Navigating the prescribing landscape: a qualitative exploration of the learning needs of designated prescribing practitioners

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Declaration

I, Michelle Winfred Bernadette Styles, confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature

Word count

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Abstract

Increasing numbers of healthcare professionals are training to become non-medical prescribers as part of the government's strategy to improve patient access to medicines and address workforce shortages in the UK National Health Service (NHS). The aim of this study was to explore whether those who supervise trainee non-medical prescribers during workplace learning (designated prescribing practitioners) perceive the need for additional training for the role.

This study used a broad interpretivist approach to explore the learning needs of designated prescribing practitioners. Semi-structured interviews gathered experiences and perspectives from 21 study participants (10 nurses, 10 pharmacists, one doctor) who had supervised or were preparing to supervise trainee non-medical prescribers in the workplace. Interview data were transcribed, coded and analysed abductively through the theoretical lens of Wenger-Trayner and Wenger-Trayner's (2015) landscapes of practice which links learning and professional identity. The thesis analyses how study participants navigate the prescribing landscape using three modes of identification – engagement, imagination and alignment – and provides insight into participants' lived experiences of becoming designated prescribing practitioners.

Study participants were experienced in workplace supervision and replicated or adapted techniques used when supervising other learners in the workplace. No specific learning needs were identified for the designated prescribing practitioner role and regulatory requirements for Higher Education Institutions to provide training was perceived to be a barrier to participation. However, the need for peer support and awareness of other practices and practitioners in the landscape were identified as being important.

Overall, this study found that becoming a designated prescribing practitioner is not simply a matter of attending training or providing evidence to meet a set of competencies. Instead, it is a more complex process whereby practitioners navigate the complex prescribing landscape using different modes of identification to develop a professional identity that is shaped by both the journey and the landscape.

Impact statement

There has been a drive to increase the number of non-medical prescribers (healthcare professionals other than doctors and dentists with prescribing rights) in the National Health Service (NHS) in England. To facilitate this, the pharmacy regulator has removed restrictions on the length of post-qualification experience required before undertaking prescribing training and from 2026, all newly registered pharmacists will be non-medical prescribers (approximately 4000 graduates per annum). As part of prescribing training, trainee non-medical prescribers require a period of workplace supervision by experienced prescribers (known as designated prescribing practitioners). For patient safety reasons, there is a need to ensure that there is a sufficiently large workforce of trained designated prescribing practitioners willing to supervise the increasing numbers of pharmacist trainee non-medical prescribers.

There has been little research to date on how designated prescribing practitioners perceive the purpose of their role, how they prepare for the role or how they assess trainee competence. This research makes an important contribution to the limited evidence base on how designated prescribing practitioners (DPPs) prepare to supervise trainee non-medical prescribers in the workplace. The study identified some significant barriers to uptake of the role, particularly the pharmacy regulator's requirement for each Higher Education Institution to provide training for prospective designated prescribing practitioners, resulting in the need to undertake multiple training programmes. The study recommends that the pharmacy regulator removes its requirement for mandatory training and that NHS England introduces standardised, optional training to encourage more non-medical prescribers to become designated prescribing practitioners and increase capacity for workplace supervision.

The research is also relevant to non-medical prescribing leads within NHS organisations who are responsible for the support and training of non-medical prescribers and recommends that they set up formal peer support networks for designated prescribing practitioners. Although this research focuses on training of pharmacist non-medical prescribers, its findings are relevant for all healthcare

professions in the UK that are permitted to train as non-medical prescribers. It also provides a framework for future research on how designated prescribing practitioners from different professions might learn together.

This research contributes to the sparse body of literature on the application of landscapes of practice theory to healthcare professionals' education by offering novel insights into how designated prescribing practitioners learn and develop their professional identities using three different modes of identification to make sense of the complex prescribing landscape. The thesis has the potential to broaden the scope of designated prescribing practitioner and non-medical prescriber education from a narrow focus on achievement of competence to a focus on developing professional identity and 'becoming'.

Dissemination of this research is planned through publications in healthcare education journals, attendance at national and international conferences and through social media. The study has been shared with the Deputy Chief Pharmaceutical Officer for NHS England and with the pharmacy regulator as its findings and recommendations have the potential to influence national guidance and policy ahead of the increased numbers of pharmacist trainee non-medical prescribers requiring workplace supervision from summer 2025.

Reflective statement

> *"Theory is a lens through which to see the world. We invite you to put on this lens for a moment to reflect on your own trajectory through a landscape."(Wenger-Trayner and Wenger-Trayner, 2015b)*

This quote concludes the first chapter of Wenger-Trayner's book outlining the theory of landscapes of practice which influenced my thinking and provided the theoretical framework for my EdD thesis. It seems fitting therefore that I accept Wenger-Trayner's invitation to put on this lens to help me reflect on the trajectory of my own journey through the EdD landscape. Landscapes of practice theory describes how practitioners use three different 'modes of identification' (engagement, imagination and alignment) to negotiate their identities as they journey across a landscape of practice (Wenger-Trayner *et al.*, 2015b). I will reflect on how I have used these three modes of identification through the EdD programme and how my personal experience of learning has been shaped by both the EdD landscape and my journey.

I embarked on the EdD programme in 2018, enrolling at the very last minute. I had considered undertaking the programme since completing my Masters in 2015 but I was not sure that my cognitive and writing abilities were adequate for doctoral level study, the time had never felt right and I did not have a research topic about which I felt sufficiently passionate. I attended a workshop run by Health Education England on workplace-based assessments in pharmacy and was curious about how these were perceived by learners and assessors. In my personal life, my eldest son had recently left home for university so my two main barriers disappeared, together with the excuses for not enrolling.

The Foundations of Professionalism module required us to explore contemporary notions of professionalism and provided me with direct experience of the 'regime of competence' (Wenger-Trayner *et al.*, 2015b, p.20) of the EdD community of practice. The EdD programme provide materials to help reify (Wenger, 1998) the abstract concept of the EdD, for example, reading lists, group discussions and activities. As I

engaged with fellow students to discuss the challenges of professional life, I developed an ‘identity of participation’ (ibid.) in the EdD community and realised that the pharmacy profession’s challenges were similar to those faced by other professions. I had studied professionalism in a previous Masters module and was familiar with the readings, so my initial experience of engagement with the EdD community was one of competence. Inspired by Power’s (2008) argument that professionals should adopt a sociological perspective and respond creatively to the challenges of modern professional life, I used imagination to create an image of the pharmacy landscape as an ocean and the pharmacist as a buoy anchored to the seabed by professionalism but pulled in competing directions by the currents of multiple identities. I argued that newly qualified pharmacists needed support to embrace multiple evolving professional identities during the transition to practice and this led to my overarching interest in researching workplace support structures in pharmacy. I shared my assignment with the Centre for Pharmacy Workforce Studies at the University of Manchester who used it as the basis for further research (McDermott, Schafheutle and Willis, 2024).

I was looking forward to the first Methods of Enquiry (MOE1) module as I was intrigued to learn more about research philosophy. The readings were interesting, but I found it difficult to align these with the module assignment which required writing a research proposal. My experience of engagement with the EdD community this time was one of incompetence. However, by this stage my identity was invested in the EdD community and I was keen to align with its regime of competence. I had identified the need to explore the support provided by educational supervisors to newly qualified pharmacists but was fixated on adopting a specific approach to qualitative research based on one of the well-known approaches such as ethnography. The research questions that I wanted to ask did not seem to fit with any of these approaches and I found it difficult to articulate the purpose of my research. I decided to mould my research questions so that I could propose using a grounded theory approach to explore the experiences of those involved in educational supervision and inform the development of a theoretical framework. Although I had aligned with the requirements of the assignment, on reflection, I realised that I had ‘acquiesced’ (Wenger-Trayner *et al.*, 2015b, p.21) and simply

complied with the requirements rather than undertaking a two-way process of co-ordinating the assignment requirements with my research questions.

For the second Methods of Enquiry module (MOE2), I had a clear research aim to develop an instrument to evaluate the educational supervision provided by my organisation for pharmacy professionals enrolled on NHS England funded postgraduate training pathways. Even with such a small-scale project, I found the research process, including literature review, data collection and analysis hugely rewarding. I used survey methodology to adapt an instrument used in clinical supervisions for educational supervision and validate its content, analysing both quantitative and quantitative data. I submitted an abstract of this research to the Lifelong Learning in Pharmacy conference in 2021 and was delighted to have it accepted, thereby consolidating my embryonic identity as a researcher (Styles, Shaw and Grimes, 2021). However, I was disappointed when the Covid-19 pandemic denied me the opportunity to travel to Dublin to present my research in person.

I was keen to develop my growing identity of participation in the research community by undertaking the Institution Focused Study (IFS). Having developed an instrument to measure learner perceptions of the effectiveness of educational supervision, it seemed logical to use this to collect data for the IFS. My employer supported my objective of evaluating learner and supervisor perceptions of the effectiveness of educational supervision and despite the EdD programme director's caution about using a mixed methods approach due to the restrictions on the IFS length and scope, I was confident in my ability to make it work. I had planned to adopt a mixed methods approach, carrying out a survey followed by focus group interviews. However, the Covid-19 pandemic meant that potential study participants were overwhelmed providing frontline NHS service and I decided that I could not ask them to take time away from clinical duties to participate in research. I put my research on hold and joined Health Education England's training team for the London Nightingale Hospital. By July, the first wave of the pandemic was receding and I decided that it would be a better time for my survey. I had around 100 responses and was surprised

by the rich qualitative data collected by free-text comments. My supervisor agreed that I would not undertake focus group interviews and instead use only survey data.

My IFS provided interesting insights into how educational supervision was perceived by both learners and supervisors. Based on my findings that learners valued peer support as well as educational supervision, my organisation moved from individual educational supervision meetings to group supervision, allowing it to use its budget more efficiently. In addition, based on the findings from my IFS, I published two papers in peer reviewed journals (Styles, Middleton, Schafheutle *et al.*, 2022b; Styles, Schafheutle, Willis *et al.*, 2023) and had posters accepted at two conferences (Styles, 2022; Styles and Shaw, 2022c), further supporting my burgeoning identity as a researcher. I am still thrilled to receive a ResearchGate notification when one of these papers has been read or cited.

Although my IFS identified a number of areas for further research, formal educational supervision is only available to pharmacy professionals enrolled on NHS England funded postgraduate training pathways provided by my organisation. Therefore, I needed to expand the scope of my research to other workplace support structures. Around this time, the law changed to allow healthcare professionals training as non-medical prescribers to be supervised by other non-medical prescribers, known as designated prescribing practitioners. As supervision takes place during a period of learning in practice, this fitted with my research interest in exploring workplace support structures in pharmacy. I proposed exploring the learning needs of designated prescribing practitioners supervising trainee non-medical prescribers in the workplace using an exploratory qualitative approach. The thesis brings together the problem I had identified in the first two EdD modules, namely the lack of formal workplace support structures in pharmacy, and the findings from my IFS about the effectiveness of workplace supervision.

The requirement to write a reflective statement at the end of the thesis stage has provided me with the opportunity to reflect on my position within my landscape of practice and the possibilities for my future. The EdD programme afforded me the opportunity to explore the boundary between academia and practice. My imagined

trajectory through the academic community was always one of ‘sojourner’ (Fenton-O'Creevy, Brigham, Jones *et al.*, 2015a, p.44), someone who engages fully with a community of practice but intends to pass through without full assimilation. The programme allowed me to participate on the periphery of the academic community and to create an image of what it would be like to be a researcher. Engagement with the academic community through the taught modules and research projects prompted me to undertake identity work (Alvesson and Willmott, 2002) to revise my professional identity as a pharmacist and incorporate the additional identities of student and researcher. The EdD programme, in particular the thesis stage, confirmed my philosophical stance as being grounded in constructionist ontology and interpretivist epistemology and helped me to develop expertise in qualitative research methods. The programme’s requirements to align with the conventions of academic writing have become a very deep aspect of my identity and I have been privileged to be asked to run sessions for my organisation on getting started with research. More recently, I was asked to join a research group from the Centre for Pharmacy Workforce Studies to prepare a research bid.

My personal experience of learning to become a researcher has involved more than acquisition of knowledge. My journey within and across the practices and communities comprising the EdD landscape has shaped who I am. My journey through the EdD landscape and the relationships that I developed with other EdD students and other communities of practice have allowed me to claim ‘knowledgeability’ (Wenger-Trayner *et al.*, 2015b) of the landscape as well as competence in qualitative research methods. Although I have modulated my identity by engaging with the EdD taught modules, aligning with the academic community’s conventions and imagining myself as a researcher, I still see myself primarily as a practitioner, but one with the skills for autonomous research. The EdD has transformed how I approach problems in my own workplace. For example, a colleague set up wellbeing sessions for educational supervisors and we worked together to research its impacts (Richardson, Styles and Shaw, 2023). In addition, I identified that learners needed a mechanism to provide feedback about their educational supervisor. Alongside writing my thesis, I undertook a two-phase study to develop and test an instrument for learners to provide feedback and presented

this at the Lifelong Learning in Pharmacy conference in Denver (Styles, Hampson and Shaw, 2022a). However, I am far from complacent about my abilities as a researcher and recognise that I need to remain engaged with the academic community if I am to keep up to date and embrace its evolving regime of competence.

Acknowledgements

Firstly, I would like to thank the medical and non-medical prescribers who gave their time willingly to speak to me and share their experiences and perceptions of the complex prescribing landscape within which they practise.

Thank you to my supervisors, Dr Natasha Kersh, and Dr J.D. Carpentieri for their wisdom, guidance and insight, as well as their unrelenting positivity and encouragement.

I also want to thank Dr Matthew Shaw at CPPE who encouraged me to enrol on the EdD programme and provided some of the funding that enabled me to undertake the work. In addition, I am grateful to Professor Ellen Schafheutle and Dr Sarah Willis at the University of Manchester who encouraged me to publish research papers from my IFS.

Finally, to Martyn, Matt and Finn, thank you for your love, support and encouragement throughout this process. I could not have done it without you!

Dedication

For my mother, who strove tirelessly to ensure that her four daughters were educated (Sarah McConville, 1931 – 2024).

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Glossary

Term	Definition
Designated medical prescriber (DMP)	A medical practitioner who directs and supervises a trainee prescriber's period of learning in practice.
Designated prescribing practitioner (DPP)	An umbrella term used to describe an experienced prescriber responsible for supervising a trainee prescriber's period of learning in practice.
Designated prescribing practitioner competency framework	A document developed by the Royal Pharmaceutical Society and adopted by all the prescribing professions that describes a set of competencies required of a prescriber taking on a DPP role.
General Pharmaceutical Council (GPhC)	The independent regulator for pharmacists and pharmacy technicians.
Independent prescriber (IP)	Practitioners responsible for the assessment of patients with previously undiagnosed or diagnosed conditions, and for making decisions about the clinical management required, including prescribing.
Non-medical prescriber (NMP)	Healthcare professionals other than doctors and dentists who have been granted additional rights to prescribe. Currently these include chiropodists, dietitians, midwives, nurses, paramedics, pharmacists, physiotherapists and radiographers who have undertaken additional training.
Nursing and Midwifery Council (NMC)	The independent regulator for nurses, midwives and nursing associates.
Period of learning in practice (PLP)	A period of 90 hours supervised practice in a clinical setting, overseen by a DPP.
Prescribing competency framework	Published and maintained by the Royal Pharmaceutical Society on behalf of all the prescribing professions and their regulators and professional bodies, this describes a set of common competencies that underpin prescribing, regardless of professional background.

Professional judgement	Professional judgement in pharmacy has been defined as, *"the application of knowledge, skills and attitudes which, when applied to situations where there is no one or obvious right or wrong way to proceed, gives a patient a better likelihood of a favourable outcome than if a lay-person had made the decision." (Roche and Kelliher, 2014, p.74)*
Royal Pharmaceutical Society (RPharmS)	The professional body for pharmacists which developed and produced competency frameworks for prescribers and designated prescribing practitioners.
Supplementary prescriber (SP)	Practitioners responsible for prescribing medicines from a patient-specific clinical management plan agreed by a medical or independent prescriber.

Chapter 1 – Introduction and rationale

1.1 Introduction

The subject of this research is the learning needs of designated prescribing practitioners (DPPs) who undertake workplace supervision of nurses and pharmacists training to become non-medical prescribers (NMPs). This is a topical issue because increasing numbers of nurses and pharmacists are training to become NMPs as part of the government's long-term strategy to address workforce shortages in the National Health Service (NHS) in England and improve patient access to medicines (Department of Health, 2000; Department of Health, 2006; NHS England, 2023). This study sets out to explore the learning needs of DPPs as they prepare to take on this role.

This chapter introduces the research by outlining the background and context in which the research was conducted, including a brief history of non-medical prescribing in the UK. It provides a rationale to demonstrate the need for and timeliness of the research. It outlines the thesis aims and the research questions that framed the empirical research. Finally, it provides a structural overview of the thesis.

1.2 Background and context

Traditionally in the UK, prescribing of medicines was restricted to medical and dental practitioners. However, in 1999, the 'Crown report' (Crown, 1999) concluded that extending prescribing rights beyond doctors and dentists would benefit patient care and use the skills of healthcare professionals more effectively. The Health and Social Care Act, 2001, extended prescribing responsibilities to other healthcare professionals including nurses and pharmacists. Approval for non-medical prescribing NMP was granted in 2002, with the first nurse prescribers qualifying in 2003, followed by pharmacists in 2004 (Graham-Clarke, Rushton, Noblet *et al.*, 2019). Subsequently, prescribing rights have been extended to other healthcare professionals including optometrists, paramedics, physiotherapists, podiatrists and radiographers (Health and Care Professions Council, 2023), with future plans to extend prescribing rights to the new professions of anaesthesia and physician associates (NHS England, 2023).

The Health and Social Care Act, 2001, introduced two different types of non-medical prescribers: supplementary prescribers who can prescribe only medicines from a patient-specific clinical management plan agreed by a medical or independent prescriber; and independent prescribers who are responsible for the assessment, diagnosis and management of patients and may prescribe any medicine within their competence. Nurses and pharmacists were restricted to training as supplementary prescribers until legislation to implement independent prescribing was introduced in 2006 (Department of Health, 2005). Nowadays, all pharmacists and most nurses training as non-medical prescribers train as independent prescribers. However, the term non-medical prescribing will be used throughout this thesis to include both supplementary and independent prescribing.

Although non-medical prescribing was originally introduced to facilitate patient access to medicines, it is increasingly being seen by government as part of the solution to the challenges presented by an aging population with increasingly complex healthcare needs, increased demands on NHS services and workforce shortages (Graham-Clarke *et al.*, 2019; Walpola, Issakhany, Gisev *et al.*, 2024). It is widely recognised that pharmacists have the potential to relieve pressure on the NHS by undertaking some of the work currently done by doctors (King's Fund, 2019; NHS England, 2019; NHS England and NHS Improvement, 2022) and so in 2023/24 NHS England funded 3000 pharmacists to undertake NMP training (Health Education England, 2023). Originally considered to be advanced practice (Cope, Abuzour and Tully, 2016), non-medical prescribing is embedded as an integral part of routine practice for many healthcare professionals (NHS England, 2023). For example, the pharmacy regulator, the General Pharmaceutical Council (2021), introduced new standards for the initial education and training of pharmacists in Great Britain which mean that by 2026, all newly registered pharmacists will be non-medical prescribers. In addition, the nursing regulator, the Nursing and Midwifery Council (2023b), has removed the requirement to have been registered for a minimum of three years before applying to undertake a non-medical prescribing course. However, this may present additional challenges for DPPs as they will be required to supervise trainee NMPs with little clinical experience in practice.

1.2.1 Non-medical prescribing training

Training for non-medical prescribing is provided by universities and is accredited by relevant regulators such as the Nursing and Midwifery Council and the General Pharmaceutical Council. Courses are provided at level 6 (degree) and level 7 (Masters), with some targeted at teaching single professions such as pharmacy or physiotherapy, while others teach a range of professions such as nursing and pharmacy together. Training comprises an academic component provided by Higher Education Institutions (HEIs) and a practical component, the period of learning in practice (PLP), a 90-hour period of supervised workplace practice during which trainee NMPs observe and participate in activities such as patient consultations and history-taking. The PLP enables integration of theory with practice and provides opportunities to acquire and practise the clinical assessment and consultation skills that were not part of core pharmacy undergraduate curricula until recently (Stewart, MacLure and George, 2012). Until 2022, PLP supervisors, called ‘designated medical practitioners’ (DMP), were required to be doctors with relevant clinical expertise. Regulatory changes (General Pharmaceutical Council, 2022) have enabled other healthcare professionals to take on this supervisory role, and the term ‘designated prescribing practitioner’ (DPP) is now used to describe an expanded range of healthcare professionals, including nurses and pharmacists as well as doctors, who supervise trainee NMPs in the workplace. DPPs must be qualified prescribers (medical or non-medical) and their role is to oversee the PLP and assess the trainee NMP’s competence to prescribe against the competences outlined in the prescribing competency framework (Royal Pharmaceutical Society, 2021).

1.3 Rationale

When non-medical prescribing was introduced, the Department of Health assumed that designated medical practitioners (DMPs) would be experienced in teaching and supervising learners in the workplace (National Prescribing Centre, 2005). Therefore no training was provided for the role and there was little research into whether DMPs perceived the need for additional training (Grimwood and Snell, 2019). There has been little published research to date on the experiences of DPPs supervising trainee NMPs and little is known about their learning needs. The professional body

for pharmacists developed a competency framework for DPPs which has been adopted by the nursing, midwifery and allied health professions (Royal Pharmaceutical Society, 2019). The DPP competency framework requires self-assessment of ability to meet 36 competencies across three domains focusing on personal skills and experience; ability to deliver the role; and provision of a suitable learning environment (see Appendix 11). The General Pharmaceutical Council's standards for the education and training of pharmacist independent prescribers (2019) require non-medical prescribing course providers to provide DPPs with training on assessment and feedback but does not require them to provide training for other competencies such as teaching and supervising learning in practice, articulating decision-making processes or encouraging critical thinking. There has been little research to date on DPPs' ability to use competency frameworks to identify their learning needs or to self-assess competence.

In most healthcare professions, workplace supervision is common from early career through to advanced and specialist practice, with formal supervision structures in place to support safe practice (Howard, Yuet and Isaacs, 2020; Styles *et al.*, 2022b). However, in pharmacy, there is little workplace-based learning after the foundation training year (previously known as the pre-registration year) which follows the undergraduate degree. Consequently, pharmacy has few formal support structures such as educational supervision and it has been argued that the profession is not adequately equipped to supervise workplace-based learning (Jones, Safdar and Jubraj, 2010). Until recently, there was no requirement for those supervising the workplace learning of trainee pharmacists (previously known as pre-registration pharmacists) to undertake training before starting the role (Health Education England, 2021). This has resulted in significant variation in trainees' levels of satisfaction with their foundation training experience (Jee, Schafheutle and Noyce, 2019). The most recent analysis of trainee satisfaction found that 11 percent rated the overall quality of their training as poor or very poor, and only 2 percent of dissatisfied trainees rated supervision as good (General Pharmaceutical Council, 2017). It is possible that trainees' poor experiences could be related to the lack of mandatory training for workplace supervisors. Pharmacist prescribing has been found to be safe, with estimates of errors on pharmacist-written prescriptions

comparing favourably with those of doctors (Baqir, Crehan, Murray *et al.*, 2015; Onatade, Sawieres, Veck *et al.*, 2017) but for patient safety reasons, it is vital to ensure that DPPs are competent to supervise and assess the competence of trainee NMPs.

At present there are approximately 54,000 registered pharmacists in England, of which approximately 15,000 (27%) are NMPs (General Pharmaceutical Council, 2024). Most of the pharmacist workforce will wish to train as NMPs in the future to provide the services that the NHS and patients expect from pharmacy (NHS England, 2019) and will require workplace supervision by DPPs. In addition, from 2025, there will be a need for DPPs to supervise approximately 3500 trainee pharmacists per year during foundation training (Burns, 2021). Although the number of pharmacist NMPs has doubled since 2019, there is an ongoing shortage of those willing to become DPPs (Lipanovic, 2024). There is a pragmatic need to ensure that a sufficiently large workforce of DPPs exists and is appropriately trained, therefore this study will have value for all healthcare professions in the UK that are permitted to train as non-medical prescribers. The first cohort of trainee pharmacists will begin independent prescribing training in 2025/26 and plans to train the existing workforce are in development (Health Education England, 2019), so this research is timely. Supporting the healthcare workforce is also one of the top areas of research interest identified by the Department of Health and Social Care (2023).

In summary, there has been little research exploring the learning needs of DPPs. Pharmacist DPPs are perceived to be confident and competent prescribers but there is less certainty about their ability to teach and assess trainee NMPs (Jebara, Mcintosh, Stewart *et al.*, 2022). Although George, McCaig, Bond *et al.* (2006) argued that there was a need for more in-depth qualitative studies on non-medical prescribing, the majority of studies to date have been quantitative (Jarmain, 2020b; Jebara *et al.*, 2022). There has been little research on how DPPs understand the term competence, how they self-assess their competence to take on the role and how they use the DPP competency framework (Royal Pharmaceutical Society, 2019) to identify their learning needs. These are important omissions in the evidence base.

This study sets out to address these gaps by exploring the experiences of DPPs who have supervised, or are preparing to supervise, nurse and pharmacist trainee NMPs.

1.4 Research aim and research questions

The aim of this study is to develop a detailed understanding of the learning needs of DPPs. The study explores the experiences of DPPs who have supervised, or are preparing to supervise, pharmacist and nurse trainee NMPs. It explores DPPs' own experiences of being supervised by DMPs; how DPPs have prepared or intend to prepare for their role as workplace supervisors; how they use competency frameworks to assess their own competence and that of trainee NMPs; and the training and support they perceive is needed for the role.

The following research questions will frame the empirical research:

1. How do designated prescribing practitioners perceive the purpose of their role?
2. What training and support do designated prescribing practitioners perceive they need to supervise trainee NMPs in the workplace?
3. How do designated prescribing practitioners use competency frameworks to assess their own and trainee NMP competence?

1.5 Structure of the thesis

Chapter 2 situates the study within the literature on workplace learning. It begins with an overview of the theoretical perspectives most widely applied in healthcare professional workplace learning and explores their utility for analysing how DPPs prepare for their role as workplace educators. It also discusses definitions of competence in pharmacy and examines the literature on the assessment of competence. The theoretical framework underpinning the research, landscapes of practice theory (Wenger-Trayner *et al.*, 2015b), is detailed, integrating the literature on non-medical prescribing.

Chapter 3 describes the research strategy and justifies the use of a broad interpretivist approach to answer the research questions identified above. It

discusses the philosophical assumptions underpinning the study and describes the use of semi-structured interviews to collect and analyse the data, including the reasons for choosing these methods and concludes with an overview of ethical considerations.

Chapters 4, 5 and 6 analyse the research findings relevant to how DPPs engage in supervising trainee NMPs; how they perceive the prescribing landscape and their role; and how they use competency frameworks to assess their own competence and that of trainee NMPs. These three data-led chapters share the perspectives of DPPs who participated, supported by excerpts from interview transcripts, and discuss the findings in relation to the literature and government policy.

Finally, chapter 7 concludes the thesis. It returns to the research questions outlined above and discusses how they have been answered from the research findings detailed in chapters 4, 5 and 6. It provides a review of the key issues identified and includes consideration of the implications of this research for pharmacy and other healthcare professions implementing non-medical prescribing. The chapter concludes with a brief consideration of the study's strengths and limitations and suggestions for future research.

Chapter 2 – Literature review and theoretical framework for the study

2.1 Introduction

This study focuses on the learning needs of designated prescribing practitioners (DPPs) as they prepare to supervise trainee non-medical prescribers (NMPs) in the workplace. This purpose of this chapter is to situate the study within the diverse body of literature on workplace learning. Since the focus of this research is on how healthcare professionals learn in the workplace, the literature on vocational education and training in the workplace will not be reviewed.

The chapter starts by briefly outlining the workplace as a learning environment in healthcare. The literature on the main theoretical perspectives that have influenced healthcare professionals' workplace education is then reviewed and the utility of these perspectives for exploring how DPPs facilitate workplace learning is evaluated. The literature on competency-based education in the healthcare professions is then explored as competence and its assessment is fundamental to the DPP role. The final section outlines the theoretical framework underpinning this research, landscapes of practice theory, (Wenger-Trayner *et al.*, 2015b), integrating the wider body of literature on non-medical prescribing and justifying application of this theory to the study.

2.2 The workplace as a learning environment

Non-medical prescribing training comprises an academic component provided by Higher Education Institutes (HEIs) and a practical component of supervised workplace learning, the period of learning in practice (PLP). Therefore, to set this study in context, it is important to outline briefly how the workplace is conceptualised as a learning environment for healthcare professionals.

In the late 20th century, the workplace was dismissed as providing informal, unstructured learning that is inferior to the learning that occurs in educational institutions (Resnick, 1987). However, the workplace is now widely recognised as an important site for learning and it has been argued that the structured activities and interactions provided by workplaces as part of everyday practice are inherently

educational (Billett, 2004b; Cairns, 2022; Cairns and Malloch, 2011). Workplace learning has been shown to provide significant opportunities for both formal learning (what is consciously taught) and informal learning (implicit learning about how things work in a particular context) (Rainbird, 2000).

Although the workplace is well recognised as an environment for learning in nursing and medical education (Peters and ten Cate, 2014), it is less well recognised in pharmacy education. Until the pharmacy regulator updated its standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2021), exposure to practice during training was limited (Bullen, Davison and Hardisty, 2019; Waterfield, 2011) and socialisation into the profession started during a postgraduate year of supervised workplace practice (Jee, Schafheutle and Noyce, 2016). As a result, little attention has been given to researching or theorising workplace learning in pharmacy. There is broad agreement in the literature about the value of the PLP for trainee NMPs: observing designated medical practitioners (DMPs) has been shown to give trainee NMPs a broader perspective of patient care (Ahuja, 2009), develop trust between doctors and other healthcare professionals (Afseth, 2017) and help learners contextualise classroom knowledge (Watson, 2021). George *et al.* (2006) found that pharmacist trainee NMPs perceived the PLP to be more valuable for the development of clinical skills than learning provided by HEIs. However, there have also been concerns about the quality of supervision experienced by some trainees (Campbell, 2004; Ryan-Woolley, McHugh and Luker, 2007; Watson, 2021). These studies were carried out before the introduction of the role of DPP but suggest that the workplace will be a valuable learning environment for trainee NMPs.

2.3 Learning theories in healthcare professionals' education

Many theoretical perspectives have influenced healthcare professionals' education (Kaufmann and Mann, 2019; Morris, 2019; Yardley, Teunissen and Dornan, 2012). Hager (2011) describes the historical development of workplace learning theory and outlines three major theories of learning: psychological theories that focus on individual learning (behavioural and cognitive theories); socio-cultural theories that view learning as a social process involving participation in workplace activities; and theories which integrate these two perspectives and view learning as an ongoing

process of identity formation. The following sections review the theoretical perspectives most widely applied in healthcare professional workplace learning and their potential for exploring how DPPs prepare for their role as workplace supervisors.

2.3.1 Psychological theories

Psychological theories regard learning as a change that occurs in the mind of an individual (Hager, 2004). These theories consider learning to be independent of context and knowledge and skills can be transferred and applied unproblematically to any situation (Hager, 2011). Knowledge is conceived as a set of universal, codified propositions that can be transmitted from teacher to student (Hager, 2011) and 'tacit' knowledge (knowledge that is understood or implied without being written down) is considered inferior (Hager, 2004). Expertise is considered to comprise knowledge and skills which can be broken down into competences and acquired (Sfard, 1998) by learners. Psychological theories have been influential in healthcare professions' education, notably in medicine, where individualism underpins the tradition of autonomous practice (Bleakley, 2006). Psychological theories focus on thinking and changes that occur in the mind rather than actions in the world (Hager, 2011) and encompass both behavioural and cognitive theories of learning.

Behavioural theories focus on an individual's acquisition of skills and claim that learning manifests in observable behaviour changes (Tusting and Barton, 2003). Learning principles derived from behavioural theories and used in the workplace include learning by doing, repetition and the need for clearly defined behavioural objectives (Hartley, 2008). Behavioural theories have underpinned the introduction of competency-based education in healthcare professions' education as demonstrated by the pharmacy regulator's standards for the education of pharmacist NMPs (General Pharmaceutical Council, 2022) and the professional body's competency frameworks for NMPs (Royal Pharmaceutical Society, 2021) and DPPs (Royal Pharmaceutical Society, 2019). Competence and competency frameworks are discussed in more detail in section 2.4.

Cognitive theories focus on changes that occur in an individual's mind and claim that learning is constructed by individuals based on their own experiences or experiences provided by educators (Tusting *et al.*, 2003). Some cognitive theories emphasise how learners engage with their own experiences, while others contend that learning is shaped by interactions with others, for example, teachers or more knowledgeable colleagues. However, the focus for both remains on individuals. Models derived from cognitive theories and applied to workplace learning in the healthcare professionals include experiential learning (Kolb, 1984) and cognitive apprenticeship (Collins, Brown and Holum, 1991) which are outlined in the next sections.

2.3.1.1 Experiential learning and reflection

The idea of learning through experience is prevalent in healthcare professionals' education. Kolb's (1984) experiential learning theory claims that learning is a process in which the transformation of concrete experiences in the external world creates knowledge in the mind of individuals. Kolb (1984) proposed a four-stage cycle of knowledge which starts with a concrete experience and continues with reflective observation and abstract conceptualisation (see Figure 1).

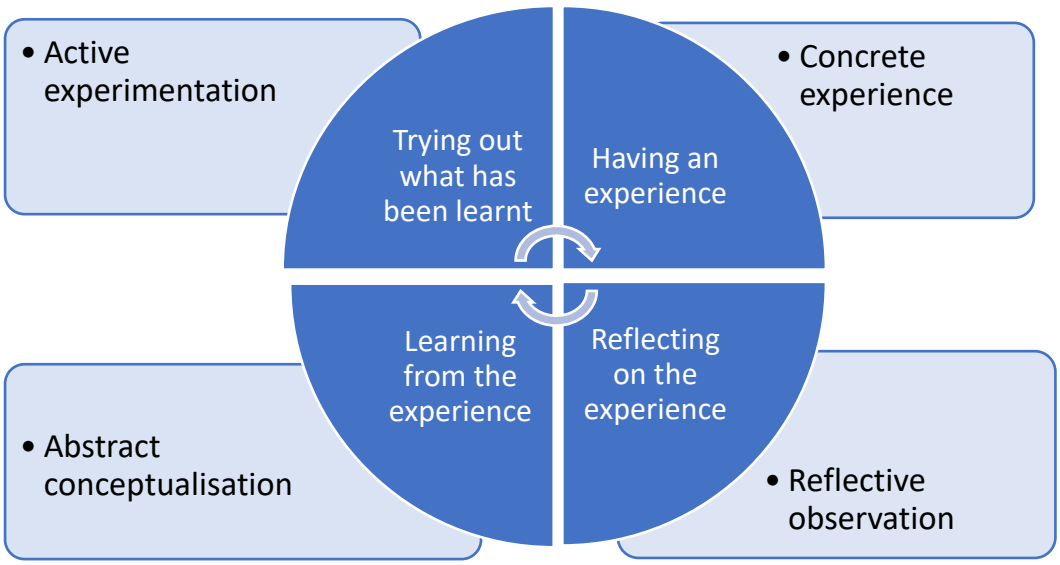

Figure 1: Kolb's learning cycle (adapted from Kolb 1984)

Kolb (1984) theorises that learners identify general principles that can be learnt from an experience, assign meaning to these and then assimilate them into existing knowledge before trying out new actions in practice. Although the four-stage model starts with a concrete experience in the workplace, it fits with psychological theories of learning as it ignores the social context in which the experience takes place and focuses on how individuals make sense of the experience in their minds.

Reflection is linked to experiential learning theory as it forms part of the complex learning process by which individuals make sense of their experiences and assimilate them into existing knowledge (Moon, 2013). Boud, Keogh and Walker (2013, p.19) define reflection in the context of learning as '*intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations'.* Reflection is normally viewed as an individual activity but may also take place as a collective or group activity and this can help individuals to explore the broader context of their experiences such as a profession's norms and values.

The use of experiential learning and reflective practice is evident in elements of HEI prescribing course requirements (George, Bond, McCaig *et al.*, 2007). HEIs provide tools to facilitate the transformation of experience into knowledge, for example, by requiring trainee NMPs and DPPs to agree learning contracts at the start of the PLP which encourages trainee NMPs to identify their own learning needs and set objectives (McAllister, 1996). HEIs also require trainee NMPs to document their experiences in a portfolio which helps them make sense of their experiences in practice (Stewart *et al.*, 2012). However, experiential learning theory does not consider the role of the DPP in providing learning experiences or in helping learners makes sense of their experiences.

2.3.1.2 Cognitive apprenticeship

The cognitive apprenticeship model builds on experiential learning theory by focusing on the role of the teacher in '*making thinking visible*' (Collins *et al.*, 1991, p.1). This model was originally proposed to explain the role of a classroom teacher but has also been applied to workplace learning. Elements of the six-stage model

have been adopted in workplace learning in the healthcare professions and include: modelling which allows learners to observe and conceptualise a practice; coaching where learners practise a task and are offered feedback (Stalmeijer, Dolmans, Wolfhagen *et al.*, 2009); scaffolding which supports learners to take on more complex tasks than they are capable of (Burgess, Matar, Roberts *et al.*, 2021); articulation which asks learners to provide a rationale for what they have done; reflection which encourages learners to analyse performance; and exploration which provides opportunities for learners to take on new tasks, promoting independent practice. Cognitive apprenticeship theory may explain how DPPs facilitate learning during the PLP. However, like experiential learning, it is narrow in scope as it focuses on learning as an activity that occurs only in an individual's mind. Therefore, the next section will explore socio-cultural theories which provide a wider perspective on workplace learning.

2.3.2 Socio-cultural theories

In contrast to psychological theories, socio-cultural theories foreground the social aspects of learning and emphasise participation in the processes and activities of the workplace (Hager, 2011). Knowledge is understood to reside in teams and organisations as well as within individuals; knowledge is believed to include cognitive and affective capacities, skills and 'know-how'; and the importance of tacit, uncodified knowledge is recognised (Hager, 2004). Knowledge is not simply transferred from one context to another but is referenced to context (Evans and Kersh, 2004) and requires 'recontextualisation' (Guile, 2014) by practitioners. Socio-cultural theories emphasise learning through participation whereby learners construct meaning and identity as they participate in activities with other practitioners and other learners in the workplace (Sfard, 1998).

2.3.2.1 Communities of practice

Lave and Wenger (1991) were among the first to theorise workplace learning as being 'situated' within social contexts, arguing that learning should not be seen as an individual's acquisition of knowledge but as the collective creation of knowledge achieved through participation in the sociocultural practices of a 'community of practice' defined as a group of people who share similar interests, activities and

perspectives. Novices in a community of practice observe and perform basic tasks on the periphery, becoming more skilled through active participation, interaction and collaboration with other community members, as they move towards the centre and become expert members. In this context, learning depends on the opportunities afforded to novices to participate in practice, their engagement with these opportunities and their relationship with others in the community. Lave *et al.* (1991) also argue that learning is more than individual acquisition of knowledge; it requires novices to modify their identity which occurs as they participate in practice. However, this implies a progressive stabilisation of identity as novices move towards an identity of master or expert (Bleakley, 2011). As NMPs and DPPs practise in a multitude of settings, communities of practice theory is unlikely to explain fully how DPPs facilitate learning in the workplace.

The initial version of communities of practice theory focused on the process of individual learning within single communities of practice. However it only looked at how newcomers learned and did not explore how masters (expert members of the community) might also learn from interactions with novices (Fuller, Hodkinson, Hodkinson *et al.*, 2005) or how experienced professionals continue to learn from their participation in novel and evolving practices (Hager and Hodkinson, 2011). In later work, Wenger (2010) rectified this by describing how the 'regime of competence' (p.180), defined as a set of criteria by which a community of practice recognises membership in a community of practice, acts on both newcomers and experts. The regime of competence pulls and transforms newcomers until their experience matches the competence of the community, but the newcomer's experience can also challenge and transform the community's socially negotiated understanding of competence. This may be relevant to non-medical prescribing communities where newcomers are not novices in the traditional sense but are experienced healthcare professionals who bring knowledge and practices from other sectors or professions.

In the second phase of theory development, Wenger's (1998) focus moved from the process of learning to the concept of identity formation through participation in the practice of a community. Within this iteration of the theory, Wenger argues that

mutual engagement between community members to create shared meaning shapes what practitioners do and who they become and that this process is ongoing, not static as suggested by the original theory. Practitioners identify with a community's domain of practice and the need to belong and so learning is inseparable from the process of becoming a community member (Farnsworth, Kleanthous and Wenger-Trayner, 2016). Participation in practice inevitably involves an ongoing process of identity formation (Brown and Duguid, 2001) and this is discussed further in section 2.3.3. Wenger-Trayner *et al.* (2015b) have evolved the theory of communities of practice further and this is discussed in section 2.5 as it forms the theoretical framework for this research.

Billett (2002) argues that communities of practice theory overlooks the personal agency of individual learners. He develops the notion of participation further by exploring the interdependence between individual agency, workplace affordances and participatory practices. Billett (2004a) suggests that learning in the workplace arises from the interaction between learning opportunities afforded by the workplace and worker engagement with these opportunities. For example, during the PLP, DPPs may provide trainee NMPs with opportunities to observe different prescribers in the workplace but trainees may choose not to engage with these opportunities. Conversely, trainee NMPs may wish to prescribe but legislation prevents them from doing so. In later work, Billett (2008) proposes a theory of expertise, locating it in the social practices of the workplace rather than within individuals. Similarly, Fuller and Unwin (2003) argue that Lave and Wenger's (1991) notion of participation is under-theorised and have developed a framework to distinguish between the different ways in which workplaces provide 'expansive' or 'restrictive' environments to facilitate or hinder an individual's learning. However, Wenger (in Farnsworth *et al.*, 2016) argues that his theory accounts for agency as individuals choose to modulate their identity as they decide to participate or not participate in other communities of practice in the landscape. This is explored further in section 2.5.

2.3.2.2 Recontextualisation

While psychological learning theories view knowledge and skills as being transferable to any setting, socio-cultural theories view knowledge as being context-

dependent and requiring ‘recontextualising’ if it is to be used in different contexts (Guile, 2010, p.154). Evans, Guile, Harris *et al.* (2010) outline a framework for putting knowledge to work in different contexts. The framework describes four types of recontextualisation: content; pedagogic; workplace; and learner. Content recontextualisation involves programme design and so is less relevant to my research. Pedagogic recontextualisation involves teachers using different strategies to help learners engage with different forms of knowledge and is influenced by teachers’ assumptions about what creates a good learning experience. The concept of pedagogic recontextualisation may be useful for exploring DPPs’ assumptions about effective workplace learning.

