Diabetes admissions to the medical admissions unit of one district general hospital

Anne Prestt, Jane Rutt

Recent years have seen major changes in NHS service delivery. Changes have included the introduction of payment by results and new posts such as diabetes inpatient specialist nurses (DISNs) and community matrons. However, the financial crisis some trusts are experiencing has led to a redesigning of services that may threaten some current diabetes services. A survey of admissions to a district general hospital medical admissions unit was carried out to assess the reasons for admission of people with diabetes and the continuing need for the DISN role in improving diabetes management for patients and in reducing length of stay.

Article points

1. Current service delivery may be under threat because of the NHS financial crisis.
2. The community matron role may divert resources to reduce emergency admissions.
3. A survey of admissions showed that most patients needed to be admitted. Only a minority of admissions for people with diabetes were for acute problems associated with diabetes.
4. The diabetes inpatient specialist nurse role is a priority in the improvement of inpatient diabetes management and reduction of length of stay.

Key words

- Diabetes inpatients
- Ward staff

Anne Prestt is a Diabetes Specialist Nurse and Jane Rutt is Diabetes Inpatient Specialist Nurse at Pilgrim Hospital, United Lincolnshire Hospitals NHS Trust, Lincolnshire.

At its conception the diabetes specialist nurse (DSN) role covered all aspects of the diabetes nursing service but the role has evolved over time. Paediatric DSNs took over children's services and, in bigger teams, each DSN was able to specialise further, for example focusing on adolescents, pregnancy management or cystic fibrosis. Over the past few years the introduction of the diabetes inpatient specialist nurse (DISN) has added to the areas of specialism a DSN can pursue.

Diabetes is of significance for all hospital departments as it is estimated that at any one time 10% of hospital beds are occupied by people with diabetes (Audit Commission, 1999). The Audit Commission in 2000 identified that diabetes inpatient care was often sub-standard, with poor patient satisfaction, poor diabetes management and education of staff lacking (Audit Commission, 2000). Length of stay for patients with diabetes, particularly if diabetes is not the primary reason for hospitalisation, is longer than for those without diabetes (Department of Health [DoH], 2001).

Until the introduction of the DISN post many hospital diabetes nurses were an unreliable resource to the wards, as they fitted ward work among the other aspects of their job. The consequence was variable quality of care and the potential for mismanagement resulting in excessive length of stay for patients with diabetes (Currie et al, 1997). This in part was due to the unfamiliarity of the non-specialist medical and nursing teams with diabetes management (Currie et al, 1997).

The introduction of the DISN, a diabetes nurse dedicated solely to the management of

inpatient care and to increasing the skills and knowledge of ward staff was effected to address these problems. Over the past few years studies have shown that hospitals which have invested in these posts have reduced the length of hospital stay for people with diabetes (Cavan et al, 2001; Davies et al, 2001; Pledger, 2005).

Development of diabetes services in Lincolnshire in response to the National Service Framework

In 1999 a steering group for diabetes was set up in Lincolnshire with both clinical and managerial representation from secondary and primary care. The role of the group was to expand and develop services for all people with diabetes in Lincolnshire. After the publication of the National Service Framework (NSF) for diabetes (DoH, 2001) the steering group transformed into the NSF implementation group for Lincolnshire. The direction for diabetes care, as driven by the group, included the following.

- Ensuring appropriate referrals into secondary care.
- The development of specialist services.
- Improving care for inpatients.
- Addressing the gaps in primary care services. This included the appointment of community DSNs and GPs with a Special Interest in diabetes (GPwSIs). Furthermore, it involved introducing community diabetes clinics and increasing support for GP practices.
- The provision of county-wide guidelines on differing aspects of diabetes care (East Lincolnshire PCT et al, 2003).

Complementing these initiatives was the development of a Lincolnshire portfolio of education programmes for patients and healthcare professionals. The long-term aims of these initiatives were as follows.

- To implement a county-wide model of diabetes care aimed at reducing variability in levels of care.
- To enable people with diabetes to self-manage their condition where possible.
- To improve diabetes management at practice level, ensuring appropriate referral to secondary care.
- To reduce the long-term complications of diabetes.
- To improve the care of people with diabetes when in hospital, and reduce excessive length of stay once admitted.

