

# An audit of dietetics and podiatry services for type 2 diabetes

Emma Nihat, Anita Halsey

## Article points

1. A National Service Framework for diabetes baseline assessment identified that access to a dietitian and a podiatrist was inadequate in East Elmbridge and Mid Surrey Primary Care Trust (PCT).
2. In May 2003, fixed-term Primary Care Development funds were allocated to the dietetics and podiatry services across part of the PCT to improve access and service delivery.
3. An audit was carried out to evaluate the effect of the service changes; the results were positive.
4. The aim is to roll out the service changes across the whole PCT, assuming more funding is secured.

## Key words

- Podiatry
- Dietetics
- National Service Framework
- Audit

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A pilot project was launched to improve dietetics and podiatry services for people with type 2 diabetes within practices under East Elmbridge and Mid Surrey Primary Care Trust. During the project, 1262 patient contacts were made. Each individual had access to dietetics support and advice, and everyone seen by the podiatrist had a foot assessment and a treatment plan formulated. Multidisciplinary education sessions were provided for newly diagnosed people. The project's audit, described here, shows that weight loss can be achieved and foot problems identified with local screening and structured education.

In 2003, a National Service Framework (NSF) for diabetes baseline assessment was carried out to look in detail at diabetes services within primary care in East Elmbridge and Mid Surrey Primary Care Trust (PCT).

The baseline assessment identified that access to a dietitian and a podiatrist as part of the diabetes annual review process was inadequate, in order to meet the NSF standards of care (Department of Health [DoH], 2001). These state that people with diabetes should:

- receive regular surveillance for the long-term complications of diabetes
- be empowered by structured education programmes
- receive interventions that are effective in preventing, treating and managing overweight and obesity.

At the time of the assessment only seven practices (out of 38 in the PCT) had access to a dietitian as part of the annual review. The assessment also identified that only eight practices had access to a podiatrist in-house and only ten practices had access to a podiatrist for annual reviews. Nominated practice diabetes leads were interviewed. A number of them found

the questions about podiatry services difficult to answer as patients sometimes accessed podiatry in more than one setting (for example, a practice and a community clinic); this sometimes depended on whether they were being seen for assessment or for treatment.

Waiting times for those newly diagnosed with diabetes were also reviewed for both services and were estimated to be more than 2 months for podiatry in 32% of practices. Waiting times for dietetics were greater than 1 month in 64% of practices, less than or equal to 1 month in 17% and unknown in 19%. It should be highlighted that the podiatry service provided a weekly emergency foot clinic for all urgent referrals.

In May 2003, fixed-term Primary Care Development funds were allocated to the dietetics and podiatry services to improve access and service delivery for people with diabetes within practices across part of the PCT (13 practices in total). Clinic sessions for the education, assessment and support of people with type 2 diabetes commenced in August 2003, and, where possible, combined podiatry and dietetics services were conducted alongside any existing diabetes clinics to create a 'one-stop' package of care.

**Table 1. Guidance used to measure the impact of dietetics and podiatry services in the audit.**

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

- Standard 3: Empowering people with diabetes
- Standard 4: Clinical care of adults with diabetes
- Standards 10, 11 and 12: Detection and management of long-term complications

National Institute for Clinical Excellence (NICE; 2004) *Type 2 diabetes – footcare (Clinical Guideline 10)*. NICE, London

NICE (2003) *Diabetes (types 1 and 2) – patient education models (Technology Appraisal 60)*. NICE, London

Diabetes UK (2002) *Patient education for effective diabetes self-management: Report, recommendations and examples of good practice*. Diabetes UK, London

Clinical Standards Advisory Group (1994) *Standards of clinical care for people with diabetes*. Her Majesty's Stationery Office, London

Diabetes education sessions also commenced for people with newly diagnosed diabetes. These were run at various community locations and involved a diabetes specialist nurse, a dietitian and a podiatrist.

