ABSTRACT

Aim

To explore the practices of nurse prescribers who care for people with diabetes.

Background

The use of medicines is an important component of the care of patients with diabetes. However, education and support is equally important to the successful management of this group. These are areas of care in which nurses have traditionally been involved. Evidence suggests that combining nursing skills with prescribing may result in shared decision-making and increased medicines concordance.

Design and methods

A collective case study of 9 practice settings across England in which nurses prescribed medicines for people with diabetes. Data comprised of semi structured interviews (n=31), patient questionnaires (n=131) and video-taped observations of nurse consultations (n=35). Data analysis included thematic analysis and descriptive statistics. Data were collected between October 2007 and September 2008.

Results

Nurses demonstrated good communication skills, which they integrated with the ability to prescribe. Questionnaire and video data confirmed an exchange of information between nurse and patient about aspects of self-care and medicines management. Additional benefits included improved efficiency, supported by patient satisfaction with access and waiting times. Nurses were inconsistent in explaining the risks and benefits of treatments and side-effects and exploring the use of non-prescribed herbal or over-the-counter medicine.

Conclusion:
The care nurses are able to provide to people with diabetes is optimised through prescribing. Further evidence is required evaluating nurse prescribing from the patient’s perspective. Our findings will be of interest to those keen to develop the prescribing role for nurses involved in diabetes service delivery.

**Relevance to clinical practice**

Prescribing is a valuable development through which nurses are able to encourage self-care and work towards shared-decision making with patients in a way that supports national guidance on the care of people with diabetes.

**KEYWORDS**

Case study  
Diabetes  
Nurse prescribing  
Extended role  
Medicines management

**INTRODUCTION**

Diabetes is a serious long-term condition and the global prevalence of this disease is expected to double between 2000 and 2030 to 4.4%; that is approximately 366 million cases (Wild et al 2004). In the United Kingdom (UK), the prevalence of the number of diagnosed cases is 3.86% i.e. around 2.5 million cases (Diabetes UK 2008) and 5% of the National Health Service (NHS) yearly budget (3.5 billion) is spent on this condition and its complications (Department of Health (DoH) 2003).
The use of medicines is an important component of the care of patients with diabetes. In addition, there is a growing body of evidence that education and support for self-care are equally important to successful management (DoH 2003, DoH 2007, Healthcare Commission 2007, DoH 2008). Healthcare professionals must therefore make every effort to work in partnership with patients and ensure that they are knowledgeable about the disease and appreciate the need for self-care. However, patients with diabetes have reported insufficient access to services, and gaps in their knowledge and confidence in managing their condition (Audit Commission 2000). There is therefore a need to improve services for this group of patients.

The introduction of nurse prescribing is a key component of the Government’s NHS modernisation strategy intended to improve patient care, access to medicines and encourage better use of the skills of health professionals (DoH 2006). Provided medicines are within the nurse’s area of competence, Nurse Independent Prescribers (NIPs) can independently prescribe any licensed medicines and some controlled drugs, and any medicine as a supplementary prescriber.

Approximately 14000 nurse prescribers across the UK have virtually the same prescribing rights as doctors and around 4000 of these nurses prescribe medicines for people with diabetes (Courtenay & Carey 2008).

BACKGROUND

Since the 1990’s, care for patients with diabetes in the UK has been increasingly managed within primary care, with referrals to specialist services, such as to Diabetes Specialist Nurses
(DSN), for patients with unstable or complex conditions (e.g. those with poor glycaemic control) (DoH 2003). An audit Commission report (Audit Commission 2000) identified that primary care teams provide routine care for about 75% of diabetic patients and approximately 80% of general practices (GPs) have a nurse with training in diabetes. In addition, a third of diabetes clinics in primary care are run by practice nurses. Reporting specifically on nurse prescribing, Courtenay & Carey (2008) identified that just over 30% of a random sample of 1992 independent/supplementary prescribers, prescribed medicines for people with diabetes. Over 60% of these nurses were based in general practice. A much smaller percentage (16%) were specialist nurses.