Workplace recontextualisation is a process by which learners are supported to combine theory learnt in formal settings with work practices (Evans *et al.*, 2010). It occurs through participation in workplace practices that support knowledge development and through supervision and mentoring. As the aim of the PLP is to enable trainee NMPs to integrate theory with practice, the concept of workplace recontextualisation may provide insights into how DPPs recontextualise their knowledge of prescribing and education to supervise trainee NMPs in practice and the techniques they use to help learners recontextualise their theoretical knowledge.

Learner recontextualisation involves the strategies that learners use to combine the knowledge gained in formal settings with insights gained from working. Learner recontextualisation is also crucial to identity formation as it provides opportunities for learners to connect with a profession (Evans *et al.*, 2010). Identity is discussed in the next section.

2.3.3 Learning as becoming

Contemporary workplace learning theories have moved away from a dichotomous view of learning as either psychosocial or socio-cultural, focussing instead on the interplay between these processes and the notion of identity formation (Cairns, 2022). Hodkinson, Biesta and James (2008) were among the first workplace learning theorists to suggest that commonly used metaphors to conceptualise learning such as acquisition, transfer and participation should be replaced by a different metaphor

to help understand learning more holistically – 'learning as becoming'. They argue that for individuals, becoming combines the concepts of knowledge construction in the mind of an individual with a sense of belonging to a community through participation in its practices. Similarly, Hager *et al.* (2011) argue that professional learning occurs in the interactions between individuals and their workplace environment.

In contrast, Wenger (1998, p.154) uses the term 'becoming' to describe the process of identity formation that occurs as practitioners participate in the practices of a community and suggests that identity is an integral aspect of social learning theory. This is discussed further in section 2.5.

2.3.3.1 Identity and identity formation

Identity has been described as how people define themselves in specific contexts (Ashforth, Harrison and Corley, 2008). Stets and Serpe (2013) suggest that identity can be categorised as personal, social or role. Personal identity is defined as the set of characteristics that make individuals unique from others (Burke and Stets, 2022), for example, gender or ethnicity, values (Hitlin, 2003) or traits such as being fair (Savage, Burke, Stets *et al.*, 2019). Social identity arises from membership of social groups such as workplace teams (Tajfel, 1978) and involves participating in the group's activities and behaving in ways expected of group members (Stets *et al.*, 2013). Individuals belong to many social groups but tend to identify with some groups more strongly than others (Kreindler, Dowd, Dana Star *et al.*, 2012). The notion of social identity may be relevant to DPPs who work in multi-disciplinary teams alongside practitioners from other professions. Role identity is associated with the roles that individuals perform in society (Burke, 1980). Stets *et al.* (2013) distinguish between social positions, defined as categories in a group or organisation that individuals occupy such as nurse or pharmacist, and roles, defined as the set of expectations associated with a social position. The concept of role identity is likely to be relevant to DPPs who undertake multiple roles such as prescriber, educator and manager. Wenger (1998) suggests that the concept of identity acts as a bridge between individuals and social structures such as organisations and professions, as it involves how people perceive themselves and how they are perceived by others.

Professional identity is a more complex notion as it combines both social and role identity (Siebert and Siebert, 2005) and comprises beliefs, knowledge, values and practices that distinguish a profession from others (Cruess, Cruess, Boudreau *et al.*, 2014) . Professional identity is important because it can shape work behaviours and attitudes (Caza and Creary, 2016) and can influence the extent to which members of a profession undertake the roles expected of them (Kellar, Singh, Bradley-Ridout *et al.*, 2021). Scanlon (2011) conceptualises professional identity formation as a continuous, evolutionary process, congruent with notions of lifelong learning. Similarly, Wenger (1998, p.153) uses the term 'trajectory' to suggest that identity formation is a process of continuous motion. This suggests that his thinking has moved on from the original iteration of communities of practice theory which suggested that professional identity was stable and an end-goal of newcomers seeking community membership.

Ibarra (1999) argues that when people adopt new professional roles, they need to develop new skills and behaviours and this changes how they see themselves, in other words, it alters their professional identity. Similarly, Alvesson *et al.* (2002, p.626) argue that when roles are fluid and evolving, practitioners need to continuously engage in 'identity work' whereby they construct, maintain and revise their professional identities in response to unpredictable events and transitions. As the role of DPP is evolving, it is likely that developing the new skills and behaviours required will impact on professional identity and that DPPs will need to engage in identity work. Therefore, it is important to understand how DPPs construct and maintain their professional identities as they learn and develop new skills.

In summary, the literature suggests that workplace learning theories have moved on from binary notions of psychological theories that focus on individual learning at one extreme and socio-cultural theories that focus on participation at the other. Instead, contemporary learning theories view workplace learning as an integrated process involving both individuals and their participation in workplace activities and recognise that these processes can influence identity. The following section will explore how

competence is defined, operationalised and assessed within the healthcare professions as this is central to the DPP role.

2.4 Competence

Competence concerns the capability of an individual to consistently perform a role or task (Mulder and Winterton, 2017). In the wider workplace education literature, competence is a contested concept with some theorists focusing on individual learning and others on the social aspects of learning. Therefore, it can be argued that competence spans both psychological and socio-cultural theories of learning. Gonczi (1994) and Eraut (1998) discuss the tensions between two dichotomous conceptions of competence: the task-based, or socially situated concept which attempts to codify performance as a series of atomised tasks and behaviours; and the individually situated concept, defined as the generic, transferable attributes or underlying characteristics of a practitioner. In the first approach, evidence of competence is based on observation of performance, but the importance of tacit knowledge and professional judgement is ignored. The second approach assumes that generic skills and attributes such as problem-solving or communication can be transferred from one context to another, although the literature suggests that individuals, particularly novices, often have difficulty transferring skills and attributes between settings (Ennis, 1989; Greeno, 1989).

Gonczi (1994) proposes an integrated approach which combines individuals' attributes with the tasks that need to be performed in specific social contexts. In this approach, workplace context is emphasised and practitioners need to recontextualise knowledge (Guile, 2014) if it is to be used in a different context. Using this approach, occupations are represented as a set of competency standards which integrate key tasks and attributes. In addition, the role of professional judgement in interpreting guidelines and adapting practice to specific situations is highlighted (Hager, 2017). The holistic approach to competence addresses some of the shortcomings of the first two approaches, but assessment of competence remains problematic as assessors are still required to assess individual competencies. Assessment of competence is discussed further in section 2.4.3.

The task-based, individually situated and integrated approaches to competence are all situated within psychological learning theories, reflecting the individualised nature of healthcare professionals' education. In contrast, Wenger (1998) argues that competence is not just an individual characteristic but also has a social aspect; it is not defined by regulations or professional standards but instead is a dynamic, evolving process that is socially negotiated by practitioners. This approach is situated within socio-cultural learning theories and is discussed further in section 2.5.

2.4.1 Definitions of competence

Competency-based medical education was introduced in the UK following the Public Inquiry into failures at Bristol Royal Infirmary (Bristol Royal Infirmary Inquiry, 2001) and was subsequently adopted by other healthcare professions including pharmacy. Although competency-based education has been critiqued as being reductionist (Gallagher, Smith and Ousey, 2012; Talbot, 2004), most healthcare professions in the UK have adopted an approach that is closer to the integrated approach (ten Cate, Snell and Carraccio, 2010). In a report evaluating pharmacy professional development frameworks, Wright and Morgan (2012, p.8) define the term competence within pharmacy as *"being able to perform the tasks and roles required to the expected standard".* The authors also suggest that competence involves the ability to use professional judgement in certain contexts rather than simply follow protocols, implying that the concept is more nuanced than their basic definition. Wright and Morgan's (2012) definition concurs with Hager's (2017) notion of 'holistic' competence which highlights the central role of professional judgement in adapting and interpreting practice according to the specific context of a situation.

There is little agreement in the literature about whether 'competence' and 'competency' are distinct terms. Grant (1999) argues that in medical education the two terms can be used interchangeably. In contrast, in a research report aimed at the wider education community, Vitello, Greatorex and Shaw (2021) propose that competence is associated with an individual and their ability to apply knowledge and skills in a specific context whereas competency is a narrower concept associated with the elements of a task. Bates and Bruno (2008, p.31) describe competence as the 'what' of a task and competency as the 'how'; for example, a non-medical

prescriber is competent to prescribe if they can demonstrate competencies such as assessing patients and selecting appropriate medicines. The pharmacy and nursing regulators and the respective professional bodies do not offer a definition of competence, which suggests they perceive the term to be understood tacitly within the professions. However the professional body for pharmacy defines competencies as "*demonstrable knowledge, skills, characteristics and behaviours*" (Royal Pharmaceutical Society, 2019, p.11).

Given the disagreements in the literature, it is not surprising that research has found that nurses struggle to define competence (Church, 2016) and that the term is poorly understood by pharmacy educators (Waterfield, 2017). Therefore, it is important to understand how DPPs perceive competence as this may influence how competency standards are used (Hager, 2017).

2.4.2 Competency frameworks

Competency frameworks are a list of competencies which together describe what is needed to carry out a role to the required standard (Wright and Morgan, 2012) and are commonly used in the healthcare professions to benchmark practice standards (Batt, Tavares and Williams, 2020; Udoh, Bruno-Tomé, Ernawati *et al.*, 2021). It has been argued that competency frameworks can ensure consistent performance and promote continuing professional development in pharmacy (Meštrović, Staničić, Hadžiabdić *et al.*, 2012). However, lack of consistency in the conceptualisation of competency frameworks has hampered their implementation in many healthcare professions (Mills, Middleton, Schafer *et al.*, 2020; Udoh *et al.*, 2021).

The pharmacy professional body has developed competency frameworks for prescribers (Royal Pharmaceutical Society, 2021) and DPPs (Royal Pharmaceutical Society, 2019) with the aim of bridging theory and clinical practice (Hall and Picton, 2020) and these have been adopted by all non-medical prescribing professions including nursing as the standard for competency in prescribing and supervision of prescribing training respectively (Nursing and Midwifery Council, 2023b). The prescriber competency framework comprises two overarching domains, underpinned

by 10 competencies and 76 supporting statements outlining the activities or outcomes that an NMP should be able to demonstrate (see Figure 2).

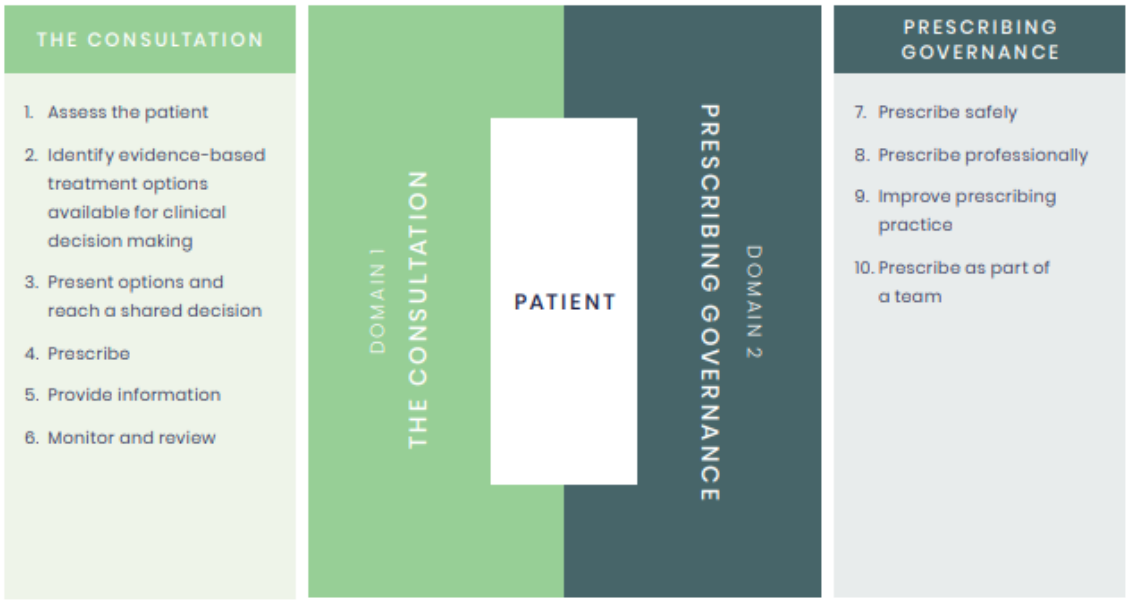

Figure 2: Diagrammatic representation of the prescriber competency framework (reproduced with permission from the Royal Pharmaceutical Society)

It is not entirely clear where the prescriber competency framework sits within the three approaches to competence. The framework combines the individual's attributes and tasks with a brief reference to the importance of context, suggesting that it is close to the holistic approach (Gonczi, 1994). However, there is scant reference to the use of professional judgement when prescribing which is central to the holistic approach (Hager, 2017).

2.4.3 Assessment of competence and competency

At the end of the period of learning in practice, DPPs are required to assess the competence of trainee NMPs and declare that the trainee is competent to prescribe. Critics of competence-based assessment argue that it is merely a snapshot of performance and does not predict future performance or performance in different contexts (Waterfield, 2017). There is debate within the education literature about whether competence can be observed directly or whether it is a construct and therefore can only be inferred from performance (Epstein and Hundert, 2002;

Gonczi, Hager and Athanasou, 1993). Hager (2017) argues that the reason competence can only be inferred is because the abilities that underlie an individual's performance cannot be directly observed. Despite this, within the healthcare education literature, there is broad agreement that competencies are observable and so can be measured and assessed (Koster, Schalekamp and Meijerman, 2017; McMullen, Arakawa, Anderson *et al.*, 2023).

The pharmacy regulator has developed standards for the education and training of pharmacist NMPs (General Pharmaceutical Council, 2022) which use the prescriber competency framework to inform its learning outcomes. These standards suggest that Miller's pyramid (1990) is used to assess prescribing competence. This model is used extensively in healthcare to assess clinical competence and describes the relationship between knowledge, performance and action (see Figure 3).

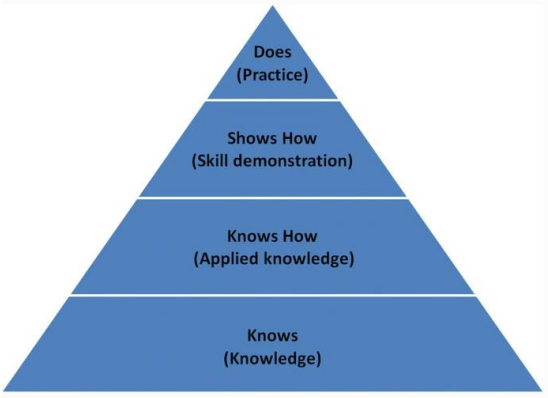

Figure 3: Miller's pyramid of clinical competence

Learning outcomes for pharmacist trainee NMPs are set at varying levels of competence on the pyramid. The first three levels account for the cognitive component of competence and are assessed by university providers of NMP courses using classroom-based assessment methods (Witheridge, Ferns and Scott-Smith, 2019). Clinical performance accounts for the behavioural aspects of clinical competence (the fourth level) and is assessed in the workplace by the DPP. However, because the pharmacy regulator's standards apply only to pharmacist trainee NMPs, most HEIs have instead adopted the pharmacy professional body's

prescriber competency framework to structure learning portfolios and help trainee NMPs identify learning needs.

Little guidance is provided to DPPs on how to assess the competence of trainee NMPs. The assessment process requires the DPP to verify the trainee NMP's competence and then sign them off (Butler, Cassidy, Quillinan *et al.*, 2011) as competent to prescribe. This form of 'sign-off' assessment is routine practice for undergraduate nursing students at the end of clinical placements (Gallagher *et al.*, 2012, p.302). Competency frameworks are not intended to provide a list of activities to be assessed (Lurie, Mooney and Lyness, 2011; ten Cate and Scheele, 2007). By requiring DPPs to declare that trainee NMPs have achieved all 76 supporting statements in the prescribing competency framework (see Appendix 12), there is a risk that DPPs may focus on assessing evidence of performance against these statements rather than assessing competence holistically. Wass, Van Der Vleuten, Shatzer *et al.* (2001) discuss the complexity of assessing competence and suggest the use of multiple methods to provide a holistic assessment of clinical performance.

It is not clear whether DPPs have the skills to assess the competence of trainee NMPs. Forward and Hayward (2005) found that designated medical practitioners (DMPs) were unsure how to assess trainee NMP competence and perceived classroom-based assessments to be more objective than workplace-based assessments. Similarly, Afseth (2017) found that trainee NMPs felt that DMPs did not understand the assessment process, while George *et al.* (2007) and Boreham, Coull, Murray *et al.* (2013) found that medical practitioners did not know what was expected of them. However, as DPPs will have undertaken non-medical prescribing courses themselves and may be more familiar with workplace-based assessments, they may be more confident when assessing competence. Therefore, it is important to understand how DPPs assess the competence of trainee NMPs and how they use competency frameworks.

There is debate in the healthcare professions' literature about whether a competent professional is excellent or merely adequate (Eraut, 1998; Grant, 2019; Pearson, 1984) and this depends on whether competence is judged on a binary scale

(competent or not competent) or on a graduated scale where competence is situated on a continuum between novice and expert (Benner, 2004). The simplistic binary view of competence associates it with carrying out a task whereas the continuum view of competence considers an individual's developing ability to carry out a job with increasing levels of expertise. The latter view concurs with Hager's (2017) integrated approach to competence and Scanlon's (2011) concept of becoming a professional which critiques the notion of expertise as an end-goal. There has been little research on whether DPPs view competence as a binary or continuum concept, therefore it is important to understand how DPPs perceive competence as this may influence how they assess trainee NMPs.

Before taking on the role, DPPs are required to self-assess their ability to meet the competencies in the DPP competency framework. Self-assessment is a judgement about the extent to which one meets a set of standards (Boud, 2013) and self-assessment of competence has been shown to promote self-directed lifelong learning and enhance critical reflection (Levett-Jones, 2005). However, the ability of doctors and nurses to accurately self-assess competence has been questioned (Abadel and Hattab, 2013; Baxter and Norman, 2011; Tracey, Arroll, Barham *et al.*, 1997). The literature suggests that most clinicians overestimate their ability (Eva and Regehr, 2005) and that those most likely to overestimate ability are the least competent with least insight into their performance (Kruger and Dunning, 1999). However, there has been little research on how DPPs perceive their ability to self-assess competence.

In summary, the literature suggests that most healthcare professions in the UK have adopted a competency-based approach to education, despite lack of clarity on how competence is defined and assessed. There is little literature exploring how DPPs assess the competence of trainee NMPs and self-assess their own competence and how they use competency frameworks which is an important omission in the evidence base. The final section of this chapter describes the theoretical framework underpinning this research.

2.5 Theoretical framework – landscapes of practice theory

Lave and Wenger's (1991) communities of practice theory has gained considerable traction in healthcare professionals' education as a lens through which to interpret workplace learning as it provides an alternative to the traditional approaches to learning which focus on individuals (Yardley *et al.*, 2012). Communities of practice theory is particularly relevant to medicine and nursing where learners are socialised into the profession early through work placements during the undergraduate years (Cruess, Cruess and Steinert, 2018). However, it could be argued that it is less relevant to pharmacy education where, until recently, socialisation took place during the foundation training year (Jee *et al.*, 2016). This may explain why few studies have explored pharmacy education through the lens of communities of practice theory. The theory has been applied in pharmacy to explain the process of professional socialisation during pre-registration training (Jee *et al.*, 2016) and how pharmacists learn when transitioning to work in general practice (Hindi, Willis and Schafheutle, 2022) but has not been used to explore how trainee NMPs learn during the period of learning in practice or how DPPs facilitate this learning. Non-medical prescribing is not a single community of practice with '*mutual engagement, a joint enterprise, and a shared repertoire*' Wenger (1998, p.152); rather it comprises multiple clinicians working in diverse roles and settings. Although DPPs have a common purpose (joint enterprise), they may not have a shared repertoire of practice due to their varied professional backgrounds and roles (Jarmain, 2022). Additionally, as DPPs practise in a variety of clinical settings, they may have little contact with each other (mutual engagement). Communities of practice theory may not be completely applicable to exploring DPPs' learning needs and therefore a broader theoretical perspective is needed.

In the most recent phase of theory development, Wenger-Trayner *et al.* (2015b, p.15) return to the process of learning but within broader 'landscapes of practice' rather than within single communities. The theory focuses on the interplay between individuals and their social context and interactions, thereby concurring with contemporary workplace learning theories which regard learning as becoming (Cairns, 2022). Wenger (1998) first used the term 'landscapes of practice' in an earlier iteration of his theory to describe complex systems of multiple, related

communities of practice. Landscapes of practice theory broadens the focus of the original communities of practice theory from an individual community structured around a single profession to multiple communities of different professions brought together by a shared purpose (Stalmeijer and Varpio, 2021). This most recent stage of theory development emphasises the experiences and learning trajectories of individual practitioners across the landscape (Omidvar and Kislov, 2014) and across organisational boundaries (Pyrko, Dörfler and Eden, 2019). The theory argues that learners travel through a complex landscape, exploring the boundaries between different communities and developing their professional identities along the way. From this perspective, learning is viewed as a trajectory or journey through the landscape which shapes who the practitioner becomes (Hodson, 2020).

Landscapes of practice theory views a profession's body of knowledge as the sum of the knowledge of all related communities of practice in the landscape, not just a single community's 'regime of competence' (Wenger-Trayner *et al.*, 2015b, p.14). While the original communities of practice theory conceptualised learning and identity development as a journey from the periphery to the centre of a single community of practice (Wenger, 1998), landscapes of practice theory conceptualises learning and identity as membership of multiple communities of practice (Kubiak, Cameron, Conole *et al.*, 2015a). Landscapes of practice theory is therefore more closely aligned to the experiences of DPPs supervising trainee NMPs than the original communities of practice theory and provides a useful theoretical lens for exploring how DPPs develop the knowledge and skills needed for the role and how they understand and assess competence.

As practitioners' perceptions of the landscape in which they practise can influence their identity and how they undertake their roles (Wenger-Trayner et al. 2015), the following section will outline the prescribing landscape in England. This will then be followed by an exploration of two fundamental concepts that underpin the theory: knowledgeability and modes of identification.

2.5.1 The prescribing landscape

The landscape of practice for prescribing is complex given that many different healthcare professionals are permitted to prescribe and that prescribing takes place in multiple settings, for example primary and secondary care, remote and face-to-face clinics, NHS and private healthcare settings. Trainee NMPs may simply transit through a community, leaving once qualified, (Fenton-O'Creevy *et al.*, 2015a) or may initially work at the periphery of a community and move towards the centre, staying on as prescribers. Trainee NMPs belong to more than one community of practice in the landscape, for example, to the academic community within the HEI course provider and to the nursing or pharmacy community. DPPs may also belong to multiple communities of practice, for example, a community of clinical specialists, a community of hospital or primary care service providers and a community of trainers and supervisors, and this multi-membership may produce tension or conflict (Balmer, Rosenblatt and Boyer, 2021).

Wenger-Trayner *et al.* (2015b) describe the key characteristics of a landscape of practice as being political, flat and diverse. The following section describes the complex prescribing landscape according to these three characteristics, integrating relevant examples from the literature on non-medical prescribing.

2.5.1.1 The political nature of landscapes of practice: power dynamics

Wenger-Trayner *et al.* (2015b, p.15) argue that landscapes of practice are inherently political as regulators and managers attempt to ‘colonise’ them through legal mandates and resource control. Regulators have influenced the prescribing landscape by redefining who is legally able to prescribe and to supervise trainee NMPs. As outlined in section 1.2, until 1992, prescribing was restricted to medical practitioners but subsequent legislative changes have allowed a range of other healthcare professionals to train as prescribers (Cope *et al.*, 2016; Graham-Clarke, Rushton, Noblet *et al.*, 2018). In 2019, the landscape shifted again as the regulatory requirement for the period of learning in practice (PLP) to be supervised by a designated medical practitioner (DMP) was replaced by the requirement for supervision by a designated prescribing practitioner (DPP) (General Pharmaceutical Council, 2022).

Commissioners, employers and managers influence the prescribing landscape by controlling access to and funding for non-medical prescribing (NMP) courses. A review of non-medical prescribing in the south of England found that prospective trainee NMPs experienced barriers to accessing courses including lack of funding and lack of capacity to be released for training and perceived themselves as having little control over these barriers (Jarmain, 2020b).

HEIs that provide NMP courses have also influenced the prescribing landscape. There is little consistency between courses and little consensus in the literature on whether the training is adequate and meets learners' needs. A qualitative survey of the first 500 pharmacist supplementary prescribers in the UK found that university courses were perceived to be too generic and did not provide the skills needed (George *et al.*, 2006). Similarly, a national survey of diabetes prescribers (Carey and Courtenay, 2010), and a study of nurse prescribing lecturers (Bradley, Blackshaw and Nolan, 2006) reported that courses did not provide sufficient pharmacology content for nurses. In contrast, surveys of nurse prescribers carried out after the introduction of independent prescribing found that university courses were perceived to be fit for purpose (Boreham *et al.*, 2013; Smith, Latter and Blenkinsopp, 2014), perhaps illustrating that course content has been adapted since the introduction of independent prescribing. However, a more recent study of newly-qualified nurse and pharmacist independent prescribers in England found that university courses were still perceived to be inadequate (Hindi, Seston, Bell *et al.*, 2019). This is supported by findings from a survey of non-medical prescribers in the south of England which concluded that teaching of physical assessment skills by HEIs was poor and was best learnt during the PLP (Jarmain, 2020a). Studies of the first pharmacist supplementary prescribers reported that pharmacists preferred to be taught separately from nurses as they perceived that different knowledge and skills were required by the two professions (Cooper, Lymn, Anderson *et al.*, 2008; George *et al.*, 2006; Warchal, Brown, Tomlin *et al.*, 2006). This is supported by a more recent survey of NMPs in the south of England which found that pharmacists felt that learning with other professionals impeded progress (Jarmain, 2020b). However, as pharmacist NMP training was commissioned from a limited number of HEIs (Health

Education England, 2023), pharmacist trainee NMPs have little ability to choose whether they learn with other professions, supporting Wenger-Trayner *et al.*'s (2015) argument that landscapes of practice are political.

2.5.1.2 The flat nature of landscapes of practice: local practice

Wenger-Trayner *et al.* (2015b) describe landscapes of practice as being flat because all practices within the landscape are equal; there is no hierarchy whereby the practice of one community is more important than another. Practitioners within a community of practice produce the practice; even where this practice is produced in response to a set of regulations or standards, it is still a creation of the community who may decide to comply with the standard or ignore it (Wenger-Trayner *et al.*, 2015b). New standards for the initial education and training of pharmacists have been introduced which require trainee pharmacists to undertake a period of learning in practice during their foundation training year to enable them to prescribe independently at the point of registration (General Pharmaceutical Council, 2022). This will require an increase in the number of DPPs who are able and willing to supervise trainee pharmacists and DPPs may be required to supervise more than one trainee at a time (Lipanovic, 2024). As DPPs currently supervise only qualified, experienced pharmacists, it is important to explore their views of supervising trainee pharmacists and of supervising multiple trainees simultaneously.

Even when non-medical prescribers have qualified, this does not mean they will automatically start to prescribe, again indicating that the decision to produce practice lies with practitioners. A recurring theme in the non-medical prescribing literature, and perhaps a barrier to taking on the DPP role, is lack of confidence in prescribing once qualified which has been partly attributed to a lack of ongoing support in practice (Green, Westwood, Smith *et al.*, 2009; Mills, Patel and Ryan, 2021; Woit, Yuksel and Charrois, 2020). Non-medical prescribers found that informal clinical supervision improved confidence and helped them to take responsibility for prescribing decisions (Maddox, Halsall, Hall *et al.*, 2016). Studies have found that non-medical prescribers are anxious about keeping up to date (Harding, Langley, Borley *et al.*, 2022; Weglicki, Reynolds and Rivers, 2015) and suggest the need for post-qualification training and peer support (Harding *et al.*, 2022; Hindi *et al.*, 2019).

Pharmacist non-medical prescribers report lacking diagnostic and clinical assessment skills (Abuzour, Lewis and Tully, 2018; Latter, Smith, Blenkinsopp *et al.*, 2012; Zhou, Desborough, Parkinson *et al.*, 2019) which is concerning if they are to take on the role of DPP.

There is little specific literature on the professional development needs of NMPs preparing to take on the role of DPP. A survey of prescribing and education leads in Scotland found that more than half of respondents did not anticipate issues relating to pharmacists' clinical or diagnostic skills (Jebara *et al.*, 2022). However, the survey highlighted a lack of confidence in pharmacists' ability to apply different teaching methods and use a range of assessment methods which links directly to the competencies required for the DPP role. Therefore, it is important to understand DPPs' perceptions of their learning needs specific to their role in supervising trainee NMPs in the workplace.

2.5.1.3 The diverse nature of landscapes of practice: boundaries as places of learning

The original concept of communities of practice focused on the centre of a community as the main place of learning, but in later work Wenger (1998) explores how learning occurs both at the periphery of the community and at the boundaries with other communities of practice. A community of practice's history of social learning creates a boundary with other communities that do not share this history (Wenger, 1998). Boundaries between different communities of practice define where the practice of one community stops and the practice of another starts (Akkerman and Bakker, 2011) and decide who is included and excluded (Midgley, 1992). Crossing boundaries and participating in multiple communities of practice can provide opportunities for unplanned learning (Wenger-Trayner *et al.*, 2015b). However, encountering unfamiliar practices and values in new communities of practice can undermine a practitioner's expertise and threaten professional identity (Gessler, 2017) and so practitioners who participate in multiple communities of practice may need to develop resilient identities. The development and maintenance of professional identity is discussed further in Section 2.5.3.

The potential loss of expertise and identity suggested by Gessler (2017) may mean that members of a community of practice are resistant to working across boundaries or participating in multiple communities of practice. Studies that pre-date the introduction of DPPs have found that while learning from DMPs is perceived to be important, trainee NMPs also valued support from other qualified NMPs (George *et al.*, 2006; Latter, Maben, Myall *et al.*, 2007). While it has been suggested that trainees should be supervised by both medical and non-medical prescribers (Ahuja, 2009; George *et al.*, 2007; Watson, 2021), this is unlikely to be feasible given the numbers of trainee NMPs anticipated in the future. Moving from supervision of the period of learning in practice (PLP) by DMPs to supervision by DPPs may allow trainee NMPs to learn from a wider range of prescribers, not just doctors (Wright and Jokhl, 2020) and observing the practices of other communities of practice can give practitioners new insights. Therefore, restricting supervision during the PLP to a DPP from the same profession may reduce opportunities for learning (Henderson, 2021) and may prevent the community of practice from becoming outward looking and learning from the practices of other professions (Decker, 2016). However, there has been little research to date on DPPs' views of supervising trainee NMPs from other professions, perhaps because such practice is not yet widespread.

2.5.2 Knowledgeability in landscapes of practice

Landscapes of practice are vast and complex and so it is not possible for practitioners to be competent in all practices within a landscape. However, a practitioner can be knowledgeable about the practices of different communities without having membership of or claims to competence in those communities (Farnsworth *et al.*, 2016). Wenger-Trayner *et al.* (2015b, p.23) term this 'knowledgeability' and define it as:

> *"the complex relationships people establish with respect to a landscape of practice, which make them recognisable as reliable sources of information or legitimate providers of service".*

Kontio (2015) describes learning in a landscape of practice as a transformative journey across the landscape to develop knowledgeability. Knowledgeable

professionals are competent in their own community of practice, understand its boundaries and have insight into other practices in the landscape that might impact on their own community. Like competence, knowledgeability has a social dimension and is not just an individual characteristic. It is a complex achievement that requires more than simply being aware of other practices within the landscape (Farnsworth *et al.*, 2016) – knowledgeability requires practitioners to interact with the practices of other communities in the landscape to develop an understanding of their own identity and the identities of other professionals (De Nooijer, Dolmans and Stalmeijer, 2022). By developing knowledgeability, practitioners gather 'fragments of experience' (Wenger-Trayner *et al.*, 2015b, p.23) from their relationships with other communities that they can draw on as they engage in practice. However, knowledgeability is contestable and needs to be socially negotiated as no single community in a landscape can define what counts for knowledgeability (Wenger in Omidvar *et al.*, 2014).

The concept of knowledgeability is well suited to exploring the experiences of DPPs as they interact with other communities in the prescribing landscape and learn about other practices. Although they cannot claim competence in other communities, being knowledgeable about them helps them make sense of the whole prescribing landscape and its relevance to their own communities of practice (Hodson, 2020). DPPs can also encourage trainee NMPs to become knowledgeable about other communities in the prescribing landscape as part of the process of becoming a prescriber. Knowledgeability is therefore a useful concept for exploring how DPPs prepare to undertake their role and how they identify their learning needs.

2.5.3 Modes of identification in landscapes of practice

Wenger (2010) argues that developing knowledgeability requires identity work. As practitioners journey through a landscape, their experiences with other communities, practices, regimes of competence and boundaries shape who they are and are incorporated into their identity. In this earlier iteration of the theory, Wenger proposed three 'modes of belonging' – engagement, imagination and alignment – to describe how practitioners build their identities within a single community of practice. In landscapes of practice theory, Wenger-Trayner *et al.* (2015b) rename these as

‘modes of identification’ to reflect how practitioners position their learning and build their identities as they journey across a landscape of practice. These modes of identification provide a useful lens for exploring how DPPs build their identities and position their learning in the prescribing landscape.

The engagement mode of identification involves experience of a community of practice’s regime of competence and direct engagement with its practices, for example, prescribing medicines or supervising trainees. Imagination mode involves constructing an image of the landscape to locate and orient oneself in the landscape and explore possibilities. Alignment mode is more complex as it involves balancing adherence to professional standards or guidelines with the tacit dimensions of professional knowledge to solve complex problems, often termed ‘artistry’ (Schön, 1983, p.8). While the three modes of identification are distinct, all three are required for effective learning and if one mode is missing, practitioners will have difficulty in negotiating meaning (Farnsworth *et al.*, 2016). If DPPs are to meet the requirements of the DPP competency framework, they need to use all three modes to engage, imagine and align themselves and their learning as they navigate the prescribing landscape (Hodson, 2021). The theoretical insights gained from exploring how DPPs use these three modes to navigate the prescribing landscape can offer useful insights into how DPPs identify their learning needs and develop the skills needed for the role.

2.5.3.1 Engagement

Engagement in practice is the most direct way for practitioners to experience a community’s regime of competence and make sense of the landscape. As a DPP, engagement requires participation in the workplace educator community as well as the prescribing community. Understanding how DPPs engage in the prescribing landscape as prescribers and educators can provide insight into how they supervise trainee NMPs in the workplace and how they prepare for the role.

Engagement also involves exploring the boundaries of a community of practice, interacting with other communities in the landscape and developing knowledgeability. In exploring the boundaries, practitioners build relationships,

exchange knowledge and introduce practices from other communities (Brown and Peck, 2018; Wenger, 1998) as well as developing a sense of 'know-who' (Edwards, Lunt and Stamou, 2010, p.31) regarding who has influence in the landscape. However, the extent to which DPPs explore the boundaries of their communities of practice and develop relationships with others in the landscape is not known.

2.5.3.2 Imagination

Wenger (1998, p.176) argues that imagination is a '*process of expanding our self by transcending our time and space and creating new images of the world and ourselves*'. Imagination does not require practitioners to directly experience the activities of other communities of practice in the landscape. Instead, practitioners extrapolate from their own experiences to make assumptions about what others in the landscape are doing and create images of the landscape and their role in it (Wenger-Trayner *et al.*, 2015b). In this sense, imagination is about understanding how the role being undertaken contributes to the landscape and where it fits with the role of others. Through imagination, DPPs navigate the prescribing landscape, constructing an image of the landscape and of their place within it as prescribers and educators. The images of the landscape created can transcend experience, inspiring new possibilities for the role and new identities.

There has been little research to date on how DPPs perceive the prescribing landscape or their role in it. A recent survey of NMPs in southwest England found that only 4% of NMPs were acting as DPPs and one of the main reasons given for not undertaking the role was lack of information about what it entailed (Jarmain, 2020a). It is therefore important to understand DPPs' perceptions of their role and their motivation for taking it on.

2.5.3.3 Alignment

Alignment is a more nuanced mode of navigating the prescribing landscape than engagement or imagination. It involves a delicate balance between aligning with the requirements of the prescriber and DPP competency frameworks (Royal Pharmaceutical Society, 2019; Royal Pharmaceutical Society, 2021) and the use of professional judgement which may involve deviating from NHS guidelines or

prescribing outside the terms of a medicine's licence, for example, where a medicine is used at a higher dose in terminally ill patients. Exploring how DPPs align with these competing tensions can provide insight into how they perceive the concept of competence and how they use competency frameworks to make decisions.

Alignment may also involve DPPs making decisions about and taking responsibility for a trainee NMP's competence to prescribe after the PLP. The literature suggests that NMPs adopt a cautious approach to prescribing and are apprehensive about the consequences of making an error (Maddox *et al.*, 2016). It is not known whether this anxiety extends to caution about self-assessment of competence against the DPP competency framework or assessing the competence of trainee NMPs.

Trainee NMPs have different and competing accountabilities to different parts of the prescribing landscape, namely practice and academia, and a narrow focus on assessment of competence may cause problems where the judgements of DPPs and academic tutors differ. However, focusing on learning as development of knowledgeability, rather than attainment of competence, can reconcile these issues as practitioners from different parts of the landscape can be used as a resource to assess trainee knowledgeability (Fenton-O'Creevy, Hutchinson, Kubiak *et al.*, 2015b).

2.6 Emerging issues and the need for empirical research

The review of the literature on workplace learning found that no single theoretical perspective fully explains how healthcare professionals learn in practice. Exploration of the psychological theories of workplace learning found that although they were helpful to explain how individuals learn, they were narrow in scope and did not consider the role of DPPs in supporting learners. Analysis of the socio-cultural theories of workplace learning found that these had more potential to explain how DPPs support trainee NMPs in the workplace but identified a need to explore DPPs' assumptions about effective workplace learning and how they recontextualise their knowledge of prescribing and education to supervise trainee NMPs. The literature highlighted contemporary learning theories as having the most utility for exploring how DPPs support trainee NMPs in the workplace. These theories view learning as a

holistic process that incorporates identity formation and so highlighted a need to understand how DPPs construct and maintain their professional identities as they develop new skills and prepare for the role.

The literature also revealed that competence is a contested concept in healthcare professionals' education and showed that there is little consensus on how competence is defined and understood. Little is known about how DPPs assess their own competence or the competence of trainee NMPs and how they use competency frameworks. As competence and its assessment is fundamental to the DPP role, this is an important omission from the evidence base.

Although there is a considerable body of literature on non-medical prescribing, much of it focuses on its impact on patients and healthcare practitioners (Carey, Edwards, Otter *et al.*, 2020; Courtenay, Carey and Burke, 2007) rather than on how DPPs support NMPs to learn in practice. The limited literature on DPPs revealed a number of issues relevant to this research, including the need to understand more about how DPPs perceive the purpose of their role and their motivation for taking it on. It also highlighted the need to explore DPPs' views of supervising trainee pharmacists, trainee NMPs from other professions and multiple trainees.

To date, no empirical studies have investigated how DPPs navigate the complex prescribing landscape and there has been little research on DPPs' perceptions of the training and support they need for the role. There is a need to understand more about DPPs' perceptions of their learning needs specific to their role in supervising trainee NMPs in the workplace.

The next chapter describes the research methods used to collect the empirical data, including details of the philosophical perspectives underpinning the study, the data collection techniques used and how data were analysed using landscapes of practice as a theoretical lens.

Chapter 3 – Research Methods

3.1 Introduction

Chapter 2 identified gaps in the existing literature on the learning needs of designated prescribing practitioners (DPPs) supervising trainee non-medical prescribers (NMPs) during the period of learning in practice (PLP). This chapter begins by providing details of the research strategy adopted to address the research questions identified in chapter 1. It discusses my philosophical assumptions and the research philosophy underpinning the study, including justification for choosing a broad interpretivist approach to answer my research questions. It also discusses practical details of how data were collected, including the reasons for using semi-structured interviews, how participants were chosen and ethical considerations. The chapter concludes with a discussion on the approaches taken to data analysis and the measures taken to ensure the study's rigor.

3.2 Research strategy

The overall aim of this study was to explore the learning needs of designated prescribing practitioners (DPPs) who supervise trainee non-medical prescribers (NMPs) during the period of learning in practice (PLP). Exploratory studies provide an understanding of the meaning of situations and events for those involved (Maxwell, 2013) and are appropriate when relatively little is known about a topic (Robson, 2016), as is the case with the learning needs of DPPs.

Qualitative research strategies are appropriate when exploring how people interpret their experiences of the world and the meanings they ascribe to these experiences (Merriam and Tisdell, 2015). They are also appropriate for studies that aim to understand the contexts within which participants act (Maxwell, 2013). As the purpose of this study is to develop a detailed understanding of DPPs' learning needs within the complex prescribing landscape, an exploratory qualitative research strategy is appropriate (Robson, 2016). Few DPPs have supervised trainee NMPs to date (Lipanovic, 2024) and so exploring the experiences of this group will provide novel insights into the phenomenon of supervising trainee NMPs that are not available from the literature. The advantages of using an exploratory qualitative

strategy in this study were that it could generate insights into the social phenomenon of supervising trainee NMPs and create scope for future research (Robson, 2016).

3.3 Philosophical assumptions

A research philosophy is a set of beliefs, principles and assumptions about knowledge, and the nature of that knowledge, which underpins research design (Winit-Watjana, 2016). Research philosophy requires ontological considerations about the nature of reality (Bryman, 2016), epistemological considerations concerning what counts as knowledge (Mason, 2018) and axiological considerations about the relationship between the researcher's values and those of their participants (Winit-Watjana, 2016).

3.3.1 Ontological considerations

Ontology relates to the nature of social entities (Crotty, 1998) and whether they are objective (independent of the mind) or subjective (located within the mind) (Bryman, 2016). Objectivism is an ontological position that contends that social entities exist independently of the observer (Bryman, 2016). In contrast, constructionism (also known as interpretivism) is an ontological position that asserts that people perceive reality differently and construct their own understanding of social entities (Howell, 2012). Rather than a single observable reality, constructionism posits that there are multiple realities that can be interpreted and understood in multiple ways and that meaning arises through interactions, negotiations and social situations (Cohen, Manion and Morrison, 2017). Within this ontological position, researchers construct, rather than 'find', knowledge (Merriam *et al.*, 2015).

Chapter 2 identified that there are diverse perspectives on how competence is defined and what it means to 'be competent' within various communities of practice (Eraut, 1998; Gonczi, 1994; Hager, 2017). Adopting a constructionist ontological position allowed me to focus on the participants' perspectives which are grounded in the knowledge, skills and lived experiences of being a DPP, and to recognise that each participant's perspective, and therefore their reality, may be different (Lee, 2012).

3.3.2 Epistemological considerations

Epistemology is closely linked to ontology (Crotty, 1998) and relates to the way in which we conceptualise what can be known and what it means to know. Positivism is an epistemological position that advocates extension of scientific study methods to the social sciences (Bryman, 2016) and contends that knowledge is discovered by objective observation of the world (Creswell, 2009). In contrast, interpretivism emphasises how people make sense of the world and their experiences in it (Mason, 2018). It contends that knowledge is constructed through human interpretation and social interaction and emphasises the subjective nature of people's lived experiences (Cohen *et al.*, 2017). Within this position, meaning is thought to be constructed, not discovered, and it is recognised that different people can construct meanings about the same phenomenon in different ways (Crotty, 1998).