### Aims and objectives

The overall aims of this project were as follows.

- To reduce inequalities in access to care.
- To meet NSF for diabetes standards (DoH, 2001) and fulfil National Institute for Health and Clinical Excellence (NICE; formerly the National Institute for Clinical Excellence) diabetes guidelines (NICE, 2003; NICE, 2004).
- To assess the impact of dietetics and podiatry services for type 2 diabetes in the community.

The impact of these services was measured through the objectives listed below. These were selected as they either were highlighted within professional or national guidelines (*Table 1*) or were deemed to be clinically significant methods of measuring outcomes (such as weight).

This project has been audited to evaluate its effectiveness, over an 8-month period from the start of August 2003 to the end of March 2004.

### Specific project objectives

#### *Dietetics and podiatry services*

- Identify the number of people who have accessed dietetics and podiatry services.
- Identify the number of people who have accessed diabetes education sessions.
- Identify the number of people who have been given diet and foot-care education materials and support phone numbers.
- Assess GP perception of and satisfaction with the new services provided, as well as current learning needs of people with diabetes.

#### *Dietetics services*

- Identify the number of people newly diagnosed within the audit period and the numbers that were seen within a month of diagnosis.
- Measure weight change in people who were overweight or obese (body mass index >25 kg/m<sup>2</sup>).

- Identify the number of people who had a dietetics review in the year prior to the project.

#### *Podiatry services*

- Identify the numbers of people classified with low, moderate and high foot risk.
- Identify the number of people diagnosed with neuropathy and the number diagnosed with ischaemia or neuroischaemia.
- Identify the proportion of people who access NHS podiatry care compared with private podiatry care and no podiatry care
- Identify the number of people referred to community podiatry clinics.

### Audit method

Data were collected by the dietitian and podiatrist during clinic sessions and covered:

- number of people seen and given information and support
- anthropometric and biochemical measures (such as weight)
- foot assessment indicators (including the identification of people with neuropathy and people with ischaemia or neuroischaemia, and the grouping of individuals according to risk of foot ulceration).

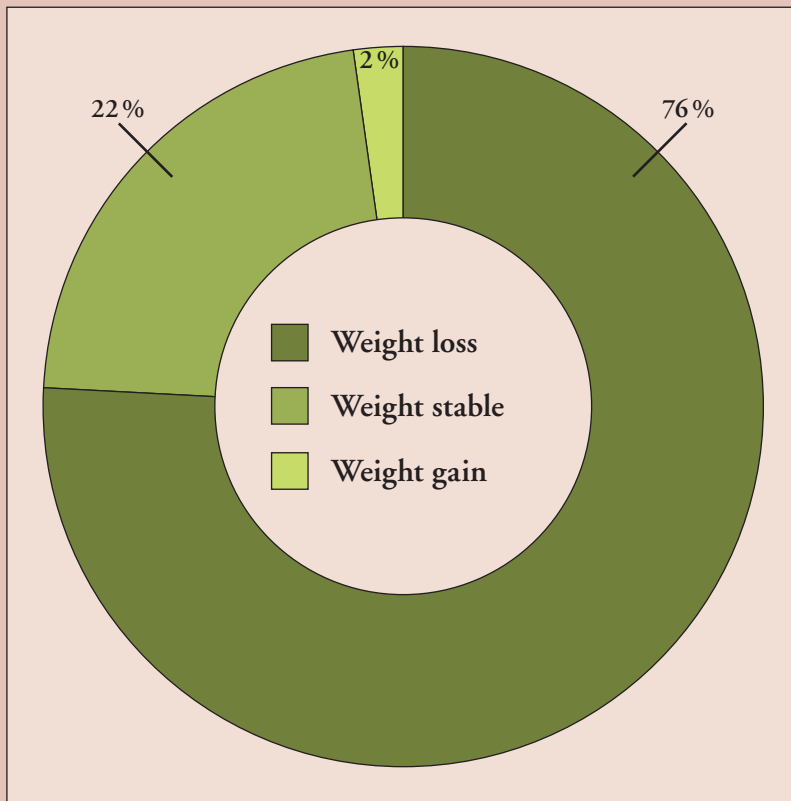
GP satisfaction surveys were conducted to assess the perception of and satisfaction with the new services provided (the questionnaire used is presented in *Table 2*). Patient surveys were used to assess current learning needs.

