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An Evaluation of the Designated Medical Practitioner (DMP) role

Health and Social Care Evaluations (HASCE)



April 2019

This evaluation was commissioned by Health Education England (HEE). The report was authored by Dr Tom Grimwood and Dr Laura Snell at Health and Social Care Evaluations (HASCE), University of Cumbria.

Executive summary

Context:

Health and Social Care Evaluations (HASCE) were commissioned by Health Education England (HEE) to evaluate the role of the Designated Medical Practitioner (DMP) in Non-Medical Prescribing (NMP) training programmes. The aim of this project was to provide an independent evaluation of the DMP role in NMP training programmes across the North of England.

The landscape of mentorship and practice-based education in non-medical prescribing has changed, and the traditional DMP role is replaced, this provides an ideal opportunity to evaluate DMPs' experience of mentorship, including their preparation for the role and the support provided to enable them to carry out the mentoring role in practice. The timing of this project presented the opportunity to examine the complexities of the DMP role in order to inform the development of future roles and support provision. This can then inform the future development of mentorship and supervision in NMP training.

Methodology:

The evaluation consisted of:

- a literature review, which provided an overview of non-medical prescribing practice in the UK and specifically, the training of non-medical prescribers and the role of DMPs within this process;
- an online survey, designed to explore the experiences of DMPs across the north of England. This was completed by 69 DMPs.

Due to a precise figure of current mentors not being available, analysis of findings was exploratory rather than representative. By following a realist approach, the research identified key contexts, mechanisms and outcomes which arose from participants' experience.

Findings:

The literature demonstrated a number of key points:

- NMP has impacted positively on patient care by improving access to medicines.
- There is an abundance of research into nurse prescribers, although it is evident that NMP is expanding across other medical fields.

- The practice of NMP can be affected by a range of factors such as the prescriber's confidence and knowledge, and the support provided by other professionals.
- Peer support is a common mechanism for updating knowledge, but more access to formal CPD opportunities would be beneficial for non-medical prescribers in practice.
- The period of learning in practice is an integral part of NMP training and can be a valuable learning experience for both the student and their DMP.
- Key issues experienced during the period of learning in practice include: differences in how DMPs understand the NMP competencies and a lack of protected time for DMPs to mentor their students.
- HEIs provide various support for DMPs working with NMP students, but there is currently no standardised guidance for this mentoring role.

Survey responses demonstrated:

- The survey findings complimented the existing literature by highlighting a number of similar themes. DMPs reported a range of specialisms and backgrounds, with most having some experience in training/supervising/tutoring roles prior to undertaking the DMP role. The majority of the DMPs were selected for the role by their NMP students, which suggests that they had pre-existing working relationships.
- Wide variations were reported in the support provided for DMPs by the HEIs. While some received induction sessions and handbooks, others reported poor communication and a general lack of support. Some raised concerns about the implications this had for changing standards of assessment, and reporting failing or struggling students in a timely and appropriate way.
- The majority of DMPs felt that the assessment process was appropriate for preparing the NMP students for practice. However, concerns were raised about the need for ongoing support from the HEIs and more clarity with the assessment guidelines.
- The main disabling mechanism for the DMP role in practice was reported to be time constraints and specifically, a lack of dedicated time to mentor the NMP student. The time commitments for DMPs primarily involve the supervision time with the NMP student, but it was noted that time is also required to read any supporting documentation provided by the HEIs, including the competencies which need to be signed off by the DMP.
- The support from employing organisations was reported to vary, with the issue of time constraints being a key factor. DMPs who felt more supported by their employers generally had time allocated in their job plan to mentor the NMP students; whereas the

DMPs without this dedicated time often felt unsupported by their employing organisation.

- The DMP role often appears to be conducted in isolation, particularly for those who reported a lack of guidance from HEIs, and the findings indicate that DMPs might benefit from having access to peer support as a means of discussing their mentoring role and sharing information.

Recommendations:

Based on the findings of this evaluation, the following recommendations are made:

- Employing organisations need to ensure that they recognise the value of the DMP role in training non-medical prescribers and acknowledge the time commitments involved. In order to fully support the DMPs with this mentoring role, it is important that protected time is scheduled into their job plans.
- It is recommended that standardised guidance is developed regarding HEIs relationship and communication with mentors. This should include the provision of not only handbooks and induction sessions, but ongoing communication throughout the student journey, with clearly marked routes for accessing HEI support. This may also include a more comprehensive reporting system so that a more precise figure for current mentors can be identified.
- Likewise, guidance for employing organisations should also be developed. This guidance should advocate the need for protected time within work schedules, along with regular support, to enable the DMP to fulfil their commitment to the NMP student, whilst ensuring that the DMP also benefits from the mentoring process.
- It is recommended that mechanisms for developing networks or forums for DMPs should be explored, as this has the potential to enhance the support available to DMPs and provide more opportunities for personal development. Given the degree of isolation reported by many participants in the survey, it is recommended that improving communications between mentors may lead to improved outcomes for both themselves and their mentees.

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Acronyms

AHP	Allied health professional
BNF	British National Formulary
CCG	Clinical commissioning group
CMHT	Community Mental Health Team
CPD	Continuing professional development
CPNP	Community Practitioner Nurse Prescriber
DMP	Designated Medical Practitioner
ENT	Ear, Nose and Throat
GP	General Practice/Practitioner
HASCE	Health and Social Care Evaluations
HEE	Health Education England
HEI	Higher Education Institution
NICE	National Institute for Health and Care Excellence
NMC	Nursing and Midwifery Council
NMP	Non-medical Prescribing
NPF	Nurse Prescriber's Formulary
PCF	Palliative Care Formulary
UGI	Upper gastrointestinal

1. Introduction

Health and Social Care Evaluations (HASCE) were commissioned by Health Education England (HEE) to evaluate the role of the Designated Medical Practitioner (DMP) in Non-Medical Prescribing (NMP) training programmes. The first section of this report will introduce the aims of the evaluation, contextualise the practice of NMP, provide an overview of the training process and specifically, the role of DMPs in mentoring the NMP students.

1.1 Aims of the evaluation

The aim of this project was to provide an independent evaluation of the DMP role in NMP training programmes across the North of England. The project was designed to evaluate DMPs' experience of mentorship, including their preparation for the role and the support provided to enable them to carry out the mentoring role in practice. As the mentoring role within NMP training is undergoing change, the timing of this project presented the opportunity to examine the complexities of the DMP role in order to inform the development of future roles and support provision.

1.2 Non-medical prescribing

The practice of non-medical prescribing refers to the prescribing of medicines, dressings and appliances by health professionals who are not medical doctors. For example, non-medical prescribers can be nurses, midwives, pharmacists and other allied health professionals such as: optometrists, physiotherapists, podiatrists, radiographers, dieticians and most recently, advanced paramedics.

Non-medical prescribing was introduced in the UK in 1992, following the 1986 Cumberlege Report which suggested that the care provided by community nurses would be more efficient if they could prescribe a limited number of items for their patients (Cope et al., 2016). Since its inception, non-medical prescribing has developed significantly with legislation expanding the healthcare professionals involved in this practice and the medicines they can legally prescribe (see: Department of Health, 2005, 2007, 2013; NHS England 2016).

There are two forms of non-medical prescribing – ‘independent prescribing’ and ‘supplementary prescribing’. The Royal Pharmaceutical Society provides a competency framework for all prescribers (see section 3.6 of this report) and defines the two forms of non-medical prescribing as follows:

‘Independent prescribing is prescribing by a practitioner, who is responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing. In practice, there are TWO distinct forms of non-medical independent prescriber.

- i) At time of publication an independent prescriber may be a specially trained nurse, pharmacist, optometrist, physiotherapist, therapeutic radiographer or podiatrist¹ who can prescribe licensed medicines within their clinical competence. Nurse and pharmacist independent prescribers can also prescribe unlicensed medicines and controlled drugs.
- ii) A community practitioner nurse prescriber (CPNP), for example district nurse, health visitor or school nurse, can independently prescribe from a limited formulary called the Nurse Prescribers’ Formulary for Community Practitioners, which can be found in the British National Formulary (BNF).²

‘Supplementary prescribing is a voluntary partnership between a doctor or dentist and a supplementary prescriber to prescribe within an agreed patient-specific clinical management plan (CMP) with the patient’s agreement. Nurses, optometrists, pharmacists, physiotherapists, podiatrists, radiographers and dietitians may become supplementary prescribers and once qualified may prescribe any medicine within their clinical competence, according to the CMP.’ (The Royal Pharmaceutical Society, July 2016: 16)

¹ NB. The current list of professions also includes paramedics and midwives.

² Of these non-medical prescribing forms, a DMP is required for the Independent Prescribing and Supplementary Prescribing routes; but not for Community Practitioner roles.

Non-medical prescribing can make a valuable contribution to the NHS through improving patient experience, enhancing performance and bringing “about significant economies” (i5 Health, 2015: 84). Despite this, the uptake of non-medical prescribing has reportedly been quite slow (Graham-Clarke et al., 2018; i5 Health, 2015).

In 2015, i5Health conducted an economic evaluation of non-medical prescribing across England and collated figures for the estimated number of non-medical prescribers: according to the Nursing and Midwifery Council (NMC), there were 53,572 nurses and midwives registered as non-medical prescribers; the General Pharmaceutical Council reported 3845 NMP pharmacists; and there were 689 AHPs registered as non-medical prescribers. This resulted in a conservative estimate that in 2015 the total number of registered non-medical prescribers in England was 44,629 (i5Health, 2015).

1.3 Training as a Non-Medical Prescriber

In order to qualify as a non-medical prescriber, registered health professionals need to complete a post-graduate NMP course which typically takes between 3 – 6 months. NMP courses are provided by higher education institutions (HEIs) across the UK, who are accredited by professional bodies such as the NMC, General Pharmaceutical Council, Health Professions Council and General Optical Council (Stewart et al., 2012).

A prerequisite for enrolling on the NMP training programmes is that the health professionals must have a minimum period of post-registration experience, for example: pharmacists are required to have at least 2 years’ experience and AHPs typically need 3 years’ experience. Prior to January 2019, nurses were required to have 3 years’ post registration experience in order to train as a non-medical prescriber; however, the recently published NMC standards no longer specify a post registration time period for community practitioner nurses to train as prescribers, and nurses applying for supplementary/independent prescribing programmes must now be registered with the NMC for a minimum of one year (NMC, 2018).

The NMP training programmes involve taught components, along with a period of learning in practice which is supervised by a Designated Medical Practitioner (DMP).³ According to Afseth and Paterson (2017: 104):

‘This approach provides a ‘real world’ prescribing experience and develops a mutual appreciation of different professional disciplines, training and perspectives in the context of prescribing.’

An example of the topics covered through the NMP courses include:

‘...consultation, decision making, assessment and review; psychology of prescribing; prescribing in team context; applied therapeutics; evidence-based practice and clinical governance; legal, policy, professional and ethical aspects; and prescribing in the public health context’ (Stewart et al., 2012: 662).

Students are typically assessed through a range of formats such as: written examinations, written assignments, attaining competences in practice, a portfolio of evidence, structured clinical examinations and/or viva examinations.

During the period of learning in practice, the NMP student is assessed by their DMP through a range of activities such as observed consultations, work with other non-medical prescribers and reflective case-based discussions. Following this, the NMP student is academically assessed by submitting a portfolio to show that they have achieved the necessary prescribing competencies in a range of clinical scenarios.

1.4 Designated Medical Practitioners

DMPs are registered medical practitioners who are responsible for mentoring NMP students whilst they complete the period of learning in practice. The National Prescribing Centre (now part of NICE) detailed the eligibility criteria for this role in 2005 as:

³ Up until January 2019, taught components constitute at least 26 days of training, with at least 12 days or 78 hours of practice learning for nurses and AHPs, and 90 hours for pharmacists.

‘The DMP must be a registered medical practitioner who:

- Has normally had at least three years recent clinical experience for a group of patients / clients in the relevant field of practice
- Is within a GP practice and is either vocationally trained or is in possession of a certificate of equivalent experience from the Joint Committee for Post-graduate Training in General Practice Certificate **or** is a specialist registrar, clinical assistant or a consultant within a NHS Trust or other NHS employer
- Has the support of the employing organisation or GP practice to act as the DMP who will provide supervision, support and opportunities to develop competence in prescribing practice
- Has some experience or training in teaching and / or supervising in practice
- Normally works with the trainee prescriber. If this is not possible (such as in nurse-led services or community pharmacy), arrangements can be agreed for another doctor to take on the role of the DMP, provided the above criteria are met and the learning in practice relates to the clinical area in which the trainee prescriber will ultimately be carrying out their prescribing role’ (National Prescribing Centre, 2005: 7)

The DMP was responsible for supervising the NMP student within the workplace and assessing the student’s prescribing skills through summative and formative assessments (Cope et al., 2016). DMPs need to establish a learning contract with the NMP student, plan a programme of learning, and provide opportunities for the student to achieve the necessary prescribing competencies, which will then be evidenced in the student’s portfolio. Essentially, the role of the DMP is ‘to sign off the student as a competent prescriber’ (Ahuja, 2009: 880).

DMPs are guided by the NMP student’s individual learning needs to provide a range of activities and experiences during the period of learning in practice. For example:

‘Students typically focus on patient consultations, selection of drugs for individual patients, patient review, monitoring and follow-up, aspects of patient safety and clinical governance centred on systems of practice, documentation and managing risk’ (Stewart et al., 2012: 665).

More recently, a number of changes have taken place both in terms of the professions legally eligible to train as prescribers, and the standards of proficiency applied to them. As a result, between 2018 and 2019 the three regulators of non-medical prescribing professions – the General Pharmaceutical Council, the Nursing and Midwifery Council and the Health and Care Professions Council – instigated a move away from the traditional role of the DMP role, and towards a prescribing supervisor, which the HCPC describe as ‘practice supervisors are prescribers who are appropriately qualified and experienced to supervise learners.’⁴ In their 2018 consultation document, the HCPC argued: ‘We feel that as nonmedical prescribing has become well established, it is no longer necessary to limit the practice educator role to doctors only. We believe it is it is wholly appropriate for qualified, experienced and trained nonmedical prescribers to be involved in educating future learners.’⁵

As a result, the landscape of mentorship and practice-based education in non-medical prescribing is changing. This provides an ideal opportunity to review the experiences of DMPs, particularly in relation to their perceptions of the support they required, their role in the education of NMPs, and the main challenges to the role they faces. This can then inform the future development of mentorship and supervision in NMP training.

⁴ <https://www.hcpc-uk.org/education-providers/updates/2019/reducing-regulatory-burden-changes-to-our-prescribing-standards/>

⁵https://www.hcpc-uk.org/globalassets/consultations/2018/standards-forprescribing/standardsprescribing_consultationpaper_final2.pdf , p.8

2. Methodology

This section will outline the realist model of evaluation and describe the data collection process which involved a literature review and an online survey of DMPs.

Conducting the research for this project posed a number of challenges. The research was originally aimed at DMPs practising in the North-West, but ascertaining a precise number of active DMPs in this area was problematic. It became apparent that HEIs in the area varied in their mechanisms of communication with DMPs, and consequently their access to individuals. As such, identifying a significant response rate to surveys was problematic.

While this poses problems for representative sampling, existing research has demonstrated the complexity of the NMP lead role (see, for example, Courtney, Carey and Stenner 2011). Given that it is only to be expected that the DMP role has a similar range of multi-organisational factors contributing to its success, it seems important that research captures a range of responses in the first instance, rather than aiming for representative certainty.

2.1 Methodological approach

For this reason, the evaluation followed a realist approach to evaluation. The main principle of realist evaluation is to ask: ‘what works for who, and in what context?’ From this, realist evaluation aimed to generate a far more nuanced and detailed pictures of what enables a role to be successful than a mere focus on outcomes. The realist model gathers data in order to identify the contexts, mechanisms and outcomes which, configured together, create the DMP role. This allows the project to identify, through careful analysis of the data, how particular contexts (for example, the prior medical experience of a DMP) affect particular mechanisms (for example, the objective assessment on the NMP programme), which in turn produces a specific outcome (for example, a high quality learning experience for the NMP).

Context + Mechanism → Outcome

The realist approach enabled the evaluators to identify the contexts, mechanisms and outcomes which, configured together, provide an insight into the complexities and experiences of the DMP role.

2.2 Literature review

The purpose of the literature review was to provide an overview of non-medical prescribing practice in the UK and specifically, the training of non-medical prescribers and the role of DMPs within this process. The review drew on academic journals and grey literature, and was used to underpin the evaluation by informing the survey design.

The following databases were used to source the academic literature: OneSearch, Academic Search Complete, Medline and CINAHL. The timeframe for the literature ranged 2000 to 2019, and the papers were focussed on NMP practice in the UK. Examples of key words used to search the databases include: *non-medical prescribing/prescriber, designated medical practitioner, nurse prescriber*. The papers included primary and secondary research with both qualitative and quantitative study designs.

A grey literature search was conducted to identify standards and competency frameworks relevant to the NMP field (e.g. using the Royal Pharmaceutical Society website). In addition, a sample of literature was requested from HEIs across the North West of England that provide NMP programmes in order to review the types of support mechanisms currently available to DMPs.

2.3 Online survey

An online survey was designed to collect data from the DMPs across the North of England. Online surveys are efficient and flexible as they allow data to be collected from many people in different locations within a short period of time (Robson and McCartan, 2016; Kalof et al., 2008). Ethical approval for this evaluation was granted by the Research Ethics Panel at the University of Cumbria.

2.3.1 Survey design

As shown in Appendix 2, the first page of the survey was designed to inform the participants about the research (e.g. the purpose of the evaluation; anonymity, confidentiality and data protection; and how their data would be used) and to gain their consent. Essentially, the respondents gave consent by clicking on the ‘finish’ button at the end of the survey to submit their responses.

The survey was created using the Online Surveys system (formerly Bristol Online Surveys) and consisted of 31 questions designed to gather data about the role of the DMP, their views and experiences of assessing and mentoring the students in the workplace, and the support provided by their employers and the HEIs. The close-ended questions had fixed-choice responses for the respondents to select and the open-ended questions allowed the respondents to answer freely.

2.3.2 Data collection

A letter of introduction (see Appendix 3) was created to initially share with the programme leads of NMP courses at eight institutions across the North West: Edge Hill University, Manchester Metropolitan University, University of Bolton, University of Chester, University of Central Lancashire, University of Cumbria, University of Manchester and University of Salford. Following discussion with programme leads to determine a defined sample size, the letters were originally shared with NMP cohorts starting in January 2019. This was extended to include any existing cohorts when it became clear that some courses started at different times. The mechanisms for distributing the survey link included: posts on virtual learning environments, verbal announcements to the students in the classroom and email communication with the students.

The following challenges were noted by some of the programme leads in relation to the timing of the evaluation and the distribution of the survey link:

- The response rate of DMPs might be affected at this time of year due to winter pressures.
- Some students were currently in their assessment period, which might impact on their engagement with the evaluation.
- One university was in-between cohorts and therefore, unable to disseminate the letter of introduction.

Due to a very low response rate at the end of February, the research team liaised with the commissioners to find an alternative mechanism for distributing the survey link. The survey was extended to 29th March 2019 and a letter of introduction was drafted for practitioners already working as NMPs (see Appendix 4). This letter of introduction was distributed via the commissioner's existing NMP networks across the North of England and current practitioners were asked to share the survey link with any colleagues who act as DMPs.

When the survey closed at the end of March, the final number of respondents was 69. It must be noted that this sample was not intended to be representative of all DMPs across the north of England.

2.3.3 Data analysis

An analysis was conducted on each of the 31 survey questions in order to produce a detailed summary of the survey findings and to display a selection of the respondents' quotations. The quantitative data was displayed in tables or charts. The qualitative data collected through the open-ended questions was categorised and coded to enable the identification of key themes across the data. As outlined in section 2.1, in line with the realistic approach to the evaluation, the survey findings were then configured as *contexts*, *mechanisms* and *outcomes*.

It must be noted that not all of the survey questions received a full response rate (69 respondents) and therefore, the findings presented in this report are based on actual responses.

