

Integrated care for people with diabetes in South London

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Introduction

This article describes an intervention to improve diabetes care services in a deprived multi-ethnic inner-city area of south London with the long-term aim of building a local service model. The existing services are patchy, and handicapped by a shortage of skills amongst healthcare professionals and difficulties in sharing clinical information. To address these problems, we are implementing an integrated care package which blurs the primary/secondary care interface, and which uses both clinical and information technology (IT) resources.

All primary care trusts (PCTs) will be addressing local implementation now that the long awaited NSF for Diabetes Delivery Strategy (NSF, 2003) has been published. This document has finally given us the template for diabetes care services. These services are to be constructed around local diabetes networks (LDNs), linking primary, specialist and community care. There is, however, no universal service model given.

The aim is to move towards PCT-based, seamless integrated diabetes care services, in which diabetes healthcare professionals (HCPs) in both primary and specialist care merge into one. In this way, people with diabetes will have their problems dealt with by whichever HCP, wherever and whenever is appropriate for their diabetes care at that particular time of clinical need. Trailblazing models of these integrated care services are being pioneered by PCTs in, amongst other areas, Birmingham Ladywood, Bradford, and Tayside.

Integrated care project in south London

Our integrated care project is focused on a group of practices in Lambeth PCT, and we are using similar practices in Southwark PCT as our control group (the ex North Lambeth and North Southwark Primary Care Groups). The population served is about 140 000, with 30% from minority ethnic groups. Lambeth is one of the most deprived boroughs in the country. The prevalence of

diabetes is higher in groups with lower socioeconomic status (Evans et al, 2000) and in people of African or Indian subcontinent descent, who form the largest ethnic minority groups in the UK (Chaturvedi et al, 1994; McKeigue et al, 1991). The complications of diabetes also appear to be more frequent or severe in association with lower socioeconomic status (Eachus et al, 1996; Kelly et al, 1993) as is excess mortality from diabetes (Roper et al, 2001). Ethnic minority groups may be more frequently affected by some complications of diabetes, especially renal failure (Roderick et al, 1996), and coronary heart disease in people of Indian subcontinent descent (McKeigue et al, 1991).

Existing services

The picture above gives an indication of the major challenges facing diabetes care in inner-city south London. The local service providers include a large teaching hospital (Guys and St Thomas' Trust - GSTT), which has a diabetic retinopathy screening service (DECS) and a fully functioning software driven diabetic clinical system (Diabeta3, www.diabeta3.com). The latter clinical information system also supports the DECS retinal screening service, which covers the same locality. Between these services, some 3400 people with diabetes in the study area are under active care, providing the bones of a diabetes register. In the primary care setting, there are more practices with only one GP than the national average, with underdeveloped

ARTICLE POINTS

1 Setting up and organising a complex service intervention needs a dedicated project manager.

2 There should be flexibility in the design of the project plan from the beginning to allow for unexpected events.

3 A sustainable IT infrastructure to support routine clinical information flow between all the care providers must be the long-term goal.

4 Integrated care schemes should adapt their organisational arrangements to their local circumstances.

KEY WORDS

- Diabetes
- Integrated care
- Local service model
- Primary/secondary care interface

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Figure 1. Dr Costa and Dr Jones with a patient in Dr Costa's practice

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1 A baseline survey of existing services indicated that the problems include access to care, quality of care, a skills shortage, and no mechanism to share relevant information with other organisations involved in a patient's management.

2 The objective is to establish and evaluate a structured integration of diabetes care between primary and secondary care, with the aim of improvement of diabetes control and quality of life.

3 The clinical objective has been achieved by the appointment of a full time diabetes specialist nurse, combined with specialist sessional appointments for a podiatrist, dietitian, GP with a special interest and a consultant diabetologist.

4 We drew up local diabetes management and annual review guidelines for each practice.

special interest care services.

The first initiative of the integrated care project was to carry out a baseline survey of the existing care services in both PCT groups. This survey indicated that the problems include access to care, quality of care, a skills shortage, and no mechanism to share relevant information with other organisations involved in a patient's management. This leads to possible duplication (with annual reviews done just weeks apart in primary and secondary care) or neglect of care, and the potential for conflicting advice.

The Diabetes Integrated Shared Care Scheme (DISCS)

As this scheme started before the NSF for diabetes was launched (NSF, 2001), we had to identify possible service models for diabetes care ourselves.

To do this, a critical literature review of the various ways of organising diabetes care was undertaken. This review identified integrated care as the optimal arrangement for dealing with the increasing numbers of people with diabetes, the long waits patients may have for all hospital appointments and also to facilitate the necessary sharing of clinical and IT expertise within the locality. The NSF has now confirmed our conclusions and left the fine tuning for PCTs to decide.

