Physician Associates in NHS Wales

A study of the transition from student to qualified clinician, their contribution to teams and services, and responses to the role

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Abstract

Physician Associates (PAs) are a relatively new healthcare profession, first introduced to the UK National Health Service (NHS) in 2003. PAs are generalists who work alongside doctors in a defined scope of practice. They have been seen to contribute positively and received positive patient feedback but have faced challenges as a new profession. This study is one of the first to explore the PA profession in the context of Wales. The study aims were to explore the experiences of being a newly qualified PA (NQPAs), how embedded PAs are in their teams, what impact they have on services, patient responses and if there are any similarities or differences between the primary and secondary care settings.

The study adopted a mixed methods approach. Remote semi-structured interviews were conducted with case study PAs, team members, management staff and patients. In response to the recruitment challenges associated with the Covid-19 pandemic, case studies were discontinued, and one-off interviews were conducted. In total, 51 participants were interviewed. An online questionnaire was distributed to all PAs working across Wales harvesting 31 responses.

Findings included conflicting perceptions of how prepared the PAs felt for practice and experiences in the transition of student to qualified PA. Akin to other studies, the continuity of PAs was of significant value as well as providing both clinical and non-clinical support to colleagues. PAs faced role ambiguity from colleagues and patients and some reported resistance. Despite this, overall, PAs were reported to be accepted into their teams and by patients.

The findings suggest that there are inhibitors to the effective transition from student to qualified PA and ambiguities can create difficulties for establishing the profession. Whilst the pandemic presented challenges, some speculated that the value of PAs had been highlighted and subsequently developed further opportunities for the profession.

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Abbreviations

AA	Anaesthesia Associate
ABUHB	Aneurin Bevan University Health Board
ACCP	Advanced Critical Care Practitioner
A&E	Accident and Emergency
ANP	Advanced Nurse Practitioner
AP	Assistant Practitioner
BCUHB	Betsi Cadwaladr University Health Board
BMA	British Medical Association
CoP	Community of Practice
CUREMeDE	Cardiff Unit for Research and Evaluation in Medical and Dental Education
ENP	Emergency Nurse Practitioner
FPA	Faculty of Physician Associates
FY1	Foundation Year 1 Doctor
FY2	Foundation Year 2 Doctor
GP	General Practitioner
GMC	General Medical Council
GRAMMS	Good Reporting of a Mixed Methods Study
HEIW	Health Education Improvement Wales
HCP	Healthcare Professional
HDUHB	Hywel Dda University Health Board
LPP	Legitimate Peripheral Participation
MAP	Medical Associate Profession
MSK	Musculoskeletal
NHS	National Health Service
NP	Nurse Practitioner
NPP	Non-Physician Practitioner
NQPA	Newly Qualified Physician Associate
PA	Physician Associate
PAMVR	Physician Associate Managed Voluntary Register
PfP	Preparedness for Practice

RCP	Royal College of Physicians
SBUHB	Swansea Bay University Health Board
SHO	Senior House Officer
SCP	Surgical Care Practitioner
SoPAW	Society of PAs in Wales
UCAS	Universities and Colleges Admissions Service

1 An introduction to Physician Associates

This chapter presents an introduction and overview of the Physician Associate (PA) profession providing context to the subsequent chapters. It includes a description of the PA profession, the required education, and their scope of practice as well as their limitations in practice, in the context of the UK. This chapter also maps the landscape of PAs in the UK and elsewhere in the world.

1.1 Who are PAs?

Defined in the UK by the Faculty of Physician Associates (FPA), PAs are:

> *"Physician associates are medically trained, generalist healthcare professionals (HCPs), who work alongside doctors and provide medical care as an integral part of the multidisciplinary team (MDT). Physician associates are practitioners working with a dedicated medical supervisor but are able to work autonomously with appropriate support."* (FPA 2022a)

PAs are considered to be 'dependent practitioners' as while they are able to practice autonomously, they are required to always be supervised by an appropriate medical supervisor (FPA 2022a). The supervisory relationship between a PA and a Consultant/General Practitioner (GP) has similarities to that of a junior doctor. Whilst a PA is responsible for their own decisions and actions and the supervisory relationship may develop, leading to a need for less direct supervision, the ultimate responsibility for patients falls to the supervising Consultant/GP (FPA 2012; FPA 2017).

Brandis et al (2016), using Nancarrow and Borthwick's (2005) work on transitions in workforces, developed a framework to categorise types of new roles: generalists (having multiple skills and being able to work across different areas), specialists (having specialised knowledge and thus working in a specialised area), expanded scope of practice (expansion or evolution of existing roles) or models of substitution or delegation (similar to expanded scope of practice, but focused on delegating tasks from regulated professionals to other professionals). HCPs now increasingly need to possess multiple skills that can be used across clinical areas as a result of an increase in complex co-morbid patients (Brandis et al 2016). As shown in the above definition, PA training adopts the generalist medical model. The model of 'generalist' compared to 'specialist' allows professionals to *"…evaluate

undifferentiated patient problems; deliver continuous and coordinated care; provide comprehensive preventative services, manage common acute illnesses, ongoing common chronic conditions and common behavioural problems; and care for patients in multiple settings." (Wartman et al 1994, p.58). Although the concept of a 'generalist' practitioner has historically been applied to professionals working within the primary care or 'family medicine' settings (Gunn et al 2017), PAs work in both the primary care setting and in secondary care in a variety of specialties. Within the generalist model of working, a knowledge of different disciplines and the crossing of boundaries are regular features (Gunn et al 2007). Training is designed to equip the PA to take a history, conduct an examination of a patient, make diagnoses, manage issues / conditions / illnesses and make onward referrals (Elegbe 2010). PA training and education will be discussed in greater detail in the next section. PAs are considered to be *"extraordinarily adaptable"* (Ballweg 2018, p.6) and this flexibility allows them to be able to move between primary care and secondary care specialties to meet workforce demands without requiring specific training (Glicken and Miller 2013). PAs are not only able to move between primary and secondary care, they can move between the secondary care specialties, throughout their career (Ballweg 2018). This flexibility allows PAs to choose which setting they work in and to change their mind about where they work with minimal consequences, they can also provide temporary staffing cover if there is a shortage in a particular setting. For their progression, doctors must choose their specialisation fairly early on in their career with little room for redirection (Ballweg 2018). But career progression for PAs does not follow the traditional hierarchical path as with medicine (Kim and Bloom 2020) and could be considered as 'horizontal' progression. As their experience and knowledge base grows, PAs are able to see an increased diversity of patients and undertake more complex procedures (Kim and Bloom 2020).

1.2   Mapping the landscape of PAs

The PA profession has experienced global development albeit with slight differences between countries. The PA profession is no longer limited to the USA and is now widespread in countries including Australia, Germany, the Netherlands, Canada, India and South Africa (Hooker et al 2017). Despite being a profession that is ever growing, in the UK and well established in the US (Cooper 2001), it is still not particularly prominent across European countries (Merkle et al 2011). However, some have argued that more and more healthcare

organisations across the world are changing the skill-mix and composition of their healthcare workforces (Maier et al 2018) creating an opportunity for the development and growth of the PA profession. The role has adaptability and can be shaped by individual countries to suit their society's healthcare needs (Hooker et al 2017; Kuhns and Kuilman 2018) as well as their differing healthcare systems. For example, in India many PAs do not work as clinical PAs and are instead working within pharmaceutical or medical devices companies and are therefore employed by private companies/practices. For Australia, a shortage of doctors is not such a prominent issue compared to elsewhere (one reason for introducing PAs) but a change in healthcare policy could see PAs being implemented differently (Kuhns and Kuilman 2018).

In 2020, Hooker and Berkowitz (2020) undertook an assessment of the development of the PA role globally. According to their calculations there are around 132,526 PAs working across 18 countries globally. Table 1 details the number of PAs working by country.

Table 1: Number of PAs by country[1]

Country	Number of PAs	Number of PA training courses/programs	Year first PAs graduated
Australia	30	1	2011
Bulgaria	100	3	2017
Canada	750	4	2012
Germany	1,000	13	2005
Ghana	3,000	3	1971
Guyana	75	1	1978
India	1,500	30	1994
Ireland	28	1	2017
Israel	70	1	2017
Liberia	1,200	3	1967
Netherlands	1,400	5	2003
New Zealand	10	0	0

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[1] Adapted from Hooker and Berkowitz (2020). In South Africa the PA role is considered as Clinical Associates and Medex for Guyana. The roles were modelled on the PA profession in the US. New Zealand does not have its own PA training programme, PAs are recruited from the US. Figures for Saudi Arabia were unattainable.

Poland	3	1	2019
Saudi Arabia	--	1	2008
South Africa	1,300	3	2010
Switzerland	60	1	2007
United Kingdom	2,000	35	2004
United States	120,000	260	1967
Estimated total	132,526	366	---

The UK has one of the largest numbers of PA training programmes and this will in turn increase the figure of qualified PAs. However, these figures may not be completely accurate; the authors collected the data through networking with the countries, therefore the figures may not be the official total of working PAs. An example of this is in the UK where PAs are currently unregulated and join the Physician Associate Managed Voluntary Register (PAMVR) on qualification; this may be the case across other countries. Since 2011 the FPA has carried out an annual census of PAs and PA students in the UK. Data collected through the annual census has been used alongside data from the PAMVR. At the timepoint of 1st October 2021, there were 2,486 PAs on the PAMVR. Figure 1 below displays the number of PAs on the PAMVR by country in the UK (FPA 2022b).
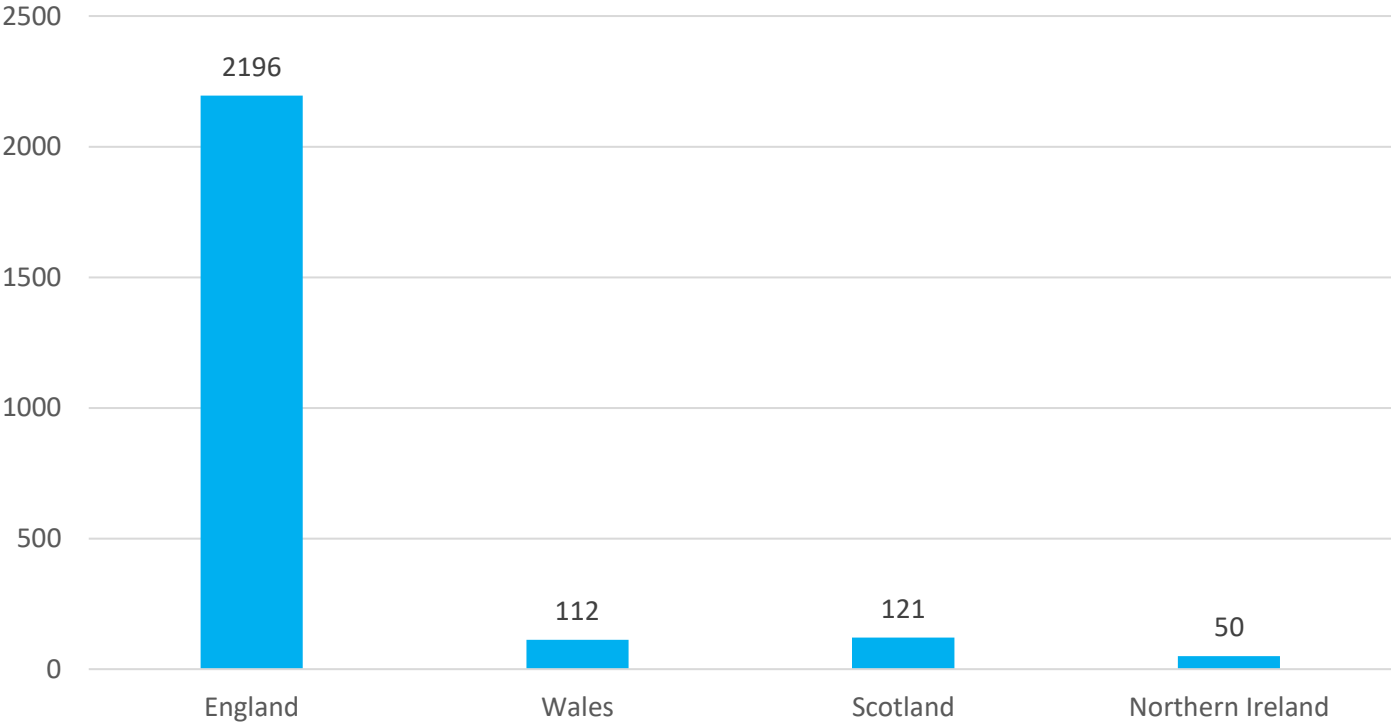
Figure 1: Number of PAs according to PAMVR 2021

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PAs work across a wide range of secondary care specialties ranging from cardiology, neurology, and psychiatry as well as in the primary care setting. From the 2021 census data, the number of specialties PAs were working across 46 specialties. The three most populated specialties were general practice (38% of respondents), acute medicine (10% of respondents) and emergency medicine (9% of respondents) (FPA 2022b).

At the time of writing this thesis, the PA profession in the UK is not subject to statutory regulation. Once a PA has passed all the required elements of their training (this will be described further on) they are then declared fit to practice and can be added to the PAMVR, providing they are also a member of the FPA. The aim of the voluntary register is to act as a safeguard to ensure patient safety and to set postgraduate education and development standards for training PAs until the profession has statutory regulation. It also enables potential employers to check if a PA is qualified and able to work (FPA 2022c). This lack of statutory regulation caused some concern amongst doctors in the UK (BMA 2017) However, in July 2019 it was announced by the Department for Health and Social Care that PAs would become regulated by the General Medical Council (GMC) (FPA 2019a).

This study was part funded and undertaken in collaboration with Health Education Improvement Wales (HEIW) and therefore focuses on PAs working within Wales. Whilst the PA profession has been present in other parts of the UK since the early 2000s, they have been a part of the NHS Wales workforce for a much shorter period. The FPA has carried out an annual census since 2014 (FPA 2023) and the first responses from graduate PAs in Wales was in 2017; only three graduate PAs responded (Ritsema 2017). Whilst PAs who work in Wales are subject to the same education requirements and scope of practice as those elsewhere in the UK, there are some areas of their employment which is unique. HEIW is a NHS Wales body which has several functions including workforce planning, strategy and improvement as well as education and training for HCPs (Health Education Improvement Wales 2023a). Throughout the duration of the study HEIW held responsibility for commissioning and oversight of the delivery of the PA profession in Wales. Some of the key features of the implementation of the role in Wales included being required to work in Wales for two years post-qualification if they have received a NHS Wales bursary and the requirement of being employed in an internship post if newly qualified (NQ). During the study, a student streamlining scheme whereby PA students in Wales are able to apply for

protected vacancies via a matching process was also introduced (Health Education Improvement Wales 2023b). This however became operational once data collection had been completed.

1.3 What can PAs in the UK do?

PAs are able to work in a wide capacity and carry out a range of tasks. In the context of the UK, the 2012 Competence and Curriculum Framework outlined the range of competencies of a qualified PA and the FPA shared a brief overview of what a PA in the UK can do (FPA 2022a). This is detailed in Box 1.

> - Take medical histories from patients
> - Carry out physical examinations
> - See patients with undifferentiated diagnoses
> - See patients with long-term chronic conditions
> - Formulate differential diagnoses and management plans
> - Perform diagnostic and therapeutic procedures
> - Develop and deliver appropriate treatment and management plans
> - Request and interpret diagnostic studies
> - Provide health promotion and disease prevention advice for patients

Box 1: What a qualified PA in the UK can do according to the FPA 2022

Despite having a wide scope of practice as shown above, the lack of statutory regulation leaves them unable to currently prescribe or request ionizing radiation such as CT scans and chest x-rays. However, after a determined campaign effort from members of the FPA and the Royal College of Physicians (RCP), the announcement of statutory regulation will open the doors to allowing PAs to undertake prescribing responsibilities and the naming of the GMC will aid the expedition of the regulation process (FPA 2019), the legislation process still usually takes 18 to 24 months (FPA 2019b). Several changes are anticipated with GMC regulation including protection of the PA title, quality assurance of the PA education programmes and setting quality standards for PAs (Straughton et al 2022). Although the process for PAs to be a regulated profession is underway, for the time being they remain on a voluntary register and these concerns from doctors may continue. In the USA the PA profession is far more established compared to the UK not only in terms of numbers of PAs

but for some elements of their scope of practice. PAs in the USA have the authority to prescribe and in most States PAs can prescribe controlled medications (American Academy of Physician Assistants 2019a; American Academy of Physician Assistants 2019b).

1.4 Education and training in the UK

To work as a qualified PA in the UK, completion of a postgraduate level PA course is required. According to the Universities and Colleges Admissions Service (UCAS), in March 2022 there were 24 institutions across the UK providing a PA postgraduate course; two of which are based in Wales, Bangor University and Swansea University (UCAS 2022). The entry requirements are typically a biomedical related first degree or health related degree and some prior experience in the health or social care setting (BMA 2017; FPA 2020). The course involves 3,200-3,600 hours of study spread over a 90-week period in two years. Half of this time is spent in clinical placements and the other half on theory-based learning (FPA 2017; NHS England 2020). The time spent on clinical placements can be across a range of different specialties including surgery, mental health and general medicine (NHS England 2020).

In the Competence and Curriculum Framework, the FPA stated that for any new profession it is crucial that there is a *"transparent and agreed"* standard which new professionals must meet when entering a professional register (FPA 2012, p.25). The purpose of the framework is to provide curriculum criteria for any course providers which their students must meet to ensure the expected standard is achieved. Whilst individual higher education institutes (HEIs) are able to shape their training programme taking into consideration the opportunities they can offer as well as their constraints, the UK curriculum framework establishes standard criteria that training courses must meet (FPA 2012). Broadly, the aims of the UK PA training programme is for graduates to have the knowledge, skills, behaviours and personal and intellectual attributes to practice as a PA (FPA 2012). Box 2 provides more detail around the expected outcomes as a qualified PA following completion of the PA course according to the Competency and Curriculum Framework (FPA 2012, p.28).

- Safe practitioners under medical supervision in a wide variety of clinical settings, with patients from diverse social and ethnic backgrounds.
- Expert communicators who are empathic in a manner appropriate to a healthcare profession.
- Aware of health inequalities and the challenges of working in a multicultural environment.
- Aware of the limits of their competence and determined to act within those limits.
- Trained in the context of multi-professional working in a team environment.
- Adept in the use of C&IT (Communication and Information Technology) skills for healthcare.
- Capable and motivated lifelong learners continually engaged in active professional development.
- Understanding of the need to maintain and promote health, as well as to cure or palliate disease and aware of their obligations to the wider community as well as to individuals.
- Trained to integrate theoretical and clinical learning.

Box 2: Aims of the PA postgraduate course

Once a candidate has passed their PA postgraduate course, they are then required to sit the Physician Associate National Certification Examination run by the FPA. The national examination comprises of an OSCE examination with 14 stations and a 200 single best answer question written examination (FPA 2022c, FPA 2022d). Once a PA has passed both their university course and the FPA national examination, they can then be added to the PAMVR as they have met the required standards to practice in the UK (FPA 2022c). Registered PAs are also required to pass a recertification examination of 200 single best answer questions every six years to ensure they are still fit to practice (FPA 2022c; FPA 2022d; FPA2022e). As with other health professionals across the NHS, PAs are required to undertake Continuing Professional Development (CPD) to develop and keep up to date their skills, knowledge, attitudes and behaviours (Health Education England 2019).

1.5 Summary

This chapter has provided a definition and overview of the PA profession in the UK, as well as a summary of the scope of the profession across the globe. PAs are considered to be generalists which makes them mobile in healthcare systems and they have been seen working across both primary and secondary care. To practice in the UK, PAs must complete their university course and pass the PA national examination before being added to the PAMVR. PAs in the UK can carry out numerous tasks and have a wide range of competencies which can also be developed post-university course. They are however currently limited by the lack of statutory regulation of the profession, though the legislation process is underway.

The next chapter (Chapter 2) will explore the literature surrounding PAs and other new roles in the NHS in the UK and the experience of becoming a qualified practitioner. This will provide background to the research questions. Following this, an outline of the key concepts utilised in this study (Chapter 3) is provided. These are role theory, sense of belonging and communities of practice (CoPs). The methodological approach is then outlined (Chapter 4). The study was carried out in three distinct parts using mixed methods; the first was case studies, followed by the All-Wales PA questionnaire and finally one-off interviews. In total, 82 participants took part in this study which included PAs, their team members, management staff and patients. Chapters 5 to 7 detail the findings from the data gathered across the study. Chapter 5 discusses the mixed views on how well prepared the PAs felt for practice and their experience of the transition from student to qualified practitioner. Chapter 6 examines the embedding of the PA role within NHS teams and their perceived value. Whilst PAs were found to be accepted and appreciated by their colleagues and patients, there was several reports of ambiguity towards the role and for some instances of resistance. The role was seen to add value clinically and non-clinically, particularly for continuity. The Covid-19 pandemic was a challenging period for all NHS workers, though there was some speculation from participants that the acceptance of the PA profession had been accelerated as their value had been emphasised; this is discussed in Chapter 7. Finally, Chapter 8 discusses each of the research questions and how the findings address these. A reflection of the methodological approach, the contributions to existing evidence and recommendations for future research and practice are also included.

2   Review of the literature

This chapter presents a review of the existing literature relevant to this research and key objectives. The chapter begins with an exploration of the introduction of new healthcare roles and what impact they have, including PAs. This is followed by a consideration of introducing new HCPs and how teamwork is affected by this. Finally, the experiences of becoming a qualified healthcare practitioner, including the transition process and preparedness for practice (PfP), is explored.

A narrative literature review was opted for instead of a systematic review approach. Utilising a narrative review allows the opportunity for a flexible approach to explore the literature, whereas a systematic review typically follows stricter eligibility criteria. Several means were used to identify relevant literature including academic databases (Medline, Scopus, and Web of Science predominantly), Google Scholar and reference lists. Search terms included[2]:

- Physician Associate*/Physician assistant*
- Physician Associate AND impact
- Physician Associate" AND experience*
- Physician Associate" AND introduc*
- Physician Associates AND contrib*
- New healthcare professional*
- Preparedness for practice

There are certain aspects of the available literature which have been explored more than others, for example introducing new healthcare roles vs becoming a qualified practitioner.

2.1   Introducing new healthcare roles and their impact

Increasing workforce pressures have resulted in tensions in terms of the organisational structure and functioning across healthcare settings in the UK. One of the responses to managing this has been the introduction of new roles (Bridges and Meyer 2007) and expanded responsibilities of already present roles (for example Nurse Practitioners (NPs) (Jones and Cawley 1994). However, others have argued that there should be more focus on

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[2] This list is not exhaustive.

retraining and expanding existing professions rather than creating new ones (Bohmer and Imison 2013) and introducing a new profession is not an easy task (Halse et al. 2018). But, Bohmer and Imison (2013) did recognise that extending the roles of existing professions would require an increase in NHS training budgets. Abraham et al (2016) argued that providing existing staff with training to be able to undertake an extended role can be a cost-effective solution to creating a more sustainable workforce and would represent a shorter training period than training for new roles.

The redesign of workforce and jobs has been considered as a means of managing increased demands on health services (Brandis et al 2016). The NHS workforce has faced a number of workforce redesigns following a series of initiatives in England 2000 under the Labour government (Bohmer and Imison 2013). Whilst it is challenging for healthcare organisations to meet patient needs, it is imperative that they do so safely while providing cost-effective and high-quality healthcare services. To achieve this, healthcare teams need to consist of a range of staff roles contributing complementary skills (Powell and Davies 2012; Dow and Evans 2014; Wheeler et al 2017). A MDT allows a better response to patients' needs and care than a team comprised solely of doctors (Grumbach and Coffman 1998; Dow and Evans 2014). It has been emphasized that when workforce planning is undertaken, multiple professions must be included. This enables consideration of potential consequences of changes to skill-mix and division of labour between different professions impacting on the future of HCPs (Maier et al 2018). Bohmer and Imison (2013) emphasised the importance of assessing the work being undertaken before skill mix changes and workforce redesign are introduced:

> *"The match between the workforce and the work needs to be constantly reviewed to ensure that yesterday's workforce is not deployed to do tomorrow's work."* (Bohmer and Imison 2013 p.2030)

2.1.1 Development of the PA profession

The NHS already has a well-established range of HCPs. In this context, the question has been asked, where do new professions, and in particular PAs, fit? (Drennan et al 2017). It is worth noting here, that whilst there is a substantial body of valuable international literature surrounding the PA profession, the literature included in this thesis is predominantly UK-

based. There are notable differences in the utilisation of the PA profession and health services across different countries compared to the UK.

2.1.1.1 Rationale for the introduction of PAs

According to the British Medical Association (BMA), the UK Government introduced the role of the PAs as a mechanism to ease workforce pressures in the NHS. In 2009, the European Working Time Directive placed restrictions on the maximum number of hours a junior doctors could work, limiting it to 48 hours per week (reduced from 58 hours per week in 2004). This also then decreased the amount of time available for junior doctors to undertake training (House of Commons Health Committee 2008). As well as the intention of reducing doctors' workload and ensuring sufficient workforce to meet demands (BMA 2017), PAs are seen as contributing to efficiency of care (Drennan et al 2015) and benefiting doctors and patients through enhancing the continuity of patient care (Williams and Ritsema 2014). Although it was previously felt that there was no call for the profession in the UK (Reedy et al. 1980), there was a shift in thought likely caused by the increased demands placed on staff and for NHS services (Parle et al 2006). Having said that, PAs first made their appearance in the UK healthcare workforce in the 1980s when a student PA from Duke University, North Carolina was placed in a health centre in Oxfordshire (Reedy et al 1980). In the eight weeks the student spent at the practice they held 267 consultations and was reportedly popular with the patients, although of note, the popularity amongst the patients was self-reported from the PA and other members of staff rather than from the patients themselves. In the early 2000s, a number of general practices in the West Midlands recruited USA trained PAs as a response to shortages of GPs (Woodin et al 2005; Parle et al 2006; Ross et al 2012). PAs were also recruited in two accident and emergency (A&E) departments in Sandwell and Birmingham that were facing recruitment difficulties (Woodin et al 2005). The response to the PAs from their colleagues (clinical and non-clinical) and patients was positive as well as a having a positive impact on services in terms of access and facilitating service development (Woodin et al 2005). Following the success of these placements, PAs from the USA were then placed in Scotland (Aiello and Roberts 2017) and usage has continued to expand across the UK. In 2002, a primary care organisation representing local general practices approached the University of Birmingham to ask if the university would develop a PA course. The organisation was already employing PAs from the

USA and thought that a UK based PA course would allow for the development of "*home grown*" PAs (Parle et al 2006, p.13).

The rise and expansion of the PA profession in the UK stems from a wider healthcare workforce development plan to introduce Medical Associate Professions (MAPs) (McKimm et al 2018) (this area will be discussed further in this chapter). Similar to the reasoning behind the introduction of PAs in the USA, the UK government saw PAs as a tool to reducing workforce pressures in the NHS with Jeremy Hunt, Secretary of State for Health in 2015 announcing general practices in England would see 1,000 PAs introduced to the workforce in a bid to tackle workload pressure (BMA 2017). Prior to the introduction to PAs in the UK, there have been attempts made to address the workforce crises in general practice. In 2002, the UK government announced they would offer financial enticements for doctors to move into general practice, particularly to practices in deprived areas. This was in addition to existing GPs receiving cash bonuses, though the retirement age was to be extended. Some saw these moves as an implicit acknowledgement by the government that there was a recruitment and retention crisis in primary care (Gavin and Esmail 2002). The number of doctors in primary care has continued to decline despite efforts from the government (Marchand and Peckham 2017). Initiatives introduced in an effort to lessen the impact of a shortage of doctors included the telephone service NHS Direct, although it has been questioned whether a telephone service could address the consequences of declining numbers of GPs (Gavin and Esmail 2002).

2.1.1.2   Utilisation and impact of PAs

As the PA profession grows, the body of research develops but is more limited compared to other longer established healthcare professions. Evaluations of PAs in the UK date back to 2005, though they were initially exploring USA-trained PAs (Woodin et al 2005; Farmer et al 2011) Significant contribution to PA research has been made by Vari Drennan and colleagues over the last 10 years in England (Drennan and Halter 2020). Two large scale studies in England found that PAs were considered to be an effective, safe addition to the workforce in both primary and secondary care settings (Drennan et al 2014; Drennan et al 2019a). PAs have been found to be a flexible addition who are able to complement the work of doctors and adapt to the demands of the organisation (Drennan et al 2014; Szeto et al 2019). Continuity has been considered a major benefit of the profession in secondary care in

three ways: knowledge of patient status, knowledge of the setting, for example policies and Consultant preferences, and presence for the team (Drennan et al 2019a).

The FPA made it very clear to prospective employers that PAs are not to be seen as a replacement for any member of a clinical team. They should be viewed as complementary to teams to help in the redistribution of the workload, not replacing staff (Szeto et al 2019) or filling in workforce gaps (Gavin and Esmail 2002; FPA 2017). PAs, and other MAPs, provide a unique skill set which can be used to complement the care provided to patients (Taylor and Bovis 2020). Gap filling for medical staff and supporting trainees were the most frequently cited motivators for the employment of PAs in a survey of medical directors in England (Halter et al 2017a). Out of 20 medical directors who were employing PAs the factor 'shortage of medical workforce' was reported by 17 respondents. PAs should not be considered as replacements for doctors (Szeto et al 2019). The survey also drew in a small number of responses from medical directors who were not considering employing PAs. The respondents felt that there were other professionals who would meet their Trusts' needs better than PAs with one response highlighting this: *"I can't think of anything they could usefully do in my Trust that I can't get done better and often cheaper by a nurse, pharmacist, therapist or biomedical scientist."* (Halter et al 2017, p.129). Although the sample was small, the information gained is valuable as it sheds light on the possible barriers to expansion of the PA profession and this quote demonstrates a possible lack of understanding or resistance towards the PA role.

A clear understanding of the PA role has been identified as an inhibitor to embedding PAs into the NHS workforce (Szeto et al 2019). Authors have emphasised the need for a clear understanding of the PA role to ensure they are utilised and embedded in the most effective way (Malik et al 2019). Ritsema and Navarro-Reynolds (2023) explored the facilitators of introducing PAs into secondary care services who were the first UK-educated PAs employed within the setting. The authors found that a clearly defined PA role was a key factor in successful integration within secondary care settings. The editor-in-chief of the British Journal of Nursing demonstrated some uneasiness towards the PA profession commenting that the utilisation of PAs would not address the issues associated with chronic staffing issues:

"Simply introducing these new professions will not resolve the gross shortfalls being felt across the sector and any administration that believes this to be the answer to the staffing crisis in the health service is clearly deluded in attempting to stick a plaster over a gaping wound." (Peate 2016, p.533)

Authors have described how the PA profession was born as a response to shortages and maldistribution of physicians in primary care settings and to improve access to healthcare in deprived areas (Schneller 1976; Mittman et al 2002; Glicken and Miller 2013; Everett et al 2016; McKimm et al 2018) Healthcare services face chronic staffing shortages and especially so for physicians (Niezen and Mathijssen 2014; Drennan et al 2017) particularly in the UK, despite initiatives introduced to encourage staff retention such as the retention support programme offered to Trusts (NHS Improvement 2019). It has been said that staff shortage is the most critical issue that the NHS faces (Carter et al 2003) and whilst some believe that the PA profession has proven itself in terms of providing good quality healthcare to deprived communities and helping to reduce the healthcare workforce shortages, the ever changing world of healthcare has raised new questions around the role of PAs and by what criteria effectiveness is judged (Hooker et al 2017).

Although PAs have been working in the UK since the early 2000s (FPA 2022a) and are well embedded in certain regions across the country, it is a role that is still growing and some health boards, and more locally, MDTs will have limited experience in hosting PA students and employing or working with PAs (Roberts et al 2019). In 2020 the BMA released a report outlining what they considered to be their principles for effective working between doctors and MAPs. With MAP roles still being new across the NHS, the BMA warned that mistakes can happen if preparation ahead of new roles being introduced is not carried out (BMA 2020a) as well as hampering the full potential of new roles (Bohmer and Imison 2013).

The lack of regulation for the profession has been identified as a significant barrier in their employment (Halter et al 2017a). The clinical governance and indemnity and liability concerns have been raised as issues by senior leaders and GPs (Drennan et al 2011; Drennan et al 2019a). In a previous study conducted across 15 general practices, GPs recognised that more emphasis was needed from statutory authorities around the issues of indemnity and liability for PAs and the need for PAs to be a regulated profession (Drennan et al 2011). The inability to prescribe and order ionising radiation associated with the lack of regulation has

been felt to negatively impact the work of PAs, limit their progression (Williams and Ritsema 2014; Drennan et al 2019a; Drennan et al 2019b; Williams and Adhiyaman 2022) and provides a challenge to every day practice for PAs (Woodin et al 2005), although there is evidence of workarounds. For example, the PA can simply wait for a doctor to be free to sign a prescription (Drennan et al 2011; Drennan et al 2019a). Whilst patients seem to be less concerned with PA's lack of prescribing rights (Jackson et al 2017), elsewhere patients have been found to be frustrated with the associated delays (Halter et al 2017b) and 'time wasting' believing that seeing a doctor would have been quicker (Redsell et al 2007). The additional supervision required of PAs as they are unable to prescribe has also been cited as a concern from doctors (Jackson et al 2017). Whilst PAs have been found to have a desire to be independent prescribers and able to order ionising radiation, many PAs may feel unprepared to become independent prescribers and would need additional training (Williams and Adhiyaman 2022). Interestingly, those who felt adequately trained for prescribing were more recently qualified and this could be because universities included more pharmacology training in their programme (Williams and Adhiyaman 2022).

The lack of prescribing powers can create issues in practice, and this is not limited to just PAs. In a study examining Emergency Nurse Practitioners (ENPs), prescribing was noted to be a major concern amongst the study's participants. At the time of the study there was no legal precedent around ENPs prescribing and local protocols were unclear which led to nurses' prescribing powers not being implemented at a local level. This resulted in doctors prescribing medications for patients seen only by the ENP and some doctors identified this as risky activity (Tye and Ross 2000). This practice could be occurring with PAs which carries risk for both the PA and for the doctor signing the prescription. The doctor would need a good level of trust in the PA if they were not going to consult with the patient themselves before signing a prescription.

In 2017 the BMA sought feedback from doctors about the introduction of the PA profession. Whilst there was positive feedback around the potential of the PA profession, there were concerns raised. Some of the concerns included the lack of clarity for staff and patients around the PA role itself, lack of clarity around the supervision of PAs and the lack of professional regulation (BMA 2017) Margaret McCartney, a GP, wrote a piece in the British

Medical Journal posing the question, "*Are PAs just 'doctors on the cheap'?*" (McCartney 2017).

The issue of role ambiguity has been reported in a study examining US trained PAs working in English hospitals between 2017 and 2018 in which 21 PAs took part in semi-structured interviews. The PAs shared accounts of role ambiguity and what this meant for their role. Some of the PAs expressed that they did not have a defined role but instead were utilised to address medical staff shortages on rotas. This meant that the PAs were not utilised in the most appropriate way to benefit their team. In contrast, those who reported having a defined role description were more positive about their experiences. Many of the PAs spoke about tensions between themselves and junior doctors in terms of role boundaries, but once relationships had been established and colleagues had a clearer understanding of the PA role, the tensions were dissolved. Further to this, team acceptance of the PAs facilitated opportunities for the PAs to apply more of their skills in practice, thus developing their role (Taylor et al 2020a). This demonstrates the importance of role clarity; it can ensure roles are utilised in the most effective way which can promote job satisfaction and enables a role holder to develop their skills and contribute further to their team when there is role clarity and subsequent acceptance.

2.1.2   Other new and extended healthcare professions in the NHS

The NHS has been subject to much change in recent years. The UK government has implemented several strategies to address these changes such as *The NHS Plan* in 2000 and more recently *The Five Year Forward View* in 2014. *The Five Year Forward View* had a focus on interprofessional working and the redesign of care models to allow better patient access to services (Abraham et al 2016).

Between 1996 and 1998, the ENRiP Project took place. This largescale project aimed to identify any relationship between new roles and effectiveness at the micro, meso and macro levels. The authors defined new roles as those that were "*innovative, non-traditional or taking responsibility for aspects of care previously undertaken by another group of HCPs.*" (Read et al 2001, p.4). The first stage of the project involved a mapping exercise in 40 sample trusts: 838 roles were identified. The reasons for development of these roles were also explored. Within nursing, the most common reason for development was for service improvement, although it is worth highlighting that this was not the case for the NPs, where

the main reason was supporting junior doctors. Within the PAMs group, again service improvement was also the most significant reason and this was a more notable factor than for nursing professions (Read et al 2001).

More recently, the BMA outlined the new professions that are emerging in the NHS in response to changing and growing demands. Table 2 provides a brief overview of these roles (BMA 2022a).

Table 2: Overview of new clinical roles in the NHS according to the BMA

Profession	Numbers in the UK	Description	Regulation status
Advanced Clinical Practitioners	Unknown	Term used for practitioners who are working at an advanced level across various fields.	Regulated through core roles
Clinical Pharmacist	2255 in general practice in England in July 2021	Can provide clinical services, prescription management and other duties such as audits and minor ailment clinics.	General Pharmaceutical Council (GPC)
First Contact Practitioner for Musculoskeletal (MSK) Services	221 in July 2021	Physiotherapy practitioners can assess, diagnose and treat patients without referral from medical staff.	Physiotherapists must be regulated with Health and Care Professions Council
General Practice Assistants	Unknown	Reduce particularly administrative burden of GPs.	Unknown
Mental Health Therapists	35 improving access to psychological therapies staff working in general practices in October 2021	Existing role but integrating into new settings. Particularly for embedding into primary care.	Unknown
Nursing Associates	188 in general practice and 2163 in secondary care in July 2021	Working alongside registered nurses and nursing care support workers.	Nursing and Midwifery Council (NMC)

All of the professions listed in Table 2 are in some capacity extensions or advancements on existing roles. PAs however are a completely new profession, under the MAP umbrella.

2.1.2.1   MAPs

PAs fall under the umbrella of Medical Associate Professions (MAPs) which also includes Anaesthesia Associates (AAs[3]), Advanced Critical Care Practitioners (ACCPs) and Surgical Care Practitioners (SCPs). Although the professions are different from each other, they all work within the medical model making them a distinct addition to the MDT (BMA 2020a). PAs and AAs are currently awaiting statutory regulation of their professions whilst ACCPs and SCPs must already be a registered HCP before taking up the role. They are therefore subject to their existing professional regulation (BMA 2022a). The earlier section 'Utilisation and impact of PAs' discussed some of the issues surrounding their current lack of regulation. Fletcher and Russell (2019) found in their study focusing on SCPs that although all their participants were existing nurses who would have been regulated by the NMC, they expressed the necessity for the SCP role specifically to be regulated. Table 3 below provides a brief overview of the MAPs working across the NHS (Taylor and Bovis 2020).

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[3] Sometimes referred to as Physician Assistants (Anaesthesia).

Table 3: An overview of MAPs[4]

Abbreviation	Profession	Estimated number in UK in 2021 (BMA 2020b)	Description	Regulation status
AA	Anaesthesia Associate	300	Form part of the anaesthesia team, can perform anaesthetic procedures while supervised by a Consultant Anaesthetist, overall patient responsibility lies with Consultant Anaesthetist.	Awaiting regulation by GMC – currently managed voluntary registration by Royal College of Anaesthetists
ACCP	Advanced Critical Care Practitioner	260	Work within critical care teams, trained to make clinical decisions as part of Consultant-led intensive care teams, can diagnose/treat/refer patients, can have their own patient caseload.	Regulated through previous roles
PA	Physician Associate	2,500	Trained as generalists following the medical model, provide aid to medical staff, can work across various settings including general practices and hospitals.	Awaiting regulation by GMC – currently managed voluntary registration by RCP
SCP	Surgical Care Practitioner	600	Work within surgical teams with supervision, can provide support to surgeons before, during and after procedures, can also help in wards and clinics.	Regulated through previous roles

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[4] Adapted from Taylor and Bovis (2020).

The use of MAPs across the NHS forms part of an ongoing objective to provide high-quality and accessible care for patients. MAPs can enhance the existing workforce contributing their own skill sets and are not to be considered as replacements for doctors (NHS Employers 2020). The BMA reported concern amongst doctors around what the introduction of MAPs would mean for their profession but also found, from a sample of doctors, that they had generally positive experiences working alongside MAPs. From this work the BMA devised five principles to promote effective working between the two: the distinction between doctors and MAPs needs to be understood, junior doctors must be able to raise any issues around loss of training opportunities, the MAP role must be well designed and be reviewed regularly, there must be a clear induction process, and staff and patients should be able to distinguish between the doctors and MAPs (BMA 2020a).

2.1.2.2 *Advanced nursing*

One response to the chronic understaffing of physicians in healthcare is the introduction of new nursing roles including the NP (Niezen and Mathijssen 2014). Nursing roles in the UK have developed as healthcare demands and needs have changed. There are a number of different roles under the advanced practice nursing umbrella including advanced nurse practitioner (ANP), NPs and clinical nurse specialists (CNS) (Hanson and Hamric 2003), all with unique contributions to the healthcare workforce. The Royal College of Nursing define nurses who practice at an advanced level as:

> *"Advanced practice is a level of practice, rather than a type or specialty of practice…They have the freedom and authority to act, making autonomous decisions in the assessment, diagnosis and treatment of patients."* (Royal College of Nursing 2019)

Mundinger (1994) argued that as the scope of medical care has expanded, nurses' scope of practice has expanded with it. As a result of this, Mundinger contended that, particularly in primary care, there is an overlap between doctors and NPs in their practice. A systematic review of the available literature carried out in 2002 summarised that NPs can provide just as good, if not better, quality of care as doctors, and patients were just as satisfied with the care they received, though the authors did note that there was ambiguity around the definitions of the nursing roles and the study was inclusive about NPs (Horrocks et al 2002). Some have also alluded there is an additional risk for advanced nurses losing opportunities

to PAs as the profession grows (Hanson and Hamric 2003). Although this is just one perspective, this is an example of the potential resistance from the nursing profession towards PAs in the healthcare workforce. Hanson and Hamric even went as far as to say there was a risk of the advanced nursing professions becoming extinct if they are merely seen as substitutes (Hanson and Hamric 2003).

Although some similarities between the PA and ANPs have been identified (Wang et al. 2022), the stark distinction between the roles is that ANPs are trained following the nursing model and PAs in the medical model (Jones and Cawley 1994). One of the striking differences between the two roles is the differing levels of freedom to make autonomous decisions. Contrasts have been previously made between the PA and NP roles when working in the same setting. In the primary care setting, some GPs and practice managers although perceiving an overlap between the two roles, they thought that PAs had a wider scope of practice. An example given was that of PAs making their own referrals to secondary care for patients while for nurses, their patients would first be referred to their GP who would make the onward referral (Drennan et al 2017). Though, one study found that a treatment room nurse felt that their work aligned similarly to the work of a PA (Reedy et al 1980).

2.1.3 Patients – The 'other newcomers'

The landscape of HCPs has changed significantly over the years responding to the changing patient demographics, a move towards preventative healthcare and evolving technologies, creating a more varied MDT (Nancarrow and Borthwick 2021). Patients are no longer bound to receive care from the traditional doctor or nurse. According to Chapple et al (2000), the perspectives of patients when examining changing professional boundaries has received limited attention despite the importance of patient perception impacting on new role acceptance.

Rollag's (2012) work around organisational socialisation argued that this went beyond new employees; those who use their services, the 'other organisational newcomers' will also need to be socialised. Formal processes can be adopted in the service user socialisation including structured events such as demonstrations or tours, but more passive activities can also be beneficial including information leaflets and signage. Although this work takes a business-and-their-customers lens, this could be applicable to the patients of PAs. If patients are properly socialised and have a sound understanding of the PA role and services

provided, this could have a positive impact on patient acceptance. Formal processes are not practical to carry out in the healthcare setting, but passive activities, such as distributing leaflets with information about a new role, are more practical. Chapple et al (2000) examined patients' perspectives of NPs in a case study general practice which had previously been run by a single GP before becoming 'nurse-led' involving one part-time GP and various other staff members. Interviews were carried out with several patients who had experience of receiving treatment from the new 'nurse-led' service. The authors noted that some patients recognised how well-qualified the NP was and this understanding of the nurses' status could have been in part a result of patients being informed by letter what the nurse was able to do. The application of this 'business-and-their-customers' approach however should be treated with caution; the NHS is not a commercial business and patients are not considered to be customers of the health service.

The role of non-verbal prompts in contributing to patient awareness and response to new roles is pertinent. Handy (1976) called these non-verbal prompts 'role signs' which provides clarity of a role at any given time. Patients have been observed to assume PAs are another professional from what a PA is wearing. Wearing a uniform (i.e., scrubs) could lead patients to associate PAs with nursing staff who traditionally wear uniforms compared to the medical team who often wear their own clothes (Drennan et al 2019a). The authors also mentioned patients understanding a PAs identity by equipment like stethoscopes which are usually associated with doctors and PAs are part of the medical team. PAs in the UK are not subject to a standardised uniform policy and in Wales, decisions around uniform are left to health boards. The FPA does however emphasise the importance of professionals being clearly identifiable and introducing themselves to patients (FPA 2022f). Smith and Roberts (2005) found in their study examining Occupational Therapists (OTs) and Physiotherapists (PTs) that when attending elderly patients' homes for community appointments, not wearing a uniform and only a name badge created difficulties for patients who identified which professional they were by their clothes. Patients also felt that OTs and PTs were providing similar care and the lack of uniforms could contribute to confusion of what the responsibilities were of each professional. However, the therapists and managers who took part in the study believed that the patients were not bothered about the definitions of the

therapists and their specific roles but were more concerned about how the therapists were able to help the patient in their treatment or rehabilitation.

The BMA has outlined the importance of both patients and staff understanding an individual's profession, and uniforms is one way of providing this clarity (BMA 2020a). The use of uniforms can signal to patients who is providing care to them. Uniforms are also useful for team working as staff will be able to identify who is who and who holds what responsibilities; this is especially true in fast-paced settings such as A&E and emergency situations (BMA 2020a).

2.1.3.1   Patients and PAs

Nancarrow and Borthwick (2021) stated that compared to medicine and nursing, allied health professionals (AHPs) are not as well understood by the public despite understanding their role themselves. Although PAs are not considered as AHPs and work alongside the medical team, being a non-traditional profession like doctors and nurses can generate ambiguities for patients.

Even though PAs and other MAPs may be able to provide a complementary skill set to their teams, there needs to be acceptance from patients to enable them to carry out their roles. In one study aiming to compare patient willingness for SCP and trainee doctors to perform basic surgical procedures[5] in an ears, nose and throat (ENT) department under direct or indirect[6] supervision found that only 12% of surveyed patients would be willing for a SCP to carry out a basic procedure whilst under indirect supervision. So even though MAPs may be able to carry out procedures and tasks they have been trained to do, patients may not be willing for them to exercise their scope of practice without having direct supervision from their superior (Moorthy et al 2006). Leach et al (2018) found in their study of patient-clinician preference when presented with a hypothetical situation of being able to choose a new primary care provider, over half would prefer a doctor versus a PA or NP. Two key factors affecting this choice was noted to be the qualifications held by doctors and their technical skills. However, Joyce et al's (2018) study in two Irish hospitals identified

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[5] Basic procedures included removing small lumps or inserting a grommet.
[6] For the purposes of this study direct supervision meant there would a consultant present during procedure directly observing and indirect supervision meant the consultant was present in the hospital or theatre department.

conflicting perspectives. In their study, patients had no prior encounters with PAs. As part of a survey, patients were presented with brief descriptions of PAs and doctors along with one of three clinical scenarios with varying levels of severity. The patients were required to choose between seeing a PA or doctor with two waiting time differences; wait time to see a doctor was four hours or see a PA in 30 minutes. Most participants chose to see the PA with the reduced waiting time being a critical factor in this choice as well as understanding that the PA is supervised by a doctor.

Hooker et al (2019) conducted a scoping review of literature surrounding patient satisfaction with PAs in which 25 articles were included. Only three of these were UK based and one based in Ireland. The authors however concluded that although there were differences in satisfaction assessment and the identified studies spanned across five countries with differing levels of experience with PAs, generally patients were satisfied with PAs. The body of evidence surrounding patient experiences and response to the PA role is growing within the UK but has been unexplored in the context of Wales until now. Previous studies which have used both qualitative and quantitative methods of data collection have found generally positive results around patient satisfaction towards PAs, despite patients having limited or no understanding of the PA role. These are discussed in detail below and the subsections have been divided into studies focusing exclusively on primary or secondary care; this was done as the settings are different and provide different patient services.

Patients can also be subject to role ambiguities (Nørgaard and Sporrong 2019) and as briefly mentioned earlier, it has been reported that patients lack clarity about the PA role. Drennan et al (2019a) in their study of PAs in secondary care settings found that, of the patients who were interviewed, none knew about the PA role and could not provide an accurate understanding of what they could do. Whilst most of the patients considered PAs as part of the medical team, different descriptions of what the patients thought the PAs were included being a junior doctor, a locum or 'supply staff', or nursing staff. However, of note it was the first time that these patients had encountered PAs. PAs may be accurately identified by patients as part of the medical team, but they did not understand what they could do, exemplifying role ambiguity. Despite this, patient satisfaction with the care provided did not seem to be affected. Patients were positive about their encounter and all of the patients stated that they would be happy to see a PA again (Drennan et al 2019a). Elsewhere in the

primary care setting, there was more variation in knowledge and understanding of PAs. Those who had seen a PA before or who had family members who had seen a PA had a clearer understanding of the PA role; so too patients at GP practices that had provided information (for example through posters and leaflets) about PAs to their patient population. Again, even most of those patients who did not have an accurate understanding of PAs, were positive in their responses (Drennan et al 2014). This evidence demonstrates that whilst role ambiguity is present amongst patients, the associated challenges may not affect patients in the same way as the PAs themselves and their team.

2.1.3.1.1 Patient experiences of the PA role in the UK – primary care

As part of a large scale study examining PAs in the primary care setting (Drennan et al 2014), Drennan et al (2015) requested PAs and GPs to distribute patient satisfaction questionnaires to their patients aged over 16 years across two designated two-week sessions (one in winter and one in summer). Of the 539 questionnaires returned, 220 had a consultation with a PA and 319 with a GP. High rates of satisfaction were reported and there was no significant difference between consultations with PAs and GPs. Just over 87% of the patients who were seen by a PA reported that they would attend a consultation with a PA again in the future compared to just over 4% who stated that they would prefer to attend an appointment with a GP. Other results included no patients stating they were '*dissatisfied*' or '*very dissatisfied*' with the care they received from the PA and no patients answered '*very poor*' when asked about their judgement of the practitioner relating to treating with care, involvement in decisions, listening, explaining tests and treatments and giving their time. However, there are a number of variables to be taken into account when analysing such data. Further results of the study found that overall patients who attended appointments with PAs were younger, had fewer chronic diseases and attended for more minor issues, were provided with fewer prescriptions and had attended the practice less in the previous three months. These factors could have an impact on how patients perceive how satisfied they were with the consultation as the nature of their problem could have been less complex requiring fewer interventions and simpler solutions to their presenting issue.

Although the quantitative findings above provide insight into patient satisfaction, qualitative data can provide more of an in depth understanding of patient experiences of PA consultations. In addition to the satisfaction survey, patients who completed the survey

were also invited to take part in an interview. Thirty interviews were analysed; an additional four were not included in analysis due to the consultation not being with a PA or the consultation was for a child. Whilst the participants were spread unevenly across the selected practices, they were diverse with regards to gender, age, ethnicity and socioeconomic background. Overall, the patients were positive about their consultation with a PA. From the findings a theoretical model was developed demonstrating the influences and impacts of patient experiences in consulting with a PA: having an understanding of the PA role, having trust and confidence in the PA, conditional willingness to see a PA in the future and the competence of the PA compared to a GP (Halter et al 2017). Accurate patient understanding of the PA role however was not consistent with patients believing that PAs were qualified or in-training doctors or a nurse (Drennan et al 2014). Patient dissatisfaction arose if the role of the PA was not explained sufficiently with feelings of deceit developing towards the practice and the PA (Halter et al 2017). The patients' feelings of dissatisfaction with the role not being explained sufficiently echoes studies surrounding HCPs having a lack of understanding of new roles and how this can impact the integration into their teams which will be discussed in an upcoming chapter.

2.1.3.1.2 Patient experiences of the PA role in the UK– secondary care

Alike the study discussed above, Drennan et al (2019a) also carried out a largescale study focusing this time on PAs in the secondary care setting across six hospitals in England. Between 2016 to 2017, one of the strands involved semi-structured interviews with 21 patients and seven patient relatives/carers. Overall, the patients spoke positively about their encounter with the PAs, but the authors also recognized that the patients were satisfied with the care received from all of the team. The patients demonstrated a lack in understanding of the PA role, though until their encounter in this study none had previously met a PA. Examples were given of patients mistaking PAs for doctors. The authors also drew attention to some of the patients that observed that they had received care from numerous professionals during their time in hospital and they were often unaware of who each professional was. The PAs had provided different forms of care and different frequencies to the patients, for example those who encountered a PA in A&E had shorter interactions. Specifically examining the perspectives from the six patients who had encountered a PA in A&E, they still responded positively to the PAs especially with the prospect of receiving care

sooner, although there were some concerns about a loss of senior medics (Halter et al 2020). In addition to insight from the patients themselves, doctors working alongside the PAs also shared their perspectives around how patients respond to PAs. They felt that patients responded positively attributing this to the PA's communication and continuity (Drennan et al 2019a). The benefit of continuity that PAs offer was also raised by the patients (Drennan et al 2019b). They did believe however that patients had little awareness of the role despite introductions, but this had not impacted their acceptance (Drennan et al 2019a).

The previous section discussing patient experiences of PAs in the primary care setting only discussed one study, more work has been done in the secondary care setting which is likely because of a larger number of PAs working in these settings. Following this large-scale study published in 2019, between March and May 2018 a qualitative study using semi-structured interviewing was conducted across five hospitals in England (Taylor et al 2019). The selected hospitals had recruited USA-trained PAs to work as ambassadors and as part of a development programme with UK-trained PAs nearing qualification. Patient inclusion eligibility included having been seen by one of the US trained PAs along with standard eligibility criteria, being aged 18 years or over and having capacity to consent. A total of 15 participants were interviewed, 11 patients and four patient representatives (Taylor et al 2019). As with Halter et al's (2017) study of patient satisfaction in the primary care setting, four interrelated PA-patient communication themes were identified; "*feeling trust and confidence in the relationship, sharing relevant and meaningful information, experiencing emotional care and support and sharing discussion on illness management and treatment*." (Taylor et al 2019, p.8). The authors concluded that their findings offered an example of effective communication between the PAs and their patients. Once again however, patients were naïve about the PA role, and many believed they had seen a doctor which could damage patient trust and satisfaction with PAs (Taylor et al 2019). Whilst Taylor et al's (2019) study offers in depth qualitative insight into the experiences of patients who are seen by PAs, the study only addresses the experiences of patients who were seen by US trained PAs who were also noted to be experienced PAs. It is likely that at the time of this study, UK trained PAs were still relatively new to the UK healthcare system and may not have been accessible to the researcher at the time of the study. The US PA training may differ slightly

to the UK model which could have affected patient's experiences. Additionally, extended experience in the role could lead to an increase in their confidence and expertise in their communication with patients.

As well as the insight into patient experiences of PAs gained from these qualitative studies, Zaman et al (2018) distributed a pilot questionnaire to 100 patients in an acute medical unit (AMU) who had received care from a PA achieving an 86% response rate. The questionnaire centred around patient satisfaction utilising domains from the NHS Patient Experience Framework (Department of Health 2012). Again, the patients were overall satisfied with the care they received from the PAs and most found them to be honest and trustworthy (90.69%). Alike to one of Drennan et al's (2019a) findings, the authors anticipated that the continuity PAs offered to patients in AMU could have influenced patient satisfaction.

In summary, UK-based PA studies found that patients responded positively to PAs and were satisfied with the care that they received in both the primary and secondary care settings. Patients did however have a distinct lack of understanding of the role and there were examples of patients believing that PAs were other members of the healthcare team. The studies reported however have all included patients who were recruited within the healthcare settings fairly soon after their encounter with the PA. In terms of awareness and understanding more generally, there does not seem to be any work that has explored the attitudes of general public outside of the healthcare setting. The only study identified which addresses this in some way was carried out by Joyce et al (2018) in two hospitals in Ireland which was discussed earlier in this section.

2.2 Teamworking and new professionals in healthcare teams

The founding aims of the NHS were to *"…provide universal, equitable, comprehensive, high quality healthcare free at the point of use…"* (Iacobucci 2017, p.1). Although these aims have not changed since the NHS' establishment over 70 years ago, the context for healthcare delivery (Carter et al 2003) and the population it serves has changed drastically creating new challenges (Iacobucci 2017). The additional contributing factors of an ageing population in the UK, increased availability of new treatments and technologies and increasing public demand, including the prevalence of chronic conditions (Dow and Evans 2014; Halse et al 2018; Baileff 2019) are creating ever mounting challenges for the NHS and its' staff. To

confront these challenges the NHS workforce must have the appropriate skills and features (Halse et al 2018). Effective team working can be advantageous to healthcare systems in terms of better care being provided to patients than solely from an individual (Carter et al. 2003) and for the staff themselves (Borrill et al 2000). Some have contended that how teams work together could have more importance than the design of individual professional roles (Bohmer and Imison 2013). This emphasis on effective team working is nothing new as it has been seen previously in a number of NHS reports and policies (Borrill et al 2000; Langlois and Lising 2020). However, team working in healthcare systems is an extremely complex phenomenon owing to how different individuals perceive the purpose of the team and the interactions between professionals internally as well as externally (Baldwin Jr et al 2007).

2.2.1 Facilitators and barriers in embedding new professionals to the team

The way members of an MDT work together when there is a workforce change is considered to be more vital than any changes to an individual role (Bohmer and Imison 2013) and the introduction of new professionals into teams can initiate changes to team dynamics. This section discusses the barriers and facilitators to successful integration of new HCPs into MDTs.

When introducing a new role, it is vital that there is an understanding of the scope of the role and the implementation is planned and reviewed. Role clarity can aid the integration of new professionals (Drennan et al 2019a), whereas a lack of understanding can result in resistance towards a profession (Office of Inspector General 1993). A lack of clear understanding and definition of the PA role in a team can negatively affect their integration, particularly when a PA is first introduced (Drennan et al 2019a; Roberts et al 2019; Taylor et al 2020a). In one of the first introductions of the PA profession in the UK, staff in a health centre were given information before the PA started working and a notice was displayed for patients. In addition, any patients who saw the PA received an explanation in writing. In the first few days of the PA starting, they familiarised themselves with the staff and the running of the health centre. They also attended various departments in the health board and local authority and shadowed the centre's health visitor and district nurse (Reedy et al 1980). This is an example of good practice for introducing new roles to a team and could have been used to set a precedent for future newly employed PAs. As part of the study surrounding

this PA, semi-structured interviews were undertaken with the health centre's staff. One of the key findings from these interviews was that the staff's preparedness ahead of the PA starting impacted their acceptance of the PA. A staff member who had missed the briefing expressed feelings of insecurity and hostility towards the PA (Reedy et al 1980). Before introducing a PA to a team, the importance of explaining the role to existing members has been emphasised through means including email newsletters and information distribution in meetings (Roberts et al 2019). In a more recent study conducted in English general practices, staff were prepared by the practice managers and GPs ahead of the PA's employment to help prevent any interprofessional difficulties that could arise. Despite this, when the PA first started some of the nursing staff expressed feelings of apprehension particularly around retention of their jobs. Although these feelings soon faded once they realised the PA could aid the management of the workload in the practice (Drennan et al 2017). Although these findings illustrate that despite efforts being made to prepare staff for the PA's arrival, there were still feelings of uncertainty towards the PA, perhaps these feelings were overcome through experience of working with a PA rather than necessarily the preparation. However, if the staff were not given any preparation, there could have been more resistance.

Drennan et al's (2011) work on PAs in the primary care setting found that there was some 'wariness' from practice teams towards PAs, particularly from nurses. This was not exclusive to nurses though as some doctors displayed some hostility towards PAs with the feeling that they may end up in competition for future jobs. Resistance was not just limited to within the practice; some examples were given of secondary care doctors refusing to accept referrals from PAs (Drennan et al 2011). This has also been observed in the Netherlands in a qualitative study across primary care settings. Interviews and focus groups were conducted with PAs, NPs and RNs and several participants highlighted they had faced refusal of referrals or liaisons with secondary care specialists as the specialists wanted contact only with GPs (Lovink et al 2018). However, Drennan et al's (2011) study was conducted over 10 years ago, at a time when there were limited numbers of PAs working in England, a time when the general understanding and awareness of the role would have been even more limited than it is now with the expansion of numbers of PAs across the UK.

Roberts et al (2019) carried out focus groups and interviews with NQPAs and other clinical roles including Consultants, junior doctors and senior nurses as part of an exploratory study of NQPAs. Their study found that there was a lack of understanding from existing clinical staff around the scope of PA's practice and to what level they had been trained. Of note, one PA in the study gave an example of how on their first day they were asked by a nurse *"…what can you do then?"* evidencing the lack of awareness of the role prior to the PA commencing their job (Roberts et al 2019, p.63). The PA further went on to explain that when they stated to the nurse that they could not prescribe, this was met with disappointment and questioning of the PA's usefulness (Roberts et al 2019). This study provides evidence of the necessity of existing staff to have an awareness of the PA role and what PAs can and cannot do. It also further demonstrates that without an understanding of the PA role, existing staff expectations will not be met and in turn a lack of acceptance or enthusiasm towards the role. Role ambiguity has been identified across numerous PA studies in the UK (Drennan et al 2014; Jackson et al 2017; Drennan et al 2019a; Roberts et al 2019; Taylor et al 2020a) so the issue is not a rarity. A recent published study by Wilsher et al (2023) further emphasised the importance of supporting both PAs and their team members and having role clarity when initially introducing PAs.

In 2020, the BMA released a document outlining principles around doctors and MAPs working together. The principles were developed following interviews and a survey of members of the BMA (included medical students as well as doctors), with 20 interviewees and 816 survey responses. In this document it was stated that when implemented properly MAPs can help in reducing the workload for doctors by conducting appropriate tasks and providing continuity to teams and patients. But there were concerns that MAPs could be placed on rotas with the expectation that they can work as the equivalent of a junior doctor (BMA 2020a), something that might occur in the context that rota coordinators are under immense pressure to address rota gaps (Taylor and Bovis 2020). Ambiguities around role expectations can hamper boundary work between professionals and integration into teams (Kilpatrick et al 2011). Such issues around blurring of boundaries and limiting learning opportunities have been identified in teams where PAs are present (Roberts et al 2019).

When changes are introduced, most will not actively resist (Smith 2005), though it has been recognized that changes to the status or responsibilities of specific healthcare roles can face

opposition from other healthcare staff. An example of this is nursing staff extending their role to prescribe medication. Prescribing has become extremely complex, particularly for the multi-morbid patients, with potential for serious side effects and interactions. Whilst nurse prescribers undertake extensive training and face regulation around prescribing, their training in therapeutics requires less time than for a doctor. This has been a cause for concern amongst doctors (Dow and Evans 2014). Although, currently, PAs are not able to prescribe, it is anticipated that once regulated, consultation around prescribing will begin (FPA 2020). PAs may face the same concern from doctors as nurses did when they were able to undertake further training to prescribe.