### Results

#### *Dietetics results*

The main results were as follows.

- Six hundred and fifteen people were seen during the audit period. Each was given an individual assessment with personalised aims and goals, verbal information and support.
- Fourteen per cent of people had had access to a dietetics review in the previous year (this was determined from consultations).
- One hundred people were newly diagnosed within the audit period.
- Seventy-seven per cent of those newly diagnosed were seen within 1 month of referral. This compared with 17% in the baseline assessment.



**Figure 1.** Population weight change profile recorded in the audit.

People who were seen in clinic more than once, and who were assessed as being overweight or obese, were audited for weight change. Sixty people were audited for weight change across the 13 practices.

- Seventy-six per cent achieved weight loss; 22% were weight stable. This is shown in *Figure 1*.
- A total weight loss of 190.5kg across all practices was achieved. This was an average of 3.17kg per person.

#### Podiatry results

The main results were as follows.

- Six hundred and forty-seven people were seen during the audit period.
- All people had an annual diabetic foot assessment, which included a foot examination for neuropathy and peripheral pulses as recommended by NICE (2004).
- All people received written and verbal information and support about foot care and diabetes.

All feet were visually inspected and classified by risk level. The results of this are shown in *Figure 2*.

#### Microvascular and macrovascular complications

- One hundred and forty-four people were diagnosed with neuropathy.
- Fifty people were diagnosed with ischaemia or neuroischaemia.

#### Current limb pathologies

A visual inspection of each person's feet revealed the following.

- Four hundred and forty people had no skin lesions.
- Two hundred and two people had minor hyperkeratosis.
- Three people had major hyperkeratosis (callus and corns).
- Three people presented with ulcerations.

#### Current podiatric care

- Three hundred and ninety-seven people self-cared for their feet without additional support to date.
- One hundred and seventy-nine people were receiving NHS podiatry care.
- Seventy-one were receiving private podiatry care.

#### Onward referrals

During the assessment process a number of people required referrals for further care.

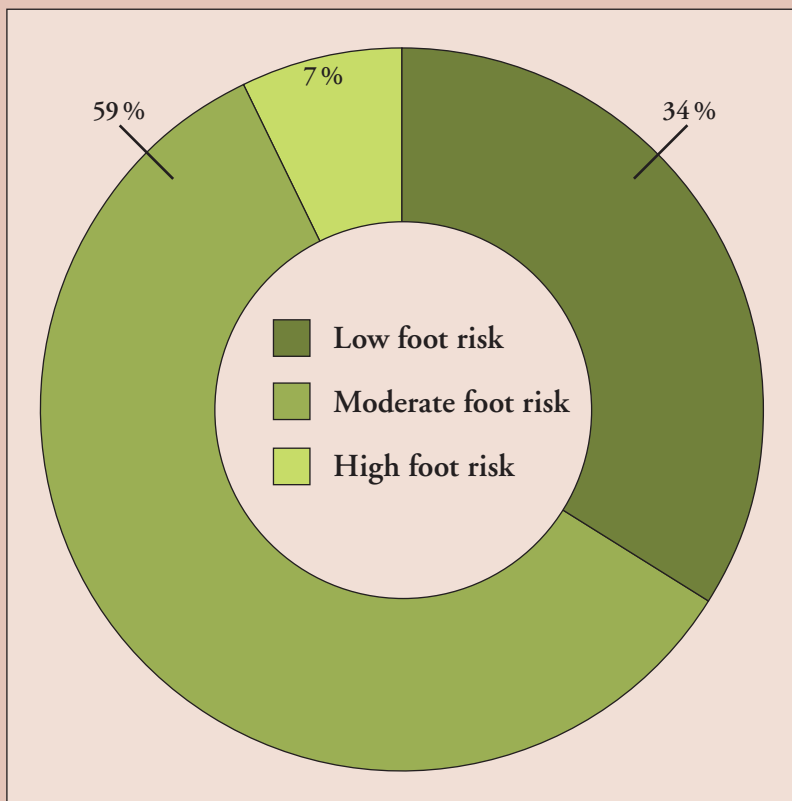
- Out of the referrals for community podiatry:
  - 42 required callus debridement to reduce risk factors for ulceration
  - one needed nail surgery
  - two needed biomechanical assessments.
- Five people were identified as needing further vascular examinations and were referred to the vascular team at the acute hospital site.
- Two people were referred to a hospital diabetes unit for multidisciplinary care.