The delivery of the NSF for diabetes is a 10-year programme. The hard work to deliver the 12 standards is ongoing across the country. Whether the current climate in the NHS will support the continuing work is, however, difficult to assess. From discussions with DSN teams within and outside the county, the authors believe that DSNs feel their role is under threat by the present NHS changes, which are discussed below.

The influence of recent NHS difficulties

Many health service trusts are in significant financial deficit. Without change this position has the potential to worsen month on month. In the authors' experience potential strategies to address this problem include streamlining the work that is done in hospitals to services that are particularly income-generating, such as surgical procedures and diagnostic services. An additional target is to reduce emergency admissions and reduce length of stay to a minimum. In Lincolnshire at least, this has been underpinned by discussions around reducing the staff head count as part of the re-designing of the local health service – indeed, one NHS hospital trust recently announced a 1000-person redundancy strategy (Today, 2006).

There are fundamental changes taking place in the NHS. The financial crisis is occurring against a background of primary care trust (PCT) restructuring, the strengthening of community services with the publication of the recent White Paper (DoH, 2006) and the introduction of payment by results (PBR).

PBR is a funding flow reform outlined in *The NHS Plan* (DoH, 2000). It is designed to standardise the cost of health care by paying fixed prices for individually treated cases (DoH, 2002). Curry (2005), however, suggests that PBR has some perverse incentives. Providers may avoid providing specialist services because

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1. To advise the National Service Framework for diabetes implementation group and the healthcare trust management teams on best use of scarce resources in Lincolnshire, more information was needed relating to diabetes emergency admissions.
2. A survey was designed in one district general hospital in Lincolnshire to capture data on all admissions to the medical admission unit (MAU) by people with diabetes.
3. This survey was a 6-week prospective study of all patients admitted to MAU who have diabetes regardless of their reason for admission.
4. The number of patients admitted to the MAU with diabetes over the 6-week period was 167 according to the hospital information services department.
5. However, notes from 103 (62%) patients were identified and reviewed in the survey.

they are expensive, they are hard to code and uncoded actions will not receive payment. PBR at present is an unsophisticated tool with which some services risk become invisible, such as specialist nursing services. Will secondary care providers want to pay for services they get no financial recuperation for?

Tensions exist regarding where resources should be targeted. Another new initiative introduced by the Government is the community matron role (DoH, 2005b). This is an intensive case-management role designed to help people with long-term conditions (LTCs). It is estimated that 17.5 million people in the UK have an LTC and that up to 5% of these individuals account for 42% of annual hospital bed use (DoH, 2005a). The Government's focus on LTC and avoiding admissions has included a call for 3000 community matrons to be employed across England and Wales by 2007 (DoH, 2005a).

These new posts should complement the services already in place, adding extra support for patients with LTC to maintain and improve their health. However, new money was not allocated for the introduction of this role and PCTs already in financial deficit may be choosing to re-name and re-badge current employees to fulfil the requirement. This is a repetition of what happened with the introduction of the modern matron role in hospitals (Read et al, 2005). Different professionals may be used in different PCTs, including district nurses and specialist nurses such as heart failure nurses and DSNs.

The management of chronic care conditions is a challenge to the NHS and targeting it is no doubt timely and sensible but, in the authors' opinion, the danger is a diversion of focus and funding from essential work that is already being done. Does the focus of LTC management, particularly the reduction of emergency admissions, sit well in diabetes care? Perhaps not if it is at the expense of current models of care.

Assessment of emergency admissions

To advise the NSF for diabetes implementation group and the healthcare trust management teams on best use of scarce resources in Lincolnshire, more information was needed relating to diabetes emergency admissions.

A survey was designed in one district general hospital in Lincolnshire to capture data on all admissions to the medical admission unit (MAU) by people with diabetes. The aims of the study were as follows.

- To identify admissions to the MAU of people with diabetes.
- To identify whether the reason for admission was diabetes or other.
- To measure length of hospital stay once admitted.
- To assess what proportion of admissions may have been avoided by intervention from a community matron.