At the 2018 BMA annual representative meeting there was a feeling of apprehension from the doctors around the rise of MAPs. Doctors in attendance voted for a motion of warning that MAPs were "*taking decisions they are not qualified to make*" (Rimmer 2018, p.1). One retired Consultant surgeon added that MAPs were taking on work which would have been the responsibility of the doctor, despite having only two years' training, and subsequently felt this was unsafe (Rimmer 2018). When feedback about PAs was sought from the BMA in 2017, PAs were seen by some *"…as a quick and cheap substitute for fully qualified doctors."* (BMA 2017, p.5). As shown earlier, the FPA have been explicit in explaining that PAs are not to be regarded as substitutes for doctor staffing gaps (FPA 2017). In addition to these concerns, one GP writing in the British Journal of General Practice in 2010 in response to the question "*Is there a role for physician assistants (PAs) in routine care?*" answered 'no'. He felt unconvinced that PAs with a science related undergraduate degree and two years training would be complementary to a primary care team, especially in terms of costs as employing a PA was more expensive than employing a practice nurse (Vas 2010, p.855). McCartney (2017) expressed concerns that junior doctors in secondary care may feel resentment towards PAs who are in some cases paid more, have less responsibility and work less unsocial hours. McCartney also explained her scepticism around the lack of regulation of PAs creating a safety issue as PAs may need to interrupt GPs to sign prescriptions which requires solid trust between the GP and PA. In response to McCartney's (2017) concerns, Drennan et al (2018) reported how GP sign off of PA's prescriptions could be done in ways which avoided interrupting the GPs. Though this information is useful in terms of gaining an understanding of the reservations of the doctors towards the PA

profession, these are opinion pieces rather than empirical research. The PA role has expanded in numbers and developed over time and these doctors may have since worked with PAs and their perceptions changed.

Dr Natalie King, clinical lead for acute medicine in Surrey and Sussex Healthcare NHS Trust, has been pivotal in embedding PAs in the UK and championing the PA profession for several years. Following the BMA's 2018 annual representative meeting, Dr King responded with concern that PAs were being considered within a "*broad brush approach*" (King 2019, p.1) towards MAPs without consideration of their individual merit. Dr King further went on to add; *"As doctors we need to be prepared to challenge the traditional hierarchy to ensure we keep the patient at the centre of what we do…the last thing we need is further division."* (King 2019, p.1-2). The study around ENPs (Tye and Ross 2000), which has already been discussed, highlighted the importance of members of staff feeling supported by their employers. One ENP described how they felt without support *"…they'll pull the carpet out from underneath you…"* (Tye and Ross 2000, p.1092) if something went wrong.

Sellers et al (2022) explored the relationship between AAs, one of the MAPs, and their team where positive relationships were observed. The authors noted that features of successful integration of AAs included employing more than one AA in a department, having a specified lead Consultant, being subject to specific department governance and being included in learning. Whilst there have been concerns from doctors that MAPs may affect the amount of learning opportunities (BMA 2020a; BMA 2020b; Taylor et al. 2020a), the AAs in this study were not found to negatively affect learning opportunities and, in some cases, helped facilitate learning. Successful integration of new roles can also, in turn, allow new professions to fully utilise opportunities to develop their skills and thus expand their role (Taylor et al 2020a). In an upcoming subsection, the issue around other professionals taking the 'dirty work' away from doctors and thus restricting their opportunities for learning valuable skills will be discussed.

2.2.2 Skill mix and MDTs

Skill mix within healthcare teams can refer to the variety of competencies held by an individual, the number of junior and senior staff in a team or the involvement of different types of practitioners in an MDT (Sibbald et al 2004). Teams in healthcare can provide a multilayer approach with different professionals with different academic qualifications

(Jones 2020). MDTs are integral to the way care is managed in the NHS today (Atwal and Caldwell 2006). MDTs can be defined as:

> *"…consist[ing] of health providers from a range of professional and disciplinary groups, with different and complementary knowledge, experience and skills."*
> (Liberati et al 2016, p.31)

The development of MDTs has changed drastically in recent years. MDTs were previously small, doctor-led teams consisting of juniors and assistants but there has been a shift towards larger teams with wider responsibilities and less individual accountability (Carter et al 2003). Gibson et al (2023) recently published study, which involved a survey of GP managers across England, found that skill mix was a driver in addressing challenges to practices such as appointment availability and meeting patient needs. The BMA also noted that a growing trend towards MDTs in healthcare is reflected by the introduction of PAs in the UK's healthcare system (BMA 2017).

Yet working as part of a MDT presents challenges (Carter et al 2003) and MDTs are often viewed as one of the more problematic processes in how patient care is managed in the NHS. To work effectively in an MDT, professionals must have many skills and not only understand their own role within the team but also other roles which can be challenging (Atwal and Caldwell 2006; Langlois and Lising 2020). Difficulties can include team members not working towards the same goals or a team member not completing an assigned task which causes issues for patients (Atwal and Caldwell 2006). Handy (1976) cautioned that the development of teams must balance emphasis on the individual members and the development of the group or risk hindering individual contribution and the formation of professional identities.

Interprofessional team working can generate challenges to effective working from "*professional tribalism*" (Smith and Roberts 2005, p.25). But despite such suggestions, contradictory evidence has demonstrated that HCPs view interprofessional collaboration positively. Weller et al (2011) explored interprofessional interactions and collaborations between junior doctors in their second year, post-qualification and nurses in the hospital setting in New Zealand. From their analysis the authors suggested that both professions did not see themselves in competition with each other and were complementary to patient

care, recognising a shared understanding of each other's role. Whilst both professionals did recognise each other's contribution and value, organisational and cultural barriers were identified. Doctors were often spread across more than one ward and faced rotations every three months which impeded the stability of the team. Also, both the doctors and nurses predominantly identified with their professional teams respectively before their interprofessional team. The authors stressed the importance of the recognition of the role and contribution of team members as helpful to facilitating successful interprofessional collaboration. The associated challenges with MDT working are likely exacerbated when a new professional is integrated.

2.2.2.1 Hierarchies and crossing professional boundaries

Historically, physicians worked in an individual capacity, but are now working as part of groups and in larger organisations. This has allowed for the distribution of care to extend to other professions and disciplines (Cooper 2001). Extending duties means that workers now complete tasks they would not have previously performed. For example, non-physician clinicians carrying out routine tasks which would have previously been undertaken by physicians (Cooper 2001). Reduction in junior doctors working hours from the European Working Time Directive has meant that other health professionals are taking on some of the work traditionally done by doctors (Abraham 2020). Staffing shortages across HCPs has been a major driver for a blurring of disciplinary boundaries (Nancarrow and Borthwick 2005) and daily work is spread across a range of roles (Huby et al 2014).

The boundaries between different professionals can have an impact on working with their counterparts, not only within their profession but for colleagues from other profession groups. This in turn can have implications for patient care (Powell and Davies 2012). The projections of health workforces have traditionally excluded the inclusion of possible interactions between professionals and only considered professionals working independently. This has been recognised as potentially obstructing the development of the requirements of the workforce and new roles for different professionals (Ono et al 2013). Increasing attention on partnership in health care (Hudson 2002) and a shift away from *"uniprofessional"* care (Langlois and Lising 2020, p.61) has arisen from a marked growth in interdisciplinary care and an integrated service agenda where roles between different occupations overlap. This shift can result in traditional professional boundaries being

blurred by the introduction of new roles or changes to existing medical professions (McKimm 2009). Bohmer and Imison (2013) described how 'new' workers can adopt the work of others, considered to be 'old work'. An example of this is GPs expanding their skills in particular areas where there is a growing demand for management and extensive waiting lists; 'GPs with a special interest' are then able to diagnose, treat and manage patients who are not particularly complex, thus removing pressure from other services. These 'new' workers are also able to take on 'new' work, for example genetic counsellors.

In a study of the use of ENPs in an A&E department in a London hospital, interviews were carried out with a range of roles in the department including the ENPs themselves, doctors and senior management. One of the key themes that emerged was the blurring of role boundaries between professionals and the challenges that emerged from this. The medicalisation of the role and threat to the existing medical boundaries was raised by colleagues of the ENPs. There were instances of conflict between the ENPs and other nursing staff when they were asked by the ENPs to carry out procedures for patients that the ENP had seen (Tye and Ross 2000).

Although the status of different HCPs can be complicated to understand, what is generally accepted is that medicine is perceived to be the dominant profession in terms of status (Timmons and East 2011). During the 1960s when the PA profession was in its infancy, it was established that PAs were taking on tasks which once only belonged to the superior domain of medicine (Hooker et al 2017). The medical division of labour is a challenging boundary between physicians and non-physicians (Alaszewski and Meltzer 1979). In Hughes' (1958) work around the division of labour in the medical world, he describes the rigidity of hierarchies. The hierarchy ranking is related to the cleanliness of tasks performed. An example of this is nurses who rise in professional standings as they delegate some of their traditional '*dirty work*' tasks to *'aides and maids'* (in today's context these would be roles such as healthcare support workers or healthcare assistants). Hughes went on to explain that with the given development and rise of medical technology, certain tasks get downgraded. Such tasks are no longer restricted to physicians but could be carried out by nurses (Hughes 1958). In today's NHS it is likely that these tasks would be delegated to other members of the healthcare workforce, including PAs and nurses. This delegation of tasks may save time for doctors but equally it could take opportunities away to carry out

'*dirty work*' (Hughes 1958). Whilst '*dirty work*' tasks may not need the expertise of a doctor, they can still be routine and valuable skills and opportunities to practice these will have been taken away. Role boundary tensions have been observed between PAs and their colleagues, particularly from junior doctors who were concerned that PAs were limiting their opportunities for learning (Taylor et al 2020a). This threat has been further highlighted in Tye and Ross' (2000) study around ENPs. Medical staff showed concern that junior doctors could lose valuable skills in minor trauma management. This was similarly felt by nursing staff who feared losing general A&E nursing skills to ENPs (Tye and Ross 2000). Heymann and Culling (1996) argued that a patient focused approach, whereby fewer staff are involved with patients through expanding skills of non-physician professionals, means that junior doctors will spend less time carrying out routine task, such as taking blood from patients. Whilst this may be of benefit for junior doctor's already constricted time, this could result in the loss of practice in carrying out essential baseline clinical skills. The BMA has also highlighted this concern that some junior doctors may feel a loss of informal learning opportunities if MAPs undertake some of their tasks (BMA 2020a). In Tye and Ross' (2000) study, whilst there was little explicit observed opposition towards the ENPs from the other nursing staff, the study found that in situations where ENPs had asked other nursing staff to carry out tasks for patients that the ENP had initially seen, the request was met with some tacit opposition. Some of the nurses did not feel it was their responsibility to conduct such tasks and expressed that the ENPs should carry out these tasks themselves.

In the Netherlands, the NP and PA professions began practicing in 2001 and 2004 respectively. In more recent years, in an attempt to expand the roles to meet their full intended potential, the Dutch government broadened legislation around PA usage allowing them to become more efficient. Prior to this, Dutch legislation ruled that specific procedures were reserved only for professionals who had the authorisation to perform them (i.e., physicians) and to professionals who may perform such procedures in certain circumstances under direction from those who give direct authorisation. However, it was found that the strict authorization requirement acted as a barrier to task reallocation to PAs and NPs which did not allow for the roles to be utilized to their full potential (Bruijn-Geraets et al 2014). A study conducted in 2014 across six Dutch hospitals employing PAs and NPs found a number of these participants cited issues in the reallocation of tasks. Some of the issues relating to

the reallocation of tasks noted by participants were around organisational and policies and resistance from their doctor counterparts (Zwijnenberg and Bours 2012). The work done in the Netherlands provides evidence that the issue of professional boundaries means that professionals can be hindered from taking on more responsibility in their role not only by structures and policies but also by their doctor colleagues.

Allen's (2001) examination of nursing illustrated how on inpatient wards in hospitals, the boundaries of professional jurisdictions are at times blurred in order for work to be completed efficiently in time pressured, circumstances. Hospital work is notoriously busy, especially around the winter months. Allen described how roles are not always explicitly negotiated between staff in hospital settings due to the *"temporal organisation of their work"* (Allen 2001, p.143). This creates situations in which boundaries are crossed as part of daily work. For nurses this can negatively affect their professional identity and on some occasions violate official boundaries. The doctors however were grateful for the nurses' extended input, relieving some of their pressures (Allen 2001). As described in detail previously, the NHS is currently facing extreme levels of pressure and Allen's (2001) notion that professional boundaries are crossed in busy circumstances is applicable to today's daily functioning across NHS settings, particularly surrounding the unprecedented demands associated with the Covid-19 pandemic. The temporal influence in professional boundaries being crossed however should not precede agreed, permanent jurisdictions for new roles (Maxwell et al 2013).

With more people than ever before employed in diverse roles in healthcare, this presents challenges in terms of hierarchies. Hierarchy has historically always been present in healthcare (Hugman 1991) and traditionally the hierarchical system is between medicine and nursing, but this is now more complex with numerous other professionals working across the NHS. Hierarchical gradients are argued to still exist in healthcare despite efforts to reduce them. This is particularly the case for nurses who are still seen in some healthcare organisations as subordinates to doctors. This in turn can generate steep hierarchical gradients. Steep hierarchical gradients in healthcare can lead to a risk of unintentional harm and therefore serious consequences for patients (Green et al 2017). However, hierarchies within healthcare are often necessary particularly in crisis situations. In these situations,

leadership from experienced Consultants and the ability for junior doctors to be submissive to this is seen to enable effective care for patients (Bould et al 2015).

Laws and policies surrounding medical practice have historically favoured doctors over other medical professions and this was the case for over a century (Hooker et al 2017). Although as the power and strength of the 'paramedical' profession workforce has increased, the issue of boundaries has come to the forefront (Armstrong 1976). Armstrong (1976) further expanded on this and presented the argument that medical hegemony has declined over the years and the medical profession no longer holds dominance over other 'paramedical' professions (Armstrong 1976). Though some have argued that prior to the development of the PA role, the territory of doctors had not been challenged in a serious way (Hooker et al 2017).

The argument has been made that despite the initial acceptance of the medical profession dominance in the NHS' infancy, this has declined in more recent years. Armstrong (1976) contends that medical dominance has been challenged by the increase in the division of medical labour. The introduction of the PA role raised questions around its position in the medical hierarchy (Schneller 1976). Using the PA profession as an example, Schneller explained how the role was designed by a dominant profession (doctors) to whom the new role would be subordinate (Schneller 1976). PAs have an affiliation with and dependency upon their supervising physician and taking on 'physician's work' is negotiated between the doctor and PA (Schneller 1976). Whilst PAs in the UK can be autonomous with appropriate support, they are still dependent practitioners (FPA 2022a). Because of the dependency PAs have on doctors they arguably do not achieve the same level of autonomy as other professionals, nursing for example (Schneller 1976), and this is especially true whilst PAs are unregulated in the UK. PA's practice is limited to the direction of their supervising doctor (Cooper 2001) as decisions/treatment plans have to be agreed by their supervising Consultant/GP. It has been claimed that PAs have an acceptance of their autonomy and believe in "*independence through dependence*" (Ballweg 2018, p.27) and their relationships with their physicians are essential to their practice (Ballweg 2018). However, some have argued that PA's supervision may be from a distance and not constant resulting in their autonomy being more extensive than initially thought (Cooper 2001).

Buch et al's (2008) study exploring the integration of non-physician practitioners (NPPs) into surgical teams generated interesting results. These practitioners (which includes PAs and NPs) and surgical residents[7] were invited to take part in a survey exploring the relationship between NPPs and residents in terms of education and elements of working as a team. The aim of introducing NPPs to the setting in which the study took place was to aid in decreasing residents' workload to comply with working hours regulations and allow more time for residents to spend operating. One of the survey questions asked about the level to which the respondents thought the NPPs functioned in terms of the team hierarchy. Interestingly, 90% of the resident respondents felt that the NPPs functioned at the level of an intern[8] or below but 75% of the NPPs felt that they functioned at the level of a senior resident or above. From this the authors considered that although the residents and NPPs may have been working well together and had a shared view of the role of the NPPs, they did not have a shared consensus about the NPPs' level within the team hierarchy. Similar to other studies conducted examining team work involving new/AP roles, the authors recommended that when the residents rotate and new residents begin working in the department, they are familiarised with the NPPs role and functions to address any misunderstandings. However, of note the study combines both PAs and NPs in the NPP umbrella although they are different professions with different training backgrounds and PAs represented more than half of the NPP respondents (n=20/28). Taylor and Bovis (2020), both of whom were trainee doctors, commented on this research and alluded that making such comparisons is, although insightful, unhelpful for promoting cohesion between the professions. The role of these NPP professions should not necessarily be compared with their doctor counterparts and instead their complementary role should be emphasised. This is in line with other work which has highlighted that PAs are not replacements for doctors but are a complementary team member.

2.3   Becoming a qualified practitioner

In Chapter One, the educational requirements for PAs to practice in the UK were outlined. All PAs will have an existing healthcare background or relevant experience as this is a course entry condition, however, the length of experience will inevitably vary. A medical degree in

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[7] A resident is the US equivalent of a trainee doctor from ST1 to ST9 in the UK.
[8] An intern is the US equivalent of a FY 1/2 doctor in the UK.

the UK typically ranges from four to five years in length, whereas the PA course is only two years but is taught at postgraduate level. The experiences of becoming a NQ practitioner and how well prepared they feel for practice has been widely researched across numerous healthcare professions (Cowpe et al 2020) but has been generally unexplored for NQPAs.

2.3.1   The transition from student to NQ practitioner

Since 2005, NQ doctors have been required to undertake a two-year Foundation Programme on qualification after completing their university course. The programme follows a curriculum involving development of a broad range of skills while rotating between specialties. It provides a 'bridge' from being a student to a NQ doctor (Brennan et al 2010) For NQPAs or PAs who have started in a new specialty, the FPA stated that employers can offer one-year internships. Internships can provide the opportunity for PAs to strengthen their existing skills and knowledge and demonstrate their competence as a qualified practitioner. During this internship period, PAs are supervised more closely and maintain a portfolio of cases and discuss and review cases with their supervising clinician (FPA 2021a). The FPA have developed guidance for employers of NQPAs in their first year. Recommendations for employers include ensuring dedicated supervision time is arranged, identifying existing learning opportunities such as attending procedural clinics and identifying any skills the PA would like to develop over the year. Activities including case-based discussions (CBD) and mini clinical evaluation exercises (Mini-CEX) should be undertaken at regular intervals throughout the year. Employers can also refer to information surrounding how PAs should progress in key areas of their role from the start to the end of their internship (FPA Undated). One of the only pieces of work focusing on NQPAs at the time of this study was Hoskin and Agarwal's (2020) exploration of an internship (though the authors refer to this as a preceptorship) model adopted in general practices in Sheffield. The authors reported that there was a good retention rate following the scheme and attributed this to the PAs overall feeling well supported. But from their findings they also speculated that a lack of support, lack of access to required "*tools*" (Hoskin and Agarwal 2020, p.257) and a lack of PA confidence could inhibit the progress of NQPAs.

For medical students, there is also the requirement to carry out a student assistantship. A student assistantship is a clinical placement which undergraduate students undertake

towards the end of their course to aid their preparation to begin working as a Foundation Year 1 (FY1) doctor. These students are expected to become integrated within their teams and are responsible for carrying out allocated duties with supervision (GMC 2011), a period considered to be "a*cting up*" (Wells et al 2019, p.1) for students. Having this 'hands-on' experience during a student assistantship has been found to contribute to a feeling of preparedness amongst FY1 doctors (Burford et al. 2014; Braniff et al 2016). Final year medical students have also expressed a desire for more responsibility to aid in the transition (Michaelides et al 2020). In the 2012 PA Competence and Curriculum Framework, the FPA outlined that as part of their training PA students will experience professional socialisation specifically in relation to the PA profession codes of practice and working as a HCP. Students who already have a pre-existing healthcare background, are likely to have experienced the broader socialisation of being a HCP and their institution may therefore allow components of the curriculum to be shortened safely. The training programme should still be 68 weeks at a minimum for such students (FPA 2012).

PA candidates from a HCP background, may find their previous experience beneficial to their training. Reedy et al (1980) stated that in the USA, PA students must complete one year of health-related work experience. The PA in their study had two years' experience in a healthcare role as well as other related experiences. A study carried out on the very first UK based PA who was a final year PA student from an American institution and had been placed in a GP practice in England, alluded that because of their prevocational experience they related well to their team members and to their patients. From this finding, a suggestion was made for a similar initiative for healthcare students in the UK which the authors argued would in turn enhance teams (Reedy et al 1980). Contrarily, Darling-Pomranz et al (2021) reported from the results of their small-scale study that having prior clinical experience forming part of PA university course entry criteria does not predict success on the course. Phillips et al (2013) also concluded in their examination of the transition from student to qualified nurse that whilst previous employment was helpful for transition, the type of employment, whether this was clinical or non-clinical, did not seem to have significant bearing on the process. Prior experience as a HCP, as well schemes such as assistantships and preceptorships, may be advantageous but the transition can still be a challenging time for NQ practitioners (Maxwell et al 2011).

Anxiety in NQ practitioners is not uncommon (Van Hamel and Jenner 2015; Brown et al 2021a). The transition from student to qualified practitioner can be an anxious period and could unfortunately hinder professional development in the initial period (Hoskin and Agarwal 2020). Winter-Collins and McDaniel (2000) adopted Kramer's (1974) work on 'reality shock' for newly graduate nurses as a conceptual framework in exploring the experience of NQ nurses. Kramer's (1974) 'reality shock' is defined as the point at which a new graduate finds they are unprepared for a role they have spent many years leading up to and for which they thought they were prepared, eliciting a shocked reaction (Winter-Collins and McDaniel 2000). In Kramer's (1974) work, there are four phases to reality shock of NQ practitioners and in their study Winter-Collins and McDaniel (2000) drew on the first two phases as their cohort of participants were in their first 18 months of working as a qualified nurse. The first phase is the 'honeymoon phase' which involves excitement about having a job as a qualified nurse and the second is the 'shock phase' where NQ nurses realise that they may not meet their goals because of their inexperience which can lead to feelings of depression. Using the Mueller-McCloskey Satisfaction Scale (Mueller and McCloskey 1990) and Hagety-Patusky's Sense of Belonging Instrument (Hagerty and Patusky 1995) in a survey of NQ nurses, they found a strong relationship between how satisfied the NQ nurses were with their job and their sense of belonging. The authors concluded that nurturing workplaces are vital for NQ nurses and employers should invest in ensuring the work environment can provide this. Winter-Collins and McDaniel's (2000) work is discussed further in an upcoming section of this chapter.

Also building on Kramer's (1974) work, Duchscher (2009) developed their theory of 'transition shock'. According to Duchscher (2009), 'transition shock' occurs during the process of a student becoming a qualified practitioner centring around the immediate phase of this shift, typically in the first four months. NQ practitioners can experience 'transition shock' in four ways; emotionally, physically, socioculturally and developmentally, and intellectually. From their conclusions, Duchscher's (2009) recommended that NQ practitioners should receive structured mentoring from more seasoned colleagues to alleviate some of the challenges associated with 'transition shock'. In their work which focused on APs in Paediatric Coronary Intensive Care Units, Gilliland et al (2016) suggested that new members of staff in newly introduced roles should be assigned a mentor. These

mentors should be existing APs who can provide training and doctors who can provide guidance and feedback. They also added that newly appointed APs should receive weekly formal feedback sessions as well as daily informal feedback and training. This suggestion was echoed by Jain et al (2020) who argued that mentoring should take place regularly where the new members of staff can discuss both explicit achievements and reflections. They further believed that mentorship from both experienced APs and doctors can also help facilitate collaboration between professions. Despite initiatives in place to ease the transition from student to NQ practitioner, 'transition shock' can be unavoidable and has been described as an "*overnight transformation*" (Coakley et al 2019, p.704).

Despite concentrating on PA students, a key message from Brown et al (2020) was that there is a lack of role modelling available for student PAs thus negatively affecting their professional identity development. This lack of PA role models led students to look to doctors as role models. This inevitably feeds into their work as a qualified PA and may lead them to behave professionally like to a doctor, and this could be further reinforced by employers and colleagues who have limited understanding of the role of PAs. Hoskin and Agarwal (2020) commented that in their study, that the internship scheme involved an experienced PA who provided mentoring for the NQPAs and referred to this as "*innovative*" (Hoskin and Agarwal 2020, p.257). Unfortunately, there was no discussion around how this positively impacted the experiences of the NQPAs. They did however recommend that peer support would be of benefit to NQPAs and having access to an experienced PA to observe consultations towards the end of their internship.

2.3.2 Preparedness for Practice (PfP)

Everyone, from the healthcare workforce to patients, benefits when NQ professionals are well prepared to start their new roles. But being prepared for practice in today's NHS is more complex than ever before and some would argue that junior doctors may never feel truly prepared for their first job due to the complexity and unpredictability of clinical care (Monrouxe et al 2018). Despite being beholden to following recommendations and criteria, medical training will inevitably vary between universities (Goodfellow and Claydon 2001), and this can create differences in confidence and competency in different components for students dependent on where they study. The PA Curriculum and Competence Framework provides criteria which training providers must meet to ensure the expected standard for

competency for PAs. The FPA has stated however that it does not expect uniformity in the curriculum delivered by institutions as it recognised that each institution will have differing opportunities to offer students as well as constraints (FPA 2012).

The concept of PfP whilst not new (Cowpe et al 2020), can be unclear in definition and how preparedness is measured (Burford and Vance 2014). Cowpe et al (2020) however, following their rapid evidence review, summarised that PfP incorporates clinical competence as well as attitudinal, behavioural and emotional attributes. Thus, numerous studies have evaluated different aspects of preparedness and utilised different methods of assessment with varied findings. In 2014, it was found that only 70% of FY1 doctors felt adequately prepared for their first job (GMC 2014). Using a qualitative design, Monrouxe et al (2018) carried out a study examining NQ junior doctors' PfP. Interviews were held with a variety of stakeholders with the major group being newly graduated (FY1 and FY2) junior doctors. In their analysis, there was a higher number categorised as 'unprepared' than 'prepared' (Monrouxe et al 2018). Burford et al's (2014) study however presented conflicting data. The study involved distributing a questionnaire to FY1s across one area of the UK and achieved a high response rate from students who had trained across various medical schools. Utilising components from the expected outcomes of NQ doctors in the 2009 Tomorrow's Doctors from the GMC (GMC 2009), the respondents reported to feel prepared across most of the outcomes.

In addition to self-reported PfP from NQ practitioners, the perspective of their supervisors and colleagues is of value. Supervisors of NQ practitioners have been found to perceive that the practitioner is *more* prepared than the NQ practitioners themselves think (Mackay et al 2008), although there have been discrepancies observed between what areas the graduates feel prepared for compared to the opinions of supervisors (Tallentire et al 2011). The external perspectives gathered from supervisors has also demonstrated that there is a perception that preparedness varies by medical school (Van Hamel and Jenner 2015).

The outbreak of the Covid-19 pandemic exacerbated any challenges in the transition to qualified practitioner and how prepared they felt for practice. Student HCPs were seen joining the workforce prior to completing their university courses by graduating early (Georgiou et al 2021), working in an alternative role such as clinical assistants (Brown et al 2021b) or being added to temporary registers (Blackburn et al 2021). This was a period of uncertainty and disruption across the NHS and for NQ practitioners, a disruption to an

already challenging period including a loss of formal training and mentoring (Blackburn et al 2021). The impact on university courses and access to learning led NQ practitioners to question how prepared they were for practice (Blackburn et al 2021). Interestingly, Lavender et al (2021) reached conflicting conclusions from the perspective of late stage medical students who were employed as Doctors' Assistants during the pandemic. The respondents reported that this role provided them with learning and development opportunities and contributed to their PfP as a qualified doctor. However, it should be noted that the survey was only distributed across one NHS trust and gathered 32 responses. Blackburn et al (2020), in a survey attracting responses from 714 FY doctors across the UK, reported that three quarters stated they had not been provided with formal training on the obligatory safety processes when dealing with patients with suspected Covid-19. In terms of the expectations of foundation training, almost all (93%) respondents reported that they had not received guidance on how their training would be affected. In a study of 440 final year medical students across 32 medical schools in the UK, over half agreed that they felt less prepared for their FY1 role from the disruptions of the pandemic. Student assistantships are designed to facilitate the transition from medical student to FY1 and are considered to be an integral element of professional development for students, but numerous student assistantship placements were reported to be postponed or cancelled (Choi et al 2020).

2.4   Summary of the relevant literature

This chapter has outlined some the existing literature relating to PAs and other new roles in the NHS (e.g., MAPs). PAs, as well as other new roles have been seen to bring value to their teams and to services facing staffing shortages and pressures, but they have faced resistance from other HCPs and a lack of understanding of their role in the NHS. The NHS benefits from MDTs with a skill mix, but within the teams this can create issues through crossing professional boundaries and hierarchies. Patients have also been found to have a distinct lack of clarity surrounding the role, but overall, have been satisfied with the care they have received from PAs.

Whilst this chapter has detailed numerous studies relating to PAs in the UK, there are some gaps in the literature. This study is also one of the first studies to concentrate entirely on PAs working in Wales and whilst they do not practice differently to their counterparts elsewhere in the UK, there are some differences in their introduction and implementation

(details of this was provided in Section 1.2) which have been previously unexplored. Being a new role to the NHS, the experience of becoming a qualified practitioner has been relatively unexplored for PAs. PfP and concepts such as 'transition shock' have been explored elsewhere but not for PAs in the UK. Therefore, one of the aims of the study is to explore these concepts for PAs (the aims of the study are detailed in the next subsection). Additionally, there has been limited exploration of how internships or preceptorships have contributed to the experience of transitioning from student to qualified PA and this is explored in this study. Methodologically, the review of the existing literature identified that both primary and secondary care settings had not been both included in the same study. The two settings are unique to each other, and the decision was consequently made to include both to allow comparisons. This study commenced in 2019, less than a year before the Covid-19 outbreak in early 2020, and this created an opportunity to explore the impact of the pandemic on the PA profession which had not been investigated elsewhere at the time of this study.

2.5 Aims of the study

The aims of the study centred around the experiences of PAs, particularly NQPAs, their impact on services and teams and how patients respond to their profession. Previous research surrounding PAs has emerged across the UK, however this is one of the first studies to focus specifically on PAs in the context of Wales. The inclusion of both primary and secondary care settings has typically been omitted in previous research with studies focusing on either setting exclusively. This study included participants from both settings to allow an exploration of any similarities or differences between the two. The study aimed to address five questions:

1. What are the experiences of recently qualified PAs: how well prepared do they feel for their role and how do they experience the transition from trainee to qualified PA?
2. What impact do PAs have on service delivery and provision?
3. How well embedded are PAs in the MDT?
4. What are patient expectations and experiences of the PA role?
5. What are the similarities and differences in the experiences and impact of PAs in the primary and secondary care settings?

3 Key concepts and their application

In this chapter, the key concepts that were adopted for this study are described. The key objectives of the study were to explore the experiences of NQPAs, how well embedded PAs are in the MDT and the impact they have on services, and how patients respond. An exploration into any differences or similarities in the primary and secondary care settings is also included. In discussing the findings, role theory, theories about CoPs and legitimate peripheral participation (LPP), as well as sense of belonging were used. In the following sections each of these theories is described and their application in relevant studies is reported. Other key concepts were considered for application in this study which included power and hierarchy and Abbott's work on professional divisions of labour (Abbott 1988). However, as the study and data collection progressed, I determined that role theory, CoPs and LPP and sense of belonging were more applicable to the aims of the study and the subsequent findings.

3.1 Role theory

Role theory has been seen across different disciplines but is prevalent in the social sciences (Biddle 1986). Biddle (1979) defined role theory as:

> *"…concerned with the study of behaviours that are characteristic of persons within contexts and with various processes that presumably produce, explain, or are affected by those behaviours."* (Biddle 1979, p.4)

In short, role theory explores behaviours within contexts and processes that affect such behaviours (Biddle 1979). Patterns of behaviour, expectations, identities and relationships are all features of inquiry when utilising role theory (Biddle 1986; Willcocks 1994). Role theory can be a useful approach in examining roles in healthcare (Brookes et al 2007) and has been used when exploring pre-existing and extended roles, for example prosthetists (Mackenzie et al 2020), pharmacists (Sabater-Galindo et al 2017; Nørgaard and Sporrong 2019; Taylor et al 2020b) and nursing (Brookes et al 2007). Nørgaard and Sporrong (2019) advocated for the use of role theory to gain a better understanding of what roles are already being undertaken and what areas need development to achieve the desired role. Role theory seems to have been limited in its application to new healthcare roles although elements of role theory have been identified in previous studies (Spilsbury et al 2009),

including UK based PA studies (Drennan et al 2017; Hoggins et al 2018; Drennan et al 2019a; Brown et al 2020). Role theory is a compilation of different concepts (Conway 1988). Biddle (1986) expanded on their initial work and outlined five sub areas of role theory: functional, symbolic interactionist, structural, cognitive and organisational. For the purposes of this study, the focus will be on the consideration of organisational role theory.

Organisational role theory considers an individual's role within an organisation and how the role can affect the individual. Within organisations, roles signify the expectations of both individuals and the organisation and can "*tie the individual to the organisation and the organisation to the individual*" (Schuler et al 1977, p.111-112). Systems which concentrate on the completion of tasks, which are planned and hierarchical, gain the attention of organisational role theorists (Biddle 1986). Roles within organisations are usually formally set out, static and pre-defined (Katz and Kahn 1978). Roles are the outcomes of expectations generated from possible organisational demands as well as informal groups (Biddle 1986). Those who work with the role holder, the professional being examined, are dependent upon them in some way and because of this, they hold beliefs in what the role holder should and should not do - the role expectations (Handy 1976; Katz and Kahn 1978). The expectations of roles can be developed formally, for example through official documents such as job descriptions (Kerr 1978; Mackenzie et al 2020) and informally through identified needs in the workplace and within peer interactions (Kerr 1978). The role of an individual can signify the expectations set (Schuler et al 1977) and these expectations can develop through role holder interaction with others around them; their role set (Hardy 1988). Staff who are high in the organisational hierarchy can also indirectly influence the role by making choices surrounding the formal division of labour (Katz and Kahn 1978). Role holders should be assigned tasks or duties in line with the organisation, the role itself and what it entails should be formally defined - the process of 'role sending' (Katz and Kahn 1978). This allows role senders, those who establish the role for the role holder, usually management staff, to hold the relevant role holder accountable for the set tasks or duties. Kahn et al (1964) stated that in the design of a study the perceptions of role senders as well as the role holder should be examined. In the context of this study, PAs are the role holders and their team members, management staff and patients are their role senders.

Using organisational role theory, Mackenzie et al (2018) developed their Prosthetist Role Expectations Scale which was used to assess the expectations for clinical prosthetists from various stakeholders in Australia (Mackenzie et al 2020). The stakeholders or 'role senders' included other HCPs who worked regularly alongside clinical prosthetists and patients. Overall, 299 survey responses were analysed with patients making up the largest response group. The authors found that the stakeholders agreed on most of the areas covered in the scale with only a few areas having conflicting expectations (Mackenzie et al 2020). Whilst this is an example of consensus in role expectations between role holders and role senders, a lack of role expectations can result in role holders facing hesitancy and uncertainty surrounding what they are expected to perform (Kahn et al 1964; Rizzo et al 1970). Although organisational role theory offers a valuable theoretical framework for researchers, Biddle (1986) did refer to the limitations. These included a lack of recognition that organisations are not permanently stable, conflicts are usually role conflicts which can be settled and the inclusion of roles which are not based on standardised expectations.

The following subsection discusses an area of role theory pertinent to introducing new roles and this study: role ambiguity.

3.1.1   Role expectations, ambiguity and conflict

The notion of role ambiguity sits under the umbrella term of role stress; also included is role conflict, incongruity, over/underload and incompetence (Hardy and Hardy 1988). Role ambiguity has been an issue observed across a breadth of literature originating from both role theory and classical organisation theory (Rizzo et al 1970). Role ambiguity is the result of inconsistencies between the information available to a role holder about the role and what they are required to do (Kahn et al 1964). Role ambiguity can occur in two forms: objective or subjective role ambiguity/clarity. The former refers to the availability or quality of role information and the latter refers to the amount of information an individual perceives they have (Lyons 1971). Role ambiguity can extend beyond the role holder themselves to the role senders (Kahn et al 1964). Role expectations holds the assumption that there is agreement regarding the activities of the role holder from the role holder themselves and those relevant around them (Katz and Kahn 1978). However, role expectations can be conflicting between parties; the role holder may have a different set of expectations for their role and associated behaviour than their colleagues and again from

their management staff. This can then result in difficulties defining the role (Kerr 1978) and this could in turn cause variance in expectations between role holders and role senders.

Kahn et al (1964) developed a theoretical model of the processes of a 'role episode'. A 'role episode' is the process by which tasks are assigned by a role sender to a role holder. The causal cycle begins with role senders maintaining expectations of what tasks/behaviours the role holder should perform. This leads to role pressures being placed on the role holder and there may be some ambiguities that arise here. Figure 2 details the process of a role episode.

Role sender		Focal person/Role holder	
Experience	Response	Experience	Response
• Role expectations • Perception of focal person's behaviour • Evaluation	• Role pressures • Objective role conflict • Objective ambiguity	• Psychological conflict • Ambiguity experienced • Perception of role and role sender	• Coping efforts • Compliance • Symptom formation
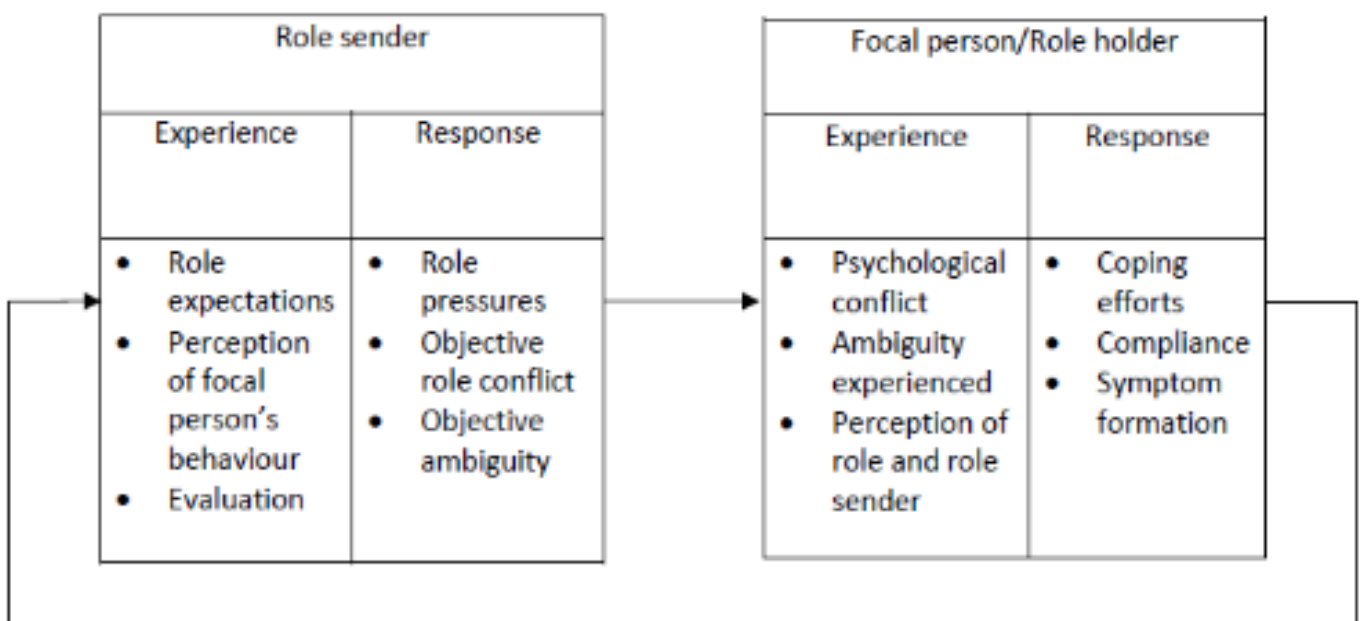
Figure 2: Kahn et al's (1964) organisational 'role episode' cycle

Conflicts in organisations can arise from varied expectations in responding to organisational demands or informal pressures from groups (Biddle 1986). Role conflict can be defined as "*a condition of incompatible sent roles to the [role holder]*" (Schuler et al 1977, p.112). Kahn et al (1964) suggested that while ambiguity and conflict are sources of stress independently, they do share some common grounds. Varied expectations between role senders can create confusion for the role holder and conflicting pressures. This could be amplified further if the role holder is also unclear about their role. Evidence has suggested that role ambiguity and conflict can lead to reduced job satisfaction (Johnson and Stinson 1975) and when ambiguity and conflict are combined this can generate stronger tensions (Kahn et al 1964). One of the consequences of role ambiguity in organisations is negative attitudes towards newly

introduced roles who have not received a clear definition and set objectives (Williams and Sibbald 1999; Lloyd-Jones 2005). Kahn et al (1964) noted that when role ambiguity occurs, the outcome can be similar to that of role conflict, whereby tensions arise between parties (Katz and Kahn 1978), although it is also worth noting that some will respond to role ambiguity and/or conflict better than others (Kahn et al 1964; Johnson and Stinson 1975). Authors have stressed the importance of role clarity to aid in advancing professions and effective collaboration with other members of the healthcare team avoiding potential role conflict (Taylor et al 2020b).

Healthcare faces ongoing changes to organisational structures in order to meet changing needs. In response to this, role expectations can be reallocated and/or new professionals introduced. Ambiguity is unfortunately a by-product of these changes until the roles are well established (Hardy and Hardy 1988) The introduction of new roles can lead to uncertainty (Handy 1976; Schneller 1976; Martin and Hutchinson 1999) in terms of defining the role and its boundaries (Read et al 2001; Read et al 2004; Griffin and Melby 2006; Lathlean 2007). A lack of clear development pathways can generate confusion for new professionals and difficulties in differentiating themselves from other professionals (Jain et al 2020). When workforce redesign takes place, clarity needs to be provided around roles and responsibilities for workers (Bohmer and Imison 2013). Handy (1976) emphasised the importance of managing ambiguities by setting clear role expectations with new roles. Integrating new professions into teams with a clear understanding of the role is vital as Simone et al (2016) stated *"…the monetary and emotional cost of orientation coupled with the cost of turnover can prevent success."* (Simone et al 2016, p.62).

3.2 A sense of belonging

A sense of belonging has traditionally been associated within the domain of mental health and considered in relation to psychological impact (Hagerty et al 1992; Baumeister and Leary 1995). Examples of this include the relationship between belongingness and depression (Cockshaw and Shochet 2010; Cockshaw et al 2013; Cockshaw et al 2014) and the relationship between belonging and well-being for those exposed to trauma in the workplace (Shakespeare-Finch and Daley 2017). To feel a part of something and have a sense of belonging has been described as a natural, basic and fundamental human need embedded within evolution (Baumeister and Leary 1995). The benefits of belongingness as

well as the potential emotional, physical and behavioural consequences of lack of exposure to belonging have been widely reported (Levett-Jones et al 2007a). A lack of belongingness is associated with a variety of negative effects including increased stress and difficulty with adjustment to new situations (Hagerty et al 1992; Baumeister and Leary 1995).

Hagerty et al (1992) offered their definition of a sense of belonging built on previous definitions as *"…the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment*." (Hagerty et al 1992, p.173). Hagerty et al (1992) outlined two characteristics and three precursors that a person must possess to experience a sense of belonging shown in Figure 3.
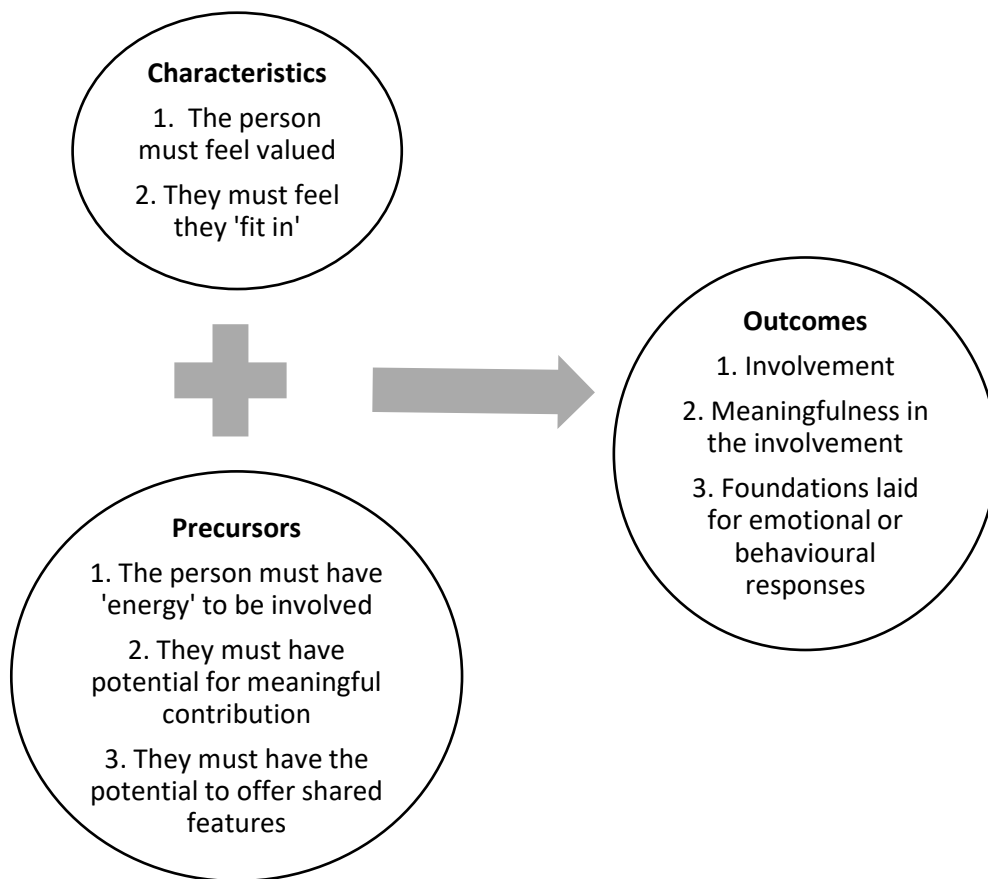
Figure 3: Hagerty et al's (1992) sense of belonging framework

Building on this comprehensive work by Hagerty et al (1992), Baumeister and Leary (1995), following a review of existing literature around belonging, proposed that there are two key features to the need to belong. The first is that individuals need to have ideally positive frequent contact with others (there may be negative interactions but generally these need to be positive) and secondly individuals must feel a stable bond with others which will be

ongoing (this ideally will also be reciprocal). The strength of relationships between individuals in turn influences their sense of belonging (Winter-Collins and McDaniel 2000). Levett-Jones and Lathlean (2008) have supplied much work examining belongingness specifically with nurses and nursing students. They used their interpretation from their mixed methods study examining nursing students' belongingness to develop their perspective of belongingness. When experiencing belongingness an individual will feel "*a) secure, accepted, included, valued and respected by a defined group, b) connected with or integral to the group and c) that their professional and/or personal values are in harmony with those of the group.*" (Levett-Jones and Lathlean 2008, p.104). Their definition echoes Hagerty et al's (1992) definition and precursors for a sense of belonging. Further work carried out by Levett-Jones and Lathlean will be discussed in detail shortly. Previous studies have also found that a sense of belonging can have a positive impact on learning, motivation and confidence (Grobecker 2016).

3.2.1 Belonging in the workplace

This section has so far offered a background and definitions of belongingness. In their definition of belongingness detailed earlier, Hagerty et al (1992) went on to clarify that a system can include organisations, thus could be applicable to organisations such as the NHS. Kirkpatrick and Ellis (2003) suggested there are four distinct groups which individuals strive to maintain relationships in; Leary and Cox (2008) further added a fifth. One of the four suggested by Kirkpatrick and Ellis (2003) was an instrumental coalition, a group in which individuals come together to achieve shared objectives. This today this can take the form of teams and work groups (Leary and Cox 2008; Cockshaw et al 2013). Cockshaw and Shochet (2010) devised a distinct definition of 'workplace belongingness'. This 'workplace belongingness' involves similar outcomes of a general sense of belongingness as identified by other authors, feelings of acceptance, respect, and inclusion, but in the context of an organisational environment. This is context specific and therefore distinctive from general belongingness (Cockshaw et al 2013).

McClure and Brown's (2008) phenomenological inquiry involving 12 participants across a range of ages and professions provided an opportunity for the participants to tell their stories and experiences of work. The phenomenological approach allowed participants to divulge what was of importance to them and therefore allowed the researchers to explore

this in further depth, though the authors did note that it is not completely possible to remove researcher preconceptions. From their results, McClure and Brown (2008) generated six 'constituents', or themes, which contribute to belonging at work. The authors described how the participants move along each of the constituents using the analogy of "*stops along a journey*" (McClure and Brown 2008, p.10). The constituents are outlined in Table 4 below.

Table 4: McClure and Brown's (2008 p10-14) constituents for belonging in the workplace

'Constituent'	Meaning from participants
1. Being invited and learning to be a part of a workplace	Without being invited there is a lack of depth to the sense of belonging.
2. Connections with colleagues and inclusion	Participants 'feeling at home' with their colleagues and in their work environment and the importance of building trust.
3. Being recognised for doing work	Feeling valued and providing a contribution to their work.
4. Competing at work and exclusion, 'natural selection'	People are complex and sometimes there will be 'battles' where one will be 'wounded', but the importance of learning from these 'battles' and to feel belonging, you must know what *not* belonging is.
5. Being needed in the workplace and being deeply involved in profession	Professional belongingness, participants reaching a depth with their work, being 'in' the work.
6. Reflections on work	In exploring the importance of belonging at work, there was some caution and participants questioned how essential belonging at work really is and that it can be transient.

As well as the qualitative studies like McClure and Brown's (2008), different approaches to explore and evaluate belongingness have been employed. Methods have been designed to quantitatively measure general belongingness such as the Sense of Belonging Instrument developed by Hagerty and Patusky (1995) and for the workplace context, the Psychological Sense of Organisational Membership developed by Cockshaw and Shochet (2010). Although data produced via these means will be of interest and generate useful conclusions, some

would argue they will not have the richness of qualitative data as belongingness is a deeply personal experience and will vary between individuals (Sedgwick and Yonge 2008).

An example of adopting the Sense of Belonging Instrument in the workplace context for data collection is Winter-Collins and McDaniel's (2000) study examining NQ nurses' job satisfaction and sense of belonging. The Sense of Belonging Instrument was relatively new at the time of the study and since then some alterations were made to the instrument. Job satisfaction was measured using the Mueller-McCloskey Satisfaction Scale (Mueller and McCloskey 1990). The study sample of NQ nurses was relatively small, 95 of those who returned postal questionnaires met the inclusion criteria and were mainly working in hospitals. This study found that there was a strong relationship between a sense of belonging and job satisfaction. Satisfaction with the respondents' colleagues received the highest satisfaction rating. The authors examined the length of the nurses' induction programme and found that it did not significantly correlate with sense of belonging. They determined that the quality of interaction with colleagues influenced their sense of belonging more than the quantity of interaction. A key point raised in Kramer (1966) study of NQ nurses which supports this was that almost all the nurses who had moved jobs within the first three months of qualifying, regarded their initial induction negatively. This perhaps highlights the importance of the induction process for new starters, in welcoming them to their new place of work and team.

Previous studies surrounding the concept of belongingness have examined students' perceptions of belongingness and experiences of clinical placements, particularly for nursing students (Kramer 1966; Levett-Jones et al 2007a Levett-Jones et al 2007b; Levett-Jones and Lathlean 2008; Sedgwick and Yonge 2008; Grobecker 2016). Whilst the benefits of belongingness include the psychological impact including feelings of happiness, satisfaction and comfort (Levett-Jones and Lathlean 2008), as described earlier, the benefits of belongingness can go beyond the immediate gratification for an individual. Healthcare staff are expected to work within teams on a regular basis and if professionals lack a sense of belonging and feel alienated this could affect their work and working within a team setting. The participants of the study presented by Levett-Jones and Lathlean (2008) highlighted how their belongingness impacted on their motivation to learn, one participant stated that when they feel welcomed into a setting and they feel wanted then they are motivated to do

well. Interactions between students and team members can positively or negatively impact belongingness (Sedgwick and Rougeau 2010). Experiencing belonging and feeling part of a team could in turn affect student learning (Levett-Jones et al 2007b), if they lack a sense of belonging within a team their ability to develop their skills for 'real world' work could be hindered (Vinales 2015). A deficiency in belongingness and subsequent focus on attempting to 'fit in' can negatively impact opportunities for students to be involved in experiential learning during placements. One outcome when students are welcomed and experience belonging is having confidence to be able to ask questions to gain further information or clarification and negotiate learning (Levett-Jones and Lathlean 2008). These studies highlight that a sense of belonging while on placements is of paramount importance to the learning process for healthcare students. What can be learned in a clinical placement is in a real life context and this cannot be replicated in a classroom/lab setting (Levett-Jones and Lathlean 2008).

The conclusions could extend to NQ practitioners commencing their first job or experienced practitioners moving into a new area (Brown et al 2008). Additionally, nursing is an already established profession, so it could be possible that nursing students may find it easier to establish belongingness compared to newer professions. Halse et al (2018) identified that a sense of belonging is more challenging to achieve for new professions, and supervisors need to have a sound understanding of the profession. Winter-Collins and McDaniel (2000) in their conclusion emphasised the importance of providing mentoring and the nurturing of new professionals. This allows them to better identify with their work settings and this in turn can lead to more satisfaction with their role. This is also supported by Vinales (2015) who emphasised that mentors need to play a significant part in fostering belonging in a team for students.

Awareness from existing staff can act as a vital role in the smooth and successful integration of PAs into the NHS workforce which can start with PA students. The GMC has outlined that final year medical students must undertake shadowing of the FY1 doctor whose post they will fill when qualified (GMC 2020). In a study examining the transition period for junior doctors in August each year, almost 85% of participants felt that shadowing was an effective means of induction and 74% stating that the use of shadowing should be used more in inductions (Vaughan et al 2011). In the context of PAs, members of the team would be able

to have the opportunity to further understand the PA role and have any doubts resolved before the PA starts working in their team.

3.3 Communities of Practice (CoPs)

HCPs are regularly bound to work according to their set professional standards or 'standard operating procedures'; set procedures for professionals to work within. But the dynamic and everchanging nature of healthcare means that professionals need to adapt to changes, for example in carrying out new procedures, changes to equipment and the need to improve productivity. In addition to the pre-existing knowledge derived from 'standard operating procedures', the development of further knowledge can be gained from CoPs (Jørgensen and Edwards 2017). Coined by Lave and Wenger (1991), the concept of CoPs has developed over time and has been subject to interpretations (Li et al 2009). Wenger et al's (2002) definition of CoPs is drawn on here:

> *"…groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis… These people don't necessarily work together on a day-to-day basis, but they get together because they find value in their interactions. As they spend time together, they typically share information, insight, and advice. They solve problems. They help each other… Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches. They also develop personal relationships and established ways of interacting. They may even develop a common sense of identity. They become a CoP."* (Wenger et al 2002, p.4-5)

CoPs can be seen throughout society; in schools, workplaces and groups undertaking activities, though are often not visibly obvious (Wenger et al 2002). A CoP is not just another term for a team or group nor is its membership based on being in a category or belonging to a group or organisation (Wenger 1998). Ranmuthugala et al's (2011) systematic review of CoPs in healthcare identified that there were numerous ways and reasons for their establishment. Whilst some were formalised and part of management initiatives, some were organic and not formally identified. This supports Wenger et al's (2002) notion that CoPs can organically occur within organisations, and they are sustained by their members' engagement. However, for some the organisations may need to 'provide assistance for the seeds to grow'. Because they are often organic and informal, this can also impede their

growth and sustainability as they are not subject to formal supervision from the organisation (Wenger and Snyder 2000)

CoPs are different to other existing structures like teams in the workplace (Wenger and Snyder 2000; Wenger-Trayner and Wenger-Trayner 2015). Teams involve a selection of members based on their contribution to the completion of a set task and can be disbanded once the task is complete (Wenger and Snyder 2000), though this might not be the case across all organisations. Healthcare has a constant influx of patients so once the tasks for one patient is complete, the team moves onto the next one. The characteristics of CoPs vary between authors and even in the development of Wenger's work. According to Wenger's (1998) work, a CoP has three characteristics: mutual engagement, a joint enterprise and a shared repertoire. This was then revised later to domain, community and practice (Wenger et al 2002) and took more of a managerial stance (Li et al 2009). Delgado et al (2021) proposed a fourth characteristic adding to Wenger's (1998) three key characteristics: practical wisdom. This involves members sharing a combination of their experiences and their reflections on the experiences. Practical wisdom is gained with professional experience rather than through formalised training. The concept of CoPs has been used for various purposes, but its foundations are in learning theory (Wenger-Trayner and Wenger-Trayner 2015) which is discussed in the next subsection.

Aside from the seminal works predominantly by Lave and Wenger, authors have since more specifically drawn on the characteristics of CoPs within healthcare settings (Ranmuthugala et al 2011; Delgado et al 2021). CoPs have been described as an *"incubator"* (Kothari et al 2015, p.1) for sharing learning, experiences and best practice in healthcare (Kothari et al. 2015). Knowledge exchanging can facilitate an understanding of each other's perspectives and roles as well as contribute to the building of personal relationships, thus fostering a sense of belonging (Li et al 2009) and a sense of identity (Wenger et al 2002). Ranmuthugala et al (2011) conducted a systematic review of CoPs in the healthcare setting which examined two intensions of CoPs across the literature: for learning and knowledge exchange and sharing evidence-based practice. Delgado et al (2021) criticised Ranmuthugala et al's (2011) healthcare CoP characteristics as being broad and not specific to healthcare and provided their own list of healthcare CoP characteristics compared to other settings which

are useful to the context of this study. Delgado et al's (2021) characteristics and

descriptions, including proposed additions, are detailed in Table 5.

Table 5: Characteristics of healthcare CoPs according to Delgado et al (2021, p.5)

Characteristic	Description
Purpose	Knowledge sharing, improving clinical practice *Proposed*: To address ethical issues
Outcomes	Development of local policies, quality improvement in care *Proposed*: Improved collective moral resilience
Domain	HCPs committed to providing quality care and improving well-being for colleagues
Community	Sharing information through activities and discussions, sharing experiences

Practice	**Joint enterprise –** Members accomplishing tasks regularly, with work in common and can see larger picture.
	    o Healthcare CoP: patient care improvement, promoting resilience
	
	Mutual engagement – Members interacting when completing work, clarifying the work and how it is done. Identity is also established.
	    o Healthcare CoP: address systems and culture
	
	Shared repertoire – Members have commonalities in techniques, language and tools.
	    o Healthcare CoP: Limited resources and high demands, providing patient centred care
	
	Proposed: **Practical wisdom –** Sharing experiences and reflections with members which is not found during training
	    o Initiating understanding of abilities of self, others and of the problem.

The theory of CoPs has also been applied to the development of professional identity.

Brown et al (2020) utilised the theory of CoPs in their study examining the formation of

occupational identity of PA students in the UK. The study included a sample of 19 first- and

second-year PA students from two universities in North England in their third and fourth

year of establishment. The authors referred to the locations of the universities as "*PA naïve*"

(Brown et al 2020, p.3) meaning the trusts and general practices had limited exposure to the

PA profession. This 'naivety' was drawn on by several of the participants who gave examples

of being identified by other staff incorrectly with participants also experiencing negativity

from staff. PA students were often referred to as medical students. All the participants felt

that having staff correctly recognise their role was desired for the development of their

professional identity. In their discussion, the authors alluded that without recognition from team members, PA students would not be fully integrated into their CoPs thus negatively impacting their professional identity as their role would continue to be misunderstood.

Delgado et al's (2021) work was carried out in the context of the Covid-19 pandemic when the CoPs theory was used to build moral resilience during the pandemic. The pandemic created situations triggering moral distress for HCPs; situations where moral judgement is present but external factors obstruct activity being carried out, for example staffing or resource shortages (Delgado et al 2021). Delgado et al (2021) offered a theory that moral distress can be supported and explored by CoPs. The connection between members as a result can in turn provide practical wisdom, the fourth suggested characteristic of practices in a CoP.

According to one of Wenger's (1998) three characteristics, membership within a CoP is reliant on mutual engagement and inclusion in activities that matter. What makes engagement in a CoP possible is not just homogeneity but diversity among members. When working together, similarities as well as differences of the CoP members can be distinguished; members can discover shared means of carrying out activities as well as becoming recognised and specialised in certain areas. A member can gain a unique identity and become a unique part of the CoP. Whilst professionals with different roles work together and provide complementary contributions to their CoP, it is not unusual for their contributions to also overlap with others. Hörberg et al (2019) found in their study examining NQ nurses working in an emergency setting, mutual engagement amongst team members was affected by ambiguities surrounding their role; from their colleagues as well as themselves. The nurses were often working with different colleagues who had differing levels of understanding or experience of the nurses in the service. There were reports of conflict or a lack of cohesion within the teams.

In more recent years, virtual CoPs have developed. CoPs have been seen to provide support to practitioners who may be the only one working in an area (Sawchenko 2009) and virtual CoPs may be a valuable resource for clinicians working in rural areas by reducing professional isolation and opportunities to share knowledge (Cassidy 2011; Barnett et al 2016). Virtual CoPs can include discussion boards which have been found to identify a standard of best practice (Curran et al 2009) and with the widespread use of social media,

platforms such as Facebook and Twitter, can be used for interacting (Ikioda et al 2014). Whilst CoPs may have operated predominantly in-person prior to the Covid-19 pandemic, having access to virtual CoPs would have been significant for HCPs (Mills et al 2020; Delgado et al 2021).

3.3.1 Situated learning and Legitimate Peripheral Participation (LPP)

Learning has been considered to be both a cognitive and social process (Handley et al 2006). The theory of social learning focuses on participation; actively engaging in the practices and forming their identities within communities (Wenger 1998). In terms of learning, CoPs allow its participants to share information and facilitate the understanding of new knowledge (Li et al 2009). An effective CoP can facilitate the sharing of successes and challenges (Sawchenko 2009) and create an environment of encouraged shared learning (Le May 2009). This is particularly valuable for supporting NQ practitioners entering a new role (Li et al 2009; Sawchenko 2009). Rather than formalised learning processes, learning is informal based within social interactions (Cox 2005).

Being a member of a CoP allows for learning to take place through participation (Fuller et al 2005; Handley et al 2006). Lave and Wenger's (1991) work centred around apprenticeships and the process in which 'newcomers' become 'old-timers' through LPP. The process involves the 'newcomers' moving from the periphery to the centre of a CoP, thus becoming more engaged in the activities (Hay 1993) which is a significant part of the LPP process (Cope et al 2000). LPP should involve the 'newcomer' engaging fully in a practice with the involvement of an 'old-timer' and not leaving the 'newcomer' to only do menial tasks, Spouse's (1998) examples of this were simple tasks such as temperature taking. According to Lave and Wenger (1991), the construction of identity is part of the situated learning process. They insisted:

> *"…learners must be LPP participants in ongoing practice in order for learning identities to be engaged and developed into full participation."* (Lave and Wenger's 1991, p.64)

Being part of a CoP goes beyond gaining knowledge; it contributes to the formation and changing of identity (Lave and Wenger 1991; Handley et al 2006; Pyrko et al 2017). As participation in a CoP changes and a 'newcomer' moves away from the periphery and

becomes more engaged in the CoP (Hay 1993), so does identity; a 'newcomer' becomes an 'old-timer' (Lave and Wenger 1991).

