

**An exploration of the continuing professional development needs of nurse independent and nurse supplementary prescribers who prescribe medicines for patients with diabetes.**

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## **ABSTRACT**

### **Background**

Nurse Independent and Nurse Supplementary Prescribing has extended the role that nurses in the UK have in the management of care for patients with diabetes. Concerns surround nurses' pharmacological knowledge and provision of continuing professional development (CPD) to meet the needs of nurse prescribers.

### **Aim**

To examine the CPD needs of nurses who prescribe medicines to patients with diabetes

### **Methods**

The NMC database was used to randomly select and distribute questionnaires to 1992 registered Nurse Independent/ Nurse Supplementary Prescribers. 1400 questionnaires were returned. Medicines for patients with diabetes were prescribed by 439 respondents. This paper reports on the findings of these 439 nurses.

### **Results**

The majority (63%) of nurses worked in general practice. Over 80% reported CPD was available and that they had accessed it to support their prescribing role. Over 40% of nurses had CPD needs in the areas of prescribing policy, pharmacology for diabetes, and the management and treatment of diabetes related conditions. Senior nurses reported fewer CPD needs.

### **Conclusion**

Access and provision of CPD for nurse prescribers has improved since the initial implementation of nurse prescribing. However, nurse's pharmacological knowledge and the provision of CPD continue to be an area of concern which warrant further investigation.

## **RELEVANCE TO CLINICAL PRACTICE**

Previous concerns have been identified about the provision of CPD to meet the needs of nurse prescribers. Pharmacological knowledge is still the greatest CPD requirement of nurses who prescribe for patients with diabetes. Education providers may wish to consider developing the content of CPD programmes to meet these needs.

## **INTRODUCTION**

Recent developments within the United Kingdom (UK) National Health Service, technological advances and changing health care needs require ever more innovative, flexible, knowledgeable and highly skilled nurses (DoH 1998, Wood 1998). In order to deliver these modern patient-centred services (DoH 2000, DoH 2007) there has been continued emphasis on the role expansion of nurses (DoH 1999b).

There is evidence that nurses have key roles in the delivery of care in a number of areas, including chronic diseases (Campbell 2004, McKee & Nolte 2004, Raftery *et al.* 2005, Courtenay & Carey 2006). It is also evident, that nurses working in a variety of roles, are involved in the treatment management of patients with diabetes (Carey & Courtenay 2007, Courtenay & Carey 2008b) and its common complications (such as hypertension, hyperlipidemia and cardiovascular disease (CVD)) (New *et al.* 2003, Denver *et al.* 2003, Courtenay & Carey 2008b).

Much of the care for people with diabetes mellitus is undertaken in primary care (Goyder *et al.* 1998, DoH 2005, DoH 2007), and the role of the nurse in the care of these patients is emphasized by the by the National Service Framework (NSF) for Diabetes (DoH 2003a). The prescription of medicines by nurses (most of whom are in primary care) (Courtenay & Carey 2008a) therefore provides an opportunity to optimise the role of the nurse in service delivery for these patients.

During the last decade the policy surrounding the prescription of medicines by nurses in the UK has undergone several changes. Any appropriately qualified community nurse is able to assess, diagnose and prescribe independently from a limited list of

medicines included in the Nurse Prescribers' Formulary (NPF) for Community Practitioners. Similarly, following assessment and diagnosis of the patient, Nurse Independent Prescribers (NIP) are able to prescribe any licensed medicine (and some controlled drugs (CDs)) independently provided that it is within their area of competence (DoH 2006). Whilst Nurse Supplementary Prescribers (NSP) are also able to prescribe any medicine (including unlicensed medicines and CDs) (DoH 2003b), in contrast to NIP this only takes place after assessment and diagnosis of the patients condition has been made by a doctor, and a Clinical Management Plan (CMP) (which includes a list of medicines from which the NSP feels competent to prescribe) has been agreed between the nurse, doctor and patient. Supplementary prescribing is particularly suited to the care of patients with chronic conditions such as diabetes, or heart disease. Such patients frequently have multiple co-morbidities and nurses may only feel confident to prescribe for these conditions when using a CMP.

