14] NHS Choices Website http://www.nhs.uk/conditions/gestational-diabetes/Pages/Introduction.aspx#close Website accessed 1.6.12
[15] NHS Choices Website http://www.nhs.uk/conditions/gestational-diabetes/Pages/Introduction.aspx#close Website accessed 1.6.12
[16] International Diabetes Federation. (2006) Diabetes epidemic out of control. Available online at: http://www.idf.org/node/1354?unode=7F22F450-B1ED-43BB-A57C-B975D16A812D

and care, and to the public health agenda. Although statistics on diabetes vary, some recent data suggests that:

- Diabetes affects around 366 million people worldwide, according to the International Diabetes Federation (IDF).[17] Around 52.8 million people are living with diabetes in Europe.[18]
- Half a million people in the UK have diabetes, but remain undiagnosed.[19]
- The number of people diagnosed with diabetes has increased by approximately **41%** over the last 6 years[20] and diabetes is nearly four times as common as all types of cancer combined.[21]
- At present, Northern Ireland does not have a dedicated register listing all patients with diabetes. Adult prevalence is based on Quality of Outcomes indicators used by GPs.[22]
- Prevalence of diabetes in Northern Ireland is almost 4%, a slightly lower rate than the rest of the UK - as shown in the table below.[23] At the end of March 2011 there were 72,693 people (aged 17 years and above) with diabetes.[24] There are 1,036 children with Type 1 diabetes in Northern Ireland, and alarmingly more cases of Type 2 diabetes being detected in adolescents.[25]

Country	Prevalence[26]	Number of people diagnosed with diabetes
England	5.5 %	2,455,937
Wales	5 %	160,533
Scotland	4.3 %	223,494
Northern Ireland	3.8 %	72,693

- By 2025, it is estimated that over four million people will have diabetes in the UK.[27]

[17] IDF et al, 2012 Diabetes: The Policy Puzzle, Is Europe Making Progress? Page 4.
[18] IDF et al, 2012 Diabetes: The Policy Puzzle, Is Europe Making Progress? Page 6.
[19] Diabetes UK PCT Support Services. Available online at http://www.diabetes.org.uk/upload/Professionals/PCT%20support%20services%20booklet%20final.pdf Website accessed 31.5.12
[20] Diabetes UK PCT Support Services. Available online at http://www.diabetes.org.uk/upload/Professionals/PCT%20support%20services%20booklet%20final.pdf Website accessed 31.5.12
[21] DHSSPS Transforming your care: A review of health and social care in Northern Ireland, p22
[22] Under the General Medical Services (GMS) Contract, payments are made for accumulating points under the Quality and Outcomes Framework (QOF). The QOF figures provide, amongst other indicators, annual updates on the prevalence of diabetes in adults. The QOF also provides information on the quality of diabetes services and allows comparisons between Northern Ireland and the rest of the United Kingdom.
[23] Public Health Agency: Health Intelligence Briefing on QOF 2009/10.
[24] Personal correspondence from DHSSP to author. Response dated 11.6.12
[25] Personal correspondence from DHSSP to author. Response dated 11.6.12
[26] Prevalence refers to the number of people currently diagnosed with diabetes.
[27] Diabetes UK. Diabetes in the UK: Key statistics on diabetes 2010: p3 Available online at: http://www.diabetes.org.uk/Documents/Reports/Diabetes_in_the_UK_2010.pdf page 3. Accessed 31.5.12

- Most diabetes patients have Type 2, and this is exacerbated by the ageing population, the rapid increase in obesity (especially in children) and sedentary lifestyles.[28] Deprivation is also strongly associated with higher levels of obesity, physical inactivity, unhealthy diet, smoking and poor blood pressure control, factors which are known to increase the risk of developing Type 2 diabetes.
- Other estimates suggest that life expectancy is reduced by up to 10 years for a person with Type 2 diabetes and by up to 20 years for those with Type 1 diabetes.[29]
- In 2009 there were 203 deaths in NI due to diabetes (94 men and 109 women).[30]
- Hospital in-patient costs for the treatment of diabetic complications are the largest single contributor to direct healthcare costs. Currently there are around 4,000 hospital admissions a year due to diabetes in Northern Ireland, with patients taking up 15,000 'bed days'.[31]

The health service faces serious difficulties in dealing with diabetes. Campaigners have argued that costs could be saved if more action is taken for example, to mitigate the onset of diabetes, and if better control of blood glucose was achieved - as this would lead to fewer complications. [32, 33]

4. Diabetes Care

The challenge to provide good diabetes care requires a multi-agency approach. GPs, consultants, specialist nurses, dieticians, opticians and podiatrists are just a few of the medical professionals involved in treating the disease. In Northern Ireland, the majority of patients with Type 2 diabetes are cared for in primary care settings (such as a GP). However, almost all patients with Type 1 diabetes attend hospital (secondary care) for treatment.

4.1 Standards for Diabetes Care in the UK

The National Institute of Clinical Excellence (NICE) in England has developed **evidence based national clinical guidelines** for a range of medical conditions including Type 1, Type 2 and gestational diabetes.[34]

In addition, National Service Frameworks (NSFs) or "national plans" have been rolled out by the Department of Health in England, Scotland, Wales and Northern Ireland.

[28] Diabetes UK. Response to 'A Healthier Future –A 20 year strategy for health and well being', page2.
[29] Diabetes.co.uk Diabetes Life Expectancy. Available online at: http://www.diabetes.co.uk/diabetes-life-expectancy.html. Website accessed 31.5.12
[30] NISRA/ National Statistics (2010) Deaths in NI, p 9
[31] Northern Ireland Audit Office report: Obesity and type 2 diabetes in Northern Ireland, p11.
[32] Organisations such as FEND - Federation of European Nurses in Diabetes and Diabetes UK.
[33] Diabetes UK Position statement; self-monitoring of blood glucose –costs and benefits. Available online at; http://www.diabetes.org.uk/About_us/Our_Views/Position_statements/Self-monitoring_of_blood_glucose/
[34] For further information, please see NICE website for diabetes guidelines: http://www.nice.org.uk/guidance/index.jsp?action=bypublichealth&PUBLICHEALTH=Diabetes#/search/?reload

NSFs aim to improve services for diabetes care by setting national standards.[35] Although they may vary slightly in each jurisdiction, their aim is to detect, treat, plan and manage services under one framework and therefore reduce variations in care. The different strategies and documents associated with the NSFs are presented in Table 1.