The aim of my research was to interpret, explain and understand DPPs' lived experiences by focussing on their subjective accounts and perspectives (Cohen *et al.*, 2017). Adopting an interpretivist epistemology allowed me to get "*as close as possible*" to participants (Creswell and Poth, 2018, p.21) and explore the depth and complexity of their individual subjective experiences. It also allowed me to focus on the different contexts within which DPPs work (Creswell, 2009) which helped me to understand the complex prescribing landscape and to interpret their lived experiences of supervising trainee NMPs.

3.3.3 Axiological considerations

Axiology relates to the way in which researchers position themselves in the research and consider their own values and those of their participants (Creswell *et al.*, 2018). I am not a DPP or NMP and my employer, the Centre for Pharmacy Postgraduate Education (CPPE), does not provide training for NMPs or DPPs. My decision to undertake research that was not linked directly to my role was driven by my desire to minimise my position as an 'insider researcher' (Mercer, 2007) and reduce potential bias. However, I recognise that my professional background as a pharmacist and my position as part of the existing pharmacist workforce that did not graduate as NMPs (NHS England, 2023) may influence the overall approach I take to my research and how I interpret the findings. My awareness of my background and values and what I bring to the research process underpins the axiological stance of my study.

3.3.4 Underpinning research philosophy

Bringing together my ontological, epistemological and axiological positions, the research philosophy underpinning this study was a broad interpretivist approach which assumes that multiple realities exist and that knowledge is interpretive and is constantly updated (Bryman, 2016). A broad interpretivist approach, sometimes called a generic qualitative approach (Merriam *et al.*, 2015), is defined as research that draws on the strengths of well-known methodologies such as phenomenology, without claiming allegiance to a particular methodology or set of philosophical assumptions (Caelli, Ray and Mill, 2003). Broad interpretivist qualitative studies seek to understand how people construct their worlds and interpret and make meaning from their experiences (Merriam *et al.*, 2015) which fits with the overall aim of this study.

Within the interpretivist approach, researchers can only access how others understand the world by interacting with them (Denscombe, 2017) and I was aware that my role as a researcher was to *"understand, explain and demystify social reality through the eyes of different participants"* (Cohen et al., 2007, p.19). This fitted with the exploratory nature of the research which aimed to investigate how DPPs made meaning from their experiences of supervising trainee NMPs. NHS England (2017) also suggests that interpretivist approaches have the potential to contribute to the development of healthcare policy which is one of the aims of this research.

Adopting a broad interpretivist approach was also congruent with the theoretical framework for this study which draws on Wenger-Trayner *et al*.'s (2015b) landscapes of practice social learning theory. Landscapes of practice theory views a body of knowledge as a community of people who negotiate and define what it means to be competent within that community (Wenger-Trayner *et al.*, 2015b). Therefore, applying this theoretical lens to explore how DPPs identify their learning needs and perceive the purpose of their role required a focus on participants' lived experiences and individual viewpoints which is congruent with a broad interpretivist approach (Flick, 2014).

3.4 Research design

Researchers' philosophical views influence the type of research that is adopted (Mertens, 2019) and my broad interpretivist position influenced my decision to adopt a qualitative research design. Qualitative research is based on the belief that people construct knowledge as they engage in and make meaning from an experience (Merriam *et al.*, 2015) and so fits with the broad interpretivist approach of this research. Although qualitative research is underutilised in pharmacy education research (Bush and Amechi, 2019), it is useful for providing rich descriptions of complex social phenomena and for gaining an in-depth understanding of the motivations underlying human behaviours (Kaae and Traulsen, 2020). In addition, Torrance (2023) claims that in the post-pandemic era, qualitative research is best placed to advance new forms of social policy. A qualitative research design was therefore appropriate for exploring and describing how DPPs interpret their world.

There are a number of different approaches to qualitative research including ethnography, grounded theory and phenomenology (Kahlke, 2014). Ethnography focuses on the way in which those being studied view their world (Denscombe, 2017) and therefore may seem appropriate for this research. However, it relies on the researcher's observations and interpretations rather than seeking participants' own perceptions. As I intended to explore DPPs' perceptions of the role, an ethnographic design was not appropriate. Grounded theory aims to generate theories from the systematic analysis of data collected in the field (Glaser and Strauss, 1967). Grounded theory does not set out to describe how people perceive a particular phenomenon but instead aims to construct a theory about the social processes involved in the phenomenon (Stern, 1980). As my research aimed to explore DPPs' own experiences of preparing for the role, a grounded theory design was not appropriate. Phenomenology is both a research philosophy and a set of methodologies that aim to reduce individual experiences of a phenomenon or concept to a composite description of the phenomenon's essence (Creswell, 2009). While phenomenology may seem appropriate for this research as it focuses on individuals' views and personal experiences, I wanted to go beyond description of what DPPs experienced and how they experienced it (Moustakas, 1994) to explore and analyse DPPs' perceptions of preparing for their role.

I decided to adopt a broad interpretive approach to design the empirical research as this enabled me to draw on the strengths of established approaches without the constrictions of a particular set of philosophical assumptions.

3.4.1 Qualitative interviews

Qualitative interviews attempt to understand the social world from the participants' point of view (Kvale and Brinkmann, 2009). As the aim of this research was to explore DPPs' learning needs in-depth, interviewing those who are preparing to undertake or have undertaken the role is the most suitable method of data collection (Denscombe, 2017).

I decided to use semi-structured interviews to collect data as these are appropriate for complex, under-researched phenomena (Seidman, 2013) and provide rich, detailed data about participants' experiences, perceptions and feelings (Bryman, 2016). Interestingly, one participant, 'Joan', said that she had received a questionnaire about being a DPP but had not responded because she wanted the opportunity to relate her own experiences rather than answer a pre-defined set of questions, affirming my decision to use interviews to collect data. Semi-structured interviews also recognise the researcher's role in co-constructing knowledge with participants by helping to explore and develop an understanding of their experiences during the interview (Kvale *et al.*, 2009). I recognised that achieving consistency with the data collected during semi-structured interviews might be difficult as the direction of interviews is largely determined by participants (Denscombe, 2017). However, as there is limited literature available on the topic, I decided the study would benefit from issues raised by participants that I had not anticipated.

I followed Brinkmann and Kvale's (2018) seven stages of an interview inquiry to ensure the quality of my study. These stages cover a logical sequence of steps, each of which will be described in the sections below:

1. Conceptualising the study
2. Designing the study
3. Conducting interviews
4. Transcribing

5. Analysing data
6. Verifying data
7. Reporting the study.

As described in earlier sections of this chapter, I followed stages 1 and 2 by conceptualising the study and its aim and planning its design before conducting interviews.

3.5 Research methods

Data were collected by interviewing 22 DPPs comprising 11 pharmacists, 10 nurses and one doctor which aligned broadly with the number of participants that I had planned to interview when designing the study.

3.5.1 Data collection: sampling and participant recruitment

Data were collected by conducting one-to-one semi-structured interviews online which enabled a geographically dispersed range of participants to join. I used a mixture of purposive and convenience sampling (Robson, 2016) to recruit study participants strategically and ensure that a range of different professional backgrounds and sectors of practice were represented in the study, including those who were experienced DPPs and those who were considering the role. As the aim of this study was to provide a detailed understanding of how DPPs prepare for their role, this strategy helped to ensure that a broad range of perspectives was sampled and so helped demonstrate rigour (Yardley, 2000).

As the law permitting supervision of NMPs by DPPs changed relatively recently (General Pharmaceutical Council, 2022), the number of pharmacist and nurse DPPs currently practising in England is small. Pharmacist and nurse prescribers can be identified on the relevant regulator registers by the designation ‘prescriber’, but there is no national register of DPPs and so identifying potential participants for the study was difficult. I contacted non-medical prescribing leads in two different NHS regions in England who agreed to distribute information about the study to local NMPs who were already acting as DPPs or who were considering the role. I also approached course leads in two HEIs in England which provide NMP programmes and they

agreed to send information about the study to DPPs supervising their students (see Appendix 1).

While these approaches generated 12 nurse participants, there were only two responses from pharmacists. Therefore, I decided to publicise the study using social media including my professional X (Twitter) account, my LinkedIn account and a Telegram group for pharmacists working in primary care and this generated an additional ten responses. I contacted these ten pharmacists using the private messaging facilities available on social media channels, giving them my email address and attaching a participant information sheet (see Appendix 2) and a consent form (see Appendix 3). Nine of the pharmacists who responded initially to my social media posts agreed to participate in the study. Of the 12 nurses who expressed initial interest in participating in the study, 10 responded to my email and agreed to participate. Six participants passed details of the study onto designated medical practitioners (doctors) that they worked with but none contacted me. The doctor interviewed was a GP and EdD student from a different cohort whom I met during a Thesis workshop. I contacted potential participants by email to arrange a mutually convenient time to undertake interviews, attaching another copy of the consent form (see Appendix 3). The demographics of study participants are outlined in Table 1.

Pseudonym	Profession	Gender	Area of practice	Geographical location	Already a DPP?
Vikash	Pharmacist	Male	General practice	Midlands	Yes
Julia	Pharmacist	Female	Hospital	Wales	Yes
Syed	Pharmacist	Male	General practice	Midlands	No
Karishma	Pharmacist	Female	General practice	Southern England	No
Caroline*	Pharmacist	Female	Hospital, HEI	Midlands	No
Layla	Pharmacist	Female	Community	Southern England	Yes
Natalie	Pharmacist	Female	Private women's health clinic, HEI	Northern England	No
Celia	Pharmacist	Female	General practice	Southern England	Yes
Aniket	Pharmacist	Male	Hospital	Southern England	Yes
Manisha	Pharmacist	Female	General practice	Southern England	Yes
Faiza*	Pharmacist	Female	General practice	Northern England	No
Jackie	Nurse	Female	Hospital, private aesthetics clinic	Southern England	Yes
John	Nurse	Male	Substance misuse	Southern England	Yes
Sarah	Nurse	Female	Hospital	Southern England	Yes
Pauline	Nurse	Female	Community nursing	Southern England	Yes
Joseph	Nurse	Male	Hospice	Southern England	No
Rosie	Nurse	Female	Hospital	Southern England	Yes
Veronica	Nurse	Female	Hospital	Southern England	Yes
Joan	Nurse	Female	Hospital	Northern England	Yes
Mark	Nurse	Male	General practice, HEI	Northern England	No
Ruby	Nurse	Female	Hospice	Midlands	Yes
Oonagh	Doctor	Female	General practice, HEI	Southern England	Yes

** participant for whom minimal data were used in analysis – see section 3.5.2.3*

Table 1: Demographics of study participants

3.5.2 Data collection techniques

Data were collected by conducting one-to-one online interviews using Microsoft Teams®, a secure online video-conferencing platform approved by University College London (2020) and by the NHS. Traditionally, qualitative interviews have been conducted face-to-face, but the Covid-19 pandemic has facilitated the acceptance of online platforms as a viable tool for conducting interviews (Archibald,

Ambagtsheer, Casey et al., 2019; Oliffe, Kelly, Gonzalez Montaner et al., 2021). An advantage of conducting online interviews is that they take place in familiar home or work surroundings which can encourage participants to open up and speak freely (Oliffe et al., 2021). However, there is a risk that certain nuances may be lost during online interviews (Oliffe et al., 2021) and so I was careful to try to note participants' body language and demeanour when asking questions. Building rapport during online interviews can be more difficult than face-to-face interviews (de Villiers, Farooq and Molinari, 2022) and so I used a neutral virtual background to foster a relaxed atmosphere.

3.5.2.1 Developing the interview schedule

In line with stage 3 of Brinkmann and Kvale's (2018) 'seven stages', interviewing stage, I prepared an interview schedule (see Appendix 4) that served as a guide to topics to be covered during interviews and the order of questions to be asked. However, I planned to be flexible and modify the question order and wording if necessary, so that the interview flow would not be interrupted. This approach allowed me to explore key areas in-depth and to investigate unanticipated issues that arose.

The quality of the data obtained from interviews depends, in part, on the detail put into developing the interview schedule (Patton, 2014). I developed the interview schedule partly from my literature review and partly from the knowledge I had gained following social media accounts of prominent DPPs and attending conferences and workshops on the topic. The aim of the schedule was to explore participants' experiences of becoming a DPP and their views on competence. Most questions were open-ended and neutral (Rosenthal, 2016) to allow participants to elaborate on their views and were supplemented by a series of prompts and probes. I also ensured that questions were singular and asked about one topic at a time (Patton, 2014).

3.5.2.2 Piloting the interview schedule

I carried out a pilot interview with a pharmacist DPP to test the interview schedule, practise my interviewing technique, ensure that the interview schedule could be

completed within the available time and that there were no ambiguous questions (Gillham, 2000). I had specifically asked the participant to avoid using people's names during the interview to protect the anonymity of co-workers and patients. During the pilot interview, I noticed that the participant was struggling to avoid mentioning the names of people she worked with and that this was interrupting her thought flow. Therefore, I advised her to speak freely and reassured her that I would remove the names of colleagues in the transcript. As this helped the interview to flow more freely, I decided to use this strategy with all subsequent interviews, anonymising transcripts by removing potentially identifying details such as HEIs, workplaces and trainee names.

In my original interview schedule, I started by asking participants to tell me about their professional background, why they had decided to become a NMP and why they were considering or had already become a DPP. This established good rapport with participants (Robson, 2016). I then asked participants how they understood the term competence. During the pilot interview, I noticed that asking about competence so early in the interview was challenging and stopped the natural flow of conversation. Therefore, I decided to move this towards the end of the interview schedule when participants had warmed up (Robson, 2016) and had more time to reflect on other issues. Following the pilot, I refined and finalised the interview schedule (see Appendix 4).

3.5.2.3 Conducting interviews

Interviews lasted approximately one hour. In addition to recording interviews (see section 3.5.2.3), I had intended to take notes to document key details. However, I found that this made it difficult to focus on listening to responses (Burns, 2000) and so made minimal notes. Instead, after each interview, I wrote a short reflection in my research journal, noting immediate ideas and emerging themes.

The revised interview schedule was effective in eliciting information from participants. Where participants were not clear about the meaning of my question, the semi-structured nature of the interview meant that I could rephrase the question. When relevant, I probed responses to encourage participants to expand, particularly

where I felt that had more to say (Seidman, 2013) and I avoided using leading questions (Kvale *et al.*, 2009) as these can result in data collection bias (Smith and Noble, 2014). Robson (2016) suggests that inexperienced interviewers can make the mistake of speaking more than they listen. However, having taught consultation skills to pharmacists, I was aware of the importance of silence in allowing participants time to reflect and construct meaning from their experiences without jumping in with another question (Brinkmann *et al.*, 2018). I finished all interviews by asking participants whether my questions had been what they were expecting or whether they had anything they wanted to add about their experiences that I had not asked. Most participants stated that the questions were in line with their expectations and had nothing additional to say.

Although most interviews were straightforward, two proved less useful than I had anticipated. In one of these, the participant did not allow me to ask many questions and I found it difficult to interject to bring her back on track. In the second, the participant had strong views about her reasons for not becoming a DPP. I have included both participants in the study but used minimal data from these two interviews.

3.5.2.4 Recording and transcribing interviews

In line with stage 4 of Brinkmann and Kvale's 'seven stages' (2018), the transcribing stage, I prepared the interview material for analysis by transcribing it. Interviews were recorded with participants' consent using the recording facility within Microsoft Teams® which also produces automatic transcriptions. However, I did not find these transcripts useful for analysis because of the difficult formatting and limited accuracy. Therefore, I transcribed recordings myself, using 'denaturalised transcription' by removing utterances such as 'um' and 'er' as well as word repetitions to improve the readability of the transcripts (Jonsen, Fendt and Point, 2018; Oliver, Serovich and Mason, 2005). As I transcribed interviews, I removed any data that could potentially identify participants such as workplaces, colleague names or names of HEIs. I sent copies of anonymised transcripts to participants to enable them to check, correct or comment on the text, although no amendments were made.

3.6 Research ethics

I carried out this study in accordance with British Educational Research Association (BERA) guidelines (2018) which require researchers to respect the privacy, dignity, values, autonomy and diversity of research participants. I sought and was granted ethical approval by UCL Institute of Education before data collection began (see Appendix 5).

3.6.1 Informed consent

A participant information sheet (see Appendix 2) was attached to emails sent by NMP leads and HEI course leads to their contacts which outlined the purpose of the study and how results would be disseminated and used. It also contained background information about me as the researcher and my contact details so that potential participants could approach me if they were interested in participating in the study. Those who approached me, either via social media or in response to emails from NMP leads and HEI course leads, were emailed a copy of the participant information sheet.

Participants were informed, both in writing in the participant information sheet and again verbally at the start of the interview, that they were under no obligation to participate in the study. They were also advised that they could withdraw from the study at any time, although I had no requests to withdraw.

I asked participants to complete and sign the consent form (see Appendix 3) and send it to me by email prior to the interview and I re-confirmed the participant's consent verbally at the start of each interview. I also asked participants whether they had any questions about the study before the interview began.

3.6.2 Privacy and confidentiality

To respect anonymity and privacy, I asked participants to choose a pseudonym. However, using pseudonyms does not guarantee anonymity (Robson, 2016), and so I have not reported participants' exact geographical locations or areas of practice.

I advised participants that their details would be anonymised and that no quotations would be directly attributable to them. I asked participants to choose whether to participate in the interview using both video and audio or audio only and I asked them to consent to recording using functionality within Microsoft Teams®. All participants agree to both video and audio recording of the interview. I reminded participants verbally that they could ask me to stop the recording at any time during the interview.

As interviews took place during the working day for most participants, I asked them to make sure they were situated in an area where they could not be overheard by patients or colleagues. I also asked them to review their interview setting for potential breaches of patient confidentiality or to use a 'virtual background' which eliminates background visuals and reduces distractions (de Villiers *et al.*, 2022). After each interview had been transcribed, I sent a copy of the transcript to participants to enable them to check, correct or comment on the text and to redact any information that they thought may identify them.

3.6.3 Data security

As part of UCL requirements for data security, I obtained a Data Protection Number before applying for ethics approval. To comply with GDPR requirements, recordings and transcripts were copied to the UCL N drive and then deleted from Microsoft Teams®. Anonymised interview transcripts were imported into NVivo-14® (QSR International Pty Ltd., 2020) for analysis. Completed consent forms for interview participants and a document listing participants' names and their associated pseudonyms were uploaded to the UCL Data Safe Haven and will be stored for a period of five years after the study has finished as these contain identifiable information.

3.7 Data analysis

Coffey and Atkinson (1996) suggest that qualitative data allows researchers to explore the social world and get closer to how participants make meaning from and understand their world. In line with the broad interpretivist approach adopted in this research (see section 3.3.4), my aim in analysing the data collected was to provide

an interpretation of DPPs lived experiences of undertaking or preparing to undertake the role, not just to describe what they did.

Deductive data analysis is associated with positivist approaches which aim to test theory (Hurley, Dietrich and Rundle-Thiele, 2021), while inductive data analysis builds theoretical understanding from raw data (Silverman, 2014). In contrast, abductive thematic data analysis aims to find a '*middle ground between inductive and deductive methods*' (Thompson, 2022, p.1410). Abductive data analysis involves an iterative process of moving back and forth between exploring data and examining broader concepts and theories (Timmermans and Tavory, 2012). Researchers who adopt abductive data analysis do not enter the field with a completely open mind, but instead use theory to set parameters for what they are looking for initially in the dataset (Thompson, 2022). The advantage of using this method is that it minimises the discovery of results are not relevant to the research questions (Alvesson and Kärreman, 2007). Abductive data analysis does not aim to find a single objective truth (Hurley *et al.*, 2021) and therefore is congruent with the broad interpretivist approach adopted in this study.

I applied Thompson's (2022) eight-step method of abductive thematic data analysis as follows:

Step 1: Transcription and Familiarisation

As soon as each interview finished, I accessed the recording and began the transcription process described in section 3.5.2.3. Although time-consuming, transcription was useful for conceptualising interviews as 'living conversations' (Brinkmann *et al.*, 2018, p.218) rather than two-dimensional words on a page. Conducting data collection and transcription in rapid succession allowed me to adapt interview questions where necessary when I felt that issues required further exploration. An example of this was that I felt my first two interviews did not probe participants' understanding of competence sufficiently, so in subsequent interviews, I asked additional probing questions. The process of transcribing data myself was beneficial because it allowed me to become familiar with its breadth and depth (Braun and Clarke, 2006).

Step 2: Coding

Coding is an essential part of qualitative data analysis and involves defining what the data is about (Gibbs, 2007). As coding involves the researcher applying their own opinions and judgements, it is therefore a subjective interpretive process which is in line with the overall approach of this study (Sipe, 2004). I uploaded each transcript to the computer-assisted qualitative data analysis software package, NVivo-14® (QSR International Pty Ltd., 2020). I began the process of coding by reading through each transcript several times to search for meaning behind the narratives (Braun and Clarke, 2023) and to understand the context of participants' practice (Boyatzis, 1998). I also recorded my first impressions and made notes of potential patterns within the data using the memo functionality within NVivo-14®. Braun *et al.* (2023) argue that coding can be both inductive, grounded in the data, and deductive, using theory as a lens through which to interpret data. As I was coding data inductively, I was also mindful of landscapes of practice theory and looked for examples of participants describing how they navigated the prescribing landscape using the engagement, imagination and alignment modes of identification (Wenger-Trayner *et al.*, 2015b) (see Step 5).

As I read through each transcript, I applied a code describing what I interpreted as being important. For example, where participants spoke about the serious nature of the DPP role, I assigned the code 'feeling of responsibility' (see sample coded extract in Appendices 6 and 7). I coded all potential points of significance at this stage as Seidel and Kelle (1995) suggest that the initial coding round links raw data with the researcher's interpretation of the data. After I had finished the first round of coding, I undertook a second round to remove codes that I deemed insignificant or had not been repeated in more than one interview and to consolidate some codes under a single heading (Saldaña, 2021). For example, during the first round of coding, I highlighted all occurrences of "NMP meetings" and "NMP supervision" separately. However, during the next round of coding, I realised that participants used the terms interchangeably and so I combined them into a single code, "peer support".

Step 3: Codebook

The use of codebooks in qualitative thematic analysis is controversial. Braun and Clarke (2021) argue that codebooks are neo-positivist and are useful only in applied research when research teams need to code data rapidly. However, I decided to use a codebook because it allowed me to reflect on my choice of codes and to refine the labels and definitions where needed (see Appendix 8).

I started by choosing a label for each code which was concise but remained fairly close to the data (Boyatzis, 1998). For each code I then devised a definition and described when it should be used (Guest, MacQueen and Namey, 2011). I found this process helpful for clarifying issues which overlapped but were potentially different. For example, I had identified that participants repeatedly spoke about the serious nature of their role. When choosing labels and describing codes for the codebook, I was able to reflect and distinguish between the serious nature of prescribing medicines and the serious nature of supervising trainee NMPs. I used the codebook during a final third round of coding, applying it to all the transcripts to check that I had coded data correctly.

Step 4: Development of themes

In this step, the focus shifts from interpretation of individual codes to the interpretation of aggregated meaning across the dataset (Byrne, 2022). Once I had finalised my codes, I began to develop themes by looking at the relationships between the different codes and reflecting on how I might use these relationships to name the theme (Braun ***et al.***, 2006). For example, where participants described the job satisfaction and enhanced professional reputation derived from being DPPs and how they felt when they were prevented from taking on the role, I decided that these were related to their reasons for becoming DPPs and developed the theme of ‘participation vs non-participation in the DPP community’. I reviewed coded data and grouped codes into thematic categories by combining codes that expressed similar underlying concepts (Ryan and Bernard, 2003). At this stage I was looking for codes that communicated something meaningful in relation to the research questions (Braun and Clarke, 2013).

The outcome of thematic analysis can either be semantic themes (descriptive analysis of the content which captures explicit or surface-level information) or latent themes (which explore underlying meanings and use theory to explain the findings) (Byrne, 2022) but as theorisation is central to abductive thematic analysis, latent themes should be the aim (see Step 5 below). I identified both latent and semantic themes, with the semantic themes contributing to theorising the research. For example, the semantic theme of 'adapting supervision techniques' contributed to the latent theme of 'engagement' (see Appendix 9).

Step 5: Theorising

Theorising is an important part of abductive thematic analysis distinguishing it from other types of qualitative data analysis (Thompson, 2022). Tavory and Timmermans (2014) describe abductive analysis as a back-and-forth process between the data and the considerations of theory where the researcher explains the relationship between theory, individual themes and the entire dataset.

As outlined in chapter 2, section 2.5, landscapes of practice theory is a useful lens to explore the learning needs of DPPs as it transcends the standard practice of taking participants' professions or organisations as the starting point to analyse workplace learning and instead focuses on how individuals make sense of the landscape where they practise and their position in it. Applying the principles of abductive thematic analysis, I used landscapes of practice theory (Wenger-Trayner *et al.*, 2015b) to understand how participants talked about their experiences of being or preparing to become DPPs. This involved engaging deeply with landscapes of practice theory and with Wenger's (1998) earlier writings where he developed his thinking and described 'modes of belonging' (later re-named 'modes of identification') in detail. As my understanding of the theory deepened, I went back-and-forth between the theory and the data, exploring whether the themes illustrated participants using one of the three modes of identification. I found that some of my themes were too broad, for example, 'responsibility', and illustrated participants using multiple modes of identification. When this happened, I broke the theme down into sub-themes, in this case, 'responsibility for assessing competence' which fell

within the alignment mode of identification and ‘responsibility of prescribing’ which fell within imagination mode (see Appendix 9).

When I was satisfied with my categorisation, I clustered each theme into conceptual categories based on whether it illustrated participants using the ‘engage’, ‘imagine’ or ‘align’ mode of identification (Wenger-Trayner *et al.*, 2015b) to discuss their learning in the prescribing landscape. For example, the conceptual category, imagination, comprised two themes: perception of the landscape; and perception of the purpose of the role (see Appendix 9). In line with the theorising step of abductive analysis, these categories helped translate insights obtained from analysing the modes of identification to my findings and conclusion.

Step 6: Comparison of datasets

This step involves quantifying qualitative data and is relevant only where there is more than one dataset (Thompson, 2022). As I had only one dataset, I did not undertake this step.

Step 7: Data display

Attride-Stirling (2001) suggests using a ‘thematic network’ to illustrate how themes derive from empirical codes. Within chapters 4, 5 and 6, Figures 4, 5 and 6 show how the codes informed each theme and how each theme illustrates how participants used Wenger ***et al.’s*** (2015) three modes of identification.

Step 8: Writing up

Thompson (2022) suggests that abductive thematic analysis should be written up with headings for each theme together with a theoretical explanation illustrating how the data link to the theory and a quote from the data to demonstrate how the theory was applied. He also suggests providing a ‘thick description’ (Geertz, 1973) of participants and their context. For this reason, I decided to write three separate data-led chapters which combine data analysis and discussion rather than writing separate findings and discussion chapters. I had planned to write the data chapters in the same order as my research questions. Chapter 4 would discuss participants using ‘imagination’ mode and would provide insights into research question 1 on how

DPPs perceive the purpose of their role; chapter 5 would discuss participants using 'engagement' mode and providing insights into research question 2 on the support DPPs perceive they need; and chapter 6 would discuss participants using 'alignment' mode, providing insights into research question 3 on how DPPs use competency frameworks to assess competence. However, from his earliest writings, Wenger (1998) has consistently described the three modes of identification in the same order: engage, imagine, align. As my understanding of the theory deepened, I realised the reason for this was because practitioners primarily develop their professional identity by experiencing the practices of a community and deciding whether to join. As they engage in practice, they use imagination to orient themselves in their landscape and reflect on who they are and then, if they decide to join, they align with the community's competence requirements. For this reason, I decided to re-order my chapters so chapter 4 now discusses how participants use engagement mode to decide whether to join the DPP community and chapter 5 discusses how they use imagination mode to make sense of the landscape and visualise where they belong.

3.8 Reliability and validity

Guba and Lincoln (1994) argue that the terms generalisability, reliability and validity are not appropriate to evaluate qualitative research as these presuppose that a single account of social reality exists. Instead, Yardley (2000) suggests using four alternative criteria: sensitivity to context; commitment and rigour; transparency and coherence; and impact and importance. The following section will discuss how these four criteria were applied during the research to ensure the robustness of the study.

3.8.1 Sensitivity to context

Sensitivity to context requires researchers to be aware of participants' perspectives and practice as well as their language and culture and to understand that these may influence what participants say. As a pharmacist, I already had some knowledge of participants' practice, language and culture. Attending a workshop for DPPs run by the Royal Pharmaceutical Society made me aware that while pharmacists prefer the term 'independent prescriber', nurses routinely use the term 'non-medical prescriber'. Initially I had decided to use the term independent prescriber in the thesis. However, having sent drafts of data chapter summaries to participants to ensure respondent

validation (Gibbs, 2007), the feedback from nurse participants was that I should not use the term independent prescriber because they supervise trainee supplementary and independent prescribers. In addition, the term non-medical prescriber is used throughout the DPP competency framework (Royal Pharmaceutical Society, 2019). Therefore, I decided to adopt the term 'non-medical prescriber' throughout. However, I will need to be sensitive to the terminology used when I publish my research.

3.8.2 Commitment and rigour

Commitment requires researchers to demonstrate prolonged engagement with the topic and to develop skill in the method used for data collection, while rigour refers to the comprehensiveness of data collection and analysis. I started to research this topic in 2022, engaging with it through literature searches and following social media accounts to ensure that my understanding of the complex and dynamic prescribing landscape remains current. I carried out the fieldwork over a period of four months, interviewing 22 DPPs from different professions working in different sectors of practice to ensure that the sample size could supply all the information needed for comprehensive analysis.

Rigour involves undertaking a detailed, in-depth analysis of the data including using theory for data interpretation. Data analysis, including the application of landscapes of practice theory to aid interpretation, is described in section 3.7.

3.8.3 Transparency and coherence

Transparency requires researchers to detail all aspects of data collection and the coding process used to analyse the data. In line with recommendations for improving the rigour of qualitative studies (Long and Johnson, 2000; Sandelowski, 1993), I documented the data collection and coding processes as detailed in sections 3.5.2 and 3.7. In chapters 4, 5 and 6, I also present excerpts of text to allow thesis readers to discern the patterns I identified in my analysis (Yardley, 2008) and ensure transparency (Peräkylä, 1997). It is possible that my professional background as a pharmacist may have influenced my thinking during data analysis (Morse, Barrett, Mayan *et al.*, 2002). For example, I empathised with the views of pharmacist participants who felt overwhelmed by the training requirements of different HEIs (see

chapter 6). To minimise this, I kept a contemporaneous reflexive journal during data collection and analysis which helped me to reflect-in-action (Schön, 1983). For example, after I had interviewed a participant known to me professionally, I reflected on whether I had tried too hard to maintain a professional distance and had not allowed sufficient time at the start of the interview to establish rapport (see Appendix 10).

Coherence describes how the research questions and researcher's philosophical stance concur with the methods of investigation and analysis undertaken and this has been described in detail in section 3.3.

3.8.4 Impact and importance

Yardley (2000) argues that the most important criterion by which to judge the quality of research is its utility and impact. As outlined in chapter 7, the findings of this study are likely to have an impact on the development of future learning for DPPs and will lay the foundations for future research on supervision of pharmacist trainee NMPs. This research will also have theoretical worth because it draws on landscapes of practice theory to present a novel and challenging perspective on DPPs and their learning and opens up new ways of understanding this issue.

3.9 Methodological limitations

This study used a broad interpretivist approach that did not conform to a specific qualitative methodology such as phenomenology, grounded theory or ethnography. Such 'generic' qualitative studies (Merriam *et al.*, 2015) have been criticised as being atheoretical (Neergaard, Olesen, Andersen *et al.*, 2009) and lacking robust supporting literature (Caelli *et al.*, 2003). However, broad interpretive approaches draw on the strengths of established qualitative methodologies while maintaining the flexibility needed to answer the research questions (Kahlke, 2014) and can also provide rich descriptions of the phenomenon under investigation.

This study undertook a cross-sectional approach, collecting data from a limited number of DPPs at a single point in time. While a longitudinal approach may have provided data on whether perceptions of the role and training needs changed over

time, the requirement to carry out two sets of in-depth interviews 12 months apart would have taken the study beyond the time and word-count restrictions of the EdD thesis.

The final sample comprised 21 participants with roughly similar numbers of nurses and pharmacists. However, due to the difficulty in finding contact details for doctors acting as designated medical practitioners (DMPs), only one doctor was interviewed. Although this participant's views were broadly similar to those of nurses and pharmacists, their views may not be representative of the views of doctors or DMPs more widely. Most of the pharmacists who participated had seen my social media posts about the study. Therefore, there is an element of selection bias in the study as pharmacists who are not on social media may not have been aware of the study. Three pharmacist participants were known to me in a professional capacity and I acknowledge that this may have influenced their responses, for example, they may have assumed that I understood their clinical practice (Aburn, Gott and Hoare, 2023; McConnell-Henry, James, Chapman *et al.*, 2009). I tried to minimise this challenge by writing a reflective memo after each interview (see Appendix 10). While pharmacist participants were geographically dispersed, most nurse participants were located within one geographical area in the south of England. However, these participants practised in diverse settings including hospitals, hospices and private aesthetics clinics, and their views are likely to be similar to those of nurses practising in other regions.

3.10 Chapter summary

The overall aim of this study was to explore the learning needs of DPPs who supervise trainee NMPs during the period of learning in practice. I used a qualitative strategy underpinned by a broad interpretivist philosophy as this provided a focus on participants' lived experiences and individual viewpoints. To obtain data, I used semi-structured interviews with 22 DPPs including nurses, pharmacists and a doctor. I used an abductive approach to data analysis, analysing the empirical data through the theoretical lens of Wenger-Trayner ***et al.'s*** landscapes of practice. The findings from this study will be explored in the next three data-led chapters.

Chapter 4 – Data analysis and discussion: navigating the landscape using engagement mode

4.1 Introduction

This chapter is the first of three chapters analysing findings from the semi-structured interviews described in chapter 3. Chapter 2 identified a need to explore how designated prescribing practitioners (DPPs) recontextualise their knowledge of prescribing and education to supervise trainee non-medical prescribers (NMPs) during the period of learning in practice (PLP). This chapter explores how DPPs navigate the prescribing landscape using the engagement mode of identification. It provides insight into DPPs' reasons for choosing to undertake the role and the supervision practices they engage in while supervising trainee NMPs in the workplace.

4.2 Engagement mode

Landscapes of practice theory views learning as a trajectory across a landscape of practice using different modes of identification to develop an identity that is shaped by both the journey and the terrain (Wenger-Trayner *et al.*, 2015b). As described in chapter 2, section 2.5.3.1, the engagement mode of identification allows practitioners to experience a community of practice's regime of competence and decide whether to participate or not participate in the community (Wenger-Trayner *et al.*, 2015b). Practitioners use engagement mode to take part in the everyday practices of a community such as working on issues, talking and debating together and exploring the boundaries between neighbouring communities of practice in the landscape (Coakley and Bennett, 2020). Using engagement mode as a lens to explore how DPPs navigate the prescribing landscape can provide insight into how they decide whether to participate in the DPP community and the activities they undertake when supervising learners. As illustrated in Figure 4, two main themes which demonstrate participants using the engagement mode of identification were identified: participation vs. non-participation; and engagement in supervision. These themes and their sub-themes are explored in sections 4.3 and 4.4.

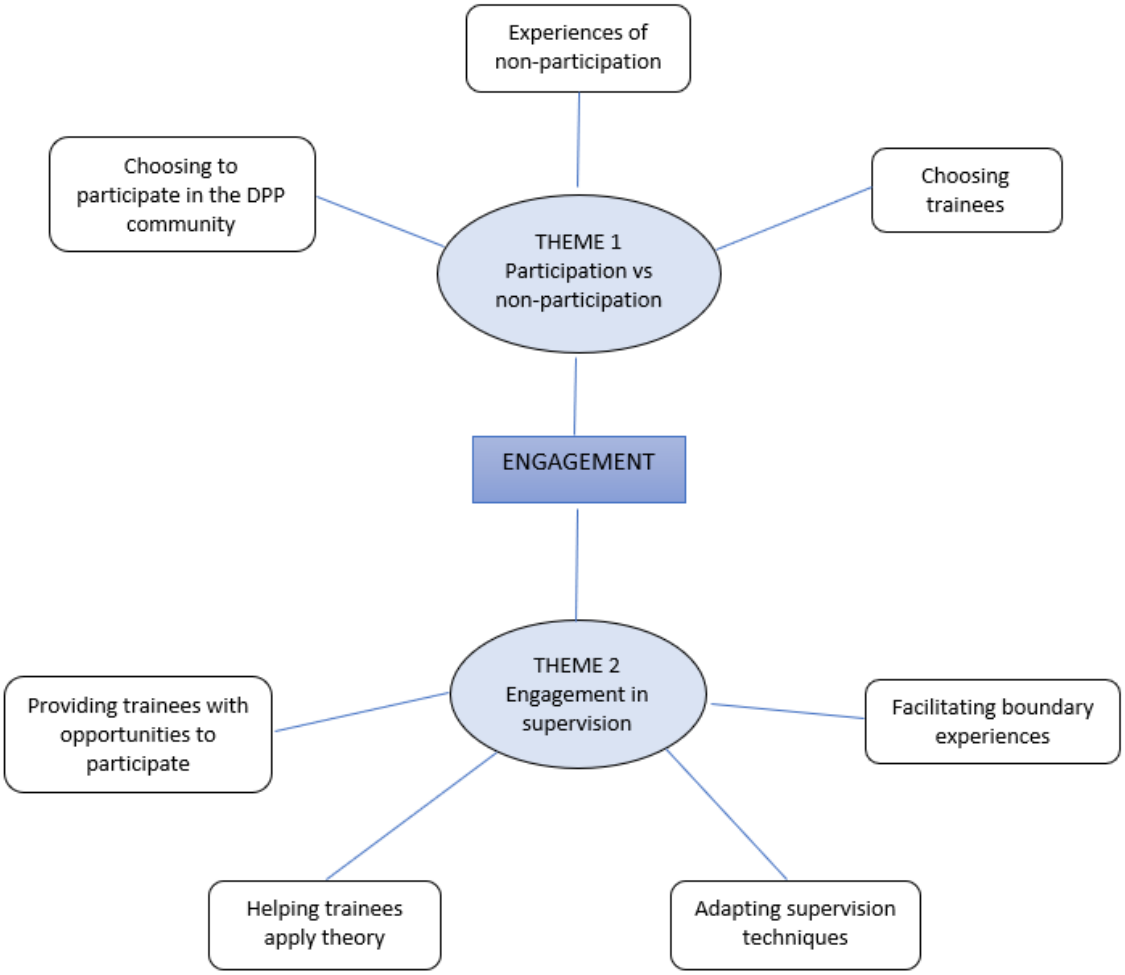

Figure 4: Themes demonstrating participants' use of engagement mode

4.3 Participation vs non-participation

Wenger (1998) argues that identities are shaped by a combination of participation and non-participation in communities of practice and that experiences of engagement with community practices influences whether professionals '*develop an identity of participation or non-participation*' (Wenger-Trayner *et al.*, 2015b, p.20). As illustrated in Figure 4, within the theme of participation vs non-participation, three sub-themes were identified: autonomy to choose whether to participate in the DPP community; experiences of non-participation; and ability to choose individual trainee NMPs.

4.3.1 Choosing to participate in the DPP community

Participants described several reasons for becoming DPPs and had made a deliberate choice to participate. Reasons for participation included enhanced professional standing and a duty to reciprocate for the next generation of prescribers.

The prescribing landscape is complex, comprising many different communities of practice including the academic community, the nursing and pharmacy communities and the DPP community. Becoming a DPP is not mandatory and there is no remuneration, but many participants enjoyed teaching and so decided to become a DPP as a way of developing their identities as educators. The use of metaphors such as “little babies” [Jackie] and “flower bud” [Pauline] to describe trainees and “proud parent” [Mark] to describe DPPs, suggests that participants relished the nurturing aspects of the relationship with trainees. Participants described the satisfaction they obtained from the role, in particular the sense of personal fulfilment from getting the best out of trainees and watching them flourish:

> “I get a huge buzz from seeing pharmacists start to think clinically.”
> - *Vikash, pharmacist*

> “Seeing her pass at the end…that was really good, that positive outcome.”
> - *Rosie, nurse*

In addition to being a non-medical prescriber and a DPP, Natalie works as an academic supervisor on a NMP course. Her participation in the academic community had influenced her decision to participate in the DPP community:

> From working on the prescribing course … I know it's really hard if you don't have someone that’s motivated to be a DPP.”
> - *Natalie, pharmacist*

Through her engagement with the academic community, Natalie had gained insight into the difficulties experienced by trainee NMPs with DPPs who were unenthusiastic about the role and this provided motivation for her participation.

Jackie had decided to participate in the DPP community in response to her frustration at being unable to sign off trainees in the past, despite providing most of the supervision:

> "I was so excited about it and I knew I'd got the skills to do it, and great that finally nurses can do this."
> - *Jackie, nurse*

Jackie alluded to a previous hierarchy of power in the prescribing landscape where only doctors were legally permitted to supervise trainee NMPs. Although participants felt they had autonomy to decide whether to participate in the DPP community, they perceived themselves as having little control over how the prescribing landscape was constructed or who could access resources. Jackie's legitimacy as a DPP had previously been 'silenced' (Wenger-Trayner *et al.*, 2015b, p.16) by others in the landscape such as regulators and doctors, while employers controlled access to resources such as funding for NMP programmes and prescribing budgets, reflecting Wenger-Trayner *et al.'s* observation that landscapes are inherently 'political' (2015b, p.15).

As well as job satisfaction, some participants had decided to participate in the DPP community because it provided them with evidence of advanced practice for credentialling, enhanced their CV, met regulator revalidation requirements or kept their knowledge and skills up to date. Others spoke with pride at having to turn down approaches by many prospective trainees which suggests they perceived that participating in the DPP community enhanced their professional status. These findings are supported by the literature which found that NMPs and designated practice supervisors gained autonomy, improved job satisfaction and a sense of professionalism from the role (Armstrong, 2015; Hindi *et al.*, 2019; Jarmain, Moreno-Chamorro and Piggin, 2023).

