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The Impact of Continuing Professional Development on Patient Care – the Perceptions of Australian Nurse Practitioners

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Abstract

Background: With the introduction of the Nursing and Midwifery Board of Australia (NMBA) and the Australian Health Professional Regulatory Agency in 2010 saw continuing professional development (CPD) become a mandatory activity for Nurse Practitioners. Standards set by the NMBA state that Nurse Practitioners are required to undertake 30 hours of CPD each year. The expense of this CPD is borne by both the Nurse Practitioner and the public healthcare system. Despite the cost of CPD to the Nurse Practitioner, research around the impact of CPD on patient care is limited to other healthcare professionals not the Nurse Practitioner.

Aim: This study aimed to understand the perceptions of Australian Nurse Practitioners about the impact their CPD has on the care they provide for their patients. To achieve this aim, the following research questions were explored from the perspective of the Australian Nurse Practitioner: how Nurse Practitioners perceive their CPD impacts on patient care; the motivations of Nurse Practitioners to undertake CPD, and the perceived barriers the Nurse Practitioner faces in obtaining CPD.

Methods: An exploratory sequential mixed-methods research design was used, using Critical Realism as a sense-making framework. Three individual studies were undertaken. Study One involved a focus group, used as an expert panel to review the draft survey questions and to increase the confidence of the online survey tool used in Study Two. Study Three involved 15 structured interviews with volunteer Nurse Practitioners. In a fourth stage, the data from Studies One, Two, and Three were triangulated to provide an analytic synthesis of the results.

Results: This study has shown that Australian Nurse Practitioners do perceive an impact on patient care from the CPD they undertake. These Australian Nurse Practitioners recognised the importance of CPD and are motivated by the improved patient care they witness. Other motivations include their desire to expand both their scope of practice and clinical knowledge.

Conclusion: This research has shown that the Australian Nurse Practitioner does perceive that there is an impact on patient care from the CPD they undertake. This perceived impact is via improvements in their knowledge and skills gained from attending CPD activities. These

perceptions confirm the inferences made in the general nursing literature about the purpose of CPD. This perceived impact on patient care is multifactorial in nature.

What is the problem?

- CPD is a mandatory activity for Nurse Practitioners and is a costly and time-consuming activity.
- There is no clear published evidence that CPD impacts on patient care.

What has this study done?

- Increased and described the understanding of the Nurse Practitioner's perceptions about the impact their CPD has on patient care.
- Used Critical Realism as a framework to link the Nurse Practitioner experiences of CPD to the perceived impact of CPD.
- Triangulated the results of a focus group, an online exploratory survey and interviews to explore Nurse Practitioner perceptions of the perceived impact of CPD on patient care.

What has this study added?

- Nurse Practitioners undertake CPD because they perceive the impact it has, from the improvement in patient care, helping them justify the expense of CPD.
- Nurse Practitioners regularly undertake more CPD than mandated, despite the barriers they face, demonstrating their commitment to providing the highest standard of care.
- Nurse Practitioners see CPD activities with high clinical knowledge as having the greatest impact on patient care, as it is clinical knowledge that is used when caring for patients.

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Chapter 1

Introduction to the thesis

1.1 Introduction

This thesis presents the research design and results of a series of three studies that examined the perceptions of Australian Nurse Practitioners on the topic of continuing professional development (CPD) and how CPD impacts on the care they provide to patients. It will explore the perceptions of Nurse Practitioners around what are motivating factors that contribute to making a CPD activity a positive experience and the perceived barriers faced by Nurse Practitioners when they undertake CPD activities. It will highlight how Nurse Practitioners in Australia perceive the impact of CPD on patient care.

The researcher holds endorsement as a Nurse Practitioner in Australia. Therefore, I am aware of the need to undertake CPD. From a personal view, I know that the types of decisions I make about the CPD I undertake can have an impact on the patient care I provide. These decisions may be seen differently by fellow Nurse Practitioners. These fellow Nurse Practitioners all voice different opinions about CPD. As a Nurse Practitioner, I became interested in the opinions of my colleagues. Did they, like me, see the benefit of CPD and then choose CPD that would enhance patient care? This led me to undertake this research to understand the perceptions of Nurse Practitioners about CPD and the perceived impact it has on patient care.

This chapter introduces the reader to the Nurse Practitioner. There is variability in the role of the Nurse Practitioner around the globe. A brief history of the Nurse Practitioner from a global context is provided. A discussion of the Nurse Practitioner role in the United States of America (US), Canada, the United Kingdom (UK) and New Zealand follows. This discussion will help the reader decide whether the results of this study could be generalised to the wider Nurse Practitioner population.