The need for nurses to acquire specialist knowledge prior to undertake the prescribing programme is a necessary prerequisite (Nursing and Midwifery Council (NMC) 2006). Training for Nurse Independent and Nurse Supplementary Prescribing is combined i.e. nurses successfully completing the prescribing programme are awarded the dual qualification of Nurse Independent/ Supplementary Prescriber.

In order that nurses are able to provide high quality and evidence based care they need to participate in continuing professional development (CPD) (DoH 1999a, Audit Commission 2001, Nolan *et al.* 2000). In the UK the NMC code of professional conduct also stipulates that registered nurses must maintain their professional

knowledge and competence throughout their working life (NMC 2006). This is particularly important for nurses who are involved in new and developing areas of practice such as nurse prescribing.

Current figures from Diabetes UK indicate that there are approximately 1,500 diabetes specialist nurses (DSNs) across the UK (Diabetes UK 2008). Of the 13,000 nurses across the UK now able to prescribe both as NIPs and NSPs (NMC 2007) it is evident that approximately 400 of these DSNs are qualified NIP/NSPs (Courtenay *et al.* 2007b). It is also evident that there are over 2,500 qualified NIPs and NSPs working in general practice and prescribing for people with diabetes (Courtenay *et al.* 2007b). Given the recent legislative changes surrounding the prescription of medicines by these nurses it is important to understand their CPD needs and also to identify key issues that are likely to arise. Although there is some evidence available examining the CPD needs of NIPs and NSPs, there is no evidence available specifically examining the needs of nurses who prescribe for people with diabetes.

## **BACKGROUND**

Although evidence suggests that nurses are generally positive about the adoption of the role of prescriber (Latter *et al.* 2005), some concerns have been identified surrounding the level of nurses' pharmacological knowledge and the provision of CPD. For example Otway (2002), conducted a survey of over 200 Health Visitor (HV)/District Nurse (DN) Prescribers in one NHS Trust to explore the development needs of nurse prescribers. It was evident from the findings that pharmacological knowledge was the most significant training need. In support of these findings, Sodha *et al.* (2002) in a survey of 110 community nurses, used case study vignettes to assess

nurse confidence and their ability to integrate applied pharmacology in to practice. Findings identified that most nurse prescribers had inadequate pharmacological knowledge to undertake their role as a prescriber.

In an earlier study that was conducted to identify the infrastructure necessary to support nurse prescribing Humphries and Green (2000) undertook 12 focus group discussions using a convenience sample of 146 students (DN and HV) on a nurse prescribing programme. Keeping up to date with new products and their pharmacological properties, and CPD were areas that were identified as necessary to support prescribing by nurses. Also examining HV/DN prescribers, Luker and McHugh (2002) conducted a survey of 164 DN/HV prescribers in three Primary Care Trusts (PCTs) to identify the support structures in place for prescribers. Key concerns identified by these researchers were the lack of regular updates and clinical supervision to support nurses in this role.

National evaluations of nurse prescribing in the UK have been undertaken by Latter *et al.* (2005) and Courtenay *et al.* (2007a) respectively. The most frequently reported areas of CPD need reported by the 246 independent extended prescribers surveyed by Latter *et al.* (2005) in 2003 were regular updates, training for expansion of the formulary, CPD related to area of practice, and access to local prescribing group meetings.

Similarly, the most frequently reported areas of CPD needs reported by the 868 independent extended supplementary prescribers surveyed by Courtenay *et al.* (2007a) in 2005 were an update of prescribing policy, treatment management of

conditions and pharmacology. Additionally, nurses in this study who worked in primary care reported a greater number of CPD needs. Participants in both Latter *et al.* (2005) and Courtenay *et al.* (2007a) studies reported that CPD was an important factor that facilitated prescribing.

Whilst CPD and keeping up to date is not specific to nurse prescribing, it is evident that in general qualified nurses experience a number of difficulties with respect to the provision of, and access to CPD. These difficulties include time, money, work load pressures, lack of support, work pattern, and type of job (Barriball & While 1996, Wood 1998, Nolan *et al.* 2000).