England[36]	**National Service Framework:** • Department of Health (2001) National Service Framework for Diabetes; • Department of Health (2002) National Service Framework for diabetes: Delivery strategy; • Department of Health (2003) Diabetes Information Strategy; • Royal College of Nursing (2003) An RCN guide to the National Service Framework for Diabetes; • Reports are also published annually highlighting the progress made with the implementation of the Diabetes National Service Framework since the publication of the National Service Framework delivery strategy. **National clinical guidelines and standards:** • National Institute for Health and Clinical Excellence (NICE): Diabetes guidance; • NICE (2011) Diabetes in adults quality standard. NHS Diabetes (2012) Best Practice Tariff for Paediatric Diabetes; • **National diabetes audit:** • National Clinic Audit Support Programme (NCASP): Diabetes. **Commissioning guidance:** • NHS Diabetes commissioning resource
Scotland[37]	**National Service Framework:** • Scottish Executive (2002) Scottish Diabetes Framework; • Scottish Government (2010) Diabetes action plan 2010: quality care for diabetes in Scotland. **National clinical guidelines and standards:** • Clinical Standards Board for Scotland (2002) Clinical standards diabetes; NHS Quality Improvement Scotland (2008) Diabetes national overview follow-up report; • Scottish Intercollegiate Guidelines Network (2010) Management of diabetes.

[35] Royal College of Nursing Website: National Service Frameworks. Available online at: http://www.rcn.org.uk/development/practice/diabetes/national_service_frameworksstrategy Accessed 28.5.12
[36] Royal College of Nursing Website National Service Frameworks: England http://www.rcn.org.uk/development/practice/diabetes/national_service_frameworksstrategy/england Accessed 28.5.12
[37] Royal College of Nursing Website National service Frameworks: Scotland http://www.rcn.org.uk/development/practice/diabetes/national_service_frameworksstrategy/scotland Accessed 28.5.12

Wales[38]	**National Service Framework:** • Welsh Assembly Government (2002) National Service Framework for Diabetes (Wales); • NHS Wales (2003) National Service Framework for diabetes in Wales delivery strategy. **National clinical guidelines and standards:** • Welsh Assembly Government (2007) Designed for the management of Type 1 diabetes in children and young people in Wales: Consensus guidelines – standards 5 and 6 Diabetes National Service Framework; • Welsh Assembly Government (2008) Designed for the management of adults with diabetes mellitus across Wales: consensus guidelines. **Audit:** • Audit Commission (2003) Diabetes services in Wales: a baseline review of service provision.
N. Ireland[39]	**National Framework:** • Diabetes UK/CREST (2003) A Blueprint for Diabetes Care in Northern Ireland in the 21st Century: Joint report; • Department of Health, Social Services and Public Safety (2009) Service frameworks: Cardiovascular health and wellbeing. **National clinical guidelines and standards;** • CREST (2001) Management of diabetes in pregnancy; • CREST (2006) Safe and effective use of insulin in secondary care: recommendations for treating hyperglycaemia in adults; • Guidelines and Audit Implementation Network (2010) Guidelines and clinical standards of care for people with diabetes in care homes

Table 1: National care standards/policies for diabetes across the UK.

5. Policy Directions in Northern Ireland

In 2009, the Northern Ireland Assembly debated a motion calling for Northern Ireland to have a dedicated regional diabetes framework to bring it in line with the rest of the UK.[40] However during the debate, the HSSPS Minister told members:

Since 2003, my Department has had a dedicated strategy for diabetes services. That is why I find today's motion somewhat baffling. The strategy that my Department published in 2003 was developed by the Clinical Resource Efficiency Support Team (CREST) and Diabetes UK. CREST includes primary and secondary care workers, clinicians, trusts, boards, interested practitioners and Diabetes UK…..[The strategy] includes standards for the prevention, early detection, ongoing care and treatment of diabetes.

[38] Royal College of Nursing Website National service Frameworks: Wales http://www.rcn.org.uk/development/practice/diabetes/national_service_frameworksstrategy/wales Accessed 28.5.12

[39] Royal College of Nursing Website: National Service Frameworks: Northern Ireland http://www.rcn.org.uk/development/practice/diabetes/national_service_frameworksstrategy/northern_ireland Accessed 28.5.12

[40] NI Assembly Hansard Official report http://archive.niassembly.gov.uk/record/reports2008/090608.htm#a4

Since the publication of the joint UK/CREST diabetes strategy[41], several other strategic frameworks, which are linked to diabetes, have been developed. A brief summary of each of these is now provided.