As the thesis primarily concerns the Australian Nurse Practitioner, the discussion will focus on defining the Nurse Practitioner role in Australia. The final part of this section will discuss the concept of meta-specialities used to define the scope of practice of the Nurse Practitioner.

Following the introduction of the Nurse Practitioner, an analytic synthesis of CPD from an Australian perspective is presented. Discussion centres on how CPD is relevant to the Registered Nurse (RN) in Australia and explores the entitlements available to the RN to enable them to undertake CPD when employed by a state or territory government in Australia. Where appropriate the similarities and the differences between the entitlements of the RN and the NP are presented. The next section explores the different views of CPD presented in the nursing

literature and other healthcare professional literature. Providing a background of what is known about CPD from a non-Nurse Practitioner perspective to allow for the focused scoping review of the literature presented in Chapter 2.

Chapter 1 will conclude by presenting to the reader the aim and the research questions used to guide the study and an outline of the remainder of the thesis.

1.2 Who are Nurse Practitioners globally?

The Nurse Practitioner role was first introduced to the world, in the United States (US), in 1965 (Carter, Owen-Williams, & Della, 2015), as an alternative route for patients to seek healthcare rather than solely relying on physicians to meet their healthcare needs. Initially the Nurse Practitioner role was to provide a bridge between the healthcare needs of children and families in rural areas and to provide affordable healthcare, before expanding to encompass other marginalised populations (Keeling, 2015). Early Nurse Practitioner education programmes taught Nurse Practitioners skills that allowed them to function excellently in the primary care setting (Stanik-Hutt et al., 2013). The skills taught were traditionally considered by the healthcare industry to be the domain of the physician, and included diagnostic skills, laboratory testing, medical imaging, diagnoses, and referral systems (Carter et al., 2015).

Throughout the 1970s and 1980s, there was rapid growth in the numbers of Nurse Practitioners in the US. As of May 2018, there were over 234,000 Nurse Practitioners licensed in the US (American Association of Nurse Practitioners, 2018). Changes in both State and Federal laws in the US enabled the growth in Nurse Practitioners (Carter et al., 2015). These changes in the law allowed the Nurse Practitioner to participate in Federal health insurance schemes, which broadened their scope of practice and billing capabilities (Health Affairs Policy Brief, 2012).

In Canada, the role of the Nurse Practitioner dates back to 1967, with the development of a course to prepare nurses for work in remote areas of the country (DiCenso et al., 2007). Following the success of the role, in the early 1970s, it was expanded to include both rural and urban settings (DiCenso et al., 2007). In the 1990s, the Canadian Government reduced the number of residency programmes for junior doctors, and the Nurse Practitioner was further promoted to fill the gap created in healthcare provision (DiCenso et al., 2007). The number of Nurse Practitioners has grown to 4,540 across Canada (Canadian Institute for Health

Information, 2018), most (3,309 or 72%) work in either hospitals or primary care settings. Like their counterparts in the US, they communicate a diagnosis to patients, prescribe from a limited drug formulary and order diagnostic tests (Freund et al., 2015).

The Nurse Practitioner role first started to appear in the United Kingdom (UK) in the 1980s, with the introduction of nurse-led clinics for chronic disease management (McLaren, 2005). Following the successful introduction of these clinics, the role of the Nurse Practitioner was expanded to allow them to work in emergency departments. An Audit Commission report in 2001 recognised the success of this Nurse Practitioner programme (Audit Commission, 2001). This report recognised the effectiveness of the Nurse Practitioner service in emergency departments and recommended the role's further expansion into other areas of healthcare (Audit Commission, 2001). It is difficult to ascertain how many Nurse Practitioners operate in the UK. Unlike the US, in the UK, there is no legal protection for the title Nurse Practitioner. So, an RN may call themselves a Nurse Practitioner if they are working at an advanced level, even if they would not meet the criteria for a Nurse Practitioner in the US.

The role of the Nurse Practitioner in the UK is similar to their US counterpart in that they are responsible for the autonomous assessment, diagnosis and treatment of patients (McDevitt & Melby, 2015). Unlike US Nurse Practitioners where there is a multitude of State and Federal legislation for the Nurse Practitioner to contend with, in the UK the Nurse Practitioner is only required to deal with one legislative body and the policies and procedures of the National Health Service, the agency primarily responsible for healthcare.