3. Findings: the literature review

This section provides a summary of the key topics and findings identified in the literature presented in Appendix 1. The general field of non-medical prescribing will be explored, including the factors which can influence practice, followed by the training and CPD needs of non-medical prescribers when in practice. The literature will then consider the training of NMP students, specifically the period of learning in practice, and the DMP's role in mentoring and assessing the NMP student. Examples of the support and documentation typically provided for DMPs by the HEIs will also be reviewed.

3.1 Non-medical prescribing practice

The practice of non-medical prescribing has been found to have a positive impact on patients (Crawley, 2018; Cope et al., 2016; Cooper et al., 2008) due to its efficiency (Tatterton, 2017; MacLure et al., 2013; Scrafton et al., 2011), improvements in access to medicines (Pearce and Winter, 2014; Bhanbhro et al., 2011) and better care pathways (Pearce and Winter 2014). The current landscape of NMP and the mechanisms by which patients can access prescription medications have been reviewed (Crawley, 2018), along with the developments in NMP training (Stewart et al., 2012), and comparisons have been made with prescribing practices in other countries (Cope et al., 2016; Kroezen et al., 2011). Although prescribing is described as 'a complex skill that is high risk and error prone', it appears there is a gap in the current literature about prescribing errors (Cope et al., 2016: 165).

As noted by Graham-Clarke et al. (2018), the nursing profession dominates the literature on non-medical prescribing. The majority of nurse prescribers are motivated to train for NMP in order to advance their practice and patient care (Bradley et al., 2004), and when qualified, it is evident that the prescribing practice of nurses is comparable with the prescribing undertaken by doctors (Gielen et al., 2014).

3.2 Factors influencing the practice of non-medical prescribing

Studies have shown that confidence can affect prescribing practice (Abuzour et al., 2018; Tatterton, 2017; Cope et al., 2016; Maddox et al., 2016), along with knowledge, experience of

prescribing, pre-registration education and support (Abuzour et al., 2018; Courtenay et al., 2012; Humphries and Green, 2000). For example, the non-medical prescribers in Weglicki et al.'s (2014) study felt that personal anxiety about making decisions and keeping up-to-date in their field can undermine their confidence to prescribe. The nurse prescribers in Bradley et al.'s (2004) study reported that the most important skills required to successfully undertake the prescribing role were interpersonal and clinical skills, as well as pharmacological and prescribing knowledge. Abuzour et al. (2018) examined the clinical reasoning undertaken by pharmacist and nurse independent prescribers, and found that their knowledge, skills and attitudes can influence the complex process. Furthermore, Maddox et al. (2016) identified that a cautious approach to decision-making about prescribing can be due to the non-medical prescriber's perception of competence, their role and the level of risk, and it was therefore recommended that non-medical prescribers need access to training and peer support in order to develop professionally. Professional hierarchies, organisational barriers and limited access to training can present challenges to nurse and pharmacist supplementary prescribers (Cooper et al., 2008), along with governance procedures (Courtenay et al., 2012). In addition, nurses in secondary care reported that perceived pressures to prescribe, restrictions of the NPF and financial control measures can present barriers to prescribing practice (Scrafton et al., 2011).

3.3 CPD and training for non-medical prescribers in practice

Stewart et al.'s (2012) review of the development of NMP education, training and practice noted a limited number of studies from 2005 - 2010 which examined CPD within the field, with the relevant papers mostly having small sample sizes and response bias. Despite this, the literature indicates that non-medical prescribers often need more access to appropriate CPD opportunities when in practice (Djebib, 2018; Smith et al., 2014; Weglicki et al., 2014; Scrafton et al., 2011; Cooper et al., 2008; Latter et al., 2007; Nolan et al., 2000). In particular, a national survey of nurse independent prescribers across England found that NMP district nurses, community matrons and health visitors were more likely to report restricted access to support, supervision and CPD than other specialisms (Smith et al., 2014).

Peer support has been identified as a common form of CPD for non-medical prescribers in practice (Djebib, 2018; Weglicki et al., 2014; Otway, 2002), along with robust systems for identifying educational needs. Similarly, Green et al., (2009) highlighted the value of identifying and addressing the training needs of staff when organising the provision of CPD. For example, a survey of family planning nurse prescribers identified their specific training needs as: advanced

clinical skills, applied pharmacology, and administrative, technical and research skills (Taylor and Hicks, 2001). Green et al. (2009) also noted that short CPD courses tended to be the most popular amongst non-medical prescribers. However, the participants in Weglicki et al.'s (2014) study had mixed views about their preferred modes of CPD (e.g. e-learning or face-to-face learning with other professionals) and it was suggested that blended learning and a collaborative approach between HEIs and NHS organisations could be a strategy for enhancing confidence amongst non-medical prescribers.

3.4 NMP training programmes

Non-medical prescribers have indicated that the taught element of their NMP educational programmes were satisfactory and met their needs (Smith et al., 2014; Latter et al., 2010; Latter et al., 2007), although it was noted that assessment and diagnostic skills were areas for improvement (Latter et al., 2010). Variation in the level of work required of students on prescribing courses has been reported (Courtenay et al., 2009), and it has been suggested that the selection criteria for accepting nurses onto prescribing courses can be vague (Bradley et al., 2006). Some nurse prescribers have raised concerns about a lack of pharmacological knowledge during their university training (Scrafton et al., 2011). Smith et al. (2018) drew attention to the recent changes in the NMC (2018) standards for pre-registration nursing and prescribing programmes which have reduced the minimum post registration time period for nurses wanting to apply for NMP training. For example, community practitioner nurses no longer have a minimum time period for applying to V150 programmes, and nurses can now apply for supplementary/independent prescribing programmes (V300) after being registered with the NMC for a minimum of one year (NMC, 2018).

3.5 The period of learning in practice

The period of learning in practice is considered to be valuable as it provides the opportunity for NMP students to practise and embed their skills, reflect on their learning, increase confidence and work with other professionals (Unwin et al., 2016; Smith et al., 2010; Tann et al., 2010). Good organisation of the period of learning in practice is key to enhancing the learning experience and this includes the completion of a learning agreement and time schedule (Ahuja 2009). In addition, NMP students who spend at least 30% of the learning in practice time with their DMP appear to be more satisfied with their learning experience (Ahuja, 2009).

Avery et al. (2004) reported that most of the doctors acting as DMPs had pre-existing working relationships with their mentee nurses, and the experience of supervising had the potential to improve this relationship. Furthermore, the learning relationship between DMPs and NMP students has been described as being reciprocal (Tann et al., 2010). For example:

‘Students and DMPs learned with, from and about each other, and provided a platform for two-way learning and mutual professional respect’ (Afseth and Paterson, 2017: 103).

Key barriers encountered by the NMP students during the period of learning in practice include: the clinical workload of DMPs, backfill, peer support, organisational and attitudinal barriers (Unwin et al., 2016; Ahuja, 2009; George et al., 2007). Several studies have identified limited time as a disabling mechanism during the period of learning in practice (Unwin et al., 2016; McCormick and Downer, 2012; Ahuja, 2009; George et al., 2007), with some supervision being conducted out of working hours (Avery et al., 2004). Limited time with the DMP can impact negatively on the NMP students’ learning experience (McCormick and Downer, 2012), and it has therefore been suggested that protected time is needed for DMPs to supervise their NMP students (Courtenay et al., 2011; Avery et al., 2004). In addition, the lack of clarity about the DMP role, poor strategic support and the lack of protected time indicate that ‘clearer national guidance for the role, its responsibilities and workload’ is required (Courtenay et al., 2011: 151).

3.6 The DMP’s role in assessing the NMP student

During the period of learning in practice the DMP is required to assess the NMP students’ competencies, but a study by Afseth and Paterson (2017) identified differences in how the competency assessments are understood by DMPs and NMP students. For example, due to the traditional format of assessments within the field of medicine, it was suggested that:

‘...the medical profession prefers traditional observed structure assessment and ‘real world’ competency assessment is an unfamiliar concept’ (Afseth and Paterson, 2017: 106).

McCormick and Downer (2012) explored the views of NMP students who suggested that many of their DMPs did not fully understand the competencies being assessed:

‘The students were unanimous in their perception that DMPs did not fully understand all NMC prescribing competencies. A noticeable

factor was that DMPs focused more on competencies with which they felt knowledgeable, dismissing others as less important.’
(McCormick and Downer, 2012: 89)

The Royal Pharmaceutical Society have published a framework (see Figure 1 below) displaying ten competencies for prescribing, which are split into two sections – the consultation and prescribing governance; prescribers need to be able to demonstrate the competency statements listed under each section. This framework is used by DMPs to assess the NMP student’s level of competency.

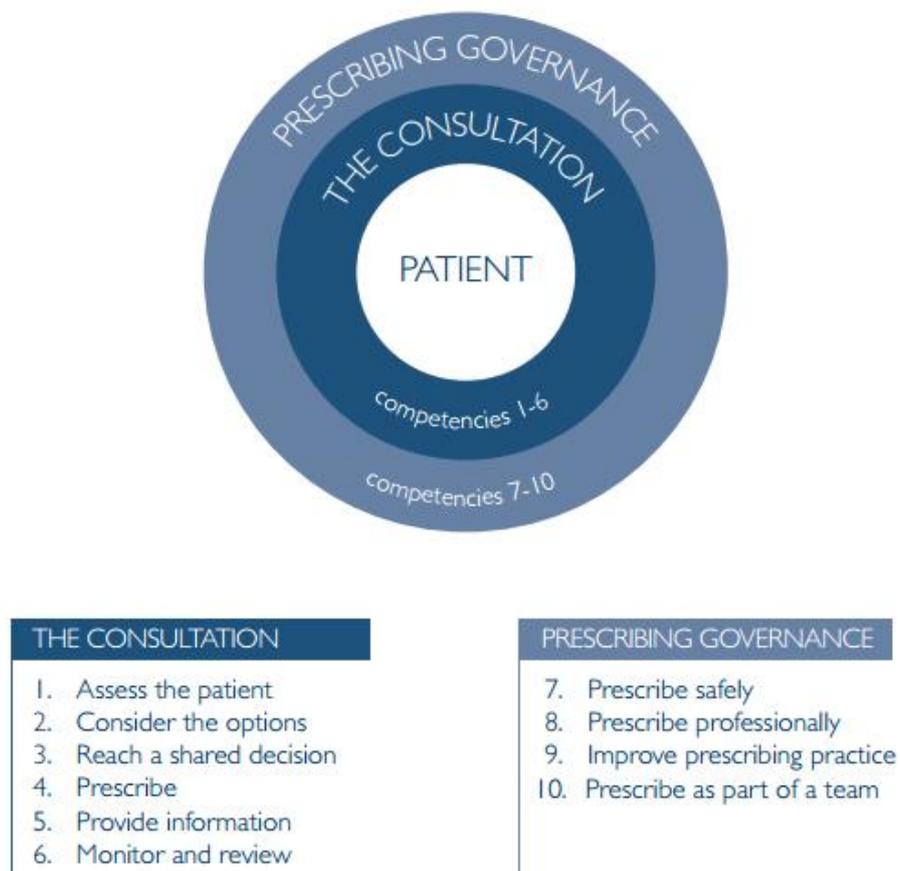


Figure 1: The Prescribing Competency Framework (Royal Pharmaceutical Society, 2016)

The literature in Appendix 1 highlights differing views about the support provided to DMPs by the HEIs. For example, whereas some doctors in Avery et al.’s (2004) study considered the information provided by the universities to be adequate, others indicated the need for more

support. Despite detailed handbooks being provided for DMPs, George et al. (2007) reported that they did not always feel fully informed about the course requirements, with more structured information about roles and responsibilities being required. Furthermore, some of the DMPs in McCormick and Downer's (2012) study did not appear to be fully prepared for their role:

‘Students observed that DMPs were largely reliant on them and their course work for direction, suggesting that literature sent to DMPs was not received, was inadequate or was simply not read.’
(McCormick and Downer 2012: 89)

3.7 Examples of the support provided to DMPs by HEIs

In order to understand the types of support mechanisms available for DMPs, a sample of literature was acquired from six HEIs across the North West of England that are currently providing NMP programmes.

The sample indicates that DMPs are typically provided with handbooks which contain a range of information to support their mentoring roles. Most of the HEIs provided a handbook specifically for the DMP role, whereas one HEI created a combined handbook aimed at both the NMP student and their DMP, and another HEI used the ‘Training non-medical prescribers in practice’ guidance produced by the National Prescribing Centre (2005).

The sample of literature provided by the HEIs contained information on the following topics:

- Aims and learning outcomes of the NMP programme
- Role and responsibilities of the DMP
- Details about the learning contract between the DMP and NMP student
- Details about the student's portfolio assessment
- Assessment strategies, including formative and summative assessments in practice
- Guidelines for assessing competence in practice
- Templates for documents such as: competency framework, supervised hours log, clinical management plans, patient consent forms, progress meetings
- Frequently asked questions about the role
- A list of useful resources and websites
- Relevant contacts for the NMP programme leads and HEIs

In addition to the handbooks, some of the universities provide support for the DMPs through induction sessions/workshops/briefings or webinars, and regular correspondence at certain stages of the programme (e.g. letters of introduction at the start of the course; correspondence prior to assessment periods or between teaching blocks to update DMPs and guide their supervision in practice). Instead of producing a handbook in the traditional paper or electronic format, one institution opted for a webfolio system to share information with both the DMPs and NMP students; the key advantage of this support mechanism is the efficiency of updating the information for all those involved in the mentoring process.

3.8 Summary of the literature review

This section of the report has presented an overview of NMP practices and specifically, the role of DMPs in supporting the training of NMP students.

In summary, the literature shows:

- NMP has impacted positively on patient care by improving access to medicines.
- The practice of NMP can be affected by a range of factors such as the prescriber's confidence and knowledge, and the support provided by other professionals.
- Peer support is a common mechanism for updating knowledge, but more access to formal CPD opportunities would be beneficial for non-medical prescribers in practice.
- The period of learning in practice is an integral part of NMP training and can be a valuable learning experience for both the student and their DMP.
- Key issues experienced during the period of learning in practice include: differences in how DMPs understand the NMP competencies and a lack of protected time for DMPs to mentor their students.
- HEIs provide various support for DMPs working with NMP students, but there is currently no standardised guidance for this mentoring role.

4. Findings: online survey of DMPs

As outlined in section 2.1, in order to allow the identification of causal relationships across the data, the online survey findings have been configured as *contexts*, *mechanisms* and *outcomes*.

Table 1 provides an overview of the main themes and configurations identified across the data:

Contexts	Enabling mechanisms	Disabling mechanisms	Outcomes
DMP's prior experience & preparation for role DMP's motivations for undertaking role	Nomination process for DMP role Awareness of NMP student's learning needs		Enhanced working relationships with DMP's colleagues Competent non-medical prescribers are trained
Resources available to DMPs (e.g. provided by HEIs, available in workplace)	Support from HEIs (e.g. handbooks, induction, assessment guidelines)	Inconsistent support or poor communication from HEIs	Improvements to patient care through NMP
Employing organisation's recognition of DMP role	Support from employing organisation (e.g. protected time in job plan)	Time constraints / lack of protected time in job plan	Personal development for DMPs

Table 1: Context, mechanism and outcome configurations of the main themes

In order to demonstrate how causal relationships were identified across the data, here is an example of the Context (C), Mechanism (M) and Outcome (O) configurations:

- If the HEIs provide the DMPs with resources (e.g. handbooks, induction sessions) (C) and provide ongoing support and communication during the NMP student's period of learning in practice (M), the DMPs will be better equipped to understand and assess the prescribing competencies (O).

- If the employing organisation recognises and supports the DMP role (C) by allocating dedicated time for the DMP to work with their NMP colleagues (M), the mentoring process is more likely to be mutually beneficial, which can enable personal development and enhance professional working relationships (O).

4.1 Contexts

This section will present the findings relating to the specific contexts for the 69 DMPs who responded to the survey.

4.1.1 Overview of survey respondents

Locations where DMPs were based

Figure 2 shows that the majority of the DMPs were based in Yorkshire and Humber (41 survey respondents) and the North West of England (24 survey respondents), with only five DMPs based in the North East. The data indicates 70 responses for this question as one DMP worked across two regions.

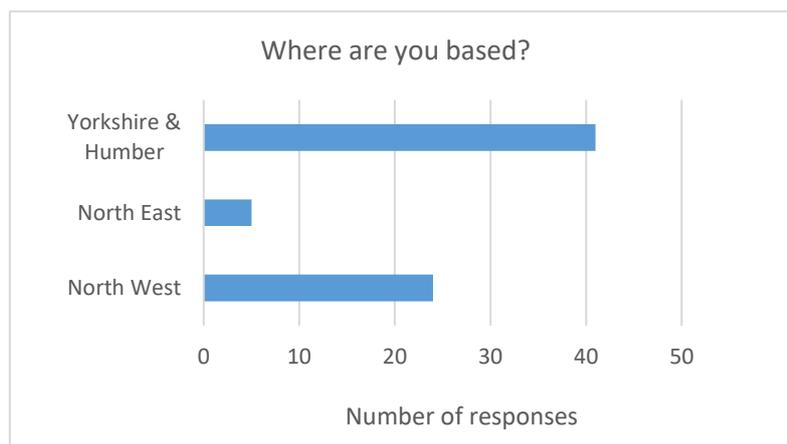


Figure 2: Locations where DMPs were based

Specialisms

The 69 DMPs worked across a broad range of specialisms, as shown in table 2 below. Some of the DMPs identified specific areas and the results capture their exact wording; other DMPs also indicated more than one area of specialism.

Areas of specialism	Number of responses
Acute Pain	1
Adult mental health - inpatients	1
Adult Psychiatry	1
Anaesthesia	2
Anaesthetics & Critical Care	2
Cardiology	3
Dermatology	2
Eating Disorders Psychiatry	1
Emergency Medicine	1
Endocrinology and general internal medicine, inpatient diabetes management	1
ENT Surgery	1
Forensic Psychiatry	2
Gastroenterology	2
general adult psychiatry	2
Geriatric Medicine	4
General Adult Psychiatry and Early Intervention Psychosis	1
General adult psychiatry home treatment	1
General Adult Psychiatry - CMHT	1
General Practice	9
Haematology	1
Hepatology	1
Infectious Diseases and HIV	1
Intensive Care Medicine	1
Learning Disability	1
Liaison Psychiatry - the interface between physical and mental health, based in the local acute trust	1
later life mental health	1
Medical Oncology	1
Mental health	1
Old Age Psychiatry	4
Palliative Medicine/care	4
Paediatrics	3
Primary Care GP Practice	1
Primary Care, Minor Surgery, Anticoagulation	1
Psychiatry	5
Psychiatry of Adult Learning Disabilities	1
Rheumatology	2
Stroke and elderly care	1
UGI Macmillan Nurse	1

Table 2: DMPs' areas of specialism

Current grades

When asked about their current grades, the DMPs provided a range of answers as shown in table 3 below. The table contains 70 responses as one of the DMP held two positions. The majority of the respondents (54 DMPs) indicated that they are currently employed in consultant level positions:

Current grades reported by DMPs	Number of responses
Consultant	49
Consultant Physician	2
Consultant Psychiatrist	3
Band 6	2
Band 7	2
GP principal	3
GPER Palliative Medicine	1
GP Partner	1
Salaried GP	1
Principal	3
Partner	2
Senior partner	1

Table 3: Current employment grades for DMPs

The majority of the DMPs (71%) had been working at their current level for 10 years or more; 17% of the DMPs had been at their current level for 5-10 years; and only 12% of the DMPs had less than five years' experience.