Although the pharmacy regulator permits pharmacist NMPs to become DPPs immediately after qualification (General Pharmaceutical Council, 2022), participants had made a more measured decision to participate in the DPP community and it was

not something they had agreed to do simply because they had been approached by a trainee. Syed was contemplating participating in the DPP community but was unsure about what was involved:

> "There's still quite a few unanswered questions … which is why I'm a bit cautious to say yes to become DPP straight away, because I don't just want to become a DPP just because I can – I want to make sure that I'm doing my students a service and a good job."
>
> - *Syed, pharmacist*

This suggests that Syed felt he did not have enough experience of engaging in the DPP community's activities to enable him to make the decision to participate. Karishma described shadowing another DPP so she could experience what the role would entail before committing to full participation in the DPP community:

> "I've gone to shadow an experienced DPP, just shadowing them rather than the student, to know this is how many times they met them, this is how they gave feedback, this is how they planned it, so I can see how they've done it."
>
> - *Karishma, pharmacist*

In both cases, Syed and Karishma were considering developing an identity of participation in the DPP community. Hodges (1998, p.279) describes 'lags' in participation where practitioners are engaged on the periphery of a community of practice but do not yet identify with the community. Syed and Karishma experienced lags in participation as they wanted to learn more about the role before committing to it. Ibarra (1999 p.775) describes how people adapt to new roles by experimenting with new identities, termed 'provisional selves'. Behaviours that people adopt when experimenting with provisional selves include wholesale or selective imitation of role models and being true to oneself (McIntosh, 1989) by refusing to use imitation. Karishma used a 'selective imitation' strategy to experiment with her provisional identity as a DPP by observing the activities of an experienced DPP and deciding which of their techniques she would incorporate into her own practice. In contrast, Syed's provisional identity as a DPP was characterised by a dominant concern to

provide trainees with the best possible experience, suggesting that he was using a 'true-to-oneself' strategy.

Karishma's shadowing of an experienced DPP was also an experience of 'peripherality' (Wenger, 1998, p.165), a type of non-participation that provides an experience of practice without full membership of the community. Wenger argues that experiences of peripherality are necessary to enable participation in a community of practice and to develop identity. Although Karishma experienced non-participation in the DPP community, her partial engagement with the community through shadowing enabled her to develop an identity of participation. Similarly, participants experienced peripherality in the academic community as they were responsible for assessing the competence of trainee NMPs in practice but did not have responsibility for the final programme assessment. This experience of peripherality in the academic community may explain why many participants were keen to develop their identities as educators.

In contrast, Caroline – an experienced critical care pharmacist –chose not to participate in the DPP community because she did not believe that she could provide trainee NMPs with a sufficiently different perspective on patient care:

> "My concern, if I'm a DPP for another pharmacist, is: am I going to give them a different angle? Because to me, the prescribing course is about thinking outside the box. It's not thinking as you do as a pharmacist, but adding to it the bit that you think about as a prescriber"
>
> - *Caroline, pharmacist*

Wenger (1998) argues that a professional's sense of what they are *not* can be a large part of how they define themselves and that non-participation in a community's activities contributes as much to a professional's identity as participation. Caroline's decision not to participate in the DPP community appears to be an important part of her identity and self-perception as a pharmacist and NMP.

Participants saw becoming a DPP as a "*natural progression*" [Joan, nurse] from the role of NMP and suggested that having benefitted from being mentored themselves,

there was a professional expectation for them to reciprocate by supervising newcomers to the prescribing community:

> "When I did my lecturers course, people were willing to give up their time to develop the next generation and sometimes I think it's about payback."
>
> - *Mark, nurse*

> "It's very much a case of actually looking at progression ... so when I retire, somebody needs to take my job."
>
> - *Veronica, nurse*

Mark suggested that he had a duty to reciprocate the help he had received during lecturer training by supervising others, while Veronica recognised the need for someone to fill her place in the landscape when she retired. The term "generativity" is used to describe the capacity of workers to go beyond personal interests and share accumulated knowledge and wisdom with future generations (Erikson, 1994; McAdams and de St Aubin, 1992). Generativity involves fostering the development of others through activities such as teaching and mentoring and can improve the motivation and wellbeing of mid-career workers (Wiktorowicz, Warwas, Turek *et al.*, 2022). Mark and Veronica had developed a sense of generativity which influenced their decisions to participate in the DPP community. Veronica also hoped that her trainee NMP would become a DPP in the future, thereby modelling a 'paradigmatic trajectory' (Wenger-Trayner and Wenger-Trayner, 2015, p.78). Paradigmatic trajectories are model career paths demonstrated by members of a community of practice that can help newcomers to envisage different careers within the community. In becoming DPPs, participants demonstrated a natural post-qualification career path to trainee NMPs.

4.3.2 Experiences of non-participation in the DPP community

Some participants had attempted to participate in the DPP community but were rejected by the community. For example, Karishma expressed disappointment that initially she had been excluded from becoming a DPP because her trainee NMP's

HEI required her to have undertaken training on mentoring, despite having previous experience of supervising pharmacists:

> "I realised I didn't have what I needed to be a DPP and I have to provide some formal documentation that I've done some mentoring and feedback course, or I was an official trainer – and that's when I got unstuck."
> - *Karishma, pharmacist*

Similarly, Mark, an experienced nurse practitioner and DPP, expressed his frustration at a local requirement for all DPPs to compile a portfolio of evidence before taking on more trainee NMPs:

> "I'm also a prescriber, I'm also a lecturer, I'm also an expert witness. What more do they want?"
> - *Mark, nurse*

In both cases, Karishma and Mark experienced 'marginality' (Wenger, 1998, p.165), a type of non-participation that prevents full participation in a community of practice. Although they wanted to participate in the DPP community, their identities were contested (Kerosuo, 2003) and the requirements of the HEI and ICB respectively had the potential to relegate them to an identity of non-participation. In contrast to Karishma's experience of non-participation through peripherality (described in section 4.3.1) which was enabling, her experience of non-participation through marginalisation was problematic. However, experiences of non-participation do not necessarily result in an identity of non-participation (Wenger, 1998). Turner and Stets (2006) suggest that experiences of identity disconfirmation can result in negative emotions such as the disappointment expressed by Karishma and the anger expressed by Mark. The experience of identity disconfirmation and non-participation resulted in Karishma and Mark using different strategies to develop an identity of participation. Despite her experience, Karishma decided to undertake the mentoring course required by the HEI. In contrast, Mark 'talked back' (Lomax, 2021, p. 140) and used his multi-membership of various communities to give legitimacy to his claim to identity as a DPP and challenge local requirements. Karishma and Mark could have decided to disengage but instead decided to risk further identity

disconfirmation by re-engaging and retaining an identity of participation. Alvesson *et al.* (2002) describe the identity work that individuals undertake when entering a new community of practice, for example, repairing or maintaining identity or revising self-perceptions. Despite their experiences of non-participation, both Karishma and Mark maintained their self-perceptions as members of the DPP community and developed their identities of participation. Although the DPP community was unwilling to accommodate their self-perceived identities (Niesz, 2010), their differing responses suggest that identity needs to be negotiated socially in response to a community's regime of competence (Swann and Bosson, 2021) and is not simply a person's sense of self.

Some nurse participants were not clear whether they were practising as DPPs or supervisors. This is because the nursing regulator requires trainee NMPs to have both a practice supervisor and a 'practice assessor' – the regulator's term for DPP (Nursing and Midwifery Council, 2023b). Participants lacked clarity on the difference between these roles:

> "My understanding was that there was just the supervisor role … the person you would aim to spend the lion's share of your 90 hours with, and then the assessor comes in at the end…but my understanding, there wasn't a separate designated prescribing practitioner."
>
> - *John, nurse*

> "I think the DPP is the medical person, am I right in saying that?"
>
> - *Pauline, nurse*

John and Pauline were confused about the difference between practice supervisors and DPPs. The finding that some nurse participants misunderstood the difference between these roles echoes the results of a survey of practice supervisors which identified confusion concerning the two roles (Jarmain *et al.*, 2023). This is not surprising as the roles are relatively new and the requirement for practice supervisors, as well as assessors, is confined to the nursing profession.

4.3.3 Choosing trainee NMPs

Participants' decisions to participate in the DPP community were influenced by their ability to choose trainees. Most trainee NMPs already worked in the same clinical community of practice as their DPP before beginning training, and so participants had an established relationship with the trainee. For example, Oonagh was already a clinical supervisor for a pharmacist employed by her GP practice and Layla agreed to supervise a pharmacist who undertook locum shifts in her community pharmacy. Participants drew on their existing knowledge of the trainee's competence and capability before deciding to participate in the DPP community:

> "I knew [*trainee*], I knew she was a diligent worker … I'd worked with her for a few years, and I knew that she's gonna be okay."
> - *Aniket, pharmacist*

> "I was very happy to support the person…because I knew her as a clinician, but I also knew that she had my values."
> - *Veronica, nurse*

This finding concurs with the literature which reported that most designated medical practitioners (DMPs) had pre-existing relationships with trainee NMPs (Avery, Savelyich and Wright, 2004).

DPPs are responsible for assessing trainee competence in practice at the end of the PLP. Where a participant was already comfortable with a trainee's baseline knowledge and skill and had confidence in their ability to cope with the rigours of the prescribing course, they were more willing to participate in the DPP community. Conversely, where participants had concerns about a potential trainee, they were less willing to participate in the DPP community:

> "We have one colleague who went through NMP training … and she really struggled with the training … but if I was supervising that person, I think I'd feel more concerned about it, just because of the responsibility of signing off competencies."
> - *John, nurse*

Participants expressed concern about taking on unknown trainees because they would not be aware of their baseline knowledge and competence. The PLP duration is 90 hours – equivalent to approximately 12 days – and participants were concerned that this would be insufficient time to assess a trainee's competence without a pre-existing relationship. Thorpe and Mayes (2009) suggest that to facilitate learning, educators need to gain trust and respect by taking time to become familiar with a learner's cultural context and personal issues. However, it is unlikely that DPPs will be able to gain sufficient trust and respect in 90 hours without a pre-existing relationship.

The right to continue to be able to choose trainees was considered important and there was some apprehension about being required to take on unknown trainees who may not share the same work ethic. Taking on undergraduates was of particular concern due to speculation that students might be over-confident about their knowledge, less committed to learning and would therefore require more support than those with experience:

> "I'll put my hand up and say, maybe I'm old school, but I don't think that these students who are coming out of universities will be good prescribers necessarily. They will need extreme support."
>
> - *Manisha, pharmacist*

It takes time to become familiar with the practices and shared activities of a community (Wenger, 1998). Ninety hours may be insufficient time for trainee NMPs to develop membership of the prescribing community if they have no shared history with the community or the DPP. Bernabeo, Holtman, Ginsburg *et al.* (2011) have suggested that medical students on short placements lack a sense of belonging to a team and thus focus on fitting in rather than on learning. This suggests that learning during the PLP will be more effective where trainee NMPs and DPPs have pre-existing relationships and that DPPs should continue to be able to choose trainees. This finding is supported by the literature which shows that having an established working relationship with the DMP is vital in organising the PLP (George, Cleland, Bond *et al.*, 2008).

Most participants were supervising a single trainee NMP and did not want to supervise multiple trainees simultaneously. Some recognised that supervising trainee NMPs was time consuming and affected patient care as clinics overran or fewer patients could be given appointments. Because of this, participants felt they needed to balance participation in the DPP community with participation in the prescribing community by limiting the number of trainees they supervised. For others, the reason for supervising a single trainee NMPs was driven by a desire to replicate their own experiences of one-to-one supervision:

> "I've been asked, would I ever take on more than one at the same time? And I've heard other people do that, but I can tell you that would be a never event for me. I've just trained more of a one-to-one. It's how I've got to where I have, and I've valued that so much – that individual one-to-one."
>
> - *Karishma, pharmacist*

Engagement in a community of practice has a bounded nature in terms of the physical limits of time and the number of engagement relationships that a practitioner can maintain (Wenger, 1998). This boundedness is both a strength and weakness of engagement as a mode of identification. Karishma perceived the provision of one-to-one support for trainee NMPs as a strength rather than a weakness. However, given the number of pharmacists and pharmacy undergraduates who require prescribing training, the bounded nature of engagement in the DPP community may be a weakness that restricts the number of training places available.

4.4 Engagement in the practice of supervision

Wenger-Trayner *et al.* (2015b) argue that the competence of a community of practice can only be learnt through direct engagement with its practices. Although participants were members of different professions and worked in a variety of clinical settings, the supervision practices they engaged in were remarkably similar. This suggests that DPPs have a 'shared repertoire' (Wenger, 1998, p.82) of supervision practices. As illustrated in Figure 4, within the theme of engagement in the practice of supervision, four sub-themes were identified: providing opportunities for participation in the prescribing community; adapting supervision techniques; helping

trainees to apply knowledge in practice; and facilitating cross-boundary experiences for trainees.

4.4.1 Supervision practices: providing opportunities for participation in the prescribing community

Participants were able to draw on their practice as NMPs and their previous experiences of supervising learners in the workplace to make context-specific professional judgements about appropriate learning activities for trainees. All participants described how they began the period of learning in practice by providing opportunities for trainee NMPs to observe them undertaking a consultation:

> "Initially she'll observe my consultations online."
> - *Natalie, pharmacist*

> "First of all, just coming along seeing what we do … then as we went through, what I would get her to do was go through drug charts for all our patients that we were going to be seeing."
> - *Rosie, nurse*

For many participants, this mirrored their own experiences when learning to prescribe. For example, John recalled how observing an experienced prescriber during his own training had afforded him the opportunity for "*getting rid of all the old ways of doing things that I didn't like and taking on new approaches*", suggesting that he recognised that observation was an appropriate learning activity in the context of learning to prescribe. Observation forms part of the 'cognitive apprenticeship' model used in workplace learning in the healthcare professions (Collins *et al.*, 1991, p.1), allowing teachers to model good practice. Although the model focuses on individual learning, Wenger (1998) also suggests that observation is a form of peripheral participation in a community of practice where newcomers to the community can experience practice without full membership. He argues that peripheral participation in a community of practice acts as an introduction to engagement and is necessary before newcomers can fully participate. By allowing trainee NMPs to observe a consultation, participants provided exposure to the prescribing community's practices without compromising patient safety.

After initially observing consultations, participants described introducing trainees to the tools of prescribing, for example, drug charts:

> "I would give them the drug charts. I'd get them looking through the drug charts, looking through the drugs – identifying what they're noticing about the drugs, considering some of the interactions."
>
> - *Ruby, nurse*

Wenger (1998, p.58) uses the term 'reification' to describe how an abstract concept such as prescribing is made real – in this case through drug charts. He argues that learners need access to both the participative and reificative practices of a community if they are to engage fully and develop an identity of participation. By giving trainees access to drug charts and discussing the drugs used, Ruby provides an opportunity for trainee NMPs to take part in a meaningful activity within the prescribing community.

While introducing trainee NMPs to prescribing tools is important, participants also recognised that this could cause tensions:

> "A lot of people think it's just writing a prescription and signing it and actually don't understand the whole stuff that goes before it. And actually, the prescribing's literally just the cherry on the cake ... unless you can do the fundamentals in terms of the history taking and the physical assessment, the investigations and the decision making, how can you write the prescription?"
>
> - *Mark, nurse*

Although reification can capture a practice succinctly, it can also cast an illusion of simplicity. Mark recognised the problems inherent in reducing the complex concept of prescribing to reification through the act of prescription writing. Wenger (1998) argues that participation and reification are distinct but complementary aspects of engagement in the practices of a community and that both are needed to learn and develop identity. Participants facilitated learning by permitting trainee NMPs to participate in the prescribing community through both observation and reification.

As trainee NMPs gained experience, positions swapped and the DPP observed the trainee. Participants found it difficult to articulate when they would know that a trainee was ready to move on from observing to being observed. Vikash's use of the word *"progress*" in the extract below suggests that he uses professional judgement to assess when to switch roles depending on the trainee's ability and the context of the consultation:

> "… then as we progress … at random I will get out of my chair and sit them in, and I will watch them handle the consultation from start to finish, both face-to-face and on the phone."
> - *Vikash, pharmacist*

Guile (2019, p.26) suggests that professionals make context-specific professional judgements by '***commingling'*** theory and practice. Vikash combined theories of workplace learning with his knowledge of prescribing to decide when it was appropriate for a trainee NMP to undertake a consultation.

Wenger (1998) argues that newcomers to a community of practice must be granted enough legitimacy to allow them to be treated as potential new members. Trainee NMPs can consult with patients but are not legally permitted to prescribe. Participants granted trainee NMPs enough legitimacy to undertake consultations and allow partial participation in the activities of the prescribing community while complying with the legal framework for prescribing. As trainee NMPs increased their participation in the prescribing community, there were differences between DPP and trainee perceptions of ability. Julia felt pressured by a trainee to allow him to undertake a consultation but used her professional judgement to refuse because she did not believe he was ready to move from observation to participation:

> "One of them is very keen to jump in … and says, 'oh, you, you should be giving me patients to see'. And I said, well the thing is, these are people, they're not objects that I just hand out, and the fact that you've said that makes me really concerned."
> - *Julia, pharmacist*

Wenger (1998, p.101) describes the 'generational encounters' that can occur between newcomers and established members of a community of practice. He suggests that these encounters can lead to conflicts between different generations as they try to negotiate their individual identities in the community. In this case, Julia's trainee was attempting to negotiate his identity as an NMP by expressing his desire to move on from observing consultations at the periphery of the prescribing community. However, Julia was simultaneously negotiating her identity as a DPP by drawing on her experience as an established member of the prescribing community to suggest that her trainee's limited competence did not reflect the community's regime of competence. As Julia and her trainee negotiated their individual identities in the prescribing community, this created conflict about what it means to be a competent prescriber.

4.4.2 Supervision practices: adapting supervision techniques

Participants' personal experiences of being supervised by a designated medical practitioner (DMP) appeared to influence the supervision techniques used. Most participants wanted to check trainee portfolios, discuss the content and give feedback which contrasted with their own experiences of learning to prescribe where DMPs had shown little interest in reviewing the detail of portfolios and written work,

> "For me to sign somebody off, I'd want to be assured that they had everything demonstrated through their portfolio by going through their portfolio myself."
> - *Natalie, pharmacist*

> "She's laid out what the drug is used for, side effects, when it can be used, when it can't be used. So I will read through all that and question, you know, why have you written this, what's the rationale behind that?"
> - *Pauline, nurse*

This provided extra reassurance and as discussed in chapter 6, section 6.3.2, emphasises the sense of responsibility that DPPs feel when signing off trainee NMPs as competent. Natalie recognised the need to recontextualise her personal experience of being supervised by a DMP and adapted her own technique by reviewing the trainee's portfolio.

Because clinical supervision is an integral part of nursing practice, most nurse participants felt that they already had sufficient experience of supervision and did not need further training. This suggests they recognised that they could recontextualise existing knowledge of supervising undergraduates and apply it to new contexts such as supervising trainee NMPs. For example, Mark contrasted his supervision of a first-year undergraduate nursing student with his supervision of a trainee NMP:

> "She's a first-year student, first placement. She's literally just kind of watching. I didn't go into a huge amount of detail with her, it's at a level that she isn't gonna understand, [whereas] the current student I've got is a pharmacist... with her, it's about trying to question her thinking and get her to question my thinking and explain why I'm doing what I'm doing."
>
> - *Mark, nurse*

However, some pharmacist participants recognised that the pharmacy profession lacked a culture of supervision and they had little relevant knowledge of supervision that could be recontextualised:

> "I think a lot of us in pharmacy, we don't do these supervision type of roles or teaching or training."
>
> - *Syed, pharmacist*

Where pharmacists were able to recontextualise knowledge of supervision, it was because they had previously held positions as educational supervisors or clinical mentors. Evans *et al.* (2010) suggest that knowledge is context-specific and needs to be 'recontextualised' when used in another setting. Mark recognised the need to recontextualise his knowledge of prescribing to provide an appropriate learning experience for a first-year undergraduate and consequently provided only brief explanations. In contrast, he identified that a different approach was needed to support a pharmacist trainee NMP and used questioning as a strategy to facilitate articulation of professional reasoning. This is an example of 'pedagogic recontextualisation' (ibid., p.3) where teachers recontextualise subject knowledge and employ different strategies for different learners. With the undergraduate

student, Mark presented general principles that underpin the disciplinary knowledge of prescribing, but for the trainee NMP, he encouraged application of these general principles to practice.

4.4.3 Supervision practices: helping trainees apply theory in the workplace

Participants recognised that part of their role was to help trainees to recontextualise the theoretical knowledge learnt on the NMP programme and use it to make their own professional judgements when prescribing:

> "… they've got that real world experience translated from academic that they can apply from what they're learning in the IP course."
> - *Karishma, pharmacist*

Participants helped trainee NMPs recontextualise their academic knowledge by using workplace activities as a platform for testing knowledge. Participants had found it helpful to be asked questions during their own training and so used this technique with their own trainees:

> "[The DMP] would go through each patient, look at their medications and then when we were on the round, she would ask me questions. So, I probably took that as I found that really useful myself."
> - *Rosie, nurse*

This is an example of 'workplace recontextualisation' (Evans *et al.*, 2010, p.4) where learners are given opportunities to participate in workplace activities such as ward rounds and real-life work problems are used to check theoretical knowledge. By using workplace activities to test knowledge, participants supported trainees in recontextualising their theoretical knowledge of prescribing and applying it in practice. Questioning also forms part of the cognitive apprenticeship model because it requires learners to articulate their clinical reasoning and provide a rationale for decisions (Stalmeijer *et al.*, 2009).

In addition to questioning, participants supported trainees to apply theoretical knowledge by providing opportunities for them to reflect on their experiences in the workplace:

> "We would then sit down and go through the patients and then she would go off and do a reflection on the time we'd spent together. And then next time we would look at that reflection."
>
> - *Ruby, nurse*

> "What I've suggested to him is that perhaps he needs to spend a bit more time reflecting on that case and what he's learned from it, rather than just trying to gather information. Not that gathering information isn't important, but you've got to then reflect on it."
>
> - *Julia, pharmacist*

Ruby and Julia used workplace recontextualisation by asking trainees to reflect on patients they had seen together in practice. Reflection helps individuals make sense of their experiences and assimilate them into existing knowledge (Moon, 2013). Although reflection focuses on individual learning, when undertaken with a supervisor it also forms part of the cognitive apprenticeship model as it requires learners to analyse their performance (Stalmeijer *et al.*, 2009). Julia expressed frustration that despite asking her trainee to reflect on what he had learnt, he was more interested in acquiring theoretical knowledge. Wenger-Trayner *et al.* (2015b) argue that competence is not merely an individual characteristic but also includes a social dimension and suggest that a practitioner's claim to competence needs to be recognised by the community of practice. Julia did not recognise her trainee's claim to competence due to his unwillingness to reflect.

4.4.4 Supervision practices: facilitating boundary experiences

The sustained history of social learning developed by communities of practice creates boundaries that differentiate one community from another (Tummons, 2018). Boundaries can be marked by explicit membership criteria such as regulatory requirements or professional titles protected by law, for example, the pharmacy regulator – the General Pharmaceutical Council – sets minimum entry requirements

for registration as a pharmacist in Great Britain. Boundaries can also be marked in more subtle ways through the use of jargon or by the way in which communities undertake a practice (Wenger, 1998) and managing boundaries is part of engagement in a community of practice. Participants recognised their own profession's strengths when prescribing but also acknowledged that other communities of practice brought different perspectives:

> "The pharmacists tend to know far more about the mechanism of the way the drug works within the body than the nurses do. And the doctors know more about the diagnostic bit, and the nurses tend to be a bit more touchy-feely."
> - *John, nurse*

> "As pharmacists, we're often very good at the knowledge side of prescribing and the kind of legal framework and all that. That's bread and butter to us. But the physical assessment, how to speak to patients, how to elicit that information out of them is something that doesn't come so well to us."
> - *Aniket, pharmacist*

Considering an individual to be contained within a single community of practice neglects the importance of a personal connection with other communities across the landscape of practice (Kubiak *et al.*, 2015a) and participants recognised the value of learning from other professions.

Participants also recognised the disadvantages inherent in trainee NMPs being supervised only by someone from their own profession:

> "I say to them, don't just stick with your own area because you're going to get a very blinkered view. I encourage all the students to expand, go out of their comfort zone."
> - *Jackie, nurse*

> "One of my risks and concerns about the DPP role, particularly within pharmacy, is that it becomes very silo and we've got pharmacists prescribing, supervising pharmacists working in the same practice."
> - *Celia, pharmacist*

Although boundaries primarily exclude outsiders from entering a community of practice, they can also keep members enclosed within the community (Wenger, 1998). When supervision of trainee NMPs by DPPs rather than DMPs was introduced, there were concerns that it could restrict opportunities for learning (Henderson, 2021) and result in "*cul-de-sac pedagogy*" (Decker, 2016, p.176) – a scenario which can cause a community to become inward looking rather than learning from the practices of others. Communities of practice often have specific ways of practising that may not be shared by different parts of the landscape (Kubiak, Fenton-O'Creevy, Appleby *et al.*, 2015b). For example, several pharmacist participants described their surprise at the way in which other professionals undertook patient consultations:

> "I found nurses and physios are very comfortable with touching patients. Like the idea from a pharmacist point of view, having to touch, physically touch somebody, it's cringeworthy."
>
> - *Aniket, pharmacist*

Observing the practices of other communities therefore offers a different perspective that can open new possibilities and reduce the risk of a community becoming inward-looking. This is also supported by the prescribing literature which suggests trainee NMPs valued the support of prescribers from other disciplines (George *et al.*, 2006; Latter *et al.*, 2007). Awareness of the practices of other communities in the landscape is also a component of 'knowledgeability', defined by Wenger-Trayner *et al.* (2015b) as the complex relationships established during a practitioner's journey through the landscape of practice. However, while there are undoubtedly benefits from developing knowledgeability of the landscape, observing different practices can also raise feelings of inadequacy. Therefore, DPPs may need to support trainee NMPs to make sense of their experiences at the boundary with other communities and highlight connections between different communities.

Participants identified that the boundaries between the diverse communities in the prescribing landscape could provide valuable learning experiences for trainee NMPs and encouraged trainees to explore these boundaries so that they could learn from other professions and integrate different practices into their own prescribing:

> "You can't learn everything from the same discipline and the same supervisor. Every GP I sit with or speak to has a different approach and it's picking up different styles and different ways of consulting."
>
> - *Celia, pharmacist*

> "It will open us up to other colleagues that we perhaps don't usually work with on a day-to-day basis, because we're all off doing our own little specialist role."
>
> - *Sarah, nurse*

This finding is supported by the literature which suggests that the introduction of the DPP role creates opportunities for trainee NMPs to draw on the expertise of different prescribers in the landscape (Wright *et al.*, 2020).

Communities of practice do not practise in isolation; they engage with other communities in the landscape through 'boundary encounters' (Wenger, 1998, p.112), for example by observing another community's practice from the periphery or by visiting another community and becoming immersed in its practices. Participants perceived that part of their role was to facilitate boundary encounters by introducing trainee NMPs to other communities of practice in the prescribing landscape:

> "What I bring is the network for the 90 hours clinical supervision. What I'm able to facilitate with my network is some time in an out-of-hours, some time with a heart failure nurse doing home visits, some time with a consultant in A&E [*accident and emergency*]."
>
> - *Karishma, pharmacist*

> "In many ways it's about who you know and how you actually go and kind of formulate those bonds to actually arrange that experience in practice."
>
> - *Veronica, nurse*

Participants had developed an awareness of which practices and practitioners were most relevant for trainee NMPs. By encouraging trainee NMPs to spend part of the PLP in other communities of practice, participants were acting as brokers, a term used by Eckert (1989) and Wenger (1998) to describe practitioners who work at the

boundaries of communities, building connections between different parts of the landscape and introducing elements from other practices in the landscape into their own communities. Karishma's and Veronica's access to a network of practitioners in the prescribing landscape gave legitimacy to their identity as brokers who could facilitate introductions.

Participants recognised that the purpose of working at boundaries was not to learn how to do the work of others but to gain sufficient insight to enable collaboration (Edwards, 2010). Participants suggested that trainee NMPs would gain insight into the practices of other communities by encountering unfamiliar practices, regimes of competence and boundaries and that this would help them develop a better understanding of their own identity and the identity of other practitioners in the landscape. Wenger-Trayner and Wenger-Trayner's (2015b) notion of knowledgeability refers to the way in which practitioners develop both competence and identity as they journey across a landscape of practice. Understanding the perspectives of other communities is a key characteristic of knowledgeability and by encouraging trainees to interact with other communities and understand how they fitted into the landscape, participants helped trainee NMPs to develop their competence and identity and hence, knowledgeability.

4.5 Chapter summary

Wenger-Trayner *et al.* (2015b) suggest that practitioners navigate a landscape using three modes of identification to build their identity and position their learning. This chapter analysed how participants used the engagement mode of identification to journey through the prescribing landscape and develop their identities as educators. For most participants, engagement in the activities of various communities of practice in the prescribing landscape had resulted in the development of an identity of participation in the DPP community. The decision to develop an identity of participation was considered, and participants initially engaged at the periphery of the DPP community to learn more about the role before committing to it. Factors such as enhanced professional reputation and improved career prospects also contributed to the decision to develop an identity of participation in the DPP community. Some participants experienced non-participation and were marginalised

by the DPP community who contested their identity. Although this had the potential to relegate them to an identity of non-participation, participants used different strategies to overcome this and retain an identity of participation. Perceived ability to choose trainee NMPs – particularly those with whom participants already had an established relationship – influenced decisions to participate in the DPP community.

Although participants worked in a variety of clinical settings and were members of different professions, the practices they engaged in when supervising trainee NMPs were similar and provided opportunities for trainees to participate legitimately at the periphery of the prescribing community. These included using pedagogic recontextualisation to adapt supervision techniques; using workplace recontextualisation to assist trainees with applying theoretical knowledge in the workplace; and acting as brokers to facilitate boundary experiences and help trainees to integrate practices from other professions into their own prescribing. The next chapter explores how participants navigate the prescribing landscape using the imagination mode of identification.

Chapter 5 – Data analysis and discussion: navigating the landscape using imagination mode

5.1 Introduction

Chapter 4 discussed how participants navigate the prescribing landscape using the engagement mode of identification. Chapter 2 identified a need to explore how designated prescribing practitioners (DPPs) perceive the purpose of their role. This chapter analyses how participants navigate the prescribing landscape using the imagination mode of identification. It provides insight into how DPPs perceive the prescribing landscape and how they perceive the purpose of the DPP role in this landscape.

5.2 Imagination mode

Landscapes of practice theory views learning as a transformative journey across a landscape of practice using different modes of identification to establish a unique identity among the various communities of practice within that landscape (Wenger-Trayner *et al.*, 2015b). As described in chapter 2, section 2.5.3.2, the imagination mode of identification refers to how practitioners construct an image of the landscape of practice and use it to orient themselves, reflect on who they are in the landscape and explore who they might become in the future (Wenger-Trayner *et al.*, 2015b). Chapter 4 explored how practitioners use the engagement mode of identification to take part in a community of practice's everyday activities and decide whether to participate. Imagination mode differs from engagement mode because it does not require practitioners to take part in the activities of a community of practice. Instead, practitioners draw on their contacts with other communities to gain insights into other practices and create an image of the entire landscape (Wenger-Trayner *et al.*, 2015b). The process of creating these images helps practitioners make sense of the landscape, work out where they belong or do not belong and shape their 'sense of self' (Wenger 1998, p.176), in other words, who they are in the landscape. Having insight into the practices of other communities in the landscape of practice is also a key feature of 'knowledgeability', defined as the connections practitioners make within a landscape of practice that establish them as dependable sources of information (Wenger-Trayner *et al.*, 2015b).

Using imagination mode as a lens to explore how DPPs navigate the prescribing landscape can provide insight into how they perceive the landscape and the purpose of their role. This chapter will explore the detailed images of the prescribing landscape created by participants. It will then explore how they use these images to shape their identities and make sense of their place in the prescribing landscape. As illustrated in Figure 5, two main themes which demonstrate participants using the imagination mode of identification were identified: perceptions of the prescribing landscape; and perceptions of the purpose of the role. These themes and their sub-themes are explored in sections 5.3 and 5.4.

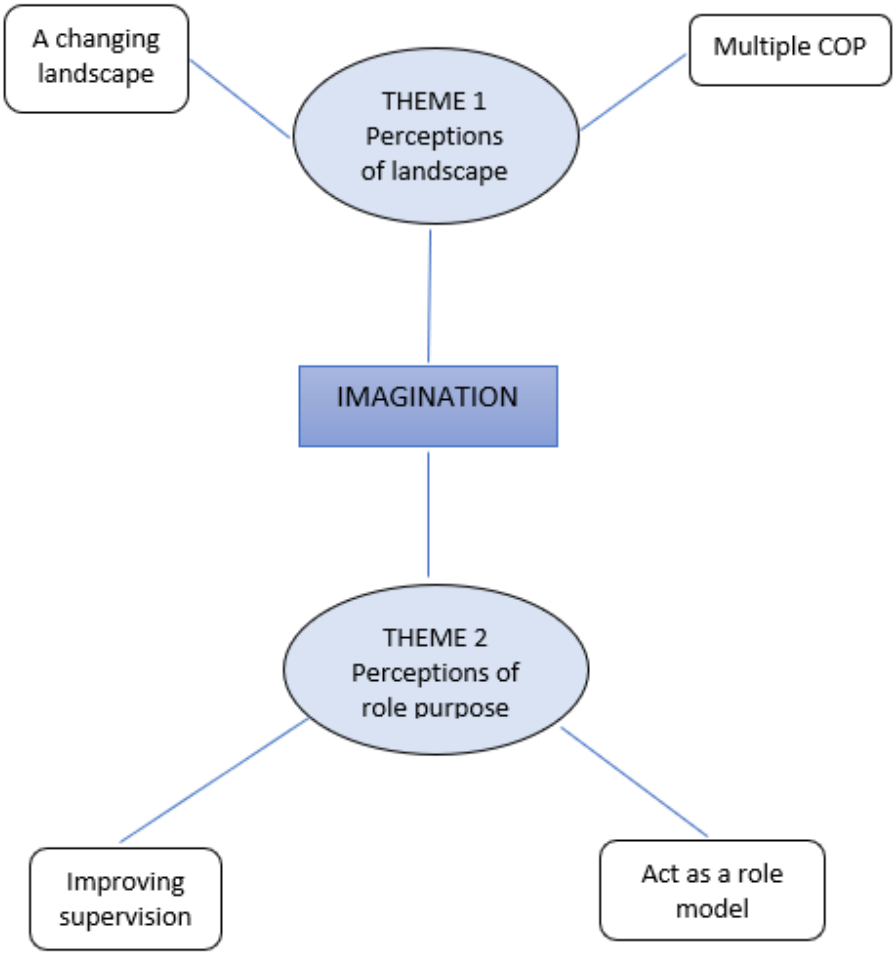

Figure 5: Themes identified demonstrating participants using imagination mode

5.3 Perceptions of the prescribing landscape

Wenger-Trayner *et al.* (2015b) argue that the images of a landscape that practitioners create are essential to help them contextualise their role and interpret their participation in the landscape. Participant narratives provided rich images of a complex and dynamic prescribing landscape. For example, Veronica worked in academia and in an NHS hospital; Jackie practised in an NHS hospital as a palliative care nurse and was also self-employed in a private aesthetics clinic prescribing Botox®; John prescribed in an NHS clinic dedicated to drug and alcohol misuse; Natalie had a narrow scope of practice prescribing for menopause while Mark had a wide scope of practice prescribing for minor illnesses in a GP surgery. Innovations such as 'virtual wards' (Kirkcaldy, Jack and Cope, 2018) – where patients who would normally be treated in hospital are instead treated at home – meant that participants were required to collaborate with others in the landscape with whom they had not previously worked. Describing how they envisaged the prescribing landscape helped participants to articulate how they fitted – or did not fit – into other communities of practice in the landscape.

Landscapes of practice theory suggests that constructing an image of the landscape helps practitioners develop their identity by developing their understanding of who they are in that landscape and how they relate to others (Wenger-Trayner *et al.*, 2015b). The following section explores participants' perceptions of the complex prescribing landscape and how this influenced their understanding of where they fitted into it. As illustrated in Figure 5, within the theme of perceptions of the prescribing landscape, two sub-themes were identified: a changing landscape; and a landscape of multiple communities of practice.

5.3.1 A changing landscape

Participants drew on their experiences of dealing with new regulatory requirements and evolving practices to create an image of a dynamic and varied prescribing landscape. Pharmacist participants were concerned about the impact of the introduction of new standards for the education and training of pharmacist independent prescribers which removed the requirement to have been qualified for two years before undertaking a prescribing course (General Pharmaceutical Council,

2022). There were concerns that novice pharmacists would have insufficient experience to provide a foundation for prescribing:

> "You need to be confident in what you're doing as a practitioner generally before you start prescribing … I don't feel my students are in the same place that I was when they started their prescribing in terms of really understanding their role, of being well established in it."
>
> - *Julia, pharmacist*

> "Currently you have to have been a pharmacist for two years before you become an IP [*independent prescriber*] and you need that; you need that little bit of skill."
>
> - *Karishma, pharmacist*

Julia and Karishma described how regulatory changes had altered their image of the prescribing landscape and conjectured that current pharmacist trainee NMPs did not have the same level of skill that they had had when they began prescriber training. Communities of practice use imagination to draw on their history and view the future as the continuation of a shared tradition (Wenger, 1998). Julia and Karishma identified that regulatory changes had disrupted the pharmacist NMP community's history of requiring sufficient practice experience before training as a prescriber and this made it difficult for them to envisage how the community would accommodate less experienced trainee NMPs in the future. Alvesson *et al.* (2002, p.626) argue that when environments change, practitioners need to engage in 'identity work' to revise their professional identities in response to the changes. The shifting landscape challenged Julia's and Karishma's beliefs and values of what it meant to be a prescriber, resulting in them undertaking identity work to understand where they fitted into the landscape and how they related to inexperienced trainee NMPs.

Participants perceived the COVID-19 pandemic to have altered their image of the prescribing landscape by making online consultations routine practice. Opinion was divided on whether it was possible to supervise trainee NMPs remotely, for example, those working in another location. Some participants suggested that the routine nature of online consultations facilitated remote supervision of trainee NMPs:

> "It's easier sometimes online, it'll be a lot easier for myself and for the students because a lot of people work from home nowadays."
>
> - *Faiza, pharmacist*

However, others had no experience of online consultations and so felt less comfortable with the notion of remote supervision,

> "It's no good doing it from afar because you can't sign a student off if you don't know how safe they are."
>
> - *Jackie, nurse*

Practitioners' images of a landscape help them to contextualise their role and figure out how they fit into the landscape (Wenger-Trayner *et al.*, 2015b). The image of the prescribing landscape created by Faiza included routine online patient consultations and this allowed her to contextualise her role as a remote DPP and consider the possibility of supervising trainee NMPs online. In contrast, Jackie's image of the prescribing landscape did not include online patient consultations and she used this image to contextualise and justify her role as a face-to-face supervisor.

5.3.2 A landscape of multiple communities of practice

Participants created an image of a landscape comprising multiple communities of practice, despite having little direct contact with some of these communities. For example, Aniket recognised that the hospital's cystic fibrosis team needed to liaise with communities of practice in the wider prescribing landscape such as the patient's GP regarding medication dose changes:

> "The dietician is talking about changing their Creon [*pancreatic enzyme replacement used in cystic fibrosis*] dosing … you know, we should inform the GP that the patient's not getting enough Creon."
>
> - *Aniket, pharmacist*

Vikash, a pharmacist working in a GP surgery, recognised that community (high street) pharmacists were an important part of the prescribing landscape as they had the potential to manage minor ailments and reduce his workload:

> "I firmly believe that pharmacists can do a better job than anybody else. And we are the only profession, and I strongly believe this, that can reduce GP workload."
> - *Vikash, pharmacist*

Aniket's and Vikash's ability to build a picture of a landscape that comprises both neighbouring and distant practices is characteristic of practitioners using the imagination mode of identification (Wenger, 1998). They were able to take a 'bird's eye view' (Hodson, 2020, p.506) of the landscape and use this to orient themselves, deciding which communities they needed to have contact with. Awareness of neighbouring and distant practices in the landscape is also part of a practitioner's 'knowledgeability' (Wenger-Trayner *et al.*, 2015b). Aniket and Vikash demonstrated their knowledgeability through their awareness of the connections between their own practice and that of others.

Participants acknowledged that other communities of practice in the prescribing landscape had complementary skills and expertise:

> "Chest physios will very commonly read chest x-rays and not have a problem with them. As pharmacists, we rarely do. Once someone's diagnosed with a CAP [*community-acquired pneumonia*], we say, okay, these are the best antibiotics."
> - *Aniket, pharmacist*

> "Things where there is a different perspective, which maybe you as a GP wouldn't pick up, but as a pharmacist, she does pick up and you think, oh, that's smart."
> - *Oonagh, GP*

Inside communities of practice, imagination causes practitioners to extrapolate from their own experiences and assume that other members of the community are doing similar jobs (Wenger, 1998). Aniket's use of the phrase '*as pharmacists, we …*"

suggests that he imagines that other pharmacist NMPs work in a similar way and that they too would focus on prescribing the correct medicine rather than on diagnosis. Imagination also allows practitioners to see how other communities contribute to the landscape (Wenger-Trayner and Wenger-Trayner, 2015) and enables practitioners to demonstrate 'relational expertise' – defined as the ability to recognise and respond to what others might offer (Edwards, 2010, p.13). Oonagh valued her pharmacist trainee's ability to focus on medicines and spot issues that a doctor might miss, while Aniket could see that physiotherapists could diagnose infections that he could then treat. The image of the prescribing landscape created by Oonagh and Aniket helped them to orient themselves and reflect on how they could use the skills of other communities of practice to benefit patients.

Nurse participants felt capable of supervising trainee NMPs from other communities of practice in the landscape. In contrast, most pharmacist participants felt unable to supervise trainee NMPs from other communities without understanding more about that profession,

> "If they learn something from working with me and to be a safe prescriber, then I can teach those skills. Do I need to know the ins and outs of their profession? Probably not."
>
> - *Jackie, nurse*

> *"*Being a pharmacist is my comfort zone because I know what pharmacy's all about. Physiotherapy, I don't. I have an idea what they do, but I don't really know that profession*."*
>
> - *Layla, pharmacist*

Landscapes of practice theory suggests that practitioners use their images of the landscape to see themselves from different perspectives (Wenger-Trayner *et al.*, 2015b). Jackie's image of the prescribing landscape was one of multiple communities of practice linked by the generic skill of prescribing. This enabled her to modulate her identity and see herself from an educator's perspective and consequently to envisage herself supervising trainee NMPs from other professions. In contrast, Layla's image of the prescribing landscape was one of multiple specialist

communities of practice. Layla saw herself from a specialist perspective and consequently felt she could only supervise other pharmacist trainee NMPs. The finding that nurse participants were happy to supervise pharmacist trainee NMPs concurs with findings from a recent study of nurse practice supervisors which found that nurses were enthusiastic about supervising trainee NMPs from other professions, providing they worked in the same speciality (Jarmain *et al.*, 2023). However, there has been little prior research on pharmacists' perceptions of supervising trainee NMPs from other professions.

Although participants did not claim to be members of every community of practice in the prescribing landscape, most perceived themselves to belong to more than one community and therefore to have hybrid identities. For example, in addition to supervising trainee NMPs and prescribing in a menopause clinic, Natalie was a researcher and lectured on a prescribing course; Mark practised as an Advanced Nurse Practitioner in a GP surgery but also worked in academia and as an expert witness; Faiza practised as a primary care pharmacist and ran an online networking platform for female pharmacists. The original communities of practice theory conceptualises learning and identity as membership of a single community of practice, with the ultimate aim being to gain expertise and move from the periphery to the centre of the community (Wenger, 1998). Landscapes of practice theory conceptualises identity and knowledgeability as membership of multiple communities of practice (Kubiak *et al.*, 2015a). Participants' perceptions of multi-membership reflect the notion of a dynamic, hybrid identity formed during their trajectories across the complex prescribing landscape.

