

Regional Audit of Structured Diabetes Education in Northern Ireland



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Background

Diabetes is a serious condition. In Northern Ireland nearly 65,000 people are known to have diabetes of whom approximately 6,500 have Type 1 diabetes and 58,500 have Type 2 diabetes.

There are 200 people with newly diagnosed diabetes each month of whom 90% will have Type 2 diabetes.

There is an estimated 15,000 people who may have diabetes but are yet to be diagnosed. Diabetes, specifically Type 2 diabetes is set to increase dramatically over the next 10-15 years due to factors that include an increasingly ageing population and increases in the number of people who are identified as overweight.

Due to diabetes-related complications, diabetes currently costs the NHS in Northern Ireland up to 10% of the budget each year; working out at approximately £400 million annually.

Short- term complications

- There were 12,326 hospital admissions with life-threatening diabetic ketoacidosis in England in the year up to April 2007. Some would be new diagnoses of Type 1 diabetes but many would be due to sub-optimal self-management.¹
- Hypoglycaemia has a substantial clinical impact in terms of morbidity, mortality and quality of life. It is estimated that a hospital admission for severe hypoglycaemia costs around £1000.² In most cases hypoglycaemia can be prevented by optimal self-management.

Long-term impact:

- Diabetes causes more deaths than breast and prostate cancer combined.³
- 80% of people with diabetes will die from cardiovascular complications.⁴
- More than one in ten (11.6%) deaths among 20-79 year olds in England can be attributed to diabetes.⁵
- Diabetes is the leading cause of blindness amongst adults of working age in the UK.⁴
- Diabetes is one of the leading causes of end-stage renal failure.⁴
- 100 people a week in the UK have a limb amputated as a result of diabetes.⁶
- Between 20%- 30% of people will experience significant depression - a rate three times higher than the general population.⁷

Diabetes is a life-long condition that can have a profound impact on lifestyle, relationships, work, income, health, well-being and life expectancy. Following a regimen of medical treatment and self-care activities is critical for the length of survival of people with diabetes. Tight control of blood glucose reduces the risk of complications such as blindness, amputations, kidney failure and cardio-vascular events. Self-management is the key to good diabetes care and structured patient education should be at the heart of any service.

Supporting patients to self-manage is a complex collaborative process that includes discussion about the facts about the condition, exploring attitudes and emotions, skills acquisition and behavioural change.

The Report of the CREST Northern Ireland Task Force⁸ made '*Education for people with diabetes and professionals*' a priority area for early action in shaping the future of diabetes care in Northern Ireland. "*Structured education programmes can improve knowledge, blood glucose control, weight and dietary management, physical and psychological well-being particularly when this is tailored to the needs of the individual...*"

Structured Diabetes Education

The National Institute for Clinical Excellence (NICE) defined structured diabetes education as; *“a planned and graded programme that is comprehensive in scope, flexible in content, responsive to an individual’s clinical and psychological needs, and adaptable to his or her education and cultural background”*.⁹

The Department of Health/Diabetes UK Patient Education Working Group identified 5 key criteria that fulfil the NICE recommendations.¹⁰

A patient-centred philosophy. The programme should be evidence-based and suit the needs of the individual. The programme should have specific aims and learning objectives and should support development of self-management attitudes, beliefs, knowledge and skills for the learner, their family and carers.

A structured curriculum. The structured curriculum should be theory driven, evidence-based, resource effective, have supporting materials and be written down.

Trained educators. Trained educators should have an understanding of educational theory appropriate to the age and needs of the programme learners and be trained and competent in delivery of the principles and content of the programme they are offering.

Quality assurance. This includes review by trained, competent, independent assessors who assess against key criteria to ensure sustained consistency.

Audit. The outcomes of the programme should be audited. Audit measures include biomedical outcomes, quality of life, patient experience, the degree of self-management behaviours achieved.

These 5 criteria have been reiterated in the recent NICE guidance on Type 2 diabetes.¹¹

NICE went on to state

- *“that every person and or carer should be offered structured diabetes education at and around the time of diagnosis, with annual reinforcement and review”*
- That people and their carers should be informed *“that structured education is an integral part of diabetes care”*
- *“that these programmes should be integrated with the rest of the care pathway”*
- *“that patient education programmes provides the necessary resources to support educators and that educators are properly trained and given time to maintain their skills”*



Cost of Structured Diabetes Education

Table 2 The cost of interventions per patient per year

DAFNE (Type 1 national programme, 35 hours) £282 per pt one-off intervention
(Includes educator backfill, training & admin costs.)