In 2005, Fit Futures, a cross-Departmental strategy was published to tackle obesity in young people. Obesity is inextricably linked to T2 diabetes.[42]

In **2009**, diabetes was included as part of the *Service Framework for Cardiovascular Health and Wellbeing*. This framework sets out the type of services that patients in Northern Ireland should expect, and the standards of care required. The framework also outlines three overarching standards for diabetes patients:

- Everyone with diabetes should have the condition diagnosed;

- All diabetes patients should have access to education about their condition, as well as emotional and psychological support;

- All diabetes patients should be offered a review of their condition at least once a year by a suitably qualified treatment team.[43]

More recently in **2011**, the DHSSPS published '*Transforming Your Care'* - a review of how health and social care services should be delivered in Northern Ireland.[44] The review envisages a new model of service delivery; that more services, including those for people with diabetes, will be available in the community, and that specialist care will also be delivered in the community and primary care, resulting in less people spending time in acute care. It is proposed this model will be achieved for people with long term conditions through integrated care teams and GPs with a 'Special Interest' (GPSIs).[45]

Transforming Your Care also proposes greater partnership working between health professionals and patients in order to enable patients to become more empowered in self-management of their condition. A greater emphasis will also be placed upon personalised care planning, community pharmacy and medication management, and opportunities to exploit tele-health technology to remotely support patients.[46] The report posits that services which are proactive and work in partnership with patients provide better outcomes. It gives an example of a 14 year old Type 1 diabetic girl who was been admitted to hospital 99 times between 2001 and 2010. However, since the introduction of insulin pump (which helps improve blood glucose control), the young patient had no diabetic hospital-related admissions, and was said to have experienced increased school attendance rates and academic performance.[47]

[41] CREST (2003) A Blueprint for Diabetes Care in Northern Ireland in the 21st Century. http://www.gain-ni.org/Library/Guidelines/Blueprint_Diabetes_Care.asp Website accessed 31.5.12
[42] DHSSPS Fit Futures (2005) report to the Ministerial Group on Public Health http://www.dhsspsni.gov.uk/fit-futures-implementation-plan.pdf Website accessed 31.5.12
[43] Diabetes UK (Northern Ireland) Healthcare policy in Northern Ireland. Available online at: http://www.diabetes.org.uk/In_Your_Area/N_Ireland/Diabetes_in_Northern_Ireland/Policy_papers_and_reports/
[44] DHSSPS Transforming your care: A review of health and social care in Northern Ireland.
[45] DHSSPS Transforming your care: A review of health and social care in Northern Ireland, p45
[46] DHSSPS Transforming your care: A review of health and social care in Northern Ireland, p77.
[47] DHSSPS Transforming your care: A review of health and social care in Northern Ireland, p75.

In **2012** the DHSSPS published a new strategic policy framework entitled "*Living with long term conditions*."[48] It refers to adults only. As longevity is increasing, more people are likely to acquire chronic or multiple long term conditions and require access to services. This framework asserts that many local services are underway to help people with long term conditions, and that there is a need to ensure those people are "*able to maintain or enhance their quality of life through high quality services and supported self-management*." The policy sets out six principles, how they should be achieved and implemented. The principles in the framework include for example: working in partnership, self-management, and providing information to carers and patients. Similar to *Transforming Your Care*, the framework hopes to improve patient outcomes, reduce unnecessary hospital admissions and to move towards a community based model of care, whilst maintaining value for money services.[49] Yet, despite the emphasis on community care, it remains unknown how this model will work in practice, and what level of investment will be needed to ensure that adequate care for patients with diabetes is provided.

Both *Transforming Your Care* and *Living with Long-Term Conditions* are aligned to the UK NICE guidance which states that diabetes services should be "*commissioned as part of an integrated care pathway for people with long-term conditions, ensuring that patients and their carers have appropriate access to specialist, condition-specific support when indicated*."[50]

5.1 A more specific or updated Diabetes Strategy for Northern Ireland?

As part of this research request, the author contacted the Department to ask whether the Minister has any plans to publish a more specific or updated diabetes strategy. The response was as follows:

> *The HSSPS Minister **has instigated a review of the current Diabetes UK/CREST joint framework for diabetes**. The Policy Framework 'Living with Long Term Conditions', launched on in April 2012 gives commissioners and providers a framework to improve services, share and extend good practice and develop systems and practices that deliver best outcomes for patients. It emphasises the importance of patient education and information and supported self-management to help people with long term conditions, such as diabetes, understand and manage their conditions. "Transforming Your Care" and the "Long Term Conditions" framework provide a long-term strategic approach to managing long term conditions such as diabetes.*[51]

[48] DHSSPS (2011) Living with Long-Term Conditions A Policy Framework Consultation Document. Available online at http://www.dhsspsni.gov.uk/long-term-condition.htm Website accessed 31.5.12
[49] DHSSPS (2011) Living with Long-Term Conditions A Policy Framework Consultation Document. Available online at http://www.dhsspsni.gov.uk/long-term-condition.htm p8. Website accessed 31.5.12
[50] NICE (2012) Cost impact and commissioning assessment for diabetes in adults. Available online at: http://www.nice.org.uk/media/109/95/CostingCommissioningImpactAssessmentFinal.pdf p.10. Accessed 1.6.12
[51] Personal correspondence from DHSSP to author. Response dated 11.6.12

6. Commissioning Services

The Health and Social Care Board (HSCB) in Northern Ireland is responsible for working with the Trusts to develop services, and to ensure that local health and social care needs are being met. The role of the Health and Social Care Board is broadly contained in three functions:

- *To arrange or 'commission' a comprehensive range of modern and effective health and social services for people who live in Northern Ireland;*

- *To work with the health and social care trusts that directly provide services to people to ensure that these meet their needs;*

- *To deploy and manage its annual funding from the Northern Ireland Executive – currently £4 billion – to ensure that all services are safe and sustainable*.[52]

To support the Board, five Local Commissioning Groups, in consultation with service users, plan and commission health and social care to meet the needs of people in each HSC Trust area.

Each year a Commissioning Plan is published by the HSC Board in conjunction with the Public Health Agency (PHA).[53] Investment decisions are based on a capitation formula based on for example the age, gender and level of deprivation of the local population. The Commissioning Plan states that services have to be delivered within restricted budget. In 2010/11 "*£3.8bn was received by HSCB and PHA, of which, £2.7bn was deployed to the six provider Trusts and £1.1bn allocated across other providers of care - such as voluntary organisations and General Practitioners in meeting the health and social care needs of the population*".[54] The money provided to the Trust providers is broken down into nine programmes of care, which makes tracking how money is spent even more complex. Details of 'commissioning intentions' are also listed in the Commissioning Plan under 12 'service groups'. Examples of service groups include 'long term conditions', 'acute care' and 'children and family' to name but a few. Each group is accompanied by a list of key priorities/ actions to be taken. Diabetes is mentioned in several service groups, and in terms of key actions, examples include increasing patient self-management and the number of diabetes care pathways.[55] Unfortunately the plan does not go into specific detail level about the range of services commissioned for diabetes, nor their costs (see sections 7 and 8 for further details).