We have called our model the Diabetes Integrated Shared Care Scheme (DISCS), inserting the old word 'shared' to prevent embarrassment in the acronym! It is funded by the Guy's and St Thomas' Charitable

Foundation for 3 years from early 2001.

Objectives

The objective is to establish and evaluate a structured integration of diabetes care between primary and secondary care, with the aim of improvement of diabetes control and quality of life. The scheme was developed by researchers from the Diabetes Unit of GSTT, Lambeth PCT and the Department of Public Health Sciences at GKT School of Medicine.

The DISCS intervention comprises three strands (see Figure 1).

- A clinical intervention which provides direct access for GPs and practice nurses (PNs) to specialist diabetes services.
- An information technology intervention to create a sustainable infrastructure based on a shared diabetes electronic patient record using the NHS Net.
- An evaluation study comparing the Lambeth practices that receive DISCS with the control practices in Southwark.

Progress to date: the clinical strand

The clinical objective has been achieved by the appointment of a full time diabetes specialist nurse, combined with specialist sessional appointments for a podiatrist, dietitian, GP with a special interest and a consultant diabetologist (Figure 1). We visited all 30 practices included in the study to introduce DISCS and to learn about each practice's current diabetes service delivery.

We drew up local diabetes management and annual review guidelines during a 6 month consultation period. These have now been published and are available to each practice both electronically via the DISCS website and as one of the entries in the DISCS ring binder given to each practice as a resource.

Clinical interface with primary care

The clinical interface with primary care has been achieved by the following:

- Bimonthly PN meetings, joint clinics with DSN/podiatrist, individual tutorials and training (e.g. converting patients to insulin), and a telephone helpline. District nurse team seminars, joint housebound visits and link with the

helpline have also been established.

- Community podiatrist seminars, joint clinics with the DISCS podiatrist, individual support and training and the telephone helpline.
- GP involvement with 6 monthly seminars and updates, plus quarterly meetings on the six local management guidelines. Case discussion clinics, telephone helpline and improved access via direct clinic referral into clinic DISCS slots, where specific problems are dealt with by specific management plans and not long-term outpatient care.
- Community-based patient educational events have been commenced at the local intermediate care centres in the catchment area of the intervention group of practices.
- Bimonthly newsletters are a feature of our exciting project for all hospital and primary care diabetes healthcare professionals.

The information technology strand

One of the perceived shortcomings of previous integrated care schemes has been that they have often not survived the departure of the motivated individuals who first established them. In order to address this issue, one of the main objectives of DISCS is to establish a sustainable IT infrastructure to support:

- The routine flow of clinical information between the many care providers in primary, secondary and community care
- The application of common care protocols across the project area
- A coordinated reference point for diabetes information and educational materials.

This work has utilised the existing hospital diabetes clinical information system (Diabeta3) and its long established links with the retinal screening service to provide primary care access to this information over the NHSnet. Initially, there was read-only access to a summary of patient data, this access is now full read/write access to the whole record. This record includes data from doctor, nurse specialist, podiatry, and dietitian consultations, along with digital retinal images. Many of these consultation types contain decision support elements that

guide the consultation. The system is accessed via the NHSnet using a standard web browser – no additional software is required.

Developments currently in hand include messaging between Diabeta3 and EMIS GP systems, and the integration of more sophisticated decision support tools.

A standard diabetes foot template has been loaded onto all our EMIS practices for IT template work and audit. Communication has been completely transformed with the construction of a DISCS website with downloadable contents, such as guidelines and patient leaflets, together with email questions and noticeboards for discussions – the beginnings of a DARTS/Tayside model. The DISCS portal site can be found at www.gstt.sthames.nhs.uk/discs.

The evaluation strand

The baseline survey has been completed and was done prior to the build up of the other strands. We collected information on intermediate outcomes (e.g. HbA_{1c} levels), process of care measures (items of clinical care), and self-rated health measures. Staff satisfaction was also evaluated by a questionnaire.

The survey results have found that, at baseline, patients' knowledge of diabetes is poor, yet they are satisfied with their care. The results also showed that primary care HCPs have low levels of satisfaction with access to, communication with, and management advice from other members of the diabetes care team. In addition, the roles and responsibilities of primary care HCPs were not as clearly understood as desired, though nursing staff reported more clarity than doctors. The post-intervention survey will be done later this year, once the other strands have been fully implemented.

Future developments

The plans include continuing to develop professional education and support for all primary care diabetes HCPs. We also plan to entrench the diabetes management guidelines – seminars based on them will be set-up for staff. Also, we will extend group education for people with at-risk feet. There are plans too, for further

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1 The lack of a LDSAG comprising all stakeholders meant that more time had to be spent on developing links.