DESMOND (Type 2 national programme, 6 hours) £18-50 per pt one-off intervention
(excludes local cost of implementation e.g. venue)

Metformin: £29 per pt per year

Glitazone: £373-£634 per pt per year

Generic gliclazide: £168 per pt per year

Average daily bed stay: £215

First amputation: £6535

Dialysis: £22,224 per pt per year

Structured diabetes education is a relatively inexpensive option for a one-off intervention as demonstrated in table 2 above. DAFNE and DESMOND costs include quality assurance and DAFNE costs includes audit. An economic analysis performed on DAFNE demonstrated that it would pay for itself in 5 years.¹⁴

Audit Design and Methodology

The aim of the audit was to assess group structured diabetes education against the standards below. In the case of children and adolescents with diabetes however the majority of educational provision is provided on a one to one basis for which a separate audit of paediatric education activity was undertaken and will be briefly reported in this document.

These audits covered group SDE for adults with Type 1 and Type 2 diabetes and one to one SDE for children and adolescents with Type 1 diabetes. Courses that were delivered in the period from 1st May 2007 until 31st August 2007 were included.

Local diabetes professionals (consultants with an interest in diabetes, diabetes specialist nurses, diabetes specialist dieticians and podiatrists) throughout Northern Ireland were contacted and interviewed using a semi-structured interview. The interview schedule questions were based on the nine standards.

Nine standards were drawn from the Diabetes UK Position Statement 'Structured Education for People with Diabetes' and from the NICE recommendations.⁴

Standard 1

Structured education should be available to all people with diabetes in Northern Ireland at the time of initial diagnosis, or when it is appropriate for them, and then as required on an ongoing basis, based on a formal regular assessment of need.

Standard 2

Structured education should be provided by an appropriately trained multidisciplinary team to groups of people with diabetes, unless group work is decided as unsuitable for an individual through a joint discussion between the person with diabetes and their healthcare professional.

Standard 3

Sessions should be held in a location accessible to individuals, either in the community or a local diabetes centre.

Standard 4

Structured education should use a variety of teaching techniques adapted to meet the different needs, personal choices and learning styles of people with diabetes, and should be integrated into routine diabetes care over the longer term.

Standard 5

Education should be delivered by a multidisciplinary team, which should include, as a minimum, a diabetes specialist nurse and a dietician.

Standard 6

Structured education programmes should have a structured, written curriculum that covers all aspects of diabetes, is flexible in content, is relevant to a person's clinical and psychological needs, and is adaptable to a person's educational and cultural background.

Standard 7

Structured diabetes education should be delivered by trained educators.

Standard 8

Structured diabetes education should be quality assured.

Standard 9

Structured diabetes education should be audited.

Results

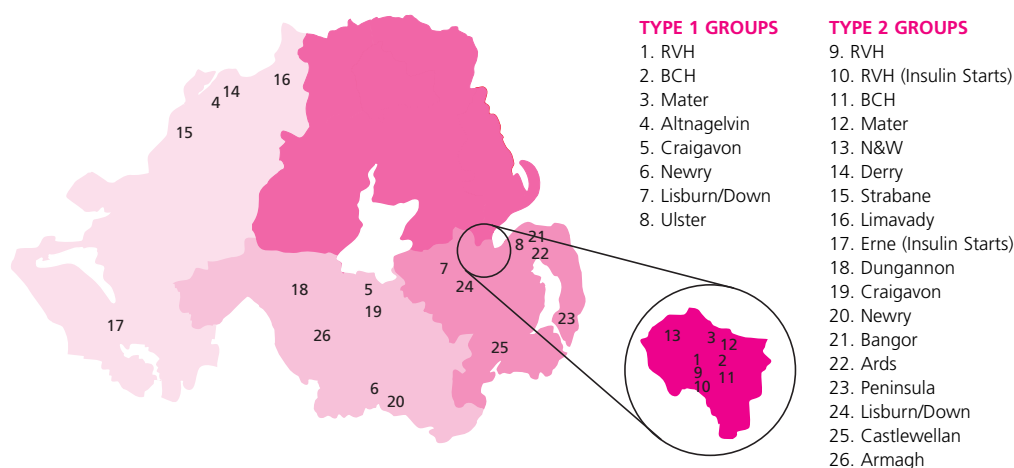
Results show that twenty-six courses delivered by 13 teams were included in the audit.

Structured diabetes education was delivered in four of the five Trust areas (Northern Trust area being the exception).

13 programmes were based on nationally implemented SDE programmes (DAFNE, BERTIE and X-PERT) and 13 were developed locally.

The audit demonstrated that there is a gross deficiency in the provision of structured diabetes education and that the majority of people with diabetes in Northern Ireland do not have access to the support they require to manage their condition.

The audit also showed that many of the programmes were able to achieve many of the standards but (with the exception of the DAFNE programme) had difficulty in arranging quality assurance and comprehensive audit data collection.