6.1 How Type 1 diabetes services are commissioned?

In looking at Type 1 diabetes in more detail, which we know is mainly diagnosed in children and young people, the DHSSPS has advised that Type 1 diabetes services

[52] HSC Board website: http://www.hscboard.hscni.net/ Website accessed 11.6.12
[53] HSCB and PHA Commissioning Plan (2012) http://www.hscboard.hscni.net/publications/Commissioning%20Plans/490%20Commissioning%20Plan%202011-2012%20-%20PDF%20993KB.pdf
[54] Ibid, page 36.
[55] Ibid, page 100.

are commissioned via the Long Term Condition (LTC) Commissioning Team in the Health and Social Care Board (HSCB). This team is co-chaired by the Public Health Agency and the HSCB and work with the 5 Local Commissioning Groups (LCGs) to develop local services. The DHSSPS states:

Children with Type 1 diabetes are cared for exclusively by secondary care (acute care). The-in year commissioning priorities identified by the LTC commissioning groups include risk profiling patients with LTCs including diabetes, regular review in primary and secondary care, individual care plans, patient education and self-management programs, effective medicines management and expansion of the use of telemonitoring of patients with diabetes. Expansion of provision of insulin pumps for children and adults with Type 1 diabetes will take place in the next 4 years. The use of common clinical information systems in primary care and secondary care facilitates systematic care and the monitoring of outcomes. There is a Northern Ireland paediatric diabetes network who advise on commissioning and service delivery.

The DHSSPS has also provided a list of the types of diabetes services available in Northern Ireland, as shown in Table 2.

Secondary care	Primary Care
In-patient	Prescribing/medicines management
Hemodialysis (removal of waste products form the blood)	Quality and Outcomes framework (QOF) reviews
Day cases	Ongoing management
Outpatients/A&E	Retinal screening for anyone over 12
Ambulance	
Structured Patient Education programs	
Insulin Pumps initiation and supervision	
Childhood diabetes	

Table 2. Services available for patients with Type 1 diabetes in NI (in Primary and Secondary care)

7. What types of diabetes services are available in Northern Ireland?

In terms of service provision, research suggests that diabetes services and consultant staffing levels are notably under-resourced in Northern Ireland compared to the rest of the UK.[56] This means that patients are not always getting essential checks and support they need to manage their diabetes.[57] Each local health and social care (HSC) Trust currently offers a range of diabetes services and clinics. For illustrative purposes,

[56] Association of British Clinical Diabetologists (ABCD) and diabetes UK survey if specialist diabetes services in the UK, 2006. Diabetes UK; Diabetic Medicine.
[57] Diabetes UK. Diabetes in your area http://www.diabetes.org.uk/In_Your_Area/N_Ireland/Diabetes_in_Northern_Ireland/Diabetes_services_in_your_area/ Website accessed 28.5.12

the Western and Belfast HSC Trusts have provided an outline of their diabetes services in the proforma in Table 3.[58]

Western Trust	Belfast Trust
Consultant led clinics	
Consultant clinics in Altnagelvin Hospital, RoeValley, Tyrone County and South West Acute Hospital.	Consultant clinics in the Royal Victoria, Belfast City, and Mater Hospitals.
Children's Diabetes Services	
Children's clinics in Altnagelvin and Erne Hospitals.	Royal Belfast Hospital for Sick Children - Twice weekly Consultant-led clinics, three Nurse-led clinics per month, one monthly transitional clinic.
Diabetes Specialist Nurses	
Several specialist nurses provide support at hospital clinics and community clinics for adults and paediatric service.	Two specialist diabetes nurses for adults and children's providing support at hospital clinics and community clinics.
Diabetes Specialist Podiatrists	
Clinics held in hospital and community/practice based clinics. Foot care assistants also involved in diabetes service.	Podiatry services are delivered to patients with diabetes in both hospital and community settings (health and wellbeing centres). Both professional staff and podiatry assistants are involved.
Diabetes Specialist Dieticians	
For adults and children. Clinics held in hospital and community practice based clinics.	For adults and children. Clinics held in hospital and community practice based clinics.
Physical Health Psychology Services:	
One psychologist provides this service for the Trust.	One psychologist provides this service
Pharmacists	
Hospital pharmacists involved in service delivery.	Hospital pharmacists involved in service delivery.
Exercise Programmes	
One member of staff provides this service in north of the Trust (L/Derry area), referral schemes also available in Fermanagh.	None specified.
Education Programmes	
Programmes available trust wide for Type 1 diabetes (CHOICE programme) and Type 2 diabetes (DESMOND programme).	CHOICE for Type 1 Diabetes children, young people and their parents up to the age of 19 years, and programme for insulin pump therapy. Structured education programmes available Trust-wide for Type 1 diabetes (DAFNE programme) and Type 2 diabetes in hospital and community settings.
GP Practice Based Clinics	
The community service for diabetes (dietetics and podiatry) is available. The frequency of clinics depends on number of diabetes patients at a particular practice.	Information not specified.
Diabetes Network Offices	
Network office based at Altnagelvin Hospital. Linkages with hospital and community diabetes teams and GP practices.	Office also has a Diabetes Steering Group with members of the multi-disciplinary diabetes team/GPs. Currently working with the HSCB and the LCG on a Diabetes Pathfinder in South Belfast. There is both formal and informal linkages with primary care on a regular basis.

Table 3. Services provided by Western and Belfast HSC Trust for diabetes patients

[58] Personal correspondence with Lesley Hamilton Western HSC Trust. Response dated 20.6.12

Given the recent budget constraints, the 'squeeze' on resources, and the rise in the number of people presenting with diabetes, maintaining adequate levels of service provision will remain a huge challenge for our health service.