For LPP to take place, 'newcomers' must have access to what the CoP they are joining entails and to become a part of the CoP they must also have access to 'old-timers', information and the opportunity to participate (Lave and Wenger 1991). Learning through peripheral participation has been deemed valuable for newcomers in practice when there are accessible 'old-timers' who are willing to offer help (Terry et al 2020). The absence of 'old-timers' providing support and mentoring to 'newcomers' hinders learning via LPP (Spouse 1998). Morrow et al (2012) contended that PfP amongst NQ doctors may be enhanced through more LPP prior to commencing the "*realities of the work of a new doctor*" (Morrow et al 2012, p.130).

Fuller et al (2005) critiqued Lave and Wenger's (1991) work stating there was a lack of consideration that 'newcomers' may be existing 'old-timers' from somewhere else. Fuller et al (2005) detailed the experience of one of their participants who whilst was an 'old-timer' in professional experience, they had also become a 'newcomer' when joining a new workplace. They did note though that Lave and Wenger stated "*everyone's participation is legitimately peripheral in some respect…everyone can to some degree be considered a 'newcomer' to the future of a changing community*." (Lave and Wenger 1991, p.117). This point may be relevant to experienced PAs joining a department where they are the first PA employed.

3.4   Summary

This chapter presented the three key concepts that have been drawn on in this study: role theory, sense of belonging and CoPs. These concepts were selected based on their pertinence to the study and the research questions as detailed earlier. Role theory, particularly organisational role theory, offers a lens to explore the introduction of and impact PAs have on services and in the MDT. Applying a sense of belonging and CoPs allows an exploration of the embedding of PAs and collaborations within the MDT at the micro level. The next chapter (Chapter 4) presents the methodological approach and design for this study.

4 Methodological approach and design

This chapter presents and justifies the approaches and methods utilised to address the aims of the study. The first section of this chapter begins with an outline of the philosophical foundations of this study before moving on to explain how this influenced the design of the study. The design of the study is outlined including a discussion around the three parts of the research: case studies, the All-Wales PA questionnaire, and one-off interviews. This is then followed by the data collection methods implemented to best answer the research questions outlined earlier within the study's design. This research can be considered a mixed method study as both interviews and questionnaires are used as data collection tools, and this will be discussed in detail. Following this, a description of the ethical considerations and procedures is presented. An overview of the participants from each part of the study is then provided. Finally, how both the qualitative and quantitative data were analysed is outlined and issues surrounding rigour (particularly in qualitative research) are discussed.

4.1 Philosophical assumptions

Philosophical foundations influence the research design and subsequent methodological approach (Huff 2008). The philosophical positioning is guided by ontological assumptions, that is views about the nature of reality, and epistemological assumptions, how we as humans gain knowledge of the world (, (Brannen 2005; Pope and Mays 2006; Blaikie 2007; Creswell and Poth 2018).

Positivism is underpinned by an ontology that the world can be measured and measured objectively following the principles of the natural sciences (Blaikie 2007; Bowling 2014; Alexander et al 2016; Flick 2018). According to Gillham (2000) those who adopt a positivist approach reject subjective phenomena and focus on observable phenomena. Some who adopt this general positivist position assume that the methods and analysis of collecting data in the natural sciences can also be applied to the social sciences. When taking this position in social research there is a commitment made towards measurement and objectivity rather than interpretation (Flick 2018). For this reason, those who subscribe to the positivist paradigm primarily conduct quantitative research (Tashakkori and Teddlie 1998; Yardley and Bishop 2017). However, some social scientists have rejected the positivist philosophy. Whilst one of positivism's main concerns surrounds objectivity, this omits

individual experiences and the complexities of the social world. An over-reliance on quantitative research and thus statistical measures can lose meaning associated with the data (Rubin and Rubin 2005). Others critique positivism for omitting the understanding of *"underlying mechanisms",* instead focusing more on *"superficial facts"* (Bowling 2014 p.153).

The contrasting position of constructionism rejects the positivist paradigm. It is of note that the terminologies used for this opposing position vary and overlap between interpretivism, constructionism and 'naturalistic' approaches. Whilst there are differences between the terminologies, they are sometimes used interchangeably and have shared foundations (Schwandt 1998). For the purposes of this thesis, I will refer to the term constructionism. Constructivists hold the belief that meaning is constructed rather than discovered (Lincoln and Guba 2013) and to gain understanding of phenomena, the social world needs to be interpreted (Schwandt 1998). The ontological assumption is that the world cannot be measured objectively as positivists hold, instead reality exists individually and subjectively (Lincoln and Guba 2013). Constructivism is predominantly concerned with subjective, individual contexts and experiences (Schwandt 1998). Research of this nature cannot uncover a single reality but instead uncover interpretations of the world i.e., participants offer their interpretation and researchers then interpret this. The paradigm holds that what we study in the social world is the *"…social products of the actors, of interactions and institutions."* (Flick 2018, p.36). Thus, social processes, events and cultural norms can create subjective meanings of the world (Creswell and Poth 2018). Burr (2015) contended that:

> *"Knowledge is therefore seen not as something that a person has or doesn't have, but as something that people create and enact together."* (Burr 2015, pp.11–12)

Fulop et al (2001) considered the difficulties faced by researchers examining health services in terms of philosophical paradigms. Questions have been raised around whether the findings from a study adopting a constructivist paradigm would be generalizable and applicable to other settings (Fulop et al 2001). The paradigm also arguably introduces elements of bias. The researcher places their own interpretations on the data stemming from their own pre-existing dispositions and experiences. Using interviews as an example, Walker et al (2013) highlighted that the researcher has social interactions which in turn can affect the data collected compared to alternative methods such as questionnaires which

would not be affected by this. However, remedies can be applied to improve the quality of the data which will be discussed in a later section. Constructivism can draw the criticism of lacking in objectivity compared to positivism (Crotty 1998), but it does not seek objectivity.

Researchers need to consider the logic of enquiry which they will adopt for their research (Blaikie 2007). There are two major approaches generally applied: deductive and inductive reasoning. If a researcher adopts a deductive approach their research is informed by a pre-existing theory (Rowley 2014) which they can aim to prove or disprove (De Vaus 2014). The deductive approach is typically, but not always (Blaikie 2007), employed by researchers adopting a positivist positioning collecting quantitative data (Johnson and Onwuegbuzie 2004). The inductive approach is traditionally associated with qualitative research (Johnson and Onwuegbuzie 2004; Teddlie and Tashakkori 2009), though qualitative research can occasionally employ a deductive logic (Brannen 2005). The constructionist paradigm generally takes an inductive approach with theory being generated from data rather than having *a priori* theoretical viewpoint and searching for data to prove or disprove a pre-determined theory (Guba and Lincoln 1982; Fulop et al 2001; Mabry 2008). Having theory *a priori* can restrict the inquiry and can lead to biases in what data is collected and how it is analysed. As (Gillham 2000) states:

> *"Research is about creating new knowledge…The raw material of research is evidence, which then has to be made sense of."* (Gillham 2000, p.2)

But despite intentions to adopt an inductive approach to research, Handy (1976) asserted that a true inductive approach was not necessarily possible. According to Handy, researchers *"…are very prone to the sin of selective perception."* (Handy 1976, p.68) and because of the volume of data often collected, researchers will discount things that do not reinforce what they expect to find.

This mixed methods research is underpinned by a constructivist epistemology and did not intend to prove or disprove existing theories, therefore a deductive approach was not deemed appropriate. Instead, a generally inductive, 'bottom-up' approach was applied, suiting a study which is constructionist in nature and predominantly qualitative. The constructivist approach aligns with qualitative research (Yardley and Bishop 2017) and although this research adopts a mixed methods approach, it is *predominantly* qualitative in

nature. The value of adopting a mixed-methods approach is outlined in the following section of this chapter.

This research aimed to explore and understand the views of multiple participants: PAs, team members, management staff and patients, with different experiences and perceptions. As the positivist paradigm holds that there is only one true version of events or objects, different constructions of events by numerous individuals would be rejected by positivists (Rubin and Rubin 2005). Thus, positivism was not the most appropriate approach to answering the research questions for this study. Additionally, the constructivist paradigm allows the researcher to examine specific contexts of participants (Creswell and Miller 2000; Creswell and Poth 2018) and how this shapes their experiences and perspectives. Participants were working or treated in both primary and secondary care settings. The settings offer different services to patients as well as employing staff with varying skills and professional backgrounds. Staff work different patterns and move between settings and specialties with teams consisting of multiple different professionals. There is a focus on the micro and meso levels as it examines the perspectives and experiences of the frontline NHS staff providing care across the primary and secondary care settings and their patients as well as management staff within the selected health boards.

4.2 Study design

The research comprises three parts: case studies, the All-Wales PA questionnaire, and one-off interviews. The following subsections outline each of the three parts of this study.

4.2.1 Mixed methods

The interest in and use of mixed methods research has grown in recent years (Morse 2010; Teddlie and Tashakkori 2010; Creswell 2011) and thus several definitions of what it means to do mixed methods research have developed (Creswell and Plano-Clark 2018). Morse (2010) considers the definition of mixed methods research to include designs which involve different analysis techniques and different types of data. Johnson and Onwuegbuzie (2004) described mixed methods research as an approach which is inclusive and heterogenous. Ellaway (2020) also asserted that different *"…flavours and ingredients…"* (Ellaway 2020, p.778) from different methods can be integrated together in mixed methods research without the strict combination of differing methods/methodologies (Ellaway 2020).

Although adopting a mixed methods approach can create more difficulties than an approach using a single method (Yin 2018), there are numerous benefits of using mixed methods Advocates for the mixed methods approach highlighted that quantities and meanings within data can both be included in the same study (Morse 2010). Used together, qualitative and quantitative methods can offer a richer picture of what is being studied than perhaps using one alone (O'Cathain and Thomas 2006; Creswell and Plano-Clark 2018; Yin 2018). Purely qualitative methods may provide a rich understanding of phenomena, but the application of mixed methods research can provide a well-rounded analysis (Creswell 2004; Ellaway 2020). Creswell and Plano-Clark (2018) argued that the individual strengths of qualitative and quantitative research, when mixed, can mitigate their weaknesses. Therefore, it was determined that while the qualitative element of the study would allow an in-depth exploration of multiple perspectives, incorporating quantitative methods would in turn enhance the qualitative findings across a wider range of participants.

Although the use of mixed methods has been advocated and has numerous advantages, some have noted the limitations and have been critical of the use of mixed methods research. Brannen (2005) warned that using different methods of data collection *"cannot be simply added together to produce a unitary or rounded reality."* (Brannen 2005, p.176). Traditionally quantitative and qualitative research are viewed as incompatible due to having distinct paradigms and holding different ontological and epistemological assumptions (Morgan 1998; Brannen 2005; Pope and Mays 2006; Creswell and Poth 2018). Purists hold the belief that qualitative and quantitative methods should not be mixed (Alexander et al. 2016). Their combination is "*doomed to failure*" (Tashakkori and Teddlie 1998, p.11) because of their conflicting underlying philosophical positionings. Levine (2016) emphasized this and claimed *"…the communities are not at war but are simply turned inward to such a degree that they do not recognize each other's contributions…"* (Levine 2016, p.3). The mixing of methods within one study can arguably result in philosophical approaches becoming tangled and purists would argue that the combinations are incompatible (Mason 2006; Teddlie and Tashakkori 2010). This combination can generate confusion around the ontological and epistemological stances and create a "*methodological minefield*" (McEvoy and Richards 2006, p.66). There is often the question raised of what philosophical framework should a mixed methods study be built upon (Hammersley 2008). Giddings

(2006) went as far to say that the mixing methods has been built on the foundations of positivism and post-positivism; mixed methods research is *"…positivism dressed in drag."* (Giddings 2006, p.195). But, others have argued that this division between qualitative and quantitative research is not helpful for researchers (De Vaus 2014).

More recently, the third paradigm of pragmatism has been utilised by researchers. Pragmatism offers an alternative to traditional opposing paradigms with more of a focus on the research questions that need to be answered (Johnson and Onwuegbuzie 2004) rather than the philosophical underpinnings (Biesta 2010). 'Pacifists' or pragmatists would argue that qualitative and quantitative methods can be used in harmony (Tashakkori and Teddlie 1998). Some authors have argued that the pragmatic approach may be more applicable when conducting health services research as there tends to be a greater focus on addressing specific issues than gaining theoretical knowledge (Pope and Mays 2006; Yardley and Bishop 2017). Tashakkori and Teddlie (1998), considered to be leading advocates of the use of mixed methods, believed that pragmatist researchers place a heavier emphasis on the set research questions over the method or rationale underpinning the method. However others have argued that this pragmatist approach can lead researchers to take on a 'get on with it' approach and may not fully consider the methodological and philosophical perspectives and debates (O'Cathain and Thomas 2006). Morgan (1998) asserted that researchers should keep in mind that combining paradigms may be problematic, the same cannot be said for those who combine methods and have a clear grasp of the paradigms.

Combining qualitative and quantitative data collection methods has been seen in use in health and social research increasingly (McEvoy and Richards 2006; Pope and Mays 2006). The mixed methods approach has been advocated in health research as health and health care is multidisciplinary and complex in nature (Bowling 2014). The use of qualitative methods in medical and health services research has become more common, though this has led to scrutiny and sometimes criticism of qualitative methods (Mays and Pope 2000; Britten 2006). Qualitative research may be "*alien*" (Pope and Mays 1995, p.42) to some in health service research who typically utilise quantitative methods. Hay (2016) wrote about undertaking a qualitative project involving observing physician-patient interactions and interviewing patients and how he was faced with confusion and reservation from physicians around these methods. When he turned to a fellow researcher for advice he was asked

"Why wouldn't you want to do research that makes sense to the people you want to work with?" (Hay 2016, p.45). In response to this, Hay (2016) incorporated some quantitative elements to the design which were more familiar and logical to the physicians he was working with. Unexpectedly, this addition led to more data creating a fuller understanding of the phenomena being uncovered which may have been omitted otherwise. Hay added: *"Moreover the quantitative findings provided a scaffold upon which the qualitative findings made sense to a medical audience…and one in a position to do something to improve patient care."* (Hay 2016, p.46). Adopting this mixed methods approach resulted in more comprehensive findings which were of interest and relevance to his clinical partners in the study. This has relevance to this research; as the world of healthcare is traditionally dominated by the 'hard' sciences compared to the social sciences, it is important to include data which is seen as more acceptable and accessible to HCPs.

According to Barbour (1999), when a mixed method design is adopted, both qualitative and quantitative methods do not often receive the same amount of emphasis and use. They suggested that the researcher should consider the contribution of using quantitative methods in a study primarily adopting a qualitative paradigm. Johnson et al (2007) stated that predominantly qualitative mixed methods studies with a constructivist view can also recognise the benefit of integrating quantitative methods into a study. Researchers adopting a mixed methods approach have been warned that differing skill level of the researcher in their use of each method may be evident (Alexander et al 2016) and researchers should have experience with both qualitative and quantitative research individually (Creswell and Plano-Clark 2018). This argument was given considerable thought when designing the study; as well as aligning more with a constructivist approach, I had more experience and confidence, with qualitative research than quantitative.

For this study, a complementary mixed methods design, as outlined by Morgan (1998), was chosen. Morgan (1998) presented their Priority-Sequence Model with four practical options for researchers based on two decisions: whether qualitative or quantitative methods take priority and at what point does the complementary method occur, i.e., before or after the priority method. With regards to the first decision, greater emphasis was placed on the qualitative aspect, both theoretically and practically. Hesse-Biber et al (2015) described how mixed methods studies which are dominated by qualitative methods tend to allocate any

quantitative approaches to a 'secondary role', supporting Morgan's (1998) typology. Rather than viewing this as a limitation, they proposed that data gathered via the secondary role can help in elaborating the results of the core qualitative data. It was determined that qualitative methods would have greater priority in this study and the quantitative data collected could build on the findings from the qualitative data collected (Morgan 1998). Given the limited number of PAs working in Wales at the time of the study, it would not be suitable to subject quantitative data to statistical tests. The questionnaire used in this study was designed to include both closed questions and open text responses to also collect qualitative data The use of a questionnaire meant that more PAs, who were the central focus of this study, were able to take part.

Regarding the second decision about the sequence of data collection, Morgan (1998) explained that this decision should centre on whether the complementary method, in this study the questionnaire, is used before or after the priority method. For this study, the sequence decision was formed out of practical necessities. As the number of PAs increased over time, the questionnaire was distributed following the qualitative data collection method to maximise the number of potential respondents.

In summary, this mixed methods study adopted a qualitative priority with a quantitative follow-up to complement the qualitative data. The following subsections provide further detail on each of the three parts of the study.

4.2.2   Case studies

The section starts with a discussion of definitions of case studies and their value, followed by the sampling strategy adopted, piloting activities and a discussion of the data collection methods.

A number of authors have offered various definitions of case studies, but for this research I drew on Yin's (2018) definition of a case study:

> "*A case study is an empirical method that; investigates a contemporary phenomenon (the "case") in depth and within its real-world context especially when the boundaries between phenomenon and context may not be clearly evident.*" (Yin 2018, p.15).

A case is something that is complex and functioning (Stake 1995) and can include individuals, groups, communities, and institutions (Gillham 2000). Case studies allow an in-depth examination of 'the case' in a real-world context (Elman et al 2016; Yin 2018). They have been noted to be particularly helpful in complex circumstances (Keen and Packwood 1995) including the healthcare setting. Case studies are typically considered to be naturalistic in design and in adopting this design, the researcher strives to understand the real world 'as it happens' (Gillham 2000). Weight is placed on the naturalistic methods of data collection with the researcher interpreting their cases (Easton 2010). In this research, the PAs were at the centre of the case studies.

One of the advantages of case studies is that multiple data collection methods can be implemented, collecting both qualitative and quantitative data (Eisenhardt 1989; Keen and Packwood 1995) which Simons (2009) highlights in their definition of a case study: *"…It is research based, inclusive of different methods and is evidence led."* (Simons 2009, p.21). Yin (2018) also stated that case studies require numerous pieces of evidence. Although the PAs were considered to be the centre of the case studies, to gain a more rounded picture of the impact of PAs, multiple perspectives were needed. Therefore, the inclusion of PA's team members and patients who had close contact with the PA, as well as the management staff at the general practice/health board, was valuable.

Yin explained that the decision to use a particular method is related to the type of research question that is being asked and particularly what type of case study is used; explanatory, exploratory or descriptive (Yin 2018). The research questions of this study are mainly questions which align with an exploratory study, though there is an element of explanatory with regards to the 'how' question. Yin (2018) further added that asking the 'what' questions can result in two possibilities. 'What' questions can be exploratory but also have an element of 'how many' and 'to what extent' and in this instance a survey may be more favourable. However, there are also parts of the case study which could be considered descriptive. Thomlinson (2001) defended the use of descriptive studies as they can be used to identify issues and report patterns which in turn can be used to implement improvements. Limitations of descriptive studies is that the sample is usually small which makes the participant population unrepresentative of a wider population (Thomlison 2001).

Authors who are supporters of the principles of positivism have argued that a single case study is not generalizable, though some have argued this is a misunderstanding (Flyvbjerg 2006; Flyvbjerg 2011). Yin (2018) further explained that while case studies are not necessarily generalisable to populations, they can be to theoretical propositions. An end goal of case studies is to add to and generalise theories or create new theories (Eisenhardt 1989) and not necessarily to make statistical generalisations from purely quantitative research (Brannen 2005).

4.2.2.1 Sampling

A non-probability sampling strategy was adopted across this research, i.e. the sample was selected using non-randomised methods (Walliman 2006; Henry 2009). Onwuegbuzie and Leech (2007) maintained that sampling in qualitative research does not have the same emphasis placed upon it compared to quantitative research sampling, particularly with regards to sample size. Using a random sample, although might be considered the 'gold standard' of sampling, especially in cross sectional studies with large numbers (Elman et al 2016), is not usually possible and would not be appropriate for a real world study of this kind (Guba and Lincoln 1982). Whilst in some circumstances cases are selected based on their representativeness, this is not always feasible and they are usually chosen based on what, and how much, information they can provide. The sampling strategy in this research did not aim to produce a statistically representative sample as the numbers of PAs working in Wales is small, compared to other HCPs in the NHS. Figure 4 below presents the number of staff by professional group in Wales compared to PAs in 2020.
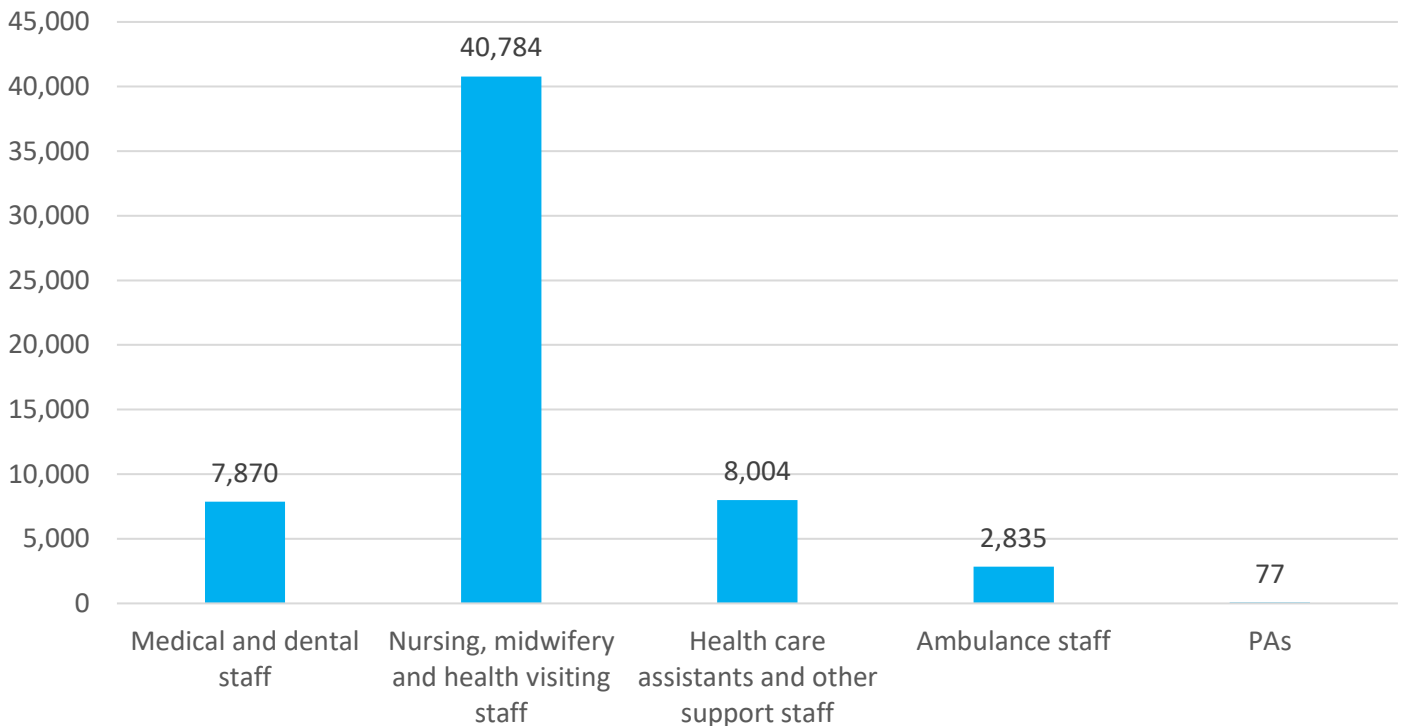
Figure 4: NHS Wales clinical staff head count by professional group in 2020[9]

Case studies can seek to adopt 'theoretical sampling' where cases are selected on the basis of proving or extending pre-existing theory (Eisenhardt 1989). This perspective aligns with a deductive approach which was not adopted in this study. Additionally, in Yin's (2018) work on case studies, it is argued that the selected cases should not be considered as a sample, but instead should be seen as the opportunity to explore and even broaden theoretical concepts.

The sampling strategy for the case studies in this research was a mix of purposive and convenience sampling. The participant groups who were approached to take part in the study were selected for the perspectives they would provide in terms of addressing the research questions. Due to the complex nature of healthcare and the ongoing Covid-19 pandemic, an element of convenience sampling was also integrated (Bowling 2014). Convenience sampling is often unavoidable though it does come with some caveats. The chance of representativeness is diminished and key informants may be unintentionally

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[9] Data extracted from https://statswales.gov.wales/Catalogue/Health-and-Social-Care/NHS-Staff/NHS-Staff-Summary/nhsstaff-by-staffgroup-year Data at 31st December 2020. All health boards and trusts in Wales are included. Only those employed directly by NHS are included so those on independent NHS contracts not included in the figures. PA figures taken from PAMVR from FPA 2020 census October 2020.

omitted, for example studies are historically more likely to examine workers at the 'bottom' than those at the 'top' of the organisation (Mabry 2008). This study placed emphasis on the 'micro' level which examines the accounts of individuals: the PAs, team members, managers, and patients. There is also attention paid to the 'meso' level, meaning the institutions (Fulop et al 2001) by the inclusion of the management staff who were asked to consider the impact of the PAs on the department/specialty in which they work. The 'macro' level of the overarching health system was not considered as this is more suited towards studies examining policy and history which was not an aim of this research.

The selection of research sites is a crucial part of the study design (Keen and Packwood 1995). Case studies can focus on a single object (Eisenhardt 1989; Stake 1995) or involve multiple, otherwise known as collective case study (Stake 1995). Within this research, the PAs were at the centre of the case studies and worked across various settings. Two health boards in Wales were selected as sites: Aneurin Bevan University Health Board (ABUHB) and Swansea Bay University Health Board (SBUHB). The selection of these health boards was not based on any theoretical assumptions nor to confirm any hypothesis. As the number of PAs working in Wales is small, the selection of the health boards was in part determined by size: larger numbers of PAs are employed in the selected health boards. Stake (1995) emphasised the importance of ensuring access to participants to maximise what knowledge can be gathered. In addition, SBUHB is within the boundary of one of two PA training providers in Wales (Swansea University). It was the hope that these two health boards would continue to employ the larger numbers of PAs during data collection to allow the best possible opportunity to recruit participants. Additionally, both health boards fell within the doctoral funder's (KESS2) priority areas in Wales.

ABUHB established in 2009 covers the local authorities of Blaenau Gwent, Caerphilly, Monmouthshire, Newport, and Torfaen[10]. There are two large district general hospitals, two local general hospitals and a number of community and mental health hospitals (ABUHB 2019). There are 14,000 employees working in ABUHB and two thirds of these are in roles involving direct patient care (ABUHB 2020). SBUHB is a relatively 'new' health board established in 2019. Previously the health board was known as Abertawe Bro Morgannwg

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[10] ABUHB can also cover patients living in South Powys.

UHB until the local authority of Bridgend was absorbed by Cwm Taf Morgannwg UHB (previously Cwm Taf UHB). Swansea Bay UHB has responsibility for proving healthcare to the public of the local authorities of Swansea and Neath Port Talbot with a population of around 390,000. There are three major hospitals, one community hospital, primary care resource centres and 49 GP practices as well as dental practices, optometry practices and community pharmacies. Around 12,500 members of staff are employed by the health board (SBUHB 2020).

As demonstrated in the research questions earlier, one of the key aims was to identify similarities or differences between the primary and secondary care settings and thus both settings were included. Most studies identified in the review of the literature had focused on either the primary or secondary care setting exclusively and rarely the two together.

The initial aim was to recruit four case study PAs: two working in primary care and two in secondary care across ABUHB and SBUHB i.e., a PA from each setting in each health board. Due to the limited number of potential participants and the impact of the pandemic, all known PAs working across the health boards were contacted by email with an attached invitation letter and information sheet outlining the purpose of the study, target sample and what taking part in the study involved (see Appendix 1 and 2). From taking a pragmatic approach towards recruitment because of the uncertainties relating to the pandemic, some of the PAs had been working as a PA for over 18 months and had completed their university course in England. Before I began collecting data, I attempted to make myself known to the PAs working in Wales by attending various meetings held by HEIW, including quarterly PA networking meetings which were slightly more informal, as well as more formal meetings. Through doing this I hoped that I would become more familiar to the PAs which might help with recruitment to the research study.

The initial study design required PAs who volunteered as case studies to approach team members, managers and their patients to take part in an interview. For each PA, three of their team members who they worked alongside on a regular basis and were working in a clinical role were invited to take part in an interview. The intention was that the three team members would be from different professions including Consultants, junior doctors, nurses, ANPs etc., to allow experiences and perceptions to be explored from professionals working in different capacities with PAs. Within the secondary care setting, management staff,

including clinical directors and workforce leads were approached, with the assistance of the PAs and local collaborators. In the primary care sector, the target managers were the practice managers working in the general practices where the primary care PAs were employed. Team members and management staff were emailed an invitation letter and information sheet (see Appendices 3 – 6).

The demands associated with working in the NHS during the Covid-19 pandemic were anticipated to affect recruitment, therefore the decision was made to take a pragmatic and flexible approach. In anticipation of any recruitment difficulties in ABUHB and SBUHB, if any additional PAs in the health boards utilised for the pilots, beyond the target recruitment figure were willing to participate, they would also be recruited into the study.

With regards to patient participant sampling, similarly a convenience strategy was implemented. Prior to the Covid-19 pandemic, I had planned to recruit the patients by attending the places of work of the case study PAs and approach patients who were due to see or had been seen by the PA. Similarly with Taylor et al's (2019) study, the PA identified eligible patients, briefly explained the study and asked if they were happy to be introduced to the researcher. The researcher was present throughout a whole day taking full advantage of opportunities for patients to be identified and recruited and to minimise selection bias by ensuring that all appropriate patients are approached and not just patients who have had a positive experience with the PA. However, with the Covid-19 restrictions in place, this was not possible at the time of data collection. Instead, the case study PAs were provided with 'information packs', which included an invitation letter, information sheet, consent form and pre-paid return envelope (see Appendices 7 – 9), to distribute to appropriate patients using their professional judgement as well as an eligibility criterion provided[11]. However, this raises concern about selection bias as the PA could have distributed the information packs to patients with whom they had positive relationships or from unconscious biases. Whilst this was not avoidable, PAs are expected to follow a professional code of conduct which involves principles of acting with honesty and integrity when involved in research as

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[11] Criteria included must be aged 18 years or over, have capacity to consent, not be very unwell, confused or in pain, not taking high dosages of medication that could impair their capacity to consent, inpatients must be ready for discharge and have the ability to speak English fluently.

set out by the GMC (FPA 2022g). Patients who were interested in taking part were required to contact me to express their interest.

4.2.2.2 Piloting

The decision was made early in the design of the research that both the case studies and the All-Wales PA questionnaire would be piloted. Some have claimed that pilot studies are not implemented often enough, perhaps due to financial and time constraints, but they can allow the researchers to develop their study design and in turn, enhance the findings (Kezar 2000). Whilst pilot studies can be used to develop theoretical ideas and approaches, the use of pilot studies in a methodological sense is popular amongst researchers. Although Smith (2019) proposed pilot studies which are both theoretically and methodologically driven will have a "*stronger platform*" (Smith 2019, p.600), for the purposes of this study the approach towards piloting was predominantly methodologically driven. The methodologically driven approach provides an opportunity for researchers to test practical and procedural elements of their study, for example to understand if the questions being asked are too simplistic or too complicated (Smith 2019). Being able to determine whether participants have understood what is being asked is another key benefit of piloting (Smith 2019), and for this study it was also useful for me to understand if I used correct and appropriate terminology in the questions for the NHS staff as well as for patients.

Piloting was undertaken in another two health boards: Betsi Cadwaladr UHB (BCUHB) and Hywel Dda UHB (HDUHB). BCUHB is the largest health organisation in Wales. The health board provides healthcare to the population of North Wales which includes the local authorities of Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey and Wrexham. BCUHB has three main hospitals as well as community hospitals, mental health units, health centres, GP practices and others. The health board employs over 17,000 members of staff (BCUHB 2020). HDUHB provides health services to 384,000 population of the local authorities across West Wales: Carmarthenshire, Ceredigion and Pembrokeshire (HDUHB 2020).

Bryman (2012) asserted that the participants who take part in the pilot study should not be used in the sample for the full study. However, as the sample size of the study is relatively small, it was thought to be helpful to include the pilot participants' views and experiences. Additionally, data collection was majorly impacted by the Covid-19 pandemic. Data

collection was delayed and restricted to remote methods. Consequently, the study could not be conducted in the same way as had been initially planned. The recruitment process needed to be pragmatic to reflect the pressures the NHS and its staff were facing. Initially, one PA working in primary care in BCUHB and one in secondary care in HDUHB were planned to be recruited. The inclusion of piloting was no longer limited to methodological and practical purposes and the decision was made to include the pilot data in the final analysis. The assumption that sufficient numbers of participants could be recruited could no longer be relied on. The addition of the data collected from the pilot sites also contributed to a richer understanding to address the research questions.

4.2.2.3   Data collection methods

Within the case studies, data were collected via interviews which were semi-structured in nature and were conducted remotely via telephone or video conferencing facility[12].

4.2.2.3.1   Interviews

Interviews are the most widely used method of data collection in qualitative research (King 2004). Semi-structured interviews were opted for in this study, an interview schedule with set questions and follow up questions. The flexibility of semi-structured interviews means that responses can be clarified and probed further (Britten 2006; Mabry 2008). Open-ended questions give participants the opportunity to feed their own personal experiences, feelings and perceptions in responding to the question rather than being provided with set answers (Yeo et al 2014). The other options of structured and unstructured interviews were not considered to be appropriate for this study. Structured interviews are usually associated with collecting quantitative survey data (King 2004). Whilst some elements of qualitative interviewing are not dissimilar to structured survey interviewing, the epistemological foundations of qualitative interviews are constructivist (Warren 2001). The rigidity of

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[12] Following discussions with HEIW there was a desire to include further perspectives of management staff, thus an online questionnaire was distributed to management staff working within ABUHB and SBUHB. The questionnaire was distributed via email by HEIW to local collaborators and workforce links within the health boards. Unfortunately, the questionnaire only gathered four responses from one health board, despite frequent email reminders. Reasons for such a low response rate are not known, though it is likely the Covid-19 mass vaccination and booster campaigns at the time contributed to staff not being able to dedicate time to completing the questionnaire. Therefore, this element of the study will not be reported on in this thesis owing to such a poor response rate.

structured interviewing also does not allow the researcher the opportunity to probe to gather richer data. But in comparison, researchers utilizing unstructured interviews tend to have less control over the subject areas spoken about (Rubin and Rubin 2005) and as a result the interview could lose direction and issues discussed which are not of relevance to the set research questions (Lune and Berg 2016).

Interview schedules were designed for each of the four groups of participants. The main subject areas for each schedule are outlined in Table 6. The interview schedules for each participant group are attached in Appendices 10 - 13.

Table 6: Main subject areas for discussion by interview schedule

Schedule	Main subject areas
PAs	1. General background and experiences
	2. Training
	3. Team working
	4. Working with patients
	5. Support
	6. Covid-19
	7. The future
Clinical team	1. Background of working with PAs
	2. Team working
	3. Working with patients
	4. Training
	5. Covid-19
Management staff	1. Background of PAs in the health board/practice
	2. Involvement in employment of PAs
	3. Rationale for employing PAs
	4. PA impact
	5. Covid-19
	6. The future
Patients	1. Understanding of PA role
	2. The consultation/encounter
	3. The future

Asking questions requiring factual or descriptive answers has been noted as an effective technique to open interviews. Interview schedules should begin with simpler questions to ease the participant into the interview and to make the participant feel more comfortable. Questions of a sensitive nature should not be included in the opening questions and should be reserved for later in the interview once a rapport is established and the participant becomes more relaxed (King 2004). Background information questions, including asking for

a brief description of their job, were used to ease the participant into the interview. This gave me the opportunity to gather important demographic and background information about the participant (in addition to the demographic information sheet attached to the consent form).

With the consent of participants, all interviews were audio-recorded using a digital recorder. The audio recordings were transcribed by a professional service offered through Cardiff University. Although there are benefits to researchers transcribing interview recordings and some qualitative researchers advocate for researchers transcribing their interviews themselves (Braun and Clarke 2013), I felt the speed of a transcription service outweighed these considerations and steps were taken to ensure familiarity with the data (this is discussed in an upcoming section). Whilst making notes during interviews can be a useful substitute if there were any issues with the digital recorder, I made minimal notes while conducting interviews. Most of the notes that were made were reminders for myself to ask further prompting questions when a participant was discussing an issue. Britten (2006) argued that making notes while carrying out an interview can interfere with the interview. During the interviews I found myself becoming immersed in the participant's discussions and did not want thorough note taking to affect my concentration.

Interviews with the PAs, team members and managers were initially anticipated to be face-to-face, though the option of a telephone interview was to be offered if this was preferred. All patient interviews were planned to be carried out via telephone. However, all face-to-face research was suspended in March 2020 following the outbreak of the Covid-19 pandemic. Consequently, all interviews had to be carried out remotely for the duration of the research. The participants who were NHS staff were given the option of their interview being conducted via telephone or a video conferencing facility. However, issues were identified surrounding the security settings of some video conferencing facilities. Zoom was one of the most popular and accessible facility (BBC News 2021), but it became apparent there were issues surrounding data protection, therefore Microsoft Teams was selected, and NHS staff had access to it through their place of work. Telephone interviews were still offered as participants may not have had access to the necessary equipment at home to use Microsoft Teams and telephone interviews provided the option for interviews to be held either in or away from their workplace.

4.2.2.3.1.1 Video and telephone interviews

Synchronous video and telephone interviews in this study were used to collect qualitative data. I will refer to video conferencing and telephone interviews collectively as remote interviews. Across the case studies, a total of 16 interviews were carried out via video conferencing facility, though one due to technical issues was audio only, and 6 via telephone. Two of the telephone interviews were with patients, interviews via video conferencing facility were not offered to patients.

Traditionally, qualitative researchers have considered face-to-face as the "*gold standard*" (Johnson et al 2021, p.1142) of interviewing but remote interviewing does offer benefits and video interviewing in particular has become more widely valued (O'Connor and Madge 2017). One of the main advantages of remote interviewing is the expense saving compared to face-to-face, particularly relating to travel. Aside from the challenges created by the Covid-19 pandemic, offering remote interviews to participants provided a far more convenient method than face-to-face. Remote interviews can potentially provide the opportunity for more data to be collected, participants are more accessible (Harris et al 2008; Irani 2019) as interviews can be arranged at a time convenient for the to fit around busy work and life schedules. Participants also have the opportunity to be interviewed in the surroundings where they feel most comfortable (Irani 2019). Although this can be beneficial for the participant, they may become distracted by their surroundings whilst being interviewed (Johnson et al 2021) which could in turn affect the quality of their data (Glogowska et al 2011). This was significant with the NHS staff participants. Several participants were interviewed while they were in their place of work which may not have been a place where they felt most comfortable but was most convenient for them. There were often disruptions to the interview such as participants taking phone calls from colleagues about patients and colleagues entering and leaving shared office spaces.

Johnson et al's (2021) study examined the quality of interviews comparing face-to-face, telephone and video conferencing, namely Skype. Of the 306 interviews that were analysed, 204 were in person, 74 via telephone and 28 via video conferencing. Although from the interviewer's subjective perspectives, certain aspects of data produced, including interview length and coding, did not differ greatly between face-to-face and remote interviews. However, from their analysis the authors supported the long-standing arguments made by

other studies that face-to-face interviews produce richer data than remote modes. Face-to-face interviews were found to be more conversational and produced a higher respondent word count and contextual notes. In summary, the authors did feel that face-to-face interviews should be prioritised over remote interviews but recognised that remote interviews can be productive. Elsewhere, Krouwel et al (2019) found little difference between in person and video interviewing in terms of word count and topics discussed but more statements in support of the codes were identified and the authors summarized that in-person interviewing is only slightly more superior to interviewing via video.

Telephone interviews demand less time from participants as they are typically shorter in length (Bryman 2012) which places less of a burden on the participant. Mitchell and Rogers (1958) contended that the shortened length could limit the amount of and possibly affect the quality of data collection. However, the use of telephones has expanded so greatly that people have become more accustomed to speaking on the telephone and therefore have been observed to feel comfortable in being interviewed in this way (Ward et al 2015). Potential researcher bias can also be reduced: some evidence has shown that the presence of the researcher can influence a participant's response, in terms of giving an answer they believe the researcher wants to hear. The personal characteristics of the researcher, such as gender or age, can also affect how a participant responds (Bryman 2012) and this is diminished somewhat through telephone interviewing. Telephone interviews can also strengthen confidentiality (Harris et al 2008), although previous studies have contradicted this and found patients have offered a more comprehensive medical history through face-to-face interviews rather than via telephone (Einarson et al 1999). Other studies have found that participants are willing to discuss sensitive issues in a telephone interview (Glogowska et al 2011). Participants may feel more comfortable disclosing information without having to face the researcher themselves, particularly if the participant wants to discuss something of a sensitive nature.

The use of video conferencing facilities expanded greatly during the Covid-19 pandemic with restrictions being placed on meeting others from outside of a household, resulting in greater familiarity with videoconferencing platforms (Lobe et al 2020). Similarly to telephone interviewing, video conference interviewing can be more convenient and cost effective than in person interviewing (Deakin and Wakefield 2014; Archibald et al 2019;

Mirick and Wladkowski 2019). The use of video conferencing facilities can in some ways offer a remedy to some of the pitfalls of telephone interviewing. In a study exploring the perspectives of both participants and researchers undertaking video conferencing interviews, it was found that video interviews were beneficial for rapport to be built between participants and researchers allowing a more natural conversation. Particularly for the researchers, it allowed them to see and respond to any non-verbal cues from the participant (Archibald et al 2019). Rapport building is of major importance for qualitative interviewing and being able to see the participant can impact the connection between the researcher and participant (Mirick and Wladkowski 2019), in turn affecting the level of trust (Rubin and Rubin 2005; Glogowska et al 2011). Facial expressions and non-verbal cues which can be used to encourage the participant to talk more about something of interest to the researcher or to move away from a subject are lost in telephone interviews (Rubin and Rubin 2005; Harris et al 2008; Bryman 2012; Ward et al 2015). Telephone interviews rely more on participant's tone of voice which could be unreliable in terms of understanding where is best to probe (Harris et al 2008).

Before the pandemic it was decided that patients would be interviewed via telephone as it was not suitable to conduct an interview in-person in the healthcare setting. When interviewing via video conferencing facility participants need to have access to technology including the internet, smart phones, tablets etc. (Lobe et al 2020). Technical issues can arise from poor or no internet access and poor camera/microphone performance (Archibald et al 2019), emphasizing the so called "*digital divide*" (Foley 2021, p.625) which can marginalise older and disadvantaged populations (Foley 2021). Although Zoom became widely used and accessible, it had data privacy issues. Therefore, it was deemed telephone interviews were more accessible for patient participants who may not have had access to the required technology for video interviewing.

4.2.3   All Wales PA Questionnaire

The second part of the study involved the All-Wales PA questionnaire. During the design process it was decided that because of the low numbers of PAs working in Wales at the time of the study, all PAs would be invited to take part in the survey, including those who had been trained outside of Wales. Approaches towards the implementation and development of the profession can vary between health board, setting or department. Prior to the

pandemic, it was anticipated that the questionnaire would be distributed once the interviews with the case study PAs had been completed. However, as a result of the disruption and delays caused by the pandemic, interviews were still ongoing whilst the data from the questionnaire was being collected.

Questionnaires are commonly seen within health services research (Adamson et al 2004). Using questionnaires in research has several advantages, including being able to reach larger numbers of participants (Walliman 2006) and being cheaper than other methods such as interviews (Bryman 2012). Questionnaires are quick to administer, especially so for online questionnaires, as time consuming activities including printing and posting are not required. However, there can be a delayed response rate and participants need reminders or prompts to complete the questionnaire (Bryman 2012) which the researcher must factor into time plans. Questionnaires can also be troubled by low response rates (Bryman 2012) but this is often dependent on the participant population (Fowler 2009). According to Mowbray and Yoshihama (2001), participants also often do not give their full effort to responding to questions as much as researchers would like and will use minimum effort to answer satisfactorily.

Regular reviews and feedback were provided by the supervisory team and collaborators at HEIW throughout the design process of the questionnaire. Piloting a questionnaire is essential as it can highlight any issues surrounding question routing in online questionnaires and external perspectives are valuable in ensuring the questions are measuring what is intended (Saris and Gallhofer 2014). Two members of staff in HEIW, one pilot case study PA and lead supervisor (AB) piloted the questionnaire. This was done to ensure that there were no technical issues and to provide feedback on wording of questions. Wording that was clarified as a result of piloting included changing wording from 'university training' to 'university course' on the questionnaire.

4.2.3.1 Questionnaire design

The design process of a questionnaire is of paramount importance. The questions included need to ensure they address the objectives of the research (Leeuw 2008). Questionnaires do not have the flexibility of interviews whereby questions can be altered, and responses probed (Braun et al 2020). Researchers have often been advised to ensure that questionnaires are not overly long (De Vaus 2014) as participants can lose motivation or

become fatigued (Braun et al 2020). To address the issue of "*respondent fatigue*" (Bryman 2012, p.235), the questionnaires were kept as short as possible with multiple reviews during the design process. Attention was given to the length of time the questionnaire would take to complete. This was also addressed in the piloting stages as participants were asked how they felt about the length of time they had spent completing.

As the PA profession in the UK is still relatively new, there was no pre-validated questionnaire available which could address the research questions for this study. Using pre-validated questionnaires essentially means that the questions have already been piloted and in some cases validity and reliability tests will have been carried out (Tsang et al 2017). Another notable benefit of using pre-validated questionnaires is that comparisons can be drawn between the existing research and the research being carried out (Bryman 2012) and this has been observed particularly with health services research (Boynton and Greenhalgh 2004). However, Gehlbach (2015) asserted that during the design phase, researchers are often pressured into feeling they should use 'validated' measures. This includes the use of scales with reported psychometric properties. This is problematic for two reasons. Firstly, Gehlback argued that "…*validated survey scales are mythical*." (Gehlbach 2015, p.884) using the work of Messick (1995) as evidence who stated that "*Validity is not a property of the test or assessment as such, but rather of the meaning of the test scores*." and *"…validity is an evolving process and validation a continuing process*." (Messick 1995, p.741). Secondly, the reliance upon older data collection instruments can hamper the development of new measurements and best practices (Gehlbach 2015). Terminology and attitudes can change over time which means these scales can become outdated (Mowbray and Yoshihama 2001). In addition to this, pre-existing scales may have been constructed with a target population in mind and might not be appropriate for other populations and contexts (Mowbray and Yoshihama 2001; Boynton and Greenhalgh 2004). There is a wide body of studies examining PAs from various countries across the world. However, using pre-validated questionnaires from outside of the UK could be problematic. There are not only cultural differences between the two countries but also terminology differences that could lead to confusion or misinterpretation for participants when answering questions. An obvious example of this is PAs in the USA are known as 'Physician Assistants'.

The questions were generated from a review of the literature and discussions with HEIW. The questions were divided into five areas:

1. Questions about your job
2. Questions about your team and support
3. Questions about your training
4. Questions about your patients
5. Questions about you

The questionnaire used both closed and open questions. Closed questions require the participant to answer the question from pre-set responses (De Vaus 2014). Closed questions can be particularly useful for gathering information relatively quickly in potentially large amounts and requires less effort for the participant (Neuman 2014). Data produced from closed questions lacks the richness that open questions offer as the responses have been provided by the researcher and not the respondents (Boynton and Greenhalgh 2004). Closed questions can limit the possible responses for participants and thus participants may select options which are inaccurate (Bryman 2012). To mitigate this, all closed questions also included an 'unsure' option. Offering an 'unsure' option may create complications including respondents not wanting to spend time considering the question and an option is available to allow this as well as a possible loss of a complete data set (Saris and Gallhofer 2014). Questions eliciting an opinion response also included an open text box where respondents were asked to explain their response.

Whilst there was no validated questionnaire available which would address the aims of the research, some questions were adopted from existing questionnaires. One of the questions was adopted from The Cooper 10-item job satisfaction first developed and used for GPs (Cooper et al 1989). The scale has since been used to assess job satisfaction of PAs in the UK by Ritsema and Roberts (2016). It is worth noting that the tool has been validated for the GP population, it has not for PAs, but as it has been used, this provided some reliability. Two questions were utilised from Drennan et al (2019a) to explore which HCPs the PAs worked with and who their line manager was. Attitude measurement questions took both Likert and ordinal scale formats. Developed in 1932 (Likert 1932), Likert scales are one of the most commonly used attitude measurement scaling techniques (Bowling 2014). Likert scales typically provide statements to measure respondent attitudes (Bowling 2014), whereas

ordinal scales provide a question and offer responses such as 'positively' to 'negatively' (Saris and Gallhofer 2014). Both sets of questions included a five-point scale, one of the original approaches (Boone and Boone 2012), as well as an option to select 'unsure', and both were symmetrical around the centre of the scale, i.e., the same amount of options each side of the neutral statement (Saris and Gallhofer 2014). A small number of dichotomous questions were included to gather contextual information such as which area of medicine they were currently working in and which professionals the PAs worked with in their team.

With regards to open questions, the most recognised form is descriptive open questions (Dillman et al 2014). By providing open text boxes, participants are able to articulate their own thoughts without restriction (Neuman 2014; Saris and Gallhofer 2014). They can also provide participants with the opportunity to add detail to their responses to closed questions. Williams (2003) described how researchers conducting interviews often use probing questions to gather further data and this principle can be applied to open questions in questionnaires. For example, respondents are asked the question "*How do you think patients generally respond to the PA role?*" with ordinal response options negatively, neither positively nor negatively, positively and unsure. Respondents were then asked to explain their answer in a box below the question. Dillman et al (2014) however contended that as descriptive open questions involve more effort than completing closed questions, they should be used with care to ensure participant engagement is maintained. Responses given may also be unintentionally irrelevant and the researcher does not have the opportunity to clarify questions or responses (Neuman 2014). This was carefully considered during the design process, but as this study is qualitatively driven, open questions were used after several closed questions. Open response questions produced qualitative data which were analysed thematically following the same procedure as the analysis of the interview data (data analysis is discussed in the next section).

The PAs were not asked to provide any identifiable information such as their name or email addresses when completing the questionnaire. This meant that when reminders were sent out that PAs who had completed the questionnaire were also receiving these reminders and it was not possible to know for certain if a participant had completed the questionnaire twice. As the questionnaire was distributed to all PAs across Wales, to be able to identify

any participants who had been interviewed and completed the questionnaire, the question "*Have you taken part in an interview with the researcher (Felicity Morris)?*" was included at the end of the questionnaire.

A copy of the questionnaire is included in Appendix 14.

4.2.3.2 Using online questionnaires

The All-Wales PA questionnaire was built using Online Surveys, an online survey platform accessible through the university. The questionnaire was distributed via email with a link attached in the body of the email. Initially the link was going to be made available for 16 weeks with reminders sent every four weeks. However, on discussion with staff in HEIW it was suggested that the link be available for less time as from their previous experience having a smaller timeframe aided in the urgency for respondents to complete the questionnaire. The link was shared with local collaborators in the health boards on 6th August 2021 and was available to complete until 23:59 on 17th September 2021. The local collaborators were requested to send regular reminder to participants, though I was conscious not to overwhelm already extremely busy NHS staff.

The use of online questionnaires is cheaper than a mailed questionnaire and this is noted as a key advantage (Vehovar and Manfreda 2017; Roberts and Allen 2015; Couper 2000). Historic arguments against the use of online questionnaires included lack of internet access and digital literacy issues for participants. These were not issues for this study; the PAs had access to the internet in their place of work and general IT proficiency as part of the daily work. Whilst the online link to the questionnaire was sent to the PA's NHS email addresses, they could still possibly access this outside of their working environment. The extensive use of smartphones and tablets can provide easy access to the web page outside of their working environment and hours (Vehovar and Manfreda 2017). Although a significant amount of time can be spent designing and building the questionnaire on an online platform (Toepoel 2017), time can be saved in data entry. The data can instantly be transferred to another programme, such as Excel or SPSS, without the researcher needing to input the data by hand. This additionally can provide more accuracy and prevent researcher error in the data entry (Braithwaite et al 2003).

Whilst the use of an online questionnaire may help improve response rate compared to questionnaires distributed by post, some have found that the response rate for online questionnaires can be lower than other approaches. Manfreda et al (2008) noted that a paper questionnaire which sits on a desk for a prolonged period can act as a reminder to the participant and this may not happen for an email invitation getting lost within an inbox. Typically most responses are submitted on the first day of the questionnaire being available and responses tend to slow as the days go on (Toepoel 2017). To address this, email reminders were sent out regularly. Braithwaite et al (2003) found in their study using an online questionnaire sent to GPs that sending reminder emails increased the response rate substantially when compared to postal questionnaires. Rowley (2014) also recommended sending reminders around two weeks after the questionnaire is first distributed to improve the response rate. But it has also been observed that the effectiveness of multiple reminders diminishes the more often they are distributed (Toepoel 2017).

Questions can be made mandatory in online questionnaire platforms which can mitigate participants omitting questions and missing out on valuable data because of boredom, not having enough time or just not wanting to answer the question (Rowley 2014). However, Couper (2008) contended that giving participants the option to skip questions or at least provide an option to not give an answer prevents participants from answering in a meaningless way because they are forced to. If a participant did not want to answer a question in an interview they would not be forced to answer and so this principle was applied to the All-Wales PA questionnaire in that all questions were voluntary to answer. With online questionnaires there is also a possibility of participants submitting multiple responses because of deliberate fraudulent behaviour (Toepoel 2017), though this was deemed unlikely in this study.

4.2.4   One-off interviews

As the data collection progressed, the difficulties associated with remote data collection became apparent. Prior to the outbreak of the pandemic, it was expected that some participant recruitment would take place in-person, especially patient recruitment. With restrictions in place, it was not possible throughout the duration of the data collection period to attend healthcare settings in person to recruit participants, thus relying on the case study PAs to distribute study information on my behalf. This would have been

challenging under usual circumstances with general NHS pressures and the PAs having to rapidly explain brief details of the study and what information they were distributing. This was then exacerbated by the Covid-19 pandemic.

Although over half of the total recruitment target for the case studies had been reached by September 2021, the decision was taken to discontinue case studies and explore other avenues of data collection. Patient participants were particularly under-represented in the case studies with only two recruited out of a projected 16. All participants recruited would now be invited to take part in a one-off interview and the PAs would no longer be requested to share study information with colleagues and patients. Although this meant that the benefits of case studies would be lost, a pragmatic approach had to be taken to improve the number of participants recruited. The participant groups and the interview schedules remained the same as in the case studies.

Although a number of the Covid-19 related restrictions had been removed or eased across the country throughout 2021, remote data collection was still the only viable option. Towards the end of 2021, the highly contagious Omicron variant of Covid-19 became the dominant strain leading to the re-introduction of certain restrictions making face-to-face research in healthcare settings still unviable. Participant recruitment was conducted via two methods: through HealthWise Wales (HWW) and social media. Further details relating to both methods are specified in the following subsections. Additionally, the local collaborators within the health boards were asked to share the 'flyer' amongst networks; one health board was particularly proactive with sharing the 'flyer' widely including within an education centre and doctors' mess.

4.2.4.1   Healthwise Wales (HWW)

HWW facilitates population-based, health-related research across Wales by providing researchers access to a cohort of participants consented to be contacted regarding studies they may be interested in taking part in. To be eligible to be registered a person must be aged 16 years or older and either be residing in or receiving healthcare within Wales. In 2019 there were over 20,000 participants registered (Hurt et al 2019), doubling to over 40,000 in 2022 (HealthWise Wales 2022). Hurt et al (2019) stated that at the time of their published article that seven studies had utilised the HWW database to advertise to potential participants and had all reached their desired recruitment target. Although there were

possible biases in this method, participants were already or willing to engage with healthcare research, HWW was deemed to be a suitable method for recruitment into the study lending to access to large numbers of registered participants who had consented to being approached about research. This was especially beneficial for recruiting patients to the study.

Developed alongside HWW, a recruitment email was distributed to participants registered within the four health boards utilised for the case studies (Appendix 15). Owing to the time of the year, staff at HWW made the decision to split the participants into two groups; one group were emailed on 17th December 2021 and the second on 7th January 2022. The email included my email address allowing interested participants to contact me directly to express their interest. At this point participant information sheets and consent forms were shared with those who contacted me.

4.2.4.2   Social media

The widespread usage of social media platforms offer the potential for researchers to explore new opportunities for participant recruitment in a more cost effective way than print media (Frandsen et al 2014; Bender et al 2017). Researchers can utilise various sharing functions including 'retweeting' and 'liking' to spread the profile of their study (Bender et al 2017). In January 2022 it was reported that Facebook had over 2.89 billion active users and Twitter had 436 million (Statista 2022). Whilst the study was not of a sensitive nature, it was deemed inappropriate to recruit patients via this avenue. Therefore, only NHS staff were targeted through sharing of the social media 'flyer' (Appendix 16).

Both convenience and snowball sampling techniques were utilised as part of this. The social media 'flyer' was shared on my personal Twitter page either through my own post or a 'retweet' from another account seven times between 16th December 2021 and 28th February 2022. Additionally, the flyer was also shared on my personal Facebook and Instagram pages though it is unlikely any responses were attributed to this; both platforms have privacy settings applied. Both HEIW and the Cardiff Unit for Research and Evaluation in Medical and Dental Education (CUREMeDE) played an active role in sharing the study information on their social media platforms. As well as 're-tweeting' posts from my Twitter page, HEIW posted on their own Twitter and Facebook pages on 21st and 28th December

2021. As well as sharing across their social media platforms, CUREMeDE also shared the flyer as a news item on their university webpage in December 2021 (CUREMeDE 2021).

4.3   Ethical considerations and procedures

All research studies can raise possible ethical issues (Bowling 2014) and all participants who take part in any form of research need to be protected from potential harm (McIntosh and Morse 2009; Babbie 2016). Ethical approval boards are in place to consider the risk:benefit ratio for participants and society and to assess that the benefits outweigh the potential risks. Although some qualitative researchers have maintained that the risks associated with participating in interview research are minimal (McIntosh and Morse 2009), qualitative research can be unpredictable (Houghton et al. 2010). Researchers must consider the possible ethical issues that could arise from the intrusive nature of exploring the lives of people (McIntosh and Morse 2009; Babbie 2016; Lune and Berg 2016). Despite this, participants can be appreciative of the opportunity to share their stories and experiences. This altruism provides a motive for participants to take part in research (McIntosh and Morse 2009; Morse 2011).

Prior to any data collection for this study there were several stages of approvals required. The first stage was securing sponsorship from Cardiff University applied for through the research governance department (ref: SPON1805-20) (see Appendix 17). Following this, NHS ethical approval was applied for via the Integrated Research Application System. The application was reviewed by West of Scotland Research Ethics Committee[13] (REC) 4 on 5th June 2020 and then approved on 23rd July 2020 (see Appendix 18) following minor suggested amendments. These included further clarifications on information sheets surrounding Covid-19 related issues and extension of the latest date to withdraw from the study. As well as this, approval was also required from Health Care Research Wales (HCRW) and Health Research Authority (HRA) with approval granted on 24th July 2020 (ref: 20/WS/0084) (see Appendix 19). Finally, permission from each health board involved in the case studies was sought. The capacity and capability of the health board to support research activity was assessed and a 'research passport' was distributed for researcher access to staff

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[13] There are 80 RECs across the UK. Each REC has up to 15 members. RECs are made up of healthcare professionals as well as lay members who make up a third of the members (NHS Health Research Authority 2021).

and sites. Overall, the ethical approval process took over a year with data collection commencing on 4th March 2021 in the first health board. At the first stage of gaining university sponsorship, the application was submitted on 25th March 2020, two days after the first official UK lockdown. The approvals process was subject to delays as Covid-19 related studies often received, understandably, set-up priority over other studies.

A substantial amendment was submitted to the NHS REC based on the alteration of recruitment methods and ceasing of the case studies. This was approved on 26th October 2021. Following this, approval of the amendment was again sought from each health board. As per guidance, health boards were given 35 calendar days to raise any objections and if after this period no objections were raised then the amendment could be implemented. Following this process, the amendment was implemented from 14th December 2021. Appendix 20 includes the relevant letter of approval.

Despite having gained the necessary formal approvals, it was important to keep in mind that the researcher will always hold responsibility in protecting their participants (Orb et al. 2001). Although it was unlikely that any discomfort or harm would be induced from taking part in the study, I was aware that this was not completely unavoidable. I reminded the participants before the interview began that all questions were voluntary, and the interview could be stopped at any time. I was aware that there was the potential for participants to share instances of bad practice. Although disclosures this can cause anxiety for researchers, I ensured I had a procedure in place of referring to my supervision team if anything of concern was raised. This was highlighted for participants in the information sheets. Whilst I did not seek out disclosures of a sensitive or personal nature, the pandemic had a major impact on the NHS and its staff for a prolonged period. In the first few months of the pandemic outbreak the BMA distributed a survey of frontline doctors with over 15,000 respondents. One of the key findings of this survey was that almost a third of those doctors was experiencing more stress than before the pandemic (BMA 2020c). Bearing this in mind, I was particularly sensitive to asking questions about the pandemic. Before asking questions relating to the pandemic, I confirmed with the participants that they were happy to answer questions around the subject and reminded them that they did not have to respond if they were not comfortable answering a question.

Informed written consent was obtained from every participant who was interviewed via email (see Appendices 9, 21 - 23), though the consent process varied between participants. The PAs, clinical team members and management staff were emailed electronic copies of the consent form which they were required to complete and return by email ahead of their interview. In the case studies, patients who were interested in taking part were asked to contact me to express their interest and return a completed consent form using the provided return envelope before an interview was arranged[14]. Patients were also given the option of completing their consent form electronically if they were happy to provide an email address. During the one-off interviews, as the patients were initially approached via email, they were able to email me to express their interest and at this point the participant information sheet and consent form were emailed. If the patient was happy to take part, they were asked to return their completed consent form by email. I was conscious that as data was being collected remotely, I needed to ensure that participants understood their participation in the study. Although written consent was gained ahead of interviews, consent was re-confirmed verbally by all participants prior to their interview commencing. Participants were also reminded that their participation was voluntary, and they could withdraw during or after the interview. Taking part in an interview does incur some inconvenience, especially for the NHS staff, but every effort was made to ensure interviews took place at a time suitable to participants.

Although there are fewer ethical considerations for the use of an anonymised online questionnaire compared to interviewing for example, they are not exempt from such considerations. Using the internet and browsers such as Google has potential risks to a participant's privacy, for example Google recording all of the sites that have been visited (Toepoel 2016). There is an issue raised surrounding informed consent and online questionnaires. Whilst it is challenging to obtain a signature of consent from participants using online platforms, to overcome this challenge often participants are asked to agree to conditions provided in an information page by 'checking' a box before completing the questionnaire (Toepoel 2017). The questionnaire respondents were provided with study information (Appendix 24) and before being able to complete any questions had to agree to the statement provided "*I have read and agree to the terms and conditions. I consent to*

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[14] Participants were provided with a university postal address to return their consent form.

participate in this survey.". The use of an online questionnaire platform, like Online Surveys, can enhance anonymity in comparison to distributing a questionnaire in a document format by email to participants who then must return them to the researcher which compromises their anonymity. The questionnaires did not require participants to provide identifiable information such as their name and contact details. However, because participants were not required to provide personal information, they were unable to withdraw from the study after they had submitted their responses. This was made clear to the participants on the information page which they were required to read before agreeing to take part and moving forward to the questions.