#### Discussion

From the results it is clear that a large number of people with diabetes have accessed the new services (the combined number of contacts was 1262). In the PCT's baseline data, 6747 people were identified as having diabetes across the whole PCT, suggesting a diabetes prevalence of 2.4%, although this is likely to be larger as type 2 diabetes may be present but undiagnosed. It is difficult to assess whether the project has managed

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1. People who were seen in clinic more than once, and who were assessed as being overweight or obese, were audited for weight change.
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*Figure 2. Population foot risk profile recorded in the audit.*

to make contact with all those with diabetes, as the pilot project was based in only part of the PCT. For future audits it would be useful to access data regarding the number of patients diagnosed with diabetes within the project areas.

Overall, this project has improved patient services through the development of primary care services and has significantly improved access to services closer to people's homes. This is, in part, because these services have been limited to date (as was reflected in the baseline assessment).

It is essential, we believe, to continue to offer a variety of educational strategies targeted at individuals or groups and to continue to develop up-to-date resources and support Diabetes UK and recommend its materials. During this project, all people with diabetes received support, information and education materials.

Personal educational needs were assessed and information was tailored to suit the individual. All newly diagnosed people were invited to the group education session (discussed later.) The importance of this is emphasised in Standard 3 of the NSF for diabetes, 'Empowering people with diabetes' (DoH, 2001).

## Dietetics

### *Dietary advice*

It is important, we feel, that people with diabetes have regular, timely access to a dietitian, as dietary advice is an integral part of the management of diabetes and something that all people with diabetes require. Without dietary measures, the person with diabetes is likely to experience rapid swings in blood glucose, inadequate control and poor health (Ellis, 1999). Nutritional objectives can be set with the individual in a way that is realistic and practical, and the dietitian can facilitate appropriate diet and lifestyle change.

Diabetes UK (2005) recommends that all people with newly diagnosed diabetes should be assessed by a registered dietitian who will provide a tailored and individualised care plan based on the latest evidence of effectiveness. Learning opportunities that are provided early and continued over time are essential, we believe. Re-inforcement of advice is vital in ensuring maintenance of a desired behaviour (Ellis, 1999).

Diabetes UK (2005) also recommends that dietary changes should be agreed at a pace suited to the individual. Monthly follow-up appointments are recommended in the initial stages after diagnosis or at times of transition. Only 14% of people had been reviewed by a dietitian within the year prior to the commencement of the project. Therefore, access to a dietitian had previously been very poor. Guidelines recommends that a dietetics review should be available annually to every patient with diabetes (Clinical Standards Advisory Group, 1994). Dietary management of diabetes requires ongoing education with frequent follow-up and instruction. For instance, Story et al (1985) described how overall dietary adherence scores were higher in people with increased follow-up by the dietitian.