The main role of nurses caring for people with diabetes has historically been concerned with education and support (Carey & Courtenay 2007). Education and information provision, accessibility, communication skills, the promotion of self care and lifestyle changes were roles detailed by over 150 practice nurses and DSNs working across both hospital and community settings in studies by Peters et al (2001) and Sigurdardottir (1999). However, it is also apparent that nurses caring for people with diabetes have a role to play with regards to the medical management. Winocour et al (2002) in a survey of acute NHS trusts in the UK reported that that 96% of DSNs working across trusts were involved in patient education and nearly 80% of these nurses were involved in aspects of medicines management. More recently, James et al (2009) undertook a questionnaire survey of 159 lead DSNs. Seventy five percent of the sample reported that a component of their role involved planning and delivering patient education sessions. In addition, more than 60% of the respondents reported that they were involved in dose adjustment of medicines and just under 50% reported that they prescribed medicines. Reporting on the prescribing practice of 409 NIPs caring for people
with diabetes, Courtenay & Carey (2008b) identified that insulin, antidiabetic drugs and monitoring equipment were those products most frequently prescribed.

While there is evidence that nurses are prescribing for patients with diabetes and the types of medication they prescribe, little is known about the practices of nurse prescribers caring for this group. Evaluations of practice have, however, been carried out in practice areas other than diabetes. Jones et al (2007) reporting on interview data (n=35) from psychiatrists, mental health nurse prescribers and patients, found that nurse prescribing was considered more patient-centred because of improved access, continuity of care, partnership working and information exchange. Nurses were also said to work within their area of competency and use evidence-based medicine. The 45 nurse prescribers interviewed by Bradley & Nolan (2007) believed that prescribing allowed for a more holistic approach to care and increased patient involvement in care. Stenner & Courtenay (2008) reporting on interview data from 26 specialist pain nurses, suggested that when nurses combine their communication skills with prescribing, this has the potential to increase medicines concordance, safety and efficiency. Respondents believed that prescribing improved safety by ensuring that the person assessing the patient had the responsibility of prescribing. Following early work on nurse prescribing by Latter et al (2005), Courtenay et al (2009) evaluated nurse prescribing in dermatology using a multiple method case-study approach to explore nurses’ clinical practice through observation, patient questionnaire and stakeholder interviews. Findings showed that nurses effective communication skills, consultation style and continuity of care each contributed to effective nurse/patient relationships. Nurses were able to make holistic and accurate assessments of patient’s needs. However, questions remained about the extent to which nurses provided information about medicines or enquired about use of non-prescribed products.
To date, there is no research available that has assessed nurses’ clinical practice (i.e. assessment, diagnostic & communication skills) or explored views of stakeholders working alongside nurses who prescribe for people with diabetes. Given the large number of nurses prescribing for this condition, this is important.

THE STUDY

Aim
To explore the practice of nurse prescribers who specialise in the care of people with diabetes.

Design
The data reported in this paper were collected from the second part of a 2 stage study designed to explore the treatment management of patients with diabetes by nurse prescribers. Stage 1 involved a national survey of independent and supplementary nurse prescribers (Courtenay & Carey 2008). Stage 2 employed a collective case-study design (Stake 1998), multiple methods being used to collect data across 9 case studies of practice settings in which nurses prescribed medicines for people with diabetes.

As with previous research on nurse prescribing that has adopted a case study approach (Latter et al 2005, Courtenay et al 2009), it was considered that 8 to 10 case sites would enable theoretical generalisation of findings. It was anticipated that the rich data collected would address the research questions and enable the researchers to make meaningful comparisons.

Participants
The national survey (Courtenay & Carey 2008) demonstrated that a range of job titles, work settings, levels of training, and modes of prescribing exist amongst nurses prescribing for
patients with diabetes. The selection of case sites therefore included: a) diabetes nurse specialist and non-specialists, b) those based in primary, community or secondary care c) use of independent and/or supplementary prescribing, d) a range of geographical areas throughout England.

