# A collaborative approach to reducing avoidable hospital admissions

Dionne Wamae, Sara Da Costa

**In 2002, the Department of Health (DoH) identified that the number of emergency admissions to all hospitals had increased by 20% (DoH, 2002). In line with the National Service Framework for diabetes (DoH, 2001), a collaborative project was undertaken to reduce the number of avoidable admissions at the authors' hospital.**

Diabetes specialist nurses (DSNs) from Worthing and Southlands Hospitals NHS Trust met with nurse managers from the accident and emergency (A&E) department and the emergency assessment unit (EAU) at Worthing Hospital to discuss how the increasing number of patients attending A&E and the EAU because of their diabetes could be reduced.

A problem identified at the meeting was the inappropriate attendance of patients at A&E when they may not have needed to attend hospital at all or when direct admission to the EAU would have been more appropriate.

## Admission of patients to hospital by various routes

The authors decided to focus on DSNs, the ambulance service and out-of-hours GPs for the purpose of this article and how they play a role in the admitted patient's journey as illustrated in *Figure 1* (see page 100). Initiatives aimed at improving admissions to A&E and the EAU via these routes are outlined below.

### Admission via DSNs

A&E staff members expressed concerns that DSNs had directed admissions of adult patients with diabetes-related problems to A&E, rather than to the on-call medical team through the EAU. As a result of this concern a protocol was devised by the DSNs for admitting patients via the on-call medical team directly to the EAU thus clearing up A&E time and space. However, it was also agreed that if patients presented to the DSNs with possible diabetic ketoacidosis that A&E would be best-placed to perform blood gas analysis.

### Admission via the ambulance service

There were also concerns that, following a hypoglycaemic episode, people with diabetes were sometimes unnecessarily taken to A&E by the ambulance service – even though the individual had been treated and had recovered. To address this, the DSNs met with a clinical tutor from the ambulance service. It transpired that as, from 2006, the training of ambulance technicians and paramedics will be university-based, so the DSNs could also easily be involved in the training.

To assess the diabetes-related content of the course a DSN attended an education session about diabetes for trainee paramedics. The content of the training was judged to be appropriate and appeared to meet the paramedics' needs. In the authors' opinions the paramedics had a good understanding of diabetes – all having worked as ambulance technicians prior to training as paramedics. They had protocols and guidelines to follow for people who required admittance to A&E following hypoglycaemia; however, from a DSN perspective, not all the criteria for admitting a patient appeared appropriate (for example, clinical guidelines and standards state that older patients should be encouraged to attend hospital following treatment of hypoglycaemia [Joint Royal College Ambulance Liaison Committee and Ambulance Service Association, 2004] – a very broad and sweeping statement).

**Article points**

1. Some admissions to accident and emergency (A&E) departments are inappropriate.
2. Direct admission to the emergency assessment unit (EAU) may be preferable.
3. An audit (in progress) of A&E attendances by people with diabetes, aims to assess whether any could have been avoided.
4. Diabetes specialist nurses, the ambulance service and the out-of-hours GP service could all help reduce the number of avoidable attendances and admissions to A&E.

**Key words**

- Avoidable attendances
- Accident and emergency
- Emergency assessment unit
- Audit
- Collaborative working

Dionne Wamae is a Diabetes Specialist Nurse and Sara Da Costa a Consultant Nurse in Worthing and Southlands Hospitals NHS Trust.

**Page points**

1. The paramedics had a good understanding of diabetes – all having worked as ambulance technicians prior to training as paramedics.
2. They had protocols and guidelines to follow for people who required admittance at A&E following hypoglycaemia; however from a DSN perspective, not all the criteria for admitting a patient appeared appropriate.
3. The DSNs are currently devising an algorithm for people with hypoglycaemia to be used by the local ambulance service.
4. Previous discussions with A&E and paramedics suggested an audit of patients with diabetes-related problems' case notes attending A&E would provide useful information.

The DSNs are currently devising an algorithm, for use with people with hypoglycaemia, to be used by the local ambulance service. Ambulance staff will also continue to assess patients on a case-by-case basis, using their own judgement, knowledge and skills as to whether they need to attend A&E.

The trainee paramedics on this course suggested that they could fax the DSNs the details of patients they have attended to but not taken to A&E; this is to be discussed further with the ambulance service tutors. It is planned that the paramedics will advise these patients to liaise with the DSN using the telephone helpline initially, with follow up in clinic appointments where appropriate, in order to identify events leading up to the hypoglycaemic episode, from which educational needs could be identified and addressed. This will be discussed further with the ambulance service clinical tutors at a later date.

## Admission via GPs

Anecdotal evidence suggests that GPs do not always personally assess their patients (i.e. they sometimes send for an ambulance or request that the patient go directly to hospital) and this is seen as a factor contributing to inappropriate admissions and the over-use of the ambulance service. The paramedic trainer, out-of-hours managers, DSNs and the director of modernisation for the primary care trust, at a meeting to discuss such inappropriate hospital admissions, decided that a diabetes education session for out-of-hours GPs should be arranged. In the local area, GPs have not previously had the facilities to measure blood glucose levels, therefore, the DSNs will liaise with pharmaceutical companies to have blood glucose monitors and training for the GPs and nurses provided.

Work on admission avoidance will be shared with other clinical nurse specialists to improve patient self-management and avoid unnecessary admissions. The team for each specialty will be asked to provide an information sheet for out-of-hours GPs to put into their handbooks (containing, for example, contact information for local services).