Participants had developed good knowledgeability of the prescribing landscape through their connections with neighbouring communities and perceived it as an asset to their roles as DPPs. Participants perceived that membership of multiple communities of practice established their legitimacy as DPPs. Participants who were members of multiple communities of practice viewed themselves as having something unique that they could share with trainees such as knowledge, skills and experience, and perceived that their multi-membership resulted in a broader approach to the DPP role:

> "So you kind of see the aspect of it when things potentially go wrong, you see what you need to do from an academic point of view. So I think I've got all that experience I can kind of bring in and make it quite a good learning experience."
>
> - *Mark, nurse*

> "I understand the role because I've been supporting the NMP course for probably the last three and a half, four years, so I understand what we expect."
>
> - *Natalie, pharmacist*

Mark suggested that his membership of the academic and medical negligence communities of practice enhanced the learning experience for his trainees because he was able to provide multiple perspectives on prescribing. Similarly, Natalie suggested that her membership of the academic community in addition to her membership of the prescribing community, benefitted her trainees as she could draw on her multi-membership to advise on the expectations of the NMP course. When practitioners evaluate their experiences in multiple communities of practice and relate these to their own practice, it transforms into knowledgeability (Omidvar *et al.*, 2014). Mark and Natalie were able to draw on the additional skills and knowledge gained from membership of multiple communities of practice and use these to benefit their trainees, demonstrating their knowledgeability of the prescribing landscape.

Most participants interpreted membership of multiple communities of practice as a strength (Balmer *et al.*, 2021). However, some were concerned that it could create tensions that would pull on different aspects of their identity, for example, where the DPP had both supervision and line management responsibilities for the trainee or, conversely, where the trainee line-managed the DPP or worked in a more senior role:

> "I'm their line manager, the person they go to when they need help and now, I'm the person who's going to give them that formalised feedback. Whereas previously … if they had a fallout with the GP, they could come to me, now I'm kind of two in one."
>
> - *Karishma, pharmacist*

> “It may actually be that there are people that are higher Banding than you, that you are asked to become their DPP … I guess my worry might be … would a long-term relationship with that person change? And what if you felt they weren't progressing as you would expect?”
>
> - *Sarah, nurse*

Karishma and Sarah speculated that giving negative feedback to someone with whom they had a managerial relationship could affect the long-term viability of their relationships. They recognised that being members of multiple communities of practice – in this case DPPs and managers/subordinates – could create conflicting demands and potentially generate tension between different aspects of their identity. Maintaining membership of multiple communities of practice requires practitioners to reconcile multiple identities and find a way for these to co-exist (Wenger, 1998). Alvesson *et al.* (2002, p.626) argue that when roles are fluid and evolving, practitioners need to continuously engage in ‘identity work’ whereby they construct, maintain, repair and revise their professional identities in response to unpredictable events and transitions. Practitioners need to find a way of merging accountabilities to different communities of practice into a single identity. The tensions created by multi-membership of communities of practice may never be fully resolved, but the process of reconciliation is integral to the concept of identity (Wenger, 1998). As their roles evolved, Karishma and Sarah engaged in a process of identity work to reconcile how they fitted into the landscape as DPPs and managers and found a way for their multiple identities to co-exist.

Although participants were members of multiple communities of practice, they had little opportunity to meet other DPPs in the prescribing landscape:

> “The students get quite a lot of group teaching, so they know each other and they get contact with each other, but as the DPPs, you don’t.”
>
> - *Aniket, pharmacist*

> "I'm trying to engage and ensure the support and resources are available for myself to undertake the DPP role because I really need that as well. I need the support."
>
> - *Manisha, pharmacist*

Aniket and Manisha were disappointed by the lack of contact with DPP peers, but this is unsurprising given that those interviewed were among the first to become DPPs. Veronica, a hospital nurse, stated that she felt "*lonely*" when she first took on the DPP role. The lack of role models during periods of transition can cause emotions such as loneliness (Hennekam, 2016) and this may discourage potential DPPs from taking up the role. Wenger (1998) argues that both participation and reification (making an abstract concept real) are needed to develop identity. In terms of reification, Wenger (1998) suggests that imagination requires materials to work with such as stories, language and role models. Wenger (2010, p.184) terms these materials 'tools of imagination' and argues that they are necessary to help practitioners create images of the landscape that enable them to orient themselves and contextualise their role. Lack of DPP role models may be one of the reasons that participants in this study found it difficult to shape their sense of self and their identities as DPPs.

Lack of contact with other DPPs also made it difficult for participants to gauge whether their performance was of an acceptable standard and made them doubt whether they could supervise trainee NMPs effectively:

> "It's sometimes difficult to know how, not how good you are, but how knowledgeable or what your level of expertise is. It's sometimes difficult to benchmark yourself."
>
> - *Ruby, nurse*

> "I have such a nurse head on, would it be a disservice for my students? Well actually, in the end, I changed my mind and I thought, no, I wouldn't mind supporting them, because the course is the course."
>
> - *Jackie, nurse*

Imagination causes practitioners to extrapolate from their own experiences and make assumptions about what other members of the community are doing (Wenger,

1998). However, as Ruby and Jackie had little contact with other DPPs, they were missing a tool of imagination (Wenger, 1998) and so had difficulty envisaging themselves as competent DPPs. The process by which identity is changed as practitioners move across a landscape of practice can generate tensions within individuals (Handley, Sturdy, Fincham *et al.*, 2006). As their trajectories across the prescribing landscape took them into new and unknown roles, Ruby and Jackie questioned their ability to be DPPs. Jackie overcame her doubts by expanding her sense of self from nurse to educator, recognising that she needed to use her education skills more than her nursing skills when supervising trainee NMPs from other professions.

Although DPPs undertake similar roles, it is not clear that the DPP community fits Wenger's (1998) three criteria for a community of practice: a shared repertoire of practices; joint enterprise or common purpose; and mutual engagement. As outlined in chapters 4 and 6 respectively, DPPs have a shared repertoire of supervision practices and a joint enterprise because they all supervise trainee NMPs. However, participants described limited opportunities to interact with other DPPs. This means that there was little mutual engagement – the third criterion necessary for a group of people to be characterised as a community of practice. Wenger (1998, p.73) argues that mutual engagement of members is necessary for the cohesion of a community of practice and that this is 'what defines the community'. He suggests that practice is not an abstract notion but resides in a community of people who negotiate the meaning of their actions. Chapter 4 discussed actions that DPPs engage in while supervising trainee NMPs. However, DPPs do not have opportunities to meet and discuss these actions or negotiate what they mean. Wenger (1998) argues that learning in practice involves evolving mutual engagement as members of a community of practice develop relationships, work out how to engage and define their identities. He suggests that communities of practice are emergent structures that take time to cohere. Because the DPP role is relatively recent, it is likely that DPPs are still acting as individuals and although they are members of multiple communities of practice, a DPP community of practice has not yet fully formed.

5.4 Perceptions of the purpose of the DPP role

Imagination can help practitioners develop an understanding of the wider purpose of their role, how their role relates to others and how they fit into the landscape. As illustrated in Figure 5, within the theme of perceptions of the purpose of the DPP role, two sub-themes were identified: improving supervision during the period of learning in practice; and acting as role models for trainees.

5.4.1 Improving supervision during the period of learning in practice (PLP)

Participants perceived that by becoming DPPs, they could improve supervision for trainee NMPs. Participants recalled their own experiences of undertaking NMP training under the supervision of a designated medical practitioner (DMP). Some had to wait weeks to find the time to discuss patient issues or ask questions while others implied that DMPs had not taken their responsibilities seriously enough, for example, paying scant attention to paperwork and taking a superficial, almost cavalier approach to supervision:

> "He used to say to me, 'I've worked with you for years. I know you're a good prescriber'. And I'd say, 'No, no, we're not meant to do it like this, you're meant to be stricter with me'."
>
> - *Jackie, nurse*

> "I wouldn't have that kind of flippancy about it that I felt that the GP had at the time … just occasionally it just felt like …'oh yeah, yeah, that's fine'."
>
> - *Joseph, nurse*

The work of imagination involves practitioners sharing stories, explanations and descriptions (Wenger, 1998). Jackie and Joseph shared their stories of being supervised by a DMP and used these to explain why they had decided to take a different, more supportive approach to supervision of trainee NMPs, for example, by setting aside time at the end of clinics to review patients and making regular appointments to review portfolios. Previous membership of a community of practice forms part of a person's identity and the notion of 'imagined communities' provides insight into how past experiences impact on present actions (Kanno and Norton, 2003). Jackie and Joseph recalled their experiences of being past members of the

trainee NMP community and this provided a connection to and empathy with current trainee NMPs, resulting in the desire to provide better support.

The finding that some participants had experienced poor supervision from designated medical practitioners (DMPs) aligns with studies from the literature which report that some trainee NMPs found it difficult to access their DMP, (Boreham *et al.*, 2013), while others experienced poor teaching and lack of support (Latter *et al.*, 2007). George *et al.* (2006) reported that DMPs' knowledge of the NMP course was poor and participants suggested that having undertaken the course themselves, they understood its demands and were better equipped to support trainee NMPs. This finding is also supported by a recent survey of practice supervisors which found that those who had undertaken the NMP course felt they were in a better position to support others through it (Jarmain *et al.*, 2023).

5.4.2 Act as role models for trainees

Participants perceived that part of the purpose of the DPP role was to act as role models for trainee NMPs by setting an example and demonstrating the behaviours, values and work ethic expected of prescribers:

> "If I am not a role model, then they're not gonna be good prescribers. So I make sure that when I come to work, I'm on time, I'm talking to the patient nicely, I'm not losing my cool."
>
> - *Manisha, pharmacist*

> "I want to be somebody that people can look to, to inspire them … I think if you can be positive and optimistic, if that's then imparted to the next generation of prescribers, that's the most important thing."
>
> - *John, nurse*

Wenger (1998, p.186) argues that role models are one of the tools of imagination that practitioners need to help them to reify abstract concepts such as prescribing and that both reification and participation in a community's activities are needed to develop identity. Manisha and John recognised that by acting as role models, they could inspire trainee NMPs to emulate the attitudes and behaviours expected of

prescribers and therefore help trainees develop their identities as prescribers. Observing the behaviour of role models (Ibarra, 1999) is also an important part of organisational socialisation (Bauer and Erdogan, 2011) and is an important part of identity formation for NMPs. However, the number of active NMPs is still relatively small compared with the nursing and pharmacy population and access to appropriate role models is limited, with many NMPs working in isolation (Jarmain, 2022). Participants acted as role models to foster trainees' imagination and help them envisage how they would fit into the landscape once qualified.

Participants suggested that as role models, they could inspire trainees to consider new possibilities for their practice. During training, Natalie had felt constrained by the scope of practice imposed on her by her workplace, but found that visiting a pharmacist prescriber in a different community of practice helped her to imagine different possibilities for her future role:

> "He sort of made me see that I needed to have my own niche as a pharmacist prescriber and not just be led by what the surgery wanted me to do."
> - *Natalie, pharmacist*

Imagination requires the ability to explore new ways of doing things, try new identities and visit, but not participate in, other communities of practice (Wenger, 1998). Natalie's encounter with a role model when visiting a neighbouring community of practice stoked her imagination about the hidden potential in the prescribing landscape (Wenger-Trayner and Wenger-Trayner, 2015a) and this enabled her to imagine how she could use her prescribing skills in a different way. This finding is supported by the literature which suggests that exposure to different communities of practice in the landscape can help practitioners to develop their identities (Hodson, 2020).

Participants suggested that as role models, part of their role was to emphasise the serious nature of prescribing and instil a sense of responsibility in trainee NMPs:

> "I don't think people realise what being a prescriber actually involves in terms of accountability and responsibility once you qualify."
>
> - *Joan, nurse*

> "I'm keen to highlight to pharmacists to take their prescribing qualification quite seriously because at the end day it's literally life and death."
>
> - *Syed, pharmacist*

Imagination can make a difference to how practitioners see themselves in the landscape and their 'sense of self' in the activities they undertake (Wenger, 1998, p.176). Joan and Syed perceived that part of the purpose of their role as a DPP was to ensure that those joining the prescribing community would develop a sense of responsibility. Joan and Syed used imagination to expand their 'sense of self' by transcending the practical process of supervising trainees and ensuring that trainees grasped the responsibility of prescribing.

Participants recalled the anxiety they had experienced when prescribing for the first time, checking and re-checking prescriptions to ensure accuracy. They anticipated that trainee NMPs may experience similar anxiety when first qualified and wanted to provide support during this transition period:

> "I think that's when you need … most support, because it's very different … when you've actually got that pen in your hand and you're writing the prescription."
>
> - *Pauline, nurse*

> "I say to my students, I'm always here for you, even though you become a prescriber, you ring me … I'll always be your mentor."
>
> - *Jackie, nurse*

Inside communities of practice, members use imagination to make assumptions about each other, recall the past and discuss the future (Wenger, 1998). As NMPs themselves, Pauline and Jackie used imagination by recalling how they felt when they first qualified and assumed that trainees would experience similar feelings of anxiety. The literature suggests that NMPs consider the responsibility of prescribing

to be ‘onerous’ (Cooper, Hutton and Pierce-Hayes, 2019, p.458; Jarmain, 2017), so it is not surprising that participants felt the need to reassure and support newcomers to the prescribing community.

5.5 Chapter summary

Wenger-Trayner *et al.* (2015b) suggest that practitioners navigate a landscape using three modes of identification and that their journey through the landscape and their experiences with other communities shape their identities. This chapter analysed how participants used the imagination mode of identification to describe their perceptions of the prescribing landscape and their perceptions of the purpose of the DPP role.

Participants used the imagination mode of identification to make sense of the dynamic and varied prescribing landscape and develop their understanding of who they were in the landscape and how they related to others. Participants perceived the landscape to comprise multiple communities of practice and recognised that other communities of practice in the landscape had different, but complementary, skills and expertise. Participants had developed good knowledgeability of the prescribing landscape and were able to use this to orient themselves and their trainees within the landscape, suggesting that the hybrid identities they develop through membership of multiple communities benefitted trainees. Participants were among the first DPPs to take on the role but observed that a disadvantage of being a pioneer was that there were few role models from whom they could learn or benchmark their practice as DPPs which led to feelings of inadequacy.

By using imagination, participants were able to develop an understanding of the purpose of the DPP role and how it fits into the landscape. Participants perceived that DPPs improved supervision for trainee NMPs and, by acting as role models, could inspire new possibilities for practice and raise trainees’ awareness of the responsibilities associated with prescribing.

Narratives containing examples of participants’ images of the prescribing landscape and how they envisage themselves fitting into the landscape were highly prevalent. However, descriptions of future selves and who they might become were largely

absent in participant narratives, possibly because the DPP role is relatively new and there were few role models to inspire new possibilities. Therefore, this chapter is the shortest of the three data analysis chapters. The next chapter explores how participants navigate the prescribing landscape using the alignment mode of identification.

Chapter 6 – Data analysis and discussion: navigating the landscape using alignment mode

6.1 Introduction

Chapters 4 and 5 discussed how participants navigate the prescribing landscape using the engagement and imagination modes of identification respectively. Chapter 2 identified a need to explore how designated prescribing practitioners (DPPs) define competence and how they assess the competence of trainee non-medical prescribers (NMPs). This chapter analyses how participants navigate the prescribing landscape using the alignment mode of identification. It explores how DPPs align their practices as prescribers and workplace supervisors with the requirements of regulators and Higher Education Institutions (HEIs). It provides insight into how DPPs interpret the concept of competence and how they use competency frameworks to assess competence.

6.2 Alignment mode

Landscapes of practice theory views learning as a journey through a social landscape using distinct modes of identification to make sense of the landscape and develop an identity (Kontio, 2015). As described in chapter 2, section 2.5.3.3, the alignment mode of identification refers to how practitioners align with the context of the landscape, ensuring that regulations and professional requirements are complied with and that activities are co-ordinated and directed towards a common purpose (Wenger-Trayner *et al.*, 2015b). Alignment is a fundamental part of a community of practice's 'regime of competence', defined as a set of criteria by which a community of practice recognises membership, and the processes involved in aligning with the community's regime of competence help to develop a practitioner's identity (Wenger, 2010). Chapter 4 described how the engagement mode of identification allows practitioners to experience a community of practice's regime of competence and decide whether participation or non-participation is appropriate. However, the alignment mode of identification differs from engagement mode because it also involves practitioners becoming aware that their practice is part of a broader enterprise; "*through alignment we become part of something big because we do what it takes to play our part*" (Wenger, 1998, p.179).

Awareness of the practices of other communities in the landscape is also a key feature of 'knowledgeability' – defined by Wenger-Trayner *et al.* (2015b) as the relationships that practitioners develop in a landscape of practice and the insights they gain into the practices of other communities. Using alignment mode as a lens to explore how DPPs navigate the prescribing landscape can provide insight into how they use competency frameworks, how they assess trainee competence and how they assess their own competence. Wenger (1998) argues that identities are shaped when practitioners align their practices with the context in which they work. For trainee NMPs, the context includes the competency framework for prescribers (Royal Pharmaceutical Society, 2021) while for DPPs, the context includes the DPP competency framework (Royal Pharmaceutical Society, 2019).

As illustrated in Figure 6, three main themes which demonstrate participants using the alignment mode of identification were identified: alignment with regulatory requirements for trainee NMPs; alignment with broader enterprises; and alignment with regulatory requirements for DPPs. These themes and their sub-themes are explored in sections 6.3, 6.4 and 6.5.

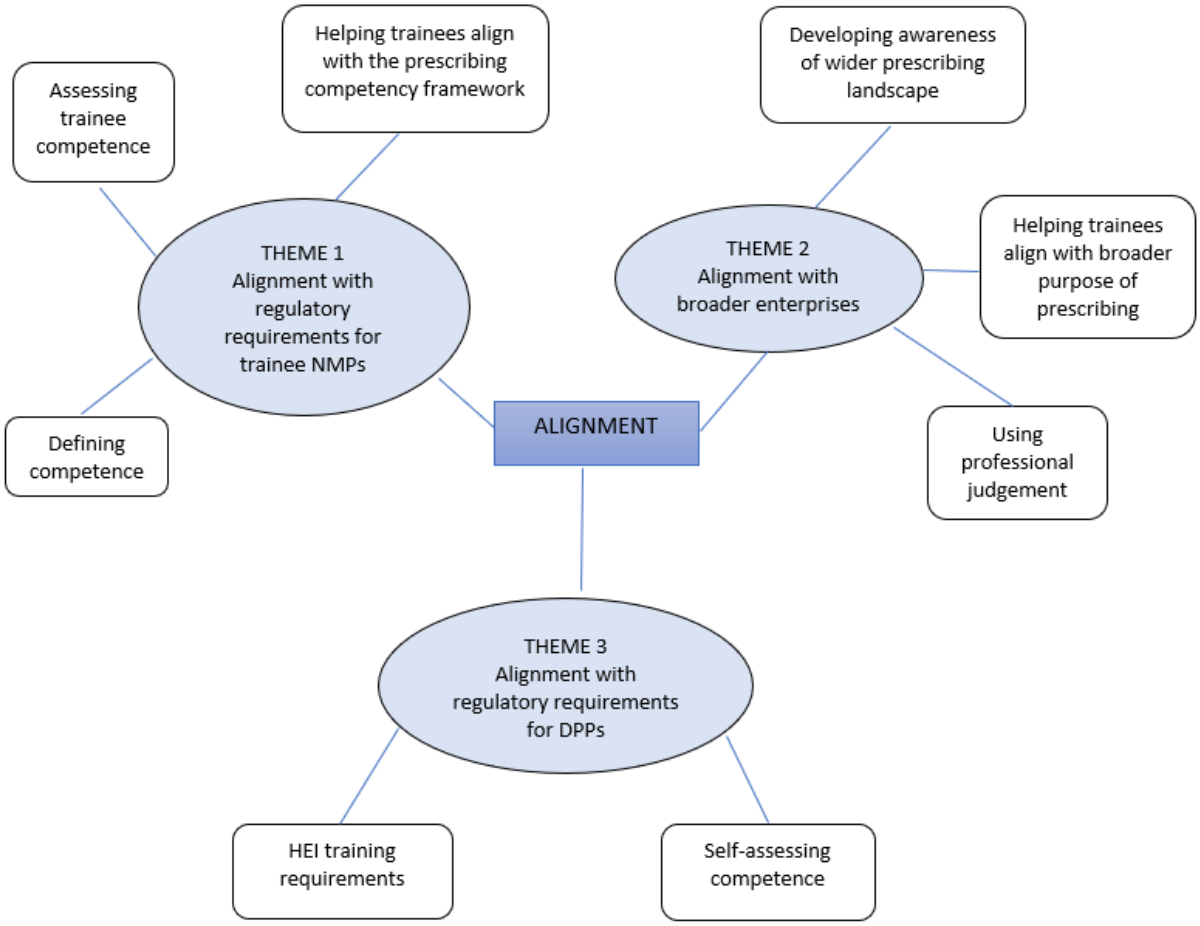

Figure 6: Themes identified demonstrating participants using alignment mode

6.3 Alignment with regulatory requirements for trainee NMPs

At the end of the period of learning in practice (PLP), Higher Education Institution (HEI) programme providers require DPPs to assess a trainee's competence to prescribe and to sign a statement that the trainee has demonstrated all the competencies in the prescribing competency framework. The processes involved in aligning with a community of practice's regime of competence help practitioners to develop their identity (Wenger, 1998). By assessing the trainee's competence to prescribe and 'signing off' individual competencies in the prescribing competency framework, DPPs helped trainee NMPs to align with the prescribing community's regime of competence and develop their identities as prescribers.

As illustrated in Figure 6, within the theme of alignment with regulatory requirements for trainee NMPs, three sub-themes were identified: defining competence; assessing trainee competence; and helping trainees to align with the prescribing competency framework.

6.3.1 Defining competence

Participants struggled to define competence, often pondering the question aloud while considering their response:

> "That's a really good question. What is my understanding?"
> - *John, nurse*

> "How can I describe competence without using the word competence?"
> - *Veronica, nurse*

> "What does competence mean to me? … I can't think of another word without saying competent."
> - *Natalie, pharmacist*

However, the use of similar words such as 'ability' and 'perform' in the excerpts below suggests participants had a tacit understanding of the concept:

> "It's the ability of being able to perform the task safely, right? And having that knowledge and skills to underpin you to be able to do that safely."
> - *Jackie, nurse*

> "They are able to do it and do it well, consistently … all the time, irrespective, whatever situation."
> - *Layla, pharmacist*

> "Are you able to perform to a reasonable … to the required level?"
> - *Aniket, pharmacist*

The finding that participants had difficulty in articulating their understanding of the term competence is supported by the literature which suggests that nurses and

pharmacy educators struggle to define competence but understand the concept implicitly (Church, 2016; Waterfield, 2017). Norris (1991) argues that regulators' need to define and operationalise concepts have undermined professionals' tacit understandings of competence. Despite the lack of a universally accepted definition from the nursing or pharmacy regulators or HEI prescribing course providers, participants' use of similar words to describe competence suggests that there is a shared, albeit implicit, understanding of the concept within the DPP community. This concurs with Wenger-Trayner and Wenger-Trayner's (2015b) position that competence is not defined in books or documents but is negotiated by members of a community of practice. The tension between participants' tacit understandings of competence and the competency framework statements that operationalise prescribing is discussed in chapter 7, section 7.4.1.

6.3.2 Assessing trainee competence

Although participants were "*very aware of the responsibilities as the sign-off person*" [John, nurse], they did not base their assessment of trainee competence on demonstration of the individual competencies in the prescribing competency framework (see section 6.3.3 and Appendix 12 for examples of prescribing competencies). Instead of taking a checklist approach, participants described 'just knowing' instinctively when a trainee was competent:

> "I think you get that feeling, don't you, when you're talking to people and you are trying to discuss a range of issues and just in some ways it's demonstrating that you are thinking about those issues…I dunno that I could write a list, I think it's just a feeling."
>
> - *Julia, pharmacist*

> "It was coming towards the end of our time and I could see that transition from when they first started and the questions they were asking and what I was asking her to do."
>
> - *Rosie, nurse*

Julia's and Rosie's use of the sensory verbs 'feel' and 'see' to express their perceptions of trainee competence suggests that they took a holistic approach to

assessing competence, combining observations and discussions with intuition and professional judgement. The integrated approach to competence (Hager, 2017) highlights the role of professional judgement in interpreting practice according to the specific context of a situation. Julia and Rosie did not base their assessment of competence on the trainee's ability to demonstrate theoretical knowledge or technical skills but instead used their overall impression of a trainee to decide when they were competent and safe to prescribe. This 'impression-based' judgement of competence is consistent with findings from the medical education literature which suggest that mentors rely more on their overall impression of a student to judge competence than on competency statements or documentation (Burden, Topping and O'Halloran, 2018; Kleijer, Schuurmans, ten Cate *et al.*, 2023). Holistic assessment of competence may be influenced by systemic bias (Gonsalvez, Bushnell, Blackman *et al.*, 2013) but this was not explored in the current study. Much of the research on assessment of competence in healthcare has focused on developing tools to measure competence objectively and reliably (Immonen, Oikarainen, Tomietto *et al.*, 2019), suggesting that there are tensions between the drive to develop and refine assessment tools and their use in day-to-day practice. The finding that participants did not rely solely on the prescribing competency framework to assess trainee competence is also supported by a study which found that designated medical practitioners preferred 'real world' assessments over reviewing portfolios and written work (Paterson, Redman, Unwin *et al.*, 2016).

Participants described feeling a sense of responsibility for ensuring that patient safety was not compromised by an unsafe NMP and suggested that should the trainee make an error once qualified, they could be held accountable as the DPP who had assessed them as competent:

> "Unless I've got that assurance, then actually I'm not signing any pieces of paper to say that I'm happy. If I put my signature to something saying someone's safe, then that means that my professional probity is actually in question if that person then turns out to be a complete nightmare."
>
> - *Veronica, nurse*

> "Ultimately if I signed someone as competent and they're not, that could come back at some point, to bite me on the bum, and I could be asked to account for the fact I signed off somebody that wasn't competent. So ultimately, it's about protecting the patients and patient safety, about protecting my professional safety."
>
> - *Mark, nurse*

Veronica and Mark suggested that it was they who decided what it meant to be competent within their communities of practice rather than the prescribing competency framework. Wenger-Trayner *et al.* (2015b) argue that competence has a social dimension and is not simply a characteristic of individuals. Instead, they suggest that it is the community of practice which determines the criteria by which membership is recognised. This demonstrates the flat or 'local' nature of the prescribing landscape (Wenger-Trayner *et al.*, 2015b, p.15) – the regulatory framework sets out the requirements for registration as an NMP, yet it is practitioners who produce the practice of prescribing and define the regime of competence by setting the criteria for membership of the prescribing community. Identification through alignment can take the form of unwillingness to compromise (Wenger, 1998) and in this case, participants indicated that they were unwilling to risk patient safety or compromise their professional probity by signing off trainees who they did not consider to be competent. Patient safety is discussed further in section 6.4.2.

Participants suggested that they would use their own judgement to assess when a trainee was competent to prescribe and would not be pressured by trainees into signing them off prematurely:

> "I just said, I'm in charge of this process, I'm the one that's gonna have to sign you off and if I'm not comfortable with it, I won't sign you off."
>
> - *Julia, pharmacist*

The process of alignment can involve 'literal compliance' or conformity with standards and regulations, with little opportunity for different parties to negotiate meaning (Wenger, 1998, p.205). Julia used a one-way process of alignment, informing her trainee that she alone would make the decision on his competence to prescribe. Swann *et al.* (2021) suggest that 'confirming feedback' from others is

needed to establish identity. Julia's trainee wanted confirming feedback about his performance to help him negotiate his identity as an NMP but Julia was not yet willing to provide this as she had concerns about his competence. Although Julia's trainee perceived himself to be a competent prescriber, Julia did not agree, suggesting that identity is a process of negotiation between an individual's experience and a community of practice's regime of competence (Wenger-Trayner *et al.*, 2015b).

Participants also suggested that competence was more of a continuum than a binary concept and that it would continue to develop after the trainee NMP had qualified. In addition, as experienced prescribers, they were aware that they needed to judge trainee competence at a different level to their own competence:

> "I make it quite clear to them that it's like passing your driving ... so once you pass your driving test, you don't really learn anything until you are in your car on your own and it's the same with prescribing."
>
> - *Vikash, pharmacist*

> "When you're 13 years down the line and much more experienced in a specialty, it's hard to not to judge somebody at your current standard as opposed to that standard that they need to meet. And I suppose it's the difference, isn't it, between entry level and consultant level."
>
> - *Julia, pharmacist*

Building on the work of Dreyfus (2004), Benner (2004) suggested a five-stage model of clinical skills acquisition. In this model, learners transition through the initial two stages of 'novice' and 'advanced beginner' before becoming 'competent' at stage three and then move on to stages four and five, 'proficient' and 'expert'. Participants did not expect trainee NMPs to be expert prescribers by the end of the PLP, but needed to be assured that they would be competent before assessing them as safe to prescribe. Patient safety was identified as a predominant theme in all participant narratives related to assessment of competence.

A systematic review of the medical education literature found that clinical educators in nursing and medicine are often unwilling to report unsatisfactory trainee performance (Yepes-Rios, Dudek, Duboyce *et al.*, 2016), a phenomenon commonly referred to as 'failure to fail' (Dudek, Marks and Regehr, 2005; Larocque and Luhanga, 2013). However, most of the studies reviewed involved assessment of undergraduate students where stakes were lower and assessors perceived that there would be opportunities for other assessors to identify underperformance at a later stage. In contrast, certifying competence of trainee NMPs was perceived to be a high-stakes activity and participants were not prepared to risk patient safety or their professional reputation by failing to fail underperforming trainee NMPs. In this way, participants aligned their role as supervisors with the broader enterprise of ensuring patient safety across the prescribing landscape. This sense of responsibility for patient safety may explain why participants wanted to supervise only one trainee NMP at a time, as outlined in chapter 4, section 4.3.3.

6.3.3 Helping trainees align with the prescribing competency framework

Participants did not use the prescribing competency framework as a checklist to assess competence but used it formatively to help trainee NMPs identify learning needs such as consultation skills or knowledge of drug interactions, and to set learning goals at the start of the PLP:

> "We had a Teams meeting together and basically mapped out what she needed to do from a point of view of actually having a look at the framework, looking at where she was at that point, looking at what she needed to achieve and at the university requirements."
>
> - *Veronica, nurse*

> "To me you are looking at the RPS [*Royal Pharmaceutical Society*] competencies, you're developing a learning contract for those that they don't have."
>
> - *Jackie, nurse*

As outlined in chapter 4, section 4.4.1, reification describes how an abstract concept such as prescribing is made real through the use of physical or digital artefacts (Wenger, 2010). The prescribing competency framework reifies the abstract concept

of prescribing by detailing the knowledge, skills, characteristics and behaviours needed to prescribe safely (Royal Pharmaceutical Society, 2021). Wenger (2010, p.56) argues that learners need access to both the participative and reificative practices of a community if they are to engage fully and develop an 'identity of participation' – defined as an identity developed by engaging in the practices of a community. By using the competency framework to reify prescribing, Veronica and Jackie helped trainees focus their initial participation within the prescribing community, thereby facilitating trainees to develop an identity of participation. Alvesson *et al.* (2002, p.619) describe the process of 'identity-regulation' that occurs when a community or organisation exerts its influence on new members through processes such as induction and participation in practice. In this case, the prescribing community exerted its influence on the identity of trainee NMPs through the prescribing competency framework by detailing the knowledge, skills and behaviours needed for membership.

HEIs require trainee NMPs to demonstrate that they meet all the competencies in the prescribing competency framework. Participants described their role as helping trainee NMPs match their experiences in practice with the requirements of the prescribing competency framework. For example, Layla described how she helped her trainee to demonstrate competency statement 2.2, '*Considers all pharmacological treatment options including optimising doses*' by using prescribing software to check their manual dose calculations:

> "… the software we use gives us suggested dosing … so when they're dosing manually and it's exactly the dose the software will prescribe, then I say, okay, I think we're getting there."
> - *Layla, pharmacist*

Celia described helping her trainee to demonstrate competency statement 1.14, '*Refers to or seeks guidance from another member of the team, a specialist or appropriate information source when necessary'* by asking her to write about a complex patient consultation that she needed to discuss with an expert,

> "If she has cases that are particularly complex, I'll say, can you write that up as … evidence. So we sort of pick and choose, depending on what we're trying to evidence against the competencies."
>
> - *Celia, pharmacist*

Layla and Celia described helping their trainees to make sense of the prescribing competency framework and relate it to what they were doing in practice.

Akkerman *et al.* (2011, p.142) describe boundaries as '*lines of demarcation between practices*', for example, the boundary created by regulatory and HEI requirements that trainee NMPs need to cross to join the prescribing community. Star (1989) uses the term 'boundary objects' to describe artifacts that bring together the perspectives of different parties and allow collaboration across boundaries. Boundary objects provide a focus for structuring discussions between different communities of practice (Oborn and Dawson, 2010) and can be interpreted differently to meet the needs of different parties (Kubiak *et al.*, 2015b) . For trainee NMPs, the prescribing competency framework served as a boundary object to translate the abstract concept of prescribing into tangible practices such as history taking, examination and dose calculation, thereby making it simpler for trainee NMPs to adopt an identity of participation in the prescribing community. For participants, the prescribing competency framework served as a boundary object to help set learning goals for trainee participation and to collect evidence that the trainee demonstrated the competencies. For both parties, the prescribing competency framework served as a boundary object to provide a structure for discussions about how trainees could match their experiences in practice with the competency statements. By helping trainee NMPs align their experiences with the prescribing competency framework, participants helped trainees to develop their identities as prescribers.

Although participants felt that helping trainee NMPs to align experiences with the prescribing competency framework was an important part of the DPP role, some were concerned that trainees were too focussed on the bureaucratic process of gathering evidence to demonstrate how they met the prescribing competencies:

> "He wants to have a discussion about the patient, but with the purpose of getting paperwork completed."
>
> - *Julia, pharmacist*

> "Unfortunately, what can happen is, if that's done quite early on, you can get quite, 'Oh, I need to focus on these things and make sure I pass them'. Well, actually, no, why don't you just get an appreciation for how prescribing works, how clinics work and just keep an open view, watch how doctors do things, watch how the specialist nurses do things, watch how physios, nurse, the dieticians, whatever, do things. And then think about your framework again."
>
> - *Aniket, pharmacist*

When too much emphasis is placed on reification, with limited opportunities for discussion of shared experiences, there may be too little participation to enable learners to generate meaning from experiences (Wenger, 1998). Julia and Aniket recognised the problems inherent in overemphasising reification at the expense of participation. Julia was concerned that her trainee's focus on complying with the prescribing competency framework distracted him from making sensing of his participation in practice while Aniket was concerned that by focusing on the prescribing competency framework too early in the PLP, his trainee would miss opportunities to align their practice to the broader notion of prescribing. Wenger (1998) suggests that the process of alignment involves interaction between various perspectives and meanings. Julia and Aniket had different perspectives on the prescribing competency framework compared with their trainees and needed to ensure these were aligned towards the common goal of becoming an NMP.

Although participants perceived that their role was to help trainee NMPs align with the prescribing competency framework, they recognised that they also benefitted from the new knowledge, skills and ideas brought to the community by trainees:

> "When you're helping someone else it challenges you, doesn't it? Cos they ask you questions and sometimes you think, 'actually I don't know that' so you go and look it up and you learn as well."
>
> - *Rosie, nurse*

> "Although you might think you are mentoring them, some of the things that they show you … bring you a new skill."
>
> - *Syed, pharmacist*

This is consistent with findings from the wider education literature which suggest that newcomers can enhance the learning in a community of practice (Fuller *et al.*, 2005) and that experienced professionals continue to learn from their participation in novel and evolving practices (Hager *et al.*, 2011).

6.4 Alignment with broader enterprises

Alignment requires awareness of how the activities of a community of practice link to broader enterprises in the landscape and participants perceived that part of their role as a DPP was to help trainee NMPs to "*see the big picture"* [Vikash, pharmacist] and encourage them to develop their identities as prescribers. This suggests that the DPP community has a 'joint enterprise' (Wenger, 1998, p.77) or common purpose in helping trainees connect their practice to the broader enterprise of prescribing. The desire to help trainee NMPs connect practice to the broader enterprise of prescribing also suggests that participants identified as members of the prescribing community of practice and were aligned with its regime of competence.

As illustrated in Figure 6, within the theme of alignment with broader enterprises, three sub-themes were identified: developing awareness of the wider prescribing landscape; helping trainees align with the broader purpose of prescribing; and using professional judgement.

6.4.1 Developing awareness of the wider prescribing landscape

Participants encouraged trainee NMPs to explore the boundaries between their own community of practice and other communities so that they were able to "*join the dots*" [Manisha, pharmacist] and understand the impact of their actions across the whole prescribing landscape:

> "I think it's fundamental that pharmacists in all sectors understand how the different bits fit together. One of the things we need to be doing is stopping people coming out of hospital on a whole load of stuff with no advice that two years later they're still on.

So understanding the impact of not acting in secondary care and the impact that it has in primary care is really important."

- *Julia, pharmacist*

"As part of our training, you can quite often be quite blinkered on, 'well, these are the patient's drugs, I'm the pharmacist, this is what I need to do'. It's only when you are working as part of an MDT [*multidisciplinary team*] that you say, 'okay, so this is what the physio does. Actually, I do need to know that because they're thinking about new nebulisers and upping their treatment, which has an impact on me'."

- *Aniket, pharmacist*

Julia described the importance of understanding how to communicate with practitioners in other parts of the landscape so that patients did not continue taking unnecessary medicines, while Aniket described how working as part of a multidisciplinary team had revealed the importance of widening his focus beyond the patient's medicines. An important aspect of the work of any community of practice is to ensure that its members develop awareness of the wider landscape in which the community operates (Wenger, 1998). The prescribing landscape is broad, incorporating different healthcare professionals, primary and secondary care and NHS and private practice and participants recognised the importance of enabling trainee NMPs to align their practice with the aims of the broader prescribing landscape.

6.4.2 Helping trainees align with the broader purpose of prescribing

Extending non-medical prescribing is part of a broader enterprise to improve patient access to medicines in the NHS (NHS England, 2019). Participants suggested that some trainees might enrol on NMP programmes for personal reasons, for example, to enhance their career prospects, rather than for reasons connected to the broader purpose of the prescribing community such as meeting the needs of patients:

"It's a privilege in many ways. And actually treat it as such rather than, 'Hey, well I need … to tick this box to get on and do the next thing or to get a pay rise'."

- *Veronica, nurse*

> "I wonder if this issue of people graduating as prescribers is driving a lot of the decisions to do prescribing. Like, 'oh, well I'm not gonna have these young upstarts being a prescriber when … I'm not a prescriber'. I'm trying to get them to identify where they're actually going to use this [*qualification*]… because that doesn't seem to have factored into the thought process of being a prescriber."
>
> - *Julia, pharmacist*

This is in contrast with the literature which suggests that newly-qualified pharmacists are cautious about enrolling on NMP programmes (McIntosh, Munro, McLay *et al.*, 2012). However, the McIntosh *et al*. study was undertaken before the introduction of the pharmacy regulator's standards for the initial training of pharmacists that allow all newly-qualified pharmacists to become prescribers at the point of registration (General Pharmaceutical Council, 2021). Alignment requires the ability to focus activity toward a common purpose (Wenger, 1998). Veronica and Julia felt it was important that trainee NMPs have reasons for enrolling on a prescribing programme that aligned with the prescribing community's common purpose of improving patient access to medicines. Kubiak *et al.* (2015a, p.69) suggest that practitioners who 'play along' with external requirements and fail to engage at a deeper level demonstrate 'unengaged alignment' and do not develop an identity as members of a community. Identity development is social, arising from membership of social groups (Tajfel, 1978) and participation in group activities (Stets *et al.*, 2013). Those who demonstrate unengaged alignment may be less likely to participate in group activities that generate meaning and therefore less likely to develop an identity as a prescriber. Veronica and Julia were concerned that trainee NMPs who enrol on a prescribing programme without being fully committed to the broader purpose of prescribing may align superficially with the prescriber competency framework but may not develop an identity as prescribers.

Knowledgeability refers to the way in which practitioners develop competence and identity as they journey across a landscape of practice encountering other practices and other communities (Wenger-Trayner *et al.*, 2015b) and thereby developing an understanding of their own identity and the identities of other professionals (De Nooijer *et al.*, 2022). Understanding how a community of practice's actions align with other practices in the prescribing landscape to achieve a common purpose is a key

feature of knowledgeability. By encouraging trainee NMP to relate their practice to the wider purpose of prescribing, participants helped them to develop their competence and identity and hence, their knowledgeability.

6.4.3 Using professional judgement

Linked to the broader enterprise of patient safety, participants also suggested that while it was important that trainee NMPs align with protocols and guidelines when learning to prescribe, it was equally important to learn when to deviate from these:

> "As a prescriber, there is a process that you have to follow and it's important to follow that process, but having the additional responsibility of prescribing, some of that is actually about knowing when the process shouldn't be followed."
> - *John, nurse*

> "What I don't want pharmacists to do is treat prescribing like a tick-box exercise."
> - *Syed, pharmacist*

John and Syed suggested that prescribing involves more than simply following algorithms or guidelines and that it is important for trainee NMPs to know when to exercise professional judgement and prescribe outside guidelines. Ruby gave an example of when it was appropriate to prescribe medicines outside their licence for end-of-life patients in a hospice:

> "We prescribe a lot of off-licence drugs because of dosing, because of syringe driver mixing, ketamine, methadone etc."
> - *Ruby, nurse*

There are limitations to the quality and generalisability of clinical guidelines (Sniderman, Lachapelle, Rachon *et al.*, 2013). Therefore, it is important that NMPs know when to follow guidelines and when to prescribe outside guidelines. Prescribing guidelines provide information on current best practice for treating certain health conditions and so reify the concept of prescribing. However, over-emphasis on reification can result in limited opportunities to connect practice to broader enterprises (Wenger, 1998) and can produce practitioners who follow

instructions unquestioningly, relying on procedural knowledge rather than the 'professional artistry' (Schön, 1983, p.7) needed to make professional judgements. Using the alignment mode of identification can be disempowering as it reduces the ability of communities of practice to act on their initiative and negotiate their place in the broader landscape (Wenger, 1998). Participants perceived that part of their role was to help trainee NMPs recognise the problems inherent in adhering rigidly to guidelines and in doing so, help them connect their practice to the broader enterprise of safe and appropriate prescribing.

6.5 Alignment with regulatory requirements for DPPs

Before taking on the role of DPP, Higher Education Institution (HEI) programme providers require prospective DPPs to declare that they meet the competencies listed in the DPP competency framework (see Appendix 11) and to undertake additional training. In making the decision to self-assess their competence and align with HEI requirements, participants established their intentions to participate in the DPP community and confirmed their identities as DPPs (Wenger, 1998).