### *Weight management*

Weight loss or stabilisation is a major priority for people who are overweight. This is discussed in Standard 1 of the NSF for diabetes, 'Prevention of Type 2 diabetes' (DoH, 2001). It is well recognised that it is obesity with a primarily abdominal distribution which is associated

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with insulin resistance, a very atherogenic lipid profile and other features of the metabolic syndrome (Connor et al, 2003). Weight loss or maintenance was therefore considered to be a useful indicator for this audit, and it is readily available in a primary care setting.

In a large study, weight loss of 9–13kg was most beneficial, but lesser degrees of weight loss were also beneficial and avoidance of further weight gain may also be considered a success, since weight tends to increase up to the sixth decade (Ha and Lean, 1998). Diabetes UK (2005) suggests that even if people with diabetes are unable to lose weight, it is still worthwhile for them to set a goal to maintain their weight, without weight gain, which can improve diabetes control and reduce the risk of developing heart disease. During this project, weight loss or maintenance was achieved in 98% of people followed up during the audit period.

**Podiatry**

*Risk*

The risk classification used comprised ‘low foot risk’, ‘moderate foot risk’ and ‘high foot risk’. This differs from the current guidance from NICE (2004) – ‘low current risk’, ‘increased risk’, ‘high risk’ and ‘ulcerated foot’ – since the project started before these recommendations were made. Steps are being taken to adopt this new classification. Interestingly, 59% of people assessed were classified as being at moderate risk and 7% at high risk of foot complications. This is significant, since only 39% of all patients seen currently receive NHS or private podiatry care; this means that for the remaining 61%, the only specialist foot-care advice was given during the foot assessment sessions in the project. Prior to this project, though, that 61% would not have received any specific podiatry care.

**Page points**

1. Fifty-nine per cent of people assessed were classified as being at moderate risk and 7% at high risk of foot complications.
2. This is significant, since only 39% of all patients seen currently receive NHS or private podiatry care; this means that for the remaining 61%, the only specialist foot-care advice was given during the foot assessment sessions in the project.

**Table 2. The questionnaire used for the GP satisfaction survey.**

**Podiatry and dietetics service for GPs**

Following the allocation of funding (in May 2003) to develop this service for people with type 2 diabetes, a podiatrist and a dietitian have set up clinics in primary care. Although they only started in August 2003, your feedback is needed now in order to secure longer-term funding. They are keen to find out how these clinics are going and whether you wish to continue. Could you please spend a few minutes completing this questionnaire and return it to the podiatrist or dietitian.

*Please circle the appropriate response*

- |  |          |
|--|----------|
| 1 Are you aware of the new podiatry and dietetics service available for your patients? | Yes / No |
| 2 If yes, have you referred patients to this service?                                  | Yes / No |
| 3 If no, why not? .....  |          |
| .....  |          |
| 4 Do you feel that the practice has benefited from this service?                       | Yes / No |
| Comment: .....   |          |
| .....  |          |
| 5 Do you feel that your patients have benefited from this service?                     | Yes / No |
| 6 Would you like this service to continue?   | Yes / No |
| Comment: .....   |          |
| .....  |          |

**Page points**

1. With a podiatrist managing foot assessment sessions, clinical problems could be managed immediately.
2. The number of referrals for community podiatry, which is likely to increase with the rising number of people being diagnosed with diabetes, will obviously have an impact on community podiatry services.
3. Patient questionnaires focused on identifying current learning needs rather than identifying whether the sessions were effective in terms of increased knowledge. Positive feedback was given.

This highlights the importance of podiatry services within primary care. Podiatrists not only are able to assess risk but can also educate people on reducing the risk of diabetic foot-related complications arising. This is particularly important with this group of people with no obvious foot problems, as they would be unlikely to request podiatry referrals.

**Complications**

Data on foot care and complications for people with newly diagnosed diabetes were not reviewed separately from the other data. This is an area that may be researched further in future audits.