## A&E audit

Previous discussions with A&E and paramedics suggested an audit of patients with diabetes-related problems' case notes attending A&E would provide useful information (such as the individual's reason for admission). The audit would systematically review practice, identify problems, develop potential solutions, implement change and review again. The audit had the following aims.

- To determine who suggested the individual should attend A&E, how he or she arrived and whether any advice was sought or given prior to attendance.
- To determine the reasons for attendance and record whether the individual was admitted to the EAU.
- To assess whether further action by a DSN was required, and, if so, whether the individual was contacted and advised.
- To identify what actions, such as telephone triage, were required by the DSN.
- To communicate these actions to GPs and practice nurses by letter when appropriate.
- To identify whether any of the attendances could have been avoided.

The endpoint of the audit is to enable DSNs to identify the need for and plan for education which could reduce attendance to A&E and admission to hospital of patients with diabetes-related problems and to establish standards for admission and referral to a DSN. The audit commenced on 1 February 2006 and is scheduled to be completed on 30 April 2006.

## Methods

A&E notes are sent to the DSNs for review. People now discharged from A&E are contacted by telephone and their attendance at A&E is discussed in detail. A systematic treatment plan is developed in conjunction with the individual, which may include education, sick-day rules, insulin dose adjustment and a review of current medication.

## Further A&E input by DSNs

A DSN helpline number is now available for A&E staff to give to patients who may benefit from DSN telemedicine. The DSNs have been involved in the diabetes education of senior house officers (SHOs) working in A&E. The format of this education has been reviewed to focus on the prevention of unnecessary admissions and to encourage prompt referral to DSNs if appropriate.

## EAU audit

An audit of patients being admitted to the EAU appeared the next logical step in light of the A&E audit.

The diabetes nurse consultant undertook an audit of all those patients with diabetes admitted to the EAU, whether diabetes was the reason for their admission or not. The audit had the following aims and objectives.

- To determine reasons for admission to the EAU, and to provide clinical assessment, medication review and advice on medication changes or lifestyle strategies which could improve patient outcomes and possibly prevent future admissions.
- To establish a systematic treatment plan which will include discharge planning.
- To identify whether specialist nursing input is required. If required, outpatient appointment or phone triage will be arranged. (If specialist nursing is found not to be required the patient should be discharged back to the primary care diabetes team and advised to make an appointment for review in the near future.)
- To communicate these actions to GPs and practice nurses by letter when appropriate.
- To identify whether any of the admissions could have been avoided.

The EAU audit was carried out between 3 and 31 January 2006, inclusive.

## Methods

The EAU was visited, by the nurse consultant in diabetes, as often as resources allowed. Previous to this audit, only patients referred to the DSNs for specialist advice would have been seen.

Data (such as the reason for admission) on patients admitted with diabetes was obtained from discussion with ward nurses, ward medical notes and pharmacy charts, and systematic treatment plans that were documented in the medical notes at the time of the visit. Patients requiring subsequent DSN visits were identified and documented in the ward visit file with their care plans. Date of further visit and action required was noted in the medical notes.

The audit sample included only patients with diabetes (types 1 and 2). A total of 40 cases were reviewed.

## Findings and recommendations

The 40 cases reviewed may or may not have been referred to the DSN team. By being seen early in the inpatient stay, there is the potential to arrange patient discharge, determine whether further specialist intervention is required and, in so doing, not delay discharge while waiting for an inappropriate specialist referral. There is also the potential to connect with primary care services regarding current and future care, so that patients get the right care at the right time.

## Outcomes

The DSNs now visit the EAU as often as resources allow, in order to assess the need for patients with diabetes who may need DSN intervention.

The consultant diabetologist will advise the SHOs that, when contacted by a GP, they should ask the GP to initially refer patients to a specialist nurse for advice if appropriate. DSNs can generally see patients on the same day in an emergency or contact the individual by telephone to give advice and assess the need for hospital admission.

## Further developments related to admission avoidance

The hospital's Department of Medicine for the Elderly is in the process of devising a patient screening/assessment tool for people requiring admission to hospital. The DSNs have advised that a section on diabetes should be added and this is currently work in progress.

## Summary

The whole patient journey, with respect to A&E and EAU admission, is being reviewed; action points from this analysis will aim to improve patient care and outcomes, emphasising that only those requiring acute inpatient services should be admitted. We hope to report the results of these initiatives in the future. Learning about the systems in which we work has been extremely beneficial. A whole range of stakeholders and initiatives have been identified. This has enabled us to raise diabetes concerns and service issues to a wider group of healthcare professionals and work towards resolving them collaboratively. The new networks created will hopefully also improve patient experiences and the use of resources. ■

### Page points

1. A diabetes specialist nurse (DSN) helpline number is now available for accident and emergency staff to give to patients who may benefit from DSN telemedicine.
2. An audit of patients being admitted to the EAU appeared the next logical step in light of the audit on A&E.
3. The audit sample included only patients with diabetes, those with type 1 and type 2 diabetes were included.

Department of Health (DoH; 2001) *National Service Framework for Diabetes: Standards*. DoH, London

DoH (2002) *Interim guidance on the appointment of emergency care leads and the establishment of emergency care networks*. DoH, London

Joint Royal College Ambulance Liaison Committee, Ambulance Service Association (JRCALC, ASA; 2004) *Clinical Practice Guidelines, for use in UK Ambulance Service*. JRCALC and the ASA, London. Available at http://www.nelh-ec.warwick.ac.uk/JRCALC_Guidelines_v3_2004.pdf (accessed 23.03.2006)