Proposals to introduce the role of the Nurse Practitioner into New Zealand first occurred in 1998 (Ministerial Taskforce on Nursing, 1998). It was not until 2002 that the first Nurse Practitioner became registered in New Zealand (Gagan, Boyd, Wysocki, & Williams, 2014). As of May 2018, there are currently over 300 registered Nurse Practitioners (Ministry of Health, 2018). The Nursing Council of New Zealand identified seven areas of practice where the Nurse Practitioner would have the most impact: mental health, chronic disease management, emergency and trauma, perioperative, palliative, primary care, and high dependency (Nursing Council of New Zealand, 2002). These seven identified areas are similar to the Australian meta-specialities that have been defined by Gardner et al. (2013), which are explored later in this chapter.

Nurse Practitioners are evenly distributed across rural and urban settings in New Zealand (Gagan et al., 2014). Like their counterparts in the US, Canada and UK, New Zealand Nurse Practitioners are engaged in the investigation, diagnosis, prescription and referral of their patients (Gagan et al., 2014). Since 2014 Nurse Practitioners have had access to prescribe from the full New Zealand pharmaceutical schedule, within their scope of practice (Poot, Zonneveld, Nelson, & Weatherall, 2017). This prescribing freedom is like that of the independent nurse prescribers in the UK who can freely prescribe from the NHS formulary, within their scope of practice (Courtenay & Butler, 2002). New Zealand Nurse Practitioners also have more freedom to prescribe than some US Nurse Practitioners, as legislation in some States prevent Nurse Practitioners from accessing full prescribing rights (Fong, Buckley, & Cashin, 2015).

Nurse Practitioners in the US, Canada and New Zealand have the legal protection of the title Nurse Practitioner. In the UK, it is difficult to define the role of the Nurse Practitioner as the legal protection of the Nurse Practitioner title does not exist. The commonality in the scope of practice of the Nurse Practitioner in each country is that they are able to investigate, diagnose, treat and prescribe for their patients autonomously (Carter et al., 2015; Freund et al., 2015; Gagan et al., 2014; McDevitt & Melby, 2015; Nursing and Midwifery Board Australia, 2016b; Royal College of Nursing, 2018; Scanlon, Cashin, Bryce, Kelly, & Buckely, 2016). Some Nurse Practitioners may not work entirely autonomously and require collaborative arrangements to practice or prescribe medications. These adjustments will be reflected in the scope of practice for the Nurse Practitioner. The following section will discuss the Australian Nurse Practitioner.

1.3 Who are Nurse Practitioners in Australia?

In Australia, the Nurse Practitioner role is an evolution of the RN role. The RN through taking on the level of nursing that exhibits the characteristics of Advanced Nursing Practice (ANP). Then after completing further education and obtaining the required experience are able to apply to be endorsed as a Nurse Practitioner, which is an Advanced Practice Nursing (APN) role (Nursing and Midwifery Board of Australia, 2020). The distinction between these is that the ANP is a level of nursing expertise and the APN is a role undertaken by a RN who has met specific regulatory and legislative requirements (Nursing and Midwifery Board of Australia, 2020). Further discussion of the ANP role will occur within discussion of the RN role below

In Australia, nursing has developed multiple levels of registration regulated by the NMBA. The first level of registration with the NMBA in Australia is as an Enrolled Nurse (EN). An EN has specific standards and scope of practice, distinctly separate from those of the RN (Nursing and Midwifery Board of Australia, 2016). The EN is employed to work under both the direct and indirect supervision of the RN on acute medical and surgical wards and in emergency departments (Nankervis, Kenny, & Bish, 2008). The EN also represents 10% of the staff employed in Aged Care Facilities (Mavromaras et al., 2017). In a study using semi-structured interviews course co-ordinators from three RN qualifying programs and five EN qualifying programs by Jacob, McKenna, and D'Amore (2016) found that course co-ordinators for both the RN and the EN felt their students were equally capable of dealing with patients with any level of acuity, but their career progression was limited by their qualification. This study was undertaken using semi-structured interviews which allowed Jacob et al. (2016) to explore the views of the co-ordinators deeply. Each interview transcript was validated by the participant for accuracy, and a clear approach to its analysis provided. This allowed Jacob et al. (2016) to draw reliable conclusions from their results. Jacob et al. (2016) also found that many co-ordinators of EN courses stated that the ENs viewed their qualification as a steppingstone to obtaining full RN status and allowing them to progress their career. This study by Jacob et al. (2016) is limited as it only discusses the views of those co-ordinating the course and what they perceive the student expects to gain from their qualification. It does not express the views of the students as to why they chose to undertake one course or another, or what they intend to do once they have completed their study. It is difficult to generalise the results of Jacob et al. (2016)'s study as the participants were all drawn from the same geographical region and this may not reflect the wider view of co-ordinators. This lack of generalisability is also reflected in the small sample size obtained in the study.