For example, Barriball & While (1996) used semi structured interviews to examine the level of participation in CPD among a group of 269 qualified nurses. Although 80% of nurses had attended at least 5 study days, these researchers identified that many different levels and groups of nurses were disadvantaged with respect to accessing CPD. A significantly greater number of participants who were in high position jobs i.e. grade F-H or higher had attended 5 continuing professional education (CPE) days in the last 3 years or more, compared to nurses who were in lower grade positions i.e. grade C-E . It was evident from the findings that nurses working in the hospital setting tended to attend less CPE days than nurses who were based in the community. Other disadvantaged groups were found to be those aged over 35 years of age, enrolled nurses, and those working night duty or part-time.

More recently, Nolan *et al.* (2000) used focus groups and interviews with 236 nurses, nurse educators, service managers and mentors, and a survey of 1,500 nurses across



Wales to investigate the potential outcomes of CPD from the perspectives of practitioners and managers. Whilst a number of positive outcomes from CPD were identified (including organisational benefits, improved patient care, knowledge and confidence), similar to Barriball & While (1996), these researchers identified that nurses who worked part-time, on night duty or in the independent sector were also disadvantaged with respect to accessing CPD.

It is evident from the literature that there are concerns surrounding nurses' level of pharmacological knowledge and the provision of CPD to meet the needs of nurse prescribers. This evidence has mainly been derived from the prescription of medicines by HVs and DNs and early independent prescribers. Although not specifically focussing on nurse prescribing, there is significant evidence that provision in general is inequitable. There is no research available that has explored the CPD needs of nurses who prescribe medicines for patients with diabetes. This is important given that evidence to date (Courtenay & Carey 2008b) has shown that diabetes is a condition for which NIPs and NSPs frequently prescribe.

## **AIM**

The aim of the study was to provide a national evaluation of Nurse Independent and Nurse Supplementary Prescribing in diabetes in the UK. A key component was to examine the continuing professional development (CPD) needs of these nurses. This component forms the focus of this paper.

## **METHODS**

A survey design was used, with a postal questionnaire. The data were collected between October and December 2006.

## **Participants**

The participants were 439 nurses located throughout the UK. All nurses were qualified NIPs/NSPs and registered on the NMC data base. All prescribed medicines for patients with diabetes.

## **Reliability and Validity**

A questionnaire booklet was developed for the purpose of the study. Its content was developed from previous work involving independent extended and supplementary nurse prescribers (Latter *et al.* 2005, Courtenay *et al.* 2007a), and a search of the literature of nurse-led care in diabetes (Carey & Courtenay 2007). The questionnaire was piloted on 20 qualified NIPs/NSPs who prescribed for patients with diabetes. They were asked to comment on its ease of completion, and any difficulties understanding what was required of them at any point throughout the questionnaire. It was evident that the format and content of the questions were appropriate, and only minor refinements and amendments were made. Following data entry of the completed questionnaires 10% were then reviewed by one of the authors (NC). There was agreement between the data that had been entered and NC.

## **Questionnaire**

The first page contained some simple instructions on how to complete the questions. The first section of the questionnaire, collected general demographic information, details about participants specialist training in diabetes and level of experience in their area of practice.

The next section asked respondents about CPD. Participants were asked to specify their CPD needs with respect to diabetes prescribing practice within the next, or after the next 12 months including: update on prescribing policy, diabetes knowledge, assessment and diagnosis of diabetes, management and treatment of diabetes, management and treatment of diabetes related conditions such as CVD, hypertension and lipids, pharmacology for diabetes such as OHA and insulin. Participants were then asked about the availability of, and access to, CPD, and if they had undertaken any CPD to meet their needs as a prescriber since qualifying.

## **Ethical approval**

The Berkshire Research Ethics Committee and the University of Reading Ethics Committee granted ethical approval for the study. Each questionnaire was coded with a unique identifier number (which corresponded to each of the names of the NIPs/NSPs selected at random from the NMC database) and distributed via the NMC to the home address of participants. Respondents returned completed questionnaires in the SAE which was addressed to Reading University. Return of a completed questionnaire was taken as consent to participate.