7.1 Diabetes consultants and specialist nurses in Northern Ireland

The Department was also asked about diabetes staffing levels, in particular:

- the number of Consultants specialising in/or with a special interest in Diabetes (including the number specialising in children's Diabetes) and;
- the number of Diabetes Nurse Specialists employed within Northern Ireland Health and Social Care by Trust as at June 2012.

This data is presented in Table 4. At present, there are **34** consultants and **74** diabetes specialist nurses, delivering diabetes care across all Trusts in Northern Ireland.[59]

	Consultants specialising in/or with a special interest in Diabetes		Diabetes Nurse Specialists	
HSC Trust	**HC[60]**	**WTE[61]**	**HC**	**WTE**
Belfast	7	6.6	16	14.4
Northern	7	5.4	15	12.5
South Eastern	8	7.2	16	15.1
Southern	5	4.7	12	9.6
Western	7	4.6	15	12.8
TOTAL	**34**	**28.5**	**74**	**64.4**

Table 4. Number of diabetes nurses and consultants in NI

7.2 Cross border collaboration

In terms of North/South cross border diabetes initiatives, funding was granted to CAWT (Co-operation and Working Together) in 2008 via 'INTERREG 3a', to conduct an audit of diabetes care across 13 hospital sites on both sides of the border. The audit highlighted that more work was needed to support the development of cross border services for people with diabetes.[62] Further to the audit, CAWT currently oversees two cross border diabetes projects namely:[63]

- Structured Patient Education program for children and adolescents.
- Pre-pregnancy care for women with diabetes.

In the future, it is likely that there will be greater sharing of cross border services for patients with a variety of medical needs.

[59] Source: Northern Ireland Health and Social Care Trusts: correspondence to author
[60] HC refers to head count
[61] WTE refers to Whole Time Equivalent
[62] http://www.cawt.com/Site/11/Documents/Publications/Acute/DiabetesReport.pdf Website accessed 28.5.12
[63] CAWT Website. Information available online at: http://www.cawt.com/default.aspx?CATID=1041

8. Overall costs of diabetes care

The NHS currently spends a staggering 10% of its budget on diabetes care and the treatment of complications.[64] To put this into perspective, in 2011 the NHS in the UK spent over £9 billion on diabetes care [65] of which, around 79% went towards treating complications.[66] Unfortunately, it is difficult to estimate the true cost of diabetes care in Northern Ireland as no robust data on the care and treatment in Northern Ireland is available from the Department, and costs originate from various funding streams.[67] However, estimates suggest that the cost of treating diabetes is spiralling in Northern Ireland - at around £1 million per day.[68] There is also a substantial cost to our economy in terms of lost working days due to diabetes complications. Moreover, commentators fear that diabetes could in the future 'bankrupt' the NHS.[69]

8.1 Costs of Type 1 and 2 Inpatient Diabetes Episodes in NI

Data on the cost of inpatient episodes (admitted care) and day case attendances for people with diabetes, in acute hospital settings was acquired from the DHSSPS. Hospital Information Branch has identified Finished Consultant Episodes (FCE)[70] where a Primary Diagnosis of either Type 1 or Type 2 Diabetes was recorded and where a diagnosis of either Type 1 or Type 2 Diabetes was recorded in any diagnostic position for 2010/11. The Department's Finance Directorate has produced an estimate of the total cost for 2010-11, as is shown in Table 5.

Diagnosis	Cost 2010-11 (£m)
Primary Diagnosis - T1 Diabetes	1.8
Primary Diagnosis - T2 Diabetes	1.6
All Diagnoses (Primary & Secondary diagnosis) – T1 Diabetes	10.7
All Diagnoses (Primary & Secondary diagnosis) – T2 Diabetes	57.9

Table 5 Estimated costs of Type 1 and 2 diabetes care in acute settings

The total estimated costs for Type 1 and Type 2 diabetes in an acute hospital setting is **£68.6m** (£10.7m Type 1 and £57.9m Type 2) for 2010-11. **£3.4m** is as a result of primary diagnosis of Type 1 or Type 2 diabetes. The remaining £65.2m is the cost of hospital services for people presenting with a primary diagnosis and a secondary

[64] Diabetes UK PCT Support Services. Available online at http://www.diabetes.org.uk/upload/Professionals/PCT%20support%20services%20booklet%20final.pdf Website accessed 31.5.12
[65] BBC News 2012 Diabetes most NHS costs wasteful, says Diabetic medicine. Available online at: http://www.bbc.co.uk/news/health-17829012 Website accessed 31.5.12
[66] Diabetes UK NHS spending on diabetes 'to reach £16.9 billion by 2035' Website accessed 31.5.12
[67] Personal correspondence from DHSSP to author. Response dated 11.6.12
[68] Diabetes.co.uk. 'Northern Ireland totals diabetes cost of GBP1 million day'. Available online at: http://www.diabetes.co.uk/news/2008/Oct/Northern-Ireland-totals-diabetes-cost-of-GBP1-million-day.html Website accessed 31.5.12
[69] NHS Exposed.com. Diabetes threatens to 'bankrupt' NHS within a generation. Online at: http://www.nhs-exposed.com/diabetes-threatens-to-bankrupt-nhs-within-a-generation/ Accessed 31.5.12
[70] A FCE is a completed period of care of a patient under one consultant.

diagnosis of diabetes. There are however, a number of caveats with this data as well as many costs that are not included, as described by the DHSSPS in the footnote below.[71]

In addition to these costs, the DHSSPS has advised that **£2.5m** non-recurrent revenue funding was made available in 2011/12 to purchase 666 insulin pumps for adults and 385 insulin pumps for children.[72]