As illustrated in Figure 6, within the theme of alignment with the regulatory requirements for DPPs, two sub-themes were identified: HEI training requirements for DPPs and self-assessing competence against the DPP competency framework.

6.5.1 HEI training requirements for DPPs

Some participants expressed frustration at the requirement to undertake additional training before taking on the DPP role:

> "It's very frustrating because you could have a dodgy GP who isn't up to standard who can do this simply because of being a GP, yet as a non-GP you're expected to jump through these additional hoops."
>
> - *Mark, nurse*

This suggests that Mark perceived the requirement for additional training to be unfair because doctors are exempt from the requirement. Being obliged to align rigidly with external requirements can suppress identity because it can remove individuals' ability to act on their own understanding and negotiate their place in the community

of practice (Wenger, 1998). Mark believed that he was competent without additional training but the HEI requirement to undertake training contested his identity because it challenged his understanding of what it means to be a competent DPP. Handley, Sturdy, Fincham *et al.* (2006) argue that the process of alignment creates tensions within individuals and can be disempowering. Instead of disengaging, Mark chose to align with the HEI's requirements and undertook the training, despite believing he was already competent. As discussed in chapter 4, section 4.3.2, there is a risk that excessive HEI requirements may discourage prospective DPPs from participating in the DPP community of practice.

Participants were supervising trainee NMPs studying at different HEIs, each of which had its own training requirements for DPPs and reported feeling frustrated at the lack of consistency with DPP training. Some HEIs required DPPs to study e-learning modules; some required attendance at face-to-face study days; some signposted to third-party online providers; others provided no training at all. This inconsistency resulted in participants who supervised trainees at different HEIs having to undertake multiple training programmes to align with individual HEI requirements which consequently impacted on the extent to which participants were willing to supervise trainees:

> "I suppose if I moved areas I'd have completely different paperwork again, wouldn't I? … So that is a bit of a barrier because then you've gotta start again with all of the paperwork, just when you think you know. Anyway, I'm sticking with what I've got now."
>
> - *Pauline, nurse*

Pauline's frustration with the inconsistencies between different HEIs resulted in her being more likely to agree to supervise trainees enrolled at HEIs where she was familiar with the paperwork and had completed the DPP training.

Participants were disappointed with the quality and content of the training provided to DPPs by some HEIs. The training was perceived to be too general, covering high-level principles of supervision and mentorship rather than issues specific to supervising trainee NMPs working at postgraduate level:

> "I wasn't terribly impressed because most of it was around facilitated learning for undergraduates as opposed to prescribing students and not even postgraduate students."
>
> - *Veronica, nurse*

> "There was a lot of models, learning about models and I was thinking, you know, when am I gonna get to the main bit? But the main bit for me never came, so I think I would've preferred a course that was more specific to NMP, because when I finished it, I thought, well, what am I supposed to be doing?"
>
> - *Pauline, nurse*

Veronica felt that the DPP training did not recognise that trainee NMPs may require a different type of supervision compared to undergraduate students. As described in chapter 4, section 4.4.2, participants were able to 'recontextualise' (Guile, 2014) existing knowledge of supervising undergraduates when supervising trainee NMPs. However, they felt that the training should have facilitated this by being more tailored towards supervising experienced practitioners. Pauline wanted more practical information about what she was expected to do in her DPP role, including milestones and assessments, because this was new knowledge, not existing knowledge that could be recontextualised from other contexts.

Participants reported that the training provided by HEIs did not provide any new information:

> "It doesn't actually tell you anything new, but it just gives you a different perspective into how you can apply what you already know. I mean, you know it, but sometimes you need to be reminded of how to go about doing it and so you don't really learn anything new."
>
> - *Layla, pharmacist*

Layla felt reassured that she did not learn anything new from the mandatory HEI training and that it simply reinforced existing knowledge, even if this needed to be recontextualised. Although the HEI did not acknowledge Layla's previous experience

as a tutor and mentor, the training provided her with confirmation that she already had adequate knowledge and skills to undertake the role.

The finding that participants felt the formal training was not particularly useful concurs with findings from the literature (Jarmain *et al.*, 2023). As outlined in section 6.3.3, 'boundary objects' such as training programmes can act as a bridge between different communities of practice and can support the process of alignment (Kubiak *et al.*, 2015b). However boundary objects can also act as 'barricades and mazes', creating barriers to change (Oswick and Robertson, 2009, p.179). While HEIs intended their training programmes to support prospective DPPs, participants perceived them to be a potential barrier to developing an identity of participation in the DPP community. Star and Griesemer (1989) suggest that boundary objects should be flexible so that they can serve different purposes and can be understood differently by those in different communities of practice. In this case, the training programme was understood differently by the DPP and HEI communities and acted as an inflexible boundary object, restricting entry to the DPP community. The requirement to complete more than one training programme was also perceived to be a barrier.

Wenger-Trayner *et al.* (2015b) argue that a regime of competence is decided by a community of practice. However, in the case of the DPP community, HEIs and regulators act as gatekeepers by determining entry requirements and deciding what counts as competence. This demonstrates the 'political' nature of the prescribing landscape which has been 'colonised' (Wenger-Trayner *et al.*, 2015b, p.15) by legal mandates and HEI requirements. Participants believed that as experienced NMPs, tutors and supervisors, they were competent to be DPPs but their competence was not recognised by HEIs and their identities were contested (Kerosuo, 2003). Alvesson *et al.* (2002) suggest that organisations try to regulate an individual's identity as a means of exerting control and that this can result in cynicism, dissent or resistance. Although some participants were cynical about the need for additional training, they did not resist but instead complied with the training requirements. Hawkins, Pye and Correia (2017) suggest that boundary objects are subject to power relations and can become politicised over time. It is possible that training

programmes have been politicised by HEIs who are exercising their power to demand alignment, thereby restricting entry to the DPP community of practice.

6.5.2 Self-assessing competence against the DPP competency framework

In addition to completion of a training programme, some HEIs required prospective DPPs to provide evidence that they met all the competencies in the DPP competency framework:

> "The form that I had to fill in, it was colossal. I don't think I was prepared for how I'd have to sell myself to be able to undertake being her DPP."
> - *Natalie, pharmacist*

Given the scarcity of DPPs, Natalie was surprised that she had to justify her claim to competence. However, not all HEIs asked prospective DPPs to provide evidence that they met the DPP competencies, demonstrating further inconsistencies between HEI requirements:

> "I sort of felt reasonably confident that I did meet the framework, but I was interested that I wasn't asked to look at that when I signed up."
> - *Julia, pharmacist*

Participants stated that they were confident to self-assess their ability to demonstrate the competencies in the DPP competency framework:

> "You get to a stage where you just have to be honest with yourself and you're, 'okay, yeah, I know that. This is probably not a great area for me, so let me see if I need to do something else'...so yeah I felt quite comfortable with that."
> - *Aniket, pharmacist*

> "It isn't about knowing everything. It's about knowing what you know. It's about knowing what you don't know. Sometimes you don't know what you know, but it's about knowing what you don't know."
> - *Mark, nurse*

Aniket was aware of the need to be honest when identifying areas where he needed to improve while Mark recognised that it was not necessary for DPPs to know everything but identified the need to be aware of one's own shortcomings. Self-assessment is an essential skill for healthcare professionals (Eva and Regehr, 2007). However, the ability of doctors and nurses to self-assess competence accurately has been questioned. Abadel *et al.* (2013) found that junior doctors tended to overestimate their clinical skills and competence while Baxter *et al.* (2011) found that student nurses scored their ability to deal with medical emergencies higher than examiners. The literature suggests that most clinicians overestimate their ability (Eva *et al.*, 2005) and studies have shown that students who are least competent have the least insight into their performance (Kruger *et al.*, 1999). It is possible that DPPs would benefit from 'facilitated self-reflection' or appraisal to aid more accurate self-assessment (Conlon, 2003, p.389). Although participants claimed that they were confident to self-assess competence, it is beyond the scope of this research to explore the accuracy of these claims and this could form the basis of future research.

Participants also described using the DPP competency framework to identify their learning needs and set learning goals. For example, most pharmacists were confident in their area of clinical practice but suggested that they needed to improve their feedback and assessment skills:

> "I mean, I can't remember the exact wording, but I think the stuff around assessing is where I'm probably less comfortable."
>
> - *Julia, pharmacist*

> "I think it was handling the feedback was making me a little bit nervous, without trying to hurt their feelings or let them feel demoralized."
>
> - *Karishma, pharmacist*

This concurs with the literature which suggests that clinical supervisors reported being least confident with giving feedback (Bearman, Tai, Kent *et al.*, 2018). In contrast, most nurses were confident in teaching and mentoring but some suggested

that they needed to improve their clinical knowledge, particularly their knowledge of medicines:

> "I'm okay with the teaching because if I don't know, I know where to go to get that information."
>
> - *Sarah, nurse*

> "What I really hate is when, if I'm teaching something and I don't know my stuff…if it's specifics about drug interactions or specifics about side effects or specifics about complex pharmacokinetics and pharmacodynamics, I'm gonna start thinking, oh, I need to do some revision here before we get stuck into that."
>
> - *Joseph, nurse*

The finding that pharmacists were less confident with teaching and assessment than with clinical skills is supported by a survey of prescribing and education leads which suggests a lack of confidence and competence in pharmacists' ability to apply different teaching methods and use a range of assessment methods (Jebara *et al.*, 2022). One of the reasons for pharmacists' lack of confidence with teaching and assessment in the workplace is that until recently, pharmacy students were not required to undertake practice placements during the undergraduate programme (Jee *et al.*, 2016) and the focus of postgraduate training, particularly for pharmacists working in hospital practice, was on acquisition of diplomas (Health Education England, 2021). This lack of focus on workplace-based learning in pharmacy has resulted in an absence of formal support structures such as educational supervision (Jones *et al.*, 2010). Most healthcare professions – such as medicine, nursing and allied health – have formal supervision structures to support safe practice during periods of workplace learning during undergraduate and postgraduate training (Dawson, 2013; Dilworth, Higgins, Parker *et al.*, 2013; Martin, Kumar and Lizarondo, 2017; Snowdon, Hau, Leggat *et al.*, 2016). However, there is a need for more formal structures to support advanced workplace-based learning in pharmacy (Howard *et al.*, 2020; Styles *et al.*, 2022b). While it is likely that nurses have experience in teaching and supervising in practice, this may not be the case for pharmacist DPPs.

The desire to align with external expectations is an expression of belonging to a broader social system (Wenger, 1998). In this case, participants wanted to align with the DPP competency framework because they felt a sense of belonging to the DPP community. Alignment can become a very important aspect of a practitioner's identity and by aligning with the DPP competency framework and the community's regime of competence, participants expressed their identity as DPPs.

6.6 Chapter summary

Wenger-Trayner *et al.* (2015b) suggest that practitioners navigate a landscape using three modes of identification to make sense of the landscape and their identity. This chapter analysed how participants used the alignment mode of identification to help trainee NMPs comply with HEI and regulatory requirements, thereby helping them to develop their identities as prescribers. It also described how they aligned with the context of the landscape to develop their own identities as DPPs.

Participants used the prescribing competency framework as a flexible boundary object to reconcile the reificative aspects of the prescribing competency framework with the participative aspects of the period of learning in practice. This helped them to identify a trainee's learning needs and align their experiences in practice with the prescribing competencies. Although alignment mode requires compliance with external requirements, this is not a one-way process (Wenger-Trayner *et al.*, 2015b). Participants used their professional judgment to interpret the community of practice's regime of competence and decide when trainees were competent to prescribe.

Participants were frustrated by HEI training requirements and perceived them as inflexible boundary objects which created a potential barrier to entry to the DPP community. Participants claimed to be confident in self-assessing their competence as a DPP. However, exploring the accuracy of these claims is beyond the scope of this study. In line with the literature, pharmacist participants identified the need to improve skills in feedback, teaching and assessment, while nurse participants identified the need to improve knowledge of medicines.

Alignment also involves connecting local practice with the wider context. Participants suggested that part of their role as a DPP was to help trainee NMPs to connect their practice to the broader purpose of prescribing, thus ensuring patient safety. By aligning with the wider context, participants helped trainee NMPs develop their knowledgeability as well as competence.

The next and final chapter in this thesis consolidates findings from the three data chapters to answer the research questions set out in chapter 1.

Chapter 7 – Conclusions

7.1 Introduction

Chapter 1 outlined the need to ensure a sufficiently large workforce of designated prescribing practitioners (DPPs) to supervise an increased volume of non-medical prescribers (NMPs) during the period of learning in practice (PLP) and, for patient safety reasons, to ensure these DPPs are competent for the role. This research used a broad interpretivist approach to explore the learning needs of DPPs who had supervised or were preparing to supervise trainee NMPs in the workplace. Government, regulator and professional body policies focus on the acquisition of knowledge and technical skills for the DPP role but fail to acknowledge the link between learning and professional identity. Landscapes of practice theory (Wenger-Trayner *et al.*, 2015b) provides such a link and proved to be a powerful tool for understanding how participants perceived their experiences of preparing to become a DPP.

Landscapes of practice theory describes how practitioners use three different modes of identification to negotiate their identities as they journey across a landscape of practice (Wenger-Trayner *et al.*, 2015b). Engagement mode involves direct participation in a community of practice's activities; imagination mode involves creating an image of the landscape to locate and orient oneself in the landscape; and alignment mode involves adherence to professional standards. Participants used all three modes of identification in combination when describing their perceptions of the role, the support they needed and how they used competency frameworks to assess competence. Overall, the findings from this study suggest that becoming a designated prescribing practitioner is not simply a process of providing evidence to meet a set of competencies but instead can be conceptualised as a journey through the complex prescribing landscape which shapes the practitioner's identity.

This final chapter draws together findings from each of the three data chapters to answer the research questions set out in chapter 1. This chapter will also make recommendations for practice and clarify the contribution of this research to the body

of knowledge about DPPs and their learning needs. Finally, it will discuss the study's strengths and limitations and will offer recommendations for further research.

7.2 Research question 1: how do designated prescribing practitioners perceive the purpose of their role?

Chapter 4 outlines how participants' interactions with others in the prescribing landscape and decisions on whether to participate in the DPP community influenced their perceptions of the purpose of the role. Chapter 5 outlines how participants' views of the prescribing landscape influenced their perceptions of the role and its purpose, while chapter 6 describes how participants' desire to help trainees connect prescribing to the broader healthcare context influenced their perceptions of the role's purpose. Table 2 below outlines the sections in each of the data chapters where participants' perceptions of the role's purpose are discussed.

Domain	Chapter 4	Chapter 5	Chapter 6
DPP role purpose	4.3.1 4.3.3 4.4.1 4.4.3 4.4.4	5.3.2 5.4.1 5.4.2	6.4.1 6.4.2 6.4.3

Table 2: Answers to research question 1 mapped to relevant data chapter sections

7.2.1 Purpose of the DPP role

Participants used all three modes of identification to describe their perceptions of the purpose of the DPP role. Participants perceived that the role's main purpose was to oversee the educational development of trainee NMPs in the workplace by providing opportunities to engage meaningfully in the prescribing community while simultaneously ensuring patient safety through supervision. Combining imagination with engagement, participants saw themselves as prescribing role models and suggested that part of the DPP role was to help trainee NMPs recontextualise theoretical knowledge gained from the prescribing course by providing opportunities to observe real-world practice and participate in workplace activities. This is in line

with findings from the literature which concluded that the purpose of the period of learning in practice (PLP) is to facilitate integration of theory with practice (Stewart *et al.*, 2012).

Participants described working at the boundaries of their own community of practice, building relationships, exchanging knowledge and introducing practices from other communities, and suggested this had contributed to the development of their professional identities as prescribers and DPPs. Similarly, participants recognised the importance of exposing trainee NMPs to other practices and practitioners in the prescribing landscape that could offer different perspectives on prescribing. Participants combined imagination with engagement, perceiving themselves as 'brokers', a term used by Wenger (1998) to describe practitioners who deliberately facilitate experiences at the boundaries of their communities to help trainees build connections between different parts of the landscape and develop knowledgeability. This is discussed further in section 7.4.2. Participants also suggested that part of the DPP role is to encourage trainee NMPs to use imagination to create an understanding of what it means to be a prescriber, thereby helping trainees develop their own professional identities as prescribers. Participants combined imagination with alignment to describe their perceptions of the DPP role's wider purpose – namely increasing patient access to medicines. Similarly, participants combined engagement with alignment to suggest that one important purpose of the role is to ensure that trainee NMPs aligned their practice with the broader purpose of prescribing.

Although participants recognised the benefits of learning from other communities of practice in the landscape, most pharmacist participants were unwilling to supervise trainee NMPs from other professions as they felt they did not know enough about these professions. In contrast, most nurse participants perceived prescribing to be a generic skill that transcends professional boundaries and felt sufficiently confident and competent to supervise trainee NMPs from other professions. This may be because a culture of supervision is embedded in the nursing profession. For example, the nursing regulator requires registered nurses to be competent in

supporting and supervising students (Nursing and Midwifery Council, 2023a). This is discussed further in section 7.3.1.

Participants were among the first DPPs to take on the role and had developed their perceptions of the role's purpose through direct engagement in supervision. Participants perceived that they had autonomy to choose whether to participate in the DPP community and to choose individual trainee NMPs but were more likely to engage in supervising trainee NMPs where they had an existing relationship and were aware of the trainee's competence and capability. Participants combined engagement with imagination to describe how they thought changes in healthcare policy might influence their willingness to supervise trainee NMPs in the future. For example, from 2026, all newly registered pharmacists will be NMPs (General Pharmaceutical Council, 2021) and so trainee pharmacists will need to undertake a supervised period of learning in practice during the foundation training year. Foundation pharmacy training places are allocated centrally through the NHS recruitment portal, Oriel (NHS England, 2023) which does not allow employers to select individual trainees. Therefore, from 2026, DPPs supervising trainee pharmacists will have limited ability to exercise autonomy in choosing trainees and this may impact on the willingness of NMPs to become DPPs.

7.2.2 Summary

In summary, participants perceived that main purpose of the DPP role is to help trainee NMPs recontextualise theoretical knowledge acquired during the prescribing course by providing opportunities to engage in meaningful workplace activities and by helping trainees to connect their practice to the practices of others in the prescribing landscape. Participants perceived that they had autonomy to decide whether to take on the role and to choose students but realised that this may alter following changes in healthcare policy.

7.3 Research question 2: what support do DPPs perceive they need to supervise trainee NMPs in the workplace?

Chapter 4 outlines how participants developed their perceptions of the support DPPs need for the role while they engaged in supervision. Chapter 5 outlines how

participants drew on their perceptions of their own experiences of learning to prescribe when describing the support DPPs need, while chapter 6 describes how the requirement to align with HEI training and competency frameworks influenced participants' perceptions of the support needed. Table 3 below outlines the sections in each of the data chapters where participants' perceptions of the support needed to supervise trainee NMPs is discussed.

Domain	Chapter 4	Chapter 5	Chapter 6
Support with workplace learning activities	4.4.1 4.4.2 4.4.3	5.4.1	6.4.2
HEI training	4.3.2		6.5.1
Peer support		5.3.2	6.5.2

Table 3: Answers to research question 2 mapped to relevant data chapter sections

7.3.1 Support with workplace learning activities

Participants used all three modes of identification to describe their perceptions of the support that DPPs needed to supervise trainee NMPs in the workplace. Participants did not identify the need for additional support when planning appropriate workplace learning activities, instead describing how they acquired knowledge of supervision practices through experiential learning and engaging in practice. Workplace learning activities for trainees were planned by replicating or adapting techniques that designated medical practitioners (DMP) had used, for example, observation, questioning and reflection, and drawing on previous experiences of supervising other learners in the workplace. Although participants practised in different professions (nursing, pharmacy and medicine) and in different healthcare settings, the types of learning activities they provided – for example, the opportunity to observe and participate in patient consultations and access to patient drug charts – were notably similar. Participants recognised that providing opportunities to participate in prescribing activities enabled trainee NMPs to generate meaning and therefore develop their identities as prescribers. The similarities in the types of learning

activities provided by participants are even more remarkable given that DPPs have had little guidance on how to supervise trainee NMPs.

Combining imagination with engagement, participants recalled their own experiences as past members of the trainee NMP community and used this as a basis to provide a connection to and empathy with trainees. Participants who had experienced poor supervision from a DMP or whose DMPs had taken a superficial approach to supervision reflected on their experiences and described deliberately engaging in different, more supportive supervision practices. Participants combined alignment with engagement to plan workplace activities that enabled trainee NMPs to meet the requirements of the prescribing competency framework. Participants also combined alignment with engagement by describing how they used the prescribing competency framework to help trainee NMPs identify learning needs and to ensure that trainees engaged in workplace activities that aligned with the broader purpose of prescribing, namely better access to medicines. Participants combined imagination with alignment by using their vision of the broader landscape of practice to justify how they aligned supervision practices with the fundamental purpose of the role which was to assure patient safety once trainees qualified as NMPs.

The finding that participants were able to plan appropriate workplace learning activities and did not perceive a need for additional support suggests that DPPs do not develop supervision skills through theoretical knowledge gained from training courses. Instead, they observe, reflect on and learn from their own experiences of being supervised and implement similar strategies with their trainees. This supports Wenger's (1998) social theory of learning which claims that the most transformative learning derives from participation in communities of practice. It also supports Wenger-Traynor *et al.*'s (2015b) landscapes of practice theory which argues that knowledgeability requires practitioners to draw on their relationships and experiences with other communities of practice when engaging in their own practice.

Most participants in this study felt that they could not provide adequate workplace supervision to multiple trainees, a finding supported by a recent survey of prescribing and education leads in Scotland which reported that 40% were unsure that DPPs

had sufficient capacity to take on the role (Jebara *et al.*, 2022). Although the number of pharmacist NMPs has increased rapidly in recent years, only 26% of registered pharmacists in England are also prescribers (Wilson, 2023). The pharmacy regulator does not stipulate a minimum post-qualification period before NMPs can become DPPs and supervise trainees. However, the DPP competency framework suggests that NMPs should not become DPPs until they have been prescribing for a minimum of three years (Royal Pharmaceutical Society, 2019) and so the percentage of pharmacists eligible to become DPPs will be much smaller than 26%. This means that there is currently a lack of pharmacist DPP capacity in the healthcare system. In 2023, NHS England Workforce Training and Education, formerly Health Education England, commissioned 3000 places for pharmacist trainee NMPs across England (Health Education England, 2023). However, many pharmacists, particularly those in community practice, have been unable to access this training because they have been unable to find a DPP to provide supervision (Bartlett, 2023). NHS England has piloted Teach and Treat clinics in Southwest England in which one DPP supervises multiple community pharmacy trainee NMPs in clinic settings (Health Education England, 2022). In contrast with findings from the current study, the pilot found that DPPs were willing to supervise multiple trainees simultaneously, perhaps because the DPPs involved in the pilot came from a range of professional backgrounds including nursing, pharmacy and medicine (NHS England, 2024).

7.3.2 HEI training for DPPs

A major finding from this study was that participants did not identify any learning needs specific to their role in supervising trainee NMPs in the workplace. Participants expressed frustration that Higher Education Institutions (HEIs) required them to undertake additional training before they could take on the role, even though they had assessed themselves against the DPP competency framework as being competent. As discussed in chapter 4, being required to undertake additional training resulted in some participants experiencing marginality (Wenger, 1998) and identity disconfirmation (Turner *et al.*, 2006) because they were not permitted to engage in the DPP community without additional training. Participants combined engagement with alignment by completing HEI training – albeit reluctantly – but this could be a potential barrier to less motivated DPPs. Even more frustrating for participants was

the lack of consistency between the training required by HEIs which meant that those supervising trainees at different HEIs needed to undertake multiple training programmes to align with individual HEI requirements.

The finding that nurse DPPs did not perceive the need for additional training is not surprising given that clinical supervision is an integral part of nursing practice (Kilminster, 2010). However, the finding that pharmacist DPPs did not identify additional training needs is unexpected. One possible explanation for this finding may be that those interviewed were experienced in the role. There is little specific literature on the learning or professional development needs of non-medical prescribers preparing to take on the role of DPP. In contrast with findings from the current study, Jarmain (2020b) found that nurses expressed a desire for training before taking on the DPP role while Jebara *et al.* (2022) found that prescribing and education leads were uncertain about pharmacists' ability to teach and assess trainee NMPs. As discussed in chapter 6, there are few formal structures to support advanced workplace-based learning in pharmacy (Howard *et al.*, 2020; Styles *et al.*, 2022b). Despite this, participants in the current study – including pharmacists – reported feeling confident and competent to supervise trainee NMPs in practice, suggesting that training for DPPs should be optional and self-directed.

7.3.3 Peer support

Although participants reported feeling confident and competent to supervise trainee NMPs in practice, some participants were concerned that their performance as DPPs may not be of an acceptable standard. The reason for this apparent dichotomy may be because participants were among the first DPPs in the prescribing landscape and so had little contact with other DPPs and limited opportunities to benchmark performance or discuss supervision techniques. Participants engaged in similar supervision practices but the lack of contact with peers made it more difficult for them to use imagination to orient themselves in the landscape. Lack of peer support and opportunities to benchmark performance meant that participants needed to combine imagination with alignment to self-assess their competence and align with the DPP competency framework. Access to peer support can help overcome

imposter syndrome (Freeman and Peisah, 2022) and provision of formal peer support networks for DPPs could encourage others to take on the role.

Although DPPs have a common purpose in supervising trainee NMPs (joint enterprise) and share similar supervision practices (shared repertoire), the lack of mutual engagement means that they do not yet fulfil Wenger's (1998) criteria to be characterised as a community of practice and thus lack a cohesive professional identity.

7.3.4 Summary

In summary, participants did not identify the need for additional support when planning workplace learning activities because they drew on previous experiences of supervising other learners in the workplace and replicated or adapted techniques used by their own supervisors. While participants felt comfortable supervising individual trainees, few felt able to supervise multiple trainees simultaneously. Participants did not identify any specific learning needs and expressed frustration at the requirement to undertake additional training. However, participants felt that peer support would be beneficial.

7.4 Research question 3: how do DPPs use competency frameworks to assess competence?

Chapters 4 and 5 outline how participants drew on their perceptions of the prescribing landscape to help trainees develop their knowledgeability of other practices as well as developing competence. Chapter 6 describes how participants used competency frameworks to assess the competence of trainees and themselves as DPPs. Table 4Table 4 below outlines the sections in each of the data chapters where participants' use of competency frameworks is discussed.

Domain	Chapter 4	Chapter 5	Chapter 6
Holistic assessment of competence			6.3.1 6.3.2 6.3.3
Developing knowledgeability	4.4.4	5.3.1 5.3.2	

Table 4: Answers to research question 3 mapped to relevant data chapter sections

7.4.1 Holistic assessment of competence

Participants had difficulty defining competence but shared a tacit understanding of the concept, based on a trainee's ability to prescribe safely. Participants assessed trainee competence holistically by combining observations and discussions with intuition and professional judgement and did not take a tick-box approach to assessment of competence. The prescribing competency framework sets minimum standards for the knowledge, skills, behaviours and attitudes expected of a competent prescriber, but findings from this study suggest that it is DPPs who determine when a trainee NMP is competent and thus ready to be accepted as a member of the prescribing community. This concurs with Wenger-Trayner *et al.*'s (2015) argument that competence is negotiated and defined by members of a community of practice and therefore has a social, as well as an individual, dimension. Although the prescribing competency framework sets out minimum requirements for registration as an NMP, it is practitioners who define the regime of competence by setting the criteria for membership of the prescribing community. As prescribing practice evolves, this has the potential to create tension between the regulatory framework and practitioners' understandings of competence.

Participants did not rely solely on the prescriber competency framework to assess competence, instead using alignment in combination with the other modes of identification. Participants combined alignment and imagination by using the prescribing competency framework to help trainee NMPs identify learning needs and connect their practice to the broader purpose of prescribing – namely the provision of

safe patient access to medicines. Participants recognised that learning to prescribe entailed more than acquisition of knowledge and skill and suggested that trainees needed to develop their identity and 'become' (Wenger-Trayner *et al.*, 2015b, p.19) prescribers. Participants stressed that part of developing an identity as a NMP involves understanding the serious nature of prescribing and suggested that their role as a DPP is to instil this sense of responsibility in trainee NMPs. However, as research has suggested that NMPs may be over-cautious and lack confidence in their clinical reasoning (Abuzour *et al.*, 2018), perhaps DPPs should consider balancing the emphasis on responsibility with the need to encourage trainee confidence.

7.4.2 Knowledgeability

Combining imagination with engagement, participants suggested that part of the DPP role concerns helping trainee NMPs develop their 'knowledgeability' (Wenger-Trayner *et al.*, 2015b) as well as competence so that trainees can link their prescribing practice with the broader purpose of prescribing. Knowledgeability refers to the complex set of relationships that practitioners build within their own community of practice and with the other communities in a landscape so that they are recognised as legitimate service providers or sources of information (Wenger-Trayner *et al.*, 2015b). Knowledgeability is not defined by a single community of practice's regime of competence, nor is it a characteristic of individuals. Instead, it is negotiated within a broader landscape and depends on a practitioner's claims to have insight into other practices in that landscape, even though they do not claim competence in these practices. This reflects Wenger-Trayner ***et al.'s*** (2015) argument that learning to become a practitioner is not about acquiring a reified body of knowledge but is about developing competence and knowledgeability in a fluid landscape. Participants in this study recognised the need for trainees to develop their identities as prescribers as well as competence in prescribing.

Competence has been defined as *"being able to perform the tasks and roles required to the expected standard"* (Wright *et al.*, 2012, p.3) and is a useful concept when considering entry to a single community of practice (Omidvar *et al.*, 2014). However, participants in this study, like all NMPs, were not members of a single

community of practice. Instead, they were members of multiple communities such as the nursing or pharmacy community, the community of workplace educators and the community of NMPs. Knowledgeability is a useful concept for exploring how practitioners develop their identity as members of multiple communities of practice and become recognised as legitimate service providers. However, practitioners need to develop both knowledgeability and competence (Wenger-Trayner *et al.*, 2015b). Participants in this study developed their own knowledgeability of the complex prescribing landscape through their membership of multiple communities of practice and their relationships with other communities of practice. Participants' experiences of travelling through the prescribing landscape challenged them to negotiate both who they were in the landscape and the meaning of their roles which contributed to the development of their professional identities as DPPs.

Participants in this study assessed trainees holistically, helping them to develop both competence and knowledgeability. Assessing knowledgeability is problematic because no single community of practice can define what counts as knowledgeability as it involves an individual's relationship with the landscape rather than their relationship with a practice (Wenger in Omidvar *et al.*, 2014). At present, the nursing and pharmacy regulators focus on trainee NMPs developing competence in prescribing. However, this separates the technical dimensions of learning to prescribe from practice and identity formation, and risks DPPs aligning with curricular demands without having the opportunity to use imagination and engagement in their roles (Farnsworth *et al.*, 2016).

7.4.3 Summary

In summary, participants did not take a tick-box approach to assessment of competence, instead assessing trainees holistically. This suggests that it is DPPs who determine when trainee NMPs are competent and ready to become prescribers. Participants had developed knowledgeability of the prescribing landscape and suggested that as well as competence, trainee NMPs needed to develop knowledgeability to link their practice with the broader purpose of prescribing.

7.5 Recommendations for practice and policy

This study makes a number of recommendations for practice and policy. There is little published information on what being a DPP involves and little consistency between what different HEIs require of DPPs during the period of learning in practice. This study found that not all participants were clear about what the DPP role entails, reflecting the literature which found that both doctors and nurses were confused about what the role entails (Grimwood *et al.*, 2019; Jarmain *et al.*, 2023). Therefore, this study recommends provision of more information on what the DPP role entails, together with the introduction of standardised requirements for the PLP, to encourage role uptake.

Findings from this study suggest that mandatory training for DPPs is a significant barrier to role uptake. The pharmacy regulator's standards for education and training of pharmacist independent prescribers (General Pharmaceutical Council, 2022, p.17) state that '*course providers must provide training for designated prescribing practitioners'.* This has led to each HEI developing its own training programme. If this requirement was removed from the regulator's standards and potential DPPs were encouraged to undertake optional training to address gaps in knowledge and skills, these changes could facilitate an increased number of DPPs in the prescribing landscape. Although participants completed mandatory training, most reported that they did not learn anything new, supporting the finding discussed in 7.3.1 that DPPs develop supervision skills through experiential learning. This study recommends removal of the pharmacy regulator's requirement for HEIs to provide mandatory training for DPPs and the introduction of a standardised, optional training programme accepted by all HEIs.

Findings from this study suggest that lack of mutual engagement between DPPs has inhibited formation of a DPP community of practice. This study recommends that formal peer support networks be set up for DPPs within each NHS Integrated Care System to encourage evolution and improvement of practice.

This study provides insight into how DPPs understand the term competence and how they asses their own and their trainees' competence. The findings suggest that

practitioners decide what it means to be a competent prescriber and so this study recommends that the prescribing competency framework be updated regularly to ensure it keeps abreast of evolving prescribing practices. Findings from this study suggest that when learning to become an NMP, developing knowledgeability is as important as developing competence. This study recommends that regulators look beyond competence as the entry point to the prescribing community and consider whether trainee NMPs have also developed knowledgeability. For example, regulators could ask trainees to include portfolio entries describing how they have developed awareness of the practices of other communities in the landscape and how they will fit into the landscape.

7.6 Contribution to knowledge and practice

As well as contributing to practice, as one of the first studies to explore in-depth the learning needs of DPPs as they prepare to supervise trainee NMPs in the workplace, this research makes an important contribution to the sparse body of literature on the topic. The research adds to the existing body of knowledge on the importance of participation or engagement in practice, both for DPPs and trainee NMPs. The research also demonstrates the significance of imagination and alignment as additional modes of identification that contribute to DPPs' professional identity and knowledgeability. Drawing on the concept of a profession's body of knowledge comprising a landscape of practice rather than a single community of practice, this research attempts to conceptualise how DPPs acquire awareness and understanding of their role and develop their professional identities. The thesis demonstrates that DPPs' perceptions of the role are situated in the broader prescribing landscape and are influenced by their social interactions with other practitioners and other communities of practice in the landscape.

Although the concept of landscapes of practice was first introduced over two decades ago (Wenger, 1998), it has not been applied widely in the healthcare literature, unlike the concept of communities of practice. This research contributes to the literature on landscapes of practice by providing a unique account of how DPPs perceive the role and develop their professional identities as members of multiple communities of practice. This study's findings shift the emphasis from the traditional

view of meaning-making as a process negotiated solely within individual communities of practice to a process negotiated both within individual communities and at the boundaries with other communities of practice situated within a broader landscape of practice.

This research also has the potential to make some important and timely contributions to pharmacy practice. It makes a number of practical recommendations for HEIs, regulators and policymakers (outlined in section 7.5) which may increase DPP capacity by removing barriers and encouraging more NMPs to consider taking on the role.

7.7 Strengths and limitations

Although this study achieved its aim of exploring the learning needs of DPPs, it is not without its limitations. Nurses and pharmacists accounted for a majority of participants, therefore offering a limited perspective. Because nurses and pharmacists were among the first professionals to be eligible to become DPPs and therefore would have had experience in the role, I felt that their views were particularly likely to be informative. Participants were mostly experienced DPPs and this may explain the finding that they did not identify any specific learning needs for the role. Nevertheless, the perspectives shared by experienced and inexperienced DPPs from a range of different practice settings were broadly similar. The qualitative research approach taken provided rich insights into how participants made meaning from their experiences as DPPs. While this approach gave voice to DPPs and can be considered a strength of the study, the intention of qualitative research is not to provide statistical generalisations and the findings from this study may not be transferrable to the wider DPP population. An alternative research strategy from another paradigm could explore whether the views shared in this study represent the views of DPPs more widely.

My use of landscapes of practice theory (Wenger-Trayner *et al.*, 2015b) as the theoretical underpinning for this study focuses attention on how DPPs develop their professional identities and knowledgeability as they navigate the prescribing landscape. However, I recognise that this minimises the focus on other aspects of

workplace learning. There is an opportunity to use other theoretical lenses to explore how DPPs identify their learning needs.

Furthermore, researchers may be prone to bias in their interpretation of interview data and I recognise that my values and identity as a pharmacist and my position as a member of the existing pharmacy workforce that did not qualify as NMPs may have shaped my interpretation of the data. However, this position has also granted me a unique insight into the issues facing the profession.

7.7 Dissemination and recommendations for further research

This research has the potential to contribute to the development of policy on non-medical prescribing and supervision of trainee NMPs and so its findings will be disseminated in a report which will be sent to NHS England as well as to the pharmacy regulator and professional body. This research is also likely to be of interest to an international audience – particularly in Australia and New Zealand where the model of pharmacy education and pharmacist prescribing is similar to the UK. Therefore, an article will be prepared and submitted for publication in an international pharmacy education journal. In addition, conference abstracts will be submitted to the Lifelong Learning in Pharmacy conference. Informally, I have had several pharmacists contact me via social media to ask about early findings from my research to inform implementation of the NHS community pharmacy independent prescribing pathfinder programme (Lovell and Clews, 2024).

This research has the potential to lay the foundations for future research on supervision of trainee NMPs from all relevant healthcare professions. Because this study sought only the views of nurses and pharmacists, there is scope to extend the research by exploring the views of other healthcare professionals who are permitted to act as DPPs, for example, paramedics. In addition, because there is currently scant literature on DPPs and their learning needs, the findings from this study could form the basis of quantitative research to explore this issue more widely as discussed in section 7.6. Participants in this study assessed trainee competence holistically. However, the literature on assessment of student nurse competence suggests that it is inconsistent and can be influenced by the student's personal

characteristics (Helminen, Coco, Johnson *et al.*, 2016). Therefore, there is scope for further research that explores factors influencing the assessment of trainee NMP competence.

As one of the first studies to apply landscapes of practice theory to how DPPs perceive and prepare for their role, this research offers unique insights into how DPPs used all three modes of identification to navigate the prescribing landscape and develop their own and their trainees' professional identities. Future research could build on this and explore how the overlap in modes of identification is used by healthcare professionals in other contexts. There is also potential for future research to explore strategies that would encourage NMPs to use imagination and alignment to build their identities as prescribers.

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Appendix 1 – Email introduction to HEI programme leaders

From: Michelle Styles <Michelle.Styles@cppe.ac.uk>
Sent: 01 April 2023 09:43
To: xxxxxxxxx
Subject: EdD research on DPPs

Dear xxxxx

I am undertaking the final stage of my EdD and am researching the learning needs of DPPs who will be supervising pharmacist IPs. As course lead for the IP programme at xxxxx University, I wondered whether you could spare me half an hour to discuss the programme including any training that you provide or signpost DPPs to (I am aware of the HEE NW e-learning programme).

xxxxx also suggested that you might be able to put me in touch with some DPPs, particularly nurses or medics who are supervising trainee pharmacist IPs.

Many thanks,

Michelle

Appendix 2 – Participant information sheet

Exploring the learning needs of designated prescribing practitioners (DPPs)

Information sheet for participants

My name is Michelle Styles, and I am inviting you to take in part in my doctoral research project, Exploring the learning needs of designated prescribing practitioners (DPPs). I am hoping to find out how doctors, pharmacists and nurses who are designated prescribing practitioners have prepared for this role. I very much hope that you would like to take part. This information sheet will try and answer any questions you might have about the project, but please contact me if there is anything else you would like to know.

Who will carry out the research?

Michelle Styles, doctoral student at the Institute of Education, UCL's Faculty of Education and Society.

Why are we doing this research?

The aim of this study is to explore the learning needs of designated prescribing practitioners (DPPs) who will supervise trainee independent prescribers during the period of learning in practice.

Why am I being invited to take part?

You have been invited to take part because you are a prescriber (a doctor, a pharmacist or a nurse independent prescriber) and may have undertaken or be preparing to undertake the role of Designated Prescribing Practitioner (DPP), supervising trainee independent prescribers during their period of learning in practice.

What will happen if I choose to take part?

If you agree to take part in this research, you will be invited to participate in an online interview to discuss your experiences of supervising trainees in practice and to reflect on what preparation would have been or might be helpful for you. The interview will take place online using Microsoft Teams and will last for around one hour.

Will I be recorded and how will the recorded media be used?

The interview will be recorded on Microsoft Teams. Video will be used to enable you to interact better with the researcher, but you may choose to join the call with audio only if you prefer. The audio recording will be transcribed by the researcher and then used for analysis. During the interview, you may ask for the recording to be stopped at any time.

Will anyone know I have been involved?

All information you give will be kept strictly confidential. If you mention any names inadvertently or any information that could identify you or the organisation you work for, this will not be included in the transcripts of your interview. Any information you give during the interview will be fully anonymised and combined with the views of other participants. You and the organisation you work for will not be able to be identified in any ensuing reports or publications and no quotes will be attributed to you. You will be given the opportunity to review and clarify the transcripts if you wish and you may request that particular quotes from the transcript are not used in the analysis or final report.

What happens to the data collected?

Recordings of the interview will be made using Microsoft Teams. Recordings will be downloaded within 24 hours onto a secure drive at UCL, accessible only via a Virtual Private Network, and then deleted from Teams. Recordings will be transcribed by the researcher and any identifiable information will be removed from the final transcripts. Once you have had the opportunity to review the transcript of your interview, the

recording will be deleted. Anonymised transcripts will be kept on the secure drive for 10 years from the end of the study in accordance with UCL's research data retention policy. Following completion of my doctoral studies, anonymised transcripts will be stored in the UCL research data repository where they may be used by authenticated researchers who agree to preserve the confidentiality of the data.

Could there be problems for me if I take part?

The researcher understands that there are many demands on your time and that there is some inconvenience in taking part in the interview. The interview will be organised at a time that is convenient for you and will be online.

There is a very small chance that you may become upset if you voluntarily disclose an experience that was stressful or upsetting. You are free at any stage to withdraw from the interview and take time out if you wish.

How will I benefit from this study?

While there is no immediate benefit to you from taking part in this study, the researcher hopes that you find the experience of taking part in the interview interesting and useful. You will have the opportunity to receive a summary of the findings from the study if you wish to.

What happens if I do not take part or if I change my mind?

It is entirely up to you whether or not you choose to take part. We hope that if you do choose to be involved then you will find it a valuable experience. If you do decide to take part, you will be given a copy of this information sheet and asked to sign a consent form. If you decide to take part and then change your mind, you are free to withdraw at any time without giving a reason and without detriment to yourself. However, it may not be possible to remove your data from the project once it has been anonymised as we will not be able to identify your specific data.

What will happen to the results of the research?

The data collected during the interview will be used to produce a report that will be submitted to the Institute of Education as part of my doctoral studies. I plan to share a brief summary of the findings with participants. In addition, I plan to share the findings with the nursing and pharmacy regulators and with NHS England. I hope to publish the results of this research in a medical or pharmacy education journal or to present the findings at a research conference.

Data Protection Privacy Notice

The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data and can be contacted at data-protection@ucl.ac.uk.

This 'local' privacy notice sets out the information that applies to this particular study. Further information on how UCL uses participant information from research studies can be found in our 'general' privacy notice for participants in research studies here.