Nurses at each case site were asked to videotape 5 of their consultations with people with diabetes, preferably where they prescribed. These nurses were also asked to hand out questionnaires to all people with diabetes with whom they had consultations over a 1 month period.

Semi-structured interviews took place with nurse prescribers (n=10), non-nurse prescribers (n=3), doctors (n=9) and administration/reception staff (n=9) at each case site. Data collection took place between October 2007 and September 2008.

**Data collection**

*Semi-structured interviews*

Issues identified in a review of the literature and findings from the completed national survey (Courtenay & Carey 2008) informed the interview schedules. Topics included experiences of nurse prescribing for people with diabetes, impact on interprofessional working arrangements, whether prescribing enabled more effective use of nurses’ time, potential time savings and changes to workload, the preparedness of nurses for the prescribing role, and whether nurses used their knowledge and skills effectively in this role. Interviews were held in quiet locations convenient to participants. Each face to face interview was audio-recorded, and lasted between 30-50 minutes. Interviews were conducted by two researchers (NC and KS).
Patient questionnaire

A previously-validated questionnaire (Ramsay et al 2000, Campbell et al 2000, Bower et al 2003) questionnaire (General Practice Assessment Questionnaire for Nurses (GPAQN) 2003), was distributed to patients at case study sites. The first 3 questions asked patients to rate 3 areas of service: access to service, consultation waiting times, and continuity of service. Question 4 asked participants to rate various aspects of communication during the consultation with the nurse. Questions 5 and 6 asked respondents to rate various outcomes of the consultation and satisfaction with the service. Participants were asked to indicate their gender and ethnic group. All questions were assessed using a combination of categorical variables and 6-point unipolar Likert-type scales. Patients completed and posted questionnaires anonymously into a box in the clinic reception area before leaving.

Video taped observation schedule

Patients were recruited by the nurse prescriber (i.e. a convenience sample) and given an information sheet about the project before deciding whether or not to participate. Written consent was obtained by the nurse prior to consultations being video-recorded. Video taped observations were undertaken in the nurse consultation room and lasted between 20 and 40 minutes.

Data analysis

Semi-structured interviews

Thematic analysis was conducted on the interview data (Braun & Clarke 2006, Pope et al. 2006). A coding frame was developed and initial coding and categorising of data was managed by the ATLAS.ti qualitative data analysis software. This was followed by discussion and identification of cross-cutting patterns and themes. Reliability was enhanced by the
independent assessment of transcripts by two skilled qualitative researchers. Minor differences in assessment were consolidated through discussion.

**Questionnaires**

Data was analysed using SPSS 14. Procedures undertaken included descriptive statistics.

**Video-taped observations**

A structured observation tool adapted from previous work in the area of nurse prescribing (Latter *et al* 2005, Courtenay *et al* 2009) and containing the necessary competencies for prescribing, as outlined by the National Prescribing Centre (NPC) (NPC 2001) was completed by a diabetes medical consultant and a diabetes nurse consultant to assess each video-taped consultation. The checklist of competencies was sub-divided into three areas: assessment and diagnosis, communication, and prescribing practice. Each assessor rated the various aspects of the consultation using ‘1’ = ‘accurate, confident, safe practice’, ‘0’ = ‘not done/omitted/not seen/unsafe practice’ or ‘N/A’ = ‘not applicable to this practice/condition’. Tick boxes were provided for ratings. Pilot work and discussion about how to use the tool (and rate the various aspects of the consultation) between the researchers and the two assessors enhanced inter-rater reliability. SPSS version 14 was used for data entry and analysis with descriptive statistics.