9. Diabetes in Europe

Turning now to Europe, European governments met over 20 years ago and unanimously agreed a series of recommendations to tackle diabetes and to reduce the burden of the disease. This became known as the *St Vincent Declaration*.[73] The Declaration aimed to raise the profile of diabetes and to set goals and standards for diabetes care across Europe. All countries agreed that diabetes plans should be developed at local, national and European level to combat diabetes.[74]

Unfortunately, despite the seriousness of the disease, many countries have failed to fulfil the key requirement of the Declaration – the introduction of national plans. This was in spite of subsequent declarations from the EU Council of Ministers, Members of the European Parliament and UN Resolution 61/225 (World Diabetes Day), all of which reflect the global consensus on the importance of developing national diabetes plans.[75,76]

9.1 Audit of countries with a diabetes plan in place

The existence of a national diabetes plan or framework is an indication that diabetes is a government priority. However, a recent audit of diabetes in Europe' (2012) [77] conducted by a number of leading organisations, reveals that gaps exist in terms of implementing ways to tackle diabetes. Gaps are said to be as a result of disparate national policies and practices - for example, the different emphasis that has been

[71] *Reference costs do not include costs belonging to days associated with disproportionally long lengths of stay. 2010-11 costs do not include the cost of high cost drugs that may have been administered, costs associated with critical care, rehabilitation and renal dialysis. Substantial A&E, outpatient, ambulance service, primary care services, retinal screening services, prescribing, community and personal social services may also be provided in addition to the aforementioned costs. Costs for these services are not collected at the level of detail required to enable a realistic estimate to be made of what has been spent on people with specific diagnoses. It is also worth noting the resources which are allocated as part of the Quality and Outcomes framework (QOF) for Primary care in respect of diabetes. These include regular check-ups and targets for diabetes control and blood pressure. Payments amounted to approximately* ***£4 m*** *in 11/12 and are projected to be similar in 12/13 financial years.*

[72] Personal correspondence from DHSSP to author. Response dated 11.6.12

[73] The St-Vincent Declaration (1989), www.idf.org/webdata/docs/SVD%20and%20Istanbul%20Commitment.pdf

[74] Guidelines on the St. Vincent Declaration (1989) Available online at http://www.diabetesguidelines.com/health/dwk/pro/guidelines/ispad/20_04.asp Website accessed 27.5.12

[75] European Parliament, Written Declaration (April 2006) www.europarl.europa.eu/sides/getDoc.do?reference=P6_TA(2006)0185&language=EN Website accessed 28.5.12

[76] UN Resolution 61/225 World diabetes day (14 November). Further information available online at: http://www.worlddiabetesfoundation.org/media(3892,1033)/UNR_media_kit_0407.pdf Website accessed 28.5.12

[77] International Diabetes Federation-European Region (IDF Europe), Foundation of European Nurses in Diabetes (FEND), Primary Care Diabetes Europe (PCDE) and the European Alliance for Research in Diabetes (EURADIA) (2012) Diabetes: the Policy Puzzle: Is Europe making progress?

placed on research, prevention, treatment, management and self-management of diabetes.[78] The Audit advocates that much more needs to be done in terms of implementing plans, better recording and reporting on the number of people with diabetes, and co-ordinated action to address the burden of the disease. Table 6 shows a list of pan European countries that have or do not have a national plan, guidelines, or a diabetes register in place.[79]

	National Plan	Guidelines	National register
Albania	**No**	**No**	**No**
Austria	**Yes**	**Yes**	**No**
Azerbaijan	**Yes**	**Yes**	**Yes**
Belguim	**No**	**Yes**	**Yes**
Bulgaria	**No**	**Yes**	**No**
Croatia	**Yes**	**Yes**	**Yes**
Cyprus	**Yes**	**Yes**	**Yes**
Czech Republic	**Yes**	**Yes**	**No**
Denmark	**Yes**	**Yes**	**Yes**
Finland	**Yes**	**Yes**	**No**
France	**No**	**Yes**	**No**
Germany	**No**	**Yes**	**Yes**
Greece	**No**	**Yes**	**No**
Hungary	**Yes**	**Yes**	**Yes**
Iceland	**No**	**Yes**	**No**
Ireland	**No**	**Yes**	**No**
Israel	**Yes**	**Yes**	**Yes**
Italy	**No**	**Yes**	**No**
Latvia	**No**	**Yes**	**Yes**
Lithuania	**Yes**	**Yes**	**No**
Luxembourg	**No**	**Yes**	**No**
Macedonia	**Yes**	**Yes**	**Yes**
Malta	**No**	**Yes**	**No**
Moldova	**Yes**	**Yes**	**Yes**
Netherlands	**Yes**	**Yes**	**No**
Norway	**Yes**	**Yes**	**Yes**
Poland	**No**	**Yes**	**No**
Portugal	**Yes**	**Yes**	**No**
Romania	**Yes**	**Yes**	**Yes**
Russian Fed.	**Yes**	**Yes**	**Yes**
Serbia	**No**	**Yes**	**Yes**
Slovakia	**Yes**	**Yes**	**Yes**
Slovenia	**Yes**	**Yes**	**No**
Spain	**Yes**	**Yes**	**No**
Sweden	**Yes**	**Yes**	**Yes**
Switzerland	**No**	**Yes**	**No**
Turkey	**Yes**	**Yes**	**Yes**
Ukraine	**Yes**	**Yes**	**No**
UK	**Yes**	**Yes**	**No**

Table 6 Pan European countries with a diabetes plan, guidelines or register in place
(Please note, this table includes additional countries, not just EU member States)

[78] Ibid page 9.
[79] IDF et al. (2012) Diabetes: the Policy Puzzle: Is Europe making progress?

- The findings of the European Audit shows that less than half (13) of the EU's 27 Member States have introduced a national diabetes plan or policy framework for diabetes. These include Austria, Cyprus, Czech Republic, Denmark, Finland, Lithuania, Netherlands, Poland, Portugal, Romania, Slovakia, Spain and United Kingdom.[80] Among those Member States, there are reportedly varying levels of implementation, monitoring and evaluation of diabetes. A lack of adequate human and financial resources has been cited as restricting the full implementation of the proposed policies.