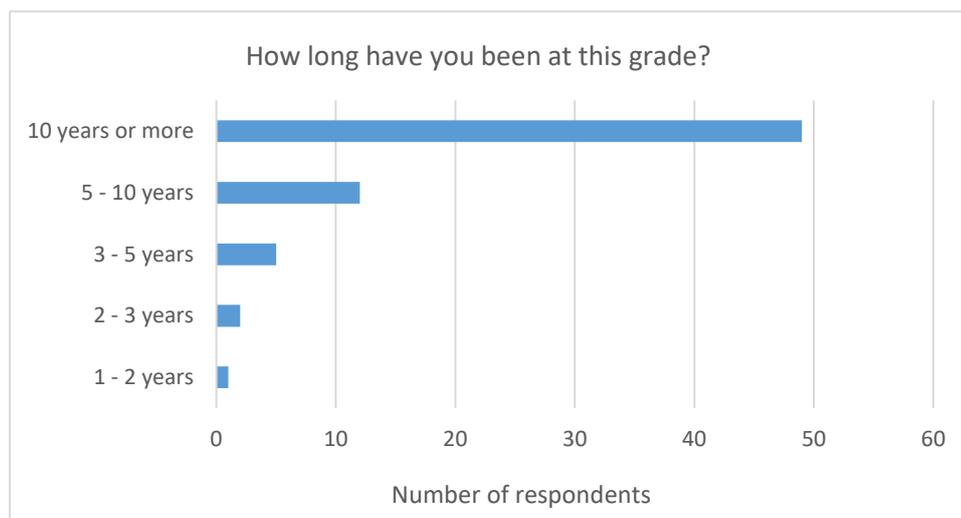


Figure 3: Length of time at current employment grade

4.1.2 Experience of DMP role

First experience as a DMP

Survey question four asked the DMPs when they first undertook the mentoring role. Although some of the DMPs were able to provide specific dates, many others indicated that their answer was an estimate, and some were unable to provide a date. For example, Survey 40 commented: “A long time ago! Several years”. Based on the estimations provided by the survey respondents, approximately 37 of the DMPs started their role within the past five years; approximately 27 of the respondents initially undertook the DMP role between five and 15 years ago, and one respondent indicated that it was over 20 years ago.

Number and type of NMP students mentored

As shown in table 4, the majority of DMPs estimated that they had mentored between one and three NMP students (43 responses). Two of the DMPs indicated that they had not mentored students yet, but it was not clear why this was the case. Several of the respondents indicated that the figures provided were estimates as they could not recall the exact number of NMP students they had worked with.

Estimated number of NMP students mentored	Number of survey responses
0	2
1	15
2	18
3	10
4	8
5	5
6	4
7	1
8	1
10	1
12	2
20+	1

Table 4: Estimated number of NMP students mentored by the DMPs

As shown in figure 4, the DMPs indicated that they have supported a range of NMP students, with nurses and pharmacists being the most common:

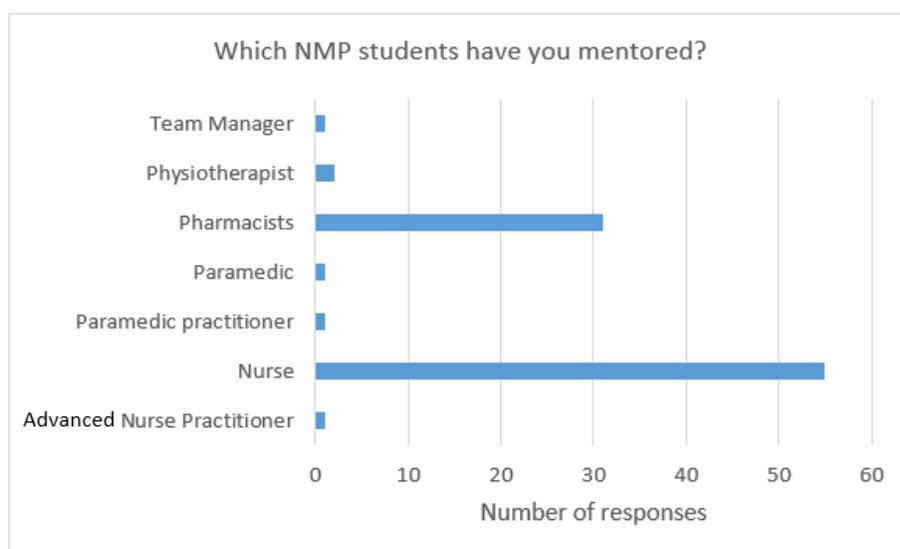


Figure 4: Types of NMP students mentored by the DMPS

4.1.3 Motivations for undertaking the DMP role

Some of the DMPs indicated that they decided to become a DMP as they were keen to teach and support other healthcare professionals with developing their skills:

“I enjoy mentoring, supervising and teaching healthcare professionals.” (Survey 1)

“Interest in teaching. Interest in prescribing. Support role development.” (Survey 73)

“To personally support the training aspirations of the individual and to foster the relationship between my community team and the Trust specialist pharmacists.” (Survey 55)

In particular, there were several comments about wanting to support their colleagues, which indicates the pre-existing working relationships between many DMPs and their NMP students (as noted by Avery et al., 2004). For example:

“Support colleagues in professional development. Support organisation in modernising services and developing extended roles” (Survey 62)

“NMPs are a huge asset to a team and I wanted to support my colleagues who were interested in this career path” (Survey 20)

“To support the career development of excellent nurses I have worked with” (Survey 37)

“I [k]new the pharmacist who approached me and had had a good working relationship with her. I also thought it was a benefit to the service and would be good for me to be teaching and supervising in this way.” (Survey 44)

“Good relationship with students. Useful way of refreshing own knowledge. Benefits to service and clients.” (Survey 8)

As evidenced in the following comments, some of the DMPs clearly value the role of NMP in improving patient care, which motivated them to mentor students in order to increase the number of non-medical prescribers within their service:

“I found that there is value in having NMP who could provide prescribing services speedily as I am the only psychiatric medical personnel for the sector that I cover.” (Survey 42)

“To increase numbers of non-medical prescribers.” (Survey 12)

“We need prescribers.” (Survey 26)

DMP’s perceptions of the wider benefits of NMP in terms of developing their service or specialism were also reported to be a motivating factor for undertaking the role, as illustrated in the following comments:

“Necessary role to enable the non medical prescribers to complete their course. Medicine is going to be untenable unless we have innovative ways of meeting demand and this is one of them” (Survey 55)

“Furthering the clinical skills and experience of the non-medical workforce will be essential in the coming years, particularly with the expected short fall in consultants/ senior medics.” (Survey 32)

“As part of our long term strategy to build a pool of senior clinicians who could take on additional roles including prescribing. I also enjoy teaching and developing staff. There were relatively few experienced medics to take on the role in palliative medicine.” (Survey 2)

4.1.4 Preparation for the DMP role

As displayed in figure 5, the DMPs had undertaken a range of training roles prior to mentoring the NMP students. Ten of the DMPs who selected ‘other’ indicated that they had previously held tutoring roles, for example, in various medical or academic settings.

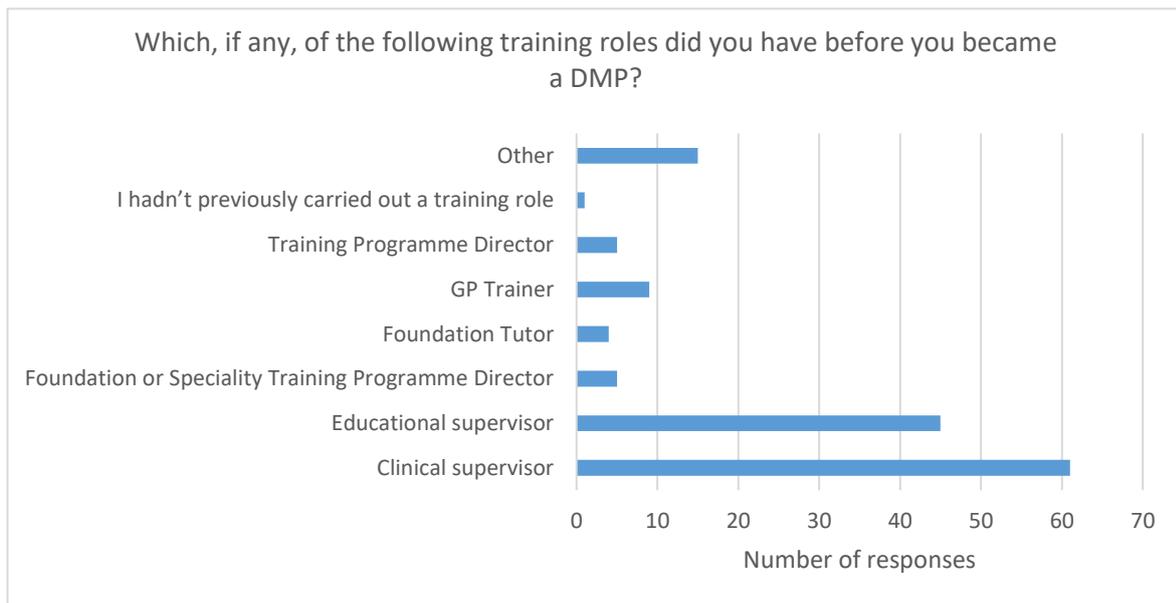


Figure 5: Previous training roles held by DMPs

13 survey respondents (19%) indicated that their previous training, teaching or supervision experience had completely prepared them for the DMP role, and 54 respondents indicated that they felt somewhat prepared (81%).

Two of the DMPs who felt that their previous experience had completely prepared them for the role commented:

“I value the NMPs as colleagues and enjoy teaching. I was able to use all of my experience to facilitate their progress. The staff who were part of the team had ease in obtaining suitable patients to follow and the process is always a two-way thing.” (Survey 5)

“I had to do a video of the NMP trainee which wasn't at all in my training at that time....completely chaotic. Otherwise: I had supported/taught/trained/facilitated so many medical trainees, I did not find the trainee NMPs were much different.” (Survey 63)

For the majority of DMPs who felt somewhat prepared for their role, there was a need to learn about the prescribing competencies (as outlined in section 3.6 of this report) in order to confidently supervise and assess the NMP students. For example:

“Past teaching enabled my delivery of teaching, flexibly, with different styles appropriate to different students. Past teaching did not equip me with the appreciation of prescribing competencies and course curriculum criteria, across the different universities we use, for varied non-medical prescribing courses (some at Level 6, some at Level 7).” (Survey 15)

“I felt competent to take the role from an educational point of view, but I was not fully aware of the requirements/competencies required by students.” (Survey 29)

“I had no idea what summative [and]...formative assessments were before I started as a DMP.” (Survey 42)

“I feel that I had the supervisor skills required to undertake the role. The learning that I needed was around the NMP course specifically and the competencies related to this.” (Survey 56)

In addition, some of the DMPs undertook additional learning in order to prepare themselves for working with the NMP students, as shown in the following quotations:

“To be able to function to the level I wanted as a DMP I felt it necessary to undertake additional preparatory work in relation to pharmacology (with emphasis also on psychopharmacology in particular).” (Survey 8)

“...I did have to go back to the textbooks and refresh my memory about pharmacodynamics and kinetics. It was good to be reminded about the contents of the BNF including the front sections that I had not read for a while.” (Survey 2)

4.1.5 The purpose of the DMP role

The survey respondents identified that the purpose of their DMP role was to educate, supervise, mentor, support and signpost the NMP students to ensure that they develop the necessary prescribing competencies. This includes demonstrating the principles of safe prescribing practice (Surveys 9, 12) and enabling the NMP students to become competent prescribers. For example, the respondents described the purpose of their DMP role as follows:

“To explain how to safely prescribe, remove unwarranted fear but instil a strong safety culture into prescribing. I work with all my former students in the MacMillan team and enjoy seeing their confidence & skills grow since completing their course.” (Survey 25)

“To equip the non-medical prescriber to be confident and competent in making optimal prescribing decisions, in their area of clinical practice.” (Survey 15)

“To support the students learning. To demonstrate good prescribing practice. To discuss the complexity of some prescribing decisions. To answer questions. Clarify learning. Build up consultation and listening skills. Be an expert resource for the student.” (Survey 2)

“Oversee the students, have direct involvement in their education, satisfy myself that they are knowledgeable and insightful enough to be able to prescribe independently.” (Survey 55)

One respondent provided a detailed explanation of the purpose of the DMP role whilst training the student and also, the continuation of support when the non-medical prescriber is actively practicing:

“To oversee development related to NMP course from speciality perspective. To facilitate the building of NMP competencies related to the professionals specific prescribing role. To provide clinical support and time for NMP to work with DMP as part of NMP course. To review/ observe and provide development actions re: NMP assessment and management skills related to prescribing. To support NMP in developing skills to undertake prescribing on completion of course and in their ongoing role. To support NMP trainees within their role once prescribers.” (Survey 56)

4.1.6 Resources used by the DMPs

The DMPs were asked to provide examples of the resources typically used when mentoring their NMP students. Their responses included: clinical consultations, observed practice, access to patients and their notes, access to other non-medical prescribers/colleagues, clinical equipment and the general clinical working environment (which can include consulting spaces, meeting rooms, offices, pharmacy, wards and community settings). Technology resources include computers and the internet, specifically websites such as the electronic Medicines Compendium (eMC) and ICD-10 (International Statistical Classification of Diseases and Related Health Problems), along with CCG intranet systems.

Some of the DMPs mentioned library resources such as journals and medical textbooks, with two examples being the ‘Oxford Handbook of Clinical Examination’ and ‘Pharmacology Made Easy’. Several field-specific resources were noted: British National Formulary (BNF), Palliative Care Formulary (PCF), Maudsley Guidelines in Psychiatry, NICE Guidelines, British Psychopharmacology Guidelines, and Local Palliative Pain and Symptom Control Guidelines. Five of the survey

respondents also mentioned learning materials associated with the student's NMP programme, such as a DMP handbook, portfolio record and documents for assessing prescribing competencies.

Figure 6 illustrates the activities and resources used by the DMPs during the period of learning in practice. The majority of DMPs indicated that they provide opportunities for NMP students to observe their work (59 responses) and to conduct consultations themselves (56 responses). In addition, just over half of the DMPs have completed a learning agreement/contract with their NMP students (38 responses) and a time schedule (37 responses), which are resources intended to organise the period of learning in practice (as noted in section 3.5 of the literature review).

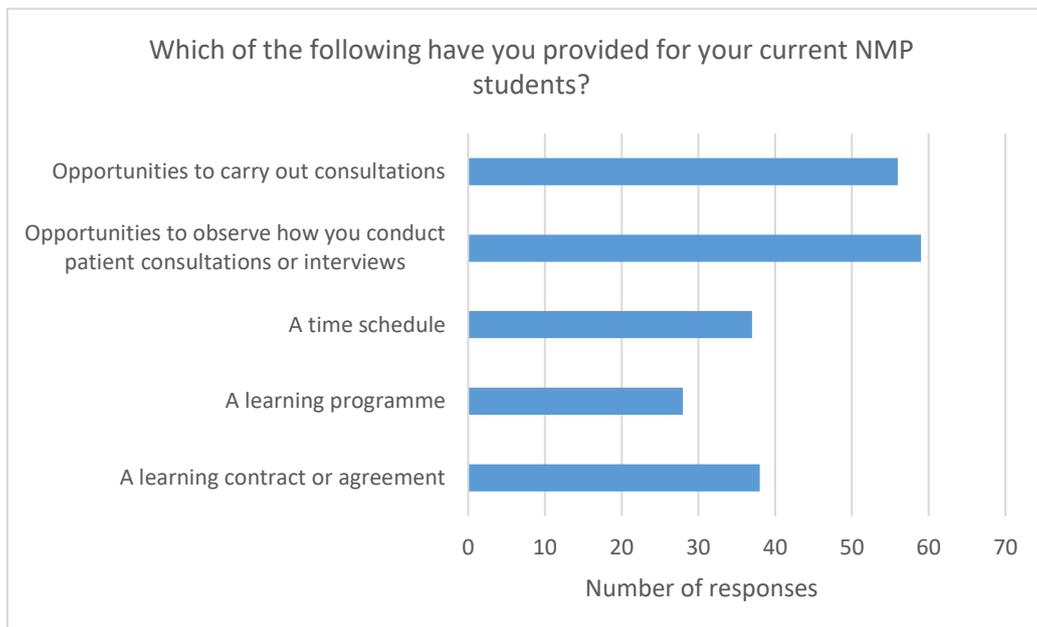


Figure 6: Activities and resources used during the period of learning in practice

4.2 Mechanisms

This section will present the findings relating to the enabling and disabling mechanisms experienced by the DMPs.

4.2.1 Nominations process for the DMP role

The DMPs were asked about how they were initially nominated for the mentoring role and, as shown in figure 7, it was evident that most of the mentors had been selected by their NMP students, suggesting that they already knew each other through existing working relationships. In addition, four of the DMPs who selected 'other', indicated that they had been approached by an advanced nurse practitioner, pharmacy colleague, senior team member (e.g. pharmacist) and their manager. It is not clear from the data in what capacity these 'other' approaches were made, and it could be at least some of these were future students. The fifth DMP who indicated 'other' commented: "I was instrumental in selection" (Survey 54).

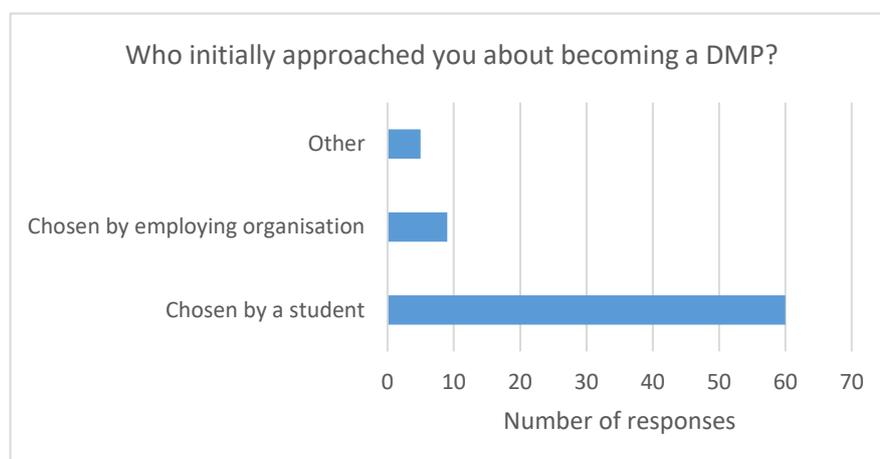


Figure 7: How the DMPs were nominated for the mentoring role

4.2.2 Support provided by HEIs

Some of the survey respondents indicated that the support mechanisms provided by the HEIs varied greatly. For example, some DMPs were provided with handbooks about the NMP programmes, whereas others did not receive any introductory documentation or support. Figure 8 shows that just over half of the survey respondents had accessed a handbook/briefing notes

(36 responses) or an assessment workbook/log (36 responses). Although 22 DMPs reported that they had been offered an orientation/information session before the NMP programme started, the findings indicate that this was only accessed by 14 survey respondents.

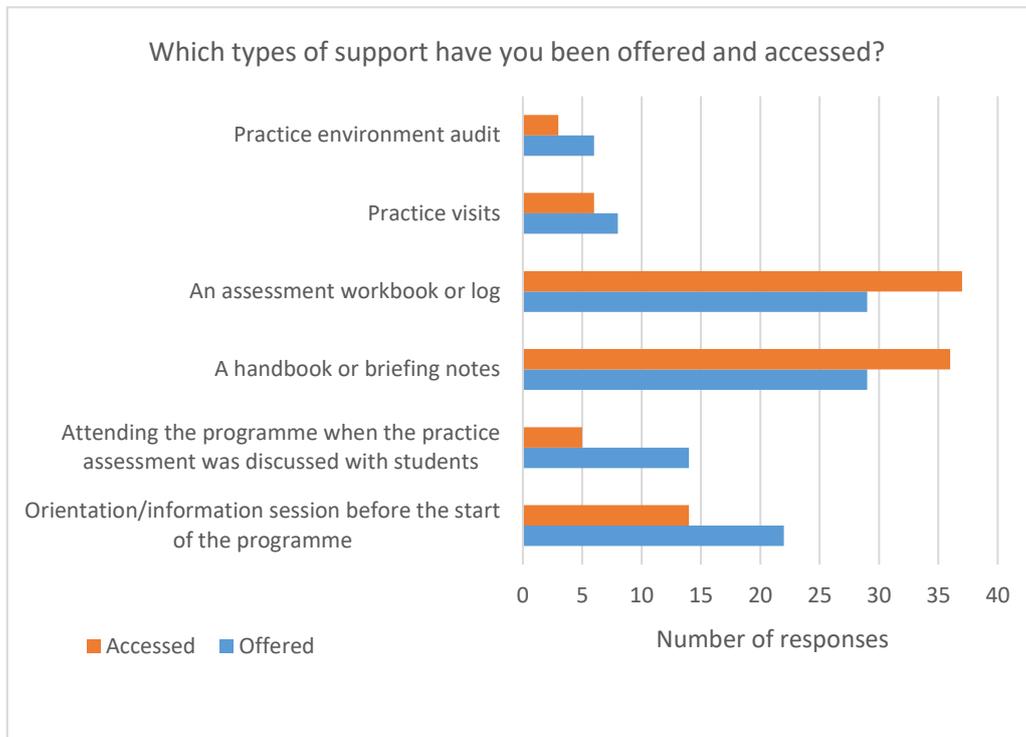


Figure 8: Resources and support provided for DMPs by HEIs

As shown in figure 9 below, 22% of the DMPs (14 respondents) rated the quality of support provided by the HEIs as ‘good’. 43% of DMPs (27 respondents) rated the HEI support as ‘neither good nor bad’ and 24% (15 respondents) reported it to be ‘poor’ quality.