## **Data collection**

One thousand nine hundred and ninety two nurses were selected at random from all (n=8000) nurses registered on the NMC database of NIPs/NSPs. Based on the findings and the response rates of previous national surveys (Latter *et al.* 2005, Courtenay *et al.* 2007a), it was anticipated that a 70% response rate would be achieved of whom 30% of respondents would prescribe medicines for people with diabetes. This large sample was required to ensure that each one of the broad range of settings in which nurses prescribe medicines for people with diabetes was represented.

A letter outlining the purpose of the study (and what would be required of them), an information sheet, and a copy of the questionnaire were sent to participants. The letter informed participants that the study was completely voluntary, that responses were strictly confidential, that information collected from the questionnaire would be made anonymous, and that no identifying information would emanate from the research. After one follow up reminder questionnaire, 1400 (70%) questionnaires were returned, of which 1377 were completed. Twenty three were not completed as participants were no longer working in practice or were working abroad. Of the 1377 completed questionnaires, 439 participants prescribed for diabetic patients. This paper reports on the findings for these 439 nurses.

## **Data analysis**

Microsoft Excel and SPSS version 12 were used for data entry and analysis. Descriptive statistics were used to describe the demographic nature of the sample. Chi square tests were used to investigate the relationship between CPD needs, job title, grade/band and area of work.

## **RESULTS**

### **Demographic details**

The demographic data of the sample including job title, grade/band, part/full time work, area of work, age, academic qualification, time since qualified as NIP/NSP and years of experience in area of practice before undertaking the prescribing course are presented in Table 1.

### **Specialist qualification**

Two hundred and forty four (55 %) participants had undertaken diploma, degree and or masters modules in diabetes. One hundred and eighty nine (46%) had attended university accredited study days. Ninety four (23%) had undergone informal training. This included visits to a specialist nurse or doctor working in a diabetes department, in-house training, and training provided by drug companies. Eighty two (20%) had not undertaken any specialist training in diabetes.

### **CPD needs specific to diabetes prescribing practice**

Respondents were asked to specify CPD needs with respect to diabetes prescribing practices both within, and following the next 12 months. The percentage of respondents who indicated that they had either no CPD needs, or CPD needs within, or after the next 12 months is shown in Table 2. The greatest requirement for CPD was an 'update on prescribing policy' with 42.5% (n=184) requiring this within the next 12 months and 30.7% (n=133) requiring it after 12 months. The areas in which the least number of respondents indicated they required CPD were 'assessment and

diagnosis of diabetes’, and ‘diabetes knowledge’ where 59.1% (n=256) and 43.9% (n=190) of respondents respectively reported that they had no CPD needs.

Chi square was used to analyze the relationship between those respondents who reported that they did have CPD needs and job title, grade/band and area or work. The results are summarized on tables 3, 4 and 5. For all three variables there was insufficient evidence that the percentage of respondents with CPD needs varied to a significant degree across different levels of the variables (p=0.428, p=0.691, p=0.147 respectively). Table 3 however, shows senior nurses/managers expressed less need for CPD (82%) compared with nurses in the remaining job title categories (87% or more).

#### **Is CPD available for you in your current prescribing role?**

Three hundred and fifty seven (83.8%) indicated that CPD was available, and 69 (16.2%) that it was not.

#### **Are you able to access CPD to meet your needs as a prescriber?**

Three hundred and fifty seven (83.4%) reported that they had access to CPD to meet their needs as a prescriber, and 71 (16.6%) that they did not. Participants were asked to describe the reasons why they were unable to access CPD. These problems were analysed using content analysis. Fifty seven responses were given. Eighty four percent (n=48) who reported no access indicated that this was due to a lack of facilities or funding, and 16% (n=9) as a result of workload or timing of the sessions.

**Have you undertaken any CPD to meet your needs as a prescriber since qualifying?**

Eighty percent (n=341) reported that they had undertaken CPD to meet their needs as a prescriber since qualifying, 20% (n=88) reported they had not.