- There is also little evidence in these countries of the definition of measurable targets to assess the impact and cost-effectiveness of their plans.[81]

- Of the remaining 14 EU Member States without a plan, several of those countries have the highest prevalence rates in Europe, with growth rates which are predicted to rise significantly by 2025. The countries affected include Bulgaria, Estonia, Germany, Hungary, Latvia and Slovenia.[82]

- The UK reported the lowest prevalence rate of diabetes in Europe at 4%.[83]

9.2 Undiagnosed diabetes rates in Europe

Slightly separate, but also of note, is the prevalence of 'undiagnosed diabetes' in European countries (Fig 1). This data is based on estimates taken from the *International Diabetes Federation (IDF) Atlas*. The IDF Atlas calculates undiagnosed diabetes by taking a sample of people living in a particular area. These people are then tested for diabetes, which identifies both known and previously undiagnosed cases.[84]

[80] IDF Europe, FEND, PCDE and EURADIA, (2012) Diabetes: the Policy Puzzle: Is Europe making progress? Executive Summary p 4.
[81] Ibid, page 98.
[82] Ibid, page 98.
[83] Ibid page 95.
[84] Further information is available from IDF Diabetes Atlas- 5th Edition. Undiagnosed diabetes. Online at: http://www.idf.org/diabetesatlas/5e/undiagnosed-diabetes Website accessed 5.6.12.

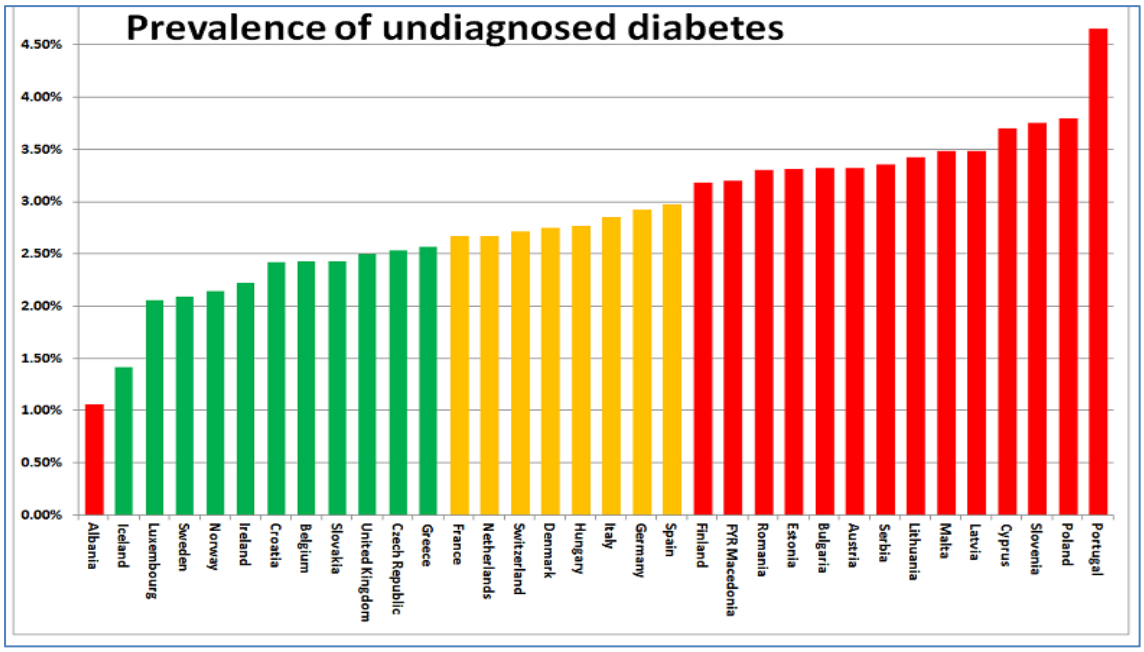

Figure 1 Prevalence of 'undiagnosed diabetes' in Europe[85]

The graph shows that Ireland and the UK are in the 'green category' - both have relatively lower 'undiagnosed' prevalence rates (2.5%) compared to other countries, especially eastern European ones, where detection rates are perhaps not as good. It is thought that lower prevalence rates may indicate that people in those countries have better access to GPs.[86] Also interesting is that some countries, for example Cyprus, which is in the higher prevalence of 'undiagnosed diabetes' (red category) has a national plan, guidelines and a diabetes register in place to tackle the disease.

10. International Diabetes Care: policy and practice

The final section of this paper briefly highlights two examples of what is being done elsewhere to tackle diabetes.

10.1 Denmark

In 2008, Denmark ranked number one of the Euro Consumer Diabetes Index in terms good diabetes management.[87] The report stated that:

"*Denmark performs better than their neighbours in central and northern Europe. In spite of spending less money per capita on healthcare than other central and*

[85] International Diabetes Federation Diabetes Atlas, 5th Edition, 2011. CUTS data.
[86] Euro Health Consumer Index (2008), p62. Available online at: http://www.healthpowerhouse.com/files/Report-EHCI-2012.pdf Website accessed 6.6.12.
[87] Report published by Health powerhouse. Available online at; http://www.healthpowerhouse.com/files/edi-2008/2008-euro-diabetes-index-report.pdf Website accessed 18.6.12.

northern European countries, Denmark provides very well organized diabetes management with enough diabetes professionals and great access to services".[88]

Denmark scored well on the Consumer Index for several reasons; namely its excellent diabetes registry (which has several detailed indicators and measures in comparison with many other country registers), access to and quality of information for patients, consumer rights, and range of screening programmes. Denmark also scored well in relation to patient choice - patients can choose where in the country they want to be treated. [89]

The Danish also have a dedicated diabetes hospital called the "Steno Diabetes Center" which focuses on translational research, care and prevention of diabetes.[90] The Steno Centre treats over 6,200 patients per year. In addition, Novo Nordisk, a major global company working in diabetes care and treatment has its headquarters located in Denmark.[91] Novo Nordisk market a range of pharmaceutical products and electronic devices to manage diabetes, and also provides information to clinicians and patients about the risks, symptoms and complications of diabetes.[92]

In Denmark, funding is provided in some cases to enable school assistants to help children with specific diabetes needs. Parents of children with diabetes can also get reimbursed for missed work days due to diabetes-related tasks such as doctor's visits.