**Ethical considerations**

The study was approved by the appropriate research and governance committees. Participants completing the national survey were asked to indicate if they would be interested in participating in stage 2 of the research. Those who expressed an interest and who met the sampling criteria were contacted to confirm their willingness. Participants were given an
introductory letter and the project protocol and support to participate was then obtained from nurses’ managers. Healthcare professionals who worked alongside the nurse prescriber at each case study site were also approached and asked to participate in an interview. Consent was gained prior to all interviews. Patients were invited by the nurse to participate in a videotaped consultation. Consent was gained before filming of the consultation. Prior to gaining consent, it was explained to patients that participation was voluntary, that they were free to withdraw at any time without giving a reason, and that a decision to withdraw would not affect the care they received.

**Rigour**

Findings from the different data sets and case-sites were compared to explore areas of convergence and divergence (i.e. a Cross Case Analysis as described by Yin, 1994), the results of which are presented under four headings. The accuracy of the data set was confirmed by this process of triangulation (Denzin and Lincoln 1998). In addition to evidence of scaling, reliability and convergent validation, the data offered a more holistic portrayal of the phenomenon under study (Denzin and Lincoln 1998, Sandelowski 1995). Interim findings were presented and discussed at a meeting of the Diabetes Prescribing Network in 2008. This member validation enhanced the credibility, robustness and trustworthiness of the research process and emerging categories and themes.

**FINDINGS**

The case study included 9 case sites and 10 nurse prescribers (2 prescribers at one site). Six nurses had between 1 and 2 years prescribing experience. Four nurses had more than 4 years experience. DSNs predominantly prescribed insulin whereas GP nurses prescribed a wider
range of products including those for hypertension, cardiovascular disease and lipid management. (see Table 1 for a description of case study data collected).

The findings are presented collectively rather than by individual case-site. Cross case analysis identified four common issues that occurred across data sources in the case sites: ‘Continuity and relationships’, ‘communication’, ‘efficiency’, and ‘safety’.

Findings are represented by quotations. References to names or places have been removed to protect anonymity. Each quotation is followed by a code referring to the case study site number and the participant group of the person quoted i.e. Dr=doctor, NP = nurse prescriber, NNP = non-nurse prescriber, AS=administrative or reception staff.

**Continuity and relationships**

Across the case sites, doctors and nurses reported how the ability to prescribe meant that nurses were able to provide a complete episode of care. There were no longer interruptions during consultations in order for nurses to get doctors to sign prescriptions. Consequently, doctors and nurses worked more efficiently.

“You get continuity [and] it sorts out time wise because if you have already got somebody in a treatment room, you have just been explaining to them all about what various drugs can do and if you then have to break off and say: ‘Oh, I’ll just go and check with the doctor that this is ok for the next step’, then obviously, that can be a hassle.” (cs3dr)
The ability to complete an episode of care was considered an improvement because it helped reinforce the importance of self-care and adherence to treatment regimes. The immediacy of receiving a prescription following a consultation was thought to emphasise how important that treatment was. Nurses were able to ensure that patients understood their medicines regimens, avoiding extra appointments later on, as explained in the following quote:

“sometimes the patient can be a bit lackadaisical in their approach to their own condition, so if you are saying ‘well I need to do this but I can’t do it yet because the doctor’s not here’. It is something that needs to be done there and then. It is continuing the care. You are not bringing the patient back (to the clinic). And you are stressing how important it is and you are delivering there and then.” Nnp8

The relationships specialist and GP nurses had with patients generally extended over many years and, for some GP nurses, this included the management of other chronic conditions. Developing relationships with patients over time was important to nurses as it was believed to build patients’ confidence in the nurse, improve mutual understanding and supported a consistent approach.

“I think sometimes the patients get confidence when you build up a relationship. You can do something for the patient, there is going to be some benefit they can see, and if the treatment has worked to be successful for the patient. It is all about building confidence with you as a prescriber for that patient.” (cs7np)
Evidence of continuity of care is supported by patient questionnaire data. The majority of patients (78.2%) indicated they ‘always’ or ‘almost always’ saw their usual nurse. The majority (96.7%) rated continuity as ‘good’ to ‘excellent’.

In addition, most patients (between 71-76%) reported positive outcomes following their consultation with the nurse prescriber. From the highest down, patients reported being a little or much more able to understand your treatment (76%), understand problem/illness (74%), cope with problem/illness (74%), take your medicine (72%) and keep healthy (71%).

