

## Nurse prescribing: Reflections on safety in practice

Eleanor Bradley<sup>a,\*</sup>, Brian Hynam<sup>b</sup>, Peter Nolan<sup>c</sup>

<sup>a</sup>*Staffordshire University, Faculty of Health and Sciences, Blackheath Lane, Stafford ST 18 0AD, UK*

<sup>b</sup>*Staffordshire General Hospital, UK*

<sup>c</sup>*South Staffordshire Healthcare, NHS Foundation Trust, UK*

Available online 4 May 2007

---

### Abstract

This qualitative study explores how recently qualified nurse prescribers describe, and rate, the safety of their prescribing. Internationally, the costs of drug errors are enormous and they can have serious implications for staff and patients. Nurses are now undertaking extended prescribing practice throughout the UK. Nurse prescribers work across different work settings and although safe prescribing is a priority in all of them, it is essential to ascertain the conditions that foster the highest levels of safety and how nurses can be supported in practice.

Thirty-one nurses from the West Midlands area of England agreed to participate in an in-depth interview which sought to elicit their responses to various aspects of their prescribing work. They came from a variety of specialities and from hospital, community and general practice backgrounds. On completion of their training nurses were acutely aware of the responsibility that prescribing imposed on them. Although this awareness was thought to encourage caution and safety, it may also account for the fact that 26% of the nurses ( $n = 8$ ) had not prescribed since qualifying. Nurses felt that the multidisciplinary team had a vital role to play in supporting their prescribing practice as did collaborative working. It is concluded that those working in specialty areas that are less well-defined in terms of scope of practice (e.g. older adult nursing and learning disability) would benefit in particular from ongoing mentoring relationships with experienced prescribers and the development of individual formularies.

© 2007 Elsevier Ltd. All rights reserved.

*Keywords:* UK; Non-doctor prescribing; Safety; Drug errors; Role change; Nurse prescribers

---

### Introduction

In the UK, modernisation of the National Health Service (NHS) has meant that services are increasingly being provided in community rather than hospital settings. Nurses play a large part in preventing hospital admissions by providing home

care to people with mainly long-term conditions in the community. In the early 1980s, it was suggested to the UK government that nurses be permitted to prescribe medicines within their scope of practice so that they could increase access to medication and prevent service users with chronic illnesses from repeatedly having to attend GP and hospital appointments (Nolan, Haque, Badger, Dyke, & Khan, 2001).

Community nurses have now been able to prescribe from a limited formulary of medication for over twenty years in the UK and prescribing

---

\*Corresponding author. Tel.: +44 1785 353660.

E-mail addresses: [e.j.bradley@staffs.ac.uk](mailto:e.j.bradley@staffs.ac.uk) (E. Bradley), [brian.hynam@msgh-tr.wmids.nhs.uk](mailto:brian.hynam@msgh-tr.wmids.nhs.uk) (B. Hynam), [peter.nolan@ssh-tr.nhs.uk](mailto:peter.nolan@ssh-tr.nhs.uk) (P. Nolan).

rights were extended to nurses working in other specialities in 2003 (Department of Health and Social Security (DHSS), 1986; DoH, 2001). The numbers of healthcare professionals prescribing and adjusting medication are now set to increase. The Medicines and Human Use (Prescribing) (Miscellaneous Amendments) Order of May 2006 and associated medicines regulations will enable nurses who have successfully completed a nurse independent prescribing course to prescribe any licensed medicine, including some Controlled Drugs, for any medical condition within their clinical competence (DoH, 2006). Before these changes to the legislation, nurses could prescribe medication through two different routes, either as an independent prescriber from a limited list in the British National Formulary (BNF) for a specified list of conditions, or within a supplementary prescribing relationship (DoH, 2002). As a supplementary prescriber, nurses are permitted to prescribe any drug from the BNF, provided they are working from a clinical management plan (CMP) that has been put in place for that specific service user and has been fully agreed with a medical practitioner (DoH, 2002). Some nurses were reliant on supplementary prescribing to prescribe medication for their areas of practice as the drugs they would commonly be working with were not available for them to prescribe independently.

The extension of prescribing rights is not confined to nurses. Pharmacist independent prescribers were introduced in the UK in May 2006 and allied health professionals (e.g. chiropodists and physiotherapists) are now training as supplementary prescribers (DoH, 2006). Developments such as these are gradually dismantling the traditional hierarchy of healthcare provision and are not unique to the UK.

Although nurses have had extended prescribing rights since 2003, there has been little research conducted to consider how non-medical prescribing differs from medical prescribing in terms of safety. Much of the research looking at the implementation of nurse prescribing has, necessarily, focussed on community nurses (Luker, 1997; Courtenay & Griffiths, 2004). However, nurses are now able to prescribe across a wide range of healthcare settings, from general services in large hospitals to community teams in isolated rural communities. It is not yet clear which environment is most appropriate for prescribing practice, nor how these environments differ in terms of enabling and supporting safe nurse prescribing practice. Evidence from the US suggests that some nurses have experienced difficulties in

coming to terms with the increased responsibility of prescribing while nurses working in isolation in community settings have particular concerns (Running, 2006).