10.2 Australia

Diabetes was declared as a National Health Priority by the federal government of Australia in 1997, and state and federal governments have supported programs to monitor and improve diabetes prevention, detection and management. 'Diabetes Australia' is a national federated body comprising state and territory organisations which has set a number of national policy priorities for diabetes under key focus areas.[93]

[88] Report published by Health powerhouse. Available online at; http://www.healthpowerhouse.com/files/edi-2008/2008-euro-diabetes-index-report.pdf Website accessed 20.6.12.page p13.
[89] Ibid, p18
[90] Steno diabetes Centre: http://www.stenodiabetescenter.com/ Website accessed 18.6.12.
[91] Novo Nordisk website: http://www.novonordisk.com/ Website accessed 18.6.12.
[92] Website available online at: http://novomedlink.pro/diabetes-care/therapeutic-options/devices/Devices-start-page.aspx Website accessed 22.6.12.
[93] Diabetes Australia National Policy priorities http://www.diabetesaustralia.com.au/PageFiles/612/National%20Priorities%202010%20-%20final%20-%20April%202010.pdf

Focus Area	Priority for Diabetes Australia
Awareness	Raising awareness of the prevalence and seriousness of all types of diabetes, the risk factors for developing Type 2 diabetes and the personal, social and economic implications of the diabetes epidemic.
Prevention	Prevention of Type 2 diabetes by developing healthier individuals and communities, especially children; promoting physical activity, healthy eating and built-environments that encourage activity.
Detection	Early detection of people at high risk of diabetes and those who have undiagnosed diabetes to facilitate targeted early intervention strategies.
Management	Best practice management which requires increasing affordability and access to health care teams, professionals and services for all people with all types of diabetes as an integral component of self-management.
Cure	Increased funding for and greater priority given to diabetes research for all types of diabetes and across the spectrum of the disease with the ultimate aim of one day finding a cure.

Under each 'focus area', there are details of overarching goals and a series of actions to help achieve the goal. For example, one policy priority is to provide "Better support for young people with T1 diabetes transitioning to adult services". [94] The detail of this policy objective is outlined as follows:

1. Systematically identify each year all adolescents with Type 1 diabetes who turn 15 years of age, and all those young people aged 15-24 years who are newly diagnosed in that period. All young people should have access to:

> a). A comprehensive health assessment, including mental health screening using the HEADSS framework, commencing at age 15 and conducted annually until age 24.
>
> b. A Transition Care Plan which should be developed to document the systematic and planned transition into adult services.

2. Medicare rebates for participating in the development of the Transition Care Plan should be accessible for endocrinologists, GPs and credentialed diabetes educators (currently limited to GP's).

3. Expand Medicare funded claims for allied health services for people with Type 1 diabetes aged 15 to 24 from five to ten claims per year.

4. Endocrinologists should be able to refer to Medicare funded diabetes educators, allied health professionals and psychologists (currently limited to GP's).

[94] Ibid p4.

5. A central coordination system should be established to identify and track young people with Type 1 diabetes aged 15 to 24 years transferring from paediatric to adult services, using a variety of existing diabetes registers (NDSS, National Diabetes Register, health service level databases etc).

6. Transition Officers should be funded and employed to implement the transition model across Australia.

7. Additional support funding based on an annual per capita payment for each person with a Transition Care Plan should be provided for three years to support the development of innovative, multidisciplinary young adult programs within health regions ($500pa for urban and $1000pa for rural and remote).

8. The model should be evaluated to monitor service improvement, health outcomes, hospitalisations and health care service use, engagement and loss to follow-up, and reviewed after three years.

9. Concession Card benefits should apply to age 18.

Within the policy document, a range of other policies have also been set, for example:

- Diabetes in pregnancy: establishing a register of women with gestational diabetes, and ensuring optimal pre and post natal support;
- Public funding of $35 million over 3 years for the provision of 4,000 insulin pumps;
- National standards for diabetes management for elderly populations including training of aged care workers treating patients with diabetes;
- Better health literacy of diabetes patients in terms of information regarding self-care and quality of life; Accredited diabetes educators; increasing the number of indigenous health workers;
- Prevention of T2 diabetes through a national strategy and related strategies such as obesity; healthy lifestyles; targeted social marketing campaigns;
- A ban on junk food advertising and sugary beverages to children. Introduction of front of pack food labelling about nutritional information, and a healthy eating framework in schools for children;
- National policy commitment that all Australian workers are eligible for a workplace-based risk assessment of T2 diabetes.[95]

11. Conclusion

Diabetes is a serious and devastating disease which can result in a myriad of complications. It requires diligent self-management and good medical support. The burden of the disease is significant and extremely costly, both in terms of the effect on

[95] Diabetes Australia National Policy priorities http://www.diabetesaustralia.com.au/PageFiles/612/National%20Priorities%202010%20-%20final%20-%20April%202010.pdf

people's lives, the economy, and the amount needed to provide adequate care. Northern Ireland currently has a diabetes framework in place; however, disparities in the level of service provision have been reported. This is a trend that is also been reflected in different European countries. Recent UK policy proposals for managing long term conditions, such as diabetes, have shifted from hospital-based services to integrated specialist community care, provided close to peoples' own homes. Yet, how this will work in practice remains to be seen. The literature suggests that more preventative measures, education, and joined up working are urgently needed in order to mitigate the unsustainable costs associated with managing the disease.