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided across both the 'local' and 'general' privacy notices. The lawful basis that will be used to process any personal data is: 'Public task' for personal data and 'Research purposes' for special category data. We will be collecting personal data such as your email address so that we can contact you to send you transcripts of your interview for checking. Your personal data will be processed so long as it is required for the research project. If we are able to anonymise or pseudonymise the personal data you provide we will undertake this and will endeavour to minimise the processing of personal data wherever possible. If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk

Who has reviewed this study?

This study has been approved by UCL IOE Research Ethics Committee.

Contact for further information?

If you would like to be involved in this study, or if you have any further questions before you decide whether to take part, please contact me by email Michelle.styles.18@ucl.ac.uk or by phone on [redacted]. I will then send you a consent form and arrange a convenient time for the interview to take place. If you do not wish to take part, you are not required to do anything else.

You can also contact doctoral supervisor at UCL, Dr Natasha Kersh natasha.kersh@ucl.ac.uk

Thank you very much for taking the time to read this sheet and for considering taking part in this study.

Appendix 3 – Participant consent form

Exploring the learning needs of designated prescribing practitioners (DPPs)

Participant consent form

If you are happy to participate in this research study, please complete this consent form by ticking each item as appropriate and return it to the researcher by email before your interview.

	Yes	No
I have read and understood the participant information sheet provided for this study.	☐	☐
I have had the opportunity to ask the researcher any questions that I had about the study.	☐	☐
I understand that participation is entirely voluntary and that I am free to withdraw from the study at any point without giving a reason.	☐	☐
I understand that if I withdraw from the study after data has been anonymised, it may not be possible to identify and remove my data.	☐	☐
I understand that the interview will be recorded and that I may ask for recording to be stopped at any time. I understand that recordings will be kept secure and destroyed at the end of the study.	☐	☐
I am aware that I can refuse to answer any questions and that I can withdraw from the interview at any point.	☐	☐
I understand that if any of my words are used in reports or presentations,	☐	☐

they will not be attributed to me or to any other persons or organisations.

I agree that the researcher may retain my contact details in order to provide me with a summary of the findings for this study.	☐	☐
I understand that if, during the study, I disclose information about misconduct or poor practice, the research team has a professional obligation to report this and will need to inform my employer or professional body.	☐	☐

I understand that anonymised data from this study may form the basis of an assignment, report or other form of publication or presentation. My name, or organisation's name will not be used in any report, publication or presentation and every effort will be made to protect my identity. ☐ ☐

Data Protection

The personal information collected to conduct this research will be processed in accordance with data protection law as explained in the Participant Information Sheet.

Participant's name…….
Date:……..

Participant's signature……

Researcher's name: Michelle Styles MA FRPharmS FHEA……. Date: …….

Researcher's signature: 

This consent form will be retained by the researcher and held securely in line with UCL's research data retention policy. Please keep a copy for your own records.

Appendix 4 – Interview schedule

Interview schedule

Opening

Thank you for agreeing to take part in this interview study. As you know, I want to explore your personal experiences of preparing to undertake the role of Designated Prescribing Practitioner (DPP). This research is part of my Doctoral study at UCL Institute of Education, UCL's Faculty of Education and Society. The interview should take around 60 minutes.

My name is Michelle Styles and I am the principal researcher for this study.

Please can I ask you to make sure you have signed the consent form and to verbally confirm that you consent to take part in the study.

All your responses and opinions will be treated in the strictest confidence. I would like to assure you that you that it is my job as a researcher to make sure that your views and opinions will not be attributed to you personally or to your organisation, and that you will not be identifiable in the finished report. I will also send you an anonymised copy of the interview transcript so you can check you are happy with it. I hope this encourages you to speak openly.

I would also like to thank you for giving me permission to record this interview. The main reason for this is because I don't want to miss any of your comments about your experiences or opinions. Although I will be taking some notes during the session, I just can't write fast enough to get it all down.

I am going to ask a series of questions which I have here in front of me. There are no right or wrong answers so please feel free to share your thoughts and opinions.

I will start the recording now but you can ask me to stop the recording at any time if you don't feel comfortable.

Can you tell me a little bit about your background as an IP, for example, how long you've been qualified as an IP, your sector of practice and your scope of prescribing.

- And have you supervised any trainee IPs yet?
- If so, which profession(s) have they been from?

Topic		
Introduction	Firstly, I'd like to begin by spend some time focussing on your reasons for taking on or considering taking on the role of DPP.	
DPP role	**Questions**: • Can you describe for me your understanding of the role of DPP? • What influenced you to take on the role of DPP?/ Why are you considering the role? • What aspects of the role do you enjoy most (or do you think you will enjoy)? • What concerns, if any, do you have about the role? • What do you (hope) to get out of the role? • Are structures or processes in place in your workplace to support you as a DPP? Could you describe these?	**Probes** How will you fit it in with your clinical role? To what extent do you see being a DPP as part of your role as an IP? [*listen for identity cues*] Are there any barriers in your workplace?
Transition	Thank you. I'd now like to spend some time focussing on training and preparation for the DPP role.	
Training for the role	**Questions** • Was any training provided by the universities where your trainees will be studying?	**Probes** How useful was that training? Any gaps?

	• What other training, if any, was provided to help you prepare for the role? • What other support have you had, e.g. CPD, if any, to help you prepare for the role?	Do you know what the HEI expects from you as a DPP? Did you contact peers or colleagues for support? Did you attend any webinars? [*listen for informal support cues, COP*] What other tools or resources have you used? Have you been in contact with other people/ have you talked about it with peers?
Planning the period of learning in practice	• Tell me how you plan to support trainees when they first arrive/at the start of PLP. • Can you talk me through what a typical clinic session might look like with a trainee? How will you change this as the trainee progresses? • How do you support the trainee's learning in practice? • Will you involve other members of the practice/MDT team with the trainee?	What sort of thing will trainees do on day 1? *[listen for organising the environment to support learning*] [*listen for observing, supervising, rehearsing and contributing, debriefing*] [*listen for: role modelling; articulation of clinical reasoning; coaching; encouraging reflection*]

	• How has your own experience of training to become an IP influenced your approach to the DPP role? • Do you have any role models?	Were you influenced by how your designated medical practitioner (DMP) supported you during your own training?

Transition	I would like to move on to discuss the term competence and its assessment.	
Competence	**Questions**: • Can you describe for me your understanding of the term 'competence'? • How will you know when a trainee is safe and competent to prescribe? • How confident do you feel assessing a trainee's competence to prescribe? • How do you use the prescriber competency framework? What do you do if you are unsure about their competence? How will you escalate concerns? • How do you feel about being a DPP for NMPs with a different professional background e.g. nurse/pharmacist/physio?	**Probes** Can you explain that? Tell me more What factors might support your decision? How will the people you work with in practice support your decision? Why is that? Which WPBA tools have you used? Which do you find most useful? Why?
DPP competency framework	**Questions**: • Are you aware of the DPP competency framework? • How did you go about assessing your own competence against the framework?	**Probes** What do you think of the framework? Was it useful? Is anything missing? Did you need to provide any evidence of your

	• How confident do you feel self-assessing against the framework? • Looking at the framework which of the domains do you feel **most** confident about? • Which do you feel **least** confident about? • What other support do you need to prepare for your role as a DPP?	competence to the universities? If so, what? Why is that? How do you plan to go about addressing your learning needs?
Conclusion	And finally, if you could prioritise your learning needs to support you to undertake the DPP role, what would be your top three? Top tips Is there anything further you would like to add?	
Close	Thank you very much for giving up your time today to participate in this research. If you have any further questions about the study, please contact me. I will send you a copy of the transcript so that you can check and correct it if you wish and I will share a summary of the findings from the study with you.	

Appendix 5 – Ethics application

Doctoral Student Ethics Application Form

Anyone conducting research under the auspices of the Institute of Education (staff, students or visitors) where the research involves human participants or the use of data collected from human participants, is required to gain ethical approval before starting. This includes preliminary and pilot studies. Please answer all relevant questions in simple terms that can be understood by a lay person and note that your form may be returned if incomplete.

Registering your study with the UCL Data Protection Officer as part of the UCL Research Ethics Review Process

If you are proposing to collect personal data i.e. data from which a living individual can be identified **you must be registered with the UCL Data Protection Office before you submit your ethics application for review**. To do this, email the complete ethics form to the UCL Data Protection Office. Once your registration number is received, add it to the form* and submit it to your supervisor for approval. If the Data Protection Office advises you to make changes to the way in which you propose to collect and store the data this should be reflected in your ethics application form.

Please note that the completion of the UCL GDPR online training is mandatory for all PhD students.

Section 1 – Project details

Project title: Exploring the learning needs of designated prescribing practitioners: a qualitative interview study

Student name and ID number (e.g. ABC12345678): Michelle Styles 18164189

***UCL Data Protection Registration Number:** **Z6364106/2022/03/03**

Date Issued: 01/03/2022

Supervisor/Personal Tutor: Dr Natasha Kersh

Department: Education, Practice and Society

Course category (Tick one):

PhD ☐

EdD ☒

DEdPsy ☐

If applicable, state who the funder is and if funding has been confirmed.

Intended research start date: 1st August 2022

Intended research end date: 30th August 2024

Country fieldwork will be conducted in: UK

If research to be conducted abroad please check the Foreign and Commonwealth Office (FCO) and submit a completed travel risk assessment form (see guidelines). If the FCO advice is against travel this will be required before ethical approval can be granted: *UCL travel advice webpage*

Has this project been considered by another (external) Research Ethics Committee?

Yes ☐

External Committee Name: Enter text

Date of Approval: Enter text

No ☒ ***go to Section 2***

If yes:

Submit a copy of the approval letter with this application.

Proceed to Section 10 Attachments.

Note: Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES) or Social Care Research Ethics Committee (SCREC). In addition, if your research is based in another institution then you may be required to apply to their research ethics committee.

Section 2 - Research methods summary (tick all that apply)

☒ Interviews

☐ Focus Groups

☐ Questionnaires

☐ Action Research

☐ Observation

☐ Literature Review

☐ Controlled trial/other intervention study

☐ Use of personal records

☐ Systematic review **– if only method used go to Section 5**

☐ Secondary data analysis ***– if secondary analysis used go to Section 6***

☐ Advisory/consultation/collaborative groups

☐ Other, give details: Enter text

Please provide an overview of the project, focusing on your methodology. This should include some or all of the following: purpose of the research, aims, main research questions, research design, participants, sampling, data collection (including justifications for methods chosen and description of topics/questions to be asked), reporting and dissemination. Please focus on your methodology; the theory, policy, or literary background of your work can be provided in an attached document (i.e. a full research proposal or case for support document). *Minimum 150 words required.*

Purpose of the research

In the UK, independent prescribers are healthcare professionals (pharmacists, nurses and a range of other allied health professionals) with responsibility for assessing and treating patients, including prescribing medicines. Trainee independent prescribers undertake a university postgraduate course together with a period of supervised workplace learning. Until 2019, these supervisors, called Designated Medical Practitioners (DMP), had to be doctors with the relevant clinical expertise. Regulatory changes have enabled other healthcare professionals to take on this supervisory role, and the term Designated Prescribing Practitioner (DPP) is now used to describe an expanded range of healthcare professionals who supervise trainee independent prescribers in the workplace. At present there are approximately 43,000 registered pharmacists in England, of which only 9000 (20%) are

independent prescribers. It is likely that most of the workforce will wish to train as independent prescribers and so will require workplace supervision by DPPs. In addition, from 2025, there will be a need for DPPs to supervise approximately 3500 trainee pharmacists per year during foundation training. It will therefore be important to ensure that DPPs are appropriately trained for the role. The purpose of this study is to develop a detailed understanding of the learning needs of Designated Prescribing Practitioners (DPPs) to inform a strategy for developing future learning programmes.

Aim of the study

The aim of this study is to explore the experiences of DPPs who have supervised, or are preparing to supervise, trainee pharmacist independent prescribers. As the DPP role is a relatively new development, there is a lack of empirical studies exploring DPPs' learning needs. This study proposes to address this gap by exploring DPPs' own experiences of being supervised by DMPs during the period of learning in practice; how DPPs have prepared or intend to prepare for their role; and the main learning needs identified by DPPs.

Research questions

The following open research questions will frame the empirical research:
How do Designated Prescribing Practitioners prepare to undertake their role?
What are the learning needs identified by Designated Prescribing Practitioners?

Research design

The study proposes an exploratory qualitative research strategy as its purpose is to develop a detailed understanding of the experiences of DPPs as they prepare for their role. Semi-structured interviews with those who have experienced supervising trainee independent pharmacist prescribers will be used as they are appropriate for complex, under-researched phenomena and provide rich, detailed data.

Data collection

The research questions will be addressed by undertaking one-to-one online interviews with up to 15 DPPs including pharmacists, nurses and doctors in England.

The interviews will be conducted online to enable a geographically dispersed range of DPPs to participate and to minimise the time demands on busy healthcare professionals. This will also ensure that the research is carried out in line with UCL guidance on research during the ongoing Covid-19 pandemic. Interviews will be recorded with consent and will be transcribed and anonymised.

Participants and sampling

Participants will be DPPs including pharmacists, nurses and medical practitioners practising in hospital or primary care or those preparing to undertake the DPP role. Medical practitioners have undertaken the role of DMP since 2002 and it will be valuable to draw on their insights and experience. However, the number of pharmacist and nurse DPPs currently practising in England is likely to be small as this is a recent development. To overcome this, 20 of the 47 universities providing independent prescribing courses for pharmacists will be contacted and asked to disseminate information about the study to potential DPPs. To gain multiple perspectives on the issue of the training needs of DPPs, universities will be selected using a maximum variation sampling strategy. The universities will be selected based on two dimensions – whether they are pre or post-1992 universities and whether they teach pharmacists separately or together with nurses.

Purposive sampling will be used to ensure that there is variety in the professional backgrounds of participants, length of time practising as an independent prescriber and sector of practice.

Reporting and dissemination

The findings from this research will be disseminated in a report which will be made available to the pharmacy regulator, the professional body, NHS England and Health Education England. The study is likely to be of interest to an international audience, particularly in Australia and New Zealand where the model of pharmacy education is similar to the UK, and so an academic paper will be prepared and submitted for publication in a medical or healthcare education journal. Conference abstracts and posters will be submitted to the Health Services Research and Pharmacy Practice conference.

Section 3 – research Participants (tick all that apply)

☐ Early years/pre-school

☐ Ages 5-11

☐ Ages 12-16

☐ Young people aged 17-18

☒ Adults please specify below

☐ Unknown – specify below

☐ No participants

Participants will be up to 20 doctors, nurses or pharmacists working in primary or secondary care in the NHS or private sector in England.

Note: Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES) or Social Care Research Ethics Committee (SCREC).

Section 4 - Security-sensitive material (only complete if applicable)

Security sensitive research includes: commissioned by the military; commissioned under an EU security call; involves the acquisition of security clearances; concerns terrorist or extreme groups.

Will your project consider or encounter security-sensitive material?

Yes* ☐ No ☐

Will you be visiting websites associated with extreme or terrorist organisations?

Yes* ☐ No ☐

Will you be storing or transmitting any materials that could be interpreted as promoting or endorsing terrorist acts?

Yes* ☐ No ☐

* *Give further details in* ***Section 8 Ethical Issues***

Section 5 – Systematic reviews of research (only complete if applicable)

Will you be collecting any new data from participants?

Yes* ☐ No ☐

Will you be analysing any secondary data?

Yes* ☐ No ☐

* *Give further details in* ***Section 8 Ethical Issues***

If your methods do not involve engagement with participants (e.g. systematic review, literature review) ***and*** *if you have answered* ***No*** *to both questions, please go to* ***Section 8 Attachments.***

Section 6 - Secondary data analysis (only complete if applicable)

Name of dataset/s: Enter text

Owner of dataset/s: Enter text

Are the data in the public domain?

Yes ☐ No ☐

If no, *do you have the owner's permission/license?*

Yes ☐ No* ☐

Are the data special category personal data (i.e. personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation)?

Yes* ☐ No ☐

Will you be conducting analysis within the remit it was originally collected for?

Yes ☐ No* ☐

If no, was consent gained from participants for subsequent/future analysis?

Yes ☐ No* ☐

If no, was data collected prior to ethics approval process?

Yes ☐ No* ☐

* *Give further details in* ***Section 8 Ethical Issues***

*If secondary analysis is only method used **and** no answers with asterisks are ticked, go to **Section 9 Attachments.***

Section 7 – Data Storage and Security

Please ensure that you include all hard and electronic data when completing this section.

Data subjects - Who will the data be collected from?

Designated prescribing practitioners (nurses, doctors and pharmacists) working in primary and secondary care in England or those preparing to undertake the role.

What data will be collected? Please provide details of the type of personal data to be collected

Email addresses of participants will be stored on the UCL Data Safe Haven so that they can be contacted to receive copies of interview transcripts to check and correct. Individuals' names will not be stored with the email addresses. However, if participants give NHS or HEI email address, the naming conventions are firstname.lastname@nhs.net or firstname.lastname@hei.ac.uk and so NHS and HEI email addresses may identify individuals.

Completed electronic consent forms for participants will be stored on the UCL Data Safe Haven as these will contain identifiable information.

Interviews will be recorded using a dedicated 'Teams channel' on UCL's Microsoft Teams. This will be downloaded to the UCL N drive and then immediately afterwards will be deleted from Teams. Participants will be asked to change their screen names on Microsoft Teams to a pseudonym of their choice to prevent identification. Transcripts of the interviews will be anonymised and then stored on the UCL N drive before being imported into NVivo for analysis. Video recordings, where consented to, will be deleted once participants have had the opportunity to review the transcript of their interview. I will undertake transcription myself so only I will have access to the video recordings.

Is the data anonymised? Yes ☒ No* ☐

Do you plan to anonymise the data? Yes* ☒ No ☐

Do you plan to use individual level data? Yes* ☒ No ☐

Do you plan to pseudonymise the data? Yes* ☒ No ☐

** Give further details in **Section 8 Ethical Issues***

Disclosure – Who will the results of your project be disclosed to?

My initial interpretations of the data will be sent to participants for the purposes of respondent validation. I will discuss my interpretations of the data with my supervisors. The findings from this research will be disseminated in a report which will be made available to the pharmacy regulator, the professional body, NHS England and Health Education England. An academic paper will be prepared and submitted for publication in a medical or healthcare education journal. Conference abstracts and posters will be submitted to the Health Services Research and Pharmacy Practice conference.

Disclosure – Will personal data be disclosed as part of your project?

No

Data storage – Please provide details on how and where the data will be stored i.e. UCL network, encrypted USB stick**, encrypted laptop** etc.

Research data including recordings of interviews and anonymised transcripts will be stored on the UCL N drive.

*** Advanced Encryption Standard 256 bit encryption which has been made a security standard within the NHS*

Data Safe Haven (Identifiable Data Handling Solution) – Will the personal identifiable data collected and processed as part of this research be stored in the UCL Data Safe Haven (mainly used by SLMS divisions, institutes and departments)?

Yes ☒ No ☐

How long will the data and records be kept for and in what format?

Anonymised data will be stored for a minimum of 10 years in line with the UCL records retention schedule[1] in password-protected Word documents.

Will personal data be processed or be sent outside the European Economic Area? (If yes, please confirm that there are adequate levels of protections in compliance with GDPR and state what these arrangements are)

No

Will data be archived for use by other researchers? (If yes, please provide details.)

No

If personal data is used as part of your project, describe what measures you have in place to ensure that the data is only used for the research purpose e.g. pseudonymisation and short retention period of data.

Yes – participants will be assigned a pseudonym of their choosing to prevent identification. The pseudonyms will be kept separately from personal data (names and email addresses). Personal data will only be kept until participants have had the opportunity to review interview transcripts and my initial interpretations of the data.

* *Give further details in* ***Section 8 Ethical Issues***

Section 8 – Ethical Issues

Please state clearly the ethical issues which may arise in the course of this research and how will they be addressed.

Gatekeeper issues

[1] UCL Records retention schedule available online at https://www.ucl.ac.uk/library/sites/library/files/retention-schedule.pdf

There is no national register of designated prescribing practitioners. In order to contact DPPs, I will approach 20 universities that provide independent prescribing courses for pharmacists. The course leads will act as gatekeepers and will be asked to send an email to DPPs supervising trainee pharmacist independent prescribers. I realise that not all course leads will be willing to do this and that they may not have access to current email addresses.

Sampling and recruitment

Although pharmacy is a small profession, the nature of my job means that I am unlikely to have encountered any of the participants previously so issues of power relations are unlikely to arise. There are unlikely to be any conflicts of interest as my organisation does not provide training for independent prescribing.

Informed consent

The email invitation to participate in the study will be accompanied by a participant information sheet (see Appendix 1) describing the purpose of the study and information on data storage, anonymity and confidentiality. The information sheet will also invite participants to contact me by email if they have further questions about the study. The information sheet makes it clear that there are no consequences for not taking part in the study.

Written consent will be obtained by asking participants to sign an electronic consent form (see Appendix 2) and return it to me before taking part in the interview.

Risks to participants and researchers

Participants may be inconvenienced by attending an interview in their own time which may last for up to one hour. However, there will be no travel time or costs involved in participating in online interviews.

There is a risk that participants will be uncomfortable being video recorded during interviews. Video will be used to enhance rapport between participants and the researcher, but participants may choose to join the call with audio only if they prefer. Video recordings will not form part of the analysis and will be deleted once transcripts have been prepared

and reviewed by participants. Participants will be able to choose whether to join the interview via audio and video or audio only. Those who choose to join via video will be able to stop their video stream at any time.

There is a risk that participants may not be able to join online interviews due to technology issues. However, during the recent Covid-19 pandemic, most healthcare workers, including doctors, nurses and pharmacists, have undertaken online consultations with patients and so all are already familiar with the technology. MS Teams is approved by the NHS for use in video consultations as it uses end-to-end encryption.

When participating in online interviews, there is a risk that participants could reveal something inappropriate in their background that could cause anxiety or discomfort for the researcher or could accidentally breach patient confidentiality. These risks are mitigated by the fact that where interviews take place during working hours, participants will be asked to use professional consultation rooms where they would normally undertake patient consultations. Where interviews take place in the evening, participants will be asked to check their background to ensure there is nothing that could cause offence or to use a virtual/blurred background.

When participating in online interviews, there is a risk that participants could be interrupted or overheard by colleagues or family members. This risk is mitigated by the fact that where interviews take place during working hours, participants will be asked to use professional consultation rooms and where they take place outside working hours, participants will be asked to use a space where they will not be interrupted.

When conducting interviews, I will use a headset with a microphone rather than computer speakers, and I will be in my home office which is not a shared space. This will ensure privacy and confidentiality for participants.

There is a risk that participants could become upset during interviews. However, as the topic is not sensitive or contentious, this is unlikely to occur. If it does occur, pharmacist

participants will be directed to the organisations, *Pharmacist Support* or *NHS Practitioner Support*, for further advice.

Confidentiality and anonymity

There is a risk of loss of confidentiality and anonymity for individuals. This risk will be mitigated in the following ways.

Individual participants, people that they mention and organisations that they work for will not be identified in any dataset or in any outputs from the study.

During interviews, participants will be able to choose whether to participate using video and audio or audio only. On entrance to the online interview, participants will be asked to give themselves a pseudonym of their choice before recording starts to preserve anonymity. Participants will be asked to change their screen names to this pseudonym to prevent identification. Recording will start only once introductions have been made and participants will be asked not to use their own names or the names of colleagues, students, HEIs or workplaces during the interview where possible. If names are mentioned inadvertently, these will not be included in the transcript. Participants will be informed that assurances on confidentiality will be strictly adhered to unless information is disclosed about misconduct or practices that could harm patients and that in such cases, this will be reported to the employer or professional body.

There is a risk that participants will accidentally disclose confidential information from their workplace during online interviews. As participants will have undertaken virtual consultations with patients during the Covid-19 pandemic, they will have already mitigated this risk. Participants will be asked to review their workplace for potential breaches of confidentiality or to use a 'virtual background' which eliminates background visuals.

Data will be pseudonymised in transcripts by allocating each participant an identifier e.g., N1SC will indicate that the participant was a nurse working in secondary care; P1PC will

indicate that the participant was a pharmacist working in primary care. These identifiers will be kept separately from identifiable data such as email addresses.

Direct quotes from interviews may be published in the research report and subsequent journal articles. However, these will be anonymised and will not be attributable to individuals. Anonymised transcripts of interviews will be sent to participants to enable them to check, correct or comment on the text. Participant requests not to use certain quotations in analysis or in the research report will be honoured.

Reporting and dissemination

A written summary of the study's findings will be sent to all participants via email. For this reason, participants' email addresses will need to be kept securely until this has been done. The consent form makes it clear that email addresses will be kept for this purpose and then deleted.

The findings from the study will be used in a report for my EdD thesis. A report of the major findings will be made available to the pharmacy regulator, the pharmacy professional body, and NHS England and this is reflected in the participant information sheet and consent form. An article will be prepared and submitted for publication in a medical education journal. Conference abstracts and posters will be submitted to the Lifelong Learning in Pharmacy conference.

Please confirm that the processing of the data is not likely to cause substantial damage or distress to an individual

Yes ☒

Section 9 – *Data Protection number from the UCL Data Protection office. Note that they will be unable to issue you the Data Protection number until all such documentation is received*

Information sheets, consent forms and other materials to be used to inform potential participants about the research (List attachments below)

Yes ☒ No ☐

Participant information sheet

Participant consent form

Draft interview topic guide

Approval letter from external Research Ethics Committee Yes ☐

The proposal ('case for support') for the project Yes ☒

Full risk assessmentYes ☒

Section 10 – Declaration

I confirm that to the best of my knowledge the information in this form is correct and that this is a full description of the ethical issues that may arise in the course of this project.

I have discussed the ethical issues relating to my research with my supervisor.

Yes ☒ No ☐

I have attended the appropriate ethics training provided by my course.

Yes ☒ No ☐

I confirm that to the best of my knowledge:

The above information is correct and that this is a full description of the ethics issues that may arise in the course of this project.

Name Michelle Styles

Date 01/07/22

Please submit your completed ethics forms to your supervisor for review.

Notes and references

Professional code of ethics

You should read and understand relevant ethics guidelines, for example:

British Psychological Society (2018) *Code of Ethics and Conduct*

Or

British Educational Research Association (2018) *Ethical Guidelines*

Or

British Sociological Association (2017) *Statement of Ethical Practice*

Please see the respective websites for these or later versions; direct links to the latest versions are available on the Institute of Education Research Ethics website.

Disclosure and Barring Service checks

If you are planning to carry out research in regulated Education environments such as Schools, or if your research will bring you into contact with children and young people (under the age of 18), you will need to have a Disclosure and Barring Service (DBS) CHECK, before you start. The DBS was previously known as the Criminal Records Bureau (CRB). If you do not already hold a current DBS check, and have not registered with the DBS update service, you will need to obtain one through at IOE.

Ensure that you apply for the DBS check in plenty of time as will take around 4 weeks, though can take longer depending on the circumstances.

Further references

Robson, Colin (2011). *Real world research: a resource for social scientists and practitioner researchers* (3rd edition). Oxford: Blackwell.

This text has a helpful section on ethical considerations.

Alderson, P. and Morrow, V. (2011) *The Ethics of Research with Children and Young People: A Practical Handbook.* London: Sage.

This text has useful suggestions if you are conducting research with children and young people.

Wiles, R. (2013) What are Qualitative Research Ethics? Bloomsbury.

A useful and short text covering areas including informed consent, approaches to research ethics including examples of ethical dilemmas.

Departmental Use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, the supervisor must refer the application to the Research

Development Administrator via email so that it can be submitted to the IOE Research Ethics Committee for consideration. A departmental research ethics coordinator or representative can advise you, either to support your review process, or help decide whether an application should be referred to the REC. If unsure please refer to the guidelines explaining when to refer the ethics application to the IOE Research Ethics Committee, posted on the committee's website.

Student name:

Student department:

Course:

Project Title:

Reviewer 1

Supervisor/first reviewer name: Natasha Kersh

Do you foresee any ethical difficulties with this research? no

Ethical issues have been carefully considered.

Supervisor/first reviewer signature: N Kersh

Date: 4 July 2022

Reviewer 2

Second reviewer name: Hilary McQueen

Do you foresee any ethical difficulties with this research?

No

Second reviewer signature: Hilary McQueen

Date: 4th July 2022

Decision on behalf of reviewers

Approved ☒

Approved subject to the following additional measures ☐

Not approved for the reasons given below ☐

Referred to the REC for review ☐

Points to be noted by other reviewers and in report to REC:

Comments from reviewers for the applicant:

Once it is approved by both reviewers, students should submit their ethics application form to the Centre for Doctoral Education team:
IOE.CDE@ucl.ac.uk.

Appendix 6 – Coded extract from interview with Pharmacist 8

Interviewer:

And just thinking back to your own experiences of training to be an IP, is there anything that you do that your DMP did or anything that you do that your DMP didn't?

Pharmacist 8:

He had really regular meetings with me or ensured that I was meeting with somebody on his team. So if he wasn't available that somebody else and, you know, another senior member of the team was available to spend that time and went through the portfolio properly and gave feedback and did it all properly, so I try to do the same. But I have got physiotherapy colleagues for example, who I think at one point, there was a DMP supervising 10 in my [area]. And I, that immediately makes me think that perhaps that isn't being done as thoroughly as it could be because I've got two and it's quite a lot of work to sort of keep up to date, keep making, you know, I feel quite responsible to make sure they're doing the portfolio and actually both the tutors have said it's not your job to chase them, if they don't hand it in, that's their job.

Emulating good practice of DMP

Feeling of responsibility

But I feel a responsibility as a person potentially signing them off that I want them to at least have the best chance. So they need to do it. And also I want to make sure that they're okay cos it logistically it's hard work, isn't it? So, yeah, and one of them's got a few personal issues. So the pastoral side of it, I, again, my DMP was very good like that. So I want to make sure that I provide that to the people I'm supervising. But I think if you're doing, you're, if you're supervising 10, you are not… how would you find the time to

Feeling of responsibility

Pastoral care

Supervising multiple trainees

have, you know, 45 hours I'm meant to spend with mine. You couldn't physically do that, could you? You're just not gonna get that time with, with 10 different practitioners.

And that has been the feedback that they, they didn't really spend the time, but that person was prepared to sign them off. And I just sort of feel, but it's not fair on the person who's going for the qualification. I wonder how that affects their confidence going forwards, you know? So yes, they can do it and perhaps, you know, they're probably all good practitioners and safe, in a very restricted role. Yes. But I do sort of think that you sign up to take responsibility to do it and you have to take it seriously because prescribing has a potential to kill somebody if you get it wrong. You know, we are not talking about sweets, sorry, we're talking about medicines and they're potentially dangerous and that DMP or DPP carries a responsibility for signing somebody off.

Taking the role seriously

Questioning, doubt

Feeling of responsibility

So, you know, if the following week after signing them, they go and do something absolutely crazy and someone dies, I assume that as their DPP that you would bear some responsibility cos you've said only recently, well that person's safe and it turns out they're not. And if it turns out it's, cos you never read anything and it was glaringly obvious, I mean I know there's other safeguards in place, isn't there in terms of the other sort of like the tutor and the marker and things. So there are other safeguards, but I think, you know, as the DPP, it's a responsibility to make sure that these people are safe practitioners above all else really

Feeling of responsibility

Feeling of responsibility

Appendix 7 - Examples of extracts from interviews coded with the term ‘responsibility of DPP role’ taken from NVivo files

<Files\\Nurse 1> - § 1 reference coded [0.11% Coverage]

you've got to take on more of that responsibility

<Files\\Nurse 2> - § 1 reference coded [0.14% Coverage]

I'm very mindful of my responsibility as that sign off person

<Files\\Nurse 4 (2)> - § 1 reference coded [0.20% Coverage]

Because at the end of the day, I'm the DPP so, you know, responsibility lies with me as well.

<Files\\Nurse 5> - § 1 reference coded [0.89% Coverage]

I would err on the side of caution when, so I would, I think I would find the, the responsibility of signing a person off as competent or safe or whatever, I'd find that quite, I'd take that seriously.

<Files\\Nurse 7> - § 2 references coded [0.88% Coverage]

And actually, unless I've got that, and this is a personal thing, but unless I've got that assurance, then actually I'm, I'm not signing any pieces of paper to say that I'm happy.

if I put my signature something to something saying someone's safe, then then that means that my, my professional probity is actually in question if that person then turns out to be a complete nightmare.

<Files\\Nurse 8> - § 2 references coded [0.52% Coverage]

obviously because it's seriousness of the role, you need to know everything.

it's that professional accountability is more obvious because you have to have different level of accountability that you haven't had before

<Files\\Nurse 9> - § 1 reference coded [0.75% Coverage]

Because ultimately if I signed someone as competent and they're not, that could come back at some point, to bite me on the bum, and I could be asked to account for the fact I signed off somebody that wasn't competent. So ultimately it's about protecting the patients and patient safety, about protecting my professional safety

<Files\\Pharmacist 1 (2)> - § 3 references coded [1.20% Coverage]

if I'm gonna be doing this, I'm doing, I'm gonna do this properly. Cause I know the value of training and the value of studying

I don't want pharmacists especially to become a DPP or a supervisor to take any shortcuts

I'm a bit cautious to say yes to become DPP straight away because I, I don't just want to become a DPP. Just because I can, doesn't mean I have to, I want to make sure that I'm doing my students a service and a good job as well

<Files\\Pharmacist 2> - § 2 references coded [0.77% Coverage]

So I have a quite a massive responsibility and role.

The job of a DPP is also a very serious, because, because pharmacists, they like the idea of prescribing and they feel that they can prescribe, but they don't really understand prescribing or what it means from a clinical point of view.

<Files\\Pharmacist 4 (2)> - § 1 reference coded [0.28% Coverage]

when you become a DPP, the responsibility does firmly lie with the DPP.

<Files\\Pharmacist 8> - § 4 references coded [1.78% Coverage]

I just said, I'm in charge of this process, I'm the one that's gonna have to sign you off and if I'm not comfortable with it, I won't sign you off.

But I feel a responsibility as a person potentially signing them off that I want them to at least have the best chance.

you have to take it seriously because prescribing has a potential to kill somebody if you get it wrong. You know, we are not talking about sweets, sorry, we're talking about medicines and they're potentially dangerous and that DMP or DPP carries a responsibility for signing somebody off.

So, you know, if the following week after signing them, they go and do something absolutely crazy and someone dies, I assume that as their DPP that you would bear some responsibility cos you've said only recently, well that person's safe and it turns out they're not.

<Files\\Pharmacist 9> - § 2 references coded [1.95% Coverage]

it's hard cause it's taking a lot of responsibility. Like you, you're basically training someone. And it is your responsibility basically in a sense. So I think that's my main concern.

I think when they start prescribing, to be fair, I, I don't want they start prescribing it, they don't feel competent. It goes back like, oh who's, who's literally helped you with this? Like that kind of thing. So I feel like it is a big responsibility to be honest.

Appendix 8 – Codebook

Code	Definition	Examples in the data
Existing relationship with trainee	Participants state that a reason for choosing trainees is they have worked with them previously or know them personally	Aniket: *"I've worked with my trainee for the last few years. I know the way she works, you know, we've got a good working relationship."* Celia: *"I knew [*trainee's name*] well. I'd worked with her for a few years, you know that she's gonna be okay."*
Knowledge of trainee's baseline competence and skill	Participants describe agreeing or refusing to supervise trainees based on the trainee's baseline competence	Jackie: "*I've got enormous confidence in the nurse who's undertaking the training. You know, she's so ready for it."* Celia: "*it was a no-brainer in this instance because I know [*trainee name*] and I know they'll be a great student.*" Joseph: *"I have a colleague who I am supporting at the moment who's not quite… wants to be a prescriber but isn't quite ready for that role. If she did go forward for that, I would be looking at some different level of support before she even went on the course itself. And maybe only then I would kind of support being a DPP."*

Code	Definition	Examples in the data
Concern about taking on unknown trainees	Participants express worry, anxiety or concern about supervising trainees they do not already know	Joseph: "*Say I was embarking on being a supervisor to someone that I'd never met before, that I would find far more anxiety-provoking."* Pauline: "*I mean, if it was somebody that I didn't know, I would probably meet with them more regularly to get to know them and I would be asking them, you know, a lot about their skillset and their knowledge."* *Maybe if I didn't know the candidate as much, there's always, when you talk about worries and things, you know … you're just kind of assigned this person.* Julia: "*if it was somebody that perhaps you didn't have that relationship with, I think spending a bit of time with them to actually understand what they're looking for as well, would be important, so that you are sort of coming from the same place."*
Concern about taking on undergraduate trainee NMPs	Participants express concern about supervising undergraduates rather than qualified nurses and pharmacists who are undertaking NMP training	Karishma: "*it does matter to the experience, the number of years' experience the pharmacist is from being newly qualified to a 25-year career, you know, across from sectors there'll be different levels of support that's required."*

Code	Definition	Examples in the data
		Manisha: "*They're straight out of uni and whilst they want to pass their foundation year you know, at uni, the kind of lifestyle is very different to, to full-time working."* Jackie*: "I think the student's head is often in a different place. Whereas if you are a prescribing student, I don't know, you're like, you are more focused cause you want to become a prescriber."*
Concern about supervising multiple trainees	Participants express concern about supervising more than one trainee at the same time	Karishma*: "One interesting question I've been asked is would I ever take on more than one at the same time? And I've heard other people do that, but I can tell you that would be a never event for me."*
Enjoy teaching	Participants describe enjoying teaching and motivating learners as a reason for taking on the DPP role	Ruby*: "I've always been a mentor. I'm a clinical supervisor. I used to, I, one of my jobs previously was joint clinical teaching as well as a junior sister. So I've always liked that teaching role, being a role model."* Vikash: *"I come from a family of teachers. I'm a very sharing person. I don't keep knowledge to myself. I love to share and train other people and give them pointers"*
Job satisfaction	Participants describe the job satisfaction they obtain from being a DPP	Vikash: *"I get a huge buzz from seeing pharmacists start to think clinically."*

Code	Definition	Examples in the data
		Rosie: *"Seeing her pass at the end…that was really good, that positive outcome."*
Enhanced professional reputation	Participants describe enhanced professional standing or career progression as reasons for taking on the DPP role	Karishma: "*one of the competencies for a consultant credentialing, which is something that I'm still gently trying to pursue, is not just about managing a team and leadership, but it's actually doing things at a higher level"*
Natural progression from NMP role	Participants suggest that becoming a DPP is the next logical step in their career progression after becoming a prescriber	*Aniket: "I've had many pre-reg students over the years and, diploma pharmacists. I'm a diploma tutor, and this just seems the next step."* *Joan: "But I think it's kind of, it's kind of a natural progression really."* *Vikash: "… it was like a natural progression."*
Measured decision to become a DPP	Participants describe making a conscious and considered decision to become a DPP	Aniket *"I've had many pre-reg students over the years and, diploma pharmacists. I'm a diploma tutor, and just, this just seems the next step."* Syed: "*I don't want pharmacists especially to become a DPP or a supervisor to take any shortcuts."* Caroline*: ""My concern, if I'm a DPP for another pharmacist is, am I going to give them a different angle? Because to me, the prescribing course is about thinking outside the box. It's not*

Code	Definition	Examples in the data
		thinking as you do as a pharmacist, but adding to it the bit that you think about as a prescriber. And are we suddenly going to lose that challenge to the way we think?"
Shadowing and peripherality	Participants describe finding out more about the role by shadowing experienced DPPs	Karishma: *"I've gone to shadow an experienced DPP, just shadowing them rather than the student, to know this is how many times they met them, this is how they gave feedback, this is how they planned it, so I can see how they've done it and formulate my own."*
Rejection	Participants describe not meeting HEIs requirements to be a DPP and feeling rejected	Mark: "*And quite a big emotional barrier up, to then be told, well actually your experience counts for nothing … and I actually said to one of the education leads in xxxx, what more do you want? 25 years qualified, 22 years as an NMP."* Karishma: "*And actually I filled in the form and is when I got to that bit, I realized I didn't have what it needed to be a DPP and I have to provide some formal documentation that I've done some mentoring and feedback course, or I was an official trainer and that's when I got unstuck and I thought, well, I can't show you anything formal."*

Code	Definition	Examples in the data
Role confusion	Participants are unable to articulate the difference between DMP/DPP roles or DPS/DPP roles	John: "*But my understanding was that there was just the supervisor role, so that's the person that you would aim to spend the, you know, the lion's share of your 90 hours with, and then the assessor comes in at the end to assess the OSCEs. But, but my understanding, there wasn't a separate designated prescribing practitioner*." Pauline: "*Now then, the DPP … I think, I *think* the DPP is the medical person … am I right in saying that?"* Joseph: "*I think there's quite a bit of confusion about exactly what the role is, exactly whether you need qualifications to do it."*
Provide opportunities for trainees to observe consultations	Participants describe providing trainees with opportunities in the workplace to observe them or other practitioners undertaking consultations with patients	Jackie: "*what I like my students to do, first of all is shadow me. I want them to look at how I take a history, look at the questioning I'm using, and then we use that session as some reflective practice as well."* Sarah: "*I find that people normally need to watch you doing something more than once, you know? And I often say to people, if you, if you just want to observe for the whole first clinic, that's absolutely fine."* Celia: *"They will shadow me in face to face consultations, in remote consultations, telephone consultations, um, a different*

Code	Definition	Examples in the data
		types of consultations that I do. Um, so that they can gain how, for example, I probably have more questioning on a telephone consult than I would face to face "
Mirror own experiences of learning to prescribe	Participants recall their own experiences of learning to prescribe and describe enacting similar behaviours or experiences with their own trainees	Syed: *"I've done something similar as well based on the teachings from the nurse that I've learned under."* John*: "talking about the case afterwards and what's the learning that comes out of it, so that for me was very valuable when I trained."* Rosie*: "he would say, go through each patient, look at their medications and then when we were on the round she would ask me questions. So I probably took that and found that really useful myself."*
Introduce tools of prescribing	Participants describe introducing trainees to prescription pads, patient records, prescribing software	Rosie: "*first of all, just coming along seeing what we do and, and just me going through and talking through and then as we went through, what I would get her to do was go through the, the drug charts for all of our patients that we were going to be seeing.* Pauline: *"We're gonna go through some FP10 writing, just so that gives her some confidence. Prescribing is just not about the FP10s, it's, you know, it's about all the other things, including the MAR charts."*

Code	Definition	Examples in the data
		Layla*: "we also do use the computer system, the software that we use also gives us suggested dosing because it's a dosing system and you can dose manually. And so when they're dosing manually and it's exactly the dose the computer, the software will prescribe, then I say, okay, I think we're getting there or we're there."*
Observe the trainee's consultations	Participants describe being aware that trainees are ready to move on from observing consultations to being observed	Jackie*: "I would go with her once she'd shadowed me, then I would go with her and I would watch her with a patient going through that history, asking those pertinent questions."* Sarah*: "as a DPP, it's, it's going to be different because you have to observe them doing their history taking as well."* Vikash*: "then as we progress, and again, more confidence, I then at random will get outta my chair and sit them in, and I will watch them handle the consult from start to finish."* Celia*: "there's that sort of planned move away from watching to doing to teaching and debriefing".* Aniket*: "then yeah, as, as time progressed, it was like, you know, xxxx, do you wanna lead this?*