8 teams delivered eight courses for people with Type 1 diabetes.

11 teams delivered sixteen courses for people with both newly diagnosed and established Type 2 diabetes.

2 teams delivered two courses for people with Type 2 diabetes who required to start insulin therapy (insulin start groups).

Belfast Health & Social Care Trust hosted three Type 1 groups and five Type 2 groups.

South Eastern HSC Trusts had two Type 1 and four Type 2 groups,

Southern HSC Trust had two Type 1 and five Type 2 groups.

Western HSC Trust had one Type 1 programme and four Type 2 groups.

Northern HSC Trust did not organise any group education for adults with diabetes in the stated time period.



Summary of Standards in Type 1 structured diabetes education

The table below summarises which standards were met by each Type 1 SDE programme. The figure in brackets denotes how many courses are delivered annually. The standards difficult to achieve relate to quality assurance and audit.

Type 1 Group (number delivered in 12 month period)	S1	S2	S3	S4	S5	S6	S7	S8	S9
Altnagelvin (4)	✓	✓	✓	✓	✓	✓	✓		
Belfast City Hospital (6)	✓	✓		✓	✓	✓	✓		
Craigavon (4)	✓	✓	✓	✓	✓	✓	✓		
Lisburn / Down [DAFNE] (4)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mater (2)	✓	✓	✓	✓	✓	✓	✓		
Newry (2)	✓	✓	✓	✓	✓	✓	✓		
Royal Vic. Hospital [DAFNE] (6)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ulster (3)	✓	✓	✓	✓	✓	✓	✓		

Summary of Standards in Type 2 structured diabetes education

The table below summarises which standards were met by each Type 2 SDE programme. Standard one was only met by two Centres, Belfast City Hospital (BCH) and the Royal Victoria Hospital (RVH). These were the only courses where patients waited less than six weeks to join a group. The figure in brackets denotes how many courses are delivered annually.

Type 2 SDE Groups	S1	S2	S3	S4	S5	S6	S7	S8	S9
(O) Armagh [XPERT] (3)*		✓	✓	✓	✓	✓	✓		✓
(O) Newry [XPERT] (3)*		✓	✓	✓	✓	✓	✓		✓
(O) Craigavon [XPERT] (6)		✓	✓	✓	✓		✓		
(O) Dungannon [XPERT] (2)		✓	✓	✓	✓	✓			✓
(O) Lisburn / Down [XPERT] (2)		✓	✓	✓	✓	✓	✓		✓
(M) Bangor (4)*		✓	✓	✓	✓	✓	✓		✓
(M) Ards (4)*		✓	✓	✓	✓	✓	✓		✓
(M) Peninsula (4)*		✓	✓	✓	✓	✓	✓		✓
(M)North and West Belfast (8)		✓	✓	✓	✓				✓
(N) Belfast City Hospital (6)	✓	✓	✓	✓	✓	✓	✓		
(N) Castlewellan (12)		✓	✓	✓	✓	✓	✓		✓
(N) Limavady (3)*		✓	✓	✓	✓	✓	✓		
(N) Derry (3)*		✓	✓	✓	✓	✓	✓		
(N) Strabane (3)*		✓	✓	✓	✓	✓	✓		
(N) Mater (4)		✓	✓	✓	✓	✓	✓		
(N) Royal Victoria Hospital (11)	✓	✓	✓	✓	✓	✓	✓		✓

- O Ongoing** (Those with established Type 2 diabetes)
M Mixed (Established and newly diagnosed Type 2 diabetes)
N New (Those with newly diagnosed Type 2 diabetes)

Recommendations

The provision of structured diabetes education is a vital component of high quality diabetes care. This intervention should be afforded the same value and rigour as any other patient intervention. Funding for provision of structured diabetes education across Northern Ireland needs to escalate significantly in order to meet NICE guidance and recommendations.

To fulfil the NICE recommendations outlined above the following needs to happen;