2 Delays in appointing new staff, and shortages of the relevant specialists were the main obstacles, and this affected some of the other interventions as well.

3 Integrated care is a poorly defined concept, so apart from having a generic LDN in place, each area diabetes service model will have to adapt their organisational arrangements to match the local circumstances.

4 DISCS is developing a progressive model for delivering diabetes care that will be sustainable beyond the end of the project.

widening the scope of Diabeta3 by piloting its use as an electronic patient record (EPR) for foot health in Lambeth, before consideration of its use in the diabetes EPR for Lambeth PCT after the end of DISCS. Clinically, joint DSN and PN clinics are to be regularised, with regular joint visits to housebound patients by the district nurse team and the diabetes specialist nurse. Lastly, the vexed question of community based satellite or intermediate care consultant/specialist clinics has not been resolved, as new community orientated consultant diabetologists are just being put into place in our locality.

Obstacles and challenges

The lack of a LDSAG comprising all stakeholders meant that more time had to be spent on developing links. This situation has improved significantly with the establishment of an enthusiastic Diabetes Network for Lambeth and Southwark as part of the NSF. Delays in appointing new staff, and shortages of the relevant specialists were the main obstacles, and this affected some of the other interventions as well. In addition, the small clinical team had many practices to visit. Implementation of the IT structure was made harder with slow web access, confidentiality data issues, variable primary care IT experience and the difficulties of dealing with the multiple diabetes templates in use across the different GP practices. There was a low response rate to the patient questionnaire partly due to the local population profile and high list inflation.

Conclusions and key messages

Integrated care is a poorly defined concept, so apart from having a generic local diabetes network (LDN) in place, each area's diabetes service model will have to adapt their organisational arrangements to match the local circumstances. These will include:

- Individual clinicians' and patients' preference
- Historic patterns of referral
- Population catchments and demographics
- Differential multidisciplinary staffing levels
- Financial resources allocation

It is important to recognise that such a complex intervention needs a dedicated project manager, the diabetes network

manager in the NSF Delivery Strategy flow diagram (a manager who provides administration and other support for the running of the clinical network). This will be essential to minimise the danger of long timescales and delays that can have an adverse knock-on effect on the other components of the project. Staff shortages (particularly in London) means that salary payscale flexibility is needed to attract quality applicants. There needs to be some flexibility in the project plan to allow for unexpected events. Getting all the stakeholders together, e.g. engaging primary care teams, and providing leadership from the outset will greatly facilitate the whole project.

Finally, DISCS is developing a progressive model for delivering diabetes care that will be sustainable beyond the end of the project. The intention is to roll-out this model over the whole of Lambeth, establishing the PCT as a beacon for diabetes care. As part of this vision it is hoped that the evaluation will positively inform the decision of whether this service model should be funded by the PCT on an ongoing basis and not as a one-off research project as it currently stands. ■

Chaturvedi N, McKeigue PM, Marmot MG (1994). Relationship of glucose intolerance to coronary risk in Afro-Caribbeans compared with Europeans. *Diabetologia* **37**: 765-72

Department of Health (2003). National Service Framework for Diabetes: Delivery Strategy. www.doh.gov.uk/nsf.diabetes/delivery.ch1/c hl_intro.htm

Department of Health (2001). National Service Framework for Diabetes: Standards. www.doh.gov.uk/nsf.diabetes/

Eachus J, Williams M, Chan P, Smith GD, Grainger M, Donovan J (1996). Deprivation and cause specific morbidity: evidence from the Somerset and Avon survey of health. *BMJ* **312**: 287-92

Evans JMM, Newton RW, Ruta DA, MacDonald TM, Morris AD (2000). Socio-economic status, obesity and prevalence of type 1 and type 2 diabetic mellitus. *Diabetic Medicine* **17**: 478-80

Kelly WF, Mahmood R, and Kelly MJ (1993). Influence of social deprivation on illness in diabetic patients. *British Medical Journal* **307**: 115-16

McKeigue PM, Shah B, Marmot MG (1991). Relation of central obesity and insulin resistance with high diabetes prevalence and cardiovascular risk in South Asians. *Lancet* **337**: 382-86

Roderick PJ, Raleigh VS, Hallam L, Mallick NP (1996). The need and demand for renal replacement therapy in ethnic minorities in England. *Journal of Epidemiology and Community Medicine* **50**:334-39

Roper NA, Biouss R, Kelly WF, Unwin NC, and Connolly VM (2001). Excess mortality in a population with diabetes and the impact of material deprivation: longitudinal, population based study. *British Medical Journal* **322**: 1389-93