Code	Definition	Examples in the data
Tension between trainee and DPP perceptions of appropriate participation	Participants discuss situations where trainees ask to become more involved in prescribing but they perceive that the trainee is not yet ready to progress	Julia*: "one of them is very keen to sort of jump in and I'm not comfortable with that at all because I don't, um, not because I'm really, I suppose I am a little bit protective of my patients cos obviously the kind of patients I see in in that clinic can be quite vulnerable."* Vikash*: "they can only observe. They can't get involved because this is more serious. I'm seeing some really acute illnesses."*
Checking portfolios and providing feedback	Participants describe checking trainee written portfolio entries and providing feedback	Pauline*: "well the, the last one has sent me that she's done work on particular drugs where they've, you know, she's laid out what the drug is used for, side effects, when it can be used, when it can't be used. So I will read through all that and make any amendments, or not amendments, but question, you know, why have you written this?* Syed*: "if you're doing a portfolio, that's probably one of the most lengthy pieces of work I had to do during the course."* Natalie*: "But I think for me to sign somebody off, I'd want to be assured that they had everything demonstrated it through their portfolio by going through their portfolio myself."*

Code	Definition	Examples in the data
		Veronica*: "the DPP stuff is actually about the portfolio of evidence. That makes part of the complete sign off. So if they pass that but fail the academic stuff, then they failed."*
Recontextualise existing knowledge of supervision	Participants describe using their existing knowledge of supervision or supervision skills in a different way	Celia*: "I see it quite similar to a clinical supervisor role and I think that's probably where I'm drawing quite a lot of the skills from."* Layla*: "Because I had been a pre-registration tutor when I was in the hospital, I kind of like knew how to meet the competencies."* Mark*: "I have got experience of having taught on two courses and also kind a lot of experience of facilitation."*
Help trainees recontextualise theoretical knowledge	Participants describe using techniques to help trainees apply their knowledge of prescribing in a practical way in the workplace	Pauline*: "I would really drill down on the issue with them, first of all and if I still, you know, it's about … asking them their rationale as to why they came to that decision."* Manisha: *"They've got that real world experience translated from academic that they can apply from what they're learning in the IP course."*
Questioning techniques	Participants describe using questioning to help trainees articulate clinical reasoning and decision making	Pauline*: "I would question, you know, why have you written this? What's the rationale behind that?"* Mark*: "It's about trying to question their thinking and get them to question my thinking and explain why I'm doing what I'm doing."*

Code	Definition	Examples in the data
Helping trainees reflect	Participants describe using techniques to help trainees reflect on their performance	Jackie*: "then we use that session as some reflective practice as well. So, you know, when I took that history, did you note the way I was … you know, the model I was using or would you have done anything different?"* John: *"then it's sort of reflective practice. So having a chance to sort of think through, talk through the consultation, what's been, you know, what sort of investigations have been done, thinking about the formulation."* Ruby: *"we would then debrief afterwards. So we would then sit down and go through okay, so how did you feel about today and these patients? And we'd go through the patients again and then she would go off and do a reflection on the time we'd spent together."* Julia*: "He needs to spend a bit more time reflecting on that case and what he's learned from it, rather than just trying to gather information. Not that gathering information isn't obviously important, but you've got to then reflect on it."*
Recognition of other professions' strengths in supervision	Participants describe benefits of being supervised by someone from a different profession	Jackie*: "It may not be something that they would be doing in their role, but I think to learn and look at that skill set of how to make that consultation really concise … is an art."*

Code	Definition	Examples in the data
		Aniket*: "Nurses and physios are very comfortable with touching patients. Like the idea from a pharmacist point of view, having to touch, physically touch somebody, it's cringeworthy, you know? No part of your training do you actually have to physically touch somebody."*
Advantages of being supervised by practitioners from more than one profession	Participants discuss the benefits of having more than one supervisor, each from a different profession	Celia*: "I am insistent that my team keep a DMP to keep that multidisciplinary role open and that we look at where else you can get your experience as across as many sort of sectors and skill sets as possible."* Karishma: *"What I bring is the network for the 90 hours clinical supervision, what I'm able to facilitate with my network is some time in an out-of-hours, some time with a heart failure nurse doing home visits, some time with a consultant in A&E [accident and emergency]."* Veronica: *"In many ways it's about who you know and how you actually go and kind of formulate those bonds to actually arrange that experience in practice."*
Danger of community looking inward	Participants refer to the dangers of a profession only learning from other members of the same profession	Celia*: "One of my risks and concerns about the DPP role, particularly within pharmacy, is that it becomes very silo and we've got pharmacists prescribing, supervising pharmacists."*

Code	Definition	Examples in the data
Learning from other professions	Participants describe the benefits of looking out from their own COP and learning from other professions	Aniket*: "So certainly when I was doing my IP, I found, you know, nurses and physios are very comfortable with touching patients. And I'm sure you are the same as me. Like the idea from a pharmacist point of view, having to touch, physically touch somebody. It's, it's cringeworthy, you know, no part of your training do you actually have to physically touch somebody. Whereas yeah, these professions, it's from day one of their, you know, you can imagine a nurse not touching a patient. Nurses are very comfortable touching patients.* John*: "What you notice is the pharmacists tend to know far more about the mechanism of the way the drug works within the body than the nurses do. And the doctors know more about the diagnostic bit, and the nurses tend to be a bit more touchy-feely."* Jackie*: "One of the areas I absolutely stipulate they must do is pharmacy. I say, you have to understand the pharmacist's brain. I said, they are far more intelligent than us. They go into another level of it and actually unpicking that and looking at the pharmacokinetics and all of that side of it really opens up the brain and really gets you to think way beyond what we've been trained as a nurse."*

Code	Definition	Examples in the data
		Celia: "*You can't learn everything from the same discipline and the same supervisor, I think. Every GP I sit with or speak to has a different approach to it and it's picking up different styles and different ways of consulting*." Sarah: "*It will open us up to other colleagues that we perhaps don't usually work with on a day-to-day basis, because we're all off doing our own little specialist role."* Manisha*: "For me it was teaching them to understand that the role is not just with just one doctor and you have to sit with doctor and you learn, you can sit with the pharmacist, a senior pharmacist, you can sit with a nurse, you can sit with the phlebotomist, you can sit with a paramedic."*
Changing landscape	Participants describe changes to their landscape of practice such as increasing numbers of patients, staff shortages, changing expectations	Jackie*: "especially in the field that we are prescribing in, our oncology and palliative medicine, that's quite complex. Whereas Botox, most people, they're not ill. Yeah, they come in for Botox, you know, they're not actually patients, they're clients."* Ruby*: "So developed my scope of practice towards frailty, stroke, rehabilitation and general medicine and then it became a private company with xxxx and I left."* Veronica*: "Patients were becoming more critically unwell."*

Code	Definition	Examples in the data
		Layla: "It's a bit difficult because of the low income area where we're working for patients to actually pay for those things for themselves or private services. But you do have other patients who are prepared to pay for private services because they just can't access their GP." John*: "There's been a real sort of systematic stripping out of medical posts in the drug and alcohol field for a whole range of, mostly it's to do with funding cuts … we have people with very complex problems in drug and alcohol treatment, with, you know, all sorts of very complex medical and psychological problems."*
New ways of working	Participants refer to online consultations, working on virtual wards, hybrid working	Natalie*: "All of our consultations are remote consultations. However, I can go down to the practice for two days a week if I want to."* Celia*: "here my clinics are a mixture of, it's probably about 80% telephone and 20% face to face."* Ruby*: "So the latest project that I've been landed with is to lead on virtual wards in the community."*
Online consultations and supervision	Participants describe undertaking remote consultations with patients online and/or remote supervision of trainee NMPs	Natalie*: "initially a lot of it will be online … we can have another person pop up on the screen. So it's like a three-way discussion."*

Code	Definition	Examples in the data
		Faiza*: "It's easier sometimes online, it'll be a lot easier for myself and for the students because it is just a lot easier isn't it? A lot of people are work from home nowadays."*
New standards for pharmacist training	Reference to the GPhC IET standards which remove the requirement to have been registered for two years before embarking on prescribing training	Aniket*: "current people trying to be IPs will have been qualified for a little while and will have worked with IPs and seen how different their job role is and are very keen to, to get through as an IP. Maybe that would be different in the future when the undergrads become IPs."* Julia*: "You need to be confident in what you're doing as a practitioner generally before you start prescribing … I don't feel my students are in the same place that I was when they started their prescribing in terms of really understanding their role, of being well established in it."* Karishma*: "Currently you have to have been a pharmacist for two years before you become an IP [independent prescriber] and you need that, you need that little bit of skill."*
Supervising trainees from other professions	Participants describe their confidence or lack of confidence to supervise trainees from professions other than their own	Manisha*: "I have a variety of people coming and sitting with me. Nurses, even registrars come and sit with me, the doctors who are trying to be GPs."*

Code	Definition	Examples in the data
		Joseph*: "I guess with prescribing, it's a universal concept, isn't it?."* Mark*: "That doesn't bother me. Cause at the end of the day, certainly with ACP, it's gonna be a multi-professional qualification, so the title's gonna be ACP, but that might be a radiographer, physiotherapist, a pharmacist, a nurse, paramedic. So I think it's about you've got that ultimate goal that you're trying to achieve, but actually the professional group of the person doesn't actually matter cause I'm not assessing them as a paramedic, I'm assessing them as a trainee ACP.* Julia*: "Not at all, definitely not as the person signing them off. No, definitely not. I don't feel it's my job as a pharmacist to make an assessment of the competence of another profession. I don't expect another profession to make a judgment of my competence as a pharmacist so I wouldn't do it back."* Layla*: "Being a pharmacist is my comfort zone because I know what pharmacy's all about. Physiotherapy, I don't. I have an idea what they do, but I don't really know that profession."*
Membership of multiple COPs	Participants describe their membership of more than one COP e.g. nursing COP, prescribing COP, educator COO	Faiza*: "I'm in a, basically like a network for women pharmacists and I help a lot with supporting women."*

Code	Definition	Examples in the data
		Mark*: "25 years qualified, 22 years as an NMP. I'm also a prescriber, I'm also a lecturer. I'm also an expert witness."*
Recognise skills of others in prescribing	Participants recognise that other professions have different skills that are helpful when prescribing	Oonagh*: "I've really liked having a pharmacist cause it's made me think differently and it's made me see just how really helpful they are."* Aniket: *"Chest physios will very commonly read chest x-rays and not have a problem with them. As pharmacists, we rarely do. Once someone's diagnosed with a CAP [community-acquired pneumonia], we say, okay, these are the best antibiotics."*
Benefits of multi-membership	Participants describe the benefits of having multiple roles and responsibilities	Mark*: "I'm also a qualified expert witness, so you kind of see the aspect of it when things potentially go wrong."* Natalie: *"I feel like I'm in a good place cos I understand the role because I've been supporting the NMP course for probably the last three and a half, four years where I work, so I understand what we expect."*
Tensions of multi-membership	Participants describe tensions associated with having multiple roles and responsibilities	Karishma*: "… it'll affect the relationship I have with the pharmacist cos I am their line manager and it's very different. So I'm their line manager, the person they go to when they need help and now I'm the person who's going to give them that formalized feedback."*

Code	Definition	Examples in the data
		Sarah*: "it may actually be that there are people that are higher Banding than you, that you are asked to become their DPP. So I think initially it would be better … well, I'd be more comfortable doing it with those that I already know."*
Lack of contact with other DPPs	Participants mention not having contact with peers	Aniket*: "there's more that could be done there to, to get DPPs that are working in different buildings, organisations or whatever, just a bit, a bit more contact."* Rosie*: "I felt quite lonely to begin with."*
Concern about lack of skills	Participants express concern that they may not have the right skills for the DPP role	*John: "I'm not sure if the level at which I teach would be high enough for independent prescribers."* *Ruby: "I don't know if I'd be that good at stretching people that come through."* Rosie*: "I suppose I did feel a bit worried about … my experience. I thought, well I haven't been prescribing that long, you know, can I offer her what she needs?*
Benchmarking performance	Participants describe being unable to benchmark their performance as DPPs against others	Ruby*: "It's sometimes difficult to know how, not how good you are, but how knowledgeable or what your level of expertise is. It's sometimes difficult to benchmark yourself".*

Code	Definition	Examples in the data
Recall own poor experiences of being supervised	Participants reflect on their own experiences of being supervised when training to be a NMP and discuss how they would do things differently	Sarah "… *you would sort of, you know, make a whole host of notes and it may be many weeks before you've got answers to those questions*." Joseph, "… *the GP was quite busy and often felt slightly distracted. And sometimes I felt that they were signing me off just to sign me off, you know?*" Joseph*: "I wouldn't have that kind of flippancy about it that I felt that the GP had at the time … so I wouldn't do that. I would try and make it as, but to be as attentive and as, you know, safety minded as possible."* Rosie*: "where I haven't had that support, being able to give that to somebody else and knowing that they feel supported through it."* Karishma*: "where this pharmacist unfortunately is, their GP mentor has not demonstrated enough support."*
Role model prescribing for trainees	Suggestions that participants are acting as role model prescribers for trainee NMPs	John*: "I want to be somebody that people can look to, to inspire them."* Joseph*: "So to be a, I guess a role model."*

Code	Definition	Examples in the data
		Manisha*: "…so if I am not a role model, then they're not going to be."*
Emphasise the responsibility of prescribing	Participants discuss the serious nature of prescribing and the consequences of getting it wrong	Joan *"I don't think people realise what being a prescriber actually involves in terms of accountability and responsibility once you qualify."* Syed*: "I'm keen to highlight to pharmacists to take their prescribing qualification quite seriously because at the end day it is literally life and death."* Faiza*:" I knew the shift with the role as soon as I became a prescriber. And it is a lot of responsibility… so I understand cause obviously I have the same qualification so I understand what I feel like I will understand what they need in a sense because it's same role."*
Continue support for newly qualified NMPs	Participants infer that they can empathise with how newly qualified NMPs feel because they were once newly qualified NMPs themselves	Pauline*: "I think that's when you need most support, because it's very different, you know, working as a clinical nurse specialist, you're giving advice to the GPs. When you've actually got that pen in your hand on your writing the prescription, you know, you've got all these other things. Have they got any allergies? What drug is gonna interact with this? You know, there's a whole ream of things."*

Code	Definition	Examples in the data
		Jackie*: "I'm always here for you, even though you become a prescriber, you ring me. You know, especially with the self-employed ones, I'm here, you know, I'll always be your mentor and just because you've passed your prescribing doesn't mean that's it, I've gone."* Pauline*: "I'm always there, you know, to give them advice on any drugs or if they want to run anything past me."*
Struggling to define competence	Participants struggle to define the term or ask me what I mean	John*: "That's a really good question. What is my understanding?"* Veronica*: "How can I describe competence without using the word competence?"* Natalie*: "What does competence mean to me? … I can't think of another word without saying competent."*
Offering definitions of competence	Participants offer a definition of competence	Jackie*: "It's the ability of being able to perform the task safely, right? And having that knowledge and skills to underpin you to be able to do that safely."* Layla*: "They are able to do it and do it well, consistently … all the time, irrespective, whatever situation."* Aniket*: "Are you able to perform to a reasonable … to the required level?"*

Code	Definition	Examples in the data
Continuum of competence	Participants infer that competence is not an end goal but is a continuum	Vikash*: "I make it quite clear to them that it's like passing your driving ... so once you pass your driving test, you don't really learn anything until you are in your car on your own. And it's the same with prescribing."* Julia*: "When you're 13 years down the line and much more experienced in a specialty, it's hard to not to judge somebody at your current standard as opposed to that standard that they need to meet. And I suppose it's the difference, isn't it, between entry level and consultant level."*
Deciding when trainee is competent	Participants describe how they decide or know when a trainee is competent	Julia*: "I think you get that feeling, don't you, when you're talking to people and you are trying to discuss a range of issues and just in some ways it's demonstrating that you are thinking about those issues…I dunno that I could write a list. I think it's just a feeling."* Rosie*: "It was coming towards the end of our time and I could see that transition from when they first started and the questions they were asking and what I was asking her to do."*
Local regimes of competence	A set of criteria by which a community of practice recognises membership; participants suggest they use their own judgement to assess when a trainee was competent and are not pressured by external forces	Julia: "*I just said, I'm in charge of this process, I'm the one that's gonna have to sign you off and if I'm not comfortable with it, I won't sign you off."*

Code	Definition	Examples in the data
Responsibility for assessing competence	Participants describe feeling responsible for ensuring that patient safety is not compromised by an unsafe NMP	Veronica*: "Unless I've got that assurance, then actually I'm not signing any pieces of paper to say that I'm happy. If I put my signature to something saying someone's safe, then that means that my professional probity is actually in question if that person then turns out to be a complete nightmare."* Mark*: "Ultimately if I signed someone as competent and they're not, that could come back at some point, to bite me on the bum, and I could be asked to account for the fact I signed off somebody that wasn't competent. So ultimately, it's about protecting the patients and patient safety, about protecting my professional safety."*
Setting learning goals	Participants describe using the prescribing competency framework formatively to help trainee NMPs identify learning needs and to set learning goals	Veronica*: "We had a Teams meeting together and basically mapped out what she needed to do from a point of view of actually having a look at the framework, looking at where she was at that point, looking at what she needed to achieve and all of the aspects of the university requirements".* Jackie*: "To me you are looking at the RPS [Royal Pharmaceutical Society] competencies, you're developing a learning contract for those that they don't all have."*
Matching trainee experience with framework competencies	Participants describe how they help trainees match what they experience in practice with the	Celia*: "If she has cases that are particularly complex, I'll say, can you write that up as … evidence, so we sort of pick and choose,*

Code	Definition	Examples in the data
	requirements of the prescribing competency framework	*depending on what we are trying to evidence against the competencies."* Layla*: "… the software we use gives us suggested dosing … so when they're dosing manually and it's exactly the dose the software will prescribe, then I say, okay, I think we're getting there."*
Trainees too focussed on competencies	Participants suggest that trainees are too focussed on the bureaucratic process of gathering evidence to demonstrate how they meet the prescribing competencies	*Aniket: "unfortunately what you, what can happen is if you, if that's done quite early on, you can get quite, oh, I need to focus on, on these things and, and make sure I pass them. Well, actually, no, let's, why don't you just get an appreciation for how prescribing works, how clinics work."* *Julia: "he wants to have a discussion about the patient, but with the purpose of getting paperwork completed. And what I've suggested to him is that perhaps he needs to spend a bit more time reflecting on that case and what he's learned from it, rather than just trying to gather information."*
Awareness of other prescribers in the landscape	Participants describe encouraging trainees to explore the boundaries between their own community of practice and other communities with the purpose understanding the impact of their actions across the landscape	Julia *"I think it's fundamental that pharmacists in all sectors understand how the different bits fit together. One of the things we need to be doing is stopping people coming out of hospital on a whole load of stuff with no advice that two years later they're still on. So understanding the impact of not acting in secondary*

Code	Definition	Examples in the data
		care and the impact that it has in primary care I felt was really important." Aniket*: "As part of our training, you can quite often be quite blinkered on, well, these are the patient's drugs, I'm the pharmacist, this is what I need to do. It's only when you are working as part of an MDT that you say, okay, so this is what the physio does. Actually, I do need to know that because they're thinking about new nebulisers and upping their treatment, which has an impact on me."*
Not treating prescribing like a tick-box exercise	Participants suggest that while it is important for trainees to know when to adherer to prescribing guidelines and to know when to deviate	John*: "As a prescriber, there is a process that you have to follow and it is important to follow that process, but having the additional responsibility of prescribing, some of that is actually about knowing when the process shouldn't be followed."* Syed*: "What I don't want pharmacists to do is treat prescribing like a tick-box exercise."*

Code	Definition	Examples in the data
Improving access to medicines	Participants describe barriers to patient access to medicines	Sarah*: "When I started a few years ago, there wasn't even a register if someone was on amiodarone and how long they'd been on it for, nobody was reviewing it. And we found a few patients with sort of horrific liver or thyroid function when we checked them."* Joseph*: "There's been a real sort of systematic stripping out of medical posts in the drug and alcohol field, mostly it's to do with funding cuts, so we've got very, very few medical sessions within the system now."*
Trainees enrolling on NMP course for personal reasons	Participants speculate that some trainee NMPs have enrolled on the programme because they do not want to be left behind as the profession moves forwards	Vikash*: They are primarily working in community pharmacy. And they are looking at … they seem to be attracted to a clinical role and they don't want to get left behind in the mad rush.* Veronica*: "It's a privilege in many ways. And actually treat it as such rather than, 'Hey, well I need … to tick this box to get on and do the next thing or to get a pay rise'."* Julia*: "I wonder if this issue of people graduating as prescribers is driving a lot of the decisions to do prescribing. Like, 'oh, well I'm not gonna have these young upstarts being a prescriber when … I'm not a prescriber'.*

Code	Definition	Examples in the data
		Celia*: "we've been putting people through prescribing courses for them purely to prescribe aesthetic products at the end of it. And I think, I don't necessarily think that's a great use of public funding."*
Frustration at requirement to justify competence	Participants express frustration at being required to undertake additional training before taking on the DPP role	Mark*: "it's very typically nursing. Oh you have to do a course, you have to produce a portfolio. It's very frustrating … I actually said to one of the education leads in xxxx, "what more do you want? 25 years qualified, 22 years as an NMP. I'm also a prescriber, I'm also a lecturer. I'm also an expert witness. What do you want me to do? Slit my wrists and sign my name in blood?" How, what more can I give you to demonstrate that I can actually do what you need people to do?"*
Confident to self-assess competence	Participants state that they were confident to self-assess their ability to demonstrate the competencies in the DPP competency framework	Aniket: *"You get to a stage where you just have to be honest with yourself and you're, 'okay, yeah, I know that, this is probably not a great area for me, so let me see if I need to do something else'...so yeah I felt quite comfortable with that."* Mark: *"It isn't about knowing everything. It's about knowing what you know. It's about knowing what you don't know. Sometimes you don't know what you know, but it's about knowing what you don't know."*

Code	Definition	Examples in the data
Identifying own skills gaps and learning needs	Participants describe using the DPP competency framework to identify their learning needs and set learning goals	Julia*: "I mean, I can't remember the exact wording, but I think the stuff around assessing is where I'm probably less comfortable."* Karishma*: "I think it was handling the feedback was making me a little bit nervous, without trying to hurt their feelings or let them feel demoralized."*
Frustration at requirement to undertake additional training	Participants express frustration at the requirement to undertake additional training before taking on the DPP role, despite assessing themselves as competent	Mark*: "I just find that very typically nursing, it's very typically nursing. Oh you have to do a course, you have to produce a portfolio. It's very frustrating because you could have a dodgy GP who isn't up to standard who can do this simply because of being a GP, yet as a non-GP you're expected to jump through these additional hoops."* Syed*: if GPs don't have to have that much of a strict criteria of becoming a trainer, why are we as pharmacists are being too harsh on ourselves and restricting other pharmacists?"*
Inconsistencies with HEI requirements	Participants supervising trainees from different HEIs describe the different requirements for DPPs	*Pauline: "… but I just want a single one that, you know, like everyone's looking at the same page and it's all standardized and whenever you get any DPP from around the country, they've all had the same training … and really, it should be similar paperwork for everybody, shouldn't it? Because, you know,*

Code	Definition	Examples in the data
		they're all doing the same course. So you'd think there would be a generic paperwork framework, wouldn't you?" Jackie*: "Some universities ask you to draw up a learning contract with your student, devise a plan of how they're going to meet the RPS competencies and this is where it varies. Each university is different as their criteria with the DPP, it all does vary, which is very confusing as well. This is what's so confusing for the students because when they approach me and they say what's required, and I say it depends which university you're under, you're gonna have to speak to the university. "* Syed*: "There's about three training programmes or e-learning programmes as well that I've quickly looked at last night, and they're all quite different but I just want a single one that everyone's looking at the same page and it's all standardized and everyone, whenever you get any DPP from around the country, they've all had the same training."*
Needing to do more than one course	Participants supervising trainees at different HEIs describe having to undertake multiple training programmes	Pauline*: "I suppose if I moved areas I'd have completely different paperwork again, wouldn't I? … So that is a bit of a barrier because then you've gotta start again with all of the paperwork, just when you think you know … anyway, I'm sticking with what I've got now."*

Code	Definition	Examples in the data
		Celia*: "There's a bit in one of the <HEI1> things that I think they've over-egged a little bit in that they want everybody that's signing off [IPs] to be an ANP or a GP or have done a Masters in education or something, I think they've kind of over-scoped it a little bit."*
Generic training	Participants describe the training as too general, not specific to DPPs or supervision or did not include practical information about the NMP course and its milestones	Veronica*: "I wasn't terribly impressed because actually most of it was around facilitating learning for undergraduates as opposed to prescribing students and not even postgraduate students."* Pauline*: "There was a lot of models, learning about models and I was thinking, you know, when am I gonna get to the main bit? But the main bit for me never came, so I think I would've preferred a course that was more specific to NMP, because when I finished it, I thought, well, what am I supposed to be doing?"* Karishma*: "I think the bit that was maybe missing was this is what you have to do at certain times. So some sort of specific tailoring to the timeline that the students are going through would be helpful."*
Training not useful	Participants suggest that the training provided by HEIs did not provide any new information or that they did not learn anything new	Layla*: "It doesn't actually tell you anything new, but it just gives you a different perspective into how you can apply what you already know. I mean, you know it, but sometimes you need to*

Code	Definition	Examples in the data
		be reminded of how to go about doing it. And so you don't really learn anything new."

Appendix 9 – Development of sub-themes and themes from codes

Codes	Sub-themes	Themes
Existing relationship with trainee	Choosing trainees	ENGAGEMENT THEME 1: Participation vs non-participation
Knowledge of trainee's baseline competence and skill		
Concern about taking on unknown trainees		
Concern about taking on undergraduate trainee NMPs		
Concern about supervising multiple trainees		
Enjoy teaching	Choosing to participate in the DPP community	
Job satisfaction		
Enhanced professional reputation		
Natural progression from NMP role		
Measured decision to become a DPP		
Shadowing and peripherality		
Rejection	Experiences of non-participation in the DPP community	
Role confusion		

Codes	Sub-themes	Themes
Provide opportunities for trainees to observe consultations	Providing trainees with opportunities to participate	ENGAGEMENT THEME 2: Engagement in the practice of supervision
Mirror own experiences of learning to prescribe		
Introduce tools of prescribing		
Observe the trainee's consultations		
Tension between trainee and DPP perceptions of appropriate participation		
Checking portfolios and providing feedback	Adapting supervision techniques	
Recontextualise existing knowledge of supervision		
Help trainees recontextualise theoretical knowledge	Helping trainees apply theory in the workplace	
Questioning techniques		
Helping trainees reflect		
Recognition of other professions' strengths in supervision	Facilitating boundary experiences	
Advantages of being supervised by practitioners more than one profession		
Danger of community looking inward		
Learning from other professions		

Codes	Sub-themes	Themes
Changing landscape	A changing landscape	IMAGINATION THEME 1: Perceptions of landscape
New ways of working		
Online consultations and supervision		
New standards for pharmacist training		
Supervising trainees from other professions		
Membership of multiple COPs	Landscape of multiple COPs	
Recognise skills of others in the landscape		
Benefits of multi-membership		
Tensions of multi-membership		
Lack of contact with other DPPs		
Concern about lack of skills		
Benchmarking performance		
Recall own poor experiences of being supervised	Improving supervision	IMAGINATION THEME 2: Perceptions of role purpose
Role model prescribing for trainees	Act as role models	
Emphasise the responsibility of prescribing		
Continue support for newly qualified NMPs		

Codes	Sub-themes	Themes
Struggling to define competence	Defining competence	
Offering definitions of competence		ALIGNMENT THEME 1: Alignment with regulatory requirements for trainee NMPs
Continuum of competence	Assessing trainee competence	
Deciding when trainee is competent		
Local regimes of competence		
Responsibility for assessing competence		
Setting learning goals	Helping trainees align with the prescriber competency framework	
Matching trainee experience with framework competencies		
Trainees too focussed on competencies		
Awareness of other prescribers in the landscape	Developing awareness of wider prescribing landscape	ALIGNMENT THEME 2: Alignment with broader enterprise
Not treating prescribing like a tick-box exercise	Using professional judgement	
Improving access to medicines	Helping trainees align with the broader purpose of prescribing	
Trainees enrolling on the NMP course for personal reasons		
Frustration at requirement to justify competence	Self-assessment of competence against the DPP competency framework	ALIGNMENT THEME 3: Alignment with regulatory requirements for DPPs
Confident to self-assess competence		
Identifying own skills gaps and learning needs		

Frustration at requirement to undertake additional training	HEI training requirements	
Inconsistencies with HEI requirements		
Needing to do more than one course		
Generic training		
Training not useful		

Appendix 10 – Example of a reflective memo written after an interview

22/05/23

I have conducted my fifth semi-structured interview, this time with someone that I used to work with. This interview was a very different experience and I am using my research journal to capture my thoughts and try to make sense of what happened. I decided that because xxxx and I were formerly colleagues, I would try to bracket personal issues and approach the interview with my researcher hat on. I decided not to start the interview with the usual small talk that helps people reconnect, for example, asking about their role, their family and so on. As I reflect on my approach, I recognise that I missed a real opportunity to build rapport and establish an environment of trust and openness, both of which are essential for facilitating open communication. I feel that my failure to build rapport put up a barrier between xxxx and myself and affected the quality of the interview. Certainly, I think xxxx was less open with me than I was expecting. At times the interview felt a bit stilted and the flow of conversation did not seem smooth. Compared with the other four interviews I have conducted, this one felt less like a conversation and more like a formal interview. I felt like I had to work really hard to keep the questions coming and as a result, I was less able to 'think on my feet' and explore interesting comments and insights as they arose. I think I was just worried about the conversation drying up!

In hindsight, I realise that it was a mistake to try to imagine that xxxx and I had no previous relationship and that I could be in 'professional researcher mode.' Indeed, it is the personal connections between interviewer and interviewee that create trust and allow rich conversations. Next week, I am due to interview another person that I know, although less well. This time I will definitely use rapport building techniques at the start of the interview to ensure the person is relaxed and to get them talking. I know this person through social media so I will browse their Twitter and Instagram accounts and find out what they have been up to both socially and professionally. I am hopeful that by prioritising rapport, I will make myself more human and more approachable, therefore creating an environment where the person feels able to share their experiences freely.

Appendix 11 – The Royal Pharmaceutical Society Designated Prescribing Practitioner competency framework 2019

THE DESIGNATED PRESCRIBING PRACTITIONER (DPP)

1 **Personal characteristics**

The practitioner taking on the DPP role:

1.1 Recognises the value and responsibility of the DPP role

1.2 Demonstrates clinical leadership through their practice

1.3 Demonstrates a commitment to support trainees

1.4 Displays professional integrity, is objective in supervision and/or assessment

1.5 Is open, approachable and empathetic

1.6 Creates a positive learning culture through their practice

2 **Professional skills and knowledge**

The practitioner taking on the DPP role:

2.1 Works in line with legal, regulatory, professional and organisational standards

2.2 Is an experienced prescriber* in a patient-facing role

2.3 Is an active prescriber** in a patient-facing role, with appropriate knowledge and experience relevant to the trainee's area of clinical practice

2.4 Has up-to-date patient-facing, clinical and diagnostic skills and evidence of demonstrating competence in an area of practice relevant to the trainee

2.5 Has knowledge of the scope and legal remit of non-medical prescribing for the NMP trainee's profession

* An experienced prescriber is defined as an active prescriber who would normally have at least 3 years' recent prescribing experience

** An active prescriber consults with patients and makes prescribing decisions based on clinical assessment with sufficient frequency to maintain competence. Reflects and audits prescribing practice to identify developmental needs.

3 **Teaching and training skills**

The practitioner taking on the DPP role:

3.1 Has experience or had training in teaching and/or supervising in practice

3.2 Has knowledge, either experiential or through formal training, of different teaching methods to facilitate learning in practice and adapt to individual student needs

3.3 Articulates decision making processes and justifies the rationale for decisions when teaching or training others

3.4 Has knowledge of a range of methods of assessment and experience of conducting assessment of trainees in clinical practice

3.5 Delivers timely and regular constructive feedback

3.6 Facilitates learning by encouraging critical thinking and reflection

DELIVERING THE ROLE

4 **Working in partnership**

In delivering the role, the DPP is able to:

4.1 Work with the trainee to establish their baseline knowledge and skills, and jointly create a development plan for meeting learning outcomes

4.2 Regularly assess the trainee at appropriate intervals to guide gradual handover of elements of the process that lead to a prescribing decision

4.3 Work in partnership with the trainee, other practitioners and the programme provider to confirm the competence of the trainee

4.4 Recognise own limits in capacity, knowledge and skills and areas of practice where other practitioners may be better placed to support learning

4.5 Advocate and facilitate a multidisciplinary team (MDT) approach to training by encouraging the trainee to learn from other appropriate practitioners

5 **Prioritising patient care**

In delivering the role, the DPP is able to:

5.1 Ensure that safe and effective patient care remains central to practice through effective clinical supervision

5.2 Ensure patients are informed of and consent to trainee presence at consultations

5.3 Identify and respond appropriately to concerns regarding the trainee's practice or behaviour

5.4 Act in the interest of patient and public safety when making decisions on trainee competence

6 **Developing in the role**

In delivering the role, the DPP:

6.1 Is open to learn and be challenged and uses feedback from trainee and others, to improve their clinical and supervisory practice

6.2 Regularly reflects on their role as a DPP and the potential for improvement

6.3 Identifies when help is required in DPP role and when, and where, to seek support

6.4 Undertakes and records continuing professional development (CPD) encompassing knowledge and skills that are applicable to the DPP role

LEARNING ENVIRONMENT AND GOVERNANCE

7 **Learning environment**

To ensure an appropriate environment for learning the DPP is able to:

7.1 Negotiate sufficient time to supporting the trainee throughout their period of learning in practice

7.2 Encourage an environment that promotes equality, inclusivity and diversity

7.3 Create a safe learning culture that encourages participation and open discussion to support learning

8 **Governance**

The DPP:

8.1 Acknowledges their role and responsibilities within the wider governance structure, including the programme provider, employing organisation, professional regulator and others

8.2 Ensures familiarity with the process of escalating concerns about a trainee, and, where appropriate, engages with this process

8.3 Engages with the employing organisation (or equivalent) to ensure support and resources are available to undertake DPP role

Appendix 12 – The Royal Pharmaceutical Society Prescribing competency framework 2022

1. ASSESS THE PATIENT

STATEMENTS SUPPORTING THE COMPETENCY

1.1. Undertakes the consultation in an appropriate setting[a].

1.2. Considers patient dignity, capacity, consent and confidentiality[b].

1.3. Introduces self and prescribing role to the patient/carer and confirms patient/carer identity.

1.4. Assesses the communication needs of the patient/carer and adapts[c] consultation appropriately.

1.5. Demonstrates good consultation skills[d] and builds rapport with the patient/carer.

1.6. Takes and documents an appropriate medical, psychosocial and medication history[e] including allergies and intolerances.

1.7. Undertakes and documents an appropriate clinical assessment[f].

1.8. Identifies and addresses potential vulnerabilities[g] that may be causing the patient/carer to seek treatment.

1.9. Accesses and interprets all available and relevant patient records to ensure knowledge of the patient's management to date.

1.10. Requests and interprets relevant investigations necessary to inform treatment options.

1.11. Makes, confirms or understands, and documents the working or final diagnosis by systematically considering the various possibilities (differential diagnosis).

1.12. Understands the condition(s) being treated, their natural progression, and how to assess their severity, deterioration and anticipated response to treatment.

1.13. Reviews adherence (and non-adherence[h]) to, and effectiveness of, current medicines.

1.14. Refers to or seeks guidance from another member of the team, a specialist or appropriate information source when necessary.

2. IDENTIFY EVIDENCE-BASED TREATMENT OPTIONS AVAILABLE FOR CLINICAL DECISION MAKING

STATEMENTS SUPPORTING THE COMPETENCY

2.1. Considers both non-pharmacological[a] and pharmacological treatment approaches.

2.2. Considers all pharmacological treatment options including optimising doses as well as stopping treatment (appropriate polypharmacy and deprescribing).

2.3. Assesses the risks and benefits to the patient of taking or not taking a medicine or treatment.

2.4. Applies understanding of the pharmacokinetics and pharmacodynamics of medicines, and how these may be altered by individual patient factors[b].

2.5. Assesses how co-morbidities, existing medicines, allergies, intolerances, contraindications and quality of life impact on management options.

2.6. Considers any relevant patient factors[c] and their potential impact on the choice and formulation of medicines, and the route of administration.

2.7. Accesses, critically evaluates, and uses reliable and validated sources of information.

2.8. Stays up to date in own area of practice and applies the principles of evidence-based practice[d].

2.9. Considers the wider perspective including the public health issues related to medicines and their use, and promoting health.

2.10. Understands antimicrobial resistance and the roles of infection prevention, control and antimicrobial stewardship measures.

3. PRESENT OPTIONS AND REACH A SHARED DECISION

STATEMENTS SUPPORTING THE COMPETENCY

3.1. Actively involves and works with the patient/carer to make informed choices and agree a plan that respects the patient's/carer's preferences[a].

3.2. Considers and respects patient diversity, background, personal values and beliefs about their health, treatment and medicines, supporting the values of equality and inclusivity, and developing cultural competence.[b]

3.3. Explains the material risks and benefits, and rationale behind management options in a way the patient/carer understands, so that they can make an informed choice.

3.4. Assesses adherence in a non-judgemental way; understands the reasons for non-adherence[c] and how best to support the patient/carer .

3.5. Builds a relationship which encourages appropriate prescribing and not the expectation that a prescription will be supplied.

3.6. Explores the patient's/carer's understanding of a consultation and aims for a satisfactory outcome for the patient/carer and prescriber.

4. PRESCRIBE

STATEMENTS SUPPORTING THE COMPETENCY

4.1. Prescribes a medicine or device[a] with up-to-date awareness of its actions, indications, dose, contraindications, interactions, cautions and adverse effects.

4.2. Understands the potential for adverse effects and takes steps to recognise, and manage them, whilst minimising risk.

4.3. Understands and uses relevant national, regional and local frameworks[b] for the use of medicines.

4.4. Prescribes generic medicines where practical and safe for the patient, and knows when medicines should be prescribed by branded product.

4.5. Accurately completes and routinely checks calculations relevant to prescribing and practical dosing.

4.6. Prescribes appropriate quantities and at appropriate intervals necessary[e] to reduce the risk of unnecessary waste.

4.7. Recognises potential misuse of medicines; minimises risk[d] and manages using appropriate processes.

4.8. Uses up-to-date information about the availability, pack sizes, storage conditions, excipients and costs of prescribed medicines.

4.9. Electronically generates and/or writes legible, unambiguous and complete prescriptions which meet legal requirements.

4.10. Effectively uses the systems[e] necessary to prescribe medicines.

4.11. Prescribes unlicensed and off-label medicines where legally permitted, and unlicensed medicines only if satisfied that an alternative licensed medicine would not meet the patient's clinical needs.

4.12. Follows appropriate safeguards if prescribing medicines that are unlicensed, off-label, or outside standard practice.

4.13. Documents accurate, legible and contemporaneous clinical records[f].

4.14. Effectively and securely communicates information[g] to other healthcare professionals involved in the patient's care, when sharing or transferring care and prescribing responsibilities, within and across all care settings.

5. PROVIDE INFORMATION

STATEMENTS SUPPORTING THE COMPETENCY

5.1. Assesses health literacy of the patient/carer and adapts appropriately to provide clear, understandable and accessible information[a].

5.2. Checks the patient's/carer's understanding of the discussions had, actions needed and their commitment to the management plan[b].

5.3. Guides the patient/carer on how to identify reliable sources[c] of information about their condition, medicines and treatment.

5.4. Ensures the patient/carer knows what to do if there are any concerns about the management of their condition, if the condition deteriorates or if there is no improvement in a specific timeframe.[d]

5.5. Encourages and supports the patient/carer to take responsibility for their medicines and self-manage their condition.

6. MONITOR AND REVIEW

STATEMENTS SUPPORTING THE COMPETENCY

6.1. Establishes and maintains a plan for reviewing[a] the patient's treatment.

6.2. Establishes and maintains a plan to monitor[b] the effectiveness of treatment and potential unwanted effects.

6.3. Adapts the management plan in response to on-going monitoring and review of the patient's condition and preferences.

6.4. Recognises and reports suspected adverse events to medicines and medical devices using appropriate reporting systems[c].

7. PRESCRIBE SAFELY

STATEMENTS SUPPORTING THE COMPETENCY

7.1. Prescribes within own scope of practice, and recognises the limits of own knowledge and skill.

7.2. Knows about common types and causes of medication and prescribing errors, and knows how to minimise their risk.

7.3. Identifies and minimises potential risks associated with prescribing via remote methods[a].

7.4. Recognises when safe prescribing processes are not in place and acts to minimise risks[b].

7.5. Keeps up to date with emerging safety concerns related to prescribing.

7.6. Reports near misses and critical incidents, as well as medication and prescribing errors using appropriate reporting systems, whilst regularly reviewing practice[c] to prevent recurrence.

8. PRESCRIBE PROFESSIONALLY

STATEMENTS SUPPORTING THE COMPETENCY

8.1. Ensures confidence and competence to prescribe are maintained.

8.2. Accepts personal responsibility and accountability for prescribing[a] and clinical decisions, and understands the legal and ethical implications.

8.3. Knows and works within legal and regulatory frameworks[b] affecting prescribing practice.

8.4. Makes prescribing decisions based on the needs of patients and not the prescriber's personal views.

8.5. Recognises and responds to factors[c] that might influence prescribing.

8.6. Works within the NHS, organisational, regulatory and other codes of conduct when interacting with the pharmaceutical industry.

9. IMPROVE PRESCRIBING PRACTICE

STATEMENTS SUPPORTING THE COMPETENCY

9.1. Improves by reflecting on own and others' prescribing practice, and by acting upon feedback and discussion.

9.2. Acts upon inappropriate or unsafe prescribing practice using appropriate processes[a].

9.3. Understands and uses available tools[b] to improve prescribing practice.

9.4. Takes responsibility for own learning and continuing professional development relevant to the prescribing role.[c]

9.5. Makes use of networks for support and learning.

9.6. Encourages and supports others with their prescribing practice and continuing professional development.[d]

9.7. Considers the impact of prescribing on sustainability, as well as methods of reducing the carbon footprint and environmental impact of any medicine.[e]

10. PRESCRIBE AS PART OF A TEAM

STATEMENTS SUPPORTING THE COMPETENCY

10.1. Works collaboratively[a] as part of a multidisciplinary team to ensure that the transfer and continuity of care (within and across all care settings) is developed and not compromised.

10.2. Establishes relationships with other professionals based on understanding, trust and respect for each other's roles in relation to the patient's care.

10.3. Agrees the appropriate level of support and supervision for their role as a prescriber.

10.4. Provides support and advice[b] to other prescribers or those involved in administration of medicines where appropriate.