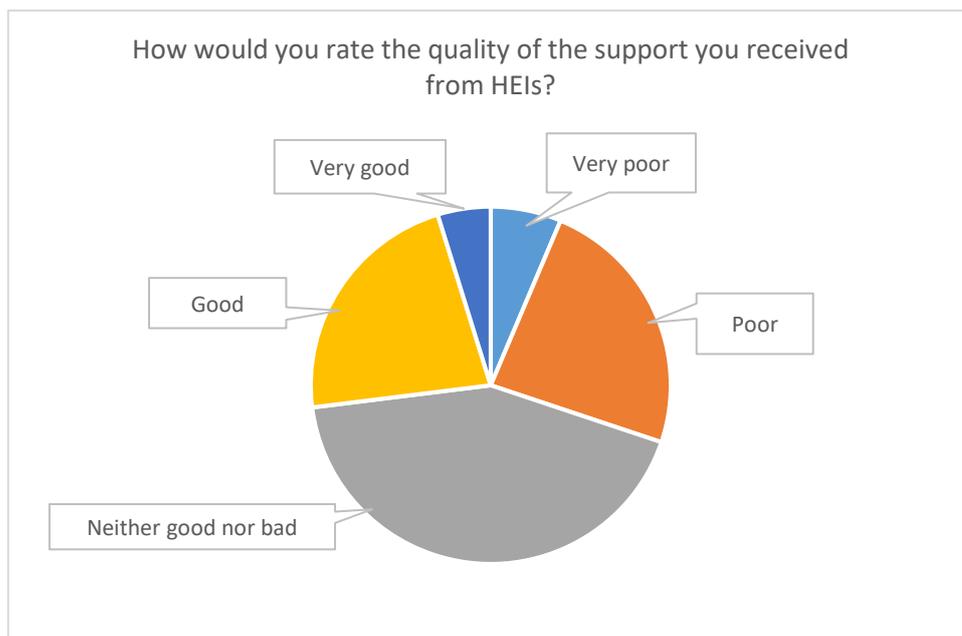


Figure 9: DMPs' perceptions of the support provided by HEIs

The following comments illustrate some of the DMPs' views about the variation in support provided by the HEIs:

“An orientation session for first time DMPs and a handbook or briefing would be useful. It would also be useful for there to be links between the HEI and the DMP regarding any concerns about the areas of weaknesses so that the NMP could be provided some targeted support in those areas.” (Survey 42)

“No actual support - just a booklet, and that comes via the student, no direct contact from HEI at all.” (Survey 38)

“No training or no orientation.” (Survey 43)

“They did not get in touch proactively with me. All communication was through the student. There was no feedback from the course at all in relation to assessments progress.” (Survey 44)

The issue of poor communication between HEIs and DMPs was also raised by this survey respondent:

“A recent example of poor integration between HEI and DMP is the fact that a wholesale change in curriculum and assessment methods and criteria was not communicated with DMPs. It was left to bewildered students to explain the changes which they found difficult to do. No course tutor has ever made the effort to speak to me or even exchange emails or letters.” (Survey 7)

4.2.3 The assessment of NMP students

DMPs' understanding of their role in assessment

The DMPs were questioned about their understanding of their role in assessing NMP students and, as shown in figure 12, the majority of the respondents felt they had either a 'good' (47%) or 'average' understanding (41%).

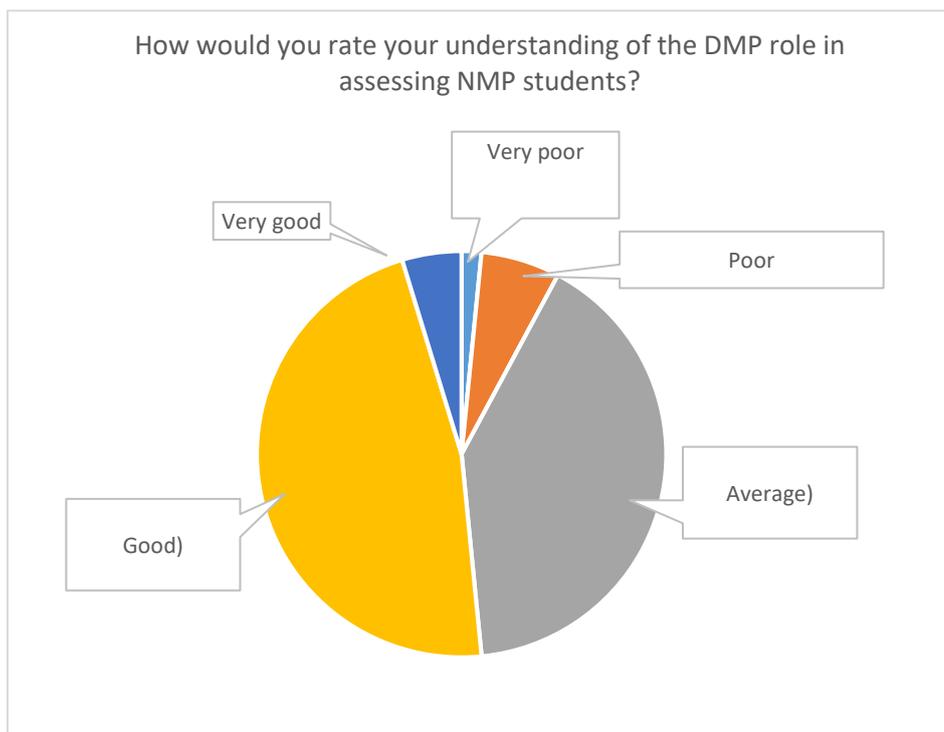


Figure 10: DMPs' understanding of their roles in the assessment of NMP students

It was evident that having previous experience of mentoring gave the DMPs confidence in their ability to assess the prescribing skills of the NMP students:

“Having worked with 12 NMPs I have a good idea of what makes a safe practitioner - and that is what I see my role - that they will prescribe safely within the limits of their knowledge and in accordance with guidance.” (Survey 2)

“The more you take part the more you learn (and the more you know would be good to learn/do)!” (Survey 12)

“I have not received formal training for this specific role but my experience as a senior doctor having supervised others at multiple levels has provided me with transferrable skills applicable to the DMP role.” (Survey 50)

Some of the DMPs explained that their understanding of the assessment process was developed through the materials provided by the HEIs and the knowledge of the NMP students. For example:

“I have read the supporting material from the university on the DMP role as well as the material provided to the students.” (Survey 7)

“There was clear information provided by the university regarding assessments.” (Survey 53)

“The students have ensured I am familiar with my responsibilities.” (Survey 8)

“I have attended university presentations, by the programme leads, explaining the role and expectations of the DMP for that university's course. Students are able to explain their needs, to nuance role more explicitly (e.g. to a physiotherapist, or to a palliative care nurse using controlled drugs, or to a competent but not confidant clinician). The previous NMC guidelines defined what NMP courses must deliver, so enabled a DMP to appreciate that a student's assessments might reasonably require.” (Survey 15)

However, some of the survey respondents highlighted the need for more clarity and support with the NMP assessment process:

“[I have a] general idea of the role but not clear about specific requirements and responsibility.” (Survey 39)

“I think further support from university would be beneficial in this area.” (Survey 32)

“I would appreciate greater clarity and specific milestones/outcomes.” (Survey 29)

One of the respondents commented that it can be difficult to gauge their own understanding of the assessment process: “Never seen anyone else do it so difficult to benchmark myself” (Survey 55). Furthermore, one of the DMPs suggested that dealing with variations in assessments across different NMP courses can hinder their own learning:

“I have had several different courses that NMPs have used and each is slightly different. This has led to slightly reduced progression of knowledge.” (Survey 58)

Assessment materials used by DMPs

68% of the DMPs (45 respondents) indicated that they had been given assessment criteria/guidelines from the relevant HEI, but 32% DMPs (21 respondents) stated that they had not received this information.

For those who received assessment guidelines from the HEIs, the following materials were used to assess the extent to which the NMP students met the required prescribing competencies: information and competencies detailed in the student/DMP handbook; the student’s portfolio; a schedule of learning; the course syllabus and learning outcomes; the NMP curriculum; and various guidance provided by the HEIs.

The following comments illustrate some of the materials and strategies used by the DMPs to assess the NMP student’s skills:

“Student handbook that list the knowledge and competencies to be achieved by the student. I assess directly and via discussions of cases and topics and reviewing their portfolio of work.” (Survey 1)

“I read and applied the guidelines. There were pages and pages of competencies I had to assess and sign off. I then went through each one with the student, for their reflection, at various points in their training. If they had not yet achieved certain competencies, we agreed a plan to achieve and then assess them. I went through the formulary with the students to ensure they did know about the drugs and their use in oncology. I had to do a video of them doing a consultation as well: I suspect this was the least useful bit.” (Survey 63)

It was evident that the criteria for assessing the students can vary across different NMP courses and HEIs. For example, some of the DMPs had reportedly been given clear guidance:

“Student provided these as part of their NMP training pack - these were pretty self-explanatory and had clear criteria for assessing competence. I also assessed their reflective practice and course work which they completed as part of the NMP training package.” (Survey 50)

“Detailed assessment sheets that I had to complete, assessing multiple skills. This involved written reports from myself and the student. There was clear guidance on what was required to pass each skill.” (Survey 13)

“Complete package sent by the universities...extremely helpful” (Survey 30)

However, other DMPs felt that the assessment criteria could have been more detailed and accessible:

“The course books have pro formas for initial, mid and final interviews, and pro formas for assessment across appropriate

domains, affording guidelines or at least a structure for assessment. Explicit marking criteria, or specific outcomes, are not defined.” (Survey 15)

“We did use some guidance, but it was very general and could have been more useful.” (Survey 27)

“They are so huge though – it’s hard to focus on what you are actually supposed to sign off.” (Survey 38)

The DMPS who indicated that they had not received assessment criteria from the HEIs explained that they assessed the student using the following mechanisms:

“Observation, promoting cooperative reflective practice and assessment of progress/competency.” (Survey 29)

“Standard expectations from prescribers in delivering a safe practice within their scope of practice.” (Survey 36)

“I used my personal experience of learning the subject matter and my clinical experience in terms of providing clinical vignettes for the NMP.” (Survey 42)

“Experience of working with them over the months as their DMP and expectations of what I expect a newly qualified doctor to know and certainly that they have good insight into what they don't know.” (Survey 55)

DMPs' perceptions of the NMP assessment process

Survey question 20 asked the DMPs to rate the process they undertook to assess the NMP students as either ‘appropriate’ or ‘not appropriate’ in terms of the students’ readiness for practice. The findings showed that 82% of the DMPs (51 survey respondents) considered the assessment process to be appropriate and only 18% (11 respondents) felt that it was inappropriate.

One of the survey respondents explained their personal criteria for assessing the NMP student's prescribing competencies:

“[The] DMP should be comfortable that the NMP could in theory safely prescribe if needed for their own close relative. I find this a satisfactory criteria.” (Survey 25)

Another DMP shared their views about the potential benefits of the NMP mentoring and assessment process:

“If richly engaged, with protected time (for the student and DMP), then the hours of development, supervision and assessment enables a good understanding of a student's areas of strength and areas to further develop.” (Survey 15)

However, the following comments draw attention to some of the DMPs' concerns about the NMP assessment process and how it might be improved:

“Could it be done any better? I think it probably could. The skills, knowledge and behaviours being tested don't always appear to match those required in subsequent practice. They appear to be chosen because they are easier to assess objectively.” (Survey 7)

“DMP appears to be solely responsible for training and evaluation of clinical skills of the student while other roles involve training by a multitude of professionals and more robust evaluation of clinical skills.” (Survey 36)

In addition, one DMP expressed several concerns about the process of mentoring NMP students:

“I would have GRAVE concerns over the entire process for the following reasons: 1. The time frame appears to be TOO SHORT, if you consider the time in training an average doctor does before prescribing and the time for NMP to do this. 2. There is then considerable pressure on the DMP to balance their supporting as

well as assessing roles. 3. The fact that there have been some legal aspects coming into play with the DMP being pulled up as well has thrown more shadow on the entire process and in particular made the DMPs more uncomfortable. 4. And from my practice, NMPs, for obvious reasons take the safety first route and STOP medications whenever there is a query but this has the inadvertent effect of COMPROMISING treatment where it might have been appropriate to continue rather than discontinue.” (Survey 28, emphasis original)

The need for more support and guidance throughout the mentoring and assessment process was noted by two DMPs:

“There is no support or guidance, and no time provision for the role, it is undertaken purely in good faith to be helpful.” (Survey 37)

“I had a very good student and had no problem with her level of ability, and hence had no problem passing her. However if there were to have been any problems I would have struggled to know who to discuss it with. When I was a trainer in psychiatry I knew who the Training Programme Director was and could seek support and advice from that person. I think there probably needs to be a more robust structure which supports NMP students and the DMP. At the current time it feels as if it is all a bit ad hoc when you get down to the individual level. For example my student obviously had to seek out a DMP rather than being allocated one. This is in itself problematic. She is dependent on someone being willing to do it, but also it could be a bit "cosy". Furthermore it is not job planned, so it does add to your work, even though it can be very rewarding to do.” (Survey 44)

4.2.4 The issue of time

The survey findings highlighted that one of the main disabling mechanisms for the DMP role were time constraints and specifically, a lack of dedicated time within the working day to mentor the

NMP students. For example, survey question 30 asked the DMPs about any challenges experienced whilst undertaking the role and 47% of the respondents mentioned issues relating to time constraints; this finding supports the studies mentioned in section 3.5 of the literature review (see: Unwin et al., 2016; McCormick and Downer, 2012; Ahuja, 2009; George et al., 2007).

When questioned about the amount of time spent directly mentoring and/or supervising each NMP student, the DMPs provided a wide range of answers. For example, some of the responses indicated that the average time spent with the NMP student ranged from 30 minutes per week to a maximum of 10 hours per week. Some respondents provided monthly averages of 1 hour per month to 4 hours per month. Other DMPs provided an estimate for the total number of hours spent with the NMP student throughout their training, which ranged from 8 hours to 100 hours. It was not possible to calculate an accurate average number of hours spent with the NMP students as the data indicated that this varied greatly for different DMPs, depending on the NMP student, the DMP's role and responsibilities, and the clinical setting. However, an example of the comments provided by the survey respondents are included below:

“It tends to vary a great deal according to students. Students based in my team will have regular supervision and discussions during team meetings also.” (Survey 29)

“This has varied over the years and depending on stage that the NMP is at. Currently I offer 1 hour supervision per month to the senior NMP and 1 hour every 2 weeks to the more recently qualified NMP.” (Survey 27)

“1-2 hours per week usually in clinic or on the wards - very ad hoc.” (Survey 40)

“About 1 hour supervision per week, but the student also attended ward rounds with me (3 hours every 2 weeks) and CPA meetings, outpatient appointments and home visits. It could have been 4-5 hours contact a week, or as little as 1 hour. Average is probably 3 hours/week.” (Survey 44)

The DMPs were asked to indicate when they typically spent time with their NMP students – either during protected time in working hours, outside working hours or at other times. As shown in

figure 11, the majority of the DMPs indicated that they mentor the students during protected time in working hours.

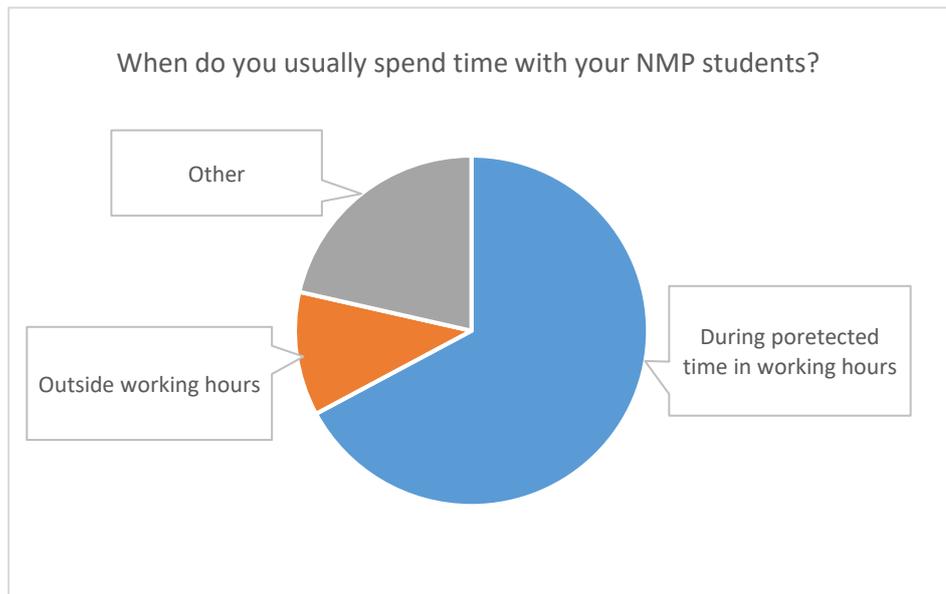


Figure 11: Time spent with NMP students

For those who selected 'other', it was evident that the time for undertaking the mentoring role was not always protected within their schedules. For example:

“In working hours - but not protected time.” (Survey 14)

“Done during working hours, no specific protected time for this role - just fitted in.” (Survey 40)

“Not sure what protected time means - they just come on ward rounds with me.” (Survey 38)

“During unprotected working hours - this is an add-on to the job with no time allocated to it.” (Survey 55)

“Squeezed into a very full and busy day as no funding to release my time.” (Survey 61)

In addition, the following two comments provide examples of how the DMPs manage the time spent with their NMP students:

“Different elements of the time with the NMP take place at different times. Clinical time mostly in working hours (but not protected specific time). Meetings are for the majority within and sometimes outside of working hours.” (Survey 56)

“During partially time in working hours. If there are urgent clinical matters to address, supervision is cancelled or postponed.” (Survey 27)

One DMP noted that the responsibility for mentoring the NMP student was shared with other colleagues, which helped to ease some of the time pressures typically associated with the role:

“I wouldn't have had the time to do it if the work was not spread amongst my colleagues and my student wasn't as proactive.”
(Survey 70)

4.2.5 Support provided by employing organisation

As shown in figure 10, the DMPs were asked to rate their employing organisation's level of support for the mentoring role: 40% of the DMPs (26 respondents) indicated 'neither good nor poor'; 24% of the DMPs selected 'good' (16 respondents); 18% (12 respondents) felt that the support was 'poor'; and 9% (six respondents) identified the support they received as either 'very good' or 'very poor'.