**DISCUSSION**

Before summarizing the key findings and drawing conclusions, a potential limitation of the study must be taken in to account. Respondents were asked to report on their CPD needs along with any problems they had experienced in accessing CPD. It would have been helpful to have also asked respondents to indicate their CPD needs and problems with access to CPD in the last 6 months. The majority of respondents had been qualified in excess of 2 years. Therefore, problems they had initially encountered accessing CPD may now not exist. This additional data would have provided a fuller picture about the provision of CPD in current practice.

The majority of nurses in this sample held an academic qualification at degree level or higher, had over 5 years experience in their area of practice before NIP/NSP, work full time, were based in primary care and worked in general practice. These findings are consistent with those in previous studies reported by Courtenay *et al.* (2007a) and Latter *et al.* (2005). More than 75% of nurses sampled in these two studies reported that their highest qualification was at degree level or above. These studies, like ours, also identified large numbers of nurse prescribers working in primary care and general practice.

In comparison to previous findings, 63% of nurses in our study worked in general practice (compared to 39% reported by Latter *et al.* (2005) and 50% reported by Courtenay *et al.* (2007a). Additionally, only 5.3% participants in our sample reported they worked as senior nurses. This compares with 14% reported by Latter *et al.* (2005) and 10.7% reported by Courtenay *et al.*(2007a).

The senior nurses in our study reported fewer CPD needs. This finding is in line with those identified in relatively recent review of education and training for health care staff and students (Audit Commission 2001), and reported in previous research (Barriball & While 1996, Nolan *et al.* 2000). For example, it was evident from the 380 nurses interviewed by Barriball & While (1996) that several groups of nurses were disadvantaged with respect to accessing CPD. This included those on lower grades. It is also evident from the 236 interviews undertaken by Nolan *et al.* (2000) that nurses who worked on night duty were disadvantaged with respect to accessing CPD. Senior nurses, who are more likely to work office hours, are perhaps therefore better placed to access CPD to meet their needs. The majority of our sample worked in other settings and had a number of CPD needs, therefore it is important that various modes of delivery (i.e. face to face, distance learning, and electronic formats) are used to provide nurse prescribers with access to CPD for diabetes.

The higher number of nurses in our sample who worked in general practice provides some evidence that the responsibility for the care of people with diabetes has shifted from hospitals in to primary care. This finding is consistent with policy literature (DoH 2005, DoH 2007) i.e. over the last 10 years government policy has been to



deliver services closer to people's home in the community and to shift care away from the hospital (DoH 2007). Long term conditions (including diabetes) are areas emphasised in the Quality and Outcomes Framework of the new General Medical Services Contract (DoH 2005). The majority of nurses in our sample worked in general practice. This therefore provides some evidence that nurse prescribing is being used to support the services provided by GPs for patients with these conditions.

Over 80% of the participants in our study reported they had accessed CPD to support their current prescribing role. This is higher than that reported by Courtenay *et al.* (2007a) and Latter *et al.* (2005) i.e. less than 60% of participants in these studies reported they had undertaken CPD since qualifying to prescribe. Only 20% of our sample had been unable to access CPD i.e. 12% lower than the 32% reported by Courtenay *et al.* (2007a). Nearly 60% of our sample reported that they had no CPD needs specific to diabetes prescribing. This is considerably higher than findings reported by Latter *et al.* (2005). Only 28% of the nurses surveyed by these researchers reported that they had no CPD needs. Our findings suggest that there has been considerable and recent improvement to the provision of CPD to meet the needs of nurses who prescribe medicines for patients with diabetes. This is in line with recent NMC guidance (NMC 2008) which stipulates that the employer should ensure that practitioners have access to relevant on going education and training provision. This provision may take a number of forms including e-learning, prescribing forums, formal CPD study days and action learning sets. However it is possible that our findings also reflect the established CPD opportunities that are available to healthcare professionals in the area of diabetes management.