One criticism of healthcare policies is that they are often conceived as part of an explicit agenda but then implemented in a totally different context. When defining the remit for nurses' prescribing practice, the onus is very much on nurses themselves to outline their scope of practice and areas of competence (Nursing and Midwifery Council (NMC), 2006). This is relatively easy for those who work in well-defined areas of nursing, however nurses in less defined areas, such as mental health nursing where clients are likely to report comorbidity, or learning disability nursing where there are no standard evidence based drugs for the treatment of a learning disability, will experience more difficulty ascertaining their scope of practice.

Improving patient safety is a government priority and the reduction of prescribing errors is of vital importance (Royal, Smeaton, Avery, Hurwitz, & Sheikh, 2006). Prescribing is now the most common form of treatment in the NHS (Barber, Rawlins, & Franklin, 2003) and the cost of drug errors is huge. In the UK, the NHS pays out approximately £400 million a year for the settlement of clinical negligence claims and medication errors have been estimated to cost about £500 million a year in addition to days spent in hospital (Audit Commission, 2001). Research suggests that in NHS hospitals alone, adverse effects in which harm is caused to patients occur in around 10% of admissions (DoH, 2000) and 10% of all untoward incidents reported in hospitals were medication related (Hare, Davies, & Shepherd, 2006). However, these figures are unlikely to reflect the true extent of drug errors due to failure to report and inconsistent reporting arrangements. In addition to the financial cost, drug errors may cause service users increased pain, disability and psychological trauma while staff involved may experience shame, guilt and depression (DoH, 2000). The reporting of iatrogenic injuries caused by medicines are increasing and the establishment of agencies such as the National Patient Safety Agency, provide a unified system for the reporting and investigating errors (Iedema et al., 2006). All of these factors increase staff and consumer awareness of safety as well as reducing adverse events.

Medication errors can be defined as a 'discrepancy between the dose ordered and the dose received' (Thomsen & Schroeder, 2004). Most drug

errors stem from a lack of accurate information either about the drug itself or the patient (Audit Commission, 2001; Lesar, 2002). Many healthcare professionals continue to rely on experiential and routinised behaviour, rather than research-based, knowledge when making prescribing decisions (Maynard, 1994; Prosser & Walley, 2006). Nirodi and Mitchell (2002) conclude that carelessness and illegibility are major causes of error. In a sample of 320 drug prescriptions written by medical staff for elderly hospitalised patients they found that 20% were illegible, one third contained missing information and only 20 were error-free and legible. There maybe tighter controls of medicines in hospitals than elsewhere in the NHS, however, the consequences of drug errors maybe more severe than in the community (Prosser and Walley, 2006).

Approximately 80% of all NHS prescriptions are written in primary care, and errors have been estimated to occur in up to 11% of prescriptions (Prosser & Walley, 2006; Sanders & Esmail, 2003). Bradley, Taylor, and Blenkinsopp (1997) found that 48% of patients' notes reviewed in primary care were problematical in terms of how medicines were recorded. Prescribers do not operate in isolation and the responsibility for safety is shared across organisations. Systems and team working mean that no single individual can maintain safety and although many approaches of clinical decision-making exist it is imperative that all involved are able to reach a collective decision to which they all subscribe (Hutchins, 1995). Gherardi and Nicolini (2002) agree that safety is not knowledge that can be 'acquired', but is a collective construction, a 'doing' within a system of social relations. Nonetheless, much teaching in the workplace about 'safe' practices involves *telling* workers how to practise safely (Gherardi & Nicolini, 2002).

Learning within organisations is a social process, the goal of which is to discover what to do, when to do it and how to do it according to routines, and then to give a reasonable account of why it was done in that way. Learning takes place among others and through others (Gherardi & Nicolini, 2002) and safe prescribing should be acknowledged as a group activity that does not rely solely on the practice of individual prescribers. In the event of an error, which is invariably the result of a systems failure, the tendency is for individuals alone to be held responsible (Dean, Schachter, Vincent, & Barber, 2002). Merely focusing on individuals does not get to the source of the problem and

where such approaches exist drug errors are likely to re-occur.

The systematic reporting of 'near misses' is crucial for organisations to understand how drug errors occur. In the UK, incident reporting systems are poorly developed and the reporting of 'near misses' is almost non-existent (DoH, 2000). Pharmacists often intervene to prevent prescribing disasters, but information about the error is usually given verbally to the prescriber with the clinical team remaining unaware of it (Barber et al., 2003). Pharmacist involvement in prescribing needs to be more than just a 'safety net' otherwise some prescribers will rely on pharmacists to check their work, rather than adopting safety procedures themselves (Dean et al., 2002).

The nursing profession has long been at the forefront of the development and implementation of processes aimed at preventing practice errors and threats to service user safety (Johnstone & Kanitsaki, 2006). Now that nurses are extending their practice through prescribing, it is important to investigate how safe they believe non-doctor prescribing to be and how they make judgements about their competency. An early evaluation of community nurse prescribing in the UK found that some nurses based their prescribing decisions principally on experiential knowledge of the patient (Luker, 1997). This raises concerns about *evidence-based* nurse prescribing. Whether nurses will remain up-to-date with prescribing knowledge will depend to a certain extent on the availability of continuing professional development (CPD) which Latter et al. (2004) see as cause for concern for nurse prescribers.