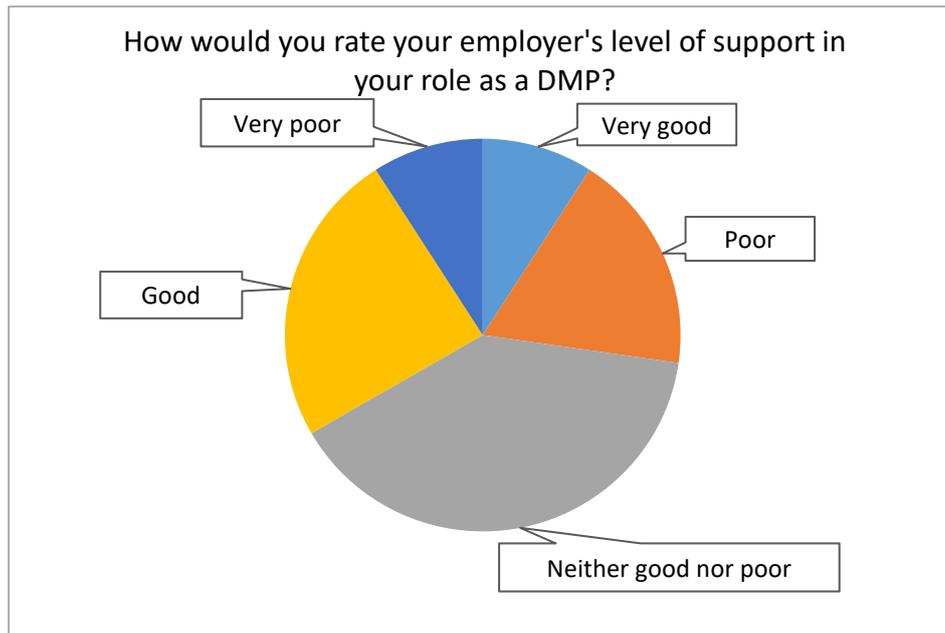


Figure 12: DMPs' perceptions of support provided by employing organisations

The survey findings show variation in the support provided to the DMPs by their employing organisations. For example, as shown in the comments below, some of the DMPs have dedicated time allocated in their job plan and are actively encouraged to support NMP students:

“Protected time in job plan. Encouraged to support. Have a prescribers group for all. Education sessions are open to all.” (Survey 5)

“Time allocated in my job plan, with appropriate links to senior nursing team responsible for oversight of NMPs across the trust.”

“The student has protected time (and planned back fill, if necessary). The doctor has opportunity to generate protected time, to act as DMP (balanced against using this protected time for their own CPD, for research activities, for teaching, for medical management, and other supporting programmed activities, so opportunity for DMP protected time is acknowledged but is finite).” (Survey 15)

Other DMPs described being partially supported by their employers:

“Reasonably supportive, the trust is keen to promote non medical prescribing.” (Survey 13)

“Supportive but no protected time; need to add on to the list of work.” (Survey 30)

“It requests this role of us and encourages it - I have been verbally thanked by my CD but there has been no formal support.” (Survey 32)

“Encouraged but no specific help given or time.” (Survey 40)

“They are happy for me to do it, but nothing is job planned, and no extra resource allocated.” (Survey 44)

In contrast, some of the comments indicated that the DMPs felt that their mentoring role was not recognised by their employing organisations and therefore, direct support was not provided; this was viewed as a disabling mechanism for the DMP role. For example:

“Poorly, my role has not been recognised in my job plan despite evidence of number of contact hours required. There has also been no practical support.” (Survey 53)

“No specific support.” (Survey 33)

“The process is very demanding on time and not financially remunerated at our trust.” (Survey 50)

“No support and expected to cram into working week.” (Survey 60)

When asked how their employing organisations could provide more support for the DMP role, it was evident that some of the survey respondents would like their job plans to include protected time to mentor the NMP students, and they would also appreciate more recognition of undertaking the role through remuneration. Examples of the DMPs’ comments are included below:

“An acknowledgement of the input in the DMP's job plan would be helpful.” (Survey 42)

“As ever, funded, recognised and protected time to do this. But there never is any time.” (Survey 55)

“Additional time or financial remuneration. Training and orientation. Acknowledgement in job planning.” (Survey 43)

“It takes time to prepare for and do this and this needs to be recompensed rather than just being fitted in to an already over-burdened schedule - if you want quality support and mentoring, rather than the cheapest option.” (Survey 72)

The need for employers to provide more training about the mentoring role was also noted:

“More formal training for the role, designated time in job plan, recognition from the Trust that this is important.” (Survey 75)

“They should be taking a lead in organizing additional training sessions for both the DMP and the student.” (Survey 37)

The survey findings highlighted that only 3% of the respondents (two survey respondents) had been mentored for their DMP role, whereas 97% (63 respondents) did not receive any mentorship. It appears that the DMP role is often conducted in isolation, particularly for those who cannot access induction sessions provided by some of the HEIs (as reported in section 4.2.2). In addition, one respondent noted the lack of mechanisms for receiving feedback on the DMP role: “...no assessment of my role” (Survey 49). Therefore, some of the survey respondents suggested that their employing organisations could help to develop a network/forum for DMPs in order to provide opportunities for peer support and information sharing:

“It may be useful to have some sort of forum for DMPs to get together and share practice.” (Survey 27)

“An active network of DMPs for peer support would be helpful.” (Survey 36)

“Could look at a network approach to DMPs learning together.”
(Survey 58)

4.2.6 Awareness of the student’s learning needs

The findings suggest that DMPs need to be flexible in their approach to mentoring and ensure that they adapt the supervision and activities to meet the individual learning needs of their NMP students. For example, the NMP student’s attitude, academic ability and prior clinical experience/training can influence the specific support and knowledge they require in order to become a competent non-medical prescriber.

As evidenced in the comments below, the mentoring process can be a positive experience for the DMP when working with motivated and committed NMP students who are engaged with their learning:

“I have been fortunate to have excellent motivated staff who have worked hard to achieve the qualification” (Survey 2)

“My candidates have been good quality nursing staff and committed to the course.” (Survey 9)

“They have all been very committed and conscientious and have approached me to be their mentor.” (Survey 12)

“Working with highly trained & motivated individuals who have completed Masters level study already means I rarely have a serious challenge...” (Survey 25)

However, low confidence amongst NMP students and limited academic ability can present a challenge for some DMPs:

“Lack of confidence in students regarding their own abilities is a recurring theme...” (Survey 25)

“A less than academic student in the past who was not really suited to academic study. It was a struggle for them and me.” (Survey 5)

The respondents who had experience of supervising different types of NMP students noted that the student's prior clinical experience or training can influence the mentoring process, as they will have developed certain knowledge, clinical and personal skills to suit their specialisms. This highlights the need for DMPs to be flexible in their approach to the mentoring and ensure that they make time to identify the student's specific learning needs at the start of the process. For example, as the DMPs explained:

“Nurses do not have much theoretical knowledge of how medicines work, drug interactions like the way the pharmacists have; the pharmacists do not have the clinical skills knowledge of taking history, interpreting signs; weighing pros and cons of decision making; physiotherapists lack basic pharmacology knowledge.” (Survey 30)

“Pharmacists’ knowledge amazing but need more work on consultation skills. Nurses medical knowledge and patient interaction great but less good pharmaceutical knowledge - understandably - though on a practical level really good (e.g. know doses, course length etc which medical students/F1s never do).” (Survey 55)

“Easier to support a specialist HIV nurse, for example, who will only be prescribing HIV meds within specific guidelines, than a ward based pharmacist, who maybe prescribing many different meds and has less experience assessing patients.” (Survey 13)

“Physios tend to struggle more as they do not have foundation skills needed prior to commencing prescribing”. (Survey 47)

4.3 Outcomes

This section will present the outcomes of the DMPs' experiences of mentoring their NMP students.

4.3.1 Improvements to patient care through training NMPs

One of the key outcomes of the DMP role is that it enables the NMP students to acquire the necessary skills and knowledge to complete their training and become competent non-medical prescribers in practice. From the perspectives of the DMPs, it was evident that the mentoring process had multiple outcomes starting with the NMP student and extending to the patients in their care. For example: the DMP's mentoring role initially enables staff development for their NMP colleagues, which increases the number of skilled non-medical prescribers in practice and consequently, has a positive impact on service provision through improving patient care.

The following quotations provide examples of the DMP's views about the various outcomes and impacts of their mentoring role:

“Allows career development and improves patient care within the service.” (Survey 20)

“...Offers an opportunity to skill up NMPs to improve service provision.” (Survey 42)

“I hope that by acting as a DMP we get well trained NMP.” (Survey 14)

“Provides an opportunity to develop the NMP role; develop nurses in their careers; offer the trust another means of offering a service to patients in a stretched NHS.” (Survey 24)

“Improve services for patients and restructure own clinics in the long-term to ensure patients are seen by the right person at the right time.” (Survey 50)

Two of the survey respondents highlighted their commitment to providing ongoing support to the non-medical prescribers working within their teams, which has the potential to further develop the workforce and service provision. For example, one of the respondents stated:

“The latest student is a senior nurse in my department and I am training x2 senior nurses (both prescribers) to run additional drug monitoring clinics - so I am in clinic with them observing. This affords me time to observe prescribing practice "post-qualification" (as they learn to work with new drugs and as they start on their qualified prescriber journey.” (Survey 12)

Another benefit of the mentoring process, as noted below, is that it enables the DMP to gain an awareness of the non-medical prescriber’s skills whilst in training, and this knowledge can be used to help the newly qualified non-medical prescriber with their transition into practice:

“...Awareness of the potential strengths and limitations of non-medical prescribers, to then be able to better support them in their teams, in clinical practice, and in developing Trust protocols/care pathways that are sensitive to the circumstances of non-medical prescribing clinicians.” (Survey 15)

4.3.2 Enhanced working relationships

The data presented in sections 4.1.3 and 4.2.1 established that many of the DMPs were selected by their colleagues to undertake the mentoring role and, as noted in the literature review (George et al. 2007; Avery et al., 2004), this has the potential to enhance working relationships. The DMPs made several comments about how the experience of mentoring NMP students has enabled them to develop more effective working relationships with other professionals in their workplace, as shown below:

“I think this is a vital role and one I have enjoyed even if it is at times quite a burden. The unexpected benefit is that I develop very effective working relationships with those nurses who I have mentored because we have to spend so much time together.”
(Survey 2)

“This particularly benefits the wider team and encourages multidisciplinary working.” (Survey 32)

“Builds bridges with other departments. Indirect benefits to your service too.” (Survey 33)

“I am a firm believer in multi-professional working which this supports.” (Survey 54)

In addition, it was reported that positive working relationships and enhanced team working can potentially have a wider impact on practitioners’ workload and prescribing practices, for example:

“I enjoy supporting the career development of fantastic staff that I work with, and it keeps good nurses in the team. There is a marginal benefit in terms of reduced prescribing for medics but not much.” (Survey 37)

“...If within your team, may help delegate responsibilities like sharing of prescriptions/ medication reviews etc...” (Survey 43)

“Potential [of] reducing GP work load by empowering these prescribers.” (Survey 61)

4.3.3 Personal development for the DMP

The reciprocal nature of the mentoring relationship - when the NMP student and DMP are both able to learn and benefit from the process - was noted in the literature review (Afseth and Paterson, 2017; Tann et al. 2010) and was also identified as an outcome within the DMP survey. This quotation illustrates how the DMP mentorship can be beneficial for all those involved:

“Good for trainee - helps them achieve their goal. Good for organisation - helps develop service. Good for DMP - opportunity to work with allied health professional and understand their training, background and experiences which are different to those of a medical practitioner.” (Survey 62)

The DMPs in this study reported that the mentoring process encouraged them to reflect on their own practice, to further their knowledge and to learn about how other practitioners work. Examples of their comments relating to personal development are presented below:

“I have learnt a lot from the pharmacists I have supervised. They can access interesting papers; and remind me of the pharmacokinetics and dynamics of drugs which is always interesting.” (Survey 24)

“Discussion of approaches to prescribing (and alternatives to it) from the point of view of another profession.” (Survey 23)

“I found it rewarding because it helped me to reflect upon my own prescribing practice. I enjoyed supervising and teaching, and I had pharmacist expertise in a ward round!” (Survey 44)

“Keeps knowledge up to date and can discuss complex cases and both learn.” (Survey 5)

“I learn about prescribing as I am old (55), and had my training ages ago.” (Survey 41)

Furthermore, one survey respondent described the following personal, professional and wider benefits of undertaking the DMP role:

“Altruistic, part of my role, needed for the NHS and the profession, the right thing to do to support the individuals who need a mentor.”
(Survey 55)

5. Conclusions and Recommendations

The final section of this report will present the conclusions for the evaluation of the DMP role, and make recommendations to inform the development of future roles and support provision.

5.1 Conclusions

- The survey findings compliment the literature review by providing an insight into the DMPs' experiences of mentoring NMP students and exploring some of the complexities of the DMP role. It is evident that the mentorship provided by DMPs, during the period of learning in practice, is an integral part of the NMP training programmes as the DMPs are responsible for supervising and assessing the NMP students to enable them to develop the necessary practical skills and knowledge to become competent prescribers.
- The majority of the DMPs were selected for the role by their NMP students, which suggests that they had pre-existing working relationships and supports the findings of Avery et al. (2004). As such, many of the DMPs were motivated to undertake the mentoring role in order to support the personal development and career aspirations of their colleagues. Other motivations included an interest in teaching and training, developing service provision and enhancing patient care.
- The DMPs reported a range of specialisms and backgrounds, with most having some experience in training/supervising/tutoring roles prior to undertaking the DMP role. The findings relating to the DMPs' professional experience coincide with the criteria outlined by the National Prescribing Centre (2005).
- Variation was reported in the support provided for DMPs by the HEIs:
 - As there is currently no standardised guidance for the DMP role, it appears that the provision of support can vary significantly across NMP training programmes provided by different HEIs.
 - Some of the DMPs received support in the form of induction sessions and literature, such as handbooks, which helped them to fulfil the mentoring role.

- However, other DMPs experienced poor communication and a general lack of support from the HEIs. Some raised concerns about the implications this had for changing standards of assessment, and reporting failing or struggling students in a timely and appropriate way.
- The majority of DMPs felt that the assessment process was appropriate for preparing the NMP students for practice. However, concerns were raised about the need for ongoing support from the HEIs and more clarity with the assessment guidelines.
- The main disabling mechanism for the DMP role in practice was reported to be time constraints and specifically, a lack of dedicated time to mentor the NMP student. Similar findings were also reported in the literature review (Unwin et al., 2016; McCormick and Downer, 2012; Ahuja, 2009; George et al., 2007). The time commitments for DMPs primarily involve the supervision time with the NMP student, but it was noted that time is also required to read any supporting documentation provided by the HEIs, including the competencies which need to be signed off by the DMP.
- The support from employing organisations was reported to vary, with the issue of time constraints being a key factor.
 - For example, the DMPs who felt more supported by their employers generally had time allocated in their job plan to mentor the NMP students; whereas the DMPs without this dedicated time often felt unsupported by their employing organisation.
 - Some of the DMPs reported that their employer appeared to encourage the mentoring role but did not provide any direct support or adjustments. There is clearly a need for employing organisations to recognise the value of the DMP role and provide more consistent support for their employees by scheduling protected time in their job plans to enable them to focus on mentoring the NMP student. In addition, some of the DMPs indicated that the mentoring role could be acknowledged through remuneration. However, there are a number of issues with this suggestion, including the possibility of incentivising mentors to pass NMP students.
- The DMP role often appears to be conducted in isolation, particularly for those who reported a lack of guidance from HEIs, and the findings indicate that DMPs might benefit

from having access to peer support as a means of discussing their mentoring role and sharing information. Mechanisms for this peer support need to be explored by both the HEIs and employing organisations. For example, a forum or network of DMPs could be established at the university or regional level. The literature review highlighted that NMP students often value peer support as a form of CPD, and the survey findings indicate that this might also be beneficial for DMPs.

- Finally, the evaluation has shown that the DMP mentoring process can be mutually beneficial for all those involved:
 - The NMP student learns from the DMP and acquires the necessary prescribing competencies to qualify as a non-medical prescriber.
 - The DMP undergoes personal development by reflecting on their practice and updating their prescribing knowledge through learning from the NMP student.
 - Working relationships are enhanced through the mentoring process, particularly as most of the DMPs are supporting their colleagues to develop their careers.
 - Furthermore, the training of NMP students ultimately increases the number of non-medical prescribers in practice, which has a positive impact on service provision and patient care.

5.2 Recommendations

- Employing organisations need to ensure that they recognise the value of the DMP role in training non-medical prescribers and acknowledge the time commitments involved. In order to fully support the DMPs with this mentoring role, it is important that protected time is scheduled into their job plans.
- It is recommended that standardised guidance is developed regarding HEIs relationship and communication with mentors. This should include the provision of not only handbooks and induction sessions, but ongoing communication throughout the student journey, with clearly marked routes for accessing HEI support. This may also include a more comprehensive reporting system so that a more precise figure for current mentors can be identified.

- Likewise, guidance for employing organisations should also be developed. This guidance should advocate the need for protected time within work schedules, along with regular support, to enable the DMP to fulfil their commitment to the NMP student, whilst ensuring that the DMP also benefits from the mentoring process.
- It is recommended that mechanisms for developing networks or forums for DMPs should be explored, as this has the potential to enhance the support available to DMPs and provide more opportunities for personal development. Given the degree of isolation reported by many participants in the survey, it is recommended that improving communications between mentors may lead to improved outcomes for both themselves and their mentees.

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Appendix 1: Literature review

Study/Paper	Aim of research	Method	Main Findings	Strengths / Limitations
<p>Abuzour, A.S., Lewis, P.J. and Tully, M.P. (2018) 'Practice makes perfect: A systematic review of the expertise development of pharmacist and nurse independent prescribers in the United Kingdom' <i>Research in Social and Administrative Pharmacy</i> 14, 1: 6-17. DOI: 10.1016/j.sapharm.2017.02.002</p>	<p>To explore whether the theory of expertise development model was applicable to NMP.</p>	<p>Systematic review. Six databases were searched for articles published between 2006 and 2016. 34 studies met the inclusion criteria.</p>	<p>The learning and prescribing practices of independent prescribers can be influenced by intrinsic and extrinsic factors, such as: knowledge, confidence, pre-registration education, experience and support. Expertise was developed through learning in the workplace and with support from colleagues. There is a need for more pharmacology knowledge amongst independent prescribers.</p>	<p>Authors suggest this was the first study to use the expertise development model to explore independent prescribing. Findings cannot be generalised to other types of prescribers, or those outside the UK.</p>
<p>Abuzour, A., Lewis, P. and Tully, M. (2018) 'A qualitative study exploring how pharmacist and nurse independent prescribers make clinical decisions' <i>Journal of Advanced Nursing</i> 74, 1: 65-74. DOI: 10.1111/jan.13375</p>	<p>To explore the clinical reasoning undertaken by pharmacist and nurse independent prescribers when making prescribing decisions.</p>	<p>Qualitative approach involved a think-aloud methodology and semi structured interviews with 11 nurses and 10 pharmacists who work in secondary care. Clinical vignettes were given to the participants prior to the interviews. Analysis involved a constant-comparative approach.</p>	<p>The think-aloud analysis revealed a pattern in the process of reaching a clinical decision and the decision-making model involved: case familiarisation, generating hypotheses, case assessment, final hypotheses and decision-making. (All stages of the model involved decision-making). It was evident that prescribers' clinical knowledge, skills, attitudes and the context in which the prescribing takes place can influence the complex process of clinical reasoning.</p>	<p>The think-aloud methodology did not take place in real-life settings where contextual factors might impact on the decision making (e.g. time restraints).</p>