The data reported in this thesis is non-identifiable and participants have been allocated ID codes. Goodwin et al (2020) highlighted the complexity of providing anonymity for participants of qualitative research in small settings. Caution has been taken due to the limited number of PAs employed across each health board in Wales to ensure participants' identities are protected. An overview of the participants across the three parts of the study is provided in the following section.

4.4 Participant overview

This section provides an overview of the participants of the study. Across all three parts, a total of 82 participants took part in the study: 22 in the case studies, 31 in the All-Wales PA questionnaire[15] and 29 in the one-off interviews. The majority of NHS staff participants reported to be working within the secondary care setting (n=47/66). With the number of PAs working across Wales being relatively small at the time of the study, care is taken to ensure participants remain non-identifiable. As a result, some demographic information will be omitted.

4.4.1 Case studies

Tables 7, 8 and 9 below provide detail regarding the participants who took part in interviews as part of the case studies. To ensure non-identification, PA participants have been grouped as either having been a qualified PA for more than or less than two years and team/management by professional group.

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[15] One participant also took part in the case studies.

Table 7: Case study PA participants

Code	Setting	Length of time working as qualified PA	Location of training institution	Length of interview
PA01	Primary care	<2 years	Wales	01:45:46
PA02	Primary care	<2 years	Wales	01:20:00
PA03	Secondary care	<2 years	England	00:47:26
PA04	Secondary care	>2years	Wales	01:47:00
PA05	Secondary care	<2 years	Wales	00:17:34
PA06	Secondary care	>2 years	Wales	01:09:29
PA07	Secondary care	>2 years	England	01:12:36
PA08	Secondary care	<2 years	England	01:06:16
PA09	Secondary care	>2 years	England	00:49:51

Table 8: Case study team members and management staff participants

Code	Setting	Professional group	Length of interview
TM01	Primary	Nursing	00:30:53
TM02	Secondary	Nursing	00:36:56
TM03	Primary	Doctor	00:33:10
TM04	Secondary	AHP	00:24:10
TM05	Secondary	Nursing	00:27:01
TM06	Secondary	Doctor/Manager	00:30:18
TM07	Secondary	Doctor/Manager	00:41:44
TM08	Primary	Manager	00:36:54
TM09	Primary	Manager	00:47:31
TM10	Secondary	Manager	00:41:38
TM11	Secondary	Manager	00:29:32

Table 9: Case study patient participants

Code	Setting	Length of interview
PT01	Primary	00:09:22
PT02	Secondary	00:08:03

4.4.2   All-Wales PA questionnaire

The All-Wales PA questionnaire attained a total of 31 responses; 20 respondents were

working in secondary care and the remaining 11 were working in primary care. At the time

of the questionnaire distribution (6th August 2021 – 17th September 2021) there were

difficulties in recording the number of PAs employed in Wales, but according to the annual FPA census there were 112 PAs working in Wales on the PAMVR in October 2021 (FPA 2022b). The figure may have been lower before the questionnaire distribution but taking this number into account for the purposes of this thesis, the response rate for the questionnaire was 27.7%. Of note, one PA completed the questionnaire who had also taken part in the case studies.

Figure 5 displays the number of respondents in each health board by setting. All bar one of the respondents stated they were working in one health board at the time.
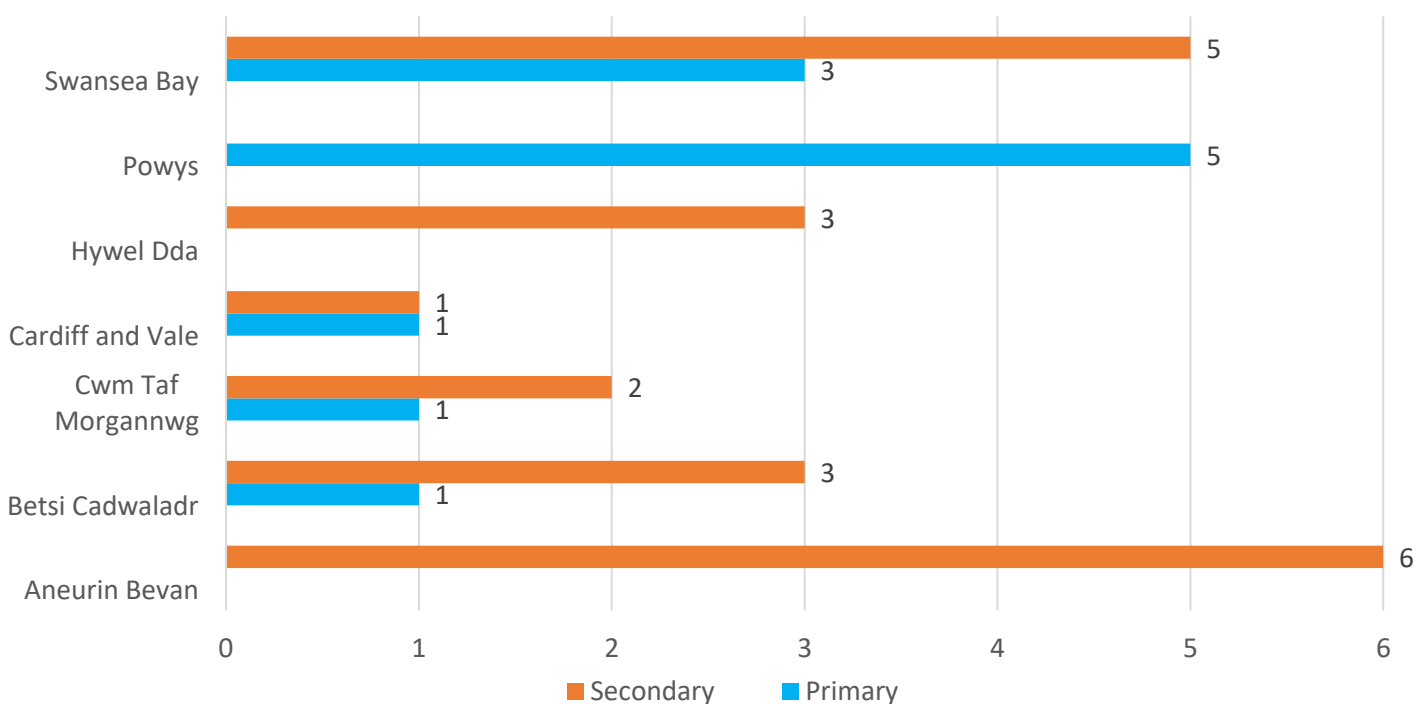
Figure 5: All-Wales PA questionnaire respondent setting by health board

4.4.3   One-off interviews

According to email analytics provided by HWW in March 2022, 77 participants interacted with the recruitment emails. A total of 29 participants were recruited in the one-off interviews of the study: 7 PAs, 8 team members and 14 patients. No management staff were recruited in the one-off interviews. Through HWW, 14 patients and two team members were recruited with the remaining 13 participants recruited via sharing of the social media 'flyer' across social media sites and through health board local collaborators. Details of the participants are shown in Tables 10, 11 and 12.

Table 10: One-off interview PA participants

Code	Setting	Length of time working as qualified PA	Location of university course	Length of interview
PA10	Secondary care	>2 years	England	01:0042
PA11	Secondary care	<2 years	Wales	00:41:35
PA12	Secondary care	<2 years	England	01:17:11
PA13	Secondary care	<2 years	Wales	01:03:27
PA14	Secondary care	>2 years	Wales	00:51:48
PA15	Primary care	>2 years	Wales	01:06:36
PA16	Secondary care	<2 years	Wales	00:58:10

Table 11: One-off interview team members and management staff participants

Code	Setting	Professional group	Length of interview
TM12	Secondary	Doctor	00:35:27
TM13	Secondary	Doctor	01:06:00
TM14	Secondary	Doctor	00:31:39
TM15	Secondary	AHP	01:30:32
TM16	Secondary	Nursing	00:18:56
TM17	Secondary	Doctor/Manager	00:46:26
TM18	Primary	Doctor/Manager	00:51:02
TM19	Secondary	Doctor	00:48:30

Table 12: One-off interview patient participants

Code	Length of interview
PT03	00:06:19
PT04	00:01:22
PT05	00:06:07
PT06	00:12:30
PT07	00:10:34
PT08	00:09:05
PT09	00:06:11
PT10	00:20:18
PT11	00:10:13
PT12	00:14:59
PT13	00:10:14
PT14	00:04:20
PT15	00:06:46

PT16	00:20:50

4.5 Data analysis

This section provides a discussion of the analysis techniques adopted to analyse the qualitative and quantitative data produced. The procedures for analysing the qualitative data are discussed first followed by the quantitative data analysis.

4.5.1 Qualitative data analysis

Thematic analysis was selected as the approach to analyse the qualitative data produced from the semi-structured interviews and open responses in the questionnaires. This analytical approach can be applied to different data sets (King and Brooks 2018), thus allowing the analysis of the qualitative data produced from both the interviews and questionnaires. Thematic analysis has been considered by some as an unsophisticated or basic analytical method (Braun and Clarke 2014), favouring "*superior*" (Braun and Clarke 2020a, p.38) other analytic approaches, such as grounded theory (Braun and Clarke 2020a). Thematic analysis offers researchers the opportunity to carry out robust qualitative analysis (Braun and Clarke 2014). A substantial quantity of qualitative data can be generated, especially from interviews, and this is complex to analyse particularly for a single researcher. The use of thematic analysis can make sense of such data and identify key themes and messages that arise which allows the data to be accessible to a wider audience (Braun and Clarke 2014; King and Brooks 2018).

Thematic analysis is often considered as a singular method of qualitative analysis, but this is not the case with scholars offering different approaches to thematic analysis (Braun et al. 2019; Braun and Clarke 2020b). Braun et al (2019) suggested there are three 'types' of thematic analysis: coding reliability, codebook, and reflexive. Coding reliability was deemed unsuitable for this study with its post-positivist roots and codebook has overlaps with coding reliability, themes are established prior to analysis and themes are considered to be domain summaries. In reflexive thematic analysis however, the researcher is key in the production of themes through analysis attempting to understand meaning from the data. Reflecting on their original 2006 paper (Braun and Clarke 2006), Braun and Clarke (2019) asserted their preference for the term 'reflexive' thematic analysis and held that this aligns within the paradigm of qualitative research. Therefore, for the purposes of this study, Braun and

Clarke's reflexive thematic analysis was considered to be the most appropriate approach. Themes are not just waiting in the data to be discovered by the researcher, but the themes are produced by the researcher using their analytical skill and theoretical assumptions. Successful thematic analysis involves engagement with the data and being reflective during the process. Having assumptions and positionings cannot always be avoided in qualitative research and Braun and Clarke emphasised that researchers should reflect on and interrogate their assumptions (Braun and Clarke 2019).

Though Braun and Clarke (2006) in their seminal publications on thematic analysis explained that while the researcher might expect a theme to be present across a dataset, a higher number of occurrences does not necessarily mean that the theme is more valuable. Thematic analysis asserts flexibility in terms of whether the theme identified relates well to a research question rather than its prevalence across the data set. Braun and Clarke (2006; 2019) also emphasised that thematic analysis allows the researcher to go beyond the semantic and examine latent themes within the text:

> *"Thematic analysis can be a method that works both to reflect reality and to unpick or unravel the surface of 'reality'."* (Braun and Clarke 2006, p.81)

Reflexive thematic analysis will inevitably involve interpretation, but description can also be produced (Braun and Clarke 2022). During the coding process, researchers utilising reflexive thematic analysis should have "*continual bending back on oneself*" (Braun and Clarke 2019, p.594) recognising and questioning our assumptions we adopt when interpreting data. Semantic coding is descriptive and focuses on the explicit meaning, whereas latent coding has a more conceptual approach, exploring the implicit meaning of the data. Both are valuable in the analysis process (Braun and Clarke 2022) and were both used in the analysis for this study. Some of the semantic coding examples were descriptive information such as outlines of job role and background information. Latent coding involved conceptual approaches including CoPs, LPP, role theory and a sense of belonging. For example, instances were shared of real time team working examples where CoPs seemed to be present. Theory is always present in doing thematic analysis, both 'big theory' (ontological and epistemological assumptions) as well as 'smaller theory'. Both 'big' and 'small' theory can be utilised, and some examples were shared of studies that used 'small' theory as a lens in their analysis and to add theoretical depth to analysis. Braun and Clarke (2022)

emphasised the necessity of being reflexive and acknowledging the assumptions that inform the thematic analysis.

Braun and Clarke (2006) initially outlined their six steps of thematic analysis. They later emphasised that reflexive thematic analysis is not a linear process, there are no set rules but rather guidelines and revised their wording from the six steps to the six phases to reflect the reflexive nature (Braun and Clarke 2022). Table 13 outlines the six phases and what was done in each phase.

Table 13: Process of reflexive thematic analysis following Braun and Clarke's (2022) six phases

Stage	Process
1. Familiarisation with the data	I opted to have my interview recordings transcribed by a transcription service. There is a general rule of thumb that for every hour of an interview, it takes several hours to transcribe with some authors citing four hours (Stuckey 2014) and some going as far as seven hours (Britten 2006). However, as Braun and Clarke (2006) emphasised the importance of transcribing, I felt I needed to give more attention to becoming familiar with my data. To achieve this familiarity, I listened repeatedly to the recordings whilst checking the accuracy of the transcriptions as well as re-reading of the transcripts before any coding.
2. Coding	Coding should be carried out in a systematic and consistent way whilst also allowing for the developing analysis (Braun et al. 2015). Braun and Clarke previously did not advocate using computer assisted qualitative data analysis software but have more recently emphasised that researchers should adopt whichever approach works best for them (Braun and Clarke 2022). I felt the use of NVivo would be beneficial to the coding process to aid in the visualisation of the data and analysis. It was also a useful tool in managing a large amount of data. Once the interview transcripts had been received and reviewed, they were imported into NVivo for coding. Coding was done systematically by going through each transcript, initially using semantic coding but on review at a later stage, latent codes were introduced.
3. Generating initial themes	Codes were grouped into themes; some initially followed the interview schedule areas and others were developed through the process. I created summaries for participant transcripts by theme.
4. Developing and reviewing themes	Once all transcripts had been coded and initial themes identified, I reviewed them to ensure they accurately captured meaning. Some themes were merged, and some were split. New understandings and insight were developed during this process.
5. Refining, defining, and naming themes	The themes were reviewed, clarified, and allocated titles.

| 6. Writing up | Braun and Clarke (2022) emphasised the importance of the writing process to "*weave together your analytical narrative*" (Braun and Clarke 2022, p.36). I began drafting findings chapters before the analysis was completed which was a helpful process in identifying what was important to the story of the dataset. |

4.5.2 Quantitative data

The quantitative data from the All-Wales PA questionnaire was collected from Online Surveys and exported to Microsoft Excel and SPSS for analysis.

Although all PAs across Wales were invited to take part in the All-Wales PA questionnaire, the numbers of PAs was still quite small (even before factoring in an anticipated low response rate) therefore statistical analysis techniques and application options were limited. Descriptive statistics were primarily used. Whilst the sample size in this study is too small to achieve statistically significant correlations, cross tabulation can be useful to organize data and 'counting' within qualitative data analysis can allow the researcher to view the prominence of a theme within the data where more attention can be given (Barbour 1999). Researchers can sometimes overlook the importance descriptive statistics, prioritizing looking for patterns and relationships between variables instead (Rowley 2014). The data produced from scale questions can be analysed in an exploratory approach. Such scale questions can produce not only descriptive data but can also be used together with other questions to examine possible relationships (Rowley 2014).

4.6 Quality assessment

Researchers conducting mixed methods research have faced the quandary of how to address validity and credibility (Johnson et al 2007). Credibility has been argued to be more applicable to qualitative studies than validity which is more appropriate to quantitative studies although some authors opt to use validity as an umbrella term (Mays and Pope 2006; Creswell and Plano-Clark 2018). Creswell and Plano-Clark (2018) outlined possible threats to validity in a mixed-methods study. The possible threats for an exploratory sequential design include a lack of using the qualitative elements to develop the subsequent quantitative aspects, the quantitative elements not being rigorous, and utilising the same participants for both qualitative and quantitative elements. There has been much debate around how to assess the rigour of research and whether qualitative and quantitative

research should be assessed in the same way in mixed methods research. Bryman (2006) outlined three sets of criteria to assess quality that researchers may consider:

1. Convergent criteria – Qualitative and quantitative components have the *same* quality criteria applied.
2. Separate criteria – Qualitative and quantitative components have *different* quality criteria applied.
3. Bespoke criteria – A *new* set of quality criteria created for mixed methods research.

Following a review of the quality of mixed methods studies in the field of health services and highlighting the lack of consensus surrounding quality assessment for mixed methods studies, O'Cathain et al (2008) developed their Good Reporting of A Mixed Methods Study (GRAMMS) guidelines combining the outcomes of the literature surrounding mixed method study quality and Creswell's (2003) suggestions. The authors also emphasised that clarity is needed regarding the separate components of the study but also in overview from mixed methods researchers. Table 14 outlines each of the GRAMMS guidelines and how they have been applied to this research.

Table 14: GRAMMS guidelines (O'Cathain et al 2008, p.97)

Guideline	Application
1. Describe the justification for using a mixed methods approach	Data gathered via the questionnaire helps elaborate the qualitative data collected through interviews, the core data. Justification for this approach was proposed by Morgan (1998).
2. Describe the design in terms of the purpose, priority, and sequence of methods	Qualitative data collection was the priority and interviews took place ahead of the questionnaire. Qualitative data were the priority because of the small number of PAs in Wales.
3. Describe each method in terms of sampling, data collection and analysis	In summary: interviews with PAs, team members, management staff and patients. All-Wales PA Questionnaire distributed to all PAs working across Wales between August and September 2021. Qualitative data analysed using thematic analysis and descriptive statistics produced from quantitative data. Each method has been fully described – see sections 4.2.2, 4.2.3, 4.2.4, 4.5.1 and 4.5.2.
4. Describe where integration has occurred, how it has occurred and who has participated in it	Data from both interviews and questionnaire are presented together. Only PAs provided questionnaire data.

5. Describe any limitation of one method associated with the presence of the other method	Utilising a questionnaire allowed a larger number of PAs to take part in the study which would not have been attainable if interviews used solely. Interviews can however offer more depth than data produced from questionnaires.
6. Describe any insights gained from mixing or integrating methods	Some findings from the questionnaire data complemented that from the interviews, though there were some contradictory results. These are reported in the findings and discussion chapters.

4.7 Reflections on my role as the researcher

According to Lincoln et al (2011) the process of reflexivity:

> *"…demands that we interrogate each of our selves regarding the ways in which research efforts are shaped and staged around the binaries, contradictions and paradoxes that form our own lives."* (Lincoln et al 2011, p.124)

Reflexivity is traditionally applied in qualitative studies but some have queried whether it can also be applied to quantitative research (Walker et al 2013). Rubin and Rubin (2005) in their discussion of the interpretive constructionist approach held that those who adopt this approach must be aware of their own assumptions around what they are studying and how this can influence what they 'hear' from their data. As I was the primary researcher for this study, this was something I was continuously mindful of.

Reflexivity can begin early on in the study process when researchers consider how their personal backgrounds and perspectives can influence the inquiry (Creswell and Poth 2018). Prior to commencing this study, I had no awareness of the PA profession. But upon discovering their role and capabilities I felt that there would be value to employing PAs. I held various non-clinical positions within NHS Wales over a three-year period. It was during this time I gained an insight into the challenges the NHS faces internally as a member of staff. The department experienced staffing issues whilst workloads were continually increasing. From this experience and the added pressure from the pandemic, I was conscious that the participants who were NHS staff may have found it challenging to dedicate time to take part in the study, particularly for the PAs who were asked to carry out multiple tasks.

The study was developed in collaboration with HEIW as part of the funding agreement. This collaboration led to negotiations to ensure HEIW were gaining research of value and in their interest whilst also keeping my interests and strengths as a researcher at the forefront. My background in mostly qualitative social research played a role in the subsequent predominantly qualitative design, whilst also implementing quantitative elements to broaden the scope of the study.

Researchers will usually be outsiders rather than members of the case that they are studying (Mabry 2008). A point of reflection is whether my lack of clinical healthcare experience impacted the course of the study. My lack of clinical experience did not seem to hinder data collection from interviews with clinical staff, however I had previously worked in non-clinical roles in the NHS for three years. I made the decision to not disclose my prior NHS work experience to participants as I wanted participants to discuss their views openly and provide information without any assumptions that I knew of the processes and procedures of the NHS. My understanding of the demands of clinical staff and senior staff meant I was flexible to the needs of the participants with interviews on some occasions being rescheduled at the last minute or taking place outside of standard working hours.

A handful of participants were inquisitive about my background after the interview had ended, some asked if I was a PA myself whilst some asked what had made me interested in undertaking a study on PAs. Some PAs even expressed their gratitude to me for undertaking research around their profession. Appleton and King (1997) described how in constructivist inquiry the researcher may feel the need to "*sell*" themselves to ensure access to their study participants (Appleton and King 1997, p.18). From the start of this study, I attended various meetings where PAs and various health board representatives were in attendance in the hope of establishing myself and making the study known to potential participants ahead of data collection commencing.

4.8   Summary

This chapter provided a discussion of surrounding the methodological design for this study. Working within a broadly constructivist approach, an inductive approach was applied to the data allowing the data 'to speak for itself' as opposed to a deductive approach striving to prove or disprove pre-existing theories. The study adopted a mixed methods design utilising

both qualitative and quantitative methods, though predominantly qualitative in nature. Collecting data via an online questionnaire allowed a larger number of PAs to participate in the study and open questions to gather qualitative data were included. Although this quantitative method of data collection was included, I did not seek to prove or disprove hypothesis and the study was exploratory in nature, hence the adoption of a constructivist approach. Data collection for the study was undertaken in three consecutive, distinct parts: case studies, the All-Wales PA questionnaire, and one-off interviews. Figure 6 below presents a summary of the methodological order for this study.

Case Studies
March 2021-August 2021

All-Wales PA Questionnaire
August 2021-September 2021

One-off Interviews
December 2021-March 2022
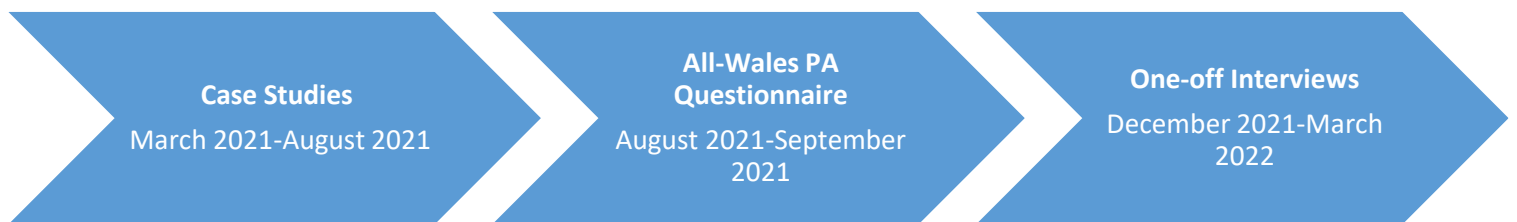
Figure 6: Summary of methodological order

Findings are presented in the following three chapters which draw on data across the interviews (from the case-studies and the one-offs) and the questionnaire.

5 Becoming a PA

One of the key aims of this study was to report the experiences of the transition from student to NQPA and how prepared for practice PAs feel following their training. This chapter explores and discusses the experiences and perspectives of training to be a PA and being a NQPA. The first section details the experiences of training reported by the PAs. The following section focuses on the transition from student to qualified PA and finally perspectives of internship employment are reported across the NHS staff participant groups.

5.1 Experiences of training

As detailed in an earlier chapter, PAs in the UK are required to complete a two-year postgraduate course following an undergraduate degree typically in a life science or healthcare. The course combines both theoretical learning and placements; students are required to spend 1,600 hours on placements over the two-year period (FPA 2022a). Of the 31 All-Wales PA questionnaire respondents, 17 had completed their course in one of the universities in Wales with the remaining 14 elsewhere in England[16].

The experiences of the PA course were discussed at length by PAs in the case studies and one-off interviews and All-Wales PA questionnaire respondents were asked "*Is there anything you think should have been included in your course curriculum but was missing?*" with an open text response box provided. The length of time being a qualified PA varied amongst participants, some were in their first few weeks whilst others had years of experience so had to reflect further back when discussing their training experiences. Eighteen PA participants had not worked as a PA prior to the Covid-19 pandemic and the majority of these will have completed some of their course during the pandemic. Findings related to this will be discussed in an upcoming chapter addressing the Covid-19 pandemic solely.

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[16] Further details relating to universities has been omitted in the interest of participant anonymity.

5.1.1 Areas valuable for practice

Almost all the PAs provided their perspectives on the parts of their university course which were useful to their work as a qualified PA. The time spent on placements was considered one of the beneficial aspects of the course by most of the PAs.

> *"The placements were where I learnt the most really. Like I said, I learn by doing and seeing that sticks for me, rather than sitting death by PowerPoint. The placements were the best place you could learn I think."* – PA16

> *"Probably being on the wards and actually seeing how medicine works on a practical level, instead of just learning about it in the lectures."* – PA01

PA10 and PA14 reflected that the amount of time spent on clinical placements as a student aided them in getting "*ready to actually work as a graduate PA*" (PA14).

> *"…a lot of what we learnt was within placements…PAs are quite lucky in the fact that we spent a lot of time in clinical placements…So it's not as if we do this two year theoretical course, then we're thrown out into practice which has completely no bearing on the practicalities of clinical work."* – PA10

There are likely differences in placement structure across universities with some attending placements at an earlier point than others, "*even from day one*" (PA10). Whilst the early placement time was considered beneficial by PA06 and PA10, PA03 explained that during their course they had attended placements prior to learning examination skills which they felt was "*a bit of an awkward thing…it was quite full on.*".

Examples were given of learning clinical skills which were beneficial for their work as a qualified PA, even if they were no longer working in that area. The clinical skills such as communication skills and examining patients, were transferrable into 'real life' practice.

> *"…I suppose I did a lot of clerking…So, if there's an acute issue on the ward like patients spiking their temperature, you know, I sort of would know what to do and how to manage that."* – PA03

In contrast, some felt the theoretical elements of the course were of most benefit. Interestingly PA06 and PA08 had previously trained as another HCP so would have already

experienced placements, thus, the learning around the medical model was thought to be of most use; *"if we didn't have that theory then we wouldn't be useful at all"* (PA08).

> *"So the most useful bit for me really is more to do with the kind of lectures and the diagnostic approach. So I was speaking with the Consultants and sitting in on seminars and lectures and just like, kind of building up more of a knowledge, like how you arrive with a diagnosis."* – PA06

5.1.1.1   Attending a medical school

With the PA course being offered across 24 UK universities, some of these are attached to an existing medical school. Five of the PAs in the case studies and one-off interviews explicitly stated their course was within a medical school; four of whom expressed the benefits of this. PA10 and PA13 considered themselves lucky to have attended a medical school. From PA10's perspective, the university they attended was familiar with and accepting of PAs and this participant put this down to it being a medical school.

The access to healthcare facilities and staff associated with a medical school was believed to be advantageous during training for PAs. A few considered the standard of teaching to be high; PA06 for example, was surprised by the standard compared to their undergraduate course. PA15 was extremely satisfied with the staff involved with their course and their commitment to teaching.

> *"But the medical school I went to…they had got the programme nailed very, very well…every single aspect of it was brilliant and everyone wanted to be there because they wanted to teach, and they had a very strong passion for teaching firstly."* – PA15

Whilst other PAs in this study will have attended non-medical schools for their PA course, only PA01 considered drawbacks associated with this. They reflected on this issue at the end of the interview and suggested how this could be addressed going forward.

> *"So I think they might have struggled a bit more with the training and having fewer facilities and lecturers…Maybe more input from, like, medical doctors as lecturers might have been helpful for our training."* – PA01

Although PA10 attended a medical school for training, they contemplated that PAs training in non-medical schools may be missing out on governance training provided by doctors. But

with the impending regulation of the profession, they believed that this would subsequently be addressed.

5.1.2 "It was very, very intense training"

The length of a postgraduate PA course is 90 weeks, the equivalent length of a three-year undergraduate course, constituting 3,150 hours of study time. Of these study time hours, 1,600 is dedicated to clinical training, i.e. on placements (FPA 2012). The length of the course was referenced by PAs who described the course as intense.

> *"Honestly…the PA course itself is incredibly challenging. It's like medicine but in two years. You have to learn everything in two years, including all of your placement experience and your clinical skills. It's a lot."* – PA13

The length of the course impacted the time available to spend on specialties which was found to be challenging.

> *"…it's mad that you get like a week to learn endocrine, you have one day on diabetes…and there's so much to know. And then when you come to your placement you have three weeks on cardiology…It's not a long time because we've got to fit so much in…specifically towards the end of my three weeks in cardiology I was like really familiar with the ward and I thought 'Oh I actually think I've got the hang of this now' and then I had to go to somewhere else and that knocked me back all the way to square one again."* – PA12

> *"And also how to apply our studies in practice. Spiral learning does not make this easy. 3 days on each placement doesn't facilitate this. Even in the specialty blocks, spreading yourself across that specialty means you can't embed yourself properly in a team and learn the ropes."* – PA, All-Wales PA Questionnaire respondent

PA03 felt they spent too much time in one area. They explained that they were required to spend 12 weeks in general medicine but had spent this entirely in acute medicine. With fast turnover of patients on an acute medical ward they were unable to follow a patient through their journey which would have likely been a beneficial experience.

Despite the intensity of the course, the length of the course was attractive to some PAs when making the decision to apply. Having already spent three years completing an

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undergraduate degree, some of the PAs had a desire to work in a medical profession but the length of the medicine course had discouraged them.

> *"I knew I always wanted to do something medical. I thought about doing medicine but the thought of going back to university for another four or five years after already doing a three-year degree."* – PA16

Self-directed learning is an expected part of any postgraduate course. As well as completing the required hours, extra work would need to be undertaken outside of these hours to maintain the demands of the course. PA06 found they had little time outside of their course hours to spend on self-directed learning. They noted that they were also working in an additional job for a small number of hours per week which decreased their available time, this may extend to other PAs with other external time constraints such as caring responsibilities.

> *"…it was much more condensed than I thought because obviously two years, it's a really short time to cover everything you want to cover. It's really ambitious I think…I still remember when I first started, I started sort of taking notes in lectures and thinking I'm going to tidy this up when I get home…and it got to a point my backlog was just infinitely bigger than anything like actually than taking these notes. So there was just no real catch-up time."* – PA06

PA07 explained they did not expect the course to be as "*whole life consuming*" with evenings and weekends taken up by studying.

5.1.3 Student Communities of Practice (CoPs)

Despite the numbers of PAs being trained growing year by year, their numbers are still extremely small in comparison with other HCPs. For example, for the academic year 2022/23, Swansea University was offering 36 funded places on the PA course (Swansea University 2022) whereas there was an intake of 10,543 students studying medicine in the academic year 2021/22 (Office for Students 2021). The value of CoPs may be even more significant for a fairly new professional group who are being trained in small numbers.

Despite the challenges associated with being a new professional group, which will be discussed in greater detail in an upcoming chapter, being a part of a CoP could aid in

mitigating these challenges. An interesting point raised was that the size of the cohort was deemed to be of value for some of the PAs. From PA11's perspective, having fewer peers within the course had allowed more "*personalised learning*". PA09 explained that being from an early cohort they had been part of an "*intimate little group*" who had formed close bonds. This was echoed by PA15 who described the PA community as a "*small one*" allowing a network of "*familial*" people to develop. The network that PA15 had come to be a part of was seen as a support network, an example of this was meeting with their peers before their final examination to help alleviate their stress. Further to this, PA15 shared their thoughts on recommending the PA course to others.

> *"…and you're part of a network of people that all are really up against it, so there are huge amounts of changes being made for our betterment, but if you like a bit of a challenge, you like being a very small fish in a big pond and you like challenging yourself intellectually the PA course is brilliant." – PA15*

PA02 felt that towards the end of their course the intensity of the course decreased and in response to this they and their peers organised revision and teaching sessions amongst themselves.

> *"We were together all day, every day in the clinical labs examining each other over and over and over again, revising over and over again which obviously was a benefit to us because we noticed that we were lacking in some things, so we did it ourselves." – PA02*

Having experienced the benefits of being part of a CoP, PA02 had wanted to be involved with teaching the next cohort of students and had offered to assist with OSCE revision. Unfortunately, at that time nothing had come to fruition. Additionally, PA02 explained that during their time as a student they had not met a qualified PA and there was "*nothing I was wanting more as a training PA than to meet one*". As a qualified PA, PA02 expressed that a PA mentorship scheme would be beneficial for future PAs in training having a qualified PA to 'buddy' with who can share their knowledge and experience. The suggestion of PA mentorship was echoed by PA04, they explained that they wanted to mentor student PAs but had not received any formal guidance on this. During their training PA06 noted that one

of their lecturers was a qualified PA which they felt was beneficial for them as a student having not met a qualified PA previously.

5.2 Transitioning from student to NQPA

The transition of NQ staff into organisations has historically been challenging (Louis 1980) across HCPs (Lempp et al 2005; Coakley et al 2019). The PA participants were given the opportunity to share their experiences of the transition from being a student PA to a NQPA, including how prepared for practice they felt upon commencing work. This area has been widely examined relating to other HCPs, but these findings provide an insight from the perspective of PAs. Whilst student PAs may experience similarities in their transition to qualified professional to other HCPs, differences may be observed as a result of being a relatively new healthcare profession and the duration and intensity of their training.

5.2.1 Inhibitors and facilitators to the transition

As detailed earlier, before PAs can commence employment in the UK, they must pass their postgraduate university course and national examination run by the FPA. The national examination is currently run three times per year: in January, May and September (FPA 2022d). Once a PA has successfully completed both components, they can be added to the PAMVR. With PA students generally completing their university course in July, they are able to sit their national examination in September with results distributed in November. During the period between sitting the examination and results the PAs are not able to work as a qualified PA and may not be working clinically in another role. PAs can attempt their national examination three times, if they do not pass on their first attempt this creates further delays to them commencing their work. Four PAs from the case studies and one-off interviews gave details of a period between completing their PA course and commencing work as a qualified PA. This gap created challenges for PA13 who also expressed that the difficulties they experienced were shared amongst other NQPAs.

> *"You spend months out of hospital while you're just doing your final university exams, your nationals and then waiting for your nationals so you can qualify. So your first day…you haven't taken bloods for months or done histories or even looked at a blood test you know, and you're suddenly qualified, you're in uniform, you're part of the team, you're expected to know what you're doing. So I found the transition very*

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difficult, very difficult mentally and very difficult to get a hold of and you're just

exhausted." – PA13

PA13 was fortunately able to access support from a PA mentor when they recognised that they were not coping with the transition. A gap between completing a course and starting work could lead PAs to feel "*deskilled*" (PA02) or "*rusty*" (PA03) and therefore needing more time allowances and support in their transition.

For some of the PAs, they were the first PA employed within their settings and this presented adversities for the transition. Staff were reported to not fully understand the PA role and where it would "*fit*" (PA04) into the department, thus leaving the PAs to occasionally battle "*politics and hostility*" (PA10). PA07 described pressure to represent the role and not make any mistakes that would create negative assumptions about the profession.

> *"And I guess it was constantly having to feel, like, I guess if a doctor made a mistake*
> *someone would just criticise them and then move on. Whereas I felt like if I made a*
> *mistake, it wasn't just me that would get judgement. It was all PAs because I was the*
> *first PA there. So it was quite a lot of pressure to try and just showcase what the role*
> *was."* **–** PA07

In contrast, having existing PAs employed in a department was perceived to facilitate the transition by PA13 as well as providing role modelling.

> *"We had two PAs there to sort of guide us so we could sort of watch what they did*
> *and know very much what our role was based on what their role was. So it just made*
> *transition from student to qualified, which is hard, it made that a lot easier."* – PA13

In PA14's case, although there were no existing PAs in the department upon commencing their employment, another NQPA was employed at the same time. Together they were "*figuring out the role*" which helped "*dramatically*" with their transition. When PAs are the first to work in their setting the ability to 'showcase' the role is considered. TM10 explained that the internships set up can have multiple purposes: providing the PA with learning opportunities, addressing service needs, and showcasing the role in new areas. This may be

challenging however if NQPAs lack suitable role models and have a clear understanding of what is expected of them as a PA.

Exposure to a setting prior to commencing employment as a PA was regarded as beneficial for the transition. Having attended placements as a student within the setting PA04 was employed in had been beneficial as they were familiar with the team and organisational processes, "*not everything was brand new*". In between finishing their postgraduate course and commencing employment, they attended their work setting where colleagues gave them "*the reins*" as much as possible as a student. Similarly, PA06's final placement as a student, albeit in a different location, was within the specialty they were currently working in, and this was helpful for thinking how they would manage their role when qualified.

5.2.2 "Nothing can quite prepare you" – Preparedness for Practice (PfP)

The PA participants across all three parts of the study were asked how prepared they felt for practice following completion of their university course. Figure 6 displays the responses given in the All-Wales PA questionnaire by setting to the question "*Following your course, how prepared did you feel to undertake the role?*" with a five point scale, the options provided were very prepared, prepared, neither prepared nor unprepared, unprepared and very unprepared[17].

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[17] An option of 'unsure' was also provided though no participants selected this option.
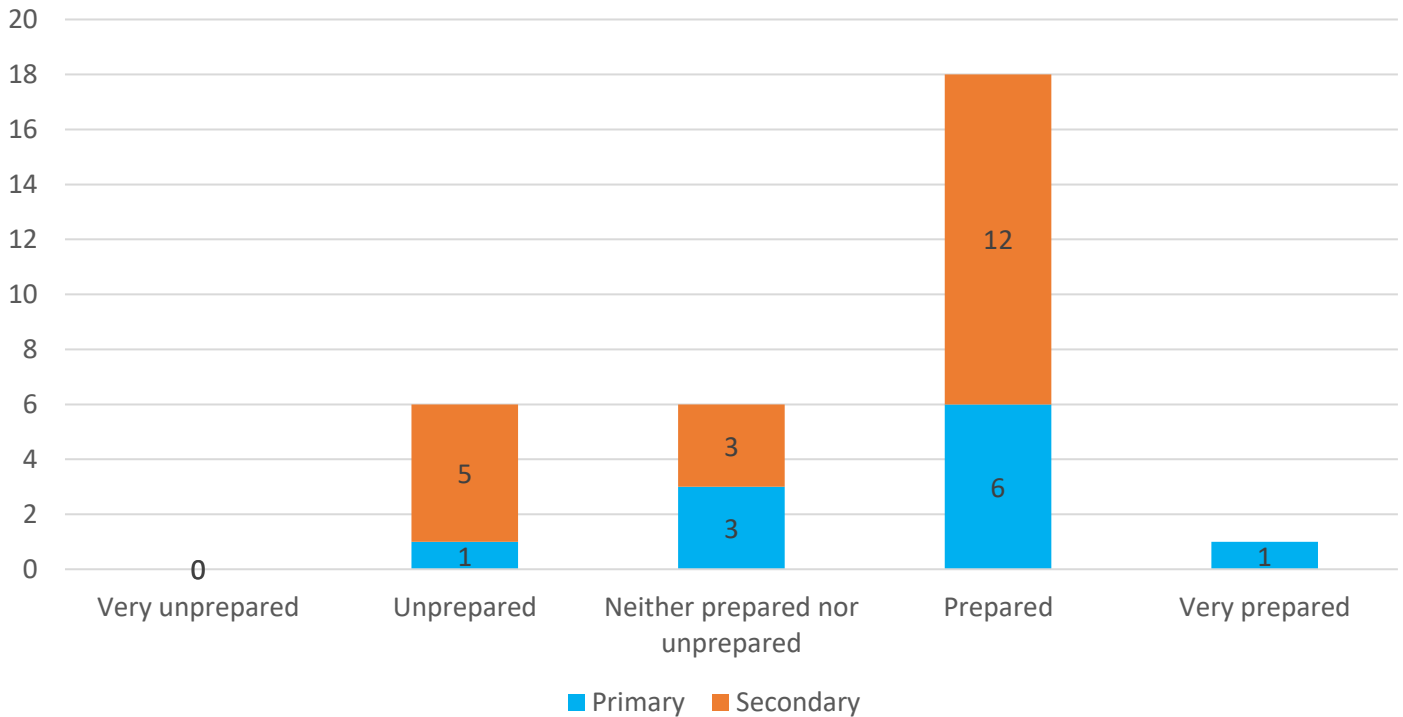
Figure 7: PfP following PA course by setting

As Figure 6 demonstrates, the All-Wales PA questionnaire respondents overall felt prepared for practice upon completion of their university course. From their own perspective, the primary care PAs were slightly more prepared for practice than the secondary care PAs (mean=3.64 vs mean=3.35 respectively). Considering that there were more secondary care respondents, none of the primary care PAs stated that they felt very unprepared and only one felt unprepared. Additionally, the PA university course placements include more time in secondary care than primary care (FPA 2012). Upon qualifying PA06, who was working in the secondary care setting, felt that they would have struggled working as a PA in primary care as they would be "*seeing patients by [yourself]*" (PA06). The value of having "*instant feedback*" (PA06) from a Consultant and other colleagues was deemed important during their first-year, post-qualification for learning and to "*get better quickly*" (PA06). PA02 did initially plan to work in secondary care upon qualification which they believed had a consistent hierarchy and primary care was seen as "*quite daunting*" to go straight into as a NQPA. But, after starting their post in primary care they reflected that secondary care may not have provided the consistent support as in primary care with staff rotating, they considered the support in their post could "*enable you to grow*".

The findings from the All-Wales PA questionnaire demonstrate that the respondents felt prepared for practice, but the findings from the case studies and one-off interviews offer a conflicting view. Despite a few of the PAs stating that they felt prepared to begin working as a PA, there were more feelings of being unprepared described. Participants described facilitators to their preparedness, including elements of their university course and the team they were working within.

> "…because I was in a very supportive clinical placement within the job that I have now…I didn't have that massive leap that my colleague had because they came from another hospital. So I think it prepared me a bit better for sort of graduated life than my colleague." – PA14

However, even those who did believe that they were overall prepared for practice shared some conflicting thoughts.

> "I did feel prepared, but I feel like you could always feel more prepared. So it was a case of once I'd passed the national exams I was like, okay I'm actually able to work on a ward now that should be some preparedness. But I was ready to expect feeling a bit unprepared because it's just a new role and a new sort of job career." – PA11

According to the PAs across the study, the feeling of unpreparedness was often unavoidable. Feeling unprepared was considered to be unavoidable yet accepted amongst some PAs as a 'natural' feeling. PA04 stated that they had the benefit of familiarity with the setting in which they joined, yet there was nothing that could mitigate the feeling associated with the shift.

> "I didn't feel prepared, but I'm not really sure what else could have been done." – PA07

> "Everybody feels unprepared and that's the one thing that I do say to students…you will feel like you aren't prepared and that you don't know anything at all…Everybody feels the same…" – PA09

This issue was also raised by an All-Wales PA questionnaire respondent who stated that all PA graduates feel unprepared "*to a greater or lesser degree*".

As well as impacting the transition from student to qualified PA, the gap between completing the PA university course and starting employment was also highlighted as a contributing factor to a feeling of unpreparedness. There were some discussions surrounding the impact of a loss of practice for clinical skills such as taking blood and the subsequent impact on their confidence.

> *"So I'd had months of nothing. No job. No clinical. No science based, nothing. So I do feel like I was quite deskilled in those six months. Obviously they're still there, but I felt like it took longer for me to get started and to reheat up and to rebuild the confidence than if I had started straightaway."* – PA02

> *"I just felt like I'd lost some of the skills like for example doing bloods which was something I was quite confident post-graduation…you feel you're ready to start a job, but then obviously, coming into the job again, it's because it's a manual skill you've got to keep practicing it to be good at it."* – PA03

The comparison was made between the preparedness of PAs and doctors. PA01 reflected that whilst the Covid-19 pandemic had impacted how prepared they felt, the length of time spent on the course was shorter than that of doctors. In the UK a medical degree typically lasts five years, although PAs are required to have a previous degree the PA course lasts two years which equates to the same amount of time to a typical medical degree.

> *"…even if Covid hadn't have happened I still think I would have worried about how prepared I was. Just because compared to NQ doctors, two years just doesn't really compare to five years and I felt, I didn't feel particularly prepared I guess. It sounds quite bad, doesn't it?* **– PA01

This comparison was also echoed by PA08:

> *"…because our course it needs to cover so much stuff…maybe the lecturers themselves probably complete everything, but I feel like the amount that you can actually take from the lectures that you need to pass the exams to become a PA is obviously not as fully in-depth in every single thing as what a doctor probably would come out with. I feel like the doctors that I've worked with would know just a little bit more about most things…"* – PA08

From their observations during work, PA07 on the other hand speculated that FY1 doctors also feel unprepared for practice. TM14, who was working as a doctor, felt that PA students were just as experienced as medical students as a result of the intensity of the PA university course. With the length of time required for a medical degree being more than double than that of a PA postgraduate degree, TM14 believed that the PA training course is "*stricter*" whereas placements during their medical degree could be "*quite relaxed*" and were given more free time if there was "*not much happening*" according to the supervising doctors.

The shortness of the course was also highlighted by PA06; "*…two years and then you suddenly qualify.*". The length of the course was also mentioned when asked if there was anything participants felt could be added to their curriculum and the difficulty there could be due to its intensity. TM06 commented that the PAs have "*good building blocks*" from their two years of training and are as prepared as they would expect in that time frame with "*exponential*" development in their first-year post-qualifying. Comparisons were made between NQPAs and FY doctors; whilst TM06 felt that PAs were prepared for "*generic*" like FY doctors, they needed more input at the beginning, and they would not put them on-call from the start of their job as they would FY1 doctors.

When comparing those with prior NHS work experience to those without in the All-Wales PA questionnaire, those with prior experience (n=11) felt only slightly more prepared for practice than those without (n=20) (mean=3.55, mean=3.45 respectively). This suggests that having previous NHS work experience may not necessarily influence how well prepared for practice PAs feel. For one respondent, their prior experience had presented difficulties in their role as a PA.

> "*I came from another healthcare background and was worried about the policies and using the software to document consultations etc.*" – PA, All-Wales PA Questionnaire respondent

Some of the PAs in the case studies and one-off interviews, on the other hand, illustrated how their previous work experience had helped with learning their role as a PA. PA06 experience meant they felt more familiar with medications and patient management. Previously working with patients was considered a key beneficial experience for PA01 and PA04. PA01 particularly felt that their previous work meant that they were not just "*sticking*

to the job role". PA03 on the other hand had previous healthcare experience but resonated with the findings from All-Wales PA questionnaire and did not feel more advantageous than those without experience.

Team members and management staff were also asked how well prepared they felt PAs were for practice, though care was taken when questioning this area not to critique an individual's competency but rather consider PA's preparedness more broadly. There was a feeling amongst the team members that the PAs they were currently working with or had worked with were well prepared for practice.

> *"I think sometimes they come across maybe as being more prepared than some of the junior doctors...all the ones I've worked with have hit the ground running and don't seem to have any issues and seem to be just come in and get on with it..."* – TM04

5.2.3   Confidence development

The initial period of practising within a new role will undoubtedly impact how confident an individual will feel. TM14 contemplated that it would be "*pretty terrifying*" when beginning to practice as a NQPAs following their two years of training, "*being chucked out into the world*". Five of the PAs from the case studies reflected on the development of their confidence in practice over time; of note, as detailed earlier the PAs had been qualified for different lengths of time so reflections differed.

Coined by Clance and Imes (1978) from their observations of high achieving women, imposter syndrome is defined as the "*internal experience of intellectual phoniness*" (Clance and Imes 1978, p.241) and others externally have been successfully led to believe otherwise. Imposter syndrome has been observed amongst HCPs (Christensen et al 2016; Thomas and Bigatti 2020) as well as with PA students (Brown et al 2020) and within this study a feeling of imposter syndrome was shared by PA02 and PA07 reflecting on when they first began working as a PA.

> *"I felt like I didn't know anything. The imposter syndrome was, 'Well who am I to give anybody medical advice?' Yeah, that's a lot of how I felt because [doctors] are very skilled. They've been doing this for years and I was very much how on earth will I ever, ever know."* – PA02

"I definitely had imposter syndrome. I remember, like, going to see patients and thinking oh it's ridiculous anyone has allowed me to go and see a patient because I couldn't possibly know how to look after this patient." – PA07

PA01 reflected that although they knew "*in [their] gut, [they] know there's nothing sinister going on*" they sought reassurance from their supervisor to ensure they had not missed something, and this was related to their confidence. PA02 shared a similar sentiment of wanting reassurance from their doctor colleagues.

"Initially after every patient I was discussing them with the [doctor], making sure I'd done everything right. I'd get the [doctor] in to double-check everything that I did." – PA02

Time and experience were important factors in the development of confidence. From TM06's perspective, investment in PAs when they are NQ is required, and developing their confidence is part of this. This confidence development will be a "*gradual build up*" (PA03) for some PAs. PA02 described themselves as a naturally shy person but shared that their supervisor had recently commented they had noticed how much their confidence had changed. Following this comment PA02 reflected on this themselves.

"If anybody would have come up to me with what they've come up to me recently, [time period] ago I would have ran straight…to get a doctor." – PA02

5.2.4   The responsibility shift

Ten of the 16 PAs from the case studies and one-off interviews spoke about the shift in responsibility in the transition from student to NQPA. As a student, there are restrictions on responsibilities and different expectations of contribution. Students are not responsible for their own caseload of patients and the gaining of responsibility for patients when qualifying was regarded as a "*learning curve*" (PA03, PA06). Again, the feeling of not being prepared for the shift in responsibility was inevitable according to PA04 and PA08.

"…but I know I left one day being a PA student and then came back another day being a fully qualified PA, and nothing can really prepare you for that completely. You just have to work it out for yourself and you're just suddenly a lot more responsible for patients than you were the last time you were there." – PA04

"…and also learning to be in a work environment all of the time because you are treated very differently as someone who's contributing to the team versus someone who is shadowing. So I think that is a step and I don't think there's much that you can do really to prepare yourself for the step." – PA08

Not being able to hand patients or tasks over to colleagues was identified as a challenge in the transition to NQPA by three PAs.

"I found it quite hard…feeling the responsibility for the patients. You know, you can't just hand over to a doctor and then leave at the end of the day…So the responsibility of then having to go back and follow the patient up and not just leaving them." – PA01

"…it was more like, oh I've got to make the decisions now, instead of I relied on like passing on the information to the doctors…I think it was more the responsibility of I've actually got to look after patients, I think that was the big step…" – PA14

PA01 and PA03 found themselves working past their core hours as a NQPA as they were not able to hand over patients to colleagues as they would have done as a student. PA03 reflected that they felt they had not spent enough time as a student reflecting on how they would manage a caseload solely when qualified.

Increased responsibility was raised by some PAs when discussing how their role had developed over time, but it had been a "*gradual thing*" (PA07). PA06 talked about their experience of supervision and autonomy, they had received more supervision when they began their post as a NQPA, as expected, but this had lessened as they progressed.

"…my job has changed quite dramatically now in terms of the level of my clinical supervision…I was much more supervised and things when I first started. I think it would be quite worrying if I wasn't. Whereas now as the cases are more of a kind of distanced supervision. So I can quite comfortably see patients myself, have a chat over the phone and then in that capacity have a diagnosis, management plan and discharge." – PA06

5.3 Internships

PAs upon qualifying can initially be employed within an internship position; this is strongly recommended according to the PA Competence and Curriculum Framework (FPA 2012). A definition of an internship for PAs has been provided by the FPA:

> *"Employers of NQPAs, or of those who have just moved to a new specialty, may wish to offer a one year 'internship' so that the PA is able to consolidate their core knowledge and skills, and demonstrate their competence in practice. During this period, they should be supervised more closely, have experiential leaning in the clinical area in which they are working, and should maintain a portfolio of cases and case discussions with clinicians which may also be reviewed with their clinical supervisor."* (FPA 2022h)

The internship period can range between 12 and 18 months. The FPA also provides guidance (FPA 2022h) for PAs and their employers including general recommendations and suggested timetables for reviews and appraisals.

Participants across all three parts of the study were given the opportunity to share their experiences and perspectives around PA internships. All PAs in the case studies and one-off interviews, bar one whose interview ended prematurely and one who was unsure, were currently or had been employed in an internship post. In terms of the respondents of the All-Wales PA questionnaire, six were currently employed in an internship, 13 had previously been employed in an internship in Wales, two had previously been employed in an internship outside of Wales and two were unsure.

5.3.1 Internship satisfaction

Respondents in the All-Wales PA questionnaire were asked to rate how satisfied they were with different areas of their internships. Tables 15 and 16 displays the responses given to the question "*Thinking about your current/most recent internship, how satisfied or dissatisfied were/are you with…*" with a five point scale, the options provided were very satisfied, satisfied, neither satisfied nor unsatisfied, unsatisfied and very unsatisfied[18,19].

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[18] An option of "*unsure*" was also provided, only one participant utilised the option but were also unsure if they had undertaken an internship, so their data is not included.

[19] Scale options were numbered for analysis: very satisfied=5, satisfied=4, neither satisfied nor satisfied=3, unsatisfied=2 and very dissatisfied=1.

Table 15 displays the results from PAs who were currently employed in an internship in Wales (n=6) at the time of the questionnaire distribution and Table 16 includes those reported to have previously been employed in an internship in Wales (n=13).

Table 15: Satisfaction with internship – currently undertaking an internship in Wales[20]

Statement	Mean	Mode
The quality of work you are given	4.00	4
The amount of support from your clinical supervisor(s)	4.00	3*
The amount of support from your line manager	3.83	4
Overall satisfaction with the internship	3.83	4
Your employment package	3.50	3*
The general organisation of your internship	3.17	3
The amount of allocated time for CPD	2.83	4
The induction process	2.50	2*

Table 16: Satisfaction with internship – previously undertaken an internship in Wales[17]

Statement	Mean	Mode
The quality of the work you are given	3.31	4
The amount of support from your clinical supervisor(s)	3.08	1*
Your employment package	2.85	3
Overall satisfaction with the internship	2.69	1*
The amount of support from your line manager	2.62	1*
The amount of allocated time for CPD	2.46	1
The induction process	2.31	1*
The general organisation of your internship	2.23	1

The findings from the internship satisfaction scale demonstrated that satisfaction in all areas of the scale had increased for those currently undertaking an internship in Wales at the time of the questionnaire compared to those who were previously employed in one. Both groups of respondents had the lowest mean scores for the same three areas; the amount of time allocated for CPD, the induction process and the general organisation of the internship.

According to the FPA Competence and Curriculum Framework, internships should provide NQPAs with the opportunity to consolidate their learning and translate this into competent

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[20] Those marked with an asterisk have more than one mode and is displaying the lowest mode.

practice (FPA 2012). As shown in Tables 15 and 16 the amount of time allocated to CPD received one of the lowest satisfaction scores for both PAs who had previously and were currently employed in an internship post in the All-Wales PA questionnaire.

> *"I had no support from the health board for my internship. No formal CPD, no review meetings, no opportunities or teaching with fellow PAs."* – PA, All-Wales PA Questionnaire respondent

> *"More information on funding for CPD should be required as no one has formally told us how much we are entitled too - you have to jump through hoops to find out."* – PA, All-Wales PA Questionnaire respondent

Although some of the PAs in the case studies and one-off interviews felt they satisfied with the learning and teaching received, there seemed to be more dissatisfaction and challenges associated with this area. PA13 was generally satisfied with the amount of teaching/training they had received personally but shared the perspectives of their peers working in other health boards in Wales.

> *"…but a lot of my other like PA colleagues who graduated from the same cohort who are working in another health boards now do not have the support and the teaching and the training. Their answer when they asked about it was 'Well you'll learn on the job via osmosis' to which you can really reply 'It's not an internship then is it?' it's just a normal job'."* **–** PA13

In contrast, PA06 stated that despite not receiving dedicated learning time during their internship, they valued learning from working with their colleagues and "*doing [the] job*" more than having self-directed learning time.

The expectation of having more dedicated learning time and opportunities as part of the internship was assumed to be a trade-off for being paid at a Band 6 rather than Band 7 rate. Though some of the PAs felt that the pay 'cut' they had taken as an intern had not been balanced out by the learning opportunities offered.

> *"I think I don't really know that the internship year offered enough training to be worth less pay, but I don't have hugely strong feelings on it, but I would be erring towards not recommending it."* – PA07

PA16 also commented on the reduced pay and lack of training offered through their internship.

> *"It didn't really differ in any way to how I'm working now, apart from the pay. That was it. There was no special teaching. It was a job really. There was nothing special about it. It was just they got to pay me less to do the same job really."* – PA16

They further reflected that they had hoped the internship would have structure and more dedicated teaching similar to junior doctors.

There were mixed experiences reported on starting out as a NQPA in an internship post by the interviewed PAs. PA01 gave details of what their induction involved and PA10 was able to provide a comprehensive list of what their objectives were and stated that it was communicated clearly. However, others were less clear on their objectives and what the internship would entail. PA07 stated that it took two months for a job plan to be devised and they were "*driving it to be clear*" with senior staff. Even simple logistics were unclear as they were unaware of what time they were required to start work at the beginning of their job. PA12 had also waited two months to meet with their supervisor to discuss their job plan. Whilst having influence over how their role would be shaped and progress, PA14 found not having clear objectives when commencing their role challenging.

> *"I think it was challenging because obviously it would be nice to have like that supervisor…I want to develop the role but I need someone senior to, sort of, help me do that. I think there's lack of [doctors] anyway and they're all a bit stretched. So my supervisor…can only do so much."* – PA14

The development of job plans was an informal process for PA11 and PA13 with nothing "*set in stone in…a policy of what to do.*" (PA11). PA13's understanding of what was expected from the role of the PA was centred around their pre-internship rather than being "*sat down and told this is what you'll be expected*".

> *"Poorly structured but could be due to as we were the first qualified PAs. No educational/clinical supervisor that had time to supervise. Had to ask for appraisal myself and wasn't listened to when I stated how I wanted to progress and develop*

role. Still after nearly [time period], no mentor to discuss problems with." – PA, All-Wales PA Questionnaire respondent

"A larger induction package at the start of training - not just thrown on a ward." – PA, All-Wales PA Questionnaire respondent

The structure of internships differed between participants in the case studies and one-off interviews. Internship posts were a combination of static and rotational posts, examples were given of some PAs rotating between specialties, akin to FY1 doctors. TM06 explained that they believed it would be beneficial for NQPAs to attend generic posts in their first year like FY junior doctors. Interestingly, some of the PAs were given input into how their internship would be structured. PA03 and PA16 were able to choose which specialties to spend time in based on enjoyment of the specialty and future aspirations.

The importance of the setting was raised with certain areas being considered more "*PA friendly*" (TM06). TM06 described how NQPAs would not suit certain areas/departments as they needed to consolidate the skills they had learned in training first. The challenges associated with department pressures meant that it was difficult for time to be dedicated to PA's internships according to PA08. However, PA08 also felt that internship roles would be more suitable for "*niche*" areas and not areas that students have lots of exposure to, such as general medicine.

Interestingly, some of the team members and management staff had no awareness of whether the PAs were undertaking an internship. Team members and management staff were asked if the PAs they were working with were internship PAs and often there was a lack of awareness.

> *"I don't know. I don't know. I just turn up one day and they're there and we work together and that's what works."* **–** TM04

Two PAs also shared conflicting information around the requirement of NQPAs undertaking an internship, one stated that it was mandated in Wales while another stated the contrary.

5.3.2   "You're very much just doing the job straightaway"

The FPA states that NQPAs employed in internships should be given more supervision, be offered experiential learning and have a portfolio of cases reviewed by their clinical

supervisor (FPA 2022h). The shift in autonomous practice from being to a student to qualified PA, as discussed earlier, can be a challenging period for PAs. The shift in responsibility and autonomy gains was noted by PA08 as part of the transition to qualified PA and without the internship job they questioned what it would have been like.

> *"I feel like the job itself was good because it's a good introduction because it's an internship. So I wouldn't know what it would be like just going straight into the full thing because it is a big jump between not having autonomy and having autonomy."* – PA08

PA01 also explained how the internship post had helped them feel more at ease going into the role as they would not be required to make decisions without supervision. The level of support provided was regarded as important. PA02 felt the extra support provided was necessary to "*ease you into that first year*". Using the internship as "*protection*" to avoid situations deemed to be uncomfortable as a NQPA.

> *"…I think they sort of started from scratch with me…There was no kind of, 'Oh, you should be at this level or that level'... So, I didn't feel there was pressure on me to be at a certain stage whereas had I perhaps, picked up a different post elsewhere…I don't know perhaps would their expectations have been a bit higher, you know, would they have pushed me more? And I don't know if I'd have been comfortable with that."* – PA03

Despite the FPA providing guidance of the remit of an internship, PAs across the three parts of the study detailed their experience of feeling that their jobs did not differ greatly from their non-intern PA counterparts.

> *"The internship I don't feel much different than the other PA. I think the only difference is that they've been there [number] years and I've been there [number] months. I don't feel as if they do anything different. I don't feel I'm constrained to any part of the role. The only difference is I've got to do a portfolio this year and they don't."* – PA12

> *"…the internship year didn't really happen for myself. I just started working, I had that high level of supervision the first year, but I would expect if I just changed roles*

now…I would expect that level of supervision because obviously I'm not competent in that area. There was no internship year. Nothing changed" – PA06

Although in the context of the Covid-19 pandemic, PA10 believed that their role went beyond the scope of the internship:

"So even though on paper I was an intern, in practice I was acting at a very high level. So my view of the intern year would be it's nice on paper but in reality with staff shortages and rising patient demand we were not utilised as an intern in that first year and that should really have been taken into consideration." – PA10

PA10 further speculated that it was not always possible for internship PAs to have directed supervision for the whole period and PAs will sometimes carry out a great deal of additional work during the internship because of demands present. This was echoed by PA08 stating areas that are "*stretched*" may find it difficult to provide the level of support and teaching that is expected in an internship.

Issues relating to pay while being employed in an internship post were raised when participants discussed feeling as though they were doing the same role as non-interns.

"I mean, if I'm being completely honest I was paid a Band 6 for a year, as opposed to a Band 7 and there's been no difference…." – PA06

"I think the Band 6 pay for a year before progressing to Band 7 is inappropriate. After doing my training I am qualified and deserve a Band 7 wage. After [time] in the job I'm doing the same job as the other post induction PAs who've progressed to a Band 7." – PA, All-Wales PA Questionnaire respondent

PA16 felt there was nothing "*special*" about the internship and their employer "*got to pay [me] less to do the same job really*" (PA16). Since data collection was completed, all PAs employed in internship posts in Wales are now paid at a Band 7 rate.