The second level of registration with the NMBA is the RN. These nurses have completed a Bachelor of Nursing degree. This level of RN has the scope of practice to make decisions autonomously or in collaboration with other healthcare professionals regarding patient care. It is the only level of RN who can develop and advance their practice to become a Nurse Practitioner. Throughout the remainder of the thesis, when the role of the RN is discussed it is this second level of nurse the author will be referring to, as opposed to the first level of nurse, the EN.

There are two traditional career progression pathways in nursing: first, to progress from a clinical role into a management role or secondly, to progress into an education role (Jacob et al., 2016). Management roles include the Nurse Unit Manager and Director of Nursing roles, as well as roles in policy or regulation within the government or the professional bodies associated with nursing. Education roles include the clinical educator in the department or the hospital, the nurse educator who works in academia and the nurse researcher. These management and education roles often remove the RN away from direct clinical care of the patient. In Australia the role of the RN has also expanded with the introduction of the ANP level of nursing by the NMBA. This level sees the RN practicing at an advanced level which relies on developed professional knowledge, clinical reasoning and judgement (Nursing and Midwifery Board of Australia, 2020). In a study by Gardner, Duffield, Doubrovsky, and Adams (2016) of 5,662 RNs over 70 positions were identified that required the RN to work at the ANP level. The most common titles used were the Clinical Nurse Consultant, Nurse Educator, and Nurse Manager. In a study by McMurray and Cooper (2017) the role of nurse navigator was also identified as needing the RN to function at the ANP level. Both Gardner et al. (2016) and McMurray and Cooper (2017) recognise that the Nurse Practitioner acts at ANP level, but neither acknowledge that the Nurse Practitioner is the only APN role in Australia.

A third pathway was introduced for the RN in 1998, and this was to become endorsed as a Nurse Practitioner (Jacob et al., 2016). The Nurse Practitioner role was introduced by health care providers as a way to improve access to health care, in an equitable way that is financially beneficial for the patient (Centre for International Economics, 2013). The first Nurse Practitioners received their endorsement to practice in Australia in 2000 (Masso & Thompson, 2014). Since 2000 there has been a steady increase in Nurse Practitioner numbers in Australia, starting with two Nurse Practitioners in December 2000 and reaching 1,883 in June 2019 (Masso & Thompson, 2014; Nursing and Midwifery Board Australia, 2019a).

The states and territories introduced the Nurse Practitioner role over a ten-year period. New South Wales became the first state to enact legislation in the “Nurse Amendment (Nurse Practitioners) Act 1998, which enabled the Nurse Practitioner role to commence in New South Wales from that time (Foster, 2010). The last state or territory to enact legislation for the Nurse Practitioner role was the Northern Territory, in the “Health Practitioners Amendment (Nurse Practitioners) Act 2007, which enabled the commencement of the Nurse Practitioner role in the Northern Territory (Masso & Thompson, 2014). The title of Nurse Practitioner became

protected under Australian national law in the Health Practitioner Regulation National Law Act 2009, Subdivision 2, Section 95, Subsection 1 ("Health Practitioner Regulation National Law Act," 2009), meaning only those RNs who have obtained endorsement from the NMBA are entitled to use this title. To obtain endorsement, the RN is expected to have an expert knowledge base and have successfully completed the required post-graduate qualifications (Nursing and Midwifery Board Australia, 2016b).

In Australia, Nurse Practitioners engage in high levels of clinically focused nursing care in communities of varying complexity (Mavromaras et al., 2017; Nursing and Midwifery Board Australia, 2014). The Nurse Practitioner has a scope of practice that is built on and expanded from the scope of practice of the RN (Nursing and Midwifery Board Australia, 2014). Therefore, Nurse Practitioners are senior RNs with a strong clinical focus and a specific scope of practice.

To be eligible to be endorsed as a Nurse Practitioner in Australia, a RN must undertake 5,000 hours of advanced clinical practice, within a self-nominated nursing speciality. This level of advanced clinical practice is the ANP level stipulated by the NMBA (Nursing and Midwifery Board of Australia, 2020). They are also required to complete an NMBA-approved programme of post-graduate study, leading to either a Master of Nursing (Nurse Practitioner) or a Master of Nurse Practitioner degree (Nursing and Midwifery Board Australia, 2016b). Once the RN has met these standards, he or she can apply for registration to become endorsed as a Nurse Practitioner. Endorsement by the NMBA is a recognition that the RN has completed all the requirements and entitles them to be known as a Nurse Practitioner.