<p>Kelly, N. (2018) 'Mental health nurse non-medical prescribing: Current practice, future possibilities' <i>Nurse Prescribing</i> 16, 2: 90-94. DOI: 10.12968/npre.2018.16.2.90</p>	<p>To review the current prescribing practice of mental health nurses and identify any barriers to role implementation.</p>	<p>Descriptive paper which outlines the field of non-medical prescribing and specifically, the practices of mental health nurse prescribers.</p>	<p>Mental health nurse prescribing provides rapid access to medications for service users and is a mechanism for developing new ways of care. Prescribers are in key positions to develop their role and influence the design of mental health services. The author encourages mental health nurse prescribers to undertake a formal health assessment qualification. Mental health nurses prescribe within specialised areas, but it is important to develop inclusive practice within a multidisciplinary team.</p>	<p>No empirical research. The article provides a clear description of non-medical prescribing within the field of mental health nursing.</p>
<p>Crawley, H. (2018) 'Non-medical prescribing' <i>InnovAiT</i> 11, 2: 74-79. DOI: 10.1177/1755738017743270</p>	<p>To provide an overview of non-medical prescribing and explore how current mechanisms can improve patient safety and patient access to clinical services.</p>	<p>Descriptive paper outlining the current practices, developments and legislation.</p>	<p>The use of patient group direction could be expanded within non-medical prescribing. Furthermore, allied health professionals with independent prescribing and supplementary prescribing qualifications could be better utilised. This would benefit both the patients and the doctors.</p>	<p>No empirical research, but brief case studies used to provide examples of non-medical prescribing in different settings. Clear discussion of current mechanisms for patients to access prescription-only medicines.</p>
<p>Djerbib, A. (2018) 'A qualitative systematic review of the factors that influence prescribing decisions by nurse independent prescribers in primary care' <i>Primary Health Care</i> 28, 3: 25-34. DOI: 10.7748/phc.2018.e1355</p>	<p>To identify the factors that influence the decisions made by nurse independent prescribers working in primary care settings in the UK, and to explore the effects on current practice and CPD.</p>	<p>Systematic literature review. Approach was underpinned by interpretivism. Literature search included relevant databases, websites, grey literature, journals and reference lists. 10 articles met the inclusion criteria.</p>	<p>Three themes were identified: perceptions of competence; perceptions of risk; and the impact on the patients. The most common form of CPD was peer support. Similar factors also affect the decisions made by GPs. The decision-making of nurse independent prescribers in primary care is an under researched topic. There is a need to ensure adequate support and appropriate CPD for nurse independent prescribers.</p>	<p>Wide search criteria for the literature. The review was conducted by one author which can increase the risk of bias.</p>

<p>Graham-Clarke, E., Rushton, A., Noblet, T. and Marriott, J. (2018) 'Facilitators and barriers to non-medical prescribing - A systematic review and thematic synthesis' <i>PLoS ONE</i> 13, 4. DOI: 10.1371/journal.pone.0196471</p>	<p>To describe the facilitators and barriers to non-medical prescribing in the UK.</p>	<p>Systematic review and thematic analysis. Included papers published between 2006 and March 2017. 42 papers were included in the review.</p>	<p>Nursing profession dominated the studies. Three overarching themes: non-medical prescriber, human factors and organisational aspects. Sub-themes included: medical professionals; area of competence; impact on time; and service. Sub-themes were interdependent on each other and therefore had the potential to act as a barrier or facilitator depending on the circumstances.</p>	<p>First systematic review to synthesise literature from qualitative and mixed-methods studies. Wide search strategy and independent reviewers used.</p>
<p>Smith, C., Coucill, C. and Nuttall, D. (2018) 'Organisational impact of the V150 nurse prescribing qualification' <i>British Journal of Community Nursing</i> 23, 8: 370-375. DOI: 10.12968/bjcn.2018.23.8.370</p>	<p>To evaluate the practices of V150 Community Practitioner Prescribers across NHS trusts in the north west of England.</p>	<p>Mixed methods approach. Questionnaires were completed by 19 V150 prescribers to explore their prescribing activity. Telephone interviews were conducted with two participants. Three NMP leads completed a questionnaire about their perceptions of V150 on their organisation.</p>	<p>The findings indicate community practitioner nurse prescribing is beneficial for NHS services and patients by reducing attendance at walk-in centres, GP practices and emergency departments. Patients are able to start their treatment sooner, which reduces complications and enhances quality of life. Recent changes in the standards for nurses (introduced by the NMC, 2018) have eliminated the minimum period of time for applying to V150 training programmes, which will provide earlier entry for registered nurses to train as community practitioner prescribers.</p>	<p>This paper was focussed on the north west of England, similar to the DMP evaluation. Focus groups were originally proposed for this research, but due to low numbers the design was amended.</p>
<p>Afseth, J.D. and Paterson, R.E. (2017) 'The views of non-medical prescribing students and medical mentors on interprofessional competency assessment – A qualitative exploration' <i>Nurse Education Today</i> May 2017, 52: 103-108. DOI: 10.1016/j.nedt.2017.02.022</p>	<p>To explore the inter-professional competency assessment for nurse NMP students and their DMPs.</p>	<p>Semi structured telephone interviews and focus groups. Six NMP students and six DMPs participated in the study. Clark's theory of inter-professional education was used to inform data analysis.</p>	<p>The study identified differences in how the nursing students and DMPs interpreted the competency assessments, which can produce ambiguity about roles in the assessment process. In addition to the nursing students learning from their DMP, it was evident that the process of supervising the students enabled the DMPs to update their own knowledge. This sharing of knowledge and skills played a valuable role in improving inter-professional teamwork.</p>	<p>Small sample size as the study was focussed on students attending one university. However, the study explored the views of both the NMP students and their DMPs.</p>

<p>Pritchard, M.J. (2017) 'Is it time to re-examine the doctor-nurse relationship since the introduction of the independent nurse prescriber?' <i>Australian Journal of Advanced Nursing</i> 35, 2: 31-37.</p>	<p>To stimulate a debate and discussion into how the nurse-doctor relationship within the NHS needs to change.</p>	<p>Scholarly paper.</p>	<p>The author proposes that the nurse-doctor relationship needs to be re-evaluated as non-medical prescribing has expanded the role of nurse`s into areas that have traditionally been viewed as a doctor`s role. Some nurse prescribers have experienced opposition from the medical profession. In addition, some medical professionals have only relinquished control in areas which do not appear to threaten their authority, position or power. It is recommended that nurse prescribers should have the same educational opportunities as the medical professionals, and should be given more opportunity to work with experienced medical prescribers as a means of developing skills and improving working relationships.</p>	<p>This paper highlights some of the complexities of working relationships between nurse prescribers and medical professionals, which supports other studies in this review (e.g. Downer and Shepherd, 2010; McCann et al., 2012).</p>
<p>Tatterton, M.J. (2017) 'Independent non-medical prescribing in children's hospices in the UK: a practice snapshot' <i>International Journal of Palliative Nursing</i> 23, 8: 386-392. DOI: 10.12968/ijpn.2017.23.8.386</p>	<p>To identify the context of non-medical prescribing in children`s hospices in the UK, and to explore the benefits and challenges of this practice.</p>	<p>An internet-based questionnaire was disseminated to the directors/heads of care at 55 children`s hospices within the UK through the Together for Short Lives charity. The questionnaire explored NMP practice and the context of the prescribing, including the frequency and medicines prescribed. Staff from 20 children`s hospices responded to the survey.</p>	<p>14 of the hospices employed a total of 39 non-medical prescribers. The benefits of prescribing included: timely access to medicines, increased efficiency and accuracy in the admissions process and medicine reconciliation, and increased ability to offer choice in the place of hospice care. The main barriers to prescribing were perceived to be: confidence in prescribing, defining the scope of practice, and limitations of time when assessing, diagnosing and treating patients.</p>	<p>Although this study was based on a small sample in one specialist area of healthcare, the perceived benefits and challenges of NMP are similar to other studies included in the review.</p>

<p>Cope, L.C., Abuzour, A.S. and Tully, M.P. (2016) 'Nonmedical prescribing: where are we now?' <i>Therapeutic Advances in Drug Safety</i> 7, 4: 165-172. DOI:10.1177/2042098616646726</p>	<p>To review the history of non-medical prescribing, and compare it with the international situation. To outline the NMP qualification process in the UK. To identify potential influences on non-medical prescribing and the impact of non-medical prescribing on patients, doctors and other professionals.</p>	<p>Narrative review</p>	<p>The practice of non-medical prescribing has different models depending on the legal restrictions of the country. The literature indicates that NMP has generally had a positive impact on non-medical prescribers, healthcare professionals and patients. Confidence is a key factor that can influence prescribing practice. There is a lack of research about prescribing errors by non-medical prescribers.</p>	<p>Provides a detailed overview of the key developments and research within the field of non-medical prescribing.</p>
<p>Maddox, C., Halsall, D., Hall, J. and Tully, M.P. (2016) 'Factors influencing nurse and pharmacist willingness to take or not take responsibility for non-medical prescribing' <i>Research in Social and Administrative Pharmacy</i> 12, 1: 41-55. DOI:10.1016/j.sapharm.2015.04.001</p>	<p>To explore the factors influencing whether nurse and pharmacist NMPs in community and primary care settings take responsibility for prescribing.</p>	<p>20 non-medical prescribers (15 nurses and five pharmacists) were purposively selected and interviewed using the critical incident technique about situations where they felt it was inappropriate for them to take responsibility for prescribing. 10 nurse prescribers were involved in three focus groups to validate the themes identified. Analysis involved a constant comparison approach.</p>	<p>Fifty-two critical incidents were recorded - 12 from pharmacists and 40 from nurses. Most of the participants were cautious about taking responsibility for prescribing and their decision-making was influenced by their perceptions of competency, role and the level of risk. In some cases, the non-medical prescribers delayed the prescribing decision or referred the patient to a doctor. Roles of non-medical prescribers must be clear to colleagues, doctors and patients. Training and support must be provided to enable non-medical prescribers to develop professionally and increase their competence.</p>	<p>The authors noted that data collection relied on self-reports which might have been limited by the participants' ability to remember scenarios or their reasons for decision-making. The focus groups, which formed part of the validation process, only included nurse prescribers.</p>

<p>Paterson, R.E., Redman, S.G., Unwin, R., McElhinney, E., Macphee, M. and Downer, F. (2016) 'Non-medical prescribing assessment - An evaluation of a nationally agreed multi method approach' <i>Nurse Education in Practice</i> 16, 1: 280-286. DOI: 10.1016/j.nepr.2015.10.008</p>	<p>To explore the learning in practice element of the NMP training course, specifically the assessments used in the reflective portfolio. The study aimed to explore which of the portfolio assessments were most valuable and whether a practice-based assessment - the systematic and detailed examination in practice (SDEP) – was an appropriate alternative examination to the widely used observed simulated clinical examination (OSCE).</p>	<p>67 students, 28 DMPs and 26 line managers, across five universities in Scotland, responded to an online survey. Telephone interviews were also conducted with three students, three DMPs and one line manager.</p>	<p>The NMP students rated the learning log assessment as the most valuable part of their portfolio, as it allowed for reflection and the identification of gaps in learning. However, the DMPs and the line managers indicated that the live practice-based assessment (SDEP) was the most valuable. Overall, the portfolio was viewed as an effective way of evidencing the NMP students' prescribing competence. The findings show that the reflective learning log and SDEP were important features of the NMP assessment process.</p>	<p>The SDEP is not typically used on NMP courses outside Scotland. Sample size for the telephone interviews was small. However, the study involved students from across five different institutions.</p>
<p>Unwin, R., Redman, S., Bain, H., Macphee, M., McElhinney, E., Downer, F. and Paterson, R. (2016) 'Supporting practice learning time for non-medical prescribing students: managers' views' <i>Nursing Management</i> 23, 3: 25-29. DOI: 10.7748/nm.23.3.25.527</p>	<p>To explore managers' roles in supporting staff enrolled on a non-medical prescribing programme.</p>	<p>Online survey for line managers of a cohort of NMP students across five HEIs in Scotland. 26 respondents.</p>	<p>The period of learning in practice was considered valuable as it provided the opportunity to practice skills and reflect on learning, and to work with other professionals. Barriers to learning included: backfill costs, clinical workload and time.</p>	<p>Sample size was small; although 100 line managers were initially approached, only 26 responded to the survey. However, the study reflected a broad range of managers from primary care, secondary care and private practice.</p>

<p>Ziegler, L., Bennett, M., Blenkinsopp, A. and Coppock, S. (2015) 'Non-medical prescribing in palliative care: a regional survey' <i>Palliative Medicine</i> 29, 2: 177-181. DOI: 10.1177/0269216314557346</p>	<p>To explore the position of nurse prescribing in palliative care and determine the impact of the 2012 legislative changes.</p>	<p>An online survey was distributed via SurveyMonkey to members of a regional cancer network palliative care group. The survey was completed by 37 nurse prescribers (61% response rate).</p>	<p>The findings showed that the nurse prescribers had embraced the legislative changes which allowed them to prescribe controlled drugs to cancer patients. It was suggested that there was a need to reduce the delay between qualifying as a prescriber and becoming active in the role. Also, it was noted that providing support for study leave and covering workloads could encourage more nurses to undertake NMP training. The authors highlighted the need to explore the patient's views about nurse prescribing in palliative care.</p>	<p>Small-scale study of members of one regional palliative care group, which means that the findings might not be representative. Good response rate for the online survey.</p>
<p>Weglicki, R.S., Reynolds, J. and Rivers, P.H. (2014) 'Continuing professional development needs of nursing and allied health professionals with responsibility for prescribing' <i>Nurse Education Today</i> 35, 1: 227-231. DOI: 10.1016/j.nedt.2014.08.009</p>	<p>To explore non-medical prescribers' aspirations, priorities and preferred modes of CPD.</p>	<p>16 non-medical prescribers were involved in either semi-structured interviews or a focus group. The participants included 11 nurses, three physiotherapists, one pharmacist and one pharmacy technician. They had all studied at the same East Midlands University. The data collection explored clinical decision making, legal aspects of prescribing and diagnostic issues.</p>	<p>The findings indicated that personal anxiety about keeping up-to-date or making decisions can undermine the non-medical prescriber's confidence to prescribe. Feelings of anxiety can be exacerbated by external factors (such as communication difficulties). An important coping strategy for the non-medical prescribers is the support they receive from peers and clinical supervisors. Finally, the non-medical prescribers had mixed views about their preferred modes for CPD - whilst e-learning is convenient, there is also a need for face-to-face learning with other professionals. Therefore, it was suggested that a blended learning approach, with more collaboration between higher education providers and NHS organisations, could be a mechanism for enhancing confidence amongst non-medical prescribers.</p>	<p>Small sample size from students who attended one university. However, the sample included a range of non-medical prescriber roles. The findings support other studies included in this literature review.</p>

<p>Gielen, S.C., Dekker, J., Francke, A.L., Mistiaen, P. and Kroezen, M. (2014) 'The effects of nurse prescribing: A systematic review' <i>International Journal of Nursing Studies</i> 51, 7: 1048-1061. DOI:10.1016/j.ijnurstu.2013.12.003</p>	<p>To identify and appraise the literature about the effects of nurse prescribing when compared to physician prescribing on the quantity and types of medication prescribed and on patient outcomes.</p>	<p>Systematic literature review. 11 literature databases and four websites were searched. Studies from 2006 to 2012 were examined. 35 studies met the inclusion criteria.</p>	<p>When compared to physicians, the prescribing conducted by nurses is comparable with equal numbers of patients, types and doses of medicines. Patients were more, or equally, satisfied with the care provided by the nurses, when compared to physicians. Nurses generally spend more time with their patients than physicians do. As there was a high risk of bias in the studies reviewed, it was suggested that more randomised controlled research is required in the field of NMP.</p>	<p>Three of the authors were involved in extracting the study data to reduce bias.</p>
<p>Pearce, C. and Winter, H. (2014) 'Review of non-medical prescribing among acute and community staff' <i>Nursing Management</i> 20, 10: 22-26. DOI: 10.7748/nm2014.02.20.10.22.e1165</p>	<p>To demonstrate safe non-medical prescribing practice, explore the CPD needs of prescribers, and ensure adherence to local/national policy.</p>	<p>Online survey was designed to evaluate NMP practice in one trust. Self-assessment documentation tool was also used to capture a two-week snapshot of their prescribing practice. Survey was distributed to 64 prescribers in the acute trust and 111 in community teams. Overall response rate was 64%.</p>	<p>Five themes emerged from the results: prescribing activity, patient safety, effect of non-medical prescribing on care, workforce planning and organisational support. 90% of respondents were actively prescribing. Most prescribers had updated their knowledge in the past two years (e.g. reading journals, peer support, clinical supervision). All of the respondents agreed that NMP increases the patient's access to medicines and improves care pathways. Most of the non-medical prescribers were compliant with local and national policy. Line managers provided support when prescribers were not compliant. A robust support framework for NMP is needed to encourage safe practice.</p>	<p>Study was focussed on one acute trust so findings might not be generalizable to all trusts.</p>

<p>Smith, A., Latter, S. and Blenkinsopp, A. (2014). 'Safety and quality of nurse independent prescribing: A national study of experiences of education, continuing professional development, clinical governance' <i>Journal of Advanced Nursing</i> 70, 11: 2506-2617. DOI: 10.1111/jan.12392</p>	<p>To determine the adequacy of the education for nurse independent prescribers, and to identify CPD and clinical governance strategies for NMP.</p>	<p>Cross sectional design with national survey distributed to nurse independent prescribers and NMP leads England. A random sample of 1492 nurse independent prescribers (from the NMC register) were invited to complete the survey, along with 168 NMP leads recruited from across 9 strategic health authorities. In total, 976 responses were received from the nurse independent prescribers (65% response rate) and 87 NMP leads responded (52% response rate).</p>	<p>The nurse independent prescribers reported a high level of satisfaction with prescribing training and supervised learning practice, with majority of participants stating that the course met their learning needs and outcomes. The majority of NMP leads reported having mechanisms in place to monitor and evaluate quality and safety of NMP at the trust level. Although, most of NMP leads reported provision of appropriate support and supervision, district nurses, community matrons and health visitors were more likely to report restricted access to support, supervision and CPD. A small proportion of independent nurse prescribers and NMP leads across all sectors reported that support for CPD was not sufficient to ensure patient safety.</p>	<p>The researchers suggest that the random sample of nurse independent prescribers, along with the high response rate to the survey, allow the data to be nationally representative for England. The data provided by the NMP leads is less generalizable.</p>
<p>MacLure, K., George, J., Diack, L., Bond, C., Cunningham, S. and Stewart, D. (2013) 'Views of the Scottish general public on non-medical prescribing' <i>International Journal of Clinical Pharmacy</i> 35, 5: 704-710. DOI: 10.1007/s11096-013-9792-x</p>	<p>To explore the views of the Scottish general public on NMP.</p>	<p>A survey was mailed to a random sample of 5000 members of the Scottish general public, obtained from the electoral roll. The response rate was 37.1% of which 27.2% provided comments. Content analysis was conducted on the free text responses. Although the survey was originally conducted in 2006, this article was published in 2013.</p>	<p>Most of the survey responses mentioned pharmacist prescribing. Patient convenience was perceived to be a key benefit of NMP. Respondents were generally supportive of non-medical prescribers being able to prescribe a limited range of medications, and felt that timely access to medical notes was essential. Some respondents raised concerns about the risk of over prescribing, continuity of care and confidentiality. Overall, the findings indicated support for NMP, but there was also a need for non-medical prescribers to engage more with the Scottish general public in order to raise awareness of their role.</p>	<p>The authors acknowledge the time lapse of this study - the data was collected in 2006 but this article was published in 2013. The survey data was limited by a low response rate.</p>

<p>Mundt-Leach, R. and Hill, D. (2013) 'Non-medical prescribers in substance misuse services in England and Scotland: A mapping exercise' <i>Mental Health Practice</i> 17, 9: 28-35. DOI: 10.7748/mhp.17.9.28.e859</p>	<p>To locate and record details about all non-medical prescribers in substance misuse services across England and Scotland.</p>	<p>Mapping exercise carried out by the National Substance Misuse Non-Medical Prescribing Forum. Interviews conducted face-to-face, by telephone or email. 362 non-medical prescribers were located in substance misuse services in England and Scotland.</p>	<p>Of the 362 non-medical prescribers located across England and Scotland, the ratio of nurses to pharmacists was higher in England compared to Scotland. The majority of the non-medical prescribers were employed by the NHS, followed by the third sector. The North East of England and Scotland had the largest number of non-medical prescribers working in any one region. In England and Scotland, most of the non-medical prescribers worked in community drug and alcohol teams. The majority were paid at NHS bands 6 or 7.</p>	<p>Data not collected from Wales and Northern Ireland. Also, the study does not provide details of prescribing practice or the training completed.</p>
<p>Courtenay, M., Carey, N. and Stenner, K. (2012) 'An overview of non medical prescribing across one strategic health authority: a questionnaire survey' <i>BMC Health Services Research</i> 12: 138. DOI:10.1186/1472-6963-12-138</p>	<p>To provide an overview of the practice of NMP across one strategic health authority.</p>	<p>Online descriptive questionnaire. NMP leads supplied email addresses for prescribers on their databases. A letter of introduction containing the survey link was emailed to the non-medical prescribers. In total, 883 non-medical prescribers within one strategic health authority responded to the survey (55.7% response rate).</p>	<p>Most of the non-medical prescribers were nurses based in primary care settings. 90% of the nurse independent supplementary prescribers prescribed medicines, and nurses in general practice prescribed the most items. Some participants reported that they did not prescribe, mainly because they were no longer in that role. Clinical governance systems were in place in most settings, although there were fewer systems for community practitioner prescribers. Prescribing practice was affected by the following factors: employers, level of experience before qualifying, governance procedures and support for prescribers.</p>	<p>The data collection method is relevant to this evaluation, specifically the letter of introduction containing the online survey link. Good response rate for survey. The authors claim that the findings provide an accurate picture of non-medical prescribers.</p>