Trainee nurse prescribers are heavily reliant on supervision from doctors, a situation which runs the risk of reinforcing the historically subservient role of nurses at a time when they are seeking to become autonomous practitioners. Prescribing has been described as an experimental learning process (Prosser & Walley, 2006) with prescribing decisions contingent upon previous prescribing decisions. They also contend that prescribers draw on multiple forms of validation, including colleague opinion, to inform their knowledge, manage uncertainty and to solve specific treatment dilemmas. Prescribing decisions are largely idiosyncratic, determined by an awareness of local prescribing norms, knowledge of service user history and the social context within which the service user will be taking their medication. In a study conducted by Mayo and Duncan

(2004), 68.3% of nurses could recall making two–five drug-related errors during their careers, at a time when nurses were responsible only for *administering* medication. If nurses were committing errors when they were focussing on the administration of medication, it is likely that they will also commit errors when they prescribe.

The implementation of prescribing by trained nurse prescribers has been lower than forecast in the UK (McCann & Baker, 2002; Pearce, 2003). It may be that the absence of a critical mass of nurse prescribers, combined with lack of confidence and fear of committing an error, is discouraging nurses from using their prescriptive authority. Trainee nurse prescribers do not feel confident that their knowledge of pharmacology is sufficient to support their prescribing practice (Skingsley, Bradley, & Nolan, 2006). The new curriculum for nurse training introduced in the UK in the late 1980s removed much of the education about pharmacology and therapeutics, signalling to nurses that medication and understanding its impact were not their professional concern (Barber et al., 2003). However, just two decades later, nurses are being encouraged to collaborate with medical teams, undertake prescribing and assume full responsibility for medication decisions. Inevitably, many of the nurses now training to become prescribers recognise that their previous education around therapeutics and pharmacology was inadequate, leading to a lack of confidence in their prescribing knowledge and perceived ability to practise safely.

This paper outlines the experiences of a group of recently qualified prescribers, focussing in particular on the perceived safety of nurses' prescribing practice. It examines how they rate their competency to prescribe, how safe they feel their prescribing decisions are, and how safe they feel the non-doctor prescribing initiative is in general. The paper explores how nurse prescribers could be supported in their prescribing practice, and how prescribing competencies could be assessed and reviewed.

## Method

This qualitative interview study is part of a large 3-year evaluation of non-doctor prescribing across the West Midlands, UK. The project was granted ethical permission to proceed by a Multi-centre Research Ethics Committee. Qualified nurse prescribers were identified from a large sample of nurses who had been contacted during their training

courses at five universities. Permission to contact qualified nurse prescribers was sought from the organisations to which the trainee nurse prescribers belonged. Permission was granted from 48 organisations, with three organisations opting not to participate. In the first phase of interviewing, a letter of invitation to participate in a 1–1 interview was sent to 93 qualified nurse prescribers and 35 nurses volunteered to participate. Due to difficulties contacting nurses and scheduling interviews, it was not possible to conduct interviews with all 35 volunteers, but 21 interviews were conducted from this sample over a 6-month period. Interviews were analysed to identify key themes of interest that required further investigation and a further 43 invites to interview were sent out to nurses working in specialty areas and workplace settings that required further investigation and could inform and challenge the emerging findings. The interview schedule was amended at this stage to include further questions about the safety of prescribing so as to allow exploration of this theme in detail. Analysis was conducted alongside the interviews, and a further 10 interviews were conducted over a 3-month period. No more interviews were conducted as there were no new themes emerging from the data. Interviews were held in a location chosen by the nurse prescriber and lasted between 30 and 90 min. The interviews were conducted at least 7 months after the nurses had qualified as prescribers to ensure that they would have had time to register their qualification with the NMC.

All the nurses gave permission for the interviews to be taped and fully transcribed. A semi-structured interview schedule was used to help guide the interviews. The interview schedule included questions about nurses' experiences of prescribing, their prescribing decision-making, their opinions about the safety of prescribing and the future of prescribing. However, the interviews were essentially participant-led to allow the discussion to be guided by themes and issues deemed important by the participant, rather than the researcher.

Interview data was analysed thematically using principles of grounded theory (Glaser & Strauss, 1967; Richardson, 1996). Coding of the data began line-by-line and initial concepts were recorded on index cards. As analysis progressed, concepts were compared and contrasted until it was possible to group some concepts together to develop themes. This process of data analysis continued until the data was not felt to be adding any new material to

the themes and the data could be described as saturated.

## Results

The nurse prescribers worked in a variety of specialities and came from hospital, community and general practice backgrounds (see Table 1). With regards to their current prescribing practice, 23 of the nurses (74%) had prescribed medication since qualifying as a prescriber and eight nurses had not.

Three prominent themes from the analysis were titled ‘safety’, ‘becoming confident and competent’ and ‘support’. These themes are outlined and discussed below.

### Safety

The safety of non-medical prescribing was a prominent theme throughout the interviews. Nurse prescribing was felt to be safer than the prescribing ‘by proxy’ that many nurses engaged in prior to qualifying as prescribers. The novelty of prescribing for many of the nurses was felt to encourage caution and promote safe practice:

My sense about nurse prescribing is it is very safe at the moment, because it’s so very new [I12; prescribing; general practice].

