THE CHALLENGES OF MANAGING TYPE 2 DIABETES IN PRIMARY CARE

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AUTHORS Freda Mold, PhD, BSc, is research associate; Angus Forbes, PhD, MSc, BSc, RGN, RHV, DNCert, is senior lecturer; Alison While, PhD, MSc, BSc, RGN, RHV, is professor of community nursing; all at the Florence Nightingale School of Nursing and Midwifery, King’s College London.

ABSTRACT Mold, F. et al (2008) The challenges of managing type 2 diabetes in primary care. Nursing Times; 104: 7, 32–33. Type 2 diabetes poses many challenges for primary care staff in preventing and managing complications. Effective management is vital since the disorder is associated with serious complications that may lead to reduced longevity and quality of life. A structured audit of electronic medical records in three general practices found that patients from minority ethnic groups were more likely to have poor glycaemic control, with Asian patients showing higher levels of overall BMI risk than other groups. A larger proportion of patients with poor glycaemic control were aged 50 or under, and this group had less frequent contact with primary care professionals.

BACKGROUND Type 2 diabetes affects at least two million people in the UK and its prevalence is rising rapidly. It is associated with serious complications including hypertension, stroke, kidney failure, heart disease and neuropathy, and can lead to a significant reduction in longevity and quality of life. While there is strong evidence to show that achieving certain clinical targets reduces the risk of these complications, most patients fail to achieve them (Strutton et al, 2000). Most patients are managed in primary care settings. Increasingly, this care is led by practice nurses and/or GPs with an interest in diabetes (GPSID). However, delivering effective diabetes care is challenging, particularly in areas of high socio-economic deprivation and where there are large populations of minority ethnic groups with a high prevalence of diabetes.

METHOD AND OBJECTIVES An audit of electronic medical records of patients aged 18 or over with type 2 diabetes was conducted over an 11-month period. The local research ethics committee approved the study.

The objectives of the audit were to:
- Describe the diabetes management systems in each practice;
- Identify key practice characteristics;
- Audit care processes and outcomes against best practice guidelines and targets;
- Explore the relationship between practice characteristics, patient factors and clinical outcomes.

RESULTS Practice characteristics Variations were found between the practices in relation to the number of practice nurses and GPs providing care and the size of the practice in terms of both the total number of patients registered and those with diabetes. The structure and resourcing of diabetes clinics also differed. Practice A held a weekly clinic led by a GPSID and a practice nurse, with the support of an on-site podiatrist and dietitian. It also had access to a counsellor.

Data collected included clinical records, lifestyle issues, kidney screening, hyperlipidaemia, glycaemic control, medication, consultations, and foot and eye examinations. It was analysed against standards for care delivery (for example, whether the patient had had an eye or foot check within the last 14 months) and outcome targets for glycaemic and metabolic control (NICE, 2002a–d). It was then modelled to explore the relationship between independent factors such as patient characteristics (sex, age, ethnicity) and care processes (interventions, screenings, diabetes outcomes) in relation to glycaemic and metabolic outcomes. Frequency of contact was also explored in relation to independent factors such as patient age.

IMPLICATIONS FOR PRACTICE
- The continued provision of general health education (lifestyle, diet and exercise) by primary care staff may be important in preventing further BMI risk for specific patient groups.
- Good glycaemic control is associated with greater service use, suggesting the importance of regular medical and nursing contact for patients with poorer glycaemic control.
- Monitoring younger patients’ frequency of service use and exploring possible reasons for non-attendance may be necessary to better manage poorer glycaemic control.
- The comprehensive recording of ethnicity data is essential if audit studies are to be undertaken to inform future service delivery.
- There is a need to develop primary care support services, such as district nursing care, and podiatry and dietetic services, to facilitate care already being provided by general practices.

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and psychotherapist. Practices B and C held monthly and fortnightly clinics respectively, also run by a GPsID and practice nurse, with podiatry and dietetic services available on referral. The practices encountered varying levels of difficulty in responding to patients’ needs. These reflected the low socio-economic status of the area and the high proportion of minority ethnic patients.

Patient characteristics
A total of 646 patients were included in the audit (54.3% male; 45.7% female). Most (65%) were aged over 60, most (86%) were using insulin and/or oral hypoglycaemic medication and around half (51%) were receiving hypertensive therapy. At the time of medication and around half (51%) were using insulin and/or oral hypoglycaemic (65%) were aged over 60, most (86%) were receiving general health information more than the overall mean – 70 and over than in younger patients, while black patients. Most had also received education and a medication review (such as dietary, activity and foot care advice) at each consultation.

Most patients (80%) had received general health education and a medication review (79%), while 35% had received smoking advice and 30% had seen a dietitian. However, provision varied between groups, with a higher proportion of white patients receiving general health information than black patients. Most had also received foot and eye examinations (80% and 85% respectively) and retinopathy screening (77%). Consultation frequency varied between age and ethnic group. It was higher in those aged 70 and over than in younger patients, while Asian patients had a significantly lower consultation rate than the overall mean – however, this could be related to patient age since a higher proportion were under 50.

Clinical outcomes
Nearly half of patients (48%) had poor glycaemic control with HbA1c levels over 7.6%; only 12% had good control (HbA1c <6.5%). Black patients were significantly more likely to have poor glycaemic control (54%) than white patients (48%). Glycaemic control also differed between age groups, with a higher proportion of patients with poor control being aged 50 or under (58%) or 50–59 years (58%).

Almost half (46%) of all patients had a BMI >30; a higher proportion of these were female and/or aged over 60. Ethnic differences in BMI are more complex as risk thresholds differ between populations. All Asian patients with BMI recorded had a suboptimal BMI (>23) while fewer than half of white (47%) and black (42%) patients had suboptimal BMI.

While most patients met general standards for systolic (≤140mmHg) (74%) and diastolic (≤80mmHg) (73%) blood pressure, 63% failed to achieve the Joint British Societies’ (2005) more stringent systolic target (≤130mmHg) and 20% were outside the diastolic target (≤85). Poorer systolic BP control was found among black patients and those aged 60 and over. Poor diastolic BP control was higher in patients under 50.

DISCUSSION
The audit suggests there are significant variations in primary care services for people with diabetes. These variations are in part related to resources and level of demand. To compensate for limited local dietetic, district nursing and podiatrist services, GPs and practice nurses at practices B and C adopted a highly structured approach and provided educational advice themselves (such as dietary, activity and foot care advice) at each consultation.

The way practices adapt their care system to the resources available may be important in maximising the effectiveness of the care they provide. For example, although practice B had fewer GPs and practice nurses, and poorer access to support services, its patients had significantly better glycaemic control.

Systems of data recording and retrieval varied between practices, which may affect their ability to shape service development. For example, practice B had comprehensive recording of socio-demographic and clinical data, which may be essential in undertaking audit studies and in identifying and recalling specific patient groups at risk of complications.

The audit also indicated a relationship between level of service use at each practice and glycaemic control, suggesting that care processes such as frequency of diabetes clinics and diabetic review/follow-up can affect clinical outcomes. Service use was lower in the younger age groups, which may be related to lifestyle factors. Future studies might explore these factors to identify ways of encouraging greater service use in these populations.

The audit confirmed that one of the challenges of diabetes in primary care is to provide a better service to marginalised groups. It suggested that the younger black population in particular experiences underprovision. This is a worrying trend as these younger patients will be accumulating significant macro- and micro-vascular damage. It also confirmed that patients in primary care have suboptimal glycaemic control with the associated risks of complications and mortality. Finally, the audit highlighted the continuing challenge of managing obesity, although this problem extends beyond diabetes.