Over 40% of nurses in our study who indicated that they had CPD needs specific to diabetes prescribing within or after the next 12 months, reported that this was in the areas of prescribing policy, pharmacology for diabetes, and the management and treatment of diabetes related conditions such as CVD, hypertension and lipids. This is in contrast to previous reports on the CPD needs of nurse prescribers (Latter *et al.* 2005, Courtenay *et al.* 2007a). Although not specifically reporting on the need for CPD in the area of diabetes management, only 21% of participants in Courtenay *et al.*'s (2007a) study reported similar CPD needs to the nurses in our study (i.e. pharmacology, update on prescribing policy and treatment management of conditions. In comparison, nearly 60% of the nurses surveyed by Latter *et al.* (2005) had general (but unspecified) CPD needs specific to the prescribing role.

A large proportion of our sample who had CPD needs reported that this was in the area of pharmacology for diabetes (including insulin's and oral hypoglycaemic agents). Whilst it might perhaps be expected that DSNs would require information on new specialist drugs for diabetes (e.g. incretin hormones), 63% of our sample worked in GP. It is possible, therefore, that this need for knowledge surrounding insulin's and oral hypoglycaemic agents reflects wider policy changes to the organisation of diabetes care at a local and national level (DoH 2007), whereby nurses in general practice are becoming increasingly involved with the initiation of insulin therapy, and the management of more complex patients with diabetes. Although not in the area of diabetes management, the need for more pharmacological training has previously been reported by DN/HV prescribers (Otway 2002, Sodha *et al.* 2002). For example, the most prominent educational need identified by 80% of participants surveyed in Otway's (2002) study was pharmacological knowledge. Similarly Sodha *et al.* (2002)

in a survey of community nurses, identified that the 83% of nurse prescribers surveyed had inadequate pharmacological knowledge to undertake their role as a prescriber. Despite improved access to CPD, it is evident that nurse prescribers have ongoing needs for pharmacological knowledge. Further research exploring the specific pharmacological needs of nurse prescribers is therefore warranted.

The fact that the majority of our sample reported CPD needs in the management and treatment of diabetes related conditions such as CVD, hypertension and lipids perhaps provides further evidence of the rapid pace of change that has occurred in the NHS, and the role many nurses now play in the management of some of the common complications associated with patients with diabetes. These findings are also in line with previous research (New *et al.* 2003, Denver *et al.* 2003). In these two RCTs nurses used protocols to titrate medicines of nearly 1700 patients with diabetes in order to manage their hypertension, hyperlipidemia and CVD.

Given the numerous and recent legislative changes surrounding the prescription of medicines by nurses (DoH 2006), the need for an update on prescribing policy by a such a large proportion of our sample is unsurprising. It is possible therefore that this reflects the rapid pace of policy change that nurses have experienced, whereby they still feel the need to have regular updates in this area.

Over 50% of nurses in our sample reported that they held a specialist qualification in diabetes. This finding perhaps explains the lower number of nurses reporting CPD needs in the more general areas of diabetes knowledge, management and treatment, assessment and diagnosis. Our findings are in contrast to those reported by Courtenay

*et al.* (2007a) where only 7% of the nurses surveyed who prescribed medicines for skin conditions reported a specialist module in dermatology. Our findings are consistent with policy (NMC 2006). The NMC guidelines stipulate that nurses need to acquire specialist knowledge prior to undertaking the prescribing programme (NMC 2006). It is likely therefore, that these more general areas of diabetes knowledge would be covered in specialist accredited modules provided by universities and institutes of higher education.

## **CONCLUSION**

NIP and NSP have extended the role that nurses in the UK have in the management of care for patients with diabetes. This care is predominantly provided by nurses working in general practice. However, if nurses are to provide high quality evidence based care it is evident that they must have access to CPD. It is evident from our findings that there have been recent improvements to the provision of CPD for nurse prescribers. However, the level of nurses pharmacological knowledge, and the provision of CPD to meet this need continue to be areas which warrant further investigation.