Method

This survey was a 6-week prospective study of all patients admitted to MAU who have diabetes regardless of their reason for admission. Patients were identified by MAU nursing staff. A DISN or another member of the diabetes nursing team visited daily from Monday to Friday to review case notes, including the weekend admissions.

Results

The number of patients admitted to the MAU with diabetes over the 6-week period was 167 according to the hospital information services department. However, notes from 103 (62%) patients were identified and reviewed in the survey. The policy of nursing staff in the unit is to routinely refer all patients with diabetes to the DISN for review to ensure an appropriate diabetes management plan is in place. It is likely, therefore, that the 64 patients not identified for the survey had diabetes as a secondary coding and it is possible that for some patients, particularly those controlled by diet alone, diabetes may have not been documented until transfer to a ward.

Of the 103 patients identified in the survey, 14 were discharged directly from the unit and 89 were admitted to a ward. Eight patients died. The age range of the patients was 20–92 years with a mean of 70 years. Twelve patients

Table 1. Survey of people with diabetes admitted to the medical admissions unit in a small district general hospital.

Number of admissions (from hospital information services)	**167**
Number of admissions captured in survey	**103**
Length of stay	**Days**
Mean	8.9
Median	5
Reason for admission	**Number of patients**
Diabetes	12
Other	91
Age of patients	**Years**
Range	20–92
Mean	70
Median	74
Accommodation	**Number of patients**
Lives alone – warden controlled	1
Residential home	3
Nursing home	5
Lives alone – own home	26
Other	68
Receiving home care	12
Admission route	**Number of patients**
Admitted by GP	66
- seen by GP	20
- not seen by GP	31
- not known if seen by GP	15
Admitted by ambulance	86
Admitted via accident and emergency	66
Time of admission	**Number of patients**
08.00–18.30	53
18.31–07.59	50
Diabetes information	**Number of patients**
Type 1 diabetes	12
Type 2 diabetes	91
Consultant care	21
GP care	82
Diabetes treatment	**Number of patients**
Diet	11
Oral agents	44
Insulin +/- oral agents	48

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Page points

1. Only eight patients were admitted from a care home. The majority of patients (76) were admitted from their own home, with 26 of these living alone. Five patients were holiday makers.
2. Diabetes was the cited reason for admission in only 12 patients. The three main reasons for admission were chest pain, stroke/transient ischaemic attack and shortness of breath.

had type 1 diabetes and 91 had type 2 diabetes (*Table 1*).

Source of admission

From discussions with colleagues and PCT implementation meetings, it is generally thought that inappropriate admissions from care homes are an issue. However, only eight patients were admitted from a care home. The majority of patients (76) were admitted from their own home, with 26 of these living alone. Five patients were holiday makers.

It could be hypothesised that the recent changes in the GP out-of-hours services might increase the emergency hospital admissions during the evening and night. In this survey there was an even split between day and night. Approximately 50% of patients were admitted between the hours of 08.00 and 18.30 and 50% between 18.31 and 07.59.

Sixty-six patients were admitted by a GP, of whom 31 had not been seen by the GP. In 15 it was not documented whether or not the GP had seen them, while 20 patients had been seen by the GP. Eighty-six patients came to the hospital by ambulance and 66 were admitted through the accident and emergency department before reaching MAU (*Table 1*).

Reason for admission

Diabetes was the cited reason for admission in only 12 patients. The three main reasons for admission were chest pain (n=20), stroke/transient ischaemic attack (TIA; n=12) and shortness of breath (n=21; *Figure 1*).

Of the 12 patients admitted directly because of diabetes, four had diabetic ketoacidosis, one had a new diagnosis of type 1 diabetes, and five were admitted with hypoglycaemia – all of them over the age of 70. One patient was admitted with hyperglycaemia and another with an infected diabetic foot ulcer. Nine of these patients had type 1 diabetes; the other three had insulin-treated type 2 diabetes. Seven of these patients needed a sliding scale insulin regimen. One patient admitted with hypoglycaemia had co-morbidities and died while in hospital.