Nurses on the whole were regarded as careful in their prescribing practice, perhaps more so than some doctors:

I think it can be safer than any other medical prescribing, again because it’s that feeling, medics can be far too blasé about it [I28; prescribing; hospital].

Nurses working in hospitals felt that although senior doctors and consultants tended to be safe prescribers, they had concerns about the prescribing

safety of junior doctors and registrars, who were also relatively new to prescribing. There was a notion that these new prescribers would be less cautious than nurses with respect to their new prescribing roles.

The safety of nurse prescribing was felt to begin with the selection of nurses for the prescribing course itself. Only nurses with a certain level of experience [e.g. F or G grades] were felt to be appropriate for acceptance onto the prescribing courses. Nurses thought that they were capable of being safe prescribers as they were experienced in their specialty areas and had established long-term relationships with many of their service users:

I know my patients very well, you get to know them very well because you tend to see them on a regular basis until hopefully you’ve achieved something. I just think there’s a little bit more thought goes into what might be prescribed for them [I30; prescribing; hospital].

Despite this, the nurses were aware that anybody, no matter how educated, could become a dangerous prescriber:

...look at the issues with Shipman...they were very experienced, I’m sure they’d done courses, so yes people can still be dangerous [I18; prescribing; hospital].

Regular audits were recommended to help ensure that prescribing remains safe and that service users continue to be happy with nurse prescribing. Some employers were already involved in monitoring nurse prescribing activity as a means of checking safety. There was also a feeling that having a critical mass of nurse prescribers within an organisation would increase their safety by encouraging more discussion around prescribing issues.

Nurses felt that they must be acutely aware of their accountability and scope of practice in order to sustain safety in prescribing:

I think it’s very safe as long as you’re working within your scope of practice... . It can be very unsafe if you’re not and you don’t keep yourself up-to-date or prescribe outside your scope of practice [I24; prescribing; general practice].

Some nurses felt that it was important to be restricted to certain medical conditions rather than

Table 1  
Workplaces and specialty areas

Acute care ( <i>N</i> = 14)		Community ( <i>N</i> = 17)	
Diabetes	5	Mental health	10
Cardiology	2	Learning disability	2
Pain	1	Dermatology	1
Respiratory disease	3	Practice nursing	4
Oncology	1		
Gastroenterology	1		
Parkinsons’ disease	1		



allowing nurses to access drugs from the whole of the BNF:

I think people should be specialised in a particular role and have access to those medications but not as a nurse, not to the whole Formulary [I20; not prescribing; community].

They also felt that they were individually responsible for keeping themselves up-to-date if they were to maintain safe prescribing practice:

Keeping up-to-date [to remain safe]. Being aware of any changes in the pharmaceutical side of things. Knowing the patient [I25; prescribing; general practice].

There were felt to be specific issues around supplementary prescribing and safety. The clinical management plan (CMP) was thought to be a useful tool to assure safety provided the plan had been discussed, received full agreement from, and been signed by, the medical prescriber:

If the nurse has actually gone through discussions while [the CMP] is being drawn up and she's taken an active role in drawing it up, then I feel that the issues of safety would be covered [I25; prescribing; general practice].

the CMP is even safer because you've got two signatures on the document [I23; prescribing; hospital].

Indeed, some nurses felt they would continue to use a CMP even once they were able to prescribe the necessary medication independently. However, one nurse had concerns that allowing nurses full access to medication within the BNF would be unsafe, even as a supplementary prescriber:

I think that supplementary prescribing could be unsafe because of the larger group of drugs that you've got to choose from [I24; prescribing; general practice].

Other nurses disagreed with this viewpoint feeling that giving nurses more scope for their prescribing practice would encourage them to be even more aware of their own limitations careful not to 'over step the mark'. Indeed, one nurse felt that restricting independent access to medication caused a feeling that nurses were not really going to be prescribing anything that could be too dangerous:

I'm not using that [independent nurse prescribing] really, and for what I'd use it for there's

nothing too dangerous out there [I23; prescribing; hospital].

Nurses felt that pharmacists had a clear role in checking nurses' prescriptions

I did do one wrong dosage, we have a pharmacy next door, I did a children's dose for an adult for something and [the pharmacist] next door who I used a lot when I was training, he phoned me up and said 'you need to rewrite it'... [I12; prescribing; general practice].

The involvement of pharmacists was reassuring for nurses as they knew there was somebody checking their prescriptions before they were dispensed.

Having a mentor available to check any clinical decisions was also felt to be another method of assuring safety. It was recognised that there was a clear role for multi-disciplinary collaboration in terms of maintaining prescribing safety, particularly with pharmacists

I think it's possibly good relations with the pharmacist, obviously so that they are aware of you and your limitations and that you know if there is anything that's not been prescribed appropriately [I21; prescribing; community].

#### *Becoming competent and confident*

The nurses did not see the course as full preparation for prescribing, instead they viewed completion of the course as a starting point that would be added to in practice:

I don't think [the course] could address every specialties needs in that sense, I think that they just have to give you the base knowledge and then you have to go away and sort of add to it yourself [I3; not prescribing; community].