5.4   Summary

This chapter has explored the process of becoming a PA from the perspectives of the PAs themselves and the findings detailed contribute to the understanding of the experiences of the transition from student to qualified practitioner specifically for PAs. To be able to practice in the UK, PAs face a two-year, postgraduate university course following their

undergraduate degree in addition to further learning once qualified. The placements and practical experience were considered to be one of the most valuable parts of the training programme, however the university course was perceived to be intense by the PAs. The shift from being a student to qualified practitioner is undoubtedly challenging for any HCP and there were mixed views on PAs' PfP. For some the feeling of unpreparedness was unavoidable and there were inhibitors to feeling prepared including having a gap between completing the university course and commencing work.

Whilst being employed in an internship may offer a 'steppingstone' into working as a qualified PA, for some there was a feeling there was little difference between internship and non-internship posts. There were also issues raised by the PAs in this study around the structure and organisation which if addressed could improve the impact and outcomes of internships. A lack of knowledge of what an internship entails was observed Ensuring a smooth and supportive transition for NQPAs could in turn have a positive impact on their embedding and contribution to NHS Wales. These areas are discussed more widely in the following chapter.

6   Embedding, acceptance and impact of PAs in NHS Wales

PAs are still relatively new to NHS Wales and becoming successfully embedded into the NHS as a new professional group is critical to their wide acceptance. The following sections discuss the understanding of the PA role, a key theme in the data, from the perspective of the PAs, team members, managers, and patients. Following this, the chapter then shares findings surrounding team working between PAs and their immediate colleagues and the perceived impact of the PA profession.

6.1   Awareness and understanding of the PA role

The understanding of the PA role was discussed by all four of the participant groups in the study. PAs in the case studies and one-off interviews were asked to describe their role and the other participants were asked to describe their understanding of the PA role, though the issue was often raised in response to other questions. The following subsections discuss the understanding of the role from the PAs themselves and from the perspectives of team members, managers, and patients.

6.1.1   "I didn't even know what time to turn up for work" – PA's understanding of their role

Role ambiguity has been observed in the introduction of new roles from colleagues as outlined in the review of the literature. But the ambiguity can also be present in the PAs themselves. There appeared to be a lack of clarity surrounding their role objectives and responsibilities upon commencing their PA job. PA05 described not having clear objectives when they started their job, they just got "*stuck into ward work*" learning how the department operated and the typical day-to-day skills. PA07 felt they did not know what was expected of them as a PA.

> *"So when I first started no, I didn't even know what time to turn up to work…So when I initially started there weren't any [objectives] at all…"* – PA07

PA12's understanding of their role objectives was sourced from an existing PA colleague in their area. But with their area being so busy they referred to it as a "*baptism of fire*" meaning there was limited time and opportunity to provide learning for them.

> *"It's just because luckily there's already a PA there and it was like, 'Do what they do' type thing rather than 'This is what you should be doing, this is our roles'…And it*

made it even more difficult because remember I told you about the baptism of fire type thing so no time to learn, it was just kind of follow them around, see what they do and do what they do…so I found if they're not there it's just like 'Oh what do I do now?' type thing." – PA12

A clear understanding of the role is important for both the PAs themselves as well as those they work with. TM15 felt that PAs were unaware of their own role and expressed frustration around this. They shared an example of conversation with a PA who stated that they could work to the level of a Senior House Officer (SHO) (now known as FY2/specialty trainee) which TM15 disagreed with. They did however state that the PAs themselves are not to blame for misinformation around their role.

"…but the lack of insight into your profession and your role to think that you will operate at the level of a doctor is not only disrespectful to me as a doctor, but dangerous for my patients because they don't have the insight to know their own limitations and I genuinely worry about it." – TM15

When asked if PAs would benefit from more training, TM05 felt that the PAs themselves needed more understanding of their role but put this down to the role being relatively new. Further to this, PA10 believed that the PA course should include information about how the PA role relates to the wider NHS and other clinical roles. They indicated this may be an issue particularly for PAs without prior healthcare experience.

"So if you're a PA and you're in your early twenties and you got straight into university and then you've gone straight to becoming a PA, you yourself don't really understand the role. You understand your training and your background but you don't understand NHS and how it works." – PA10

6.1.2 "As long as they're not used as a sticking plaster for vacancies elsewhere" – Colleagues' understanding and perceptions of the PA role

Understanding of the PA role was discussed widely amongst all of the NHS staff participants. This section shares some of the findings related to how colleagues of PAs understand the role from the perspective of both the PAs and those who work alongside them.

From the perspective of those working with PAs, there was an overall feeling of ambiguity when initially working alongside PAs, especially if they did not have a prior awareness of the role. TM15 stated they "*have no actual clue what PAs do…in the most polite way possible*" and considered their role to be "*muddy in terms of what it is*". According to TM17 the definitions of PA's practice and their role expectations are "*fairly woolly*". TM19 described medicine to be fragile towards change and new things, which in turn has caused people to "*put up their defences*" around PAs. TM07 referred to these clinicians who reject change as "*the dinosaurs*".

TM02 acknowledged that when they first began working with PAs, they thought they were junior doctors, but put this down to not working with them closely so had not received information about their role. PAs and junior doctors can become blurred with PAs undertaking roles traditionally associated with junior doctors according to TM04 which in turn creates confusion. As PAs play such a crucial role in TM04's setting, they admitted that even they have to remind themselves sometimes that they are not junior doctors. Colleagues who are knowledgeable about the PA role can in turn provide information and education to other colleagues who may confuse PAs for other HCPs. An example was provided by TM03.

> "*…I heard some of the [admin] staff saying that they were a doctor and they didn't know, so I had to do a bit of education there.*" – TM03

The importance of understanding what the PA role involves was felt by colleagues as well as the PAs themselves. TM19 reflected on their experiences of working with PAs in previous jobs and observed that some colleagues thought that the PAs were "*just here to write notes for me*" rather than be a functioning member of the team. This had stemmed from PAs being dependent practitioners.

Throughout the interviews there were some comparisons made between PAs and doctors. TM13 considered the PA to be an "*FY1.5*" as they were functioning at a level in-between an FY1 and FY2 junior doctor. TM07 did seem to have a sound understanding of the PA role, they explained that their PA colleague functioned like an FY2 junior doctor and when the FY1 was away "*we can still function without the FY1 because the PA can replace them.*". This demonstrates that although there may be an understanding of the PA role, their comparison

with doctors may in turn affect how they are utilised. TM17 was concerned that the PAs they were working with were not being utilised as intended and the PAs were being turned into "*mini doctors*".

There were some views shared by colleagues that PAs were not being utilised efficiently or even correctly because of a lack of understanding of the role. These accounts highlight the importance of clearly communicating to team members the role and competencies of PAs. From TM19's perspective this misinterpretation meant that the PA role had not been utilised appropriately. Within TM13's area, there was a limited understanding of the PA role and role planning had not been undertaken prior to the PA arriving. But because of the struggles their area was facing at the time, they were "*happy to grab [the PA] with two hands*" and safely allocate them in the "*biggest hole*". TM13 went on to elaborate:

> "*…but what that role is I don't know and obviously I've already made you aware of my ignorance as to what PAs are supposed to be doing in a legal system of the UK healthcare system. I'm in my little trench and there's incoming fire every day and somebody else turns up in the trench who is wearing the same uniform as I am. We just work together without actually knowing what the higher ups…have actually thought is going to happen or how it's supposed to work.*" – TM13

Whilst not in the context of the current utilisation of PAs in their area, TM10 believed there needed to be a clearer strategy for developing non-NQPAs which in turn, along with other more wider role developments, will "*enhance their role further*". TM10 further added they had to justify the role of the PA to others and initially hit resistance as there was concern that the PAs would replace the junior doctors. PAs were initially advertised as a resource to fill junior doctor staffing shortages which was problematic according to TM11. TM15 felt that the role of PAs was a valuable one, but they were currently not being utilised in the way they should be.

> "*…in the role that was described to me initially, their service provision is amazing because they provide context, they provide consistency, they provide administrative support and medical support so they can interpret some bloods and escalate appropriately. So in that role I think they would be excellent and provide a huge service actually. If utilised appropriately which I currently think they're not.*" – TM15

Having a good experience with PAs also helped to develop colleagues' understanding of the potential of the PA role. TM09 had not had an initial positive experience with PAs but this had changed. When interviewing PAs to join the area TM09 had wanted the PAs to convince them what their skills were as a PA and how this would translate into the area. They explained the competencies the PAs would not have and thought "*So what is their role?*" but this then changed as they had further experiences with PAs.

> "*In terms of the PAs role, the role itself there is definitely a place. As I say 18 months ago, I was on the fence. I was very much a case of, you know, I'm going to take some convincing and because we've had two good ones now, I'm now on the right side of the fence…*" – TM09

Understanding did however develop over time and with exposure to PAs which was emphasised by several of the colleagues of PAs. TM17 shared an example of this where they had observed a change in attitude of other over time.

> "*…so certain of my Consultant colleagues were quite suspicious of it as a career to start with thought 'Who the hell are these people coming along and doing a junior doctor's job?' and I don't hear that anymore.*" – TM17

When discussing how well prepared TM04 felt PAs were for practice, they spoke about the PAs they had worked with "*just come in, do the work and don't make a big fuss about it*" and "*hit the ground running*". This however meant that TM04 had to actively find out who the PAs were which may reveal a lack of introduction. Although TM04 spoke about this experience positively, at the same time it may have been beneficial for colleagues to know who the PAs are when joining the team and understanding their level of experience, i.e., if they are NQ. TM02 had a prior awareness of PAs before working alongside one but was proactive in finding out about their role, including asking about their training.

6.1.2.1 "Just constantly having to re-explain it" - Colleagues' awareness and understanding of the PA role according to the PAs

The lack of understanding of the PA role was a significant issue raised by the PAs. All bar one of the PAs from the case studies and one-off interviews shared instances of colleagues possessing a lack of clarity of the PA profession during their time as a student or as a qualified PA.

"Within the team, I think as something new I think it was just they didn't really know what I could do or if I would be any help. So I think just getting over that hurdle at the start of being like 'Yes I can do this, that and the other and you can trust me' …" **–** PA14

The rotation and turnover of colleagues meant that new members of the team may not have previously worked with PAs and the necessity to educate the staff about the role fell to the PAs. This is likely more of an issue for secondary care PAs working with bank staff and junior doctors on training rotations. PA06 and PA07 shared contrasting experiences of this.

"No one is really used to working with a PA and I constantly, constantly, constantly like kind of press what it is, why I'm here and what I do. I just think for the vast majority of staff they just still think, 'Oh yeah, like junior doctor'." – PA06

"…in time people see what we can do and the benefits for the team which I think it was especially noticeable as soon as the junior doctors rotate around. I think a lot of that negativity disappeared and actually now I feel like it's a very pro-PA environment." **–** PA07

Ambiguities around the PA profession were again identified within discussions surrounding regulation. PAs, unlike other HCPs, fall into a "*grey area*" (PA15) by not being part of a regulatory body. PA10 felt that there was a "*conflation between lack of regulation and lack of competence*" and had experienced opposition from other staff who believed that PAs were unable to conduct procedures.

"So I've come across [senior] level doctors who are senior leaders who say sweeping statements about PAs, so they assume because we're not regulated that we can't do X, Y and Z which is a complete, in many cases, wrong assumption." – PA10

The PAs spoke of the ambiguity from colleagues as challenging (this is discussed later on) but there were also examples of understanding developing over time. There were areas of PA08's job where they felt they would benefit from receiving more support and considered if this was related to a lack of understanding of the PA profession.

"…but I personally feel it all stems back to knowledge about what we're doing and where the national exam sits. I think that's the key thing, that people just need to

know, because then they know what they're dealing with, and therefore they know how to support us." – PA08

The lack of understanding around the PA role from colleagues often coincided with confusion for other professionals within the team. The PAs reported instances of being mistaken for doctors and nurses by their colleagues.

"So sometimes I just have to correct if someone says 'Doctor'. I'd say 'Sorry, I'm not actually a doctor. I'm a Physician Associate' and then that opens up the conversation…So, yeah, I think they know who we are but sometimes they get confused with junior doctors which I think is quite understandable." – PA11

PA10 explained that they felt PAs faced apprehension from "*old fashioned staff*" and these staff did not consider PAs to be a standalone profession.

"There's still propensity to deny that we're medical, even though the GMC have called us MAPs and we do train by the medical model. There's still a temptation to box us into a nursing or doctor box and we don't fit into either, but actually we are medical, and I will champion that." – PA10

The importance of colleagues not confusing PAs for other HCPs was identified by some of the PAs. PA04 reflected on the importance of PA role clarity or colleagues "*could easily mistake [PAs] as doctors*" and therefore ask for tasks to be done outside of the PAs remit. This confusion could lead to conflicts within teams. PA12 shared an occasion where this had happened between themselves and a nursing colleague.

"The nurses can't differentiate between me and a doctor…and one of the nurses got a bit nasty with me the other day because they asked me to prescribe something and I was like 'I can't prescribe it', and they didn't give any justification for why they needed it and I think it's really dangerous. So I asked them to go and ask one of the doctors and they thought it was because I didn't want to do it for them in particular." – PA12

PA12 also considered the influence of uniforms and how this affects role differentiation, uniforms will be discussed further in an upcoming section. Some of PA06's colleagues had referred to them as doctor in front of patients which was a source of frustration for PA06.

"…and they'll say 'Doctor' in front of patients and I'm like 'Oh no, it's just [title] I'm a prac'…It's fine but I think for a lot of people they struggle with it. I've had staff tell me before it's like 'Oh, no I do it out of respect' and I'm like that's just like the opposite and I find it disrespectful that you insist, you know, my role is like a doctor." – PA06

According to some of the PAs across the study, apprehension towards the PA profession and resistance from other staff was the product of ambiguity surrounding the PA role. Hesitancy towards PAs from other professionals has been reported in previous studies in other areas of the UK and the findings of this study, suggests there is still some hesitancies present towards PAs. The quote below from a questionnaire respondent is an example of a negative comment received.

"Lack of respect by certain groups individuals within certain professions. Recently been called a failed doctor who could not even get onto pharmacy and did PA instead. ANP who have stated we are not needed within the NHS and they don't think we need to fit in as no one knows what to do with PAs." – PA, All-Wales PA Questionnaire respondent

PA09 explained that when they first started working as a PA, colleagues were unsure of their role, but they still faced questions around "*how good [PAs] are*" and "*are [PAs] just medics on the cheap?*". In PA14's case, other departments had placed limits on what they would accept from PAs, e.g., referrals, but from their perspective they had not been consulted about changes and had gone straight through management.

The circulation of inaccurate information about the PA role was reported to create tensions and resistance towards PAs. PA10 provided an example of another HCP who shared "*very inflammatory comments*" which had been shared amongst colleagues thus created tensions. In a previous PA job, PA08 explained that as a result of shared misunderstanding of the role, they were subject to some resistance from colleagues.

"…I know there was a lot of resistance from the NPs that time because of the misconception coming from the [doctors]. They said that these people are coming as almost [junior doctors] and they're coming into the team and the Band 8 NPs didn't, kind of, like that in a way because we came and we weren't as competent as a [junior

doctor], to be honest. So they were a bit, like 'Well what can you do then?' Yeah, it hit quite a lot of resistance." – PA08

The PAs felt there was a better understanding and acceptance of their role as time progressed and they became more embedded in the team. This is particularly true for the PAs who were some of the first PAs to work in their areas. PA07 described the challenges they faced in their job at the time of the interview as very different to the challenges they faced when starting out as a PA.

"…but then in time, I think that was the only solution really, just in time people see what we can do and the benefits for the team which I think it was especially noticeable as soon as the junior doctors rotate around. I think a lot of that negativity disappeared and actually now I feel like it's a very pro-PA environment." – PA07

"I think there is a predisposition of 'Well they can't be that good. You know…only two years training. What can you actually bring?' And after spending some time within a specialty or within a unit there is often a shift towards actually they're really, really handy and they can do all the things that they say they can do…" – PA09

PA09 had been working as a PA for a lengthy period and reported ambiguities and resistance when they first started working, but unfortunately some of these attitudes had still not resolved.

"…always in my experience once they've [the team] worked with a good effective PA they become an advocate. It's that period before they've got to work with a PA where the hostilities arises. Whenever I hear any hostile comments or misinformation about PAs I can almost always guarantee it's because they haven't worked with one." – PA10

Being the first PA within an area meant staff required information and education about the PA role and this task fell to some of the PAs. Being some of the first PAs to an area meant having to "*constantly re-explain*" (PA07) their role to rotating junior doctors with no prior experience of working with PAs. To address the issue being the first PA in their area, PA02 initially planned to organise a presentation with colleagues outlining their role, but the Covid-19 social distancing advice and restrictions halted this plan. Instead, they spoke to

their colleagues individually and developed a list of their competencies and distributed this among colleagues.

Despite time being a critical influence on the understanding of the PA role, this is not always the solution to any ambiguity which PA13 highlighted.

> *"Even your regular team that you work with every day generally have a very good understanding of what you can do, but not always. I think I was working with a [doctor] the other week that didn't know I could do [task] which is sort of one of the bread and butter."* – PA13

In addition to the passing of time being an important factor in the understanding of PAs from colleagues, according to PA09 time was also of significance for patient acceptance. They observed a shift in patient attitudes over time from ambiguity, "*Oh what's this about? They're not a proper doctor*" to being requested for appointments. Patient awareness and understanding of the PA role is discussed in an upcoming section of this chapter.

6.1.2.2   The role of uniforms

The issue of PA uniforms is pertinent here. There is currently no standardised mandate in Wales around PA uniforms and whether PAs are required to wear a uniform and what type of uniform varies by health board/employer. There were mixed opinions around PA uniforms amongst NHS staff participants. Those who were supportive of PAs wearing a distinctive uniform, felt it would be beneficial for identity development for the profession. PA06 emphasised their desire to be identified as a PA rather than as a doctor and felt that a uniform would aid in this development.

> *"I think it's definitely worth having like a distinct kind of uniform for PAs just so it does get more established. It's more recognisable. People can obviously then maybe start saying 'Oh yeah, that's the practitioner'. Not kind of doctor."* – PA06

Of the case study and one-off interviews PAs, eight stated they wore a set uniform and of these eight, four stated they were in support of PAs wearing a uniform. There was a sense of pride in the role from PA05.

> *"Some people think it segregates them from the medical team. At the moment everyone is in scrubs anyway because of Covid. So, you know, that's no big difference*

to me, but I've never had a problem with it. I think it's quite nice to be recognised and there's nothing to be ashamed of to be a PA." – PA05

While discussing their perspectives around PA uniforms, PA07 reflected that because of the Covid-19 pandemic, scrubs were more widely used across staff so PAs wearing uniform was less of an issue. They felt that wearing a uniform is beneficial, but this was only because there were larger numbers of PAs in their setting.

In contrast, others were unsupportive of PAs being required to wear a distinct uniform. Some perspectives included feeling it was unnecessary to have a standardised uniform as it may segregate PAs from the medical team who traditionally are not required to wear a set uniform (though this is setting dependent).

"Yeah, it's a difficult one because I personally don't think we should necessarily have to wear a uniform that distinguishes us from the doctor, because I feel we are really part of the medical team. And I think if you're very clear about what your limits are, there shouldn't be any trouble." – PA03

"I think at the moment we're better off just wearing our own clothes because I think it just causes too much confusion or put us in the same colour as the doctors and print PA on it because at the end of the day we work with the medical team and we're part of that team." – PA16

Whilst PA02 felt the PA professional group was not yet at a size to warrant having a distinctive coloured uniform, there was recognition that PAs could be confused for a doctor if they were *"wearing normal clothes and a stethoscope"*. PA09 shared a similar sentiment. They were generally unsupportive of having to wear a uniform aside from the practical benefits but did identify the importance of not being confused for a doctor and how age can create this confusion.

"…but I also think that it demarcates you as something different and I know that that's also got its benefits that you're not confused with being a doctor and you're not confused with being anything else. Because of my age there is a couple of people that have started to talk to me as if I'm [doctor] and I'm really not and I've had to go 'Actually I'm not who you think I am'." – PA09

From the results of All-Wales PA questionnaire, the majority of the respondents reported they were not required to wear a uniform as part of their PA role, nine stated they were required to wear a uniform and one respondent was unsure. Table 17 displays the responses to the question "*Are you required to wear a uniform as part of your job?*" by participant setting.

Table 17: Uniform requirement by setting

Setting	Uniform?	Figure	%
Primary care	Yes	1	9.1
	No	10	90.9
	Total	11	100.0
Secondary care	Yes	8	40.0
	No	11	55.0
	Unsure	1	5.0
	Total	20	100.0

The larger proportion of secondary care respondents being required to wear a uniform is unsurprising given that most of these respondents were working in either medical assessment units or inpatient wards. The results from the wider PA survey also found there was limited support for PAs wearing uniforms and this is displayed in Figure 7. No respondents felt very favourable towards PAs wearing uniform and only two respondents felt favourable. The data also shows that the primary and secondary care PAs had broadly similar attitudes towards PAs wearing uniforms.
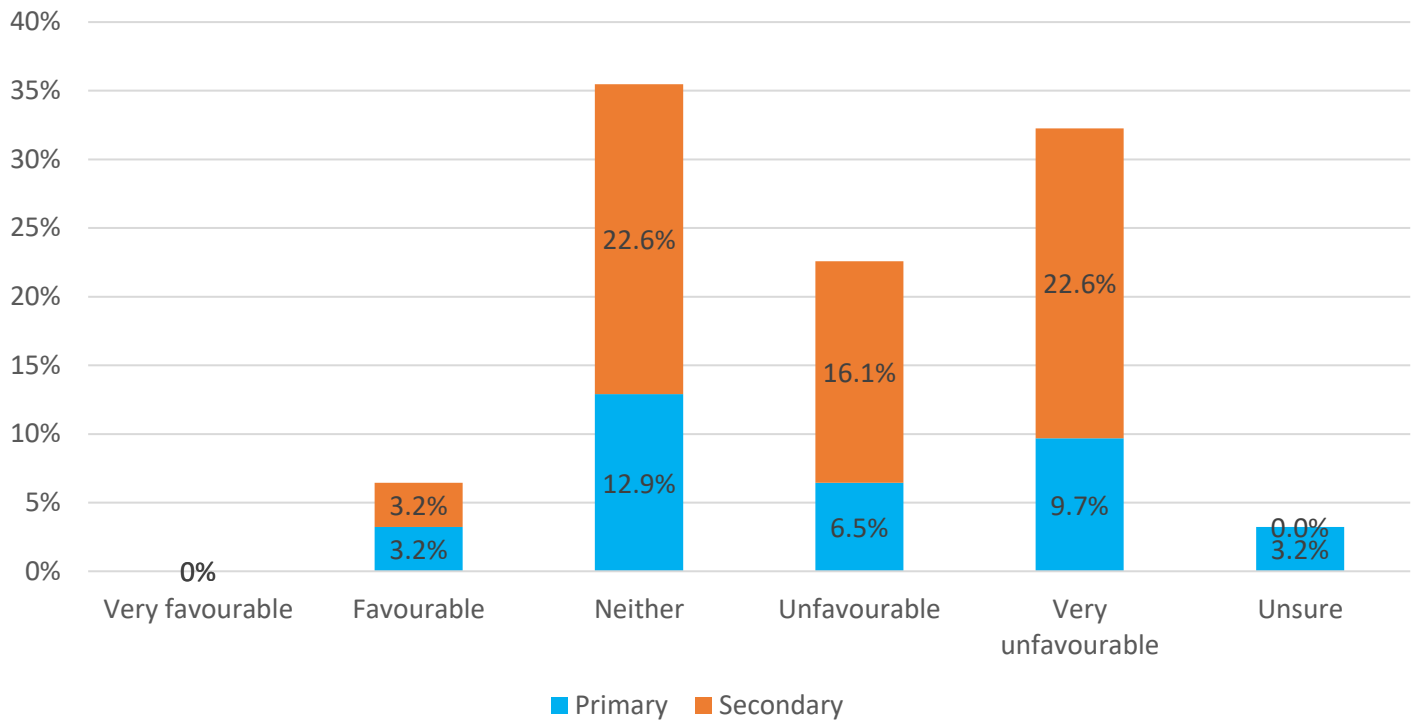
Figure 8: View on PAs wearing uniform by setting

The colour of PA uniforms and associated challenges was raised by several participants when discussing the subject.

> *"This is such a hot topic of today. It's a set PA uniform. It's very similar to…I think they're ward clerks or they're laundry. And uniform is supposed to be so that we stand out and we're easily recognisable. So it's definitely a bone of contention among the [area] PAs that other people have started wearing a uniform that looks like identical to ours."* – PA13

The lack of options in colour choice was identified by participants as a possible barrier to implementing a wider PA uniform. TM02 made reference to a conversation they had previously had with a PA colleague where they discussed what colours were available that PAs could adopt which were unused by other professional groups, examples included bright pink, yellow and lime green. Both TM02 and their PA colleague agreed that these were not desirable colours. At the time of this study an 'All-Wales' PA uniform had been introduced which was a dark shade of purple and PA06 was disapproving about this colour choice. With student nurses in Wales wearing purple scrubs, PA06 felt this could cause confusion for patients with student nurses vastly outnumbering PAs. Of the nine of the respondents who

stated they were required to wear uniform, seven of these reported the colour of their uniform was purple. Interestingly only one of these seven felt favourable towards wearing uniform. Similarly, to the findings from the interviews, three of the seven respondents explicitly stated in the open text box that the colour of their uniform had resulted in them being confused for student nurses and other professionals.

> *"[The uniform is] the same colour as student nurses on the ward, so it is difficult for other staff members to understand my role."* – PA, All-Wales PA Questionnaire respondent

> *"Our current uniforms are very similar in colour to student nurses however so that presents an issue as we are often mistaken for students..."* – PA, All-Wales PA Questionnaire respondent

Team members and management staff also shared their perspectives around PAs and uniforms with some conflicting opinions. TM01 felt that PAs wearing a uniform would help with their identity development but reflected on the traditional practice of wearing uniforms; "*I'm a bit old school*". Others however felt that it was not necessary for PAs to have a distinct uniform.

> *"I think in some ways it would be really good because they are separate from the junior doctors…sometimes I think the nurses forget that they're not junior doctors and they can ask a PA to do something that they can't do and then perhaps the nurse might feel as though the PA is being obstructive, when actually they're just trying to explain that they can't do it…but at the same time as I'm talking I'm kind of thinking myself out of it because they are an integral part of our ward teams now and it would be a shame…to make them wear something different to everybody else then."*
> – TM11

There were considerations of patient perceptions of the PA role with or without wearing a set uniform. Whilst some felt the PAs aligned with the medical team who have not traditionally worn uniforms, some felt that it was important for PAs not to be confused with doctors.

"…seeing PAs who walk in to see a patient they will wear their own clothes…So you walk in with a stethoscope around your neck, imagine if you're a patient…you are unwell because remember people don't come into hospital for banter, you know they're at a vulnerable point in their life…and they come in and see someone, a young person with a stethoscope in their own clothes that looks very much like a [doctor] who then doesn't identify themselves at the front by saying 'I am not a doctor'." – TM15

6.1.3   Patient awareness and understanding of PAs

As well as the interviews with patients, all participants groups across all three parts of the study were asked questions surrounding patient responses to PAs. The earlier methodology chapter detailed the adaptions made to the study in response to the pandemic, i.e., remote procedures. Whilst it was assured that the patients recruited via the case studies had been seen by a PA, recruiting patients remotely for the one-off interviews meant that it was difficult to ensure that they had ever been seen by a PA. Despite this, the contribution of patients to the research is still of great benefit as it reveals the awareness of PAs by the general public.

6.1.3.1   "Well, I don't know anything about them to be truthful" – The patient perspective

Overall, patients seemed to possess little awareness and understanding of the PA profession. The two patients who had been recruited via the case study PAs stated that they had no awareness of the role prior to their encounter with the PA. PT02 elaborated that they had no knowledge of the role before they saw the PA for the first time, but they learned more about the role on their second encounter.

> *"I knew nothing at all before I saw them in [month], nothing at all. But I learnt a lot from my second meeting..."* – PT02

However, when asked what they had learned about PAs they stated, "*not a great deal*" but believed PAs are required to study intensively, work long hours and are dedicated professionals.

During the recruitment process in the one-off interviews, some patients stated they were unsure if they had been seen by a PA, so they were provided with a link to a website[21] with information about PAs. Even during the interviews, I often found myself providing a brief overview of the PA role; an example of this is shown in the extract below.

> *FM: So, what did you know about the PA role before you saw one?*
>
> *PT06: Nothing.*
>
> *FM: Ok, and is there anything you'd like to have known before you saw them?*
>
> *PT06: No, and actually it would help if you could maybe elaborate for me now as well as because maybe I'm not completely clear what the distinction is of kind of the different roles.*

One patient who had been provided information gave a summary of their understanding as PAs being like a "*teaching assistant or community support officers*" (PT12) who assist doctors. Despite the seeming to be little knowledge of the PA profession from patients, one patient at the end of their interview stated that by taking part in the study their "*education had been increased*" (PT13) as they had no prior knowledge of PAs.

The limited awareness of PAs was occasionally a product of confusion for other HCPs. Some patients on reflection thought that they may have seen a different HCP, including NPs, physiotherapists, and doctors, when asked about their encounter with a PA. Examples of this are demonstrated by three patient extracts below.

> *"To be honest, I don't know if I even have, because I have never heard of that terminology mentioned. You know I might have been seen by a doctor who was [inaudible] and I hadn't actually realised it." – PT03*
>
> *"Oh maybe not, the ones I've seen I always thought they were the Consultants, they were the specialists, not the advisors." – PT05*

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[21] https://www.healthcareers.nhs.uk/explore-roles/medical-associate-professions/roles-medical-associate-professions/physician-associate

> *"...I certainly don't know that name or recognise that. I have seen a couple of people who could possibly fall into that category...But I don't know, it's not a term I know at all I got a bit stuck on the nurse practitioner bit."* – PT07

Despite the lack of awareness of PAs by patients in this study, there was a general consensus that the patients would be happy to be seen by a PA in the future. The assurance of the PA being qualified to see patients was a key contributor to the acceptance of seeing a PA in the future.

> *"If they were an expert in whatever the problem I had, I would have no fear of it at all...I've got no problem whether you see a doctor or you know, Ronald McDonald or whoever."* – PT13

> *"As long as they're qualified obviously and knows what they're talking about. I wouldn't want any Tom, Dick or Harry to come poking around me."* – PT02

PT06 asserted it was of limited importance who was providing the care.

> *"Possibly pulling the distinction out is, maybe I just look and go 'oh everyone is medical, everyone delivers a different role' but I hadn't necessarily separated everybody into different piles because it didn't seem important."* – PT06

Although most of the patients seemed positive or indifferent about seeing a PA in the future, two patients shared that they had some reservations about being "*blocked*" (PT06) from seeing another professional by seeing a PA. PT12 shared a personal experience of becoming unwell and the healthcare team were uncertain about what was causing the issue, they contemplated that there may have been a delay in procedures if a PA had been involved in their care. They further felt that in certain situations they would need to see a doctor and they knew this for themselves.

> *"I don't like going near doctors, but when I say I want to see a doctor, I want to see a doctor and I know jolly well that it needs a doctor to sort out do you know what I mean?"* – PT12

But both patients did also state that they would be happy to see a PA under certain circumstances and if it was "*the right means of administering resources*" (PT06).

There was a mixed response around what the patients would like from future encounters with PAs. Some patients shared suggestions centring around being provided with information about the profession, either by PA introduction or formal information provided beforehand.

> "The only suggestion for improvement for me is on the first visit, especially as a PA post is a new post, it would be nice if a piece of paper with a brief outline of a PA's role on it...alternatively a small piece of paper with a reference to a website that one could look it up and see what the PA roles was." – PT01

> "I'd like them to explain you know how they fit in, what they're trying to achieve, what their ability and qualifications are and you know what their objective is from the meeting that they've set out." – PT07

Others felt they only required limited information, that "*as long as they were qualified*" (PT15), or no information about the PA profession before having an encounter.

> FM: "Is there anything you'd like to have known before you saw the physician associate about their role at all?"

> PT11: "Well no not really, I felt that I was going in to speak to somebody who knew what they were talking about and that certainly turned out to be the case."

6.1.3.2   Patient understanding and response according to PAs

All bar one of the PA participants[22] in the case studies and one-off interviews felt that there was a lack of patient awareness of the PA profession. PA10 emphasised the challenges associated with this and how the profession will face difficulties in becoming widely accepted without a general understanding from the public.

> "I think there are external public health challenges in the way that we are not in the national consciousness of the public and that's a huge challenge...and I think we can't become popular within the profession without patients recognising that we're a new profession...and I think England where the PA profession has been around since 2006

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[22] Interview with participant was cut short and not revisited so topic of patients was not discussed.

there is still that challenge and there's still no kind of PA in the public domain…" –
PA10

In contrast, over half of the All-Wales PA questionnaire respondents (61%, n=19) felt that some patients knew about the role and was the most common answer given by respondents in both primary and secondary care settings. However, no respondents selected the option 'Yes, most patients know about the role'. The results from the questionnaire are shown below in Table 18.

Table 18: Perceived patient awareness by setting

Setting	Statement	Number	%
Primary care	No, patients don't know about the role	3	27.3
	Some patients do	8	72.7
Secondary care	No, patients don't know about the role	9	45.0
	Some patients do	11	55.0

Numerous PAs across all three parts of the study described instances where they were confused for another member of staff, predominantly doctors or nursing colleagues. Despite introducing themselves and explaining to patients who they were at the start of the encounter, patients still referred to the PAs as another professional, usually a doctor.

> *"…like I had a patient yesterday telling me that I'll make a great doctor, even though I'd explained that I was a PA and what the role involved."* – PA01

> *"Patients do not understand the role and assume we are doctors (even after you explain!)"* – PA, All-Wales PA Questionnaire respondent

Non-verbal contributions including wearing a stethoscope and clothing, both scrubs and own clothes, furthered confusion with other professionals.

> *"So I wear a uniform which says PA in big letters, but if a patient wants to compliment me which fortunately it does happen, they will say 'Doctor [name]' and it doesn't matter how many times I correct them that paradigm as me being a doctor with a stethoscope around my neck is not going away time soon. That's a huge challenge"* – PA10

According to PA12, patients associated PAs with doctors and responded positively to the profession because they were being mistaken for a doctor. There was an association with wearing a stethoscope with being the professional who would be caring for them.

> *"Positively because they think I'm a doctor. I introduce myself… 'My name is [name], I'm a PA' and I think they don't know what is…So long as they get the care or there's someone there that has a stethoscope around their neck, they know that that's the person who is looking after them."* – PA12

The association with doctors was also considered to be a factor in patient acceptance according to TM19. They believed that by PAs explaining to patients that they work as part of the medical team and with doctors, patients were more accepting of them and as *"they're part of the medical team"* so patients feel more *"happy to share medical information"*.

Despite the lack of awareness and confusion, according to the PAs across the three parts of the study, patients rarely hesitated or refused to see them. Patients were inquisitive towards the role rather than resistant to having a PA involved in their care. Only two PAs in the case studies and one-off interviews stated they had experienced instances of patients refusing to be seen by them. In terms of the All-Wales PA questionnaire respondents, none stated that patients responded negatively to them, most felt that patients responded positively. The results are displayed in Figure 8 below.
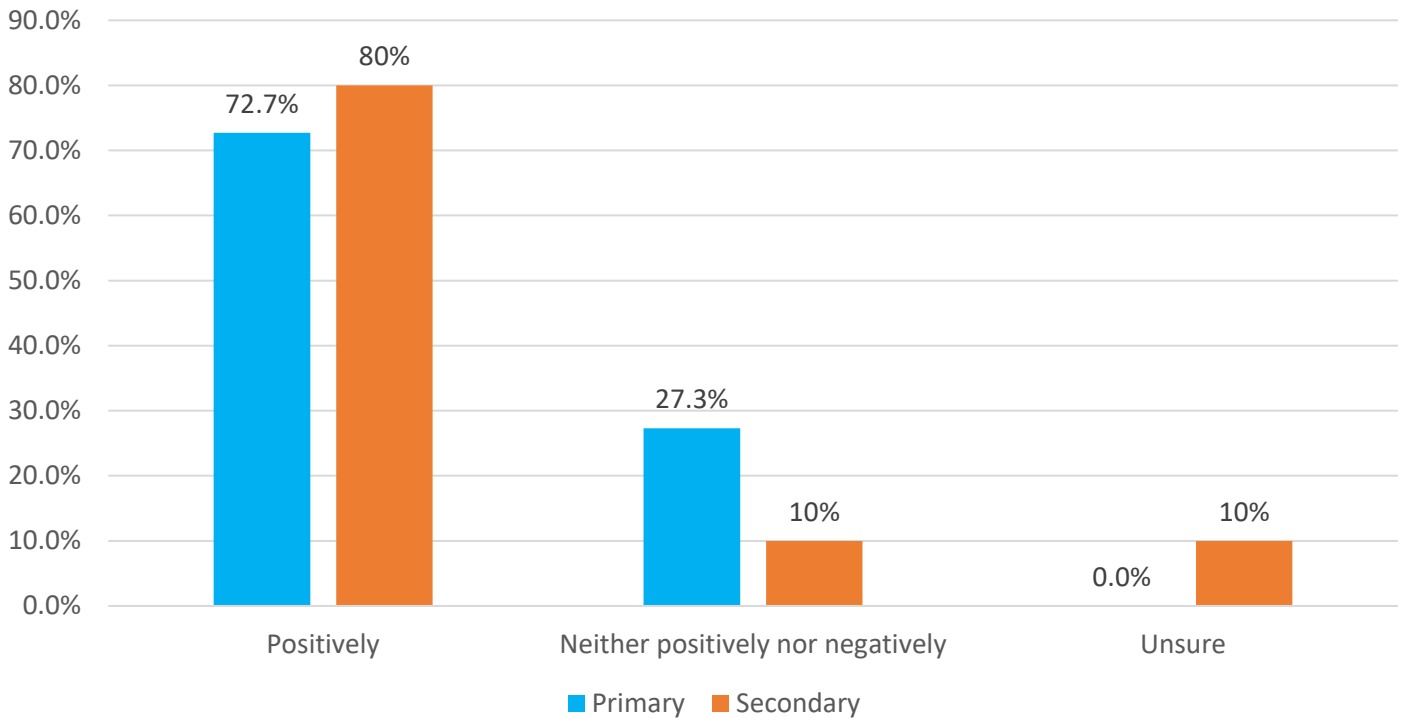
Figure 9: Perceived patient response to PAs by setting

Respondents in the All-Wales PA questionnaire were also asked if they ever felt that patients would prefer to see a doctor, the results of this are shown in Table 19 below. An interesting finding from this data is that almost all of the primary care PAs selected 'Yes, on some occasions' versus less than half of the secondary care PAs. It could be speculated that in the secondary care setting, patients will likely encounter a variety of different professionals compared to primary care where appointments are usually one-to-one with the clinician.

Table 19: PA perception of patients wanting to see a doctor

Setting	Statement	Number	%
Primary care	Yes, on some occasions	10	90.9
	No, not at all	1	9.1
	Unsure	0	0
Secondary care	Yes, on some occasions	7	35.0
	No, not at all	11	55.0
	Unsure	2	10.0

All bar one respondent who felt that some patients knew about the role felt that patients responded positively. However, for the 12 respondents who selected 'No, patients don't know about the role' there was more of a mixture in responses regarding how patients respond. With just over half of the respondents feeling that patients would rather see a doctor on some occasions, the rarity of this was also raised in the open text comments. Reasons for patients preferring to see a doctor included continuity purposes, expectations of seeing a doctor and ambiguities surrounding PAs.

> *"There is always a fear of the unknown and some patients will always feel more comfortable speaking to a doctor or a nurse as they recognise and understand these roles."* – PA, All-Wales PA Questionnaire respondent

There were descriptions of patients occasionally being inquisitive about the profession, but the PAs did not seem to perceive this as hesitancy towards them. Most of the time patients did not question who the PAs were, and overall patients were plainly content with being seen by a professional.

> *"Lots of people don't seem to have grasped exactly what I am, but there's never been anyone that when I explain what I am, nobody ever seems to be sort of not willing to see me."* – PA02

> *"Patients generally do not mind who you are and what your role is, as long as you are there to look after them and do right by them they actually just don't really care."* – PA13

6.2   The perceived value of PAs

Perceptions surrounding the value of PAs in the NHS was discussed by all NHS staff participant groups across the three parts of the study; the All-Wales PA questionnaire did not include any specific questions about value but there were some comments shared in open text responses. It was beyond the scope of this study to measure and quantify the impact PAs have on NHS Wales, though the self-reported perceptions are still of value in understanding what impact PAs have.

Throughout the study there were examples shared of PA's involvement in service development and provision. PAs were generally considered to contribute to service delivery

and provision positively. PAs gave examples of their involvement in service development, such as initiating a triage system, auditing and being involved in services relating to specific conditions. Contributing to the workload and relieving doctor colleagues of some burden reliably was identified by the PAs as a valuable contribution of their profession, taking "*the pressure off the doctors I work with to free them up to perform some of the doctor specific type of needs of the patient*" (PA08). Two non-clinical managers stated that employing PAs had allowed doctors to undertake more complex work at the top of their skill set.

> "*…but it has taken away some of the work so that more complex people can be seen by more senior clinicians. So it has helped with our appointments and looking at our more complex patients.*" – TM08

> "*I would say that employing them has actually helped us to identify the amount of unnecessary work the GPs were doing. Not that they can't do it, but it's about the necessity of them having to do it…I can't imagine [area] without one now.*" – TM09

TM11 felt that PAs added value to their service but emphasised the importance of PAs being complementary to existing staffing and not used to "*paper over the cracks*" of staffing issues.

The clinical staff working alongside PAs frequently spoke about the clinical value, in a practical sense, of having PAs in a team in the context of the day-to-day team working and services. The phrase "*an extra pair of hands*" was used by PA07, TM03, TM05, TM12, TM14, and TM19. TM14 further added they were an "*experienced hands, they're a lot more efficient*".

> "*…when something is unsuccessful we can say 'Ok, would you mind assisting me with this bit?' and they'll ask me 'Do you mind popping a catheter in there?' and things like that. So they can do clinical skills. They have a lot of clinical skills as well as being able to assess the patient if that makes sense.*" – TM02

> "*…but actually the things that people appreciate are things like communicating with families, communicating with the patients and knowing how things work. Rather than 'I've ordered this fancy investigation' because that wouldn't really change what the patient's experience…*" – TM19

A few of the non-clinical managers also gave examples. TM11 explained that although the PAs were unable to certain tasks, they were able to help junior doctors with other daily jobs such as taking blood and preparing forms.

6.2.1 Continuity

The continuity of PAs was identified as a major area of value across all the participant groups in the study. The value of continuity was highlighted more by the secondary care participants compared to primary care participants, though there were more of them. It may be more noticeable in secondary care with staff turnaround, primary care provides generally less out of hours care.

PAs typically have a regular shift pattern, usually nine-to-five, Monday to Friday, whereas other members of the team may work irregular shifts or part-time/condensed hours, so sometimes PAs are the only team members present five days a week. The continuity of PAs was often compared with that of junior doctors. Generally junior doctors will be required to work on call and night shifts, thus not working a standard shift pattern. With junior doctors subject to this, the PAs were seen to provide consistent support to the medical team as well as to other colleagues outside of the medical team.

> *"…because of the continuity, the nursing staff know me and the other PA quite well whereas they don't necessarily know the junior doctors and it just allows pathways for them to be able to communicate with us easily or get support easily."* – PA07

> *"…well the nurses will tell me that it's been great because they can go to the PA, [the PA] are there all the time, and they will get a response that they are happy with and can move things on."* – TM07

TM13 stressed that prior to a PA joining the team there had been a major issue in continuity of care with junior doctors being on call, on night shifts or relocated to other areas to assist in providing medical cover and this burdened the senior doctors who were already in extremely demanding positions.

> *"…and I think why wouldn't you want another pair of hands on the ward and a pair of hands on the ward that doesn't suddenly disappear on call who means that you've*

got good continuity on the ward and mean that, you know, you can take your annual

leave, you can take your study leave, like I'm all for it." – TM12

Junior doctors on training programmes are required to rotate between specialties for the duration of their training so will often spend only a few months in one area before moving on to another. The stability of PAs in one area meant that "*knowledge isn't lost every time a set of doctors rotates*" (TM14). Whilst PAs are defined as generalist practitioners, some participants working in the secondary care settings stated that PAs could "*develop a real expertise in a particular specialty*" (TM14). Not being required to rotate as part of a training programme meant that PAs would spend a greater length of time in an area thus leading to a deeper knowledge set. This greater experience in an area than new junior doctors can "*bridge the gap with training*" (TM02) for junior doctors on rotation. Their extended knowledge of an area in turn can be shared with junior doctors on rotation. TM05 even felt that the PAs they had worked with were as good or sometimes better than the junior doctors because of not rotating.

"…if I rotated as we've done as junior doctors, I probably wouldn't have had the in-

depth knowledge of some things that I have now." – PA04

"So they tend to become really knowledgeable about that role and can often make

more complex and informed kind of clinical decisions about patients than we can. So

we had longer training but we've had less experience in that particular role." **–** TM14

Interestingly, the continuity benefit of PAs in the context of services and team working was mainly discussed by secondary care participants. It could be speculated that although staff in primary care may not always work full-time, there are less staff on rotations or being required to work on call or night shifts. PA02 spoke about the benefit of their continuity, "*even if it's not patient to patient, it's clinician to clinician*". They explained that because they were consistently available, they had an awareness of the day-to-day tasks and issues.

"So if something has happened on Monday and the patient comes back on Friday…I

know that first patient has been seen. I tend to follow up and see what's happened to

them after I've spoken to them in the morning as well and just have a look what

happened, so I'm quite constantly aware of everything that's going on…" – PA02

Patient care was also considered to benefit from the continuity of PAs. PA's consistent presence meant they have a "*longitudinal knowledge*" (TM14) of patients and can share this knowledge with their colleagues. By PAs having this knowledge, the other continuous members of the team, like Consultants, did not have to carry this burden solely.

> "*Mrs X is a bit dodgy as I'm looking at her at the end of the bed, has she been dodgy this week or is this new? So by being consistently there they also provide, especially on surgical wards or medical wards, a PA with limited medical experience can provide context because nurses come and go, night teams, day teams, you know, it works wonders.*" – TM15

In terms of the patients themselves, PA continuity meant that a rapport could be built which in turn could make patients "*more comfortable*" (PA, All-Wales PA Questionnaire respondent) as well as being an effective means of communication for patient families.

> "*Particularly just in terms of communicating with families it's very useful because they are there for a longer period of time, so they get to know the patients more easily and they're able to know the families more easily and they can update them and say 'Oh this is what's happened so far'…*" – TM19

> "*They provide that consistency, not just for the teams and the staff but for the patients, as I said it's that same face. If you've got a patient there that's in there for a long time they know who the PA is.*" – TM10

Despite the value of continuity for patients being raised by the NHS staff participants, only one patient, from the case studies, across the study discussed the benefits of PA continuity. They explained that they had seen the PA on a few occasions relating to an ongoing issue. This continuity meant they did not have to re-explain their issue to another clinician and they felt reassured by having one professional assessing their progress. This likely related to the setting they encountered the PA in and the assurance that they had been seen by a PA through the case study recruitment. As explained in an earlier section, it is difficult to understand how many patients in the study had seen a PA in the past as there was a general lack of awareness about the role.

6.2.2   Beyond clinical value

The previous sub-sections have detailed some of the areas of value identified in clinical practice. In addition to this, there were some participants who shared the contribution of PAs beyond clinical work. Some of the PAs released administrative burdens from the team, such as updating patient lists and creating rosters. PA06 had started taking on some of the administrative duties, including distributing patient lists, that a senior doctor in the area would usually carry out which was considered helpful as they were "*consistently there*". As well as the administration organisation, PA02 and PA07 felt that they helped keep their areas "*calm and organised*" (PA07). PA02 explained that they helped mitigate the stress, both clinically and more generally, that doctors in their area were under.

> *"[Doctors] can get very stressed…Managing their stress is something else that we take on. We try to protect them as much as we can…trying to sort of keep the peace because we all work quite closely together when one person is very stressed it tends to have a knock-on effect on everybody else." – PA02*

The continuity PAs offered was considered further beneficial for providing "*organisational consistency and memory*" (PA10). When new staff join an area, PAs familiar with the area can share logistical information for smooth running of an area such as referral processes, where paperwork is stored and "*just generally how the ward works*" (PA03). PA06 even shared an example of having a greater knowledge of the logistics of an area than senior doctors. TM05 found that PAs were more approachable than doctor colleagues and were a "*middle ground which has helped merge teams together*".

This support was identified as particularly beneficial for junior doctors transitioning into new areas as part of their training rotations and can be a "*constant for the medical team*" (PA13) who "*knows the ropes really well*" (TM14). Senior doctors may not have the capacity to ensure the new junior doctors are aware of the administrative processes "*but the PA obviously does know*" (PA12) so can provide this information. PA07 created an induction pack to share with new junior doctors which included an overview of the staff and how to make referrals to different specialties.

There were analogies shared of the value PAs offer without being able to distinctly define what the contribution was. PAs were described as "*glue*" (TM09, TM17) that keeps areas together and functioning.

> *"Oil, think of oil in an engine. It's not particularly clear to explain exactly what it does but without it nothing works as well."* – TM17

6.2.3 "The fact they can't prescribe puts a big barrier into things" - The issue of regulation

With the PA profession in the UK currently unregulated, the PA title is not protected, and they are unable to prescribe medication or order ionising radiation. The impacts of this practically and more widely were discussed by NHS staff participants across the study.

The inability to prescribe or order ionising radiation was considered a significant challenge of the PA profession across the study. Table 20 displays the responses from PAs in the All-Wales PA questionnaire to the question "*Does not being able to prescribe or request ionising radiation impact your work?*".

Table 20: Impact of lack of prescribing and ordering ionising radiation according to All-Wales PA questionnaire respondents

Setting	Does not being able to prescribe or request ionising radiation impact your work?	Number	%
Primary care	Yes	7	63.6
	No	3	27.3
	Did not answer	1	9.1
	Total	11	100.0
Secondary care	Yes	16	80.0
	No	2	10.0
	Unsure	2	10.0
	Total	20	100.0

The practical challenges associated with the inability to prescribe or order ionising radiation was raised by a number of PAs and team members. Participants found the limitation to be an "*irritation*" (TM13) with PAs requiring colleagues to sign off prescriptions or requests being time consuming and thus delaying care for patients.

> *"It prolongs and disrupts patient appointments and interrupts GP time as I tend to give them on the day to people but need to wait for the GP to write them out/sign and if they are seeing a patient then this adds time."* – PA, All-Wales PA Questionnaire respondent

> *"…but the fact they can't prescribe puts a big barrier into things. So it means you always have to try and get hold of a doctor and especially on our unit, you know, sometimes it's a nightmare to get someone that can actually prescribe."* – TM02

Aside from the challenges associated with the inability to prescribe or order ionising radiation, the wider implications of being unregulated were considered. TM15 regarded the lack of protection from regulation as problematic for doctors and their patients.

> *"Anything that that PA says to that patient is not legally binding and not protected by the GMC and the Royal Colleges…So they are not protected but they are not held responsible because they can't be responsible…It muddies the waters."* – TM15

Although there was a general feeling of the lack of prescribing and ordering ionising radiation was a challenge for PAs and impacted their role potential, there were some who held different views. Some felt that with the support of their colleagues, not being able to prescribe or order ionising radiation was not a barrier to working effectively. Four PAs across the study who were had been qualified for a year or less felt that whilst these limitations were a barrier, there was also a feeling of not feeling ready to undertake these responsibilities. The regulation associated limitations were believed to be "*protective*" by PA12 who suggested that in the future prescribing should be part of an internship post-qualification, not during their university course. PA13 considered prescribing a "*whole other level of responsibility*" and assumed this would lead to an increase in pay. Another PA concurred with this and stated that there would need to be financial compensation for this responsibility in the future.

6.3   PAs in the MDT

The importance of effective team working in healthcare settings and some of the challenges that can arise was demonstrated in review of the literature earlier in Chapter Two. The following subsections explore the experiences of PAs becoming embedded in the MDT and team working, from the perspectives of both the PAs themselves and members of the MDT.

6.3.1 "I think I have cemented myself within the team" – Acceptance of PAs

The previous section of this chapter established widespread ambiguity towards PAs, but in spite of this, across the study there was a general feeling of acceptance of the PA profession and a recognition of the contribution of the PA profession.

> *"There may be a lack of understanding sometimes but everyone I have worked with and everyone I've worked under is eager to learn and they're eager to support which I think probably speaks volumes."* – PA15

In the All-Wales PA questionnaire, respondents were asked to complete the Cooper 10-item job satisfaction scale (Cooper et al 1989) which all 31 of the respondents completed. A six-point scale was utilised which included the response options of very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, and very satisfied[23]. Table 21 and Figure 9 display the results of the scale which relate to team working[24].

Table 21: Cooper 10-item job satisfaction scale results relating to teamwork

Statement: How satisfied are you with…	Mean	Mode
…your colleagues	4.74	5
…the variety of work	4.39	5
…your amount of responsibility	4.23	5
…your opportunity to use your abilities	4.19	5

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[23] The option of 'unsure' was also included but only one respondent selected this option for a statement not relating to teamwork.

[24] The statements which do not relate to teamwork include 'the freedom to choose my own way of working', 'your physical working conditions', 'your overall satisfaction with the job', 'the recognition for good work', 'your hours of work' and 'your pay'.
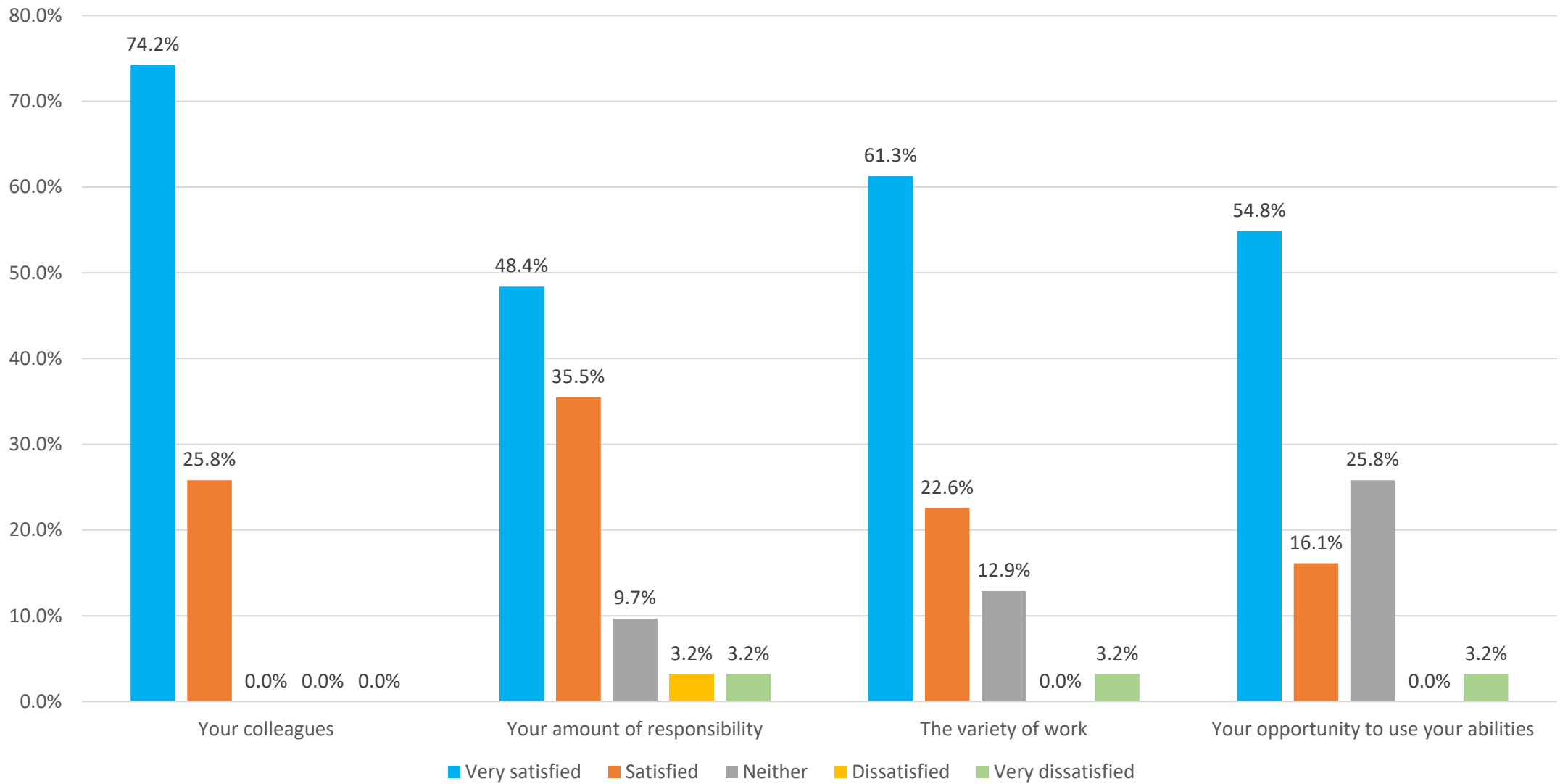
Figure 10: Cooper 10-item job satisfaction scale results relating to teamwork

The respondents' colleagues received the highest satisfaction score with all respondents selecting either very satisfied or satisfied. The satisfaction with colleagues was also highlighted within the open text question "*What do you enjoy most about your job?*" with 11 responses relating to colleagues. A number of accounts were shared of good relationships between the PAs and members of the MDT and there was a general feeling of belonging to the team from the PAs. Despite being fairly new to their jobs at the time of their interview, PA01 and PA13 stated that they had started to "*really feel like one of the team*" (PA13). Even from the perspective of managers, the PAs were considered to be "*integrated*" (TM07), and the PAs were "*really well regarded by other members of staff*" (TM06). Examples were shared of mutual support between the PAs and team members; "*Everyone looks out for each other*" (PA05).

> "*I think we've all got really good work ethos. We know that it's busy, we've had lots of jobs to do and I think we're all really good at looking out for each other.*" – PA13

> "*I think it is a rewarding role if you have a supportive team and your strengths can be utilised within the greater team.*" **–** PA, All-Wales PA Questionnaire respondent

PA02 and PA06 who worked in the primary and secondary care setting respectively, had contrasting views on the other setting. There were contrasting views on support within the primary and secondary care settings. PA02 felt that having a constant team within primary care was beneficial which may not be the case in secondary care.

> "*…but I have that constant support system which I feel like it enables you to grow. In secondary care teams are changing all the time, so people are rotating. You have to, sort of, introduce yourself or introduce a skill-set to a new team each time.*" – PA02

While there was an overall feeling of acceptance and good working relationships within the MDT, some did also share experiences of opposition to the PA profession. As shown in an earlier section, it was judged that opposition related to misunderstanding or lack of exposure to PAs with time being a crucial factor in their acceptance.

> "*I would say very positive now. At the beginning it was maybe some friction to work through, but I feel like actually I have had quite a good, you know, people adapted really quickly to the PA role.*" – PA07

Interestingly, despite PAs being longer established in England than Wales, PA03 and PA12 stated they have previously experienced some negativity towards their role as a student PA outside of Wales, but since working as a PA in Wales had faced none of this. During their time as a student, PA03 recounted staff posing the question "*Why didn't you do medicine?*" and perceived this to be negative towards their role. But in their job at the time of the interview they had not faced any negativity with staff not seeming to "*care that [I'm a] PA*". The challenges to effective team working are discussed further in a later section.

Trust between the PAs and their colleagues seems to be a facilitator to the PAs feeling accepted into the team. Some PAs spoke about having to build the trust of their colleagues and demonstrate their worth. Being the first PA working in their department, PA04 felt that if they were a junior doctor, they would not have faced having to prove to others who were initially not "*necessarily keen on the concept of PAs*" what value PAs could contribute. PA08 felt that building trust between themselves and their colleagues was an individualised process where rapport had to be built rather than just being aware of what PAs can do. PA10 echoed a similar perspective of proving their work ethic to their colleagues.

> "*I have an excellent relationship with my colleagues, but I've had to work hard to cultivate that and I've had to demonstrate that I'm willing to do anything they ask me to do. I think it's really important to be flexible…it's demonstrating that you're willing to work hard and that you've got the right values.*" – PA10

TM12 also emphasised, from the perspective of a doctor, the importance of individual trust between themselves and their PA colleagues, particularly regarding prescribing.

> "*There has to be a massive element of trust and I think that's the only way it works well is if you know that person really well, you've seen them work and you've seen them assess someone and come to the same decision that you would several times.*"
> **–** TM12

6.3.1.1   Challenges to acceptance and effective team working

The findings discussed in previous subsections have established that PAs appear to be well accepted within their teams with CoPs in operation and interprofessional learning. However, there were challenges to successful acceptance and effective team working. Again, ambiguity and inexperience surrounding the PA role was raised as a key barrier to PA

acceptance and effective team working. PA08 shared an example of this ambiguity creating challenges in the context of team working.

> *"…there was a lot of resistance from the NPs that time because of the misconception coming from the [senior doctors]. They said that these people are coming as almost SHOs and they're coming into the team and the Band 8 NPs didn't kind of like that in a way because we came and we weren't as competent as an SHO…"* – PA08

This loss of learning opportunities for other staff was considered a significant barrier by some team members in the study. This was predominantly an issue raised from junior doctors, but one participant stated an instance of this occurring with nursing staff.

> *"So a distinguished and distinct role…so they aren't then taking opportunities away from doctors in the future who will be their bosses and ultimately the responsible clinician. You know like there are only a certain number of [procedures] that are done objectively…So if a PA is in one and a [doctor] isn't, that's one less that I've done so that means I have to come in on my day off, increasing my burnout or whatever…one less experience that I've had and that has, however small, a knock-on effect on my patients to come which I don't want."* – TM15

Some team members stated that they themselves had not "*had a PA take a training opportunity away*" (TM12) but cited some instances they had witnessed with other staff.

> *"Some friction…early on along the lines of procedures every now and then you come across a doctor who says 'But I want to do the LP [lumbar puncture]' which hasn't really been an issue recently because everybody is so bloody busy that people are just grateful for the help."* – TM17

> *"…but I've heard from some trainees, and these are more trainees who have a more negative perception of the role where they feel their training opportunities might be affected by having a PA on the ward. For example, if they were to ask to go to clinic or go to theatre and things like that where I think some of those doctors may feel 'Oh well, I'm one of the trainees so I should be prioritised' that can obviously have a negative impact there."* – TM19

Although TM12 earlier stated they had not personally experienced a loss in learning opportunities from working with PAs, they did contemplate that PAs may get prioritised for learning certain skills if there are plans by senior doctors for the PA to run a service in the long term. They made reference to a friend in another department who felt that having a PA rather than a junior doctor was more "*convenient*" for the senior doctors who were "*drawing up the ladder behind them*". But TM12 did recognise that once the PA is trained in a procedure, they would be able to provide teaching to future trainees.

The issue of PA's salary was also raised by some colleagues. Whilst recognising that the number of colleagues in this study working in secondary care outweighed those in primary care, none of the participants in primary care discussed any issues surrounding pay. TM17 had observed that nursing staff were unhappy around the salary banding PAs were paid and when the information become known amongst the nurses there was some jealousy. TM15 believed that the predominant factor in junior doctor resistance towards PAs was the issue around pay. Although TM12 accepted PAs and felt they performed a valuable role, they reflected on why junior doctors may be resistant towards the profession.