<p>McCann, L., Lloyd, F., Parsons, C., Gormley, G., Haughey, S., Crealey, G. and Hughes, C. (2012) "They come with multiple morbidities": A qualitative assessment of pharmacist prescribing' <i>Journal of Interprofessional Care</i> 26, 2: 127-133. DOI:10.3109/13561820.2011.642425</p>	<p>To provide an understanding of pharmacist prescribing from the perspective of pharmacists, medical colleagues and key stakeholders in Northern Ireland.</p>	<p>Cross sectional with semi-structured qualitative interviews conducted with: 11 pharmacists, eight doctors acting as pharmacist's mentors, and 13 stakeholders with managerial/executive or policy responsibility. Participants were recruited using purposeful sampling.</p>	<p>The key themes were: the effects on patient care; challenges; and inter-professional working. Pharmacist prescribing allowed for more comprehensive and in-depth patient assessments with additional consultation time and specialised knowledge in medication. Frequently cited challenges included management of patients with complex and chronic conditions and multi-morbidity. Although generally supportive of NMP, some doctors were unreceptive to pharmacist prescribing due to professional encroachment and expressed concern about a pharmacist's competence to prescribe. Maximising multi-professional team working with a diverse skill set was reported to improve patient safety, particularly in populations with complex needs.</p>	<p>Under evaluation of patient health outcomes. Small scale study.</p>
<p>McCormick, E. and Downer, F. (2012) 'Students' perceptions of learning in practice for NMPs' <i>Nurse Prescribing</i> 10, 2: 85-90. DOI: 10.12968/npre.2012.10.2.85</p>	<p>To explore NMP students' views of their learning in practice and their experiences of being mentored by DMPs.</p>	<p>Phenomenological approach. Semi-structured interviews conducted with ten students who had recently completed the NMP course through one HEI.</p>	<p>Time was a particular challenge, and lack of time with the DMP impacted on the student's learning experience. DMPs were supportive of the nurse and midwife prescribers. Many of the DMPs were perceived to be unprepared for their role and did not completely understand the competencies to be assessed.</p>	<p>Small scale study with NMP students from one HEI, which limits generalisation of findings. Findings are significant for this evaluation as it explores the period of learning in practice.</p>

<p>Stewart, D., MacLure, K. and George, J. (2012) 'Educating nonmedical Prescribers' <i>British Journal of Clinical Pharmacology</i> 74, 4: 662–667. DOI:10.1111/j.1365-2125.2012.04204.x</p>	<p>To describe the education, training and practice of non-medical prescribers in the UK.</p>	<p>Narrative review. Focussed on independent and supplementary non-medical prescribers within the UK. Community nurse practitioners were outside the scope of the review.</p>	<p>The key aims of NMP are to improve care for patients; to increase choice for patients when accessing medicines; and to utilise the skills of health professionals. NMP education and training is provided by HEIs, and includes taught sessions alongside the period of learning in practice. The review indicates significant progress in the field of NMP but there is a need for strategic direction to address issues of capacity and sustainability. It is suggested that future research should focus on the clinical, economic and humanistic outcomes of NMP.</p>	<p>The focus of the article is clearly defined. Detailed overview of the development of the field.</p>
<p>Bhanbhro, S., Drennan, V.M., Grant, R. and Harris, R. (2011) 'Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: A systematic review of literature' <i>BMC Health Services Research</i> 11: 330. DOI:10.1186/1472-6963-11-330</p>	<p>To identify the effects of NMP in primary care and community settings on patient outcomes in relation to: care effectiveness, efficiency, acceptability and access.</p>	<p>Systematic literature review. 19 articles of 17 studies were reviewed. 7 of the studies used qualitative methods, 8 used quantitative and 2 involved mixed methods designs.</p>	<p>Effectiveness: the non-medical prescribers were found to be effective in improving the provision of information, advice and understanding on treatment, conditions, and self-care. Efficiency: the service provided by non-medical prescribers was convenient, timely and of a high quality. Acceptability: the non-medical prescriber was widely accepted and viewed positively by the patient population, and other professionals. Access: the introduction of NMP has improved access to medication and healthcare professionals.</p>	<p>Small number of studies due to exclusion of evidence from the secondary care. The impact on the specific patient groups remains unclear.</p>

<p>Courtenay, M., Carey, N. and Stenner, K. (2011) 'Non medical prescribing leads views on their role and the implementation of non medical prescribing from a multi-organisational perspective' <i>BMC Health Services Research</i> 11, 1: 142-152. DOI: 10.1186/1472-6963-11-142</p>	<p>To explore the organisational NMP lead's role across a range of practice settings within one strategic health authority, and to consider the development of NMP from a multi-organisational perspective.</p>	<p>Semi-structured telephone interviews with 28 NMP leads across one strategic health authority. Framework analysis used to identify themes.</p>	<p>The study identified that the NMP lead role has four main functions: communication; promoting and coordinating; clinical governance; support and training. The factors affecting the support provided to NMP students include: a lack of clarity about the NMP lead role and responsibilities; poor strategic support; and a lack of protected time to undertake the role. The clinical governance systems across organisations were inconsistent, and this is an area for improvement. Clearer national guidance and greater standardisation is required for the NMP lead role.</p>	<p>The study is limited to one strategic health authority. The findings support other studies included in this review and highlight the complexities of the DMP role (e.g. Afseth & Paterson, 2017)</p>
<p>Kroezen, M., van Dijk, L., Groenewegen, P.P. and Francke, A.L. (2011) 'Nurse prescribing of medicines in Western European and Anglo-Saxon countries: a systematic review of the literature' <i>BMC Health Services Research</i> 11: 127. DOI:10.1186/1472-6963-11-127</p>	<p>To explore the scientific and professional literature describing the introduction of nurse prescribing in Western European and Anglo-Saxon countries, and to identify possible mechanisms for the organisation of nurse prescribing based on Abbott's theory of the division of professional labour.</p>	<p>Six literature databases and seven websites were searched, without any limitations in date, language or country. 124 studies (from 2005 onwards) were included. Data were synthesized using narrative and tabular methods.</p>	<p>Four themes were identified across the data: factors related to the introduction of NMP; legal conditions; educational conditions; and organisational conditions. Factors influencing the development of NMP included: providing efficient access medicines; utilising the nurses' skills and knowledge; reducing the workload of doctors; the development of advanced practice nurse roles. The legal conditions imposed on nurses, about what/whom they can prescribe, vary across different countries. Differences were also identified in the level of NMP training. Most countries have a mandatory registration system for nurse prescribers, but this topic is scarce in the literature. There are differences in the jurisdiction settlements of NMP in the countries reviewed in this study. A focus on efficiency has been linked with more prescribing rights.</p>	<p>The authors acknowledge that policy documents and grey literature were excluded from the review in order to safeguard the quality. The inclusion of international papers is less relevant to this evaluation of the DMP role in the UK.</p>

<p>Scrafton, J., McKinnon, J. and Kane, R. (2011) 'Exploring nurses' experiences of prescribing in secondary care: Informing future education and practice' <i>Journal of Clinical Nursing</i> 21: 2044–2053. DOI: 10.1111/j.1365-2702.2011.04050.x</p>	<p>To explore the experiences of secondary care nurse prescribers and to identify the advantages/ disadvantages of nurse prescribing.</p>	<p>Cross sectional qualitative design. Phenomenological approach used to interview six nurse prescribers in one NHS trust. A single broad open-ended question was used to start the interview. Analysis was guided by Colaizzi's procedural steps.</p>	<p>Three main themes emerged from the data: motivations for becoming a nurse prescriber; NMP education and CPD; and prescribing in practice. Motivation was framed as internal with intrinsic drive, and external via the availability of centrally funded prescribing training. In terms of NMP education, there were concerns about the limited depth of pharmacological knowledge and the focus on primary care settings. Participants reported feeling equipped for the role, but observed a great variability in HEI training. Clinical mentorship was viewed as a positive feature of NMP training. The experience of CPD varied and the lack of formal guide to further development was a source of frustration. In practice, there was a general belief that patients benefit from the efficiency of non-medical prescribing. The main barriers to prescribing were: perceived pressures to prescribe; restrictions of the NPF; and financial control measures.</p>	<p>The authors stated that the small sample of senior specialised nurses, with a high level of support from consultant medical colleagues, could limit the generalisation of findings to all nurse prescribers. However, some of the findings are supported by other studies included in this review (e.g. concerns about pharmacological knowledge and limited access to CPD for non-medical prescribers).</p>
<p>Downer, F. and Shepherd, C.K. (2010) 'District nurses prescribing as nurse independent prescribers' <i>British Journal of Community Nursing</i> 15, 7: 348–352. DOI: 10.12968/bjcn.2010.15.7.48774</p>	<p>To explore the experience of independent nurse prescribers across the West of Scotland.</p>	<p>A Heideggerian phenomenological approach was used. Purposive sampling method involved eight district nurses with a minimum of 12 months experience and currently practicing as nurse independent prescribers. Colaizzi's seven procedural steps were used to guide the thematic data analysis.</p>	<p>The key issues that influenced the extent to which district nurses were prescribing within their roles included: limited access to organisational and peer support; a lack of confidence in prescribing ability; education and CPD; and multidisciplinary relationships. The main benefits derived from prescribing were: role development, autonomy and job satisfaction. Challenges associated with prescribing included: duplication of records, increased workload, accountability, and role boundaries.</p>	<p>Small scale study of district nursing field. Similar findings have been reported amongst other NMP groups included in this review.</p>

<p>Latter, S., Blenkinsopp, A., Smith, A., Chapman, S., Tinelli, M., Gerard, K., Little, P., Celino, N., Granby, T., Nicholls, P. and Dorer, G. (2010) <i>Evaluation of nurse and pharmacist independent prescribing</i>. Retrieved from: https://eprints.soton.ac.uk/184777/</p>	<p>To conduct a national evaluation of nurse and pharmacist independent prescribing in England.</p>	<p>Three phases to the study. Phase One - national survey of independent prescribers, telephone survey of NMP leads, focus group with HEI NMP programme leads and DMPs, and secondary analysis of national datasets. Phase Two - case studies involved interviews with healthcare professionals, patient surveys and records analysis. Phase Three - stakeholder workshop.</p>	<p>Between 2% and 3% of the workforce are qualified to prescribe. Majority of nurses and pharmacists make use of their prescribing authority. Prescribing is predominantly in primary care settings. Nurse and pharmacist prescribing is safe and clinically appropriate. NMP is generally viewed positively by other healthcare professionals, although some doctors are unclear about NMP roles. Educational programmes for NMP are satisfactory, but assessment and diagnostic skills is an area for consideration.</p>	<p>Large scale study with mixed methods and a range of participants. The findings relating to NMP educational programmes and health professionals' awareness of the role are particularly relevant to this evaluation.</p>
<p>Tann, J., Blenkinsopp, A. and Grime, J. (2010) 'The great boundary crossing: Perceptions on training pharmacists as supplementary prescribers in the UK' <i>Health Education Journal</i> 69, 2: 183–191. DOI:10.1177/0017896910363300</p>	<p>To explore General Medical Practitioners' and pharmacist supplementary prescribers' views about the training provided for pharmacist supplementary prescribers. Also, explored the pharmacist supplementary prescribers' experiences of CPD.</p>	<p>Qualitative study conducted in three general practices located in two primary care trusts in the Midlands. Eight pharmacist supplementary prescribers participated in two focus groups. Seven pharmacists were interviewed and six of these provided records of critical incidents for analysis. 13 GPs also took part in focus groups.</p>	<p>The pharmacists valued the period of learning in practice and the support from their DMP; this experience embedded skills and increased the pharmacists' confidence, and the learning partnership was also described as reciprocal. CPD was undertaken in different ways (e.g. reading journals, researching information online, peer support for NMPs), including learning on the job. The pharmacists had pre-existing working relationships with the medical practices where they were based.</p>	<p>Small purposive sample, with pharmacists all trained at the same HEI, which is not generalizable. Similar findings about the period of learning in practice and DMP role have been reported in other studies included in this review (e.g. Afseth and Paterson, 2017; Unwin et al., 2016).</p>

<p>Ahuja, J. (2009) 'Evaluating the learning experience of non medical prescribing students with their designated medical practitioners in their period of learning in practice: Results of a survey' <i>Nurse Education Today</i> 29, 8: 879-885. DOI: 10.1016/j.nedt.2009.05.004</p>	<p>To evaluate NMP students' experiences of learning in practice.</p>	<p>Survey was completed by 57 NMP students from two consecutive cohorts in a single HEI.</p>	<p>The students' learning experience was improved when their period of learning in practice was organised with a learning agreement and time schedule with their DMP. The students were more likely to have a formative assessment if they had a learning agreement with their DMP, and this resulted in the student being more satisfied with the experience. Key barriers to learning included: time constraints, workload, organisational issues and peer support. In addition, it was sometimes difficult to get doctors to agree to the DMP role. The NMP students who spent at least 30% of their learning in practice time with their DMP were reported to be more satisfied with their learning experience.</p>	<p>The authors pointed out that DMPs were not included in this study and therefore, it would be valuable to investigate their views.</p>
<p>Courtenay, M., Stenner, K. and Carey, N. (2009) 'Nurses' and doctors' views about the prescribing programme' <i>Nurse Prescribing</i> 17, 7: 412-417. DOI: 10.12968/npre.2009.7.9.44001</p>	<p>To explore the prescribing programme from the perceptions of nurses and doctors who care for diabetic patients.</p>	<p>Two-stage study with a national survey of nurse prescribers, followed by data collection from nine case studies of practice settings. At each site, interviews were conducted with nurse prescribers (n = 10) and a purposive sample of doctors (n = 9) and non-nurse prescribers (n = 3). The data was analysed thematically.</p>	<p>Prescribing was seen as a natural progression for advanced nursing roles when caring for patients with diabetes. Nurses felt it was important to acquire specialist knowledge through disease specific modules before commencing the course. There was variation in the level of work required by students on the prescribing courses. The nurses reported that most doctors were supportive in their DMP role. Most doctors were in agreement that nurse prescribers could be involved in mentorship, along with the continued involvement of the doctors.</p>	<p>The collective case study approach was not designed to provide data which is representative of all health professionals. The study is context specific as it focused on the prescribing training undertaken by practitioners involved the care of people with diabetes.</p>

<p>Green, A., Westwood, O., Smith, P., Peniston-Bird, F. and Holloway, D. (2009) 'Provision of continued professional development for non-medical prescribers within a South of England Strategic Health Authority: a report on a training needs analysis' <i>Journal of Nursing Management</i> 17, 5: 603-614 DOI: 10.1111/j.1365-2834.2008.00892.x.</p>	<p>To report on a training needs analysis for non-medical prescribers, commissioned by a strategic health authority in the south of England.</p>	<p>Postal questionnaires were sent to 1249 non-medical prescribers listed on the strategic health authority's database, and data was collected from a sample of 270 (23% response rate). Structured telephone interviews conducted with a purposive sample of 11 stakeholders.</p>	<p>Short courses (1-day or 2-day) that were specific to the non-medical prescribers' role were viewed as most popular and useful. Courses need to be advertised well in advance (at least 6 weeks' notice) and course information needs to clearly outline learning outcomes. The non-medical prescribers also identified training gaps: eczema and skin updates; diabetes, hypertension, infections and antibiotics; legal issues relating to prescribing; prescribing updates; interpreting statistics in order to understand pharmaceutical company data; basic pharmacology updates; and clinical skills training. Nurse managers need to address these training gaps when organising the provision of CPD.</p>	<p>Low response rate for questionnaire was attributed to dynamic nature of the job as some staff had moved to new posts. The specific training needs of non-medical prescribers could vary across different strategic health authorities and specialisms.</p>
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<p>Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S. and Ward, P. (2008) 'Nurse and pharmacist supplementary prescribing in the UK—A thematic review of the literature' <i>Health Policy</i> 85, 3: 277–292. DOI: 10.1016/j.healthpol.2007.07.016</p>	<p>To review the research literature relating to nurse and pharmacist supplementary prescribing in terms of how the role is perceived and experienced by different groups of healthcare professionals.</p>	<p>Thematic literature review. Search range was 1997 to 2007. Literature included empirical research, opinion and commentary, and grey literature relating to supplementary prescribing.</p>	<p>The most common focus in the literature concerned experiences and perceptions of the NMP role. Majority of research revealed that nurse and pharmacist prescribers reported a number of perceived benefits to the patients and their professional development. Views of other healthcare professionals were more diverse with medical profession expressing criticism about NMP competency, raising issue of erosion of traditional role boundaries and expressing general lack of awareness of NMP. The patients were largely unaware of the NMP role with very few identifying specific benefits beyond traditional model. One of the key barriers for NMP was dominance of the medical profession in professional hierarchies; limitations in training and professional support; issues of accountability; resourcing and organisational barriers.</p>	<p>Many of the empirical studies were small scale with convenience samples from geographically specific sites; this can limit the generalisation of the results. The majority of studies were exclusively focused on experiences and opinions with little analysis of clinical and economic effectiveness.</p>
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<p>Bewley, T. (2007) 'Preparation for non-medical prescribing: A Review' <i>Paediatric Nursing</i> 19, 5: 23–26. DOI: 10.7748/paed.19.5.23.s27</p>	<p>To evaluate non-medical prescribing by paediatric nurses across Merseyside, Manchester, Cheshire and North West of England.</p>	<p>Cross sectional with semi-structured questionnaire (19 responses), facilitated workshops with 35 independent/ supplementary paediatric nurse prescribers, and a scoping exercise of four HEIs.</p>	<p>The participants reported that during pre-registration training at HEIs or practice placements, there was insufficient focus on pharmacology, pharmacokinetics and pharmacodynamics, as well as the role of medication in paediatric treatment, legal knowledge related to prescribing and drug administration practice. The scoping exercise revealed the lack of consistency between medication management programmes at pre-registration level and learning requirements, with no association to the competencies delineated by the NMC. Staff attending the NMP programmes indicated gaps in educational content relating to physiopathology, clinical management plans and paediatric focus.</p>	<p>The recruitment strategy was not reported, and the analytical method was not clear. This study covered the same geographical area as the evaluation - North of England.</p>
<p>George, J., Bond, C.M., McCaig, D.J., Cleland, J., Cunningham, I.T., Diack, H.L. and Stewart, D.C. (2007) 'Experiential learning as a part of pharmacist supplementary prescribing training: Feedback from trainees and their mentors' <i>The Annals of Pharmacotherapy</i> 41, 6: 1031-1038. DOI: 10.1345/aph.1H650</p>	<p>To investigate the period of learning in practice by examining the views and experiences of supplementary prescribing pharmacists and their DMPs.</p>	<p>Postal questionnaires were completed by 186 pharmacists, all attending Robert Gordon University in Scotland, and 144 DMPs.</p>	<p>The findings indicated that the period of learning in practice provided the opportunity for teamwork and professional development. However, organisational, attitudinal and time barriers were identified. The pharmacists suggested that communication via the internet would be a useful mechanism for peer support during the period of learning in practice. Although both the pharmacists and DMPs were provided with handbooks, many did not feel fully informed about the course requirements, indicating a need for more structured information about roles/responsibilities.</p>	<p>Study sample was only from one university, so the responses could have been biased. First major study to explore the experiences of pharmacists during the period of learning in practice whilst training to become supplementary prescribers. This study is relevant to the evaluation as it explores the period of learning in practice from both perspectives.</p>