Confidence was seen as something that would grow alongside prescribing practice:

..[prescribing] will get easier as you get used to doing it, at the moment I still have to think about it so, eventually I'll just get used to doing it [I9; prescribing; community]

In one case, attending the course itself caused one nurse to realise just how much they did not know about prescribing:

..it's almost the more you find out, the more you realise what you don't know or what you still

need to know, it's that sort of ongoing voyage really isn't it... [I13; prescribing; community].

Some nurses may like to spend time familiarising themselves with certain medicines and developing their competence before extending their prescribing practice:

...I've tried to focus on those few [drugs] so I've become familiar with those medications and I feel almost comfortable with my knowledge of those medications, I don't think it would be a good idea as a new prescriber to prescribe across the whole range [I 1; prescribing; community].

Competency could be further encouraged through liaison with other nurse prescribers:

...say I was doing a nurse-led clinic and somebody came with ...scabies... I would feel competent to be able to prescribe appropriately for that and constipation as well, again because we've got a constipation specialist nurse I would probably liaise and say, or ask, what would be the appropriate medication... [I6; prescribing; hospital].

Becoming competent and keeping within their competency is something that nurses are very concerned with:

...the worry often is keeping within your competencies, because the temptation is, because I can prescribe it and you might think 'oh it won't matter' but 'no I won't' and so that is an area because you do want to do the best for your patient but you have to step back and say 'hang on if I do do this am I competent in what I'm doing?' [I12; prescribing; general practice].

Nurses choose to prescribe in areas in which they are confident and have already developed a good working knowledge of relevant medicines. However, concerns were voiced about the potential for nurses to become too confident and over-estimate their competence in prescribing:

My own opinion would be that people may be extending themselves further than what their actual capabilities and their competencies. It could be over enthusiasm but it's also I think...maybe people think they are more competent than they are really [I20; not prescribing; community].

Although nurses must become confident practitioners, they must be aware that they don't become over-confident and make mistakes:

...you could be confident without having the training, but you can be too confident and there lies the mistakes, you've got to have that knowledge first [I5; prescribing; community].

Nurses felt they were responsible for ascertaining their own level of competency when making a prescribing decision. For nurses working within very well-defined specialty areas (e.g. pain), competency is not a prominent issue as nurses are very familiar with, and knowledgeable about, the drugs being prescribed:

I'm quite fortunate because acute pain is quite a well defined area and I don't step outside that. I will not be prescribing the morning after pill! [I14; prescribing; hospital].

In other, less well defined, areas of nursing (e.g. learning disability nursing) nurses feel more concerned about their competence, in particular whether they will ever need to independently prescribe items for co-existing conditions:

I certainly wouldn't want to diagnose and treat any other minor ailments, with my general, just general knowledge really because that's all it would be, it wouldn't be a professional judgement [I11; prescribing; community].

There was a feeling that nurses should not prescribe in these circumstances, at least not without support from other clinicians:

...if it starts to get more complicated, then I do need the back up of a more experienced clinician...because I don't think I've necessarily got that competency, when you look at the medication and physical health and things like that...[I7; prescribing; community].

Continued professional development (CPD) is seen as important in helping nurses to achieve, and then maintain, their competence. Nurses felt that they would need to receive education and experience in any new area of prescribing practice before feeling competent to prescribe in that area:

...if you said to me 'go to work in a clinic where you can prescribe the morning after pill', I'd say 'I need to have a, b, c and d in terms of education', if a certain remit comes and until I've

had that education, I wouldn't prescribe' [I18; prescribing; hospital].

### *Support*

Nurses described how their prescribing training had increased their confidence to discuss and debate medicines with doctors:

I've found that I'm able to say to them [doctors] are you choosing that because of....? Or, do you think that we might be better with...? [I4; prescribing; community].

It's really useful to have the knowledge available and also, to question things. Because what is actually happening here? What is it supposed to be doing for the individual? Its nice to see the Consultant we have here now, he's actually starting to look at the treatment of problems in very different ways [I22; not prescribing; hospital].

However, a few doctors were perceived as being threatened by this change in role and this could prevent nurses from utilising their prescribing skills fully:

I'm not quite sure what his perception is [of nurse prescribing] but he would certainly feel threatened by it [I3; not prescribing; community].

The effectiveness of nurse prescribing was felt to be dependent, to some extent, on the availability of support from medical staff. Support from experienced prescribers was particularly important for unpicking prescribing decisions:

Listening to ... an experienced prescriber explain how they come to their decisions from somebody sitting in front of them and giving them their problems and their diagnosis to how they get, work through that and how they make their decisions, what drugs they use... [I2; prescribing; community].

Doctors were also recognised as an educational resource, with some doctors sharing literature to help nurses keep up-to-date. Indeed, discussion about prescribing decisions with consultant colleagues was regarded as a type of 'safety net' for the nurse:

....we get the consultant involved, but we always discuss cases with them anyway even if they're not involved ... so that's like the 'safety net' if

you like, it's been discussed [I5; prescribing; community].