> "*And as long as you can forget that they're being paid more than you to do less of a role than you which I think is why it rankles the FY1s and the SHOs more…but there's always the discussion that junior doctor pay anyway…So you've got people who are burning out of the profession and you see another profession come in that are getting paid better, don't have to work weekends, don't have to work nights and they're getting paid more.*" – TM12

Interestingly, in the Cooper 10-item job satisfaction scale completed by the All-Wales PA questionnaire respondents, the rate of pay for PAs received the lowest satisfaction score (mean=3.65) demonstrating conflicting opinions around PA pay.

There were however comments made by some team members that challenges relating to team working with PAs was on an individual basis rather than the profession as a whole. This is demonstrated by TM04.

> "*I don't think there's been any challenges. They've all tended to fit in quite well and then it's just down to personalities which is the same no matter what profession*

somebody is. There's different personalities and it's just how they work together." –
TM04

6.3.2   Communities of Practice (CoPs) within the MDT

The previous section of this chapter detailed the acceptance of PAs within the MDT and the findings from the case studies and one-off interviews suggests that CoPs operate between PAs and members of the MDT. The acceptance of PAs in turn creates a climate of mutual engagement in learning from colleagues with different skill sets, resulting in the PAs feeling well supported by their teams to develop their skills. According to PA05, without their colleague's willingness to share their learning and provide training, they would not have been able to develop certain skills.

Detailed earlier, Kothari et al (2015) described CoPs in healthcare settings as "*incubators*" (Kothari et al 2015, p.1) for the sharing of knowledge and experiences between professionals. This exchanging of knowledge tended to be between the PAs, junior doctors, and other healthcare staff, rather than more senior doctors. Members of CoPs can identify shared means of carrying out tasks and who has more specialised knowledge in certain areas (Wenger 1998). The PAs and their team members offered different skills and experiences, and this was shared between professionals to ensure the best outcome for patients. An example of this was shared by PA01.

> *"…like one of physios is obviously really experienced in MSK but has got less experience on the medical side of things. So sometimes they'll ask me questions and I'll be able to ask them or the OT or any other members of staff questions."* – PA01

While colleagues provided learning opportunities to the PAs, several participants shared examples demonstrating how the skill mix within a team resulted in the exchange of knowledge between the PAs and their colleagues; it was felt that the PAs and team members "*respect one another equally*" (PA03). Examples of this process is demonstrated by PA01 and PA08 below.

> *"So we probably have different skills. To give one example, I'm probably a lot more confident in reading ECGs so if the NP has an ECG that she wasn't sure about she might come to me for advice. Whereas if I had a patient that was really tricky to*

cannulate or whatever I would go her because she would have more experience…" –
PA07

TM02 shared an example of Delgado et al's (2021) proposed fourth characteristic of a CoP; practical wisdom, whereby members of a CoP gain practical wisdom from professional experiences shared rather than formalised training. TM02 explained that there was a NQPA within the team who was "*quite nervous…just lacks a bit of confidence*" so TM02 guided them through carrying out an unfamiliar procedure. TM02 further explained that although they were able to share their knowledge from extensive experience as an HCP, they also learned from the PAs: "*…there's things that they know that I don't know, but then there are things that I have learned over the years that they may not know*.".

There were instances of Lave and Wenger's (1991) LPP described whereby the PAs developed their skills by learning from and observing experienced colleagues. Existing staff or 'old-timers' are able to share their knowledge and experience with 'newcomers' to the team. PA02 and PA08 demonstrated this as 'newcomers' learning from their 'old-timer' colleagues.

> *"So I just started off by watching what they did, assisting them. Whereas now the roles are starting to reverse, they're watching me as I'm sort of starting to learn how to [do procedure] and things."* – PA02

> *"…but when we started working…so me and another PA were hired, especially as it was our first job we really were learning from the NPs, especially specialty specific stuff…"* – PA08

Though members of the MDT may take the role as the 'old-timers' when NQPAs begin practice, over time the roles could switch, and the PAs will become the 'old-timers' to other staff who are the 'newcomers'.

> *"Obviously they're very junior at the moment but they'll become more experienced and then they'll end up being more experienced than the juniors rotating in. So at the moment we're teaching them but what that becomes in the end is they'll teach us."* **–**
> TM12

"…and because they're the most experienced person amongst the juniors in the team it's clear, you know, they sort of overseen our work and given us pointers and explained how the systems work and how they normally do things as a team." **–** TM14

Some PAs were already acting as 'old-timers' to healthcare students. PA13 stated that students would observe procedures they were carrying out and thought that students may find PAs more approachable than doctors. Although the participants discussed the process of PAs over time becoming 'old-timers' with the ability to provide support to newer junior doctors, TM17 did consider this could create conflict between established PAs and junior doctors who become more senior through their training in the future.

"I worry that friction will start to develop when the guys who are now their peers come back in three years' time as their seniors and they're still doing the same job." – TM17

As well as organised teaching provided by members of the MDT which PAs attended, situated, or "*ad lib*" (PA11), learning from the MDT also occurred, such as teaching during Consultant ward rounds.

6.3.2.1   PA Communities of Practice (CoPs)

In addition to the other professionals PAs were working closely with, there were also some instances shared of working alongside other PAs. Some were working directly with other PAs in the same team/department whilst others worked more distantly with PAs in other areas. Overall, the PAs in this study considered it to be valuable to collaborate with other PAs.

Four of the PAs worked alongside an existing PA within their area when they commenced their job and believed this was beneficial. For PA13, one of the attractions to their job was hearing that the team were friendly and already had PAs working in the area. The guidance and support that the existing PAs offered was particularly helpful when starting out as a NQPA. From PA11 and PA13's perspective there was an established understanding of what the PA role entails because of PAs already being present.

"…and luckily there was already PAs working on the ward that I'm working with so they are quite switched on and they understand what the role is…" – PA11

"…we had PAs there to sort of guide us so we could sort of watch what they did and know very much what our role was based on what their role was." – PA13

The opportunity for experienced PAs to share their knowledge and experiences can be beneficial, particularly for more recently qualified PAs or PAs new to an area. PA04, as a more experienced PA, was part of a buddy system where they provided informal support to more junior PAs offering them the opportunity to ask PA-profession related questions and raise any concerns. They further added that their amount of experience as a PA had made them feel more comfortable in providing this support and would have found it inappropriate to provide as a NQPA. When starting their first job as a PA, having a PA mentor was valuable for PA13 as a source for informal advice and support when needed, making things "*a lot better*". PA02 explained that they would have liked to have been given a PA mentor at the time of being recently qualified but would now be happy to provide mentoring themselves.

"…that is something that I want, a sort of mentorship, buddy scheme. Somebody, whether it's through your internship or through your studies even, that you have to speak to if you want to talk to somebody who's been there. Just somebody you can email asking questions to really." – PA02

Whilst a number of PAs across Wales may be the only PA in their setting (i.e., hospital specialty), there were reports of PA networking across areas. When asked about their relationship with their colleagues, PA14's response centred around their relationship with their PA colleagues and commented that they had a good relationship despite working across different areas. The working across different specialties meant that knowledge could be shared amongst the network of PAs.

"Obviously we're in a different specialties and when we talk, we each bring in our knowledge and share it to everyone…we've…got a good team going here anyway." – PA14

PA networking takes place both formally, through organised events, and informally. PA07 explained that there was a "*little network*" of PAs in the health board which was helpful for

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contacting PAs in other specialties for their advice. They offered an example of this in practice:

> *"So, for instance, if I'm clerking a patient who's come in with a [specialty] problem you can ring the [specialty] point of care contact's number but for various reasons, either busy or no one answers blah, blah, blah, but there's [specialty] PAs who in the past I have multiple times just sent a message to and be like 'This is the situation. Do they need to be reviewed today? Do I need to put them on this? Do I start this treatment?' And then you just get a quick message back, quicker and more informal I suppose than waiting for a call which helps speed up the patient care."* – PA07

PA12 detailed being part of a PA WhatsApp group involving "*PA to PA cross specialty communication*" about teaching/training and development. In addition to this there were discussions around the PA role and what they "*should be doing on paper as opposed to our jobs day-to-day*". These discussions may be helpful for solidifying the understanding of the PA role and ensuring the PA role is utilised in the most appropriate way. In contrast to PA07, PA12 stated they did not use this platform for any advice around patients and/or conditions.

In terms of formal instances of CoPs, PA14 shared their experience of an All Wales PA 'study day' held regularly throughout the year where teaching was offered providing an opportunity to share knowledge amongst the PA community in Wales. The benefits of teaching and sharing knowledge between PAs in such events was echoed by PA04. Similar to the point raised by PA12 around role clarity arising from informal communication, PA04 also discussed the benefits of sharing knowledge regarding the role itself and how their role could be developed.

> *"…because the teaching is there for the PA and whoever is teaching generally understands the role of the PA, and the PAs teach as well. So there's PA teaching and similarly a networking event as well. You see PAs that you haven't seen for a while who may have moved departments and PAs interested to know about how they're doing and what they're doing and sharing ideas with how you can change things in your role, you know, if it's worked for somebody else as well."* – PA04

PA07 also described how weekly teaching for PAs was not only helpful for the regular teaching but also to network with other PAs in other specialties to address any issues for them.

This section has predominantly highlighted the positive experiences of PA CoPs and collaboration, but PA08 shared a conflicting experience. From working alongside a PA colleague, PA08 believed that they were seen by other staff as "*one person…banded together*" because they were the *"two anomalies together"*. As a result, PA08 felt that they needed to be on the same page and when this had not happened difficulties had arisen. They went on to reflect whether two FY1 doctors would be considered more individually by others.

6.4   Summary

In summary, there was a general lack of knowledge surrounding the PA role from the PAs themselves, their team members, and patients. This ambiguity occasionally created some hesitancies towards PAs although overall, they felt accepted and well-integrated in their teams. Despite generally being unaware of the profession, patients were generally not resistant towards PAs. CoPs were seen to operate between PAs and their colleagues as well as between PAs more widely and the sharing of knowledge and expertise between the PAs and their colleagues was viewed as beneficial for patient outcomes. PAs were judged to contribute positively both clinically and non-clinically and their continuity was highlighted as particularly beneficial in both primary and secondary care settings.

However, role ambiguity could lead to PAs not being utilised in the most effective way, for example there were several instances of PAs being compared with other HCPs by colleagues, predominantly doctors, and therefore not being utilised appropriately. Currently being unregulated was considered a limitation for the PA profession, though this was not widespread amongst the participants as there was evidence of 'workarounds' and some PAs appreciated not being required to prescribe in particular. The following chapter explores the findings related to the Covid-19 pandemic whereby areas such as the impact of the profession are discussed in specifically in the context of the pandemic.

7 The impact of the Covid-19 pandemic on work and learning for PAs

On 11th March 2020, the World Health Organisation declared that the outbreak of Covid-19 to be a global pandemic (World Health Organisation 2020). With the first cases of Covid-19 in the UK identified in January 2020, the national lockdown began on 23rd March 2020. Throughout the rest of 2020 further lockdowns and restrictions continued but this varied by location. The second 'wave' of the pandemic began towards the end of 2020 and continued through to early 2021 with the UK moving to 'level 5' risk in early January (Welsh Parliament 2021). The 'level 5' risk was the highest alert category defined as high transmission and substantial risk to the NHS becoming overwhelmed with the demands of Covid-19 (UK Health Security Agency 2021). Data collection for the study commenced in March 2021 after the UK had moved past the 'second peak' and cases were declining (Welsh Government 2022), but restrictions were still in place. Despite the associated challenges of collecting data remotely with HCPs and their patients, it presented a unique opportunity to explore the experiences and impact of PAs in Wales during a global pandemic. Even though numerous studies have explored the experiences of healthcare workers during the pandemic, there appears to be very little of this research involving PAs. Covid-19 was an unavoidable theme, whilst participants were asked specific questions about the pandemic in the case studies and one-off interviews it was often discussed without prompt. The PAs in the All-Wales PA questionnaire were asked questions exploring their perception of how the pandemic had impacted their work and learning. This chapter reports the experiences of working during the pandemic from the perspective of PAs in Wales, how their learning was affected, the impact of the PA role during this period and the development of the profession going forward.

7.1 Working as a PA during the pandemic

Five of the nine of the case study PAs, over half of the All-Wales PA questionnaire respondents (n=20/31) and two of the one-off interview PAs had worked as a PA prior to the start of the pandemic. The remainder of the participants had only ever worked as a PA at a time of unparalleled pressures on the NHS and disruptions to their jobs and professional

development. Unsurprisingly the effects of the pandemic were felt across different areas of the role which are discussed in turn.

7.1.1 "…I woke up before going to work every day and I cried" – The challenges of working during the Covid-19 pandemic

NHS services and staff faced unprecedented and ever-changing demands in many areas. The widely reported shortages of PPE, lack of regular testing and changing guidance were sources of stress and anxiety for healthcare workers (Vindrola-Padros et al 2020). PAs across the study reported increased stress and anxiety as a result of the pressures and demands attributed to the pandemic as demonstrated by the participants' words below.

> *"…finding a work-life balance was hard because there was no life. There wasn't an escape. It was very scary at one point, they were talking about palliative hospitals, having to move and live in hotels and that was in the first few months was scary. I woke up before going to work every day and I cried."* – PA02

> *"…that day that it was all changing it was very alarming…really nobody knew what was going to happen and it was a very anxious time to go into work because I hate the unknown and I like to know kind of what I'm going into as much as I can so that you can prepare for it, but there was no way of preparing."* – PA04

> *"It has been a different 18 months. Due to the increased demand in health care this can lead to negative feelings towards health care, however much it is out of our control, which can be demoralising."* – PA, All-Wales PA Questionnaire respondent

Three of the questionnaire respondents referenced the pandemic when asked what they enjoyed least about their job without any prompt to discuss Covid-19. Substantial levels of poor mental health and well-being during the pandemic has been identified across studies of HCPs (Gilleen et al 2021; Greene et al 2021; Ike et al 2021; Lamb et al 2021) with the associated emotional costs often outweighing any benefits or feelings of reward for their work (Bennett et al 2020).

The prioritisation of responding to Covid-19 meant many NHS services were reorganised to minimise the associated risks (Liberati et al 2021). Consequently, some staff may have faced

caring for an influx of Covid-19 patients or were redeployed to areas to help with the response.

> *"So I was clerking the Covid assessment area instead of doing [other area]. Sort of clerking in anyone with query Covid, but everything became query Covid." – PA07*

PA07 further detailed feeling unprepared at the start of the pandemic this was not specific to the profession but rather the department. They contemplated that their department was not given as much Covid-related training compared to the Intensive Care and A&E units. Additionally, the respondent commented on a lack of appropriate PPE as they were given *"the plastic apron and a little paper mask"*.

With healthcare staff continuing to work throughout the pandemic, they faced the likelihood of becoming infected with Covid-19 themselves and the possibility of spreading infection to family/friends. This was a source of anguish for PA07 and identified as a significant concern in other studies (Bennett et al 2020; Faderani et al 2020; Blackburn et al 2021; Gilleen et al 2021; Ike et al 2021). In addition to the risk of contracting Covid-19, they also faced being identified as a close contact and therefore being required to self-isolate. The largest percentage of staff absent from Covid-19 sickness and self-isolation in Wales was early on in the pandemic between 14th and 20th April 2020 (2.5% Covid-19 sickness and 5% self-isolation) (Stats Wales 2021a). These absences subsequently created staffing shortages increasing the workloads of colleagues across the NHS, even if they were not working directly with Covid-19 patients. PA04 was not working directly with Covid-19 patients but explained that when colleagues became infected with Covid-19 the required isolation period, which was initially 14 days, led to shortages in staffing.

> *"…it came in waves really where a lot of staff members became poorly or maybe a member of their household was poorly or had symptoms, so they needed to stay home themselves and it was for two weeks which is a huge amount of time to lose somebody from a small team with the pressures that everyone was under anyway. So, yeah, the workload increased quite a lot." – PA04*

The changes and disruptions of working within a healthcare setting altered the interactions between colleagues. From PA01's perspective the loss of space for social opportunities was more profound in primary care as clinicians are confined to their own consultation rooms.

Being restricted to their own department meant PA06 was also unable to network with other PAs within their setting.

> *"I think Covid has really kind of dispersed everyone a little bit, like people are not going up to the kitchen to have lunch together. So it's a bit of a shame because we're almost losing out on that social element of going to work every day."* **–** PA01

> *"So we've got one other PA…that's been quite nice, but obviously I don't really see anyone now because of Covid. So I can't really leave."* **–** PA06

Training and learning events offer the opportunity for colleagues to network and socialise, something that was felt to be lost. As the PA profession is small, especially in comparison to other HCPs, their intraprofessional networking is important to develop their professional identity and support system.

> *"So we lost like that networking opportunity where you would meet the PAs every few months all together. So mobile learning still happens. It's not as sociable and it doesn't have that feeling of support."* **–** PA07

PA07 further highlighted the importance of informal communication between colleagues during the pandemic and described how this had shifted remotely using WhatsApp. Among PA students, a lack of available role modelling has been previously considered to affect the development of professional identity (Brown et al 2020). This could extend beyond PA students to qualified PAs, especially for NQPAs who may have had limited access to other PAs in their settings/departments particularly throughout the pandemic or for those who are the sole PA within a setting.

Interestingly, when TM13 was asked if they thought that the pandemic had changed the way PAs were viewed, they explained that Covid-19 had affected opportunities for "*diffusion of knowledge*" between colleagues and this was a "*hidden deficit in the service*" that would emerge over time.

> *"I've no idea. I don't talk to other physicians. I don't know what the general views of PAs out there are. Obviously one thing that Covid has done is made sure that there's social/collegial isolation of someone like me who used to travel to other [areas] and used to talk to colleagues."* **–** TM13

7.1.2   The loss of face-to-face patient contact

The shift from in-person to remote communication with patients was deemed challenging mainly by the PA participants working in primary care. By early March 2020 it was apparent primary care faced radical adaptations to providing services, despite telemedicine not initially being included in plans set out by the UK government (Fisk et al 2020). Particularly at the start of the pandemic, many of the usual face-to-face patient appointments in primary care were carried out remotely (Murphy et al 2021), including telephone, video and online consultations (Majeed et al 2020). Relying on mostly remote consultations was difficult for PA participants and having fewer opportunities to see patients face-to-face limited their ability to "*embed clinical skills*" (PA, All-Wales PA Questionnaire respondent). Remote consultations represented a shift in responsibility for clinicians, relying on patients' providing information in turn creating worry and "*fear of missing something life changing*" (PA, All-Wales PA Questionnaire respondent).

> *"Not many people are a fan of the telephone consultations. So I think it causes a lot of worry amongst the staff that we're missing something…."* – PA01

> *"In primary care my practice has changed from seeing patients face to face, to telephone triage…not seeing a patient and relying on how you ask the questions has increased strain on my mental health and increased stress levels…"* – PA, All-Wales PA Questionnaire respondent

There was a feeling of under preparedness for remote consultations amongst the primary care participants. For some, the shift to from in-person to remote consultations was seen as a *"a learning curve"* (PA, All-Wales PA Questionnaire respondent) having not been adequately prepared for remote consultations following training; the pandemic "*continues to affect things because GP life is not how I trained for it to be*" (PA, All-Wales PA Questionnaire respondent).

> *"Well I'm having to do a lot of telephone consultations which is something that I've never done before as a student. So you're having to rely so much more on the history and it's really hard when you can't just have the patient in front of you and I think you can learn a lot just by looking at the patient and seeing how they look and seeing*

how unwell they look, and not being able to do an examination I think makes it a lot harder. So I'd say it has made working a lot harder for me." – PA01

"Everything was done over the phone and I hadn't really been given any teaching on how to do a consultation over the phone. So obviously history taking but it's a particular skill doing it on the phone. So to start with I was very, very nervous and I was scared to even pick up the phone and I was scared to call people." – PA02

Whilst PA01 and PA02 described a lack of training for conducting remote consultations, PA01 did also reflect that having to complete video OSCE examinations as part of university training had somewhat helped prepare them for managing patients remotely in their job. TM01 felt sympathetic towards primary care PAs who had started working during the pandemic that they had not experienced "*normal times*" including not having seen a waiting room full of patients. But they did also consider that the restrictions had given the PAs the chance to become familiar with practices without the demands of seeing large numbers of face-to-face patients.

Although within this study the impact of the shift to remote communication with patients was mainly felt by primary care participants, PA07 and PA10 shared experiences of communicating with patient family members remotely. PA07 particularly noted the impact of not having patient visitors present as well as having to communicate with family members remotely.

"Visitors play a massive part in patient's safety even if it's not a visitor to that patient. You know, they're just the eyes on the bay. Or like if a patient is sick being able to speak to a family member in person whereas a lot of my role became communicating with family members over the phone, quite often giving bad news or having do not resuscitate (DNR) discussions over the phone. So that's probably the biggest impact actually not being able to have family visiting in the hospital." – PA07

7.1.3 New opportunities?

The pandemic undoubtedly affected the work of HCPs as well as creating numerous challenges. Although participants in this study mainly identified challenges associated with working during the pandemic, there were some participants who felt the pandemic had limited or no impact on their work. Ten of the All-Wales PA questionnaire respondents

provided no information or stated their work had not been impacted by the pandemic; two of these reported to have not been working clinically as a PA during this time experiences to offer. This was also the case for PA09. The setting in which participants were working seemed to impact their experiences of the pandemic. According to PA03 and PA16, Covid-19 had limited impact on their jobs. PA03 stated that they had little exposure to Covid-19 compared to others but even when PA03 started to become more exposed to Covid-19 throughout the 'second wave' they still felt it "*hasn't been too bad*". For PA08, they reflected on their placements as a student having spent time in a respiratory department, the associated risks with Covid-19 being a respiratory illness led them to feel stressed and anxious. They further contemplated the feelings of colleagues from their observations during their time on placements in other areas where patient flow reduced and inferred there "*wasn't a huge added stress there*", but PA08 acknowledged that this was their interpretation of their colleagues' feelings.

Although this chapter has primarily focused on the challenges the PAs faced in this study, there were also instances identified where participants were enabled to develop professionally.

> *"It has made me a more confident clinician as I was with extremely sick patients from the day I started."* **–** PA, All-Wales PA Questionnaire respondent

One All-Wales PA questionnaire respondent perceived the shift as beneficial as they had gained telephone triage skills and another stated that it had alleviated the barriers of prescribing. Comments shared by PA02, and an All-Wales PA questionnaire respondent were generally negative, but they both highlighted that personal development had occurred during this period.

> *"I feel like I would have had more exposure to examinations and seeing physical signs and I would have been thrown more in the deep-end. But I feel like that wouldn't have allowed me to flourish in other ways if that makes sense. So I wouldn't have been able to develop the [service] or the audit or that type of thing. I feel like it has enabled me to develop other skills and develop at my own pace as well."* – PA02

"It has made me think 'outside the box' consider investigations and referrals more and whether they change or impact how I manage that patient." – PA, All-Wales PA Questionnaire respondent

Because of infection control procedures in place PA06 felt more autonomous as supervision had become "*distanced*" with only one clinician often seeing a patient. This was deemed helpful for their development, but they did recognise that they may not have felt this way if they were very NQ, and this had happened at a "*good time*". Conversely, this had also left them feeling pressure not to miss anything and they had occasionally worked outside of their normal remit. However, PA06 did also face interruption to role development, they outlined their involvement in a new area within their setting prior to the pandemic but "*everything plans wise didn't work out*".

Some of the PAs in the study had been redeployed from their usual post. In PA04's experience, it was challenging to provide care for patients in a specialty they had not been exposed to previously. But they also considered this as a "*blessing in disguise*" (PA04) as it was an opportunity to explore new areas. PA10 had also been redeployed to a Covid-19 unit and although this was a "*sad*" experience they did reflect that they had the opportunity to learn during this time.

"I learnt a lot of general medicine, you know, because I had to be very on it with my oxygen saturations, my oxygen concentration, you know, all that stuff and I was working as essential to the team, dealing with family, answering lots of clinical questions from family members..." – PA10

Further to the personal development opportunities shared by some of the PA participants, according to one All-Wales PA questionnaire respondent the pandemic allowed the PA profession to develop more widely.

"It has given opportunities for people to thrive and expand our roles." – PA, All-Wales PA questionnaire respondent

The wider development of the PA profession as an outcome of the pandemic is an area that will be discussed in greater detail later in this chapter.

7.2 "Learning had taken a back seat" - The impact on learning

With efforts geared towards responding to the demands of the pandemic, learning for HCPs was reduced or halted. The disruption to formal learning has been identified as a major concern amongst doctors in the NHS (Faderani et al 2020). Whilst the care and safety of patients (and staff) was paramount, consideration needs to be given to learning requirements (Ding 2021). Those providing educational support were also facing increased demands and having to adapt to new ways of working and learning (Yuen and Xie 2020). PA participants across the study discussed the ways the pandemic had affected their learning with mixed responses. On one hand "*everything was about Covid at one point*" (PA04), but some participants felt that the pandemic had not negatively impacted their learning and the pandemic had even "*increased learning opportunities*" (PA, All-Wales PA Questionnaire respondent). The students in the 2019/20 cohort and beyond will have faced uncertainty and disruptions to their PA university course. Overall, these PAs in the study who were students during the pandemic across the study reported the challenges they had faced during this period. This section discusses three key areas identified around learning in the pandemic: the disruption to formal learning, the shift to remote learning and the impact on situated learning.

7.2.1 Disruption to formal learning

The loss of formal learning opportunities was reported by PAs across the study. Courses and teaching sessions were cancelled and some not rescheduled resulting in PAs having "*limited teaching sessions [and] not able to attend conferences*" (PA, All-Wales PA Questionnaire respondent).

> "*The pandemic unfortunately restricted my learning during the first few months. Many courses were cancelled in the first six months of pandemic and not rescheduled, this included my [area] courses which would have helped my transition into my [new] role.*" **–** PA, All-Wales PA Questionnaire respondent

Even if formal learning had resumed, there was still the possibility of cancellation due to staffing shortages. An example of this was provided by PA13:

> "*…we do the [area] specific teaching, we try and get that done once a week…it's not once a week, obviously if there are staff shortages, we have to cancel the teaching*

because we need to be on the ward doing jobs. So, it affected that a little bit, but that's fine." – PA13

PA14 argued that the pandemic had greatly affected learning for PAs having *"no lunchtime teachings…no going off to conferences"* but the online webinars offered to PAs had counteracted these losses. The availability of remote learning is discussed in an upcoming section of this chapter.

PAs in the UK are required to continue their learning post-qualification including maintaining annual CPD as well as further skills development. Opportunities were limited for activities for CPD development and appraisals. The PAs in the All-Wales PA questionnaire commented more specifically on the impact on CPD activities.

> *"Very little opportunities for learning within the health board. Little support for CPD activities."* – PA, All-Wales PA Questionnaire respondent

> *"I think having things like CPD/training has been massively affected."* – PA, All-Wales PA Questionnaire respondent

With social distancing regulations and guidance in place across the UK, this affected opportunities for attending organised learning in other settings and areas, highlighted by PA01 below:

> *"…say if I do a lot of [procedure] and I want to improve or gain more experience in doing that I could then maybe go and sit in [a clinic] at the hospital…I was just thinking about that yesterday because I was doing a lot of [procedure] yesterday and…I didn't feel 100% competent at it, just because it's quite a difficult [procedure]…I don't think I'm able to do it yet, just because there are restrictions at the hospital with having extra members of staff going in unnecessarily I think…"* – PA01

Having exposure to different areas and settings, such as attending clinics to develop skills, would have previously been a core component to CPD, but restrictions in place meant that learning opportunities were limited to remote learning.

"What my goal for the CPD days was to sit in on [specialty] clinics because that's where I wanted to have my, sort of, special skill, but I wasn't able to because of everything." – PA02

"Everything we discussed and planned to do over the next year hasn't been able to happen because it was the attendance to a particular clinic, attending courses, going out with somebody in the community…None of that's been able to happen because of social distancing." – PA04

PA03 explained that they were behind with gathering their external CPD credits and felt they had not received enough explanation about the requirements. It could be speculated the priority at the time was responding to the pandemic rather than providing support around learning. An example of this was highlighted in Salem et al's (2021) study of junior doctors, many reported to have stopped recording their learning events for portfolios. PA10 spoke about the change to the timeframe for CPD stating that the "*schedule of CPD hasn't changed…we can't get away from that, but we can do it over five years*". To ease the pressure to complete 50 CPD credits annually, the FPA authorised a five-year rolling programme for CPD credits allowing PAs to gather credits when most suitable (FPA 2022i). This may have been a helpful solution in the short term but going forward, PAs will need to be supported to allow them the time and access to complete the required credits.

Within this study, PAs who completed their university course during the Covid-19 pandemic reported numerous placements being postponed or cancelled, thus leading participants to feel they had missed out on access to some specialties in addition to not being able to "*have much patient contact*" (PA, All-Wales PA Questionnaire respondent). Two All-Wales PA questionnaire respondents illustrate below that their restricted access to placements meant they were unable to fully utilise time spent on placements in different areas of medicine.

"I think I'm worse off training wise because of the pandemic. I missed an elective placement, and then had to live in the hospital to obtain the hours required by the FPA. I felt the last six months of my course (March-August 2021) was rushed and forced and as a result I was not able to fully absorb my time on my placements and fully immerse myself in learning opportunities because I was chasing mandatory skills/teaching." – PA, All-Wales PA Questionnaire respondent

"I was in my final year and had to leave placements mid-way of my last specialty rotation (March 2020). I was supposed to go to elective for 4 weeks but due to Covid the options were very limited and we just had to go wherever we could just to do the hours." – PA, All-Wales PA Questionnaire respondent

Placements being cancelled and not being rearranged meant that in some cases PAs were not able to experience a procedure or situation as a student. PA13 gave an example of this having had their acute medicine placement cancelled and not experiencing a crash call until they were working as a qualified PA. Not being able to attend university campus and regularly practice examination skills with peers was pointed out by PA01 and PA16; "*everyone always says to learn examinations you've got to be doing it*" (PA01). Social distancing restrictions meant contact with others outside of households and 'bubbles' was prohibited limiting the availability of people to practice examination skills with as "*there's only so many times you can ask your friends or family at home or your housemates to be mock students for you*" (PA01). On returning to placements after months of online learning, PA01 felt they had "*skill fade*" and their confidence was negatively affected. Similarly, one All-Wales PA questionnaire respondent also highlighted the impact it had had on their mental health and consequently their confidence. Healthcare students will have undoubtedly experienced psychological effects of the pandemic with increased stress and anxiety (Dhahri et al 2020).

"…also I'd say the pandemic alongside the course impacted on my mental health which I feel affected my learning and confidence on placements. There was no support from friends/family due to isolation/geography etc and only online support from tutors so it was tricky to keep on top of everything." – PA, All-Wales PA Questionnaire respondent

When asked how prepared they felt for practice upon qualifying as a PA, PA01 discussed how the Covid-19 pandemic had affected how well prepared they felt. Examining the All-Wales PA questionnaire respondents' perceptions of their PfP, those who had worked as a PA pre-pandemic felt overall more prepared than those who did not work as a PA prior, but not significantly. This is shown below in Table 22.

Table 22: PfP by PA work experience prior to and post-pandemic

Worked as PA prior to pandemic?		PfP[25] (Five-point scale)			
Response	*Number*	*Mean*	*Median*	*Mode*	*Range*
Yes	20	3.55	4	4	3
No	11	3.36	4	4	2

This was a surprising finding as the qualitative data from throughout the study suggests that the pandemic caused significant challenges for PAs completing their university course. Choi et al's (2020) study of final year medical students found over half of respondents felt less prepared in their transition from student to FY1 from the disruptions of the pandemic. Other factors may be at play here, such as previous experience in other roles, affecting their perception of preparedness and differences in universities. This finding is discussed further in Chapter 8.

7.2.2   Going online

In response to social distancing restrictions and guidance in place, learning which would have usually taken place in-person was made available remotely. Alike the other findings in this chapter, there were varied opinions shared around online learning.

The accessibility of online resources was identified as a facilitator to learning opportunities without having to "*sacrifice clinical time*" (PA10). Two All-Wales PA questionnaire participants working in the primary care setting as well as one participant in secondary care but was working in the community highlighted the flexibility of online learning.

> *"It has increased learning opportunities; often getting time off for CPD at the last minute was tricky, but recorded webinars make learning far more accessible."* – PA, All-Wales PA Questionnaire respondent

> *"Considering I am in the community it has actually helped as there are more teaching opportunities over Teams."* – PA, All-Wales PA Questionnaire respondent

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[25] The scales are detailed in an earlier chapter 'Becoming a PA'.

This flexibility was also beneficial from PA02's perspective as it meant they did not have to travel to attend formal learning or conferences in-person. But the flexibility was not viewed as beneficial by PA12 who felt more obligated to attend in-person learning than online sessions where sessions could be attended/viewed at another time. The benefits of online learning were not shared by PA04 and PA06 who felt that the sessions were shortened and "*less structured*" (PA06).

Prior to the pandemic, PAs in Wales were able to attend an in-person networking event quarterly, which included teaching sessions. This was altered to an online format during the pandemic to "*counteract*" (PA14) the loss of in-person education. Whilst this alteration meant that the events could continue throughout the pandemic, PA07 perceived that there had been a loss of networking and did not have "*that feeling of support*" compared to in-person events.

With restrictions in place across the UK, the usual in-person teaching for students was suspended and replaced with remote learning including online lectures, seminars, tutorials etc. Remote learning offers the benefit of accessibility for students living across different locations and opportunities for engaging students such as chat box functions. PA08 found online lectures to be more interactive with limited external stimulus compared to in-person teaching. Not being physically surrounded by other students made them feel more comfortable getting actively involved in learning, i.e., asking and answering questions. PA09 was involved in teaching PA students and shared their experiences from the perspective of providing education. They felt online learning had led to some students becoming "*hidden in the background*" and this had become evident when sitting their examinations. For some it was deemed difficult to engage in online learning when "*you're just sat in front of a computer*" (PA01) and having to "*be more self-motivated to learn*" (PA11).

> *"I have a lot of sympathy for them because their teaching has been disrupted to a really great degree. Some things are easier to do online than others. Dermatology is fairly easy. How do you do cannulation over that?"* – PA09

PA13 emphasised the impact the loss of in-person contact had on their student experience and mental health. PA13 particularly emphasised the negative effects of the pandemic on the CoPs with their peers. With the shift to online teaching, the opportunities to share their

feelings and reassure each other dramatically reduced and this in turn affected their mental health.

> *"…you just can't underestimate losing the face-to-face contact you had with your peers…we became more isolated and it took such a toll on all of our mental health…because we weren't getting that support, you can't just go to a lecture and then be like 'Well that was really hard. Did you understand that? No, I didn't understand that' All you do is you come out of your Zoom link and you're sat there at home on your own not having any contact with your family and friends and you thought, 'God was it just me that found that hard?' I didn't get any of that you know…and it really took a toll on all of our mental health."* – PA13

Both PA02 and PA13 described how a CoP amongst their cohort was developed from necessity of self-directed learning but in the context of the pandemic. According to PA13, module leads had been reallocated to clinical work and thus their institution did not know what the students were needing to do during this time. In response to this some of their cohort began teaching each other, for example "*we assumed we need to know about diabetes, seems big, let's teach each other diabetes without being given any guidance*".

7.2.3   Situated learning impact

With routine or non-essential services and surgeries being reduced to address the pressures created by the pandemic, clinical exposure and thus opportunities for learning became limited (Salem et al 2021). Whilst many formal learning opportunities were cancelled, postponed, or moved to an online format, situated learning opportunities were also affected for the PAs.

With restrictions in place the public were bound to their homes and patient access to services decreased, for example in both April and May 2020 the number of attendances in A&E departments fell below 60,000 for the whole of Wales (Stats Wales 2021b). Particularly for PAs working in areas with greater exposure to Covid-19 patients, especially at the beginning of the pandemic, they saw fewer patient presentations of different natures. This in turn would have affected their overall learning opportunities.

> *"I saw a lot of Covid, rather than a lot of other presentations. So I guess you were not really advancing your learning on a whole rounded group of pathologies. Procedures*

got stopped so we just didn't have the same cohort of patients coming in So my procedure training sort of hit a big hurdle and I just stopped doing for a while." – PA07

"Our cases were predominantly Covid, and therefore missed out on some training opportunities during this time." – PA, All-Wales PA Questionnaire respondent

PA10 provided an insightful perspective on patient response to the pandemic. They explained that whilst there were periods where they were managing Covid related issues, during the 'waves' of the pandemic, such as the 'wave' of the Omicron variant, the patient 'did not attend' rate rose as patients were fearful of attending healthcare settings. Although this decrease in patient attendance rates may have been a respite, this would have meant patient exposure and associated learning opportunities had become limited. Alike the impact of the pandemic on PA's work, the hinderance of situated learning may be setting dependent. For PA08 their job was in a sub-specialty which they felt already had a smaller patient caseload and this was reduced even further during the pandemic. They did not feel the pressure to see a patient "*as quickly as possible*" which could have allowed them to spend time learning from patient cases and colleagues.

Availability of and access to situated learning had become challenging for the PA participants. Staffing shortages was a common occurrence, coupled with unprecedented pressures on services responding to the pandemic resulted in a lack of time and energy for learning.

"Also it's just been so busy. Whereas on the Consultant ward round previously they might have stopped, asked a few questions, explained their rationale behind a patient, but with the [other reason] and the pandemic they seem so busy but ward rounds are just rushing and just trying to get through everyone quickly as possible, rather than using it as a teaching opportunity I would say." – PA07

"I think because of the staffing levels are still low there's no time or energy for obviously those people that do the procedures to teach. So I don't blame them." **–** PA14

At the time of their interview, PA12 was NQ and had begun their role in the midst of another 'wave'. Although PA12 did not explicitly state that staffing shortages was the product of the pandemic, it can likely be assumed that Covid was a contributing factor.

> *"I have felt like my instruction to a professional PA life has been a baptism of fire. The ward is busy and everyone is so busy because of staff shortages that I felt like nobody actually has time to sit and say this is how you do this, this is how you do that. It's sort of me tailing on the back of the ward round trying to watch what people do really fast on the computer systems that I've never used before, until I can finally, you know, grasp what it is that they're doing so I can do that as well."* **–** PA12

In contrast PA10, who had been redeployed to working on a Covid ward, felt they had developed a valuable set of skills from working alongside nursing colleagues.

> *"I was redeployed to a Covid ward…and I was learning from the nursing team how to cope with dying patients, you know, dignity, oral hygiene, just things that we don't learn in university because you're trained by the medical model but any kind of medical professional should know."* **–** PA10

Instances where spontaneous learning could take place were also negatively affected by restrictions. Having multiple clinicians together in the same space seeing patients was constrained thus "*open and very linear discussion, that's been entirely scrapped really*" (PA15).

> *"So maybe sometimes we'd all be huddled around a computer looking at a scan and trying to learn from the scan and asking questions about it with your [doctor], we couldn't really do that couldn't get all close to that."* **–** PA04

> *"…and obviously social distancing again, like there was one on [condition] the other week and there's [procedure]…and we couldn't see that in person because of Covid."* **–** PA12

An example of the impact of social distancing as a student was conveyed by PA12 when on placement.

> *"Communicating with the patient when the doctors go into the room and they say, 'Because there's social distancing you can't be in the room'. I did feel a bit robbed."* – PA12

7.3 "They were a massive asset during the pandemic" - The impact of PAs during the pandemic

In addition to the general perceived impact of PAs discussed previously in chapter 6, perspectives were sought around the impact PAs had in the context of the pandemic in Wales. Again, this was acquired from the PAs themselves, team members and managers. This section will illustrate the views around the positive impact of PAs during the pandemic as well as the conflicting views shared. The lasting impact of PAs beyond the pandemic are then considered in the next section.

In spite of the challenges for PAs and the NHS generally as detailed in an above section, there were feelings among a number of the participants that it had also served to highlight the positive impact of PAs. The continuity of the PA profession was considered valuable by team members TM02 and TM19 who both noted the benefits of the continuity that PAs offered from the perspective of two HCP groups, nursing staff and doctors.

> *"So we got a brand new team of junior doctors but we took…I think one PA with us and it was useful to have somebody that knew our team and was there permanently. Whereas the juniors often, because of Covid got moved and they'd end being on a red team and a green team, you never knew who you were supposed to bleep and it was an absolute nightmare…I felt that they were that sure rock permanently on the team which was quite nice."* – TM02

> *"…when people were unwell and they had to isolate then you had this additional group of staff who could be there and especially because they're not on on-calls and they're not on nightshift or anything like that they're able to do the role in a way more effectively because they don't have to have the rapid shift changes and things. That's been a benefit to my role."* – TM19

PA07 stated that especially during the pandemic, the PA's familiarity with systems and procedures was of benefit when locum staff without prior experience of working within the setting were brought in at times of staffing shortages.

Although their continuity is perceived as a key benefit of the PA role both pre and during the pandemic, the flexibility and willingness of PAs in responding to service needs was emphasised by TM10 and TM12. According to TM12 the PAs began working outside of their usual hours and "*were the first to say, yeah let me help you*".

> "*We were taken on and used to do the jobs on the Covid-19 wards that all nurses/doctors refused to do, due to the uncertainty at the time. Many Consultants were grateful of what we did at the time and the skills and generalist knowledge we attributed to the ward at that time.*" – PA, All-Wales PA Questionnaire respondent

> "*They responded quickly, they were flexible, and they were keen to help. There were no concerns about putting themselves on the frontline…We had to put in a Covid rota for our Covid ward here and…the PAs formed part of that team…[they] would stay on until nine o'clock if we were short. So they were a massive asset during Covid for supporting the medical workforce and the nursing workforce and it was very much appreciated on this hospital site…very proud of them.*" – TM10

Despite not administering the Covid-19 vaccine, TM01 stated their PA colleagues' willingness to assist with the administrative tasks of the vaccine rollout in their area. Conversely TM08 felt that PAs being involved with the vaccine rollout may not have been the best use of their skills with other healthcare staff being more appropriate. MA03 went on to reflect on the impact of PAs on services with other members of the team occupied with the rollout of the Covid vaccine.

> "*Well I suppose you could factor in that our nurses, our health carers, other clinicians have been so involved with Covid vaccinations that there has become a backlog and with the relaxation of enhanced services, again a backlog has come. So maybe you could link that part with the PA who is working here now. Just trying to bring that back on track…*" – TM08

As detailed earlier in the chapter, staffing shortages caused by staff sickness or self-isolation often increased pressures and workloads for NHS teams. PAs were seen to contribute to managing the increasing workloads, again simply being "*another pair of hands*" (TM03).

"Particularly over the last year really helped with the workload I think there was, especially earlier on during the pandemic, you know, there was a lot of staff off poorly or isolating and at that time it was for two weeks, and to have a handful of people off at the same time for that duration is quite difficult. So I think it does help with the workload." – PA04

Two examples were given of services potentially becoming disrupted without having PAs as part of the team. TM18 stated that without the PA there, the "*practice would have been eroded*" because of staff sickness. Often hospitals required additional areas such as assessment units to prevent Covid-19 positive patients risking infection to non-Covid patients. Without having additional doctors that hospitals can "*magically pull out of the bag*" (TM04), PAs were viewed as beneficial for contributing towards medical cover; TM04 explained that their department would not have been able to function without the PAs.

Although participants shared positive sentiments specifically about PAs working through the pandemic, there were some opinions shared that PAs were considered as just part of the team who "*just got stuck in and worked wherever they were needed really, as much as anybody else in the team*" (TM05). TM06 also considered their impact as no different to the impact of the wider workforce.

"I wouldn't say it was no different to the rest of the workforce really, I suppose. You know, they're part of our workforce…I wouldn't consider them in any other way really." – TM06

"But I think it's just having more humans really, just physical numbers. I don't think that a PA really brings anything to the table that a junior or middle grade doctor doesn't. Maybe a bit more flexible but equally the same is true the other way around." – TM17

Whilst these participants considered the impact PAs had on responding to the pandemic as possibly no different to other HCPs, this demonstrates that appreciation of PAs was present and may have accelerated the embedding of PAs within healthcare teams. PA14 provided an example of this, they felt that understanding of the role had "*clicked*" at the time of their interview and the pandemic had elicited this. They felt others had realised how much

support PAs can offer during the pandemic and that PAs had "*gelled with the doctors and the rest of the MDT*".

Although perceptions of the impact of PAs during the pandemic were generally positive there were some conflicting accounts shared. This included not being able to comment on the impact where a setting had limited Covid exposure and had staffing issues prior to the pandemic. In the previous section discussing impact, participants had stated that PAs in some settings had been redeployed to Covid wards but TM02 had not worked with PAs during a redeployment to a Covid-19 ward. They deliberated the reason for PAs not working on the ward and thought it may have been more beneficial to have prescribers working with such patients who might need emergency medication prescribed. TM15 extensively discussed the challenges that junior doctors in particular were facing generally as well as during the pandemic. The pandemic had stretched an already pressured service and the PAs as individuals had contributed in the best way they could, but TM15 argued that staffing shortages had been unfair to PAs who had taken on "*slack that has to be picked up…but in no way equipped to do so*". This in turn had created difficulties for doctors as "*everything they're doing has to be checked…it stresses doctors out*".

7.4   Lasting impacts of PAs beyond the pandemic

The NHS workforce faces adaptations in responding to the ever evolving needs of delivering patient-centred care and the pandemic has accelerated this (Fernandes et al 2020). In December 2021, the Chief Executive of the GMC warned of alarming levels of workload associated burnout amongst doctors. To help mitigate this, effective team working across the MDT as well as embedding MAPs into the medical workforce, including PAs, can aid in tackling pressures (GMC 2021). The changes to working across the NHS generated considerations of how the pandemic may shape development of the PA profession for the future.

7.4.1   "We don't want them to go" - Changing perceptions

Participants across the three NHS staff groups in the case studies and one-off interviews were asked if they thought the pandemic had changed the way PAs are viewed by others generating a mixed response across all three groups.

One perspective shared was that changes to working during the pandemic allowed PAs to *"show the career to other colleagues"* (PA, All-Wales PA Questionnaire respondent) which had *"opened up the eyes"* (TM10) of specialties who had not worked with PAs previously. PA07 and PA13 anticipated that the PAs who had been redeployed to work in Covid-19 areas had demonstrated to colleagues the generalist nature and versatility of their role.

> *"I think people maybe have realised that we're generalists because I know that PAs who were working through the pandemic got redeployed, similar to how doctors got redeployed wherever they were needed, right? So displaced off the wards they were supposed to be on and sent elsewhere and I think people was surprised at how easily PAs adapted."* – PA13

Several PAs across the study felt that the perceived appreciation of PAs in the NHS had subsequently led to developments individually and more widely for the profession. The pandemic had provided opportunities to *"thrive and expand"* (PA, All-Wales PA Questionnaire respondent) the PA role. PA01 and one All-Wales PA questionnaire respondent shared their thoughts that the pandemic had emphasised the issue staffing shortages across the NHS and that PAs could be a part of the response to this.

> *"…some of my friends had been employed as PAs to make up the staff shortages at the hospital. So even though my role was there anyway and hasn't changed I think it's definitely for some of my other colleagues' new roles have been created that I think are still going to be there in a years' time because they've realised that the NHS needs more staff really."* – PA01

> *"I feel the pandemic has highlighted and exacerbated the low staffing levels and burn out. I feel this has left a huge gap for PAs to show their resourcefulness and ability to help the overall running of hospital and then also patient outcomes as well."* – PA, All-Wales PA Questionnaire respondent

According to TM06, the opportunity for PAs to work across areas they had not worked in before accelerated the acceptance of the role.

> *"If I'd asked the [specialist] would you like a PA they would have said no, we need to have somebody who can prescribe. But when [the PA] went and worked there they*

were like, we don't want them to go. So maybe it kind of fast forwarded people's appreciation of the role." – TM06

This outlook (of the pandemic changing attitudes towards PAs) was not shared amongst all participants. Interestingly a number of team and management participants (n=7) were either unsure or did not think the pandemic had changed how PAs were viewed. TM11's felt it was too early to comment and considered that attitudes may have changed for reasons other than the pandemic in their setting. TM08 and TM17 also shared this view, their understanding of the PA role had "*matured*" (TM08) over time attributing this to changes beyond the pandemic. TM15 however felt the pandemic had negatively affected the relationship and "*inflamed tensions*" between doctors and PAs. They shared their grievances of their job and the pressures Covid-19 had placed on a system that was already experiencing "*chronic problems*".

> "*…combined with no support and then you introduce a professional group that has to do none of these things, who aren't hassled to work on a weekend, who physically can't work 22 days in a row of which 15 of them are long days and you're paying them more and you're giving them less responsibility and then they're taking opportunities from you. So that's what on a human level, as a doctor, that's what Covid has done to our relationships.*" – TM15

PA10 shared a similar view to PA07 and PA13's that PAs working on Covid wards was a "*great indictment for the profession*" with other HCPs refusing to attend Covid wards. But when asked if they thought the pandemic had changed the way PAs are viewed, their response centred around public awareness of PAs. They felt that although they had received recognition from wider organisations, they generally thought that PAs were a "*silent profession*" and was not present in consciousness of the public.

> "*I think it should have done but it hasn't. I think PAs worked tirelessly in the pandemic. I think we were there fighting the fight with the rest of our colleagues, but I think when the public were clapping for the NHS a very, very small percent were thinking of PAs, if any.*" – PA10

PA12 echoed this sentiment, that the pandemic had not impacted public awareness of PAs positively nor negatively.

7.4.2 Looking forward

The effects of the pandemic will be felt across the NHS for years to come with backlogs of routine procedures and appointments, treating historical complaints (Propper et al 2020) as well as treating those suffering from long-Covid. Millions of elective admissions and outpatient appointments were estimated to have not taken place during the first few months of the pandemic (BMA 2020d). From March 2020 to the end of 2020, there were around four million fewer referrals to hospital services than the same time frame the previous year with the potential for a number of patients requiring routine or urgent care further in the future (Maguire 2020). Prospects on the development of the PA profession shared by participants were detailed in an earlier chapter but there were considerations of how PAs may aid in addressing service needs beyond the pandemic. The continuity of the PA profession could contribute to addressing the extensive waiting lists created by the pandemic according to PA16. TM07 contemplated the possibility of utilising PAs to support doctor's workload as they respond to some of the backlogs, using a surgical department as an example.

> *"…if I looked at surgery we could get more people operated on and then that would probably take some of the doctors into the operating theatre. Who's going to look after the patients on the ward or process [inaudible]? If you said 'Well the PA could do that' and the SHO or junior doctor could be in theatre."* **–** TM07

Junior doctors on training pathways are required to complete a set amount of training and learning to progress within the stages of their programme, but as expected they faced disruption to this. From their perspective, redeployment would have interrupted exposure to and possible deskilling within (Salem et al 2021). With this in mind, TM07 further contemplated utilising other members of the healthcare workforce to free junior doctors' time allowing them to complete their required training.

> *"…a lot of the trainees have missed out on what they need to do to complete their curriculum… for example, if it was a medical doctor they should be in the clinic…all the clinics were cancelled and now their programme is, okay, well you're due to qualify but to qualify you've got to have done all these things. They say, 'Oh well I'll spread them over two years…so can somebody else look after the bits that I've been doing?' So I think we can look at how we utilise the workforce to address training for*

other people whose training has been missed and for how we recover and of course how we go forward in the future." – TM07

At the point of the first national lockdown, primary care consultation rates fell (Watt et al 2020) though this then rose back to pre-pandemic levels (The Health Foundation 2021). TM09 reflected on the substantial number of telephone calls compared to face-to-face patients previously and that half of these could be dealt with by a PA thus lessening the workload of the GPs. Interestingly, one primary care All-Wales PA questionnaire respondent commented that because of the pandemic the PAs and doctors in their practice had the same number and time for appointments which had "*made the PAs work as hard as the doctors*" (PA, All-Wales PA Questionnaire respondent) Whilst the PAs will continue to contribute to addressing service needs and waiting list times, this may not be appropriate particularly for NQPAs. One All-Wales PA questionnaire respondent felt the pandemic had highlighted an issue of PAs 'supplementing' their teams when short staffed. TM11 shared a similar perspective that the NHS should consider the appropriate utilisation of PAs post-pandemic.

> *"We worked up and dealt with far more responsibility when staff sicknesses occurred. This has largely been forgotten now by colleagues. We often supplement a team when short but don't get asked to do it when its fully staffed as we 'are not doctors' which makes no sense."* – PA, All-Wales PA Questionnaire respondent

> *"I'm sure there will be service reviews and stuff going on post-pandemic NHS and they certainly can help with stability on the wards, but they shouldn't be used to, kind of, paper over the cracks about the fact that we potentially need more staff and different types of staff. They are there as a complement to the ward team."* – TM11

Whilst there were reflections of how valuable PAs could be in addressing how the NHS recovers from the pandemic, there are careful considerations that may need to be taken. In the previous sub-section of this chapter, accounts were shared of the increased stress and anxiety for PAs associated with the pandemic.

> *"…it was November and December which were the awful months and morale was quite low. People were just exhausted, but you couldn't not come to work because*

you knew if you felt you would be screwing over your colleagues. Everyone was

staying hours later every day." – PA07

Even when not responding directly to Covid-19, the associated backlogs will result in an

increased workload for staff, and this was a source of concern for PA01.

"…patients are also coming in a year later with things like cancers that they have

not…they've either been shielding or they've not wanted to come while the cases

have been so high. So I think that's going to increase the workload, especially as we

see the cases come down and the restrictions eased…" – PA01

Other challenges reported included wider professional and long-term implications for the

PAs. For example, one questionnaire respondents felt there was a delay in regulation for

PAs with the "*GMC number is not coming as quickly as stated*" (PA, All-Wales PA

Questionnaire respondent). Since the questionnaire was completed the delay to GMC

regulation for PAs was announced (FPA 2021b).

7.5   Summary

In summary, the PA participants identified several challenges relating to working during the

Covid-19 pandemic. Increased workloads coupled with staffing shortages created a stressful

climate for MDTs as well as adapting to new ways of working such as remote

consultation/communication, although the exposure to Covid-19 and the associated

challenges were setting dependent.

There was significant disruption to learning for PAs both as part of their university course

and as a qualified PA. There were reports that organised learning and teaching was

postponed or cancelled and not rearranged. Attitudes towards the shift to online learning

was mixed with some appreciating the accessibility it provides. The loss of in-person

learning particularly affected the participants who had undertaken part of their university

course during the pandemic having lost access to placements as well as opportunities to

develop CoPs. Situated learning was also negatively impacted by the pandemic with service

needs taking priority over opportunities for learning.

Opportunities for development both individually and for the role more widely emerged

during this period. Adaptations in working to respond to the pandemic meant more NHS

staff had experienced working alongside PAs and were therefore exposed to advantages of the profession. Despite the challenges, the PA profession was regarded as generally having a positive impact, assisting in the response to the pandemic, being a source of continuity as well as being flexible to service needs.

8   Discussion and conclusions

8.1   Introduction

This study had five aims developed primarily from a review of the existing literature. In brief, these were to explore: the experiences of recently qualified PAs and the transition from student to qualified PA, the impact of PAs on service delivery and provision, how well PAs are embedded in the MDT, how patients respond to PAs and if there are any similarities or differences between the primary and secondary care settings, all in the context of Wales. The inclusion of the perspectives from managers was influenced by discussion with HEIW. The literature review (Chapter 2) demonstrated that with the PA profession growing across the UK so are studies involving PAs, though they are still in relatively low numbers compared to other NHS HCPs.

A constructivist approach was adopted as the study was predominantly qualitative. Data collection for the study was split into three parts: case studies, the All-Wales PA questionnaire, and one-off interviews. The case studies involved remote, via Microsoft Teams or telephone, semi-structured interviews with PAs, their team members, management staff and their patients across four health boards in Wales. The one-off interviews, introduced in response to Covid-19-related recruitment difficulties, included the same participant groups within the same four health boards as the case studies. The All-Wales PA questionnaire was available online built in Online Surveys and distributed via email to all PAs working across Wales. The inclusion of the questionnaire allowed a wider involvement of PAs in Wales and contributed to a richer picture of the landscape of PAs in Wales. The qualitative data were analysed thematically, and descriptive statistics were produced from the quantitative data. This chapter addresses each of the research aims, presents a reflection on the methodological approach, recommendations for future research and ends with concluding remarks.

8.2   Addressing the research questions

The following sections provide a summary of the findings relating to each of the research questions and references existing theory and literature where relevant.

8.2.1 Research question one: What are the experiences of recently qualified PAs and their transition from student to qualified PA?

With the PA profession in Wales still in its infancy, the understanding of NQPAs is limited. The study explored the perception of how well-prepared PAs are for practice and the experience of transitioning from student to NQPA. Experiences of transitions from student to qualified practitioner and PfP have been studied comprehensively for other HCPs and this is one of the first studies to explore these concepts in relation to PAs. With the PA profession being fairly new and not an extension of an existing profession, this makes the findings from this study distinctive to existing work surrounding other professionals. Additionally, this study explored these areas in the context of the Covid-19 pandemic which created completely unique circumstances for NQPAs.

8.2.1.1 Preparedness for practice (PfP)

PfP is a concept that has been extensively studied for NQ junior doctors (Cave et al 2007; Goldacre et al 2010; Monrouxe et al 2017; Monrouxe et al 2018; Wells et al 2019) but relatively unexplored for PAs in the UK. How PfP is defined is often unclear (Burford and Vance 2014). As this study did not provide a definition of PfP to participants, their responses were based on their own interpretation of the concept. The study did not aim to assess if the PAs were meeting competencies expected from their training or quantitatively measure the outcomes of PA training institutions but instead explored self-reported perspectives of how well prepared they felt for practice following their university course. The PAs in the study had completed their course across various universities, both in Wales and England, though it is not suitable to make comparisons within this dataset and this was not an intended aim of the study.

The PAs in the case studies and one-off interviews shared views somewhat dissimilar to those of the All-Wales PA questionnaire respondents. From completing the PfP scale, the questionnaire respondents overall felt prepared for practice but more feelings of being unprepared for practice were shared by those who were interviewed. The reasons for this are not clear but this could demonstrate the richness and nuance that qualitative data can produce. The All-Wales PA questionnaire only included one question around preparedness whereas those interviewed were given time and space to discuss this. Despite having

mechanisms in place to help with PAs feeling prepared, such as pre-internship placements, feeling unprepared was still identified.

Prior NHS experience was not found to prepare PAs significantly better for practice according to the All-Wales PA questionnaire respondents. Nursing based studies also found that whilst previous employment can be beneficial, it did not exclusively influence a successful transition from student and factors in their current employment had more impact on the transition (Phillips et al 2013; Phillips et al 2015). This finding also aligns with that of Darling-Pomranz et al's (2021) study of PA student examination outcomes comparing those with and without prior healthcare experience. However, the interviewed PAs who did have previous healthcare experience felt that their experience had helped them in in terms of communication skills, understanding the NHS and its processes, and clinical reasoning. The conflict between the interviewed PAs and All-Wales PA questionnaire respondents could be an outcome of how the survey question was interpreted. Questionnaires do not allow questions to be clarified by the researcher nor can respondents offer the depth in answers as when interviewed.

The pandemic disrupted university courses across HCPs, negatively affecting students (Choi et al 2020; Blackburn et al 2021; Ding 2021; Lawson Jones et al 2021; Michno et al 2021). The PAs who completed their training during the pandemic particularly would have been affected by interruption to placements and they would have experienced limited exposure to certain specialties. Whilst the pandemic majorly disrupted university courses and healthcare students felt their PfP was negatively impacted (Choi et al 2020; Blake et al 2021; Donnell et al 2022), the findings from the All-Wales PA questionnaire suggest that although those who had completed their training during the pandemic felt less prepared than those who did not, there was not a major difference in how well prepared they felt for practice. But for those who had not worked as a PA prior to the pandemic, they would have started working at different points so the impact on their course may have varied. Ding (2021) anticipated that final year medical students during the pandemic would be prepared for their forthcoming work as a doctor through a "*baptism of fire*" (Ding 2021, p.404). PA13 had started their first job as a PA during a 'wave' of the pandemic and referred to their start in the same terms (as a "*baptism of fire*") and spoke negatively of this experience. Although other factors may have mitigated the negative impact of the pandemic on PfP such as

working in other healthcare roles during and prior to the pandemic and university course differences.

The inclusion of team members' views provides an external angle and has also been utilised in studies of other HCPs (Matheson and Matheson 2009; Van Hamel and Jenner 2015). Generally, the team members felt the PAs they worked alongside seemed well prepared for practice but of note they had only worked with a small number of PAs, so their experiences were limited and some of the team members explicitly recognised this. With a lack of understanding of the PA role reported amongst team members, it is unlikely they were aware of the content of the PA university course so were not likely to be adequately informed about what is expected of a PA upon completion of their course.

8.2.1.2   The student to NQPA transition

The experience of transitioning from student to NQPA was discussed with the PAs who were interviewed and both facilitators and inhibitors to a smooth transition were identified. During the transition, some of the PAs cited the value of either already working in their department or starting their new job alongside another PA. The PAs who were the first of their profession to work in a department as well as being NQ found this challenging. PA04 stated that being one of the first PAs in their area meant they did not have any PA colleagues *"to compare yourself to"*. Brown et al's (2020) work examined the professional identity development for UK PA students. They argued that universities needed to do more to involve qualified PAs with students which will contribute towards role modelling for students and aid their development of their professional identity. The authors warned that there would be long-term consequences for the profession if a clear professional identity is not developed. The encouragement and facilitation of CoPs may help here. If PAs can meet regularly and share knowledge and experience, this may help with their professional identity development and especially for NQPAs transitioning to working. The facilitation of PA CoPs may also aid in reducing feelings of isolation (Forde et al 2022). In this study, some of the PAs who completed their university course during the pandemic highlighted the importance of CoPs, albeit they were virtual. When there were difficulties in providing training, they engaged with each other to teach themselves.

The gap between completing training and commencing work as a qualified PA may be damaging to PA's confidence and PfP. As detailed in Chapter 1, once a PA completes their

university course, they are required to pass the national examination before being able to practice as a PA in the UK. According to the FPA website, the national examination takes place at three points in a calendar year; January, May, and September (FPA 2022d). If a PA was to pass their university course which typically ends in July, they would then be able to sit the examination in September, but there would still be a gap between sitting the examination and receiving their results. If they fail and re-sit this gap between knowledge of passing the national examination and working as a PA gets even larger. PA03 is an example of this, they had to re-sit their national examination and felt "*rusty*" on their return having been away from practising as a PA for months. Only a small number of instances were described of initiatives to ensure practice continued for PAs awaiting their national examination outcomes. There were some PAs in the study who worked within their department prior to working as a qualified PA, including "*pre-internship placements*", according to PA13. These sorts of positions, for example assistantships, have been adopted for medical students to support the transition from student to qualified doctor (Braniff et al 2016; Wells et al 2019). Despite the benefits of such arrangements identified within this study and elsewhere, the effectiveness of such placements/assistantships may not be reaching their full potential. PA13 felt that the value of the pre-internship placement dwindled because of the long gap between completing their university course and commencing work. PA04 felt that "*nothing can really prepare you*" for the newfound responsibility of being qualified. PA04's belief that a degree of unpreparedness was unavoidable was echoed by a number of PAs across the study.