## **RELEVANCE TO CLINICAL PRACTICE**

Previous concerns have been identified about the provision of CPD to meet the needs of nurse prescribers. The findings from this study indicate that there has been considerable improvement to the provision of CPD for nurse prescribers who care for patients with diabetes. However, pharmacological knowledge is still the greatest CPD requirement of nurses who prescribe for patients with diabetes. Education providers

may wish to consider developing the content of CPD programmes to meet these needs.

TABLES

Table 1: Demographic characteristics

	<i>n=number of responses</i>	<i>% of total sample</i>
<b>Job Title</b>		
<b>General practice</b> (practice nurses and nurse practitioners)	275	62.8
<b>Specialist nurses</b> (clinical nurse specialists, specialist nurse practitioners, nurse clinicians, children's nurses and midwives)	77	17.6
<b>Community Nurses</b> (community/modern matron, HV, DN, community children's nurse specialist, community psychiatric nurses and learning disabilities)	63	14.4
<b>Senior Nurses</b> (nurse consultants, senior nurses, charge nurses, sisters, manager)	23	5.3
<b>Grade/Band</b>		
Grade E or Band 5	2	0.5
Grade F/G or Band 6	115	26.7
Grade H or Band 7	195	44.4
Grade I or Band 8/9 or Nurse Partner	104	23.7
<b>Part time/full time</b>		
<20 hrs per week	39	6.9
21-30 per week	142	32.6
Full time i.e. >30 hrs per week	264	60
<b>Primary/and or Secondary Care</b>		
Primary care	369	84.2
Secondary Care	43	9.8
Primary and Secondary Care	26	5.9
<b>Age</b>		
<35 years	28	6.4
36-45 years	171	39
46-55 years	191	43.6
55-65 years	48	11
<b>Academic Qualification</b>		
Certificate level	16	3.6
Diploma level	66	15
Degree level	247	56.3
Master level	110	25.1
<b>Time since Qualified as NIP/NSP</b>		
< 6 months	13	3
6-12 months	56	12.9
1-2 years	146	34.2
> 2 years	213	49.9
<b>Experience in area of practice before NIP/NSP</b>		
< 1 year	10	2.4
1-2 years	28	6.6
2-5 years	69	16.2
> 5 years	318	74.8
<i>Percents do not add to 100% in each category as some participants did not complete every question</i>		

**Table 2: Continuing Professional Development (CPD) needs specific to diabetes prescribing**

CPD need (%responding from 433)	None		Need within 12 months		Need after 12 months	
	n	%	n	%	n	%
Update on prescribing policy	116	26.8	184	42.5	133	30.7
Pharmacology for diabetes, such as OHA and insulin	190	31.6	107	42.7	136	25.6
Management and treatment of diabetes related conditions such as CVD, hypertension and lipids	256	35.1	54	31.4	123	33.5
Management and treatment of diabetes	176	40.6	116	26.8	141	32.6
Diabetes knowledge	152	43.9	136	24.7	145	31.4
Assessment and diagnosis of diabetes	137	59.1	185	12.5	111	28.4

**Table 3. Whether CPD needs vary across job title categories**

Job title	Any CPD needs				Total n=
	No		Yes		
	n	%	n	%	
General Practice	24	8.9	247	91.1	271
Community Nurse	7	11.1	56	88.9	63
Secondary Care	10	13.2	66	86.8	76
Senior Nurses/Managers	4	18.2	18	81.8	22
<b>Total</b>	45	10.4	387	89.6	432

**Table 4. Whether CPD needs vary across grade/band**

Grade/Band	Any CPD needs				Total n=
	No		Yes		
	n	%	n	%	
E/5,F/6/G	11	9.6	104	90.4	115
H/7	24	12.4	170	87.6	194
I/8,9, Nurse partner	10	9.9	91	90.1	101
<b>Total</b>	45	11	365	89	410

**Table 5. Whether CPD needs vary across area of work**

Area of work	Any CPD needs				Total n=
	No		Yes		
	n	%	n	%	
<b>Primary Care</b>	34	9.3	330	90.7	364
<b>Secondary Care</b>	8	19	34	81.0	42
<b>Both primary and secondary care</b>	3	11.5	23	88.5	26
<b>Total</b>	45	10.4	387	89.6	432



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