**Communication**

All participant groups thought that nurses in general were regarded by patients as more approachable than doctors:

“The patients know and like them [the nurse] well. They are approachable, I am not saying the doctors aren’t, but if people have a problem, they will ask for [nurse prescriber] first, quite often.” (cs9rec)

Nurses’ propensity to listen to patients and encourage acceptance of responsibility for lifestyle change was considered fundamental to managing diabetes. Combining these skills with the ability to prescribe was expected to improve patient care, as expressed by the following doctor:

“I think the core of managing diabetes is not drugs, I think it is lifestyle: stop smoking, lose weight, do more exercise... by devolving or attributing responsibility for the prescribing to an agency which is seen as more human-centred, the quality of the
lifestyle side of diabetes management might improve. And the magic wand

patient attitude of: ‘You sort it doc, I will hand it over to you and you decide’ sort of
thing, which is not appropriate for diabetes - the possibility is that that kind of attitude
will be reduced by nurse prescribing.” (cs5dr)

Nurses believed that their approach to communication provided patients with an increased
opportunity to disclose more details about their condition. Nurses were also thought to
provide more comprehensive information to patients than their medical colleagues.

I think nurses are much more careful [than doctors] and much more at grass roots.
They can talk to patients much more clearly, and the patients are not afraid to tell me
things as well, that they might think is trivial to the doctor.” (cs5np)

Between 80% and 88% of patients rated communication as very good or excellent (see Table
3). No ratings of ‘very poor/poor’ were given. Only a minority of patients gave ratings of
‘fair.’ Highest ratings were given to: how well the nurse listened (88.1%), the nurse’s caring
and concern for you (87.3%), how well the nurse put you at ease during your physical
examination (86.9%) and how well the nurse explained your problem/ any treatment that you
need (86.4%). Videotaped observations of practice (see Table 4) reaffirmed that nurses were
consistently demonstrating empathetic skills of listening, understanding and dealing
sensitively with patient emotions and concerns, as well as giving clear instructions about
medication. However, there was less observed consistency in explaining the risks and benefits
of treatment and side-effects.

Efficiency
All participants reported in interviews that prescribing had improved efficiency by reducing time spent obtaining medical approval for prescriptions. This helped services to run smoothly and, in some cases, enabled nurses to see more patients. Increased flexibility over appointment times (reported by GP and specialist nurses), enabled patients to access medicines and information more conveniently.

“I have been able to see more patients because we used to have to allow an extra appointment to every so many appointments and block it off. It was called ‘the prescription signing slot’, so you had some catch up time. Well of course I don’t need that now.” (cs3np)

“I am seeing somebody tonight at 5pm on his way back from work because he has difficulty getting time off from work - I don’t have to think if there is going to be a doctor around to get a prescription signed.” (cs9np)

Confirmation that services were running efficiently was evident in the findings from the patient questionnaires (see Table 5). Access was rated as ‘good’ through to ‘excellent’ by over 80% of patients, the majority indicating that they were able to see the nurse either the ‘next day’ or within ‘3 working days’. Over 80% of patients reported that they were seen by the nurse within 10 minutes and waiting times were rated as ‘excellent’ through to ‘good’ by 90% of the sample.

**Safety**

The ability to provide a complete episode of care increased safety. Doctors no longer issued prescriptions for patients based on an assessment and decision made by the nurse. Nurses
reported that previous arrangements had led to misunderstanding about the medicines to be prescribed and patients experienced delays in receiving the correct treatment. Nurses reported that the ability to prescribe ensured that the right items were prescribed straightaway.