During the project, 22% of people seen were diagnosed with neuropathy and 8% with ischaemia or neuroischaemia. Appropriate referrals were made as necessary; for example, five referrals were made to the vascular team.

In a sample of three practices, 46 people out of 210 had neuropathy. Of these, 44% self-cared only; for them, the single opportunity for review and education was at the annual foot review appointment. This highlights the importance of a podiatrist carrying out the assessments as it allows specialist advice and assessment to be provided during one appointment. (Under guidance from NICE [2004], high-risk patients, such as those with neuropathy, need to be referred to a member of the specialist foot team.)

We expect that by educating patients on key points in foot care, such as additional precautions to be taken when neuropathy is present, the risk of diabetic foot ulceration can be minimised. This not only has personal cost implications for people with diabetes, but also has financial benefits for primary and secondary care diabetes services. Crucially, with a podiatrist managing the foot assessment sessions, clinical problems could be managed immediately.

The majority (68%) of people seen had no skin lesions or pathologies such as callus; however, there were many instances where ingrown nails were treated, padding and strapping applied, blisters lanced (where appropriate) and dressed, and fissures, callus and corns debrided. Two neuropathic ulcers

were discovered, treated and directly referred for further care at a hospital diabetes unit.

Forty-seven people who were not receiving podiatry care required referral for further care; as the diabetic foot review had been completed in a practice, referrals to the community podiatry clinics could be fast-tracked for follow-up appointments. The number of referrals for community podiatry, which is likely to increase with the rising number of people being diagnosed with diabetes, will obviously have an impact on community podiatry services. This will need to be monitored and reviewed.

**Education sessions**

These sessions were carried out by staff with experience of educating patients and the general public. The content of the sessions mirrored that of diabetes education sessions which have been successfully run at the acute diabetes hospital. This included information about the condition, its complications, treatment, and lifestyle and support groups. People with diabetes attended the sessions after they had seen the dietitian or podiatrist and, therefore, the education sessions were used to re-inforce advice previously given as well as enabling individuals to have time to digest information. They came to the sessions with questions and could share their experiences with other people with diabetes.

All these sessions were well attended and positive feedback was given from patients. Feedback questionnaires focused on identifying current learning needs rather than identifying whether the sessions were effective in terms of increased knowledge. This was to enable us to further develop the sessions to ensure that we are fulfilling the expectations of people with diabetes. As part of service development, we are aware that we need to evaluate the effectiveness of these sessions – possibly through the use of questionnaires and quizzes – and to carry out patient satisfaction surveys to ensure that patients' needs are being continually met. We will also look towards extending this to include evening sessions and sessions directed at people who have had diabetes for some time. This would ensure our commitment to life-long education as recommended by Diabetes UK (2002).

### GP satisfaction survey

Positive comments were made by all practices and these support the continuation of podiatry and dietetics services. They have highlighted the benefits of true multidisciplinary team working in developing an efficient and effective diabetes service. This approach is essential if the PCT is to continue to advocate a patient-centred service for those living with diabetes.

### Conclusion

The project has been an overwhelming success, we believe, in implementing some of the standards and guidelines of the National Service Framework for diabetes. It has taken time to establish these services, but they now play a crucial part in diabetes services provided by primary care. Through providing dietetics and podiatry services in general practice, improved multidisciplinary diabetes services have been offered to people with diabetes closer to their homes.

Since completing this audit, funds have been secured to continue to provide these services within the designated area. This is a huge step forward in multidisciplinary diabetes care and we

ultimately look towards rolling out these services across the whole PCT should additional funding become available. ■

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### Page points

1. Through providing dietetics and podiatry services in general practice, improved multidisciplinary diabetes services have been offered to people with diabetes closer to their homes.
2. Since completing this audit, funds have been secured to continue to provide these services within the designated area.
3. The authors feel that the service improvements are a huge step forward in multidisciplinary diabetes care and they ultimately look towards rolling out these services across the whole primary care trust should additional funding become available.