Working within a hospital setting, nurses were able to readily access team members for advice and having direct access to consultants or the junior house officers was felt to be supportive with regards to prescribing practice:

...say a GP or a patient rang up with a query and we weren't sure what needed to be done then we've got direct access to the Consultants or the Junior House Officer. So we're well supported [I16; prescribing; hospital].

Pharmacy departments were also acknowledged as a great resource for advice and queries about prescribing:

...at work if I have any queries we've got a fantastic pharmacist who is very supportive. I use him as a brilliant resource [I15; prescribing; hospital].

I think the greatest support here is actually pharmacy [I14; prescribing; hospital].

In GP surgeries, nurses described how accessing IT prescribing systems could help them to check prescriptions were accurate, with the systems alerting them to either spelling or dosing errors:

I always copy it off the therapy screen ... . Before I do my hand written prescription, so that I can make sure that I've got the spelling right, and the dosage of course, because it will bring up alerts, and patients allergies or interactions... [I12; prescribing; community].

These systems were not available to those nurses prescribing in the community as they were producing prescriptions within patients' homes.

### **Discussion**

It is important to note that this study was conducted before amendments to legislation permitted nurses to prescribe medicines from the entire BNF for any medical condition within their clinical competence. However, many of the issues that are discussed by the nurses who participated in the study around perceived safety and competence to prescribe are still relevant in the new prescribing climate.

Participants were cautious about their new prescribing authority, just as the nursing profession



itself has been cautious in approaching prescribing. In the UK, fewer nurses than expected have opted to train as prescribers, and not all who have trained have started writing prescriptions. This may reflect a feeling amongst nurses in general that they are not ready to take on the responsibility of prescribing. While most of the nurses in the study described working alongside colleagues who were supportive of their new prescribing role, this was by no means always the case. In some instances, medical colleagues had resisted any collaboration with non-medical prescribers, therefore the decision not to prescribe did not lay solely with the nurse.

The novelty of prescribing would appear to be making nurses cautious in their prescribing practice. Similar to nurse prescribers in the US (Running, 2006), these study participants felt strongly the increased accountability and responsibility involved in writing prescriptions. They were mindful of prescribing only those drugs they were familiar with, so would be unlikely to extend their prescribing practice to utilise the entire BNF, despite the fact that it has now been 'opened up' to nurses. However, there is still a fear that with experience nurse prescribers might become over confident and start making mistakes (Mayo & Duncan, 2004). Complacency is to be avoided at all costs, particularly if it leads nurses to stretch their prescribing activity beyond their scope of practice.

Knowledge and experience are vital for safe prescribing practice and, as with previous samples of nurse prescribers (Latter et al., 2004), the nurses in this study described a need to engage in CPD as a means of maintaining their prescribing knowledge. Formal learning opportunities are less accessible in a financially constrained health service, so it is reassuring to see that nurses find multi-disciplinary collaboration in practice to be a useful learning tool. Opportunities for collaboration with non-doctor prescribing colleagues are likely to be enhanced as new groups of healthcare professionals become prescribers, although vigilance will need to be exercised in the future in circumstances where allied health professionals work in isolation, i.e. private practice. The nurse prescribers interviewed for this study did not strive to work as completely autonomous practitioners. They valued opportunities to discuss their prescribing decisions with doctors and other prescribing colleagues. This is a positive finding in relation to collaborative working in healthcare in the UK. While many practitioners embark on the prescribing course with the desire to

work more autonomously (Bradley, Campbell, & Nolan, 2005) this should not translate into nurses working alone.

For nurses, the move towards prescribing encourages them to move from a subservient relationship with doctors towards one of collaboration. The majority of nurses in this study felt that their prescribing qualification had empowered them to discuss medication with doctors and question them about how they made prescribing decisions. Medical teams could be encouraged to formalise their support for nurse prescribing by continuing the supportive relationships that were established during prescribing training via the mentoring scheme. This would encourage further discussion of specific prescribing decisions and support clinical effectiveness and safety. There is also a clear case for increasing the role of the pharmacy department in mentoring and supporting nurse prescribers. Pharmacists should not find themselves becoming involved with non-doctor prescribing only when a 'near miss', or prescribing error, is identified (Barber et al., 2003). Multi-disciplinary CPD sessions for prescribing professionals could encourage collaboration across teams, whilst providing nurses with a source of information to keep their prescribing information up-to-date.

It is of note that eight of the nurses who participated in the study had not yet prescribed. This reflects the national picture where nurses have not embraced prescribing as originally hoped (Pearce, 2003). It may be that this signifies caution rather than doubts about non-medical prescribing itself. There was a feeling among these nurses that confidence and competence grow with prescribing practice. However, nurses who are reluctant to start prescribing are likely to feel less confident and competent as time passes by (Luker, Hogg, Austin, Ferguson, & Smith, 1998). Consideration needs to be given as to how to support nurses when they first qualify as prescribers so that they feel safe in initiating their prescribing practice as soon as possible.

None of the nurses reported any concern that there would be an increase in wasted drugs or repeat ordering as a consequence of there being more prescribers. Indeed, anecdotal evidence from community nurses working across the geographical region in which these nurses work suggests that the non-doctor prescribing role reduces waste and repeat orders. Community nurses talking to service users about their prescriptions at home may have the opportunity to assess their current stores of

medicines and avoid writing repeat prescriptions if medicines are already available and in date.