“Previously … we would have a consultation with a patient, then fax the GP to request what insulin and what needles etc. we wanted. They would never ask or query what we ask for. They would simply arrange the prescription. Obviously that definitely meant that you would have to bring your patient back (to the clinic). Then there were problems with the wrong items being prescribed, or them (doctor) not understanding what you were asking for or they didn’t know what you were talking about”

(cs4np)

Doctors and nurses described nurse prescribing as a superior and safer arrangement than for a nurse to be ‘prescribing by proxy’ (i.e. obtaining a doctors signature for a prescription initiated by a nurse). Prescribing sanctioned the nurse to take responsibility for the assessment of the patient and the prescribing decision.

“From the legal perspective obviously it tightens it [prescribing] up, so we haven’t got somebody [a doctor] who is signing a prescription that we are wandering in and giving to them, without actually having seen the patient, at the time.” (cs6np2)

“So you get nurses waving something [a prescription] under your face: ‘Are you happy for someone to go onto this?’ and you are signing it. It can not be the best way of doing things.” (cs4dr)
Doctors were confident in the nurse’s ability to make safe and appropriate prescribing decisions within their area of competence and trusted the nurses with whom they worked.

“Nurses are very good prescribers and they are very competent in what they do. I can’t think of a single mistake they have made in terms of prescribing” (cs1dr)

Nurses were considered (by some doctors and nurses) to be potentially safer in their prescribing decisions than some doctors because they have gained greater knowledge of the drugs, up-to-date training by undertaking prescribing and, and their propensity to follow guidance.

“doctors sometimes are quite old fashioned [not up-to-date] in what they are prescribing. Nurse prescribers tend to prescribe what the government, health, NHS want you to prescribe. They tend to stick to the guidelines that are set out.” [cs6Nnp]

Results from the video assessments (see Table 4) confirm that nurses generally showed consistent skill at assessing, diagnosing and providing appropriate treatment for patients. Nurses were consistently good at planning for review, identifying a chief complaint and exploring the management of the patient’s condition with the patient. In the majority of cases, nurses were seen to request appropriate tests, make appropriate physical examinations, explore current medication, explore non-pharmacological treatment options, make an appropriate diagnosis of the patient and select the right treatment. However, nurses consistently neglected to explore with patients the use of non-prescribed herbal or over-the-counter medicine by patients. Furthermore, there was uncertainty over the extent that nurses adequately explored presenting symptoms. Although the assessors did not agree on a case-by-
case basis, they each reported that potentially important symptoms may have been overlooked in a minority of cases.

**DISCUSSION**

A number of shortcomings to the research design need addressing. Nurses were aware that their consultations were videotaped. This may have altered their practice in the direction of making them more vigilant, or, in contrast, may have made them nervous and less vigilant. While it was practical and convenient for nurses to select patients to be filmed, this may have introduced bias. Specialist nurses working in the hospital setting experienced difficulties videotaping their consultations; this group are therefore under represented with regards to this data. There was a high level of disagreement between assessors on some of the items on the structured observation tool. This may indicate differences in professional opinions as opposed to inappropriate care, a high level of disagreement between health professionals has been reported in similar study designs and is not uncommon (Latter et al 2007a). As the majority of video-consultations were review appointments, aspects of the consultation rated as ‘omitted’ by assessors (such as exploring allergies) may have been undertaken previously and documented in the patient’s notes. Despite these shortcomings, our findings indicate that nurse prescribing can enhance the care received by people with diabetes.

In line with doctor and nurses perceptions, nurse prescribers consistently demonstrated good communication skills during video consultations. In particular, nurses’ empathetic and listening skills were well developed. These skills, along with the demonstrated ability to provide patients with clear and understandable information, are essential to supporting the ethos of self-care and shared decision-making that has been identified as central to the successful management of people with diabetes. This finding is in line with previous research
that has reported on nurse prescriber consultations (Latter et al 2007b). Additionally, patient satisfaction for nurse-led care is generally reported to be higher than for equivalent care by doctors, with nurses tending to have longer consultations and giving more information to patients (Laurant et al. 2004).