<p>Latter, S., Maben, J., Myall, M. and Young, A. (2007) 'Evaluating nurse prescribers' education and continuing professional development for independent prescribing practice. Findings from a national survey in England' <i>Nurse Education Today</i> 27, 7: 685-696. DOI: 10.1016/j.nedt.2006.10.002</p>	<p>To evaluate the adequacy of nurses' educational preparation for independent prescribing, and to examine their experiences of CPD when in practice.</p>	<p>Postal questionnaire was developed and reviewed by the National Prescribing Centre, RCN and the Association for Nurse Prescribing. Questionnaires were distributed to a random sample of nurse independent prescribers registered with the NMC. The sample included those registered in 2002/early 2003 to ensure at least six months of prescribing in practice. Total of 246 responses were used for analysis.</p>	<p>Most of the nurses indicated that the taught element of their programme met their needs, and they were satisfied with the support provided by their DMP. The majority of the nurses maintained a range of specified prescribing competencies in practice. Self-directed and informal continuing professional development was undertaken by some of the nurses. There is a need for more formal CPD opportunities for nurse prescribers.</p>	<p>This was the first national survey exploring the education and CPD experiences of nurse independent prescribers in England. The sample had only been qualified for 6-12 months at the time of data collection, so this might account for their limited access to CPD opportunities.</p>
<p>Bradley, E., Blackshaw, C. and Nolan, P. (2006) 'Nurse Lecturers' observations on aspects of nurse prescribing' <i>Nurse Education Today</i> 26, 7: 538-544. DOI: 10.1016/j.nedt.2006.01.008</p>	<p>To explore nurse lecturers' perceptions and experiences of delivery nurse prescribing courses.</p>	<p>Semi-structured interviews with eight HEI lecturers from four HEIs delivering prescribing training across the West Midlands. This study was part of a larger three-year evaluation of nurse prescribing across the West Midlands.</p>	<p>Key issues identified: poor selection criteria for prescribing training; diversity of nursing specialities and backgrounds on the course; the problems of incorporating pharmacology into the programme; and the provision of independent and supplementary prescribing training concurrently.</p>	<p>It remains unclear whether reported experience is specific to certain professional groups or NHS sectors.</p>

<p>Gray, R., Parr, A.M. and Brimblecombe, N.R. (2005) 'Mental health nurse supplementary prescribing: mapping progress 1-year after implementation' <i>Psychiatric Bulletin</i> 29, 8: 295–297. DOI: 10.1192/pb.29.8.295</p>	<p>To gather the views and experiences of the directors of nursing at mental health NHS trusts in relation to supplementary prescribing.</p>	<p>Postal questionnaire was developed for the purpose of the study by the National Institute for Mental Health in England National Mental Health Nurse Prescribing Group. Questionnaires were sent to 83 mental health trusts in England, and 45 responded (54% response rate).</p>	<p>The findings have shown that although relatively few mental health nurses were undertaking the supplementary prescribing role at the time of research, the majority of respondents framed nurse supplementary prescribing as a significant development for improving patient care and nursing career progression. Although active resistance was rare, there was a general perception that psychiatrists were not sufficiently equipped to mentor supplementary mental health nurse prescribers. Concerns were also raised about suitability of the training with little mental health input, emphasising the vital role of adequate mentorship.</p>	<p>Further research is needed to explore the appropriate mentorship and support for supplementary mental health nurse prescribers.</p>
<p>Avery, A. J., Savelyich, B.S.P. and Wright, L. (2004) 'Doctor's views on supervising nurse prescribers' <i>Prescriber</i> 15, 17: 56-61.</p>	<p>To explore doctors' views and experiences of supervising nurse prescribers, and to gather their opinions on the scope and limitations of nurse prescribing.</p>	<p>Structured open-ended questionnaires were used to conduct telephone interviews with 12 doctors (six GPs and six hospital doctors). Qualitative analysis was conducted.</p>	<p>The doctors were generally positive about the experience of supervising the nurses. Most of the doctors had pre-existing working relationships with the nurses, and the experience of supervising had the potential to improve that relationship. Supervision typically included observations of clinical practice, opportunities to review cases, tutorials and discussions about what to prescribe. Whereas some of the doctors viewed the support and information provided by the universities to be adequate, others indicated a need for more support. The study reported that the main personal cost was time, with some of the doctors conducting the supervision outside working hours. Therefore, protected time and remuneration were identified as key to encouraging more doctors to supervise nurse prescribers.</p>	<p>Small scale study. Pre-existing working relationships could mean that perceived ability to fulfil the role might not reflect the actual ability to prescribe. Findings are relevant to this evaluation, particularly the need for protected time and remuneration.</p>

<p>Bradley, E., Campbell, P. and Nolan, P. (2004) 'Nurse prescribers: Who are they and how do they perceive their role?' <i>Journal of Advanced Nursing</i>, 51, 5: 439–448. DOI: 10.1111/j.1365-2648.2005.03527.x</p>	<p>To elicit background information about recently qualified nurse prescribers and explore perceptions of their current roles.</p>	<p>A self-reported questionnaire was developed to gather data about: demographics, expectations of nurse prescribing, education, personal and professional development. 91 nurses completed the questionnaire. They were from four cohorts of the NMP course at one university and were studying to become supplementary and extended nurse prescribers.</p>	<p>The majority of respondents stated that they were already heavily involved in prescribing decisions by proxy, before conclusion of formal NMP training. The majority of the nurses had undertaken the qualification to advance their practice and patient care. The most important skills to successfully undertake the role were interpersonal and clinical skills, as well as pharmacological and prescribing knowledge. 30% of the nurses reported that NMP will be treated as a valuable resource by their colleagues, while 23% were concerned that the NMP role might be misunderstood. Common concerns included: implementation of the role in practice; increased accountability and responsibility; misunderstanding of the role; and access to support and supervision.</p>	<p>The sample included a high proportion of nurses qualified at graduate or postgraduate level, self-selected for NMP training with a high level of support from employing organisations, which might not be reflective of the general population of nurses qualifying for prescribing authority.</p>
<p>Lewis-Evans, A. and Jester, R. (2004) 'Nurse prescribers' experiences of prescribing' <i>Journal of Clinical Nursing</i> 13, 7: 796–805. DOI: 10.1111/j.1365-2702.2004.00993.x</p>	<p>To explore the experiences of nurse prescribers' using the Nurse Prescriber's Formulary (NPF), and to investigate how prescribing has impacted on their professional role.</p>	<p>Qualitative approach with minimally structured interviews. Purposive sample of seven nurse prescribers within a West Midlands Community Trust. Thematic analysis of data.</p>	<p>The findings indicate that nurse prescribing is facilitating patient centred care, in terms of continuity of care, convenience and saving the patient's time. Other benefits include: time and cost effectiveness, improved communication, increase of patient confidence, and increase in perceived treatment appropriateness. There was increased role satisfaction due to increased autonomy, and the opportunity for education and professional development. Issues associated with prescribing included: the restrictions of the NPF framework, pressures to prescribe, duplication of records, limited time capacity, and issues of accountability and lack of knowledge.</p>	<p>The purposive sample might limit the generalisation of the findings.</p>

<p>Otway, C. (2002) 'The development needs of nurse prescribers' <i>Nursing Standard</i> 16, 18: 33-38. DOI: 10.7748/ns2002.01.16.18.33.c3140</p>	<p>To identify the continuing professional development needs of nurse prescribers.</p>	<p>Mixed-methods study conducted in one NHS trust - Leicestershire and Rutland (NHS) Healthcare Trust. Semi-structured interviews with 12 nurse prescribers. Interview analysis then informed a questionnaire distributed to 350 nurse prescribers within the trust. 241 questionnaires were returned (69% response rate).</p>	<p>Nurse prescribers identified prescribing as an essential element of their core practice. There were concerns about the limitations of the formulary used by nurse prescribers. More training was needed in relation to pharmacological knowledge. Peer support was valuable for supporting practice. In contrast, isolated working was a concern for some nurses. GPs were considered to be very helpful, although it was also reported that they could create barriers to nurse prescribing. Ongoing support is necessary for nurse prescribers in the trust, along with robust systems for addressing their educational needs.</p>	<p>Good response rate for the survey. Study is focussed on nurse prescribers in one trust, so the findings are contextual.</p>
<p>Taylor, C. and Hicks, C. (2001) 'The occupational profile and associated training needs of the nurse prescriber: An empirical study of family planning nurses' <i>Journal of Advanced Nursing</i> 35, 5: 644-653. DOI: 10.1046/j.1365-2648.2001.01896.x</p>	<p>To identify national training needs for prescribing authority in family planning nurses.</p>	<p>Postal survey method, included a training needs analysis questionnaire. Distributed to all family planning nurses registered as members of the National Association of Nurses for Contraception and Sexual Health (NANSCH). 388 family planning nurses completed the survey.</p>	<p>The nurse prescribing role was defined predominantly in terms of prescribing activities, although the most frequently cited training needs included a wide range of clinical skills. These were: advanced clinical practice, applied pharmacology, administrative skills, technical abilities, and most importantly – research skills.</p>	<p>The survey had a low return rate (34%), which limits the generalisation of the findings. Postal survey only open for three weeks and no reminders sent. Survey was adapted from a psychometric training needs analysis instrument, but this is not detailed in the study.</p>

<p>Humphries, J.L. and Green, E. (2000) 'Nurse prescribers: Infrastructures required to support their role' <i>Nursing Standard</i> 14, 48: 35-39. DOI: 10.7748/ns2000.08.14.48.35.c2899</p>	<p>To answer the following question: what are the opinions of nurse prescribing students about the infrastructures required to support nurse prescribing?</p>	<p>Data was collected from 12 focus groups (six health visitor and six district nurse groups). All participants were students undertaking a course in nurse prescribing at the University of Central Lancashire. The total number of participants was 146.</p>	<p>Ten themes were identified by the focus groups as necessary infrastructures to support nurse prescribing: protocols; keeping updated; peer support; patient records; project manager/managerial support; clinical supervision; GPs and other colleagues; pharmaceutical representatives; safety of prescription pads; mechanisms for patients without a GP.</p>	<p>This study utilised a convenience sample by focussing on the student cohorts at one university. The opinions of the students might change when they are registered to become prescribers.</p>
<p>Nolan, P., Haque, M.S., Badger, F., Dyke, R. and Khan, I. (2000) 'Mental health nurses' perceptions of nurse prescribing' <i>Journal of Advanced Nursing</i> 36, 4: 527-534. DOI: 10.1046/j.1365-2648.2001.02005.x</p>	<p>To investigate mental health nurses' perceptions of nurse prescribing, its advantages and disadvantages, and identify further education needs linked to prescribing in mental health.</p>	<p>Survey instrument consisted of 14 items and was developed for the purpose of the study. Data collected included: demographic data, involvement in medication management, perceived advantages and limitations of nurse prescribing, and identification of educational needs. 73 mental health nurses completed the survey. They were recruited from a 1-day conference on nurse prescribing.</p>	<p>The majority of participants reported that mental health nurse prescribing would: improve access to medication; improve compliance; support early intervention; prevent relapse; and prove cost effective. However, many respondents expressed anxiety about the lack of sufficient knowledge and skills to assume responsibility for prescribing. Further educational training, supervision and the co-operation of doctors are needed to maximise the benefits of mental health nurse prescribing.</p>	<p>Study provides a snapshot of the opinions of self-selecting group. Findings cannot be generalised to all mental health nurses.</p>

Appendix 2: Designated Medical Practitioner Survey

Health and Social Care Evaluations (HASCE), at the University of Cumbria, are evaluating the role of the Designated Medical Practitioner (DMP) in Non-Medical Prescribing (NMP) training programmes. This evaluation is funded by Health Education England (HEE) and aims to develop our understanding of DMPs' experiences of mentoring students and how they are supported to carry out this role in practice.

As the DMP role is currently being redeveloped, this evaluation will gather a diverse range of views in order to inform future mentoring roles. The findings from this research will be shared with HEE and Higher Education Institutions (HEIs) which provide NMP training programmes.

We are inviting DMPs from across the North of England to participate in this survey by sharing their views and experiences of mentoring NMP students. Your participation is entirely voluntary. You can decline to answer some questions or stop the survey at any time. When you click to 'finish' the survey, you are giving consent for us to use your responses in the evaluation report.

The survey will take approximately 25 minutes to complete. All of your answers will be anonymous and treated as confidential. Your survey responses will be stored electronically on the university's network in a folder accessible to only HASCE team members working on this evaluation. The evaluation report for HEE, and any future publications, will only contain anonymised information from the survey responses.

If you have any questions about the survey, please contact Dr Laura Snell at laura.snell@cumbria.ac.uk or Dr Tom Grimwood at tom.grimwood@cumbria.ac.uk

About You

1. What is your area of specialism?
2. What is your current grade?
 - a. Please indicate how long you have been at this grade:
Less than 1 year, 1 - 2 years, 2 - 3 years, 3 - 5 years, 5 - 10 years, 10 years or more
3. Where are you based?
North East, North West, Yorkshire and Humber

Your role as a DMP

4. When did you first act as a DMP? Please enter the month and year, if possible.
5. In total, how many NMP students have you mentored?
6. Which of the following NMP students have you mentored in your DMP role? Please tick all that apply.
Nurse, Midwife, Physiotherapist, Pharmacists, Radiographer, Chiropodist/Podiatrist, Optometrist, Other
 - a. If you selected Other, please specify.
7. Who initially approached you about becoming a DMP? Please tick all that apply.
Chosen by a student, Chosen by employing organisation, Other
 - a. If you selected Other, please specify.
8. Why did you decide to become a DMP?
9. What do you think is the purpose of your DMP role?

Your preparation and training for the DMP role

10. Which, if any, of the following training roles did you have before you became a DMP?
Please select all that apply.
Clinical supervisor, Educational supervisor, Foundation or Speciality Training Programme Director, Foundation Tutor, GP Trainer, Training Programme Director, I hadn't previously carried out a training role, Other
 - a. If you selected Other, please specify.
11. What other experience of teaching and supervising in practice did you have before you became a DMP?
12. To what extent did your previous training/teaching/supervision prepare you for the DMP role?
Completely prepared me, Somewhat prepared me, Did not prepare me at all
 - a. Please explain your response.
13. What experience or training do you think DMPs need before mentoring their first NMP student?

Your experience of supervising and assessing NMP students

The next few questions will focus on your experience of supervising NMP students during their period of learning in practice.

14. Which of the following have you provided for your current NMP students? Please tick all that apply.

A learning contract or agreement, A learning programme, A time schedule, Opportunities to observe how you conduct patient consultations or interviews, Opportunities to carry out consultations

15. On average, how much time do you spend directly mentoring and/or supervising each NMP student? Please provide your answer in hours.
16. Please describe any resources you use when mentoring your NMP students (e.g. equipment, facilities, textbooks etc.).
17. When do you usually spend time with your NMP students? Please tick all that apply.
During protected time in working hours, Outside working hours, Other
 - a. If you selected Other, please specify.

The next few questions will focus on your experience of assessing NMP students.

18. How would you rate your understanding of the DMP role in assessing NMP students?
Very poor, Poor, Average, Good, Very good
 - a. Please explain your response.
19. Have you received assessment criteria or guidelines from the higher education institutions?
Yes, No
 - a. If you answered 'Yes', please describe the assessment materials provided and how you use them to assess whether or not the NMP students have met the required learning outcomes and prescribing competencies.
 - b. If you answered 'No', please explain what you have used to assess whether or not students have met the required learning outcomes and prescribing competencies.
20. How would you rate the process that DMPs undertake to assess NMP students in terms of ensuring their readiness for practice?
Appropriate, Not appropriate
21. Please use this space to make any additional comments about the process of assessing NMP students.

Support provided by Higher Education Institutions (HEIs)

22. We want to find out how DMPs are supported by the HEIs. Please indicate which types of support you have a) been offered and b) accessed. Tick as many as apply.
An orientation session and/or information before the start of each programme, Attending the programme when the practice assessment was discussed with students, A handbook

or briefing notes, An assessment workbook or log, Practice visits, Practice environment audit, Other

a. If you selected Other, please give details.

23. Please rate the quality of the support that you have received from HEIs:

Very poor, Poor, Neither good nor poor, Good, Very good

24. Please use the space below to make any additional comments about the support provided by HEIs.

Support provided by employers

25. How does your employing organisation support you to act as a DMP?

26. How would you rate your employer's level of support in your role as a DMP?

Very poor, Poor, Neither good nor poor, Good, Very good

27. Are there any other ways in which you would like your employing organisation to support you?

28. Have you ever had a mentor for your role as DMP?

Yes, No

a. If you answered 'Yes', how did you access this mentor?

It was arranged by the HEI, It was arranged by my employing organisation, I arranged it myself

Overall experience of the DMP role

29. What do you think are the benefits of acting as a DMP?

30. What challenges have you experienced when acting as a DMP? If the challenges are specific to a particular type of student (i.e. nurses, physiotherapists etc.), please state this in your response.

31. Overall, what factors do you think contribute to a successful DMP role? For example: professional experience, organisational support, specific traits etc.

Appendix 3: Letter of introduction for NMP students

Dear NMP Student,

Health and Social Care Evaluations (HASCE), at the University of Cumbria, have been commissioned by Health Education England (HEE) to evaluate the role of the Designated Medical Practitioner (DMP) in Non-Medical Prescribing (NMP) training programmes.

The mentoring role within NMP training is undergoing change, and this research has been commissioned to inform future roles and the support they receive. In particular, we want to understand the complexities of the role from the perspective of the mentor. As such, we want to collect a wide range of views about the experience of mentoring NMP students and how DMPs are supported to carry out this role in practice.

We are approaching NMP students who started their training programme in January 2019 to ask for help with recruiting DMPs for this research. Please can you invite your DMP to share their views and experiences of mentoring NMP students by participating in the online survey:

<https://cumbria.onlinesurveys.ac.uk/designated-medical-practitioner-survey>

All of the survey responses will be anonymous and the data will be handled confidentially. The survey will be open from Friday 1st February until Thursday 28th February. Following analysis, a report will be delivered to HEE summarising the findings from the survey.

If you have any questions about the evaluation, please contact Dr Laura Snell (laura.snell@cumbria.ac.uk) or Dr Tom Grimwood (tom.grimwood@cumbria.ac.uk).

We appreciate your help with disseminating the online survey.

Kind regards,

HASCE Research Team

Appendix 4: Letter of introduction for Non-Medical Prescribers

Dear Sir/Madam,

Health and Social Care Evaluations (HASCE), at the University of Cumbria, have been commissioned by Health Education England (HEE) to evaluate the role of the Designated Medical Practitioner (DMP) in Non-Medical Prescribing (NMP) training programmes.

The mentoring role within NMP training is undergoing change, and this research has been commissioned to inform future roles and the support they receive. In particular, we want to understand from current mentors:

- The complexities of the role in practice;
- The support that is currently in place, from both Universities and places of work;
- What could be improved about the role, and the support it has.

As such, we are collecting a wide range of views about the experience of mentoring NMP students and how DMPs are supported to carry out this role in practice. This research will help inform HEE of their strategies for mentoring in the future.

We are approaching independent and supplementary prescribers to ask for help with recruiting DMPs for this research. Please can you invite your DMP colleagues to share their views and experiences of mentoring NMP students by participating in the online survey:

<https://cumbria.onlinesurveys.ac.uk/designated-medical-practitioner-survey>

All of the survey responses will be anonymous and the data will be handled confidentially. The survey will remain open until Friday 29th March 2019. Following analysis, a report will be delivered to HEE summarising the findings from the survey, and offering recommendations to guidelines.

If you have any questions about the evaluation, please contact Dr Laura Snell (laura.snell@cumbria.ac.uk) or Dr Tom Grimwood (tom.grimwood@cumbria.ac.uk).

We appreciate your help with disseminating the online survey.

Kind regards,

HASCE Research Team