Training courses currently recommend that nurses put together their own formulary from which they will prescribe. The content of this will depend entirely on the expertise and knowledge of each individual nurse. Healthcare organisations introduce formularies in order to manage the costs of prescription medicines (Simon, Psaty, & Hrachovec, 2005) yet studies have suggested that restrictive formularies are associated with higher overall healthcare costs, may reduce adherence, limit access to new treatments (Glassman et al., 2001) and restrict one-to-one decision making with clients (Simon et al., 2005). Practitioners' personal formularies are rarely discussed or reviewed (Carthy, Harvey, Brawn, & Watkins, 2000; Robertson, Fryer, O'Connell, Smith, & Henry, 2001).

The purpose of asking non-medical prescribers to outline their personal formularies is to assist them in identifying which conditions and diagnoses they will be happy to prescribe for. They can discuss their formularies with mentors and other medical colleagues. Whilst nurses are building up their confidence in prescribing, an individual formulary could help them to define their scope of practice to clients and colleagues. For those nurses who may be working in isolation in community settings, such a formulary could prevent competencies being stretched.

One limitation of the study is the absence of any exploration of specific incidents or 'near misses'. Instead, the study chose to focus on issues of support to encourage safety, thereby providing insights into the *prevention* of errors. Participants felt that pharmacists had a clear role to play in checking prescriptions for drug errors. However, studies looking at the documentation of 'near misses' note that correspondence about errors with prescribers is not filed (Barber et al., 2003). If the safety of nurse prescribing is to be accurately assessed, it is vital that a system of recording 'near misses' is established that is non-threatening to nurses and operates within a no-blame culture. In this study, nurses were encouraged to reflect on their newly initiated prescribing practice and consider how their roles had changed since they qualified as prescribers. The fact that interviewers were independent of the environment within which these nurses were working meant that the new prescribers had an opportunity to discuss in detail how they felt about their practice without being afraid that findings would be reported back to their employers.

## Conclusions

Nurses who have engaged with the non-doctor prescribing initiative feel an enhanced sense of accountability and responsibility. Such feelings, coupled with the absence of a critical mass of nurse prescribers within individual organisations, encourage nurses to be cautious in their prescribing practice. Competency and confidence are recognised as developing through practice, and nurses would benefit from extra support to help them to initiate prescribing practice when they first qualify. New nurse prescribers are mindful that they limit their practice to their areas of expertise, keeping within their scope of practice. It might be beneficial for nurses' working in broad clinical areas to use an individual formulary drawn up during prescribing training, and added to as prescribing practice develops.

The inclusion of nurse prescribers within teams promotes an environment whereby nurses and doctors can discuss and question prescribing decisions. The relationships that many nurse prescribers share with their service users, their caution around prescribing, and willingness to discuss prescribing decisions with their peers should encourage an environment within which prescribing can be critiqued and evaluated. It is important to consider, however, that discussion of medicines between doctor and nurse prescribers at this stage may be more about negotiating professional turf than reaching a prescribing-decision. Despite that, critique could have a role in encouraging safer prescribing practice across the healthcare disciplines, providing a 'safety net' for prescribers, but also encouraging prescribers to consider which factors encourage service users satisfaction and concordance. Protected time for CPD and scheduled workshops would provide a formal environment for this discussion, encouraging all prescribers to remain competent and confident practitioners.

It is notable that we are viewing nurse prescribing in the early stages of the initiative and there is no guarantee that this picture will continue. It may well be the case that when nurses are required to see far more service users than they currently do, pressure of work may affect their prescribing decision-making. Future research should focus on the impact that increasing workload has on nurses' prescribing decision-making and also concentrate on any emerging benefits of non-medical prescribing, particularly from service users themselves.

## Acknowledgements

We would like to acknowledge the support of our project funders; the Workforce Development Directorate (Shropshire and Staffordshire), Pfizer Ltd and South Staffordshire Healthcare NHS Foundation Trust. We would also like to thank Stephanie Tooth for helping conduct the interviews for the study.