What is apparent from our findings is that nurses were able to integrate their communication skills with the ability to prescribe. Questionnaire and video results show that nurse consultations included an exchange of information between nurse and patient about aspects of self-care and medicines management. Consequently, nurses reported that decisions about treatment plans could be made in partnership with patients. Nurses believed that as they no longer had to interrupt consultations to obtain a prescription, this helped to reinforce the importance of the information they provided. Additionally, ongoing relationships between nurses and patients were considered an important component in building patients confidence in the nurse when prescribing, thus improving mutual understanding and supporting a consistent approach. Patients rated continuity highly, however the importance of this needs to be explored from the patients point of view.

Although data from patient questionnaires and video assessments demonstrated that nurses were good at explaining problems and treatments required, they were less consistent in explaining the risks and benefits of treatments and side-effects. As many consultations were review appointments, it is likely that this information may have been provided in prior consultations. The lack of consistency by nurse prescribers to provide patients’ with information about their medicines and side-effects has been reported previously (Latter et al 2007, Courtenay et al 2009). However, these researchers similarly reported difficulties during observations in identifying what may have occurred in previous consultations or what was
recorded in patient notes. That no patients in our study rated any aspect of communication during their consultation as poor, including the extent to which they felt involved in decisions about their care, is a positive indication. However, further exploration is required to determine the extent to which important information is exchanged over successive consultations. Certainly, if nurses are to help patients make informed choices about treatments, it is important that patients are provided with this information.

Nurses in our study reported that prescribing improved efficiency through reducing time spent waiting for doctors to sign prescriptions and increased flexibility with regards to appointment times. The majority of patients reported that they had good access to a nurse prescriber and short waiting times providing further evidence that services were running efficiently. Organising service delivery so that patients have fast and convenient access to support and advice has been identified as an area of key importance in the care of this group (DoH 2007). Our findings therefore provide some evidence that nurse prescribing produces benefits in line with this key area.

There were some aspects where prescribing was considered to improve safety. Nurses took responsibility for their prescribing decisions and doctors were no longer asked to issue prescriptions for patients they had not assessed, thus reducing the potential for error and improving lines of responsibility. Nurses had a propensity to follow evidenced based guidelines and were able to provide explanations about treatments to patients alongside a prescription. However, other safety aspects were omitted. Nurses did not consistently explore the use of non-prescribed herbal or over-the-counter medicine. This finding supports earlier work by Latter et al (2005) in an exploration of the consultations of early nurse prescribers. Given the complexity of diabetes care and the high incidence of multiple medicines use, this
is an important omission. In addition, there was a great deal of uncertainty with regards to the extent that nurses adequately explored presenting symptoms. However, disagreement between assessors, possibly as a result of differing professional opinions, makes it difficult to gauge the extent to which this was omitted.

Nurses have traditionally been involved in education, support and the promotion of self-care for patients with diabetes. A plausible explanation for the inconsistencies above is that nurses have well established skills to support these traditional nursing roles but are less practiced at those skills considered to be part of medical tradition, such as exploring presenting symptoms. As this is a speculative explanation, more research is required to ascertain the extent to which these important aspects are covered in nurse prescriber consultations using methods sensitive to consultations occurring over time.

**CONCLUSION**

Triangulated data from this study support expectations that the care nurses are able to provide to people with diabetes is enhanced through prescribing. A particular strength of these nurses was their ability to communicate well with patients, specifically their empathetic and listening skills which are known to be important to the successful management of this group of patients. The UK has the most extended prescribing rights for nurses and so our findings will be of interest to those keen to develop this role for nurses involved in diabetes service delivery across different countries.

**Relevance to clinical practice**
Prescribing is a valuable development through which nurses are able to encourage self-care and work towards shared-decision making with patients in a way that supports national guidance on the care of people with diabetes.