8.2.1.3 Internships and the transition

Internships for PAs are intended to consolidate the learning of NQPAs through training opportunities and support in the workplace (FPA Undated). The shift in responsibility was a key theme and the support provided in internships can assist the transition or be a 'steppingstone' for NQPAs; "*it's a good medium between the amount of autonomy you get and it's not full autonomy straightaway*" (PA08). However, the PAs gave conflicting accounts, with some feeling that there was no significant difference between their internship job and those who were not employed in internships. As shown in Chapter 5, the amount of time allocated for CPD received one of the lowest satisfaction scores across both sets of participants in the All-Wales PA questionnaire. A lack of dedicated time for training

and CPD during an internship was also raised as an issue amongst the PAs in the case studies and one-off interviews. TM06 reinforced that the development of a PA in their first year is "*exponential*" as they have the "*building blocks*" from their two-year course and further learning during that time is needed in the workplace. The feeling of perceived lack of dedicated learning time also feeds into the dissatisfaction with pay. Some of the PAs employed in internship posts were displeased with the rate of pay (Band 6) and how much dedicated learning time they were expecting for the lower pay rate. Changes have now been introduced in Wales whereby internship PAs are paid at a Band 7 rate which is the same as non-intern PAs.

There were differences reported in the structure and organisation of internships i.e., rotational posts or a static position in a department. Whilst the rotational nature of an internship may be valuable for consolidating skills and enjoyable for PAs, a key benefit of PAs identified in this study and in other studies is their continuity (Farmer et al 2011; Gill et al 2014; Jackson et al 2017; Drennan et al 2019a; Drennan et al 2019b). If NQPAs are rotating every few months like junior doctors, the benefits of continuity may not be effective. Two of the managers referred to the foundation training programme for junior doctors when discussing PA internships. Whilst a more structured, universal approach to the internship, like the foundation programme, may be beneficial for both PAs and their colleagues, the overlap and comparison with foundation programme doctors may be detrimental in the professional identity development of the PA profession. This comparison with doctors could fuel further role ambiguity. PAs are a separate profession to doctors and their internships should reflect that.

Some of the participants in this study stated that the PAs themselves had input into the structure of their internship; although welcomed by the PAs, this could result in differing experiences and intended outcomes. TM06 stated that they had shared their experiences of internships with other areas in their health board but "*everybody has interpreted it differently*". In some cases, allowing PAs to have input in the organisation of their internship stemmed from a lack of understanding from senior staff about PA internships; PA07 and PA14 gave examples of this. In an evaluation of an internship programme in primary care Cottrell et al (2021) observed internship PAs defining their professional boundaries themselves as an outcome of this ambiguity. This lack of awareness and understanding of

PA internships was observed amongst most of the team members and one manager. They were either unaware of internships themselves and if their PA colleagues were employed in an internship post, or they had a limited understanding of what the post entailed. The team members who held the most knowledge about PA internships tended to be more senior staff who had greater involvement in their employment which may demonstrate that information about PA internships may not be fully disseminated across members of the team.

8.2.2 Research question two: What impact do PAs have on service delivery and provision?

PAs have been found to contribute to services and provide safe and effective care (Drennan et al 2014; Drennan et al 2019a) including in newly developed services (Edison et al 2021). Whilst some of the findings complement other studies from elsewhere in the UK, this study presents the perceived impact from several perspectives and in the context of NHS Wales where the profession is still relatively new. Chapter 6 outlined the perceived value of PAs from the perspective of the PAs themselves, team members and managers. PAs were considered to directly contribute to teams both clinically and non-clinically through their skill mix and supporting workloads. The continuity of care that the PA profession offers was considered of significant value across the participants in the study; team members particularly emphasised the value of PA continuity. With doctors often being required to work night shifts or on call shifts and junior doctors on training programmes being required to rotate between specialties regularly, the PAs were a source of medical continuity for teams. Their continuity meant they often had greater awareness of patient progressions compared to other staff with more diverse working patterns. Their continuity also meant there was a member of the medical team consistently present for other staff to seek support from. There were even some suggestions that PAs are more approachable than doctors. The findings from this study align with those of studies conducted elsewhere the UK (Farmer et al 2011; Drennan et al 2019a).

Indirectly, the concept of LPP and CoPs is pertinent (Lave and Wenger 1991). NQPAs will inevitably be the 'newcomers' in their teams and while the profession is in its infancy in Wales, many PAs will have only a few years' experience. Over time and as the profession ages, more PAs will become 'old-timers' who are able to share their knowledge and experience with 'newcomers'. As well as providing support to other PA 'newcomers', this

can extend to other professionals. For junior doctors, as the PAs become more experienced in an area, they can provide support and teaching to junior doctors who are 'newcomers' rotating into an area where they have little experience. TM14 gave an example of this *"…and because they're the most experienced person amongst the juniors in the team it's clear, you know, they sort of overseen our work and given us pointers and explained how the systems work and how they normally do things as a team."*. TM12 explained that PAs will become more experienced than junior doctors rotating into specialities; "*at the moment we're teaching them but…in the end is they'll teach us."*. However, a possible hindrance to this is resistance to this from other professionals, particularly junior doctors on training programmes. There were examples shared in the study of junior doctors feeling that PAs were inappropriately "*taking opportunities away from doctors in the future who will be their bosses*" (TM15) and that junior doctors should have priority over learning opportunities.

The limited number of PAs working across the UK restricts the opportunities for PA role modelling for student PAs and therefore some can end up role modelling their doctor counterparts (Brown et al 2020). This PA role modelling deficit may also feed into colleagues and managers. The issue of role ambiguity was discussed frequently in this study. There were a number of occasions during the interviews in the case studies and one-off interviews whereby the PA role was compared to doctors or the overlap between their roles was discussed; for example, one team member considered them as a "*FY1.5*" (TM13). TM15, who was working as a doctor, felt that PAs did not understand the distinction between their role and their doctor counterparts. This comparison with doctors and the deficit of PA role modelling could be a cause of role ambiguity. Potential PA employers have been advised to ensure there is an understanding of their role and that they are suited to the needs of the team/department. This in turn should prevent the employment of PAs where another HCP is more suited. TM11 shared that the PA role had been advertised to them as a means to address junior doctor gaps; this approach was not appropriate; rather, the PA role should complement a well-staffed team, not be used to address team vacancies. PAs are their own professional group with their own skill mix but the blurring of boundaries between PAs and doctors could be an issue in their utilisation. There was recognition by two team members who were senior staff that PAs within their area might not be utilised as intended, rather they were viewed as a kind of junior doctor: *"I do sometimes worry that I'm trying to create*

them into mini doctors" (TM17). The desperation of a service to keep afloat may also influence their utilisation; TM13 admitted they had not read any information about the PA role and embraced one into the service out of desperation.

As well as a general unawareness of the PA role, there were also instances of colleagues mistaking PAs for other professionals or not being able to differentiate between PAs and other professionals, particularly doctors. This can affect how well embedded PAs become within their teams which is discussed in an upcoming section. Without a clear understanding of a role, there can be conflicts in role expectations between role holders (the PAs) and role senders (team members) (Katz and Kahn 1978; Biddle 1986). The combination of role ambiguity and lack of appropriate role modelling may mean PAs are not necessarily being utilised in the most effective way or, more seriously, are being misused.

The application of key concepts role theory and CoPs have been utilised independently in other studies, they have however both been incorporated into this study to aid in making sense of the perceived impact of the PA profession as well as inhibitors to their potential. Furthermore, as well as in the context of the NHS experiencing the most significant pressures in its' existence (BMA 2023), the study was conducted during the Covid-19 pandemic providing distinct circumstances and therefore distinct findings. Findings relating to the Covid-19 pandemic specifically are discussed in more detail below.

8.2.2.1   Covid-19

PAs have been observed responding to the demands of the Covid-19 pandemic (Edison et al 2021; Tucker et al 2021). Numerous team members and managers in this study stated that they believed PAs had a positive impact on responding to the demands to the pandemic. Some did share conflicting views, but these were limited and very much in the minority. Again, their continuity was valued in the context of the pandemic with familiarity with systems and processes during frequent changes to staffing, as well as their ability to adapt and willingness to assist being highlighted. Examples were shared in this study of potential service disruption during the pandemic had it not been for the utilisation of PAs. Although the pandemic generated unprecedented challenges for staff across the NHS, accounts shared in this study suggest the pandemic served to highlight the value of PAs. This finding supports the suggestion from Straughton et al (2022) that the visibility of PA's value had increased during the pandemic. Familiarity and exposure to PAs has also been observed to

aid in the development of understanding of the role outside of the pandemic (Drennan et al 2019a).

As well as the wider implications of PA's response to the pandemic, individual development examples were identified in this study despite the extensive challenges faced. The PAs raised instances of personal development as an outcome of the pandemic from adapting to changes to working or being redeployed to other areas. These findings support the suggestions that negative experiences may have not dominated the experiences for all NHS staff, for example junior doctors have described self-identified personal achievement and financial gains (Revythis et al 2021).

The pandemic offered the opportunity for new skills to be gained (Blackburn et al 2021; Ding 2021) and the findings from this study demonstrate that the skills and competencies of PAs developed as a by-product of responding to the pandemic. On the other hand however, akin to other HCPs and as numerous studies have found (Choi et al 2020; Rainbow and Dorji 2020; Yuen and Xie 2020; Ding 2021; Lawson Jones et al 2021; TMS Collaborative et al.2021; Gadi et al 2022), there were major disruptions to training for PA students. As PA students were unable to attend all of their placements, they missed opportunities for skills development and experience in areas they may have ended up working in.

As well as the disruption to formal learning for both students and qualified PAs, this study highlighted the negative impact of the pandemic on situated learning. The reduction of non-essential services, service pressures and social distancing regulations placed limits on informal, situated learning which in turn restricted skill development. The combination of the impact on formal learning and loss of situated learning, both as a student and qualified PA, limited PAs expanding their skillset which could subsequently affect PAs being utilised in the most effective way for an area.

8.2.3   Research question three: How well embedded are PAs in the MDT?

This study was able to explore how well embedded PAs were in the MDT from the perspectives of the PAs, their team members and from management staff.

The previous section of this chapter addressing the research question "*What impact do PAs have on service delivery and provision?*" drew attention to the consequences of role ambiguity. One consequence of role ambiguity is its impact on how well the PA role is

embedded into teams; having a clear understanding of the role is crucial to successfully embedding the PA into the team and reducing role conflict (Roberts et al 2019; Szeto et al 2019; Edison et al 2021). Whilst time and exposure were considered to be key enablers in the successful embedding and acceptance of PAs in their teams, this was not always a solution to the issue. There were examples of PAs still experiencing ambiguity towards their role, one particular comment shared by one All-Wales PA questionnaire respondent stood out: "*Recently been called a failed doctor…*".

In spite of the reported ambiguities and consequently some resistance experienced, overall, the PAs felt accepted by their teams. The statement 'satisfaction with team members' received the highest score on the Cooper 10-item job satisfaction scale in the All-Wales PA questionnaire. Satisfaction with colleagues was also found to have the highest score in the 2021 FPA census which also utilised the Cooper 10-item job satisfaction scale (FPA 2022b).

Job satisfaction and a feeling of belonging in the workplace are strongly related (Winter-Collins and McDaniel's 2000). A number of the PAs in this study described their relationship with their colleagues as positive and expressed a sense of belonging and acceptance. The PAs in this study seemed to move through McClure and Brown's (2008) six belonging-at-work constituents and instances of each were shared. In terms of the fourth constituent 'competing at work and exclusion', the 'battles' PAs faced within their teams mainly related to ambiguity and disputes around learning opportunities. Some reported having to develop relationships with their colleagues through gaining trust from colleagues and demonstrating their worth. The team members in this study generally spoke positively about the PAs in their team. As well as the professional contribution PAs offered the teams, there was also a feeling of collegiality from working alongside the PAs individually. From the findings in this study, a fourth precursor could be added to Hagerty et al's (1992) sense of belonging framework: role clarity and mutual agreement of role expectations. This study found that the participants believed that resistance towards the PA role were typically born out of ambiguities. If ambiguities are present, then this can impede a sense of belonging for PAs affecting the second of McClure and Brown's (2008) belonging in the workplace constituents: connections with colleagues and inclusion. Further to this, PA10 speculated that the more accepted PAs are, the greater the impact PAs can have. Evidence surrounding

new professionals seems to be limited in this area and the findings from this study contributes to the body of knowledge.

It was felt that utilising the concept of CoPs would complement the use of sense of belonging in understanding how embedded PAs are in their teams. CoPs was also applied in exploring the perceived impact of PAs according to their team members and management staff. This study provides evidence that LPP and CoPs operate between PAs and their colleagues. As explained in the previous subsection, NQPAs start off as the 'newcomers' and learn from their colleagues or more experienced PAs. The roles can reverse, when the PA becomes more experienced generally or in particular procedures, they become the 'old-timers'. The PAs also share their medical knowledge with their colleagues. There are however some threats to PAs functioning fully in a CoP. The lack of a clear understanding of the PA role may mean PAs will not fully integrate in a CoP. This will have consequences for their professional development (Brown et al 2020). In their critique of Lave and Wenger's concept of CoPs, Roberts (2006) emphasised the importance of trust and "*harmonious and trusting organisational environments*" (Roberts 2006, p.629) for CoPs to operate successfully. They added that competition between colleagues can disrupt CoPs. This idea may be applicable to some of the findings in this study. A few accounts were shared of PAs 'taking opportunities' away from colleagues, predominantly junior doctors. Other staff may see their PA colleagues as competition for carrying out procedures, skill development, etc. thus hindering the development of CoPs as there may be some resistance to sharing knowledge as well as sharing learning opportunities.

The influence of the Covid-19 pandemic on embedding PAs in the MDT is also considered. Zerbi et al (2021) presented a series of reflections from a renal team who spoke of the bonds and connections developed amongst colleagues; one account that stood out was a nurse who explained "*The pandemic exposed people: it forced us to wear masks but took away our costumes. We finally knew the value or the smallness of the people working alongside us*." (Zerbi et al 2021, p.9). In the previous section discussing the impact of PAs on service delivery and provision, the findings from this study demonstrated that the pandemic served to highlight the value of PAs. From a team perspective, their acceptance could have been accelerated by the pandemic with changes to ways of working and team members becoming more aware of the value of PAs. Conflicting experiences of teamwork in

healthcare settings have been reported elsewhere, but a shift to working more collaboratively across professional groups in responding to needs of the pandemic has been found (Anjara et al 2021). When discussing the impact of PAs during the pandemic, some team members and managers described them as contributing as other team members: *"just got stuck in…as much as anybody else in the team"* (TM05). This finding suggests that PAs were embedded in their teams and not seen as outsiders. Gray and Sanders (2020) speculated that the pandemic accelerated the acceptance of new roles in the NHS and the findings from this study supports this hypothesis.

8.2.4   Research question four: How do patients respond to PAs?

Patients in the UK have been found to be satisfied with being seen by a PA in both primary and secondary care settings (Farmer et al 2011; Drennan et al 2014; Drennan et al 2019a; Taylor et al 2019b; Cottrell et al 2021). Despite this satisfaction, a significant lack of patient awareness and understanding of the PA profession has been identified (Drennan et al 2014; Cottrell et al 2021) which aligns with the findings from this study and will be discussed later in this section. The patient participants in this study were overall either content with seeing a PA in the future or indifferent towards who they saw providing they received the care they needed. This study was able to offer insight into patient acceptance from the perspective of the PAs themselves. Overall, the PAs felt that patients responded positively to them, and explicit resistance was rare. The All-Wales PA questionnaire did however gather some conflicting findings. Whilst the majority of respondents felt that patients responded positively to their role, a number indicated that on some occasions they felt that patients would prefer to see a doctor. Reasons for this were shared including ambiguity towards the profession and expectations of seeing a doctor. Drennan et al (2014) suggested that within the primary care setting willingness to see a PA was based on a series of decisions made by the patient which included their own assessment of the severity of the issue and, for those with long-term conditions the importance of continuity of care from professionals.

Trust that the PA was qualified and competent to deal with the presenting issue was a contributing factor to the patients in this study being satisfied with seeing a PA in the future. This has also been observed to be a key factor in the acceptance of the profession in other studies (Drennan et al 2014; Joyce et al 2018; Taylor et al 2019b). Even the two patients in this study who appeared to be more hesitant to see a PA stated that they would be satisfied

with seeing a PA in the future but this was dependent on the circumstances. Joyce et al (2018) presented three clinical scenarios with different injuries, one involved a child, to patients to understand their satisfaction with seeing a PA in A&E in place of a doctor and having a shorter waiting time as a trade-off. The authors categorised the willingness to see a PA into three themes: waiting time, seriousness of condition and trust and competency. They concluded that a reduced waiting time was a significant motivator in willingness to consult with a PA. The potential of having waiting times reduced was hardly raised by patients in this study which is surprising given the extensive NHS waiting times as a consequence of the pandemic (BMA 2022b).

As noted earlier in this section, even with the acceptance of PAs by patients, a significant amount of ambiguity was reported by participants in this study. Apart from the two patients recruited in the case studies, the encounters were self-reported. Only some of the patients seemed confident in their recollection of the HCP introducing themselves as a PA. For the rest, PAs were confused with other professionals. Patient satisfaction with PA encounters is difficult to assess within this study but the findings however do contribute to the understanding of public awareness and attitudes towards the profession. Patients who were recruited via HWW often needed additional information about the profession. This was either provided verbally during the interview or a link to a website was sent during the recruitment process. This difference in how information was provided may have impacted responses given that the verbal explanation was briefer, and participant had less time to absorb the information. Despite the uncertainty that the patient participants had encountered a PA previously, the findings from this study provide an understanding of the wider public's perception of the profession rather than just patient perspectives immediately after their encounter as has been done elsewhere. This also allowed patient participants to think more widely about the profession rather than focusing on the encounter itself.

According to the PAs, despite explaining to the patients they encountered, patients would still refer to them as another healthcare professional. When compared with other new NHS roles that have been introduced, such as nursing associates, clinical pharmacists (BMA 2022a) or two of the other MAPs, surgical care practitioners and advanced critical care practitioners (NHS Employers 2018a; NHS Employers 2018b), the PA profession is entirely

novel and not built upon existing roles and this could account for confusion for patients. The issue of uniform is also pertinent here. The subject was discussed more often around team working but some participants discussed this in the context of patients. Uniform policies differ between healthcare settings and health boards, but where scrubs are not necessary, doctors can often wear their own clothing providing it is appropriate (BMA 2020e). There is currently no requirement for PAs to wear a uniform in the UK, but PAs should introduce themselves to patients and wear identification badges (FPA 2022f). PAs wearing their own clothing has led to patients mistaking them for doctors elsewhere (Taylor et al 2019b) and this was raised by some of the PAs in this study, despite them providing an explanation of who they were.

Whilst discussions were had around how the pandemic had changed the public perception of PAs, this was observed mainly amongst NHS staff rather than patients/public. El-Awaisi et al (2020) conducted a content analysis of social media posts posing the questions 'Who society thinks works at hospitals? Vs who really works at hospitals?'. The post was an image including the two questions and a list of professionals alongside. From their analysis, the authors found there were comments of disappointment that the post had omitted HCPs. There was a sense of frustration that the media overlooked HCPs who were not doctors or nurses. PAs were not included in the list of professionals on the social media post shared yet was the most mentioned profession in the post that was not included in the list. The authors recommended that the media attention surrounding the pandemic should be used as a platform to educate the public on the different members of the healthcare team. Whilst this thesis has argued that the pandemic may have highlighted the value of PAs to NHS staff and accelerated their acceptance, little can be said about how this related to patients in the pandemic.

8.2.5   Research question five: What are the similarities and differences between the primary and secondary care settings?

This study appears to be one of the few PA studies which includes both the primary and secondary care settings; previous studies have focused exclusively on one setting. It was hoped during the study design process an equal number of PAs working in both settings would be recruited into the case studies. Unfortunately, this did not materialise due to the impact of the Covid-19 pandemic and the consequent adjustments to the study (this is

discussed later in this chapter). Because of this imbalance a cautious approach was taken to making comparisons, but the inclusion of both settings does allow wider insight. The number of PAs who were working in the secondary care setting at the time of this study outweighed the number in primary care (n=33 vs n=14) and is representative of the UK PA population. The FPA 2021 census reported that 61% of PAs were employed by a health board/trust and 38% were employed by a general practice/primary care network (FPA 2022b).

Examining the findings from the All-Wales PA questionnaire, the primary care PAs were reported to feel slightly more prepared for practice following completion of their university course compared to the secondary care PAs; only one primary care PA stated that they felt unprepared for practice and none stated they felt very unprepared. Cottrell et al's (2021) evaluation of the Staffordshire PA Internship (SPAI) identified a gap between the tasks the PAs expected to do in their job and their experience of these tasks prior to commencing their internship. For example, all nine of the PAs in the study expected to undertake acute, on the day appointments but less than half had any experience of this. According to the PA Curriculum and Competency Framework, the minimum time PA students should spend on placement in community medicine is 180 hours. The remaining required placement hours are spent in secondary care and a fraction of these (330 hours) are allocated by the individual universities (FPA 2012). Some interviewed PAs shared descriptions of their course components, with four stating that placements were predominantly secondary care based. Limited time in primary care may impact their experience of certain primary care centred skills or activities. However, their generalist training may mitigate this. Working in primary care usually entails working as part of a general practice, which as the name suggests, is not a specialised service but offers a variety of services addressing various issues. PAs in the UK are expected to maintain their generalist knowledge, their CPD as a qualified PA should include generalist components especially if progressing to a specialty area (FPA 2012).

In terms of the pandemic, one of the challenges highlighted particularly by the primary care PAs was the shift to communicating remotely with patients. Some of the secondary care PAs described having to communicate with patient families remotely, but for the PAs in primary care the majority of their patient contact shifted to remote consultations. Remote consultations were agreed to be a necessity for primary care providers throughout the

pandemic but were a considerable source of stress and perceived increase in clinical risk (Murphy et al. 2021). The primary care PAs across the study reported the strains of remote consultations as well as a loss of opportunities to practice their clinical skills. This would have been a particular challenge for NQPAs; though not in the context of the pandemic, TM06 described the learning during first year of being a NQPA as "*exponential*". Hoskin and Agarwal's (2021) study examining experiences of primary care PAs carrying out remote consultations found that only one of the 13 participants had prior experience of this. The authors stated that the PAs initially did not feel prepared to carry out remote consultations, but their confidence improved over time with experience.

More widely, Londoño-Ramírez et al (2021) found in their study comparing anxiety levels between HCPs in the hospital setting and primary care setting that the primary care professionals had a higher level of anxiety. They speculated that because of the 'front-door' nature of primary care, these HCPs were subject to more uncertainties around the pandemic and work overload. In the open text question asking how the PAs felt the pandemic had affected their work, some of the secondary care PAs commented that the pandemic had highlighted the value of PAs or that their work had not been affected or left no comments. All of the primary care PAs responded to the question and the majority of the comments were of a negative nature, particularly around remote consultations. Within the primary care setting, expectations to develop projects and meet targets (such as flu vaccines) will have continued while still responding to the challenges of Covid-19 (Pettigrew et al 2020).

Continuity was considered a significant advantage of the PA role across the study, though there were some differences between the primary and secondary care settings regarding who benefitted. Participants who worked in the secondary care setting predominantly discussed PA continuity in the context of team working, how it benefits their team clinically as well as providing organisational support; "*being the glue that keeps the department together.*" (TM17). This was seen as improving patient care as the PAs had more of a longitudinal knowledge of patients and could share this knowledge with colleagues. Continuity was not a major theme identified with the primary care participants. When it was discussed, it was in relation to continuity in patient care rather than teamwork. Reasons for this could be because there is generally less staff turnover in primary care compared to

secondary care with staff not being required to work night shifts or long on-call shifts. There are however challenges to providing continuity of care to patients in primary care with a shortage of GPs, lack of funding and changes to service provisions (Jeffers and Baker 2016). Other primary care based studies have tended to focus more on the value continuity offers to patients (Drennan et al 2014; Jackson et al 2017).

One finding of interest from the All-Wales PA questionnaire relates to PA perception of patients wanting to see a doctor. Whilst the sample of secondary care PAs was larger than the primary care PAs, almost all (n=10/11) of the primary care PAs felt that on some occasions patients would prefer to see a doctor, to less than half of the secondary care PAs (n=7/20). In the hospital setting, patients have been found to be satisfied with the prospective of being seen by a PA (Joyce et al 2018) but research has found that patients in primary care have a different attitude. Leach et al (2018) found that when presenting patients with a scenario of being able to choose who their primary care provider would be, over half stated they would prefer to see a doctor and this choice was driven by qualification level. For those who preferred to see a PA or NP, their main reason for this was the interpersonal skills of the PA/NP. Explicit patient resistance was reported to be rare in this study. The primary care PAs who did experience a feeling of patients preferring to see a doctor gave reasons including clinician continuity, ambiguity of the PA role and expectations of seeing a doctor.

8.3   Reflections on strengths of methodological approach and limitations

This section reflects on the methodological approach adopted for the study including discussions around how the Covid-19 pandemic affected the data collection during the study.

The study adopted a mixed methods approach but is considered predominantly qualitative in nature. The data collected are accounts reported by the participants rather than objective data such as patient outcome data or quantitative measures of cost effectiveness. The qualitative approach was in keeping with the research questions although other future studies might, for example, quantitatively measure the service impact of PAs. This study did however capture in-depth data to address the research questions from several different perspectives, i.e., NHS clinical staff, management staff and patients.

The uncertainty of how long and how much the pandemic would affect research led me to develop contingency plans for recruitment and data collection remotely when completing ethical procedures, although at that point I still hoped that there would be limited disruption. However, the entirety of data collection in this study was carried out remotely between March 2021 and February 2022 which created some limitations to the study. With a convenience sampling strategy utilised because of the Covid-19 pandemic associated pressures and demands, it became a case of anyone who was deemed suitable and willing to participate was recruited. Particularly in terms of patient inclusion, the participants recruited via HWW had agreed to be contacted to partake in research and those not registered would not have had an opportunity to participate in the study even if they had seen a PA in the past.

It was hoped that an equal number of PAs from the primary and secondary care settings would be recruited to be interviewed, but more secondary care PAs (n=13) than primary care PAs (n=3) took part in the case studies and one-off interviews. Whilst this is reflective of the PA population, this meant there is an imbalance of perspectives from the two settings in the data and therefore affects the strength of the conclusions surrounding PAs in primary care. It would be beneficial for future research to explore PAs in primary care further. With regards to the team members, a variety of different HCPs participating in the study was desired and this was largely achieved. Only one of the team members was an AHP with the rest of the participants being a doctor or nursing staff member. As I was unable to attend healthcare sites, I relied on the PAs to forward invitation emails and information sheets to their team members and management staff. The PAs were sent reminder emails to forward information, but it was difficult to know how many colleagues had been contacted and whether this was verbally, or they had been forwarded the recruitment email provided. It is important to recognise that biases could be present with regards to the team members who came forward to be interviewed. The team members and management staff in the case studies had been distributed study information by the PAs and the PAs may have been more comfortable approaching staff which they had a good working relationship with. Other team members and management would have missed the opportunity to take part. Thus, these respondents might be sharing a more favourable view of working with PAs and their impact. Although, the team members who took part in a one-off interview were not recruited via a

PA, so this is less likely to have been an issue here. The findings have also included some issues and criticisms raised around the role.

With regards to the case study patients, again there was a reliance on the PAs to approach and distribute study information to suitable patients on my behalf. This was already an additional demand for the PAs aside from their usual work, which was only exacerbated by the additional demands of the pandemic. Predominantly remote consultations in primary care meant there were fewer opportunities of PAs seeing patients face-to-face to hand out the information packs. Therefore, there would have been fewer opportunities for patients in primary care to be approached. For some PAs in secondary care however, some areas saw a fall in demand, again presenting fewer opportunities for distribution. In other areas, demand surged, and the PAs may simply not have had time to carry out this additional exercise.

The replacement of case studies with one-off interviews was introduced to improve recruitment numbers, particularly regarding patients. This was successful for all participant groups, except for non-clinical managers[26]. There was a challenge however with patient recruitment via HWW. Despite the invitation email specifying that I was looking to speak with patients who had been seen by a PA, several patients who both enquired about the study and subsequently took part were unaware if they had encountered a PA. It became apparent that having certainty that the patient had seen a PA compared to the case study patients was not possible, therefore limiting the examination of patient awareness and response to seeing a PA.

The NHS staff interviews offered rich and detailed data. On average, the NHS staff participants interviews lasted roughly 50 minutes, though the PA interviews were longer than the team member and management staff interviews. The patient interviews however were significantly shorter than the interviews with NHS staff. The 16 patient interviews totalled a time of two hours and 37 minutes with the longest interview lasting just short of 21 minutes. As I was unable to verify whether the patients recruited via HWW had encountered a PA, this limited the richness of discussion about a profession they may not have knowingly experienced. However, even the interviews with the two patients in the

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[26] No non-clinical managers were recruited as part of the one-off interviews.

case studies were short, lasting between eight and 10 minutes. Nonetheless, the patient interviews did provide an insight into the public's understanding, awareness, and attitudes towards PAs. Furthermore, to complement this, the NHS staff were asked for their opinions on how much awareness patients had of PAs and how they responded to the profession which added to the overall picture.

The NHS staff interviewed were either in their place of work or at home. From my previous experiences of conducting interviews face-to-face in workplaces, participants would often locate a private room away from others or I would suggest a private room would be helpful. With remote interviews however, I was unable to have influence on where the participant was located. Whilst remote interviews are of benefit in terms of accessibility and convenience, several participants were in their workplace during the interview and on some occasions, participants were in staff rooms or other shared office spaces. This may have influenced the responses given and participants may have been more hesitant to share any potentially negative opinions. Particularly when I was aware of participants being in a shared space, I was conscious of questions that might have placed the participant in an uncomfortable position. However, this did not seem to affect the participant responses greatly as discussions were candid and some gave critical responses. Additionally, for the participants who were in their workplace at the time of interview, I was conscious not to over burden them and take up too much of their time compared to those I knew were at home. Interviews in both the workplace and home settings were often disrupted by colleagues or family members entering or leaving the room or general background noises which interrupted the conversation, for example loud home appliances. Whilst this was disruptive, effort was made to ensure that the conversation continued from where it had been interrupted and overall did not negatively impact the interviews. Only on a small number of occasions were there technological issues that affected the interview, including internet connection disruption and battery on a mobile phone running out.

As part of the case studies and as a result of negotiations with HEIW, an online questionnaire was distributed to management staff in the two main case study health boards. The questionnaire was piloted by managers in the pilot health boards. Unfortunately, the questionnaire only collected four responses despite the target being 25 responses. All four responses were also from only one of the health boards. In the design of

the questionnaire, I ensured that the length was kept as short as possible recognising the demands and time constraints management staff are under. Despite this and reminders being sent, the response rate was extremely low. Therefore, the results of this have not been reported or discussed in this thesis. Questionnaires require less of a time commitment than interviews and have an additional layer of identity protection, so it was surprising that the questionnaire had such a low response rate. This higher response rate of the All-Wales PA questionnaire compared to the management questionnaire could be a result of PAs wanting to engage in research around their profession as this study is one of the first in Wales. The lack of engagement with the questionnaire to management staff however has meant a limited number of management staff who had experiences working with PAs have shared their views. Only a small number of non-clinical management staff were interviewed in this study and engagement with the questionnaire could have gained more of an understanding of their perspectives.

With regards to the All-Wales PA questionnaire, prior to the Covid-19 pandemic I had planned to utilise meetings or events to promote and encourage engagement with the questionnaire. Paper versions of the questionnaire would have been made available at any in-person meetings or events. Aside from this, the questionnaire would have largely been completed by respondents online, so the pandemic had a limited impact on the All-Wales PA questionnaire generally.

8.4   Study contributions and recommendations for the future

The findings from this study contribute to the growing body of knowledge surrounding PAs in the UK whilst also being one of the first PA studies based solely in Wales. Some of the findings align with those of previous studies elsewhere in the UK but also unearthed new evidence of the experiences of and impact of PAs in Wales. The analysis was informed by concepts including LPP, CoPs, sense of belonging and organisational role theory. These key concepts have only been used exclusively in existing studies, whereas they were all considered throughout the study. This theoretical pluralism was beneficial in addressing the aims of the study as although each aim was exploring a distinct area there were often overlaps in the findings. This section includes how this research contributes to existing evidence, suggestions for future practice and research based on the findings of the study.

8.4.1 Contribution to existing evidence

As detailed earlier, PfP and the transition from student to qualified practitioner has been extensively examined for other HCPs in the NHS but this is not the case for PAs. Although the university course and national examination outcomes (i.e., pass rates) can demonstrate the effectiveness of PA training, the perspectives of PfP from the PAs themselves has largely been omitted in research. Whilst universities and employers may be able to demonstrate that PAs are able to meet their expected competencies upon qualification, their perceptions and experiences of being a NQPA cannot be validated through measured outcomes. This study has addressed the experiences of becoming a NQPA and how well-prepared PAs feel for practice; the findings indicate that how well-prepared PAs feel for practice is somewhat unclear.

The findings in this study further stress the lack of awareness and understanding of the PA profession from all participant groups. The lack of understanding was a source of frustration amongst the PAs, especially when initially starting out within a team. Despite the lack of understanding from team members, the PAs across the study overall felt accepted by their colleagues and hesitancies dissipated over time. These findings have also been identified in previous studies detailed earlier. Exploring PA's perceptions of their belongingness, as well as the perspectives of their colleagues, builds an understanding of their experience as a new profession within an MDT.

In terms of the patient perspective of PAs, this study offered insight into the general public's awareness and response to the profession. Despite the aim to recruit patients who had seen a PA, there was no guarantee that they had as recruitment was done remotely and not on healthcare sites like other studies (Zaman et al 2018; Taylor et al 2019b). The only other identified study in the UK which had a similar participation group was Joyce et al's (2018) patient willingness study which explored patient perspectives who had not received care from a PA. Time was a motivating factor in the acceptance of seeing a PA in that study, but this did not get raised in this study which is noteworthy given the unprecedented waiting times the NHS is currently experiencing.

Although unforeseen and challenging, this study has addressed the research aims in the unique context of a global pandemic and has offered new insights. Conducting the study during this period is likely to have had some influence on participant's responses and thus

the data. The study has identified that PA awareness and acceptance may have been enhanced by the response to the Covid-19 pandemic.

8.4.2   Recommendations for future practice

From the findings, recommendations for future practice surrounding PAs are suggested to improve their professional experiences and the impact the profession can have on the NHS.

Although in this study explicit hostility was not prevalent, the lack of understanding of the profession was significant. Despite the PAs generally feeling accepted and belonging within their teams, further education and information distribution should be considered especially when a PA is joining a team for the first time and/or is a NQPA. This will help smooth the transition into the workplace, aid their integration into teams and reduce conflicts arising from role ambiguity. To effectively feel part of their healthcare teams, PAs need to feel they belong, and their contribution is of value. Understanding the significance of belongingness is said to also be beneficial for management in terms of recruitment of new staff and retainment of existing staff (Sedgwick and Rougeau 2010). Senior staff and those in management positions should plan and ensure they are utilising a PA in the most efficient way and are not blurring their role boundaries with that of others, particularly doctors. From the patients' perspective, which HCP they were seeing was less significant than that they were receiving care from an appropriate skilled professional. However, from the PA's perspective, a greater awareness of the profession within the public domain could lead to the profession feeling more valued. PA10 stated that they felt the PA profession was not in the public consciousness as they do not feature in the UK media. After data collection for the study was complete, in June 2022 the BBC investigative programme Panorama released an episode of the programme reporting on the utilisation of PAs in a US owned chain of general practices. According to the investigation, the practice was short of GPs and consequently hired PAs who were considered to be "*less qualified medical staff…because they were 'cheaper' than GPs*" (Sheikh 2022). Their investigation also found that the PAs were not receiving the correct amount of supervision (Sheikh 2022). This may have been one of the first occasions PAs have appeared in the mainstream UK media and the FPA stated that it was "*disappointing to see the characterisation of the profession as 'less qualified'*" (FPA 2022j). With the number of PAs rising in the UK and evidence that indicates they practice safely (Farmer et al 2011; Drennan et al 2014; Drennan et al 2019a; Edison et

al 2021), this portrayal of PAs as "*less qualified*" may cause damage to the reputation of a relatively new profession in the NHS. A more positive portrayal of the PA role in the UK media may accelerate the general public's awareness of PAs and acceptance of consulting. Patient awareness of the PA role was important to the PAs in this study, even if the patients were indifferent to who they saw.

CoPs have been seen to be a valuable means of knowledge exchange and strengthening belonging within teams and this should be facilitated further. CoPs, such as interprofessional learning programmes, have been observed to improve team climate and improve understanding of roles in teams (Watts et al 2007). In particular, CoPs within the PA community should be encouraged to develop and thrive. Being a new professional group with relatively small numbers, can provide the opportunity for PAs to share their experiences and knowledge with each other and strengthen their professional identity. Since the study commenced, the Society of PAs in Wales (SoPAW) has been established and is in development. Networks such as SoPAW could be integral to the development of the profession and provide support to PAs. Virtual CoPs may be valuable given the geography of Wales and could be more a more accessible means of being involved in a CoP.

In terms of the transition from student to NQPA, the potential of a mentoring scheme for student and/or NQPAs could facilitate CoPs within the PA community. This could provide greater clarity about what to expect in an internship and information around formal requirements as a PA such as CPD portfolios, thus possibly easing the transition from student to NQPA. Mentoring could also assist with role modelling for NQPAs and with the number of PAs increasing by the year, this is now more viable than before. Junior doctors employed as new FY1 doctors are given information from the NHS on preparing for their transition, known as the Supporting Trainees Entering Practice (STEP) process (UK Foundation Programme 2022). There are other resources available which provide information and resources for those starting out as an FY1 including a "*FY1 survival pack*" (Mind the Bleep 2022). Access to resources similar to these for PAs for starting out in an internship, may be beneficial. Ensuring team members are fully informed about the expectations of internship PAs may also be of benefit; there were some team members who did not know if the PAs in their team were employed on an internship. Areas of improvement were recommended by participants, particularly around the structure,

support and allocated learning time. More widely, employers could consider pre-internship or assistantship posts for PAs who are awaiting the outcome of their national examination to be added to the PAMVR. The gap between completing university training and commencing employment in some cases in this study created difficulties during the transition period. One of the suggestions made in this study by participants was the introduction of a PA mentoring scheme. PA02 commented: "*there's nothing I was wanting more as a training PA than to meet one*.". TM01 and TM02, who were both nursing staff, suggested that a preceptorship scheme similar to NQ nurses might be beneficial for NQPAs. The use of shadowing could be of benefit to PAs. Although they may not be able to directly shadow another PA, they would be able to shadow their prospective team and begin the integration process ahead of officially starting their job.

Employers should ensure systems and infrastructures are in place to support PAs, and all NHS staff more widely. While Covid-19 may no longer be dominating the NHS, the backlogs associated with this will continue to be an issue for years to come. This coupled with systemic staffing shortages could negatively impact the well-being of NHS staff. The exposure to challenges and associated trauma will have consequences on the mental health of NHS staff in future (Anderson et al 2021). Moral distress in HCPs can be triggered by an overwhelming number of patients requiring care affecting the standard of care that can be provided. How PAs can support the workload of doctors beyond the pandemic was discussed, though consideration will need to be paid to assisting NHS clinicians in managing the backlogs and responding to the demands associated with the pandemic or risk burnout of staff. In primary care, face-to-face services have resumed but remote consultations are here to stay. Hoskin and Agarwal's (2021) recommended that as a result of the pandemic, the induction period for PAs new to primary care should establish how confident the PA feels with remote consultations and provide support around that. The findings from the study support this suggestion.

8.4.3   Recommendations for future research

As well as the suggestions above for future practice, the insights from this study have highlighted possible areas for future research.

This study explored how well prepared for practice PAs working in Wales felt following their training and there is future scope to explore this further. Discussions were held around what

areas the PAs were particularly well-trained in but in the future, PfP could be explored more specifically utilising the curriculum and competency framework. This may inform universities if there are areas where PAs may need further support. The PAs who took part in interviews discussed the areas where they felt universities had trained them well, but this is a small sample and could be extended further. This may be of particular interest given the shorter length of their university course compared to other HCPs. Universities offering the PA course may want to consider identifying how prepared for practice PAs are upon completion of the course. The perception of PfP was also explored at one time period and the PAs had qualified at different points so some had to reflect further back. It would be useful for this to be explored longitudinally with a cohort of PA students, as has been done with medical students which gathered an in-depth understanding of the experience of transitioning (Coakley et al 2019).

As the findings from this study indicate, there are differences in the structure and organisation of internships for PAs across Wales. Whilst the PAs in this study seemed to appreciate having input into the structure of their internship to further their experience and development in their areas of interest, this will create differences in experience for PAs across Wales. The reasons and context for this should be explored further and what impact this has on internship outcomes. Whilst satisfaction with internships has improved according to the findings of the All-Wales PA questionnaire, there were still some areas with low satisfaction and suggestions for change raised in the qualitative data across the study. A key area of dissatisfaction with internships was the rate of pay. This has however been increased to match that of non-internship PAs. Re-examination of satisfaction around pay would be helpful to explore if satisfaction has increased. Some of the internship PAs in this study reported that they were carrying out the same work as non-internship PAs and there was little difference between their posts despite being paid at a lower rate. A further examination of this may highlight the necessity for clarity on expectations of internships for PAs, their colleagues and employers.

Plans to regulate the PA profession in the UK were announced in 2018 (FPA 2018) and in July 2019 the GMC agreed to become the regulating body of PAs in the UK (FPA 2019a). Regulation of the profession was initially expected to commence in 2022 but has since been delayed to the summer of 2023 at the earliest (FPA 2021b). The lack of regulation at the

time of the study and the implications of this was discussed extensively and some of the participants considered what the future may look like for PAs when regulation commences. The development of the role and their impact should be explored once regulation is in place.

Previous studies have centred on patients' encounters with PAs in both primary and secondary care settings (Drennan et al 2014; Drennan et al 2019a). This study was able to gain a wider understanding of patient perspectives as it was not possible to ensure the participants had encountered a PA. The combination of the findings from this study and previous studies demonstrates the ambiguity from patients and the necessity for wider education about the PA role. An expansion on Joyce et al's (2018) study would aid understanding of the conditions under which patients would be happy to see a PA. Joyce et al (2018) utilised three clinical scenarios given to patients and this could be expanded to explore differences between settings and skills. It may be of interest to explore patient attitudes towards receiving care from a PA for common and minor ailments and more complex issues. With the pandemic exacerbating waiting times in the NHS (Audit Wales 2022; BMA 2022b), the option of being seen sooner by a PA may be appealing to patients who face long waits for care. Joyce et al's (2018) study also gave the patients a very brief explanation of the PA role, providing patients with more detailed information may help understand the public's attitudes more thoroughly. Future studies would also find it beneficial to explore any differences between the primary and secondary care setting.

There is currently no universal requirement for PAs in the UK to wear a standardised uniform. Participants in this study wore both scrubs and plain clothing. Those who were wearing scrubs mainly wore purple scrubs, including the 'All-Wales' uniform, but some wore other colours. There were some varied responses around PA uniform in this study, though the PAs themselves tended to be less favourable towards them. Further exploration of the impact of uniforms on professional identity and patient understanding would be valuable to gauge if there is any widespread necessity of PAs wearing a uniform, and if so what kind of uniform this is. Exploring the reasons for adopting a PA uniform may also be of value.

In terms of the Covid-19 pandemic, this study offers insights. The PAs across the study reported a negative impact on their learning opportunities both as a student and qualified PA. Future research could study the impact of this on PA outcomes and how much

development has been inhibited. As the participants felt that the Covid-19 pandemic had accelerated the acceptance of PAs and served to highlight their impact, future exploration of whether this has affected numbers of PAs and their scope of practice and professional development would provide insight to the landscape post-pandemic.

Delgado et al's (2021) discussion around the potential value of CoPs in healthcare teams took a lens of how this may help with moral distress and create moral resilience. This notion could be used in a further exploration of PAs working in teams in times of crisis and challenging situations. Anjara et al (2021) emphasised the need for further research into team working post-pandemic, and whilst there is some evidence from my research surrounding this, further research could be done.

8.5 Final conclusions

The findings within this study offer various self-reported perspectives on the PA role. Quantitatively measuring the impact of PAs in Wales was beyond the scope of this study, though this may be a further future area for research, particularly once PAs are officially regulated. Ambiguities about their role hinder how they are integrated into teams and can create difficulties for PAs establishing themselves. Patients also demonstrated ambiguity towards the role; this did not seem to create issues for them although PAs would like patients to have greater understanding of their role.

The findings from this study suggest that despite mechanisms in place, there are still inhibitors to the effective transition from student to NQPA. PfP has been fairly unexplored for PAs in the UK and further work around what it means to feel prepared would be beneficial for the transition from student to PA to NQPA.

The Covid-19 pandemic has presented challenges to the work and learning of PAs with an increase in demand and a loss of opportunities. It has however showcased the impact the PA role can have within teams. The NHS continues to face significant challenges and pressures, exacerbated by the Covid-19 pandemic and the introduction of PAs may aid in addressing such issues going forward.

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10. Appendices

10.1   Appendix 1: PA case study invitation letter

Dear Physician Associate,

<u>An opportunity to contribute to research</u>

I am undertaking a PhD at Cardiff University, funded by Knowledge Economy Skills Scholarships (KESS2) which focuses on Physician Associates (PAs) in Wales. The aims are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role. I am looking to speak to PAs who are within their first 18 months of employment, who have trained and are undertaking an internship working in Aneurin Bevan or Swansea Bay University Health Boards. The attached information sheet provides further information.

I hope you would be willing to take part. It would involve an interview, via telephone or video conferencing facility, with me at a time that suits you. Your participation would be anonymous and voluntary (you are under no obligation to take part). As part of the study I would also be looking to speak to a small number of colleagues in your team and patients and this can be discussed further before you decide if you would like to take part (there is more information around this in the attached information sheet).

I hope you can take up this opportunity to voice your opinions about your experiences. If you are interested in taking part, please email me:

Morrisf4@cardiff.ac.uk

I will then be in contact to discuss your participation in the study further. If you are undecided, I'm happy to answer any further questions you may have about the study.

I look forward to hearing from you soon. Please reply by [insert date]

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Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Participant Information Sheet – PA

This information sheet outlines the purpose of the study and provides information about your involvement and rights as a participant. Please read this information carefully before you decide if you would like to take part in this study. If you decide you would like to take part, you will be asked to complete a consent form and short form to provide background information. You will have opportunity to ask further questions.

You are invited to participate in a Cardiff University PhD research study about Physician Associates in Wales.

What is the aim of this study?

The Physician Associate (PA) is a relatively new role within primary and secondary care settings in Wales. According to the British Medical Association, the UK Government introduced the role as a mechanism to ease workforce pressures in the NHS. The aims of the study are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and its impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role.

Why have I been invited to take part?

You have been invited as you are currently employed in Aneurin Bevan or Swansea Bay University Health Board which have been chosen as case study sites. You have trained in Wales and are within your first 18 months of employment.

What happens if I take part?

You will take part in a one-to-one interview, with the researcher (Felicity Morris) lasting around 45 minutes to an hour. You will be asked a series of questions relating to how well you feel the training prepared you for the role, your experiences so far in the role, your role in the wider multidisciplinary team and how patients respond to you. You will also be asked questions around the Covid-19 pandemic. You do not have to answer any questions you do not feel comfortable answering. The interview will be audio-recorded and the researcher may take some notes during the interview.

A follow-up interview will then be conducted around 6 months after the first interview lasting around 20 minutes where you will be asked to reflect on the previous 6 months of your internship.

In light of the ongoing Covid-19 pandemic both interviews will be conducted via telephone or a video conferencing facility and you can be in a place of your choosing including your home.

The interviews will be conducted in English.

Interviews with members of your team

As part of the study, interviews will be conducted with various members of your team. It is anticipated that three team members will be interviewed, each in a different role i.e. consultant, advanced nurse practitioner etc. You will be asked to pass on information about this study to members of your team (you will be provided with an information sheet and email invitation). Interviews will be arranged with any interested participants, to ask about their perceptions of the PA role and how they feel the role fits in to the team.

Interviews with managers

Interviews will be conducted with a member of the management team who have had involvement in the employment and implementation of PAs. They will be asked questions around their experiences of the process of employing PAs and their views on how PAs contribute to service provision. If you are working in primary care this will be your practice manager.

Survey of managers in your health board

A survey will be conducted of management staff across Aneurin Bevan UHB and Swansea Bay UHB including specialties who do not currently employ PAs. The survey will be distributed electronically and will ask similar questions as above.

Interviews with your patients

Patients attending an appointment or who have been treated by you as an inpatient will be invited to take part in a short one-to-one telephone interview at a time suitable for them. This will ideally be within a few days of their appointment or discharge. The aim is to interview three patients. The patients will be asked questions about their understanding of the PA role and their experiences and satisfaction with the PA role.

You will be asked to distribute an 'information pack' which includes an invitation letter, information sheet, consent form and pre-paid return envelope to all suitable patients in one working week. You will be provided with a separate information sheet concerning inclusion and exclusion criteria for patients. The first three patients to return their consent form to the researcher will be invited to take part in an interview. If three patients are not interviewed, you will be asked to distribute the packs over an additional period until three patients have taken part.

Do I have to take part?

No. Your participation in this study is completely voluntary. If you decide to take part, you will be given opportunity to ask any further questions about the study that are not addressed in this information sheet. There will be no disadvantage to you if you decide not to take part. You can withdraw at any time during the study and you do not have to give a reason. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Whilst all volunteers all welcomed, there is only capacity for a small number of participants to take part. The researcher will contact you to let you know if you do not need to take part in this part of the study.

Are there any advantages or disadvantages to taking part in the study?

You will be making a valuable contribution to the any potential developments to the role and any future training implications.

Being involved in a case study will incur an element of inconvenience as time will be taken for interviews and identifying suitable team members and patients to take part in the study but minimal disruption will be sought. The interview will be arranged at a time to suit you. . You will be provided with a £50 gift voucher as a thank you for your contribution when all data collection has been completed.

What happens to my information?

The audio recording of the interview will be transcribed for analysis and <u>anonymised</u> and any written notes taken by the researcher will also be anonymised and stored securely. All information will be stored securely on Cardiff University systems and will be confidential to the researcher and supervisors (Prof Alison Bullock and Rachel Williams). Audio-recordings will be downloaded to the researcher's computer following the interview and then deleted following transcription. Anonymised interview transcripts, and notes, will only be made available to the researcher and supervisors. The researcher may include word-for-word (verbatim) quotes from your interview in the final study publications and presentations, but no one will be able to identify you from your quotes.

In the event that either you or a patient were to raise any serious concerns around poor clinical practice or experience, in the first instance this would be discussed with the researcher's supervisor and a decision then made on whether this should be discussed with management or if that not appropriate, with the safeguarding team at the health board. In such cases, confidentiality cannot be guaranteed.

What will my information be used for?

Information from you will be needed for the study. Only information that is needed will be used. This will include your name, contact details and some other information such as where you trained and which health board you currently work in. You will be asked to complete a

short demographic record sheet when completing your consent form. This information will be used to do the research or to check records to ensure the research is being done correctly. People who do not need to know who you are will not have access to your name or contact details. Your data will be allocated a code number. Information about you will be kept safely and securely.

Once the study is completed, some of the data will be kept so results can be checked. Reports will be written in a way that no one will be able to identify you. The findings will be shared with our Advisory Group, including Health Education Improvement Wales who are the partner company for this study, but this will not include any identifiable information about participants. The results and conclusions from the study will inform the development of the PA role and any future training implications.

This study is being carried out as part of a Doctor of Philosophy (PhD) award. A summary of the final report will be available publicly and a copy of the full report can be available on request. The study results will be shared at PA/medical profession events and in relevant journals.

What are my choices about how my information is used?

You can withdraw at any time during the study without giving a reason, but information will be kept about you that I have already obtained. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. This means that you won't be able to see or change the data held about you. If you decide to withdraw shortly after taking part, your information will not be used in the final study. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Where can I find out more about how my information is used?

- You can find out more about how we use your information: By viewing the University's Data Protection Policy and Privacy Notices: https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection inforequest@cardiff.ac.uk
- by sending an email the University's Data Protection Officer: inforequest@cardiff.ac.uk or in writing to: Assurance Services, Cardiff University, Friary House, Greyfriars Road Cardiff CF10 3AE.
- by asking the researcher or ringing her on (07929841498)

Who is organising the study?

The PhD studentship is funded by Knowledge Economy Skills Scholarships (KESS2). The researcher (Felicity Morris) is a student at Cardiff University. Health Education Improvement Wales (HEIW) and Authentic World Ltd are partners in the scholarship. Felicity is supervised by Prof Alison Bullock (School of Social Sciences) and Rachel Williams (School of Business).

Who has reviewed the study?

The study has been reviewed and approved by an NHS research ethics committee (*West of Scotland REC 4, Ref: 20/WS/0084, 23rd July 2020*). Aneurin Bevan and Swansea Bay University Health Boards have also given permission for the study to start. The study Sponsor is Cardiff University.

What if I have any questions or concerns about this study?

If you have any questions about the study you can contact the researcher who will do her best to answer any queries: Felicity Morris, Morrisf4@cardiff.ac.uk, Tel: (07929841498), Cardiff University School of Social Sciences, 12 Museum Place, Cardiff CF10 3BGIf you remain unhappy, you can contact the Chief Investigator, Professor Alison Bullock, 02920 870780.

Should you wish to make a formal complaint you can do this through the NHS Redress Scheme. Details can be obtained from the concerns team at Aneurin Bevan University Health Board (01495 745656) or Swansea Bay University Health Board (01639 683363).

10.3 Appendix 3: Team member invitation letter

To whom it may concern,

I am undertaking a PhD at Cardiff University, funded by Knowledge Economy Skills Scholarships (KESS2) (a major pan-Wales operation supported by European Social Funds (ESF)). It focuses on newly qualified Physician Associates (PAs) in Wales. The aims are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role. To address my second aim, I am hoping to speak to members of clinical staff to discuss their experiences of working with PAs and how they feel PAs fit into the wider multidisciplinary team.

Aneurin Bevan and Swansea Bay University Health Boards have been selected as case study sites. I am emailing you as I understand that you have been supervising or working alongside PA(s) and I would like you to take part in my study. Taking part would involve an interview with me, via telephone or video conferencing facility, at a time to suit you, lasting around 30 minutes.

I hope you will be able to help with my study. However, your participation is completely voluntary. I have included further information about the study in the attached participant information sheet. You will see that your contribution would be anonymous.

If you are happy to take part in this study, I would be grateful if you could indicate your interest by email to:

Morrisf4@cardiff.ac.uk

I will then be in contact shortly after to arrange an interview. If you have any further questions about the study or would like more information before deciding if you want to take part, please contact me on the above email address.

Many thanks,

Felicity Morris
PhD Student
Cardiff University School of Social Sciences
12 Museum Place
Cardiff, CF10 3BG

Email: *morrisf4@cardiff.ac.uk*
Phone: 07929841498

10.4 Appendix 4: Management staff invitation letter

To whom it may concern,

I am undertaking a PhD at Cardiff University, funded by Knowledge Economy Skills Scholarships (KESS2) (a major pan-Wales operation supported by European Social Funds (ESF)). It focuses on Physician Associates (PAs) in Wales. The aims are to (1) document PAs' experiences of the role; (2) report views on their contribution and impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role. To address my second aim, I am hoping to speak to members of management to discuss their involvement in employing PAs and how they feel PAs contribute to service delivery.

Aneurin Bevan and Swansea Bay University Health Boards have been selected as case study sites. I am emailing you as I understand that you have been involved in the employment of PA(s) and I would like you to take part in my study. Taking part would involve an interview with me, via telephone or video conferencing facility at a time to suit you, lasting around 30 minutes.

I hope you will be able to help with my study. However, your participation is completely voluntary. I have included further information about the study in the attached participant information sheet. You will see that your contribution would be anonymous.

If you are happy to take part in this study, I would be grateful if you could indicate your interest by email to:

Morrisf4@cardiff.ac.uk

I will then be in contact shortly after to arrange an interview. If you have any further questions about the study or would like more information before deciding if you want to take part, please contact me on the above email address.

Many thanks,

Felicity Morris
PhD Student
Cardiff University School of Social Sciences
12 Museum Place
Cardiff, CF10 3BG

Email: *morrisf4@cardiff.ac.uk*
Phone: 07929841498

10.5 Appendix 5: Team member information sheet

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Participant Information Sheet – Team

This information sheet outlines the purpose of the study and provides information about your involvement and rights as a participant. Please read this information carefully before you decide if you would like to take part in this study. If you decide you would like to take part, you will be asked to complete a consent form and short form to provide background information. You will have opportunity to ask further questions.

You are invited to participate in a Cardiff University PhD research study about Physician Associates in Wales.

What is the aim of this study?

The Physician Associate (PA) is a relatively new role within primary and secondary care settings in Wales. According to the British Medical Association, the UK Government introduced the role as a mechanism to ease workforce pressures in the NHS. The aims of the study are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and its impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role.

Why have I been invited to take part?

Aneurin Bevan and Swansea Bay University Health Boards have been selected as case study sites and you have been supervising or working alongside PA(s).

What happens if I take part?

You will take part in a one-to-one interview, with the researcher (Felicity Morris) lasting around 30 minutes. You will be asked a series of questions relating to how well you feel the training prepared PAs for the role, your experiences so far of working with the PA(s), how you feel they fit in the wider multidisciplinary team and their impact during the Covid-19 pandemic. You do not have to answer any questions you do not feel comfortable answering. The interview will be audio-recorded and the researcher may take some notes during the interview. The interview will be conducted in English.

In light of the ongoing Covid-19 pandemic the interview will be conducted via telephone or video conferencing facility and you can be in a place of your choosing including your home.

Do I have to take part?

No. Your participation in this study is completely voluntary. If you decide to take part, you will be given opportunity to ask any further questions about the study that are not addressed in this information sheet. There will be no disadvantage to you if you decide not to take part.

You can withdraw at any time during the study and you do not have to give a reason. The final date to withdraw and have your information removed from the project is 3ʳᵈ December 2021.

Whilst all volunteers all welcomed, there is only capacity for a small number of participants to take part. The researcher will contact you to let you know if you do not need to take part in an interview.

Are there any advantages or disadvantages to taking part in the study?

If you take part, there are no direct benefits to you, but you will provide a valuable contribution to the development of the PA role and training and how they fit in to multidisciplinary teams. You should not experience any harm or discomfort from taking part in this study.

Being involved will incur an element of inconvenience as time will be taken for interviews but minimal disruption will be sought as the interview will be arranged at a time to suit you.

What happens to my information?

The audio recording of the interview will be transcribed for analysis and <u>anonymised</u> and any written notes taken by the researcher will also be anonymised and stored securely. All information will be stored securely on Cardiff University systems and will be confidential to the researcher and supervisors (Prof Alison Bullock and Rachel Williams). Audio-recordings will be downloaded to the researcher's computer following the interview and then deleted following transcription. Anonymised interview transcripts, and notes, will only be made available to the researcher and supervisors. The researcher may include word-for-word (verbatim) quotes from your interview in the final study publications and presentations, but no one will be able to identify you from your quotes.

In the event that you were to raise any serious concerns around poor clinical practice or experience, in the first instance this would be discussed with the researcher's supervisor and a decision then made on whether this should be discussed with management or if that not appropriate, with the safeguarding team at the health board. In such cases, confidentiality cannot be guaranteed.

What will my information be used for?

Information from you will be needed for the study. Only information that is needed will be used. This will include your name, contact details and some other information such as which health board you currently work in. You will be asked to complete a short demographic record sheet when completing your consent form. This will be used to do the research or to check records to ensure the research is being done correctly. People who do not need to know who you are will not have access to your name or contact details. Your data will be allocated a code number. Information about you will be kept safely and securely.

Once the study is completed, some of the data will be kept so results can be checked. Reports will be written in a way that no one will be able to identify you. The findings will be shared with our Advisory Group, including Health Education Improvement Wales who are the partner company for this study, but this will not include any identifiable information about participants. The results and conclusions from the study will inform the development of the PA role and any future training implications.

This study is being carried out as part of a Doctor of Philosophy (PhD) award. A summary of the final report will be available publicly and a copy of the full report can be available on request. The study results will be shared at PA/medical profession events and in relevant journals.

What are my choices about how my information is used?

You can withdraw at any time during the study without giving a reason, but information will be kept about you that we have already obtained. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. This means that you won't be able to see or change the data held about you. If you decide to withdraw shortly after taking part, your information will not be used in the final study. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Where can I find out more about how my information is used?

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- by sending an email the University's Data Protection Officer: inforequest@cardiff.ac.uk or in writing to: Assurance Services, Cardiff University, Friary House, Greyfriars Road Cardiff CF10 3AE.
- by asking the researcher or ringing her on (07929841498)

Who is organising the study?

The PhD studentship is funded by Knowledge Economy Skills Scholarships (KESS2). The researcher (Felicity Morris) is a student at Cardiff University. Health Education Improvement

Wales (HEIW) and Authentic World Ltd are partners in the scholarship. Felicity is supervised by Prof Alison Bullock (School of Social Sciences) and Rachel Williams (School of Business).

Who has reviewed the study?

The study has been reviewed and approved by an NHS research ethics committee (*West of Scotland REC 4, Ref: 20/WS/0084, 23rd July 2020*). Aneurin Bevan and Swansea Bay University Health Boards have also given permission for the study to start. The study Sponsor is Cardiff University.

What I have any questions or concerns about this study?

If you have any questions about the study you can contact the researcher who will do her best to answer any queries: Felicity Morris, Morrisf4@cardiff.ac.uk, Tel: (07929841498), Cardiff University School of Social Sciences, 12 Museum Place, Cardiff CF10 3BG

If you remain unhappy, you can contact the Chief Investigator, Professor Alison Bullock, 02920 870780.

Should you wish to make a formal complaint you can do this through the NHS Redress Scheme. Details can be obtained from the concerns team at Aneurin Bevan University Health Board (01495 745656) or Swansea Bay University Health Board (01639 683363).

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Participant Information Sheet – Management

This information sheet outlines the purpose of the study and provides information about your involvement and rights as a participant. Please read this information carefully before you decide if you would like to take part in this study. If you decide you would like to take part, you will be asked to complete a consent form and short form to provide background information. You will have opportunity to ask further questions.

You are invited to participate in a Cardiff University PhD research study about Physician Associates in Wales.

What is the aim of this study?

The Physician Associate (PA) is a relatively new role within primary and secondary care settings in Wales. According to the British Medical Association, the UK Government introduced the role as a mechanism to ease workforce pressures in the NHS. The aims of the study are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and its impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role.

Why have I been invited to take part?

Aneurin Bevan and Swansea Bay University Health Boards have been selected as case study sites and you have been involved in employing PA(s).

What happens if I take part?

You will take part in a one-to-one interview, with the researcher (Felicity Morris) lasting around 20 minutes. You will be asked a series of questions relating to your experiences so far of employing PA(s), how you feel they contribute to wider service provision and their impact during the Covid-19 pandemic. You do not have to answer any questions you do not feel comfortable answering. The interview will be audio-recorded and the researcher may take some notes during the interview. The interview will be conducted in English.

In light of the ongoing Covid-19 pandemic interviews will be conducted via telephone or a video conferencing facility and you can be in a place of your choosing including your home.

Do I have to take part?

No. Your participation in this study is completely voluntary. If you decide to take part, you will be given opportunity to ask any further questions about the study that are not addressed in this information sheet. There will be no disadvantage to you if you decide not to take part.