## References

- Audit Commission. (2001). *A spoonful of sugar: Medicines management in NHS hospitals*. London: Audit Commission.
- Barber, N., Rawlins, M., & Franklin, B. (2003). Reducing prescribing error: competence, control, and culture. *Quality and Safety in Health Care*, 12(Suppl 1), i29–i32.
- Bradley, C., Taylor, R., & Blenkinsopp, A. (1997). Primary care—Opportunities and threats: Developing prescribing in primary care. *British Medical Journal*, 314(7082), 744.
- Bradley, E., Campbell, P., & Nolan, P. (2005). Nurse prescribers: Who are they? How do they perceive their role? *Journal of Advanced Nursing*, 51(5), 439–448.
- Carthy, P., Harvey, I., Brawn, R., & Watkins, C. (2000). A study of factors associated with cost and variation in prescribing among GPs. *Family Practice*, 17(1), 36–41.
- Dean, B., Schachter, M., Vincent, C., & Barber, N. (2002). Causes of prescribing errors in hospital inpatients: a prospective study. *The Lancet*, 359, 1373–1378.
- Department of Health. (2000). *An organisation with a memory*. London: The Stationery Office.
- Department of Health. (2001). *Nurses will prescribe for chronic illness*. Press Release 2002/0488, 21st November. London: DoH.
- Department of Health. (2002). *Supplementary prescribing*. London: DoH.
- Department of Health. (2006). *Improving patients' access to medicines: A guide to implementing nurse and pharmacist independent prescribing within the NHS in England*. London: DoH.
- Department of Health. (2006). *Medicines matters*. London: DoH.
- Department of Health and Social Security. (1986). *Neighbourhood nursing—A focus for care (Cumberlege Report)*. London: HMSO.
- Gherardi, S., & Nicolini, D. (2002). Learning the trade: A culture of safety in practice. *Organization*, 9(2), 191–223.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicago: Aldine Press.
- Glassman, P., Good, C., Kelley, M., Bradley, M., Valentino, M., Ogden, J., et al. (2001). Physician perceptions of a national formulary. *American Journal of Management Care*, 7, 241–251.
- Hare, C., Davies, C., & Shepherd, M. (2006). Safer medicine administration through the use of e-learning. *Nursing Times*, 102(16), 25–27.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: MIT Press.
- Iedema, R., Jorm, C., Long, D., Braithwaite, J., Travaglia, J., & Westbrook, M. (2006). Turning the medical gaze in upon itself: Root cause analysis and the investigation of clinical error. *Social Science & Medicine*, 62, 1605–1615.
- Johnstone, M., & Kanitsaki, O. (2006). The ethics and practical importance of defining, distinguishing and disclosing nursing errors: A discussion paper. *International Journal of Nursing Studies*, 43(3), 367–376.
- Latter, S., Maben, J., Myall, M., Courtenay, M., Young, A., & Dunn, N. (2004). *An evaluation of extended formulary independent nurse prescribing: Final Report*. University of Southampton and Department of Health, University of Southampton.
- Lesar, T. (2002). Prescribing errors involving medication dosage forms. *Journal of General Internal Medicine*, 17, 579–587.
- Luker, K. (1997). *Evaluation of nurse prescribing: Final report*. Liverpool, University of Liverpool and University of York.
- Luker, K., Hogg, C., Austin, L., Ferguson, B., & Smith, K. (1998). Decision making: The context of nurse prescribing. *Journal of Advanced Nursing*, 27, 657–665.
- Maynard, A. (1994). Knowledge based—Not blindly biased. *Nursing Management*, 1(4), 9.
- Mayo, A., & Duncan, D. (2004). Nurse perceptions of medication errors: What we need to know for patient safety. *Journal of Nursing Care Quality*, 19(3), 209–217.
- McCann, T., & Baker, H. (2002). Community mental health nurses and authority to prescribe medications: The way forward? *Journal of Psychiatric and Mental Health Nursing*, 9, 175–182.
- Nirodi, P., & Mitchell, A. (2002). The quality of psychotropic drug prescribing inpatients in psychiatric units for the elderly. *Aging and Mental Health*, 6, 191–196.
- Nolan, P., Haque, MS., Badger, F., Dyke, R., & Khan, I. (2001). Mental health nurses' perceptions of nurse prescribing. *Journal of Advanced Nursing*, 36(4), 527–534.
- Nursing and Midwifery Council. (2006). Standards of proficiency for nurse and midwife prescribers, <<http://www.nmc-uk.org>>.
- Pearce, L. (2003). A prescription. *Nursing Standard*, 17(26), 14–15.
- Prosser, H., & Walley, T. (2006). New drug prescribing by hospital doctors: The nature and meaning of knowledge. *Social Science & Medicine*, 62, 1565–1578.
- Richardson, J. (1996). *Handbook of qualitative research methods for psychology and the social sciences*. Leicester: BPS Books.
- Robertson, J., Fryer, J., O'Connell, D., Smith, A., & Henry, D. (2001). Personal Formularies: An index of prescribing quality? *European Journal of Clinical Pharmacology*, 57(4), 333–341.
- Royal, S., Smeaton, L., Avery, A., Hurwitz, B., & Sheikh, A. (2006). Interventions in primary care to reduce medication related adverse events and hospital admissions: Systematic review and meta-analysis. *Quality and Safety in Health Care*, 15, 23–31.
- Running, A. (2006). Prescriptive patterns of nurse practitioners and physicians. *Journal of the American Academy of Nurse Practitioners*, 18, 228–233.
- Sanders, J., & Esmail, A. (2003). The frequency and nature of medical error in primary care. *Family Practice*, 20, 231–236.
- Simon, G., Psaty, B., & Hrachovec, J. (2005). Principles for evidence-based drug formulary policy. *Journal of General Internal Medicine*, 20, 964–968.
- Skingsley, D., Bradley, E.J., & Nolan, P. (2006). Neuropharmacology and mental health prescribers. *Journal of Clinical Nursing*, 15(8), 989–997.
- Thomsen, C., & Schroeder, R. (2004). *The scope of the medication error problem*. Business Briefing: North American Pharmacotherapy (pp. 1–5).