Study design: MC

Data collection and analysis: KS NC

Manuscript preparation: MC, KS, NC
References


GOAQN (2003). National Primary Care Research Development Centre, University of Manchester and Safran/NEMCH.-incomplete reference


Table 1: Data collected from each case site

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Code NP=Nurse Practitioner, PN=Practice Nurse, Diabetes Specialist Nurse = DSN, GP = General Practice, Hospital = HP, Community Clinic = CC
Table 2: Continuity of care

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<th>How often do you see your usual nurse?</th>
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<th>% of responses</th>
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<td>Some of the time</td>
<td>8</td>
<td>6.5</td>
</tr>
<tr>
<td>Almost never</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ratings of ‘how often do you see your usual nurse’</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Good/Very good</td>
<td>77</td>
<td>63.1</td>
</tr>
<tr>
<td>Excellent</td>
<td>41</td>
<td>33.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>122</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 3 – Patient ratings of nurse communication skills

<table>
<thead>
<tr>
<th>Question</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How thoroughly asked about symptoms/feelings</td>
<td>81%</td>
</tr>
<tr>
<td>How well nurse listened</td>
<td>88.1%</td>
</tr>
<tr>
<td>How well at ease during physical</td>
<td>86.9%</td>
</tr>
<tr>
<td>How much involved in decisions about your care</td>
<td>83.6%</td>
</tr>
<tr>
<td>How well nurse explained problem/treatment</td>
<td>86.4%</td>
</tr>
<tr>
<td>Amount of info about medicine(s)</td>
<td>80.5%</td>
</tr>
<tr>
<td>Amount of info about dealing with problem</td>
<td>80.6%</td>
</tr>
<tr>
<td>Amount of time nurse spent with you</td>
<td>83.3%</td>
</tr>
<tr>
<td>Nurse's patience with questions/worries</td>
<td>85.7%</td>
</tr>
<tr>
<td>Nurse's caring/concern for you</td>
<td>87.3%</td>
</tr>
</tbody>
</table>
Table 4 – Ratings of video-taped consultations

<table>
<thead>
<tr>
<th>Percentage agreement by assessors on assessment and diagnosis skills demonstrated in nurse consultations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans review</td>
</tr>
<tr>
<td>Identifies chief complaint</td>
</tr>
<tr>
<td>Explores management</td>
</tr>
<tr>
<td>Makes diagnosis</td>
</tr>
<tr>
<td>Considers non-pharm options</td>
</tr>
<tr>
<td>Requests relevant tests</td>
</tr>
<tr>
<td>Explores current meds</td>
</tr>
<tr>
<td>Selects right treatment</td>
</tr>
<tr>
<td>Identifies prior episodes</td>
</tr>
<tr>
<td>Physical examination</td>
</tr>
<tr>
<td>Psycho-social factors</td>
</tr>
<tr>
<td>Explores symptoms</td>
</tr>
<tr>
<td>Explores medical history</td>
</tr>
<tr>
<td>Explores family history</td>
</tr>
<tr>
<td>Explores allergies</td>
</tr>
<tr>
<td>Explores herbal/OTC</td>
</tr>
</tbody>
</table>

Table 5 – Access to nursing services

<table>
<thead>
<tr>
<th>Arranging an appointment</th>
<th>n= number of responses</th>
<th>% of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appt booked in advance</td>
<td>17</td>
<td>14.4</td>
</tr>
<tr>
<td>Same day</td>
<td>11</td>
<td>9.3</td>
</tr>
<tr>
<td>Next working day</td>
<td>20</td>
<td>16.9</td>
</tr>
<tr>
<td>Within 2 working days</td>
<td>28</td>
<td>23.7</td>
</tr>
<tr>
<td>within 3-5 working days</td>
<td>29</td>
<td>24.5</td>
</tr>
<tr>
<td>5 or more working days</td>
<td>13</td>
<td>11.0</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ratings of appointment arrangement</th>
<th>n= number of responses</th>
<th>% of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>poor/ very poor</td>
<td>5</td>
<td>4.8</td>
</tr>
<tr>
<td>fair/good</td>
<td>48</td>
<td>42.1</td>
</tr>
<tr>
<td>very good/ excellent</td>
<td>61</td>
<td>53.5</td>
</tr>
<tr>
<td>Total</td>
<td>114</td>
<td>100</td>
</tr>
</tbody>
</table>