You can withdraw at any time during the study and you do not have to give a reason. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Whilst all volunteers all welcomed, there is only capacity for a small number of participants to take part. The researcher will contact you to let you know if you do not need to take part in this part of the study

Are there any advantages or disadvantages to taking part in the study?

If you take part, there are no direct benefits to you, but you will provide a valuable contribution to the development of the PA role and how they contribute to wider service provision. You should not experience any harm or discomfort from taking part in this study.

Being involved will incur an element of inconvenience as time will be taken for interviews but minimal disruption will be sought as the interview will be arranged at a time to suit you.

What happens to my information?

The audio recording of the interview will be transcribed for analysis and <u>anonymised</u> and any written notes taken by the researcher will also be anonymised and stored securely. All information will be stored securely on Cardiff University systems and will be confidential to the researcher and supervisors (Prof Alison Bullock and Rachel Williams). Audio-recordings will be downloaded to the researcher's computer following the interview and then deleted following transcription. Anonymised interview transcripts, and notes, will only be made available to the researcher and supervisors. The researcher may include word-for-word (verbatim) quotes from your interview in the final study publications and presentations, but no one will be able to identify you from your quotes.

In the event that you were to raise any serious concerns around poor clinical practice or experience, in the first instance this would be discussed with the researcher's supervisor and a decision then made on whether this should be discussed with management or if that not appropriate, with the safeguarding team at the health board. In such cases, confidentiality cannot be guaranteed.

What will my information be used for?

Information from you will be needed for the study. Only information that is needed will be used. This will include your name, contact details and some other information such as which health board you currently work in. You will be asked to complete a short demographic record sheet when completing your consent form. This information will be used to do the research

or to check records to ensure the research is being done correctly. People who do not need to know who you are will not have access to your name or contact details. Your data will be allocated a code number. Information about you will be kept safely and securely.

Once the study is completed, some of the data will be kept so results can be checked. Reports will be written in a way that no one will be able to identify you. The findings will be shared with our Advisory Group, including Health Education Improvement Wales who are the partner company for this study, but this will not include any identifiable information about participants. The results and conclusions from the study will inform the development of the PA role and any future training implications.

This study is being carried out as part of a Doctor of Philosophy (PhD) award. A summary of the final report will be available publicly and a copy of the full report will be available on request. The study results will be shared at PA/medical profession events and in relevant journals.

What are my choices about how my information is used?

You can withdraw at any time during the study without giving a reason, but information will be kept about you that we have already obtained. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. This means that you won't be able to see or change the data held about you. If you decide to withdraw shortly after taking part, your information will not be used in the final study. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Where can I find out more about how my information is used?

You can find out more about how we use your information:

- By viewing the University's Data Protection Policy and Privacy Notices: https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection inforequest@cardiff.ac.uk
- by sending an email the University's Data Protection Officer: inforequest@cardiff.ac.uk or in writing to: Assurance Services, Cardiff University, Friary House, Greyfriars Road Cardiff CF10 3AE.
- by asking the researcher or ringing her on (07929841498)

Who is organising the study?

The PhD studentship is funded by Knowledge Economy Skills Scholarships (KESS2). The researcher (Felicity Morris) is a student at Cardiff University. Health Education Improvement Wales (HEIW) and Authentic World Ltd are partners in the scholarship. Felicity is supervised by Prof Alison Bullock (School of Social Sciences) and Rachel Williams (School of Business).

Who has reviewed the study?

The study has been reviewed and approved by an NHS research ethics committee (*West of Scotland REC 4, Ref: 20/WS/0084, 23rd July 2020*). Aneurin Bevan and Swansea Bay University Health Boards have also given permission for the study to start. The study Sponsor is Cardiff University.

What I have any questions or concerns about this study?

If you have any questions about the study you can contact the researcher who will do her best to answer any queries: Felicity Morris, Morrisf4@cardiff.ac.uk, Tel: (07929841498), Cardiff University School of Social Sciences, 12 Museum Place, Cardiff CF10 3BG

If you remain unhappy, you can contact the Chief Investigator, Professor Alison Bullock, 02920 870780.

Should you wish to make a formal complaint you can do this through the NHS Redress Scheme. Details can be obtained from the concerns team at Aneurin Bevan University Health Board (01495 745656) or Swansea Bay University Health Board (01639 683363).

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Invitation letter – Patient

> You are being invited to take part in a Cardiff University PhD study about Physician Associates in Wales.

I am undertaking a PhD at Cardiff University focused on the role of Physician Associates (PAs) in Wales. You have received this information about my study today as you have seen/had an appointment with a PA. The aims are to find out about (1) PAs' experiences of the role; (2) their contribution to the wider team and service provision; and (3) patients' responses to the role. To address my third aim, I am hoping to speak to patients to discuss their experiences of seeing a PA and their views on the role.

Taking part in this study would involve a telephone conversation with me, at a time to suit you, lasting around 10 minutes.

In this pack you will find a participant information sheet with further information about the study, a consent form and a pre-paid return envelope.

If you are happy to take part in this study or would like more information before deciding to take part, I would be grateful if you could indicate your interest by calling or texting me on 07929841498 or sending me an email to Morrisf4@cardiff.ac.uk within the next two weeks of you receiving this pack.

I hope you will be able to help with my study. However, your participation is completely voluntary. Your contribution would be anonymous.

Felicity Morris

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Participant Information Sheet – Patient

Please read this information carefully before you decide if you would like to take part in this study. If you decide you would like to take part you will be asked to complete a consent form and will be given the opportunity to ask any further questions you may have. If you decide not to take part it will not affect your healthcare in any way.

You are being invited to take part in a Cardiff University PhD study about Physician Associates in Wales.

What is the aim of this study?

The Physician Associate (PA) is a relatively new role within NHS Wales. According to the British Medical Association, the UK Government introduced the role as a mechanism to ease workforce pressures in the NHS. The aims of the study are to (1) document newly qualified PAs' experiences, exploring how well the training prepared them for practice; (2) report their team members' views of the PA role and the impact on service delivery; and (3) to understand patients' responses to the role.

Why have I been invited to take part?

The PA you have seen has agreed to be part of this study. You have been approached as a patient who has received care from the PA.

What happens if I take part?

Your treatment will be the same. Additionally, you will be asked to take part in a short telephone interview lasting around 10 minutes at a time convenient to you. You will be asked questions about your understanding of the PA role and your experience of seeing a PA. If you are willing to take part, you can contact **Felicity Morris (the researcher)** by telephone (07929841498) or email Morrisf4@cardiff.ac.uk within two weeks of you being provided with this information pack. At this time, you will be provided with further information about the study and will have the opportunity to ask any questions.

If you are happy to take part, you will be asked to complete the consent form enclosed in this information pack. Once completed, you can return it using the pre-paid envelope provided. The consent form can also be sent by email if you are happy to provide your email address to

the researcher. You will be asked for your telephone number and **Felicity Morris (the researcher) will call you using the telephone number (07929841498)** at the time you have provided on the consent form.

The interview will be conducted in English.

Do I have to take part?

No. It is up to you whether you take part. If you decide to take part, you will be given this information sheet and the opportunity to ask any questions about the study. If you agree to take part in this study and then change your mind later on, you do not have to give a reason for deciding not to take part. Changing your mind or not taking part will not affect your healthcare in any way.

Whilst all volunteers are welcomed, there is only capacity for a small number of patients to take part. The researcher will contact you to let you know if you do not need to take part in an interview.

Are there any advantages or disadvantages to taking part in this study?

If you take part, you will be making a valuable contribution to understanding patients' experiences of being treated by PAs and patients' understanding of the role. However, there are no extra benefits to you from taking part.

The only disadvantage to you is the time for the telephone interview. It will take around 10 minutes and you will not be asked anything upsetting or sensitive.

What happens to my information?

The information you give will be kept strictly confidential and anonymous. If you agree to a telephone interview, your telephone number will not be shared with anyone but the researcher (Felicity Morris) who will carry out the interview. The interview will be audio-recorded using a digital recorder and a written record made of the conversation which will not include your name or information which would identify you. The researcher may use your word-for-word (verbatim) quotes in final publications and presentations about the study, but care will be taken to ensure that no one will be able to identify you from your quotes. The recordings will be downloaded to the researcher's computer following the interview and then deleted after the written record has been made. All information will be stored securely on Cardiff University systems. The researcher will not have access to your medical records.

How will we use information about you?

I will need some information from you for this research project. Only information that is needed will be used. This information will include your name, contact details and where you saw the Physician Associate. You will be asked to fill out a short background information sheet. This information will only be used to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are

will not have access to your name or contact details. Your anonymised data will be allocated a code number instead. Information about you will be kept safely and securely.

Once the study is finished, some of the data will be kept so results can be checked. Reports will be written in a way that no one can work out that you took part in the study. The findings will be shared with the Advisory Group, including Health Education Improvement Wales who are the partner company for this study, but this will not include any identifiable information about patients. The results and conclusions from the study will inform the development of the PA role and any future training implications.

The final thesis, including a summary will be available publicly. The anonymised study results will be shared at PA/medical profession events and in relevant journals.

What are my choices about how my information is used?

You can stop being part of the study at any time during the study without giving a reason, but we will keep any information about you that we already have. Your records need to be managed in a certain way for the research to be reliable. This means that you will not be able to see or change the data about you. If you decide to withdraw shortly after taking part, your information will not be used in the final study. The final date to withdraw and have your information removed from the project is 3rd December 2021.

Where can I find out more about how my information is used?

- You can find out more about how we use your information: By viewing the University's Data Protection Policy and Privacy Notices: https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection inforequest@cardiff.ac.uk
- by sending an email the University's Data Protection Officer: inforequest@cardiff.ac.uk or contacting them in writing at: Assurance Services, Cardiff University, Friary House, Greyfriars Road, Cardiff CF10 3AE
- by asking the researcher or ringing her on (07929841498)
- at www.hra.nhs.uk/information-about-patients/

Who is organising the study?

The PhD studentship is funded by Knowledge Economy Skills Scholarships (KESS2). The researcher (Felicity Morris) is a student at Cardiff University. Health Education Improvement Wales (HEIW) and Authentic World Ltd are partners in the scholarship. Felicity is supervised by Prof Alison Bullock (School of Social Sciences) and Rachel Williams (School of Business).

Who has reviewed the study?

The study has been reviewed and approved by an NHS research ethics committee (*West of Scotland REC 4, Ref: 20/WS/0084, 23rd July 2020*). Aneurin Bevan and Swansea Bay University

Health Boards have also given permission for the study to start. The study Sponsor is Cardiff University.

What I have any questions or concerns about this study?

If you have any questions about the study you can contact the researcher who will do her best to answer any queries: Felicity Morris, Morrisf4@cardiff.ac.uk, Tel: (07929841498), Cardiff University School of Social Sciences, 12 Museum Place, Cardiff CF10 3BG

If you remain unhappy, you can contact the Chief Investigator, Professor Alison Bullock, 02920 870780.

It is unlikely that you will experience any distress from taking part in this study, but should you require support or advice or should you wish to make a formal complaint you can do this through the NHS Redress Scheme. The details for health board's concerns teams are listed below:

- Aneurin Bevan University Health Board: https://abuhb.nhs.wales/about-us/complaints-concerns/ or telephone 01495 745656
- Swansea Bay University Health Board: https://sbuhb.nhs.wales/about-us/complaints-feedback/complaints/ or telephone 01639 683363

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

<u>Consent Form – Patient</u>

I have read the participant information sheet (08/07/2020 v1.1) and understand what this study is about. I have had any questions answered to my satisfaction. I understand I am free to request further information about the study at any stage.

I understand that: **Initials**

My participation in this study is voluntary and I do not have to answer any questions I do not want to.	
My interview will be audio-recorded and my word-for-word quotes may be used in the final study report, publications and presentations, but my name will not appear anywhere and no one will be able to identify me.	
My participation in this study should not lead to any harm or discomfort.	
Even if I agree to participate now, I can withdraw without providing a reason during the interview and even after it has ended without any consequences. After the interview, if I decide that I do not want my data to be included in the study, I can request this no later than 03/12/2021. I understand that if I withdraw, information about me that has already been obtained may be kept by Cardiff University.	
I consent to the processing of my personal information provided in this consent form and my interview. I understand that such information will be held at Cardiff University in accordance with all applicable data protection legislation and in strict confidence unless disclosure is required by law or professional obligation.	
I understand that anonymised sections of data collected during the study may be looked at by authorised individuals from Cardiff University (the Sponsor for the study), from regulatory authorities, Health Education Improvement Wales and NHS Trusts where it is relevant to my taking part in this research. I give permission for these individuals to have access to anonymised sections of my data.	
I agree to take part in this study.	

The best time to call me to arrange a telephone interview is: **My telephone number is:**

Date_____ Time_____   _____

Print Name:	Signed:	Date:
_____	_____	_____

(By typing your name here, you are providing your electronic signature)

Researcher Name:	Signed:	Date:
_____	_____	_____

Background Information Sheet

Please complete the following questions. This information will give me an overview of the people I speak to as part of this study. It would be helpful if you answer these questions but you do not have to.

1. **What is your gender?** *Please put a X in one box*

   Male: ☐   Female: ☐

   Prefer to self-describe: ☐ _____   Prefer not to say: ☐

2. **Where did you see the Physician Associate today?**

   GP surgery/health centre ☐   Hospital outpatient clinic ☐

   Hospital inpatient ward ☐   Other (please state where) ☐

   _____

10.10 Appendix 10: PA interview schedule

General

- Can you describe your role?
    - What are your daily responsibilities?
    - Is this your first job in Wales?
    - How long have you been qualified?
- Can you describe your background?
    - What's your undergrad/previous post-grad degree?
    - Do you think it's helped you in your role? Have you been able to draw on anything?
- What attracted you to the role?
    - Why study/work in Wales?
- What do you enjoy most about the role?
- What are the challenges you face in the role?
    - How do you overcome these challenges?
- Why did you pick a job in primary/secondary care?
    - Do you want to stay in this setting?
    - Did you think this would be the setting you'd work in?
- How much responsibility do you feel you take on in the role on a daily basis?
    - Too much responsibility? Or enough as supported by consultant/other docs?
- When you started the role, were there clear objectives of what you would be doing?
    - Was it communicated well to you?
    - Did you have an induction? Was it helpful? What did it involve? How long was it?
    - Has this changed over time?
    - Do you have a mapped job plan?
- Do you wear a uniform?
    - What's your views on PAs wearing uniforms?
- How do you feel your role contributes to service provision?

<u>Training</u>

- Can you tell me about your experiences of your training?

    o Where did you train?

    o Was it what you expected? In what ways similar/different to expectations?

- What parts of your training have you found most useful to your daily work?

    o Why?

- What part did you find least useful?

    o Why?

    o Is there anything you think could be removed from the curriculum?

- Is there anything you think could have been added to the curriculum?

    o What areas do you feel you need more training in?

- What does 'preparedness for practice' mean to you?

- How prepared did you feel for practice following your training?

    o If you can recall it, is there anything in the competency framework you felt particularly prepared/underprepared for following training? E.g. core procedural skills, history taking, patient communication, working with children (if applicable), examinations, interpreting evidence, documentation, time management

    o Is there anything in particular you feel competent/less confident in?

- Can you tell me about your experience of doing an internship?

    o What specialties?

    o Is it what you expected?

    o What was useful? Did it help you prepare you for your PA role? Explain why

    o What was challenging?

    o What would you change?

    o Would you recommend?

- Can you describe to me what the transition from student to qualified PA was like?

    o Challenges?

- Since finishing your training, have you been provided with enough clinical learning opportunities?

- How often/how much time are you given to maintain your CPD?

- o Do you feel you receive enough support for it?

- o Do you feel you are given enough time for it?

Team working

- How would you describe your relationship with your colleagues?

- How do you feel you fit into your team?

  - o Has it changed over time?

  - o Did the team have any expectations of your role/what you would be doing?

- Who do you align most to – docs/nurses/others?

  - o Why?

  - o What is your relationship like with:

    - Consultant/GP

    - Advanced Nurse Practitioners/Nurses/Other staff

- What do you think is working well in your team?

  - o Has there been anyone who has championed the PA role?

    - How helpful was this?/Do you think this would be useful?

- What, if any, challenges have you faced with team working?

  - o Have you faced any opposition towards the role? Or completely accepted?

- Do you feel valued by your team?

  - o Why?

Patients

- Do patients generally know about your role?

- How do you introduce yourself to patients?

  - o How do you describe your role to patients?

- How do you think patients respond to you?

  - o Does it change over time/as relationship builds?

  - o Do you ever pick up on any reluctance towards you from patients?

Support

- Do you feel you receive enough support to carry out your role?

  - o Why? Need more or enough?

- Do you feel you receive enough clinical supervision?
  - Who supervises you? Is the supervision helpful? Why? Need more or enough?
  - Do you feel you provide support to others? Are you happy to do this? How do you find it?
- Do you have an appraisal process?
  - What does this involve? Do you find it beneficial? Do you have PDP?
- Are there any parts of your role which you would benefit from additional support?
  - What form do you think this support should take? Who should provide/would you want this support from?
  - What sources of support have you found to be the most helpful?
  - Who else are sources of support?
- When you need support from your team or if you face any challenges, who do you go to?
  - How easy is it to approach them?

Covid-19

- How did the Covid-19 pandemic affect your work?
  - Did you take on more responsibilities?
    - What sort of extra responsibilities?
    - How did you feel taking these on?
  - Did you get redeployed?
  - How did your daily work changed compared to before the pandemic began/during peak of pandemic/now?
  - How did it affect your team?
    - What was morale like?
  - How did patients respond to your role during the pandemic?
    - Any different to before the pandemic?
- Did the pandemic affect your learning? How?
- How prepared did you feel for any additional responsibilities?
  - Were you given training?
  - Was it helpful?

- o   Do you think your initial training/experience helped?
- What were your sources of support during the pandemic?
  - o   Do you feel the pandemic affected your wellbeing?
    - ▪   In what ways?
    - ▪   How did you manage this?
- What do you think are lessons for the future for PAs working during a pandemic/national emergency situation?
- Do you think the pandemic has changed the way PAs are viewed?

<u>Closing</u>

- Where do you see yourself in the future/over the next few years?
  - o   Are there any jobs you are looking to apply for? Any particular specialities? Why?
  - o   Has the coronavirus pandemic affected this? Do you think it will have an effect on your future plans? In what way?
  - o   Would you stay in Wales? Why/why not?
  - o   To future PAs, would you recommend working in Wales? Why/why not?
- Is there anything else you'd like to add?

10.11 Appendix 11: Team member interview schedule

General

- Can you describe your role and give a brief description/explanation of it?

- How long have you worked with PAs?

- How many PAs have you worked with?

- Can you briefly describe to me your understanding of what PAs do/the role of a PA?

- Are you clear on their role and responsibilities? Has this changed since you started working with them?

- How well was it communicated to you about their role and responsibilities?

- Do PAs in your health board wear uniforms?

- What are your thoughts around this?

Team working

- How do you feel the PAs fit into your team?
    - What's your relationship like with the PAs?
    - Has it changed over time?

- Was there a procedure/plan in place to introduce/induct the PAs to the team?
    - Was there an induction?

- How do they impact on your daily role?

- How do they impact on the running of the surgery/ward/department?
    - What do they bring to the skill mix of the team? Is it useful?

- How much support do you give the PAs?
    - How much support do you feel the PAs give you?
    - Do the PAs have a mapped job plan? (more for consultants/GPs)

- Do you supervise PAs?
    - What sort of supervision? How much time do you spend supervising them?

- How has your perception of the PA role changed since having a PA in your team?
    - Has this changed since working with them?

- Who do you think they align most with – docs/nurses/others?
    - Why?

- Overall, what do you think is working well with PAs in your team?

- What, if any, challenges have you faced with PAs in team working?

Patients

- How well do you think patients respond to being treated by PAs?

    o Do you think patients are satisfied with the care they receive from PAs? Why?

- Are patients generally aware of the role?

Training

- Do you feel that the PAs are well prepared for practice?

    o Why?

- What in particular do you feel they are well trained for?

- Is there anything you feel they need more training on?

- Have the PAs you've worked with completed internships?

    o Ask for more info around this

    o Did you offer them more intensive support than you would otherwise? (specific to consultants/GPs)

Covid-19

- What impact did PAs have on the response to the coronavirus pandemic?

    o In what ways did their responsibilities change?

    o Do you think PAs' training/experience prepared them?

    o What impact have PAs had on the team?

    o Were there any barriers to PAs being used effectively?

- Do you think the pandemic changed the way PAs are viewed?

    o By the HB

    o By the team

    o By patients

- Is there anything else you'd like to add?

10.12 Appendix 12: Management staff interview schedule

General

- Can you briefly describe your role to me?

    o Which specialty/directorate do you work under?

- What did you know about PAs before they began working in the health board/practice?

- Can you describe to me what the role of the PA is/what they do?

Background of PAs in health board/practice

- Do you know how many PAs are employed in the health board? (secondary)/ How many PAs do you have working in this practice? (primary)

    o Which specialties?

    o How long have you had PAs working in your health board/practice/directorate?

    o How many PAs have been working in the health board/practice?

    o Do they wear a uniform? Views on this?

Involvement in employing PAs

- What has been your involvement with employing PAs? (From the start, when did you get involved to now)

    o Who was it that introduced the PA role?

        o Did someone approach you and suggest? Or find out yourself?

    o Have there been any challenges to their employment? Restraining factors of employing PAs?

        o Has lack of statutory regulation/prescribing been identified as an issue?

    o Has there been anything which has been helpful to the implementation of employing PAs?

        o Support from other staff/HEIW?

Rationale for employing PAs

- What was the rationale/reason for employing PAs in your practice/health board?

    o Do you think PAs have helped to address this?

- Did you consider employing a different professional over a PA (doctor/nurse practitioner)?
  - What were the factors in informing the decision to employ a PA over another professional?

Impact

- How do PAs fit in the overall staffing strategy for the health board?
- What do you think has been the value in employing PAs?
  - How do you feel they've contributed to service provision?
- What is the impact PAs have had on:
  - Organisation of services
  - Patient experiences and outcomes
  - Other staff – ask here about junior docs training
  - Costs
  - Capacity

Covid-19

- What impact have PAs had on the response to the coronavirus pandemic?
  - In what ways have their responsibilities changed?
  - Was their training/prior experience sufficient for any changed responsibilities?
  - Were there any barriers to PAs being used effectively?
- Do you think the pandemic changed the way PAs are viewed?
  - By the HB
  - By their teams
  - By patients
- Are there any future lessons with regards to PAs in any future pandemics/national emergency situations?

Future

- Can you tell me about the health boards/practice's vision for the development of the PA profession?
  - Do you think the health board will continue employing PAs in the future?

- o   Is there anything you would change when introducing a new role in the future?

- Would you recommend employing PAs to health boards who don't already have PAs?

    - o   Why?

- Is there anything else you'd like to add?

10.13 Appendix 13: Patient interview schedule

- What was the purpose of your appointment/encounter with the PA? Don't need to say anything personal.
- Was this occasion the first time you had seen a PA?
    - o If not, can you tell me about your previous encounter with a PA?
        - ▪ why were you happy to be seen by this PA again?
    - o Have you had any appointments with any other PAs?
- What did you know about that a PA does before you saw the PA?
    - o How did you know this? Or, if not, is there anything you would have liked to have known about the PA in advance?
    - o Has your understanding changed? What's your understanding now?
- Can you tell me about the consultation/encounter you had with the PA?
    - o Did you feel comfortable with the PA? Explain what they did to make you feel comfortable. If not, why not?
    - o Was there anything in particular about the appointment/encounter with the PA you were happy with?
    - o Do you have confidence/trust in the PA?
    - o Was there anything you were unhappy with?
- How did the PA introduce themselves to you?
    - o Were you satisfied with this? Why?
    - o Was the PA wearing a uniform? How do you feel about them wearing/not wearing a uniform?
- Was there anything you wanted from your consultation/encounter with the PA which you didn't get?
    - o Do you feel your consultation/encounter could have been done by another professional (a nurse?)
- Do you have any suggestions about how your appointment/encounter with a PA could be improved?
- Would you be happy to see a PA again in the future?
    - o Why/why not? Would you prefer to see someone different?

- o   Would you be happy to see a PA in your GP surgery/hospital?

- Is there anything else you'd like to add?

Page 2: Questions about your job

2. In which setting do you work? *Please select one option.*

- ○ Primary care
- ○ Secondary care
- ○ Both

2.a. If working in secondary care, please state in the box below which specialty/ies you currently work in.

```
[                                      ]
```

3. Please state which setting you currently work in: *Please select all that apply.*

- ☐ Inpatient wards
- ☐ Outpatients
- ☐ A&E
- ☐ Medical assessment unit
- ☐ Theatre
- ☐ Non-clinical setting
- ☐ GP surgery/health centre
- ☐ Community care
- ☐ Other

3.a. If you selected Other, please specify in the box below.

```
[                                      ]
```

3.b. Please add any other additional information about your work setting in the box below, which may, for example, reflect a spilt job: E.g. *"I work two days per week in on a ward and two days per week in an outpatient department."*

```
[                                      ]
```

4. What attracted you to working in your current department/specialty? Please state in the box below.

```
[                                    ]
[                                    ]
[                                    ]
```

5. What is your current employment status as a PA? Please select all that apply.

☐ In full-time employment
☐ In part-time employment
☐ On a permanent contract
☐ On a fixed term contract

5.a. If you selected 'On a fixed term contract' what is your contract end date? Please state in the box below.

```
[                            ]
```

Page 3: Questions about your job

6. Please state which group of patients you mainly work with: *Please select one option.*

○ Adults
○ Paediatrics
○ Adults and paediatrics equally
○ Mental Health adults
○ Mental Health children and young people
○ Other

6.a. If you selected Other, please specify in the box below.

7. How long have you been qualified as a PA? *Please state in months and years.*

8. Please select which health board you currently work in: (if you work in primary care or are not employed by a health board please select in which local health board your place of work is located). *Please select all that apply.*

	Secondary care	Primary care	Other
Aneurin Bevan University Health Board	☐	☐	☐
Betsi Cadwaladr University Health Board	☐	☐	☐
Cwm Taf Morgannwg University Health Board	☐	☐	☐
Cardiff and Vale University Health Board	☐	☐	☐
Hywel Dda University Health Board	☐	☐	☐
Powys Teaching Health Board	☐	☐	☐
Public Health Wales	☐	☐	☐
Swansea Bay University Health Board	☐	☐	☐
Velindre NHS Trust	☐	☐	☐

9. When did you commence employment in NHS Wales as a PA? *Please state in the box below.*

[ ]

10. Are you required to wear a uniform as part of your job? *Please select one option.*

○ Yes

○ No

○ Unsure

10.a. If you selected Yes, please state in the box below what is the colour of the uniform.

[ ]

11. What are your views on PAs wearing uniforms? *Please select one option.*

○ Very unfavourable

○ Unfavourable

○ Neither favourable nor unfavourable

○ Favourable

○ Very favourable

○ Unsure

11.a. Please add any other thoughts you have around PAs wearing uniforms in the box below.

[ ]

Page 4: Questions about your job

12. In terms of your current job, how satisfied or dissatisfied are you with: *Please select one option for each statement.*

	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied	Unsure
Your colleagues	○	○	○	○	○	○
Your hours of work	○	○	○	○	○	○
Your physical working conditions	○	○	○	○	○	○
The freedom to choose my own way of working	○	○	○	○	○	○
Your amount of responsibility	○	○	○	○	○	○
The variety of work	○	○	○	○	○	○
The recognition for good work	○	○	○	○	○	○
Your opportunity to use your abilities	○	○	○	○	○	○
Your pay	○	○	○	○	○	○
Your overall satisfaction with the job	○	○	○	○	○	○

13. What do you enjoy most about your job? *Please state in the box below.*

```



```

14. What do you least enjoy about your job? *Please state in the box below.*

```



```

15. Does not being able to prescribe or request ionising radiation impact your work? *Please select one option.*

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○ Yes

○ No

○ Unsure

15.a Please explain your answer in the box below.

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

16. Were you working as a qualified PA prior to the start of the Covid-19 pandemic (March 2020)? *Please select one option.*

○ Yes

○ No

16.a What is your impression of how the pandemic has affected your work as a PA? *Please state in the box below. You may want to consider your general views on PAs working during the pandemic, how prepared you felt to take on any extra responsibilities and the effect the pandemic had on your team.*

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

16.b What is your impression of how the pandemic has affected your learning as a PA? *Please state in the box below.*

```
┌─────────────────────────────┐
│                             │
│                             │
│                             │
│                             │
└─────────────────────────────┘
```

Page 5: Questions about your team and support

17. Which healthcare professions do you work with in your team? *Please select one option for each statement.*

	Yes	No
Consultants	○	○
GPs	○	○
Specialty training doctors	○	○
Staff grade, associate specialist and specialty (SAS) doctors	○	○
FY1/FY2	○	○
Locums	○	○
Other PAs	○	○
Pharmacists	○	○
Paramedics	○	○
Health Care Support Workers	○	○
Nurses	○	○
Other nursing roles	○	○
Allied Health Professionals	○	○
Other clinical professionals	○	○

17.a. Please provide more detail surrounding other nursing roles, allied health professionals and other clinical professionals in the box below.

18. In your team, who do you feel your role aligns most with? *Please select one option.*

○ Doctors
○ Nurses
○ Other professionals

18.a. If you selected Other, please specify in the box below.

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[ ]

19. Who is your line manager? *Please select all that apply.*

- ☐ Consultant/GP
- ☐ Another grade doctor
- ☐ Another type of clinical manager
- ☐ A non-clinical member of staff
- ☐ Other

19.a. If you selected Other, please specify in the box below.

[ ]

20. How often are you given allocated time to maintain your CPD? *Please select one option.*

- ○ Weekly
- ○ Fortnightly
- ○ Monthly
- ○ Quarterly
- ○ Annually
- ○ Unsure
- ○ I do not receive allocated time
- ○ Other

20.a. If you selected Other, please specify in the box below.

[ ]

20.b. Do you feel you are given enough time to maintain your CPD? *Please select one option.*

- ○ Too much
- ○ About right
- ○ Too little
- ○ Unsure

20.c. Do you feel you receive enough funding to maintain your CPD? *Please select one option.*

- ○ Too much
- ○ About right
- ○ Too little
- ○ Unsure

21. How would you improve your formal educational support/development? *Please state in the box below.*

```

```

22. In terms of your clinical supervision, do you feel you receive enough supervision in your daily work? *Please select one option.*

- ○ Too much
- ○ About right
- ○ Too little
- ○ Unsure

22.a Please explain the reason for your answer in the box below.

```

```

23. In general, how well supported do you feel in your job? *Please select one option.*

- ○ Very unsupported

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○ Unsupported

○ Neither supported nor unsupported

○ Supported

○ Very supported

○ Unsure

23.a. Please explain the reason for your answer in the box below.

Page 6: Questions about your training

24. In which institution did you undertake your PA course? *Please select one option.*

C Bangor University

C Swansea University

C Other

24.a. If you selected Other, please state in the box below.

[   ]

25. Did you receive a bursary? *Please select one option.*

C Yes

C No

C Unsure

26. What year did you graduate from your PA course? *Please state in the box below.*

[   ]

27. Following your course, how prepared did you feel to undertake the role? *Please select one option.*

C Very unprepared

C Unprepared

C Neither prepared nor unprepared

C Prepared

C Very prepared

C Unsure

28. Is there anything you think should have been included in your course curriculum but was missing? *Please state in the box below.*

320

[ ]

29. Have you undertaken an internship in Wales or are currently employed in an internship? *Please select all that apply.* **Note: If you select 'I have not done an internship' or 'Unsure' please move on to the next page.**

Please select no more than 3 answer(s).

☐ I am currently doing an internship

☐ I have previously done an internship in Wales

☐ I have previously done an internship outside of Wales

☐ I have not done an internship

☐ Unsure

29.a. Thinking about your current/most recent internship, how satisfied or dissatisfied were/are you with: *Please select one option for each statement.*

	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied	Unsure
The amount of allocated time for CPD	○	○	○	○	○	○
The amount of support from your clinical supervisor(s)	○	○	○	○	○	○
The amount of support from your line manager	○	○	○	○	○	○
The induction process	○	○	○	○	○	○
The general organisation of your internship	○	○	○	○	○	○
Your employment package	○	○	○	○	○	○
The quality of the work you are given	○	○	○	○	○	○
Overall satisfaction with the internship	○	○	○	○	○	○

29.a.i. Please include any additional detail regarding your answers in the box below.

[ ]

321

29.b. Do you have any suggestions for future improvement for internships? Please state in the box below.

Page 7: Questions about your patients

30. Do you think patients are generally aware about the PA role? *Please select one option.*

- ○ No, patients don't know about the role
- ○ Some patients do
- ○ Yes, most patients know about the role
- ○ Unsure

31. How do you think patients generally respond to the PA role? *Please select one option.*

- ○ Negatively
- ○ Neither negatively nor positively
- ○ Positively
- ○ Unsure

31.a Please explain your answer in the box below.

32. Do you ever feel that your patients would prefer to see a doctor? *Please select one option.*

- ○ Yes regularly
- ○ Yes, on some occasions
- ○ No, not at all
- ○ Unsure

32.a Please explain your answer in the box below.

Page 8: Questions about you

33. What is your gender? *Please select one option.*

- ○ Female
- ○ Male
- ○ Prefer not to say
- ○ Prefer to self-describe

33.a If you selected Prefer to self-describe, please provide detail in the box below.

[   ]

34. What was your age last birthday? *Please state in the box below.*

[   ]

35. What is the subject of your undergraduate/previous postgraduate degree(s)? *Please state in the box below.*

[   ]

36. Have you previously worked for the NHS prior commencing employment as a PA? *Please select one option.*

- ○ Yes
- ○ No

36.a If you selected Yes, please state in the box below in what capacity and the length of time spent in a previous role.

[ ]

37. Have you taken part in an interview with the researcher (Felicity Morris)? *Please select one option.*

○ Yes
○ No
○ Unsure

38. Are there any other comments you'd like to make about your experiences of the PA role? *Please state in the box below.*

[ ]

Research Opportunity
A study of Physician Associates in the NHS

Physician Associates are "…healthcare professionals with a generalist medical education, who work alongside doctors, physicians, GPs and surgeons providing medical care as part of the

multidisciplinary care team." Physician Associates are still considered to be relatively 'new' to the NHS but can be seen working across a range of settings.

Researchers at Cardiff University School of Social Sciences and Business School are conducting a study exploring the experiences of Physician Associates in Wales, the impact they have on their teams and services and how patients respond to the profession.

- Are you a Physician Associate?
- Are you a clinical healthcare professional who works with a Physician Associate?
- Are you a member of management staff involved with Physician Associates?
- Are you a patient who has been seen by a Physician Associate in **any** healthcare setting? This can include your GP surgery, hospital or community setting.

If you answered yes to any of the above, and you live in one of the following health boards: **Aneurin Bevan, Betsi Cadwaladr, Hywel Dda or Swansea Bay University Health Board,** the researchers would like to invite you to take part in a short one-off remote interview (for patients via telephone and for NHS staff via telephone or video). If you are interested in taking part or would like more information,

please email Felicity Morris **morrisf4@cardiff.ac.uk**

Email Now

HealthWise Wales

Division of Population Medicine, Cardiff University, 5th Floor, Neuadd Meirionnydd, Heath Park, CF14 4YS, Cardiff
Email : **healthwisewales@cardiff.ac.uk**

View in browser
If you want to change your communication preferences, please click on the **unsubscribe** button instead
Click on **Withdraw** to stop participating in HealthWise Wales

10.16 Appendix 16: Social media 'flyer'

Participants needed in

Aneurin Bevan UHB, Betsi Cadwaladr, Hywel Dda and Swansea Bay UHB

- Are you a Physician Associate?
- Are you a clinical professional who works with a Physician Associate?
- Are you a member of management staff involved with Physician Associates?

If you answered <u>yes</u> to any of the above, I would like to hear from you!

My name is Felicity Morris and I am a PhD student at Cardiff University. My study aims to explore the experiences of Physician Associates in Wales, the impact they have on their teams and services and how patients respond to the profession.

Participation in the study involves a **one-off video or telephone interview** lasting between 30 and 45 minutes at a time convenient to you. Interviews will be confidential.

If you are interested in taking part, have any questions or would like more information, please email: morrisf4@cardiff.ac.uk

Social media recruitment poster (NHS staff)   IRAS ID:274639   17/09/2021 v1

10.17 Appendix 17: Cardiff University Sponsorship approval letter

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Research and
Innovation Services

Gwasanaethau Ymchwil
ac Arloesi

Cardiff University
McKenzie House, 7th Floor
30-36 Newport Road
Cardiff CF24 0DE
Wales UK

Tel +44(0)29 2087 5834
Fax +44(0)29 2087 4189

Prifysgol Caerdydd
Tŷ McKenzie, 7ed Llawr
30-36 Heol Gasnewydd
Caerdydd CF24 0DE
Cymru, Y Deyrnas Unedig

Ffôn +44(0)29 2087 5834
Ffacs +44(0)29 2087 4189

Date: 18/05/2020

Professor Alison Bullock
Cardiff University School of Social Sciences
CUREMeDE
12 Museum Place
Cardiff CF10 3BG

Dear Professor Bullock,

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

I understand that you are acting as Academic Supervisor for the above PhD project to be conducted by Felicity Morris.

I confirm that Cardiff University agrees in principle to act as Sponsor for the above project, as required by the UK Policy Framework for Health and Social Care Research.

Scientific Review
I can also confirm that Scientific Review has been obtained from: the Knowledge Economy Skills Scholarship 2 (KESS2) funding award panel (funded by the European Social Fund).

Insurance
The necessary insurance provisions will be in place prior to the project commencement. Cardiff University is insured with UMAL. Copies of the insurance certificate are attached to this letter.

Approvals
On completion of your IRAS form (required for NHS REC and HRA/HCRW/NHS R&D permission), you will be required to obtain signature from the Research Governance team for the 'Declaration by the Sponsor Representative'. Please note that you are also required to provide the Organisation Information Document and Schedule of Events to the Research Governance team for review prior to submission to HRA/HCRW.

Please then submit the project to the following bodies for approval:

- an NHS Research Ethics Committee;
- Health & Care Research Wales (HCRW)- to arrange HCRW Approval for Welsh NHS sites.

The University is considered to have accepted Sponsorship when Research and Innovation Services has received evidence of the above approvals. Responsibility for providing the Local Information Pack to NHS organisations is delegated from the Sponsor to the Chief Investigator (or their appropriate delegate). Once an NHS organisation has confirmed capacity and capability, responsibility lies with the Chief Investigator (or their appropriate delegate) to follow an appropriate 'green light' procedure to open the study at that Site.

Roles and Responsibilities

The Queen's Anniversary Prizes

INVESTORS IN PEOPLE

Athena SWAN Bronze Award

QAA UK Quality Assured

Registered Charity, 1136855 Elusen Gofrestredig

As Chief Investigator you have signed a Declaration with the Sponsor to confirm that you will adhere to the standard responsibilities as set out by the UK Policy Framework for Health and Social Care Research. In accordance with the University's Research Integrity & Governance Code of Practice, the Chief Investigator is also responsible for ensuring that each research team member is qualified and experienced to fulfil their delegated roles including ensuring adequate supervision, support and training.

If your study is adopted onto Health & Care Research Wales Clinical Research Portfolio you are required to upload recruitment data onto the portfolio database.

Contracts
- The HRA Organisation Information Document will act as the agreement between the sponsor and participating NHS organisations.

May I take this opportunity to remind you that, as Chief Investigator, you are required to:
- register clinical trials in a publicly accessible database before recruitment of the first participant and ensure that the information is kept up to date
- ensure you are familiar with your responsibilities under the UK Policy Framework for Health and Social Care Research;
- undertake the study in accordance with Cardiff University's Research Integrity & Governance Code of Practice (available on the Cardiff University Staff and Student Intranet) and the principles of Good Clinical Practice;
- ensure the research complies with the General Data Protection Regulation 2016/679;
- where the study involves human tissue, ensure the research complies with the Human Tissue Act and the Cardiff University Code of Practice for Research involving Human Tissue (available on the Cardiff University Staff and Student Intranet);
- inform Research and Innovation Services of any amendments to the protocol or study design, (including changes to start /end dates) and submit amendments to the relevant approval bodies;
- respond to correspondence from the REC, HRA/HCRW and NHS organisation R&D offices within the required timeframes;
- co-operate with any audit, monitoring visit or inspection of the project files or any requests from Research and Innovation Services for further information.

You should quote the following unique reference number in any correspondence relating to Sponsorship for the above project:

<div align="center">

SPON1805-20

This reference number should be quoted on all documentation associated with this project.
</div>

Yours sincerely
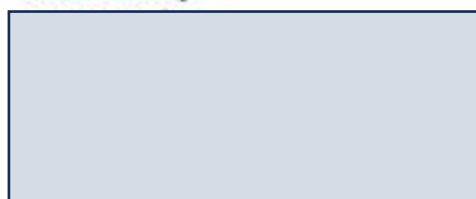
Email: resgov@cardiff.ac.uk

Cc   Felicity Morris

WoSRES

West of Scotland Research Ethics Service

NHS

Greater Glasgow and Clyde

Professor Alison Bullock
Professor and Director of CUREMeDE
Cardiff University
CUREMeDE, School of Social Sciences
12 Museum Place
Cardiff
CF10 3BG

West of Scotland REC 4
Research Ethics
Ward 11, Dykebar Hospital
Grahamston Road
Paisley
PA2 7DE

Date   23 July 2020
Direct line   0141 314 0213
E-mail   WoSREC4@ggc.scot.nhs.uk

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in Wales until you receive HRA Approval

Dear Professor Bullock

Study title:	Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role
REC reference:	20/WS/0084
Protocol number:	SPON1805-20
IRAS project ID:	274639

Thank you for your letter received on 10 July 2020, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered in correspondence by a Sub-Committee of the REC. A list of the Sub-Committee members is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given

permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

It is a condition of the REC favourable opinion that all clinical trials are registered on a publicly accessible database. For this purpose, 'clinical trials' are defined as the first four project categories in IRAS project filter question 2. Registration is a legal requirement for clinical trials of investigational medicinal products (CTIMPs), except for phase I trials in healthy volunteers (these must still register as a condition of the REC favourable opinion).

Registration should take place as early as possible and within six weeks of recruiting the first research participant at the latest. Failure to register is a breach of these approval conditions, unless a deferral has been agreed by or on behalf of the Research Ethics Committee (see here for more information on requesting a deferral: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/research-registration-research-project-identifiers/

As set out in the UK Policy Framework, research sponsors are responsible for making information about research publicly available before it starts e.g. by registering the research project on a publicly accessible register. Further guidance on registration is available at: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/transparency-responsibilities/

You should notify the REC of the registration details. We will audit these as part of the annual progress reporting process.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

· Notifying substantial amendments
· Adding new sites and investigators
· Notification of serious breaches of the protocol
· Progress and safety reports
· Notifying the end of the study, including early termination of the study
· Final report

The latest guidance on these topics can be found at https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/.

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites listed in the application subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Covering letter on headed paper [Covering letter]	v1	26 May 2020
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Cardiff University Insurance]		01 August 2019
Interview schedules or topic guides for participants [Management - Interview schedule]	v1	20 May 2020
Interview schedules or topic guides for participants [PA - Interview schedule]	v1	06 May 2020
Interview schedules or topic guides for participants [PA - Interview schedule second interview]	v1	19 February 2020
Interview schedules or topic guides for participants [Patient - Interview schedule]	v1	28 October 2019
Interview schedules or topic guides for participants [Team - Interview schedule]	v1	20 May 2020
IRAS Application Form [IRAS_Form_28052020]		28 May 2020
Letter from funder [Funding email]		10 December 2018
Letter from sponsor [Cardiff University Sponsorship Letter]		18 May 2020
Letters of invitation to participant [Management - Invite survey]	v1	12 March 2020
Letters of invitation to participant [PA - Invite survey]	v1	12 December 2019
Letters of invitation to participant [Management - Invite interview]	v1.1	08 July 2020
Letters of invitation to participant [PA - Invite case study]	v1.1	08 July 2020
Letters of invitation to participant [Team - Invite]	v1.1	08 July 2020
Letters of invitation to participant [Patient - Invite letter]	v1	06 July 2020
Non-validated questionnaire [Management - Questionnaire]	v1	12 May 2020
Non-validated questionnaire [PA - Questionnaire]	v1	12 May 2020
Other [REC responses]	N/A	
Other [PA - Patient inclusion and exclusion criteria]	v1	08 July 2020

Document	Version	Date
Other [Confidentiality Agreement re transcription]		
Participant consent form [Management - Consent form]	v1.1	08 July 2020
Participant consent form [PA - Consent form]	v1.1	08 July 2020
Participant consent form [Patient - Consent form]	v1.1	08 July 2020
Participant consent form [Team - Consent form]	v1.1	08 July 2020
Participant information sheet (PIS) [Management - PIS interview]	v1.1	08 July 2020
Participant information sheet (PIS) [Management - PIS survey]	v1.1	08 July 2020
Participant information sheet (PIS) [PA - PIS case study]	v1.1	08 July 2020
Participant information sheet (PIS) [PA - PIS questionnaire]	v1.1	08 July 2020
Participant information sheet (PIS) [Patient - PIS]	v1.1	08 July 2020
Participant information sheet (PIS) [Team - PIS]	v1.1	08 July 2020
Referee's report or other scientific critique report [Supervisor declaration]		08 December 2019
Research protocol or project proposal [Protocol v1.1]	v1.1	08 July 2020
Summary CV for Chief Investigator (CI) [CV - AB (CI and Academic Supervisor)]		20 May 2020
Summary CV for student [CV - FM]		20 May 2020
Summary CV for supervisor (student research) [CV - RW]		22 May 2020
Summary, synopsis or diagram (flowchart) of protocol in non technical language [Study design]	v1	20 May 2020

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: https://www.hra.nhs.uk/planning-and-improving-research/learning/

With the Committee's best wishes for the success of this project.

Yours sincerely
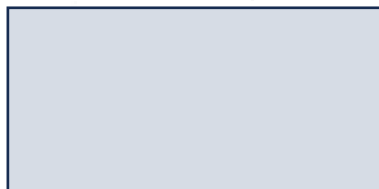
Enclosures: List of names and professions of members who were present at the meeting and those who submitted written comments

"After ethical review – guidance for researchers"

Copy to: Ms Helen Falconer
          Lead Nation Wales: research-permissions@wales.nhs.uk

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Ymchwil Iechyd
a Gofal Cymru
Health and Care
Research Wales

Health Research Authority

Professor Alison Bullock
Professor and Director of CUREMeDE
Cardiff University
CUREMeDE, School of Social Sciences
12 Museum Place
Cardiff
CF10 3BG

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

24 July 2020

Dear Professor Bullock

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role
IRAS project ID:	274639
Protocol number:	SPON1805.20
REC reference:	20/WS/0084
Sponsor	Cardiff University

I am pleased to confirm that HRA and Health and Care Research Wales (HCRW) Approval has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report

(including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:
- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **274639**. Please quote this on all correspondence.

Yours sincerely,
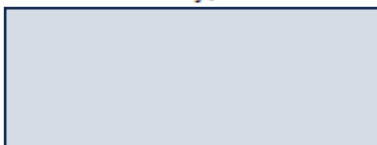
Email: HCRW.approvals@wales.nhs.uk

Copy to: *Ms Helen Falconer*

WoSRES

West of Scotland Research Ethics Service

NHS

Greater Glasgow and Clyde

Ms Felicity Morris
CUREMeDE, School of Social Sciences
12 Museum Place
Cardiff
CF10 3BG

West of Scotland REC 4
Research Ethics
Ward 11, Dykebar Hospital
Grahamston Road
Paisley
PA2 7DE

Date	26 October 2021
Direct line	0141 314 0213
E-mail	WoSREC4@ggc.scot.nhs.uk

Dear Ms Morris

Study title:	Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role
REC reference:	20/WS/0084
Protocol number:	SPON1805-20
Amendment number:	SA01 [resubmit] 05 October 2021 (REC Ref AM04)
Amendment date:	30 September 2021
IRAS project ID:	274639

Summary of Amendment

The amendment relates mainly to changes to recruitment due to impact of the pandemic.

The above amendment was reviewed by the Sub-Committee in correspondence.

Ethical opinion

The Subcommittee understood and was content with the premise of the amendment. However, they required the clarifications to the comments below which was reported back via email on 20 October 2021 as thus:

1. Within the PA PIS, the criteria for entering the study for the PA was removed around duration of employment i.e. the text training in Wales and being within the first 18 months of employment has now been deleted. Is this an error? Especially as this criteria still stands in the protocol. The discrepancy needs to be corrected to ensure consistency. If the PA PIS needs to be updated, a clean copy of the reviewed document needs to be updated and tracked. The document date and version number therefore needs to change. The only change evident should relate to this particular point.

2. The addition of sites to help with the recruitment challenges was acknowledged. However, it would be useful to understand why the social media as a medium was considered and anticipated to significantly increase recruitment? Is this based on experience or is there a quote from published similar studies where social media has been significantly beneficial?

3. Although not indicated as part of the amendment, it was noted from the protocol that there had been a change of contact at HEIW. It would be useful (if available), to supply a CV for Clem Price who has now replaced Gail Harries Huntley as the contact for HEI Wales.

The response was received as thus via email on 21 October 2021:

1. That's an error, my apologies. I've added it back into the PA PIS and attached updated PIS.

2. Whilst it is recognised social media may not significantly improve recruitment, it was considered as an option as it is cost effective and recruitment information can be shared widely and quickly throughout established networks. Social media has been utilised by a peer in their study recently (also in the field of health services) and previous studies have been carried out using social media platforms to recruit participants including for clinical trials. Example evidence of the utility of using social media in recruitment includes:

    a. "While the assessment of the use of social media to improve clinical trial participation is hindered by reporting inconsistencies, preliminary data suggest that social media can increase participation and reduce per-participant cost." page 1. Darmawan, I. et al. (2020). The Role of Social Media in Enhancing Clinical Trial Recruitment: Scoping Review. *Journal of Medical Internet Research*. Vol 22(10) e.22810

    b. "In this study, we were able successfully to demonstrate that the social networking site Twitter can be used to gather health research data from a specific online population." page 606. O'Connor, A. et al. (2013). Can I get a retweet please? Health research recruitment and the Twittersphere. *Journal of Advanced Nursing*. Vol 70(3) pp.599-609. (note a survey was the data collection method).

3. Apologies for not flagging this on the amendment. I don't hold a CV for Clem. Although I can request this, she is currently on leave and I am aware of the high demands of her workload. I would rather not burden her with this task if it will not impact the amendment approval.

This was subsequently reviewed by the Subcommittee and they were satisfied and therefore happy to approve the amendment.

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Completed Amendment Tool	SA01 [resubmit] 05 October 2021 (REC Ref AM04)	05 October 2021
Copies of materials calling attention of potential participants to the research [Social media recruitment poster]	1	17 September 2021
Letters of invitation to participant [HWW recruitment email]	1	29 September 2021
Other [Reply to Subcom Query]		21 October 2021
Participant consent form [Management - Consent form]	1.2	17 September 2021
Participant consent form [PA - Consent form]	1.2	17 September 2021
Participant consent form [Patient - Consent form]	1.2	17 September 2021
Participant consent form [Team - Consent form]	1.2	17 September 2021
Participant information sheet (PIS) [Management - PIS]	1.2	17 September 2021
Participant information sheet (PIS) [Patient - PIS]	1.2	17 September 2021
Participant information sheet (PIS) [Team - PIS]	1.2	17 September 2021
Participant information sheet (PIS) [PA PIS]	1.3	21 October 2021
Research protocol or project proposal	1.2	29 September 2021

Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

Working with NHS Care Organisations

Sponsors should ensure that they notify the R&D office for the relevant NHS care organisation of this amendment in line with the terms detailed in the categorisation email issued by the lead nation for the study.

Amendments related to COVID-19

We will update your research summary for the above study on the research summaries section of our website. During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you have not already done so, please register your study on a public registry as soon as possible and provide the HRA with the registration detail, which will be posted alongside other information relating to your project.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: https://www.hra.nhs.uk/planning-and-improving-research/learning/

IRAS Project ID - 274639:	Please quote this number on all correspondence

Yours sincerely
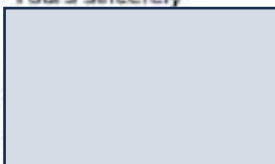
Enclosures:	List of names and professions of members who took part in the review
Copy to:	Professor Alison Bullock Helen Falcolner

10.21 Appendix 21: PA consent form

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

Consent Form – PA

I have read the information sheet (08/07/2020 v1.1) and understand what this study is about. I have had any questions answered to my satisfaction. I understand I am free to request further information at any stage.

I understand that:	Initials
My participation in this study is voluntary and I do not have to answer any questions I do not want to.	
I agree to an initial interview and to be contacted in six months to take part in a follow-up interview.	
My interviews will be audio-recorded and my verbatim quotes may be used in the final study reports, publications and presentations but this will be non-identifiable and my name will not appear anywhere.	
I agree to assist the researcher in identifying suitable team members and patients to take part in interviews.	
My participation in this study should not lead to any harm or discomfort.	
Even if I agree to participate now, I can withdraw without providing a reason during the interview And even after it has ended without any adverse consequences. After the interviews, if I decide that I do not want my data to be included in the study, I can request this no later than 03/12/2021. I understand that if I withdraw, information about me that has already been obtained may be kept by Cardiff University. I understand that any information gained from my team members and patients will still be used as part of this study.	
I consent to the processing of my personal information provided in this consent form and my interview. I understand that such information will be held at Cardiff University in accordance with all applicable data protection legislation and in strict confidence unless disclosure is required by law or professional obligation.	
I understand that anonymised sections of data collected during the study may be looked at by authorised individuals from Cardiff University (the Sponsor for the study), from regulatory authoritie Health Education Improvement Wales and NHS Trusts where it is relevant to my taking part in this research. I give permission for these individuals to have access to anonymised sections of my data.	
I agree to take part in this study.	

Print Name:	Signed:	Date:
_____	_____	_____

(By typing your name here, you are providing your electronic signature)

Researcher Name:	Signed:	Date:
_____	_____	_____

Demographic Record Sheet

Please complete the following questions. This information will provide an overview of the characteristics of the participants taking part in the study. If would be helpful if you answer these questions but you do not have to.

3. **What is your gender?** *Please put a X in one box*

   Male: ☐   Female: ☐

   Prefer to self-describe: ☐ _____   Prefer not to say: ☐

4. **Please state the title of your undergraduate degree:**

   _____

5. **Please state which university you attended for your training:**

   Swansea University: ☐   Bangor University: ☐

6. **Please state which setting you currently work in:**

   Primary Care: ☐   Secondary Care: ☐   Both: ☐

7. **Please state which specialty/setting(s) you currently work in:**

   _____

8. **Which health board are you currently working in?**

   Aneurin Bevan UHB: ☐   Swansea Bay UHB: ☐

9. **If applicable, please state which health boards you have previously worked in as a PA:**

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Aneurin Bevan UHB: ☐

Betsi Cadwaladr UHB:☐

Cardiff and Vale UHB: ☐

Cwm Taf Morgannwg UHB: ☐

Hywel Dda UHB: ☐

Powys Teaching Health Board: ☐

Swansea Bay UHB: ☐

10.22 Appendix 22: Team member consent form

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

<u>Consent Form – Team</u>

I have read the information sheet (08/07/2020 v1.1) and understand what this study is about. I have had any questions answered to my satisfaction. I understand I am free to request further information at any stage.

I understand that: **Initials**

My participation in this study is voluntary and I do not have to answer any questions I do not want to.	
My interview will be audio-recorded and my verbatim quotes may be used in the final study reports, publications and presentations but this will be non-identifiable and my name will not appear anywhere.	
My participation in this study should not lead to any harm or discomfort.	
Even if I agree to participate now, I can withdraw without providing a reason during the interview and even after it has ended without any adverse consequences. After the interview, if I decide that I do not want my data to be included in the study, I can request this no later than 03/12/2021. I understand that if I withdraw, information about me that has already been obtained may be kept by Cardiff University.	
I consent to the processing of my personal information provided in this consent form and my interview. I understand that such information will be held at Cardiff University in accordance with all applicable data protection legislation and in strict confidence unless disclosure is required by law or professional obligation.	
I understand that anonymised sections of data collected during the study may be looked at by authorised individuals from Cardiff University (the Sponsor for the study), from regulatory authorities, Health Education Improvement Wales and NHS Trusts where it is relevant to my taking part in this research. I give permission for these individuals to have access to anonymised sections of my data.	
I agree to take part in this study.	

Print Name: Signed: Date:

_____   _____   _____

(By typing your name here, you are providing your electronic signature)

Researcher Name: Signed: Date:

_____   _____   _____

<u>Demographic Record Sheet</u>

Please complete the following questions. This information will provide an overview of the characteristics of the participants taking part in the study. If would be helpful if you answer these questions but you do not have to.

1. **What is your gender?** *Please put a **X** in one box*

   Male: ☐   Female: ☐

   Prefer to self-describe: ☐ _____   Prefer not to say: ☐

2. **Please state your role:**

   _____

3. **Please state which setting you currently work in:**

   Primary Care: ☐   Secondary Care: ☐   Both: ☐

4. **Please state which specialty you currently work in:**

   _____

5. **Which health board are you currently working in?**

   Aneurin Bevan UHB: ☐   Swansea Bay UHB: ☐

10.23 Appendix 23: Management staff consent form

Physician Associates in Wales: a study of their preparedness for practice, their contribution and patient perspectives on the role

<u>Consent Form – Management</u>

I have read the information sheet (08/07/2020 v1.1) and understand what this study is about. I have had any questions answered to my satisfaction. I understand I am free to request further information at any stage.

I understand that: **Initials**

My participation in this study is voluntary and I do not have to answer any questions I do not want to.	
My interview will be audio-recorded and my verbatim quotes may be used in the final study reports, publications and presentations but this will be non-identifiable and my name will not appear anywhere.	
My participation in this study should not lead to any harm or discomfort.	
Even if I agree to participate now, I can withdraw without providing a reason during the interview and even after it has ended without any adverse consequences. After the interview, if I decide that I do not want my data to be included in the study, I can request this no later than 03/12/2021. I understand that if I withdraw, information about me that has already been obtained may be kept by Cardiff University.	
I consent to the processing of my personal information provided in this consent form and my interview. I understand that such information will be held at Cardiff University in accordance with all applicable data protection legislation and in strict confidence unless disclosure is required by law or professional obligation.	
I understand that anonymised sections of data collected during the study may be looked at by authorised individuals from Cardiff University (the Sponsor for the study), from regulatory authorities, Health Education Improvement Wales and NHS Trusts where it is relevant to my taking part in this research. I give permission for these individuals to have access to anonymised sections of my data.	
I agree to take part in this study.	

Print Name:	Signed:	Date:
_____	_____	_____
	(By typing your name here, you are providing your electronic signature)	

Researcher Name:	Signed:	Date:
_____	_____	_____

<u>Demographic Record Sheet</u>

Please complete the following questions. This information will provide an overview of the characteristics of the participants taking part in the study. If would be helpful if you answer these questions but you do not have to.

1. **What is your gender?** *Please put a **X** in one box*

   Male: ☐   Female: ☐

   Prefer to self-describe: ☐ _____   Prefer not to say: ☐

2. **What is your job title?** *Please state in the box below*

   _____

3. **Please state which setting you currently work in:**

   Primary Care: ☐   Secondary Care: ☐   Both: ☐

4. **In which specialty/directorate do you currently work?** *Please state in the box below*

   _____

5. **In which health board are you currently working in?** *Please put a X in one box*

   Aneurin Bevan UHB: ☐   Swansea Bay UHB: ☐

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Physician Associate questionnaire

0% complete

Page 1: Information

You are invited to participate in a Cardiff University PhD research study about Physician Associates in Wales.

- The Physician Associate (PA) is a relatively new role within primary and secondary care settings in Wales. According to the British Medical Association, the UK Government introduced the role as a mechanism to ease workforce pressures in the NHS. The aims of the study are to (1) document PAs' experiences, exploring how well the training prepared them for practice; (2) report views on their contribution and its impact on the wider multidisciplinary team and service provision; and (3) elicit patients' responses to the role. The results and conclusions from the study will inform the development of the PA role and any future training implications.

- You have been asked to complete this survey as you are a Physician Associate working in Wales. You will be asked a series of questions relating to your experiences of the role, how well you feel your training prepared you for the role, your role in the wider multidisciplinary team and how patients respond to you. You will also be asked about working during the Covid-19 pandemic. There will be no disadvantage to you if you decide not to take part.

- It should not take you more than **10 minutes.** You do not have to answer any questions you do not feel comfortable answering.

- The questions in this survey will be in English.

- Your participation in this study is completely voluntary. There will be no disadvantage to you if you decide not to take part. However, once you have submitted your answers you will **NOT** be able to withdraw your information from the study.

- Your data will be anonymous. The questionnaire will not ask any identifiable information i.e. your name. All information will be stored securely and will be confidential.

- The findings will be shared with our Advisory Group, including Health Education Improvement Wales who are the partner company for this study, but this will not include any identifiable information about participants. A summary of the final report will be available publicly and a copy of the full report can be available on request. The study results will be shared at PA/medical profession events and in relevant journals. Reports will be written in a way that no one will be able to identify you. Once the study has finished, some of the data of the data will be kept so the results can be checked.

- Cardiff University is the Sponsor for the study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Cardiff University will keep identifiable information about you for 15 years after the study has finished. It will then be destroyed.

- You can find out more about how we use your information:

1. By viewing the University's Data Protection Policy and Privacy Notices: https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection inforequest@cardiff.ac.uk
2. by sending an email the University's Data Protection Officer: inforequest@cardiff.ac.uk or in writing to: Assurance Services, Cardiff University, Friary House, Greyfriars Road Cardiff CF10 3AE.
3. by asking the researcher or ringing her on (07929841498)

- The PhD studentship is funded by Knowledge Economy Skills Scholarships (KESS2). The researcher (Felicity Morris) is a student at Cardiff University. Health Education Improvement Wales (HEIW) and Authentic World Ltd are partners in the scholarship. Felicity is supervised by Prof Alison Bullock (School of Social Sciences) and Rachel Williams (School of Business). The study has been reviewed and approved by an NHS research ethics committee (*West of Scotland REC 4, Ref: 20/WS/0084, 23rd July 2020*).

- If you have any questions about the study you can contact the researcher who will do her best to answer any queries: Felicity Morris, Morrisf4@cardiff.ac.uk, Tel: (07929841498), Cardiff University School of Social Sciences, 12 Museum Place, Cardiff CF10 3BG. If you remain unhappy, you can contact the Chief Investigator, Professor Alison Bullock, bullockad@cardiff.ac.uk

1. I have read and agree to the terms and conditions. I consent to participate in this survey. ✳
   Required

   ○ Yes

Mae Ysgolonaethau Sgiliau'r Economi Wybodaeth (KESS2) yn fenter sgiliau lefel uwch Cymru gyfan dan anweiniad Prifysgol Bangor ar ran y sector Addysg Uwch yng Nghymru. Mae'r fenter wedi'i hariannu'n rhannol gan raglen gydgyfeirio Cronfa Gymdeithasol Ewrop Llywodraeth Cymru.

Knowledge Economy Skills Scholarships (KESS2) is a pan-Wales higher-level skills initiative led by Bangor University on behalf of the Higher Education sector in Wales. It is part-funded by the Welsh Government's European Social Fund (ESF).

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