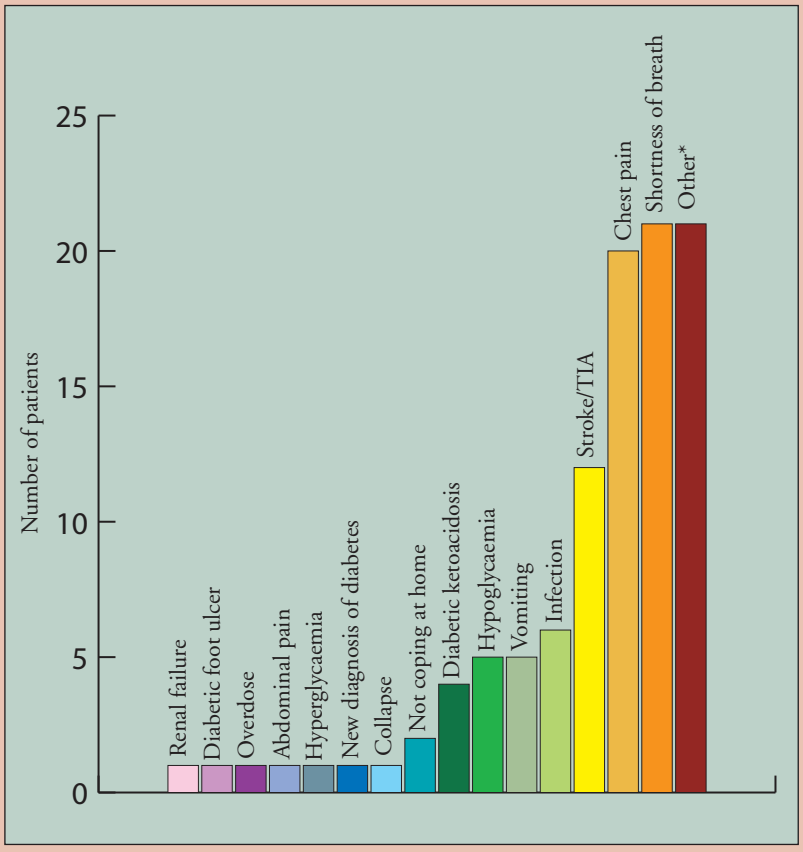
Length of stay

Mean length of stay for the study cohort was 8.9 days. However, some patients with a diagnosis of stroke remained in hospital after the 6 weeks of the study and the median length of stay was 5 days. Mean length of stay for the 12 patients admitted because of an acute complication of diabetes was 10.5 days; the median was 6.5 days.

Summary

The majority of patients (83%) attended MAU by ambulance and 86% needed admission to a ward. The majority of patients lived in their own home with another person or other people. Care home admissions did not make up a substantial proportion of admissions. The minority of admissions to MAU by people with diabetes over the 6-week period was for

*Figure 1. Reasons for admissions to the medical admissions unit for people with diabetes (n=103). *Other includes: falls, congestive cardiac failure, left ventricular failure, confusion, deep vein thrombosis, gastrointestinal bleeding, dehydration, itching and low sodium.*



an acute problem of diabetes; most admissions were due to a macrovascular complication of diabetes or another medical problem.

Discussion

This study has shown that the community matron role should not be considered as an alternative to the present use of diabetes specialist nursing resources in the hospital. The majority of admissions were unlikely to be preventable as less than 15 % of patients in the study were able to be discharged straight from the MAU. The remaining patients (n=89) will have benefited from DISN input while in hospital. In our opinion, the ongoing model of care to enable patient self-management and reduce the long-term complications of diabetes should continue as a priority, though outcomes are not quickly or easily visible.

The majority of admissions in this survey were necessary. The DISN role is valuable in improving patient care and diabetes management when admission to hospital is necessary and will aid timely discharge.

The Government's plans are increasingly introducing an 'open market' in health care. Markets, however, introduce boundaries and increase fragmentation. In our opinion, this makes it more difficult for local health services to work together and plan care. Financial crisis planning in a market economy pushes decision making that avoids aspects of health care that are not income-generating or are too expensive.

The DISN role is relatively new and needs to justify its existence. Unfortunately, in this age of competition, financial losses and the market, evidence of patient satisfaction and improvement in the quality of diabetes care are, in our opinion, not a top priority for management. However, regardless of the benefits they feasibly bring in terms of quality of care and patient satisfaction, DISNs are also effective on the cost-reduction front through length of stay reductions. ■

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