- 18 teams throughout Northern Ireland would be required to deliver structured diabetes education programmes to the 180 newly diagnosed people with Type 2 diabetes each month.
- 15 diabetes centres would be required to deliver one course per month for 4 years to provide structured diabetes education for the 6500 people with Type 1 diabetes in Northern Ireland.
- 364 general practice surgeries in Northern Ireland need to deliver 14 programmes each to reach approximately 58,500 existing patients with established Type 2 diabetes.
- To meet NICE recommendations structured diabetes education needs to be fully integrated into routine diabetes services and not seen as an optional luxury reliant on the goodwill of hardworking professionals.
- Administration provision for teams delivering structured diabetes education is required to support the planning and delivery of SDE groups. The administration of SDE programmes includes recruiting patients, organising venues, organising any pre-programme evaluation such as arranging various blood tests, weight, blood pressure, depression and / or quality of life questionnaires, gathering audit data, organising patient materials and organising educator materials.
- High quality training in the delivery of group education is required by all those undertaking delivery of structured diabetes education. Many educators had a mixture of skills some acquired in brief courses others trained specifically to deliver the programmes provided. In accordance with NICE guidance it is recommended that all educators undertaking structured diabetes education should be trained specifically in adult education techniques that includes knowledge of adult education principles, facilitating problem solving skills, goal-setting and action-planning.
- Staff providing structured diabetes education require specific support, guidance and resources in relation to routinely undertaking quality assurance and audit as defined by Department of Health and Diabetes UK⁵ and NICE.⁶
- To help all those involved in ensuring the highest standard of structured diabetes education, commissioners and educators should be supported in using the Department of Health/ Diabetes UK / National Diabetes Support Team Toolkit to assist all structured diabetes education programmes to meet the NICE criteria.¹⁷



Paediatric diabetes education in Northern Ireland

All five HSC Trusts have paediatric diabetes teams that provide one to one education for children and young people diagnosed with Type 1 diabetes. In paediatric education, the standard of provision was also found to be high. All seven teams achieved at least five out of eight standards. Two achieved seven and one team met all eight audit standards.

At the time of the report the Northern HSC Trust employs 2.5 wte PDSNs, Belfast HSC Trust employs 2.0 wtes, the South Eastern HSC Trust .75 wte, Western HSC Trust has 1.9 wte and about to appoint another 1 wte. The Southern HSC Trust has 7 DSNs who have a combined adult and paediatric caseload. This amounts to about 1.8 wte to 2 wte however the time given to paediatric diabetes is flexible and adapted to the needs of the caseload. The demands of a paediatric caseload are increasing as the use of insulin pumps rises in the paediatric population. The recommended caseload of paediatric DSNs is 1:70 families.¹⁸ There are approximately 1000 children and young people under 17 with diabetes in NI. This means each paediatric DSN has responsibility for approximately 100 families each although this may vary from nurse to nurse.

Changes since the audit time-frame

As always data collected within a time frame quickly becomes out of date. It should be noted that a number of SDE programmes were in development in both the community (newly diagnosed Type 2 groups in South & East Belfast, and South Eastern Trust) and hospital (Royal Maternity Hospital, Tyrone County Hospital, Erne Hospital and Dungannon Hospital) settings. Unfortunately, it has recently been announced that SDE courses in Bangor, Newtownards and the Ards peninsula have been suspended due to lack of staff and in the Mater because of poor attendance.

References

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- ⁴ Diabetes in the UK. Diabetes UK, 2004 report
- ⁵ Yorkshire and Humber Public Health Observatory www.yhpho.org.uk/viewResource.aspx?id=1480
- ⁶ Statistics taken from The Diabetic Foot Guide by the National Diabetes Support Team, 2006
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- ⁸ Report of the Northern Ireland Task Force on Diabetes: A Blueprint for Diabetes Care in Northern Ireland in the 21st Century. Diabetes UK NI / CREST Taskforce: June 2003
- ⁹ Guidance on the use of patient-education models for diabetes. Technology Appraisal 60. National Institute for Health & Clinical Excellence. 2003
- ¹⁰ Structured Patient Education in Diabetes: Report from the Patient Education Working Group. Diabetes UK/ Department of Health. 2005
- ¹¹ Type 2 diabetes: the management of Type 2 diabetes. NICE 2008. www.nice.org/CG66
- ¹² www.dafne.uk.com
- ¹³ www.desmond-project.org.uk
- ¹⁴ Shearer A, Bagust A, Sanderson D, Heller S, Roberts S. Cost-effectiveness of flexible intensive insulin management to enable dietary freedom in people with Type 1 diabetes in the UK. *Diabetic Medicine* 2004; 21 (5):460-67
- ¹⁵ www.diabetes.org.uk/About_us/Our_Views/Position_statements/Structured_education_of_people_with_diabetes/
- ¹⁶ Please note: When published by NICE, "appropriately trained multidisciplinary team" (Standard 2) referred to the need for each member of the multidisciplinary team to be trained in delivering education. For the purpose of this audit however this will refer to the need for each member of the multidisciplinary team to have specialist knowledge of diabetes care. Standard 7 will refer to the issue of training in delivering education.
- ¹⁷ www.dh.gov.uk/en/Healthcare/NationalServiceFrameworks/Diabetes/DH_4015717
- ¹⁸ Royal College of Nursing 2006 Specialist Nursing Services for Children and Young People with Diabetes

A full report is available from:

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