As well as protecting the title Nurse Practitioner, the Health Practitioner Regulation National Law Act (2009) also granted Nurse Practitioners access to the Medicare Benefits Scheme (MBS) and Pharmaceutical Benefits Scheme (PBS) in Australia ("Health Practitioner Regulation National Law Act," 2009). Under this Act, the Nurse Practitioner receives access to four time-related billing rebates under the MBS (Department of Health, 2017). However, if the care the Nurse Practitioner provides does not fit into one of these rebate categories, the practice of the Nurse Practitioner becomes restricted (Carter et al., 2015). This restriction can limit the financial viability of the Nurse Practitioner's role in private practice healthcare settings in Australia (Lowe, Plummer, & Boyd, 2016).

This limit to the financial viability of the Nurse Practitioner has not slowed the growth in the number of Nurse Practitioners in Australia. As of June 2019, there are 1,883 endorsed Nurse Practitioners in Australia (Nursing and Midwifery Board of Australia, 2019). This represents an eightfold increase compared to the 2007 figures of 230 Nurse Practitioners in Australia cited by Della et al. (2007). The Australian Nurse Practitioner works in a variety of settings, including health care centres, residential aged care centres, hospitals, prisons, schools and universities (Australian College of Nurse Practitioners, 2017; Australian College of Nursing, 2017).

Each Nurse Practitioner works within a scope of practice that highlights their role and responsibilities. The Nurse Practitioner's scope of practice starts with the foundations of the RN's scope of practice (Scanlon, Cashin, Bryce, Kelly, & Buckley, 2016). Scanlon et al. (2016) go on to state that the factors which define the Nurse Practitioner's scope of practice are clinical experience and competence, clinical practice, employer and education. Ultimately the Nurse Practitioner will determine his or her own scope of practice in conjunction with their employer, which will define the range of diagnostic tests and the prescribing formulary for the role (Cashin et al., 2009; Fong, Buckley, Cashin, & Pont, 2017). Previously, Queensland required Nurse Practitioners to publish a scope of practice with the Nursing and Midwifery Office Queensland, under an appropriate meta-speciality (Queensland Health, 2017). This is no longer the case, yet the use of meta-speciality helps to identify the practice area of the Nurse Practitioner. The definitions of what meta-specialities are, is discuss below.

Each Nurse Practitioner works within a *meta-speciality*. Meta-specialities were initially proposed by Gardner et al. (2013) in a report presented to the Australian College of Nurse Practitioners Annual Conference. The Gardener report presented an outline and definition of each meta-speciality. Gardner et al. (2013) argued that the development of meta-speciality areas would guide the teaching, learning and career development of the Nurse Practitioner. The six meta-specialities presented by Gardner et al. (2013) were: aged and palliative care; care of people with long-term conditions; child and family healthcare; emergency and acute care; mental health care; and primary health care.

These meta-specialities subsequently underwent a validation process using a three-stage online Delphi study by Helms, Gardner, and McInnes (2017). This Delphi study aimed to achieve consensus between practising Nurse Practitioners on the definition of each meta-speciality. Two hundred and thirty-one Nurse Practitioners with at least 12 months of pre-endorsement

experience as a Nurse Practitioner were invited to take part. The authors concluded that the proposed definition for four of these meta-specialities, emergency and acute care; primary health care; child and family health care and mental health care, was acceptable to practising Nurse Practitioners. The proposed definitions for aged and palliative care and care of people with long-term conditions did not achieve full consensus from the Nurse Practitioners who took part (Helms et al., 2017). This research will use the four definitions that achieved consensus as a basis for defining the meta-speciality a Nurse Practitioner works under. For the remaining definitions that did not achieve consensus, the researcher will use the definitions proposed by Helms et al. (2017) as these are currently the recognised definitions for these meta-specialities. This research acknowledges that these definitions may change over time. It is also acknowledged that the Nurse Practitioner in Australia may work within different meta-specialities at the same time.

The scope of practice the Nurse Practitioner works under is defined by the area in which they work. The Nurse Practitioner's practice is also governed by the Nursing and Midwifery Board of Australia, through their Standards of Practice for the Nurse Practitioner (Nursing and Midwifery Board Australia, 2014). This document highlights the minimum standards of practice expected of a Nurse Practitioner. These standards of practice were first published in 2003 (Cashin et al., 2015) and were then updated in 2013 (Nursing and Midwifery Board Australia, 2014).

The registration standard for endorsed Nurse Practitioners requires the Nurse Practitioner to comply with the NMBA CPD mandatory hours (Nursing and Midwifery Board Australia, 2016b). The currently approved CPD standard is for the Nurse Practitioner to undertake 30 hours of CPD each year (Nursing and Midwifery Board Australia, 2016c). The following section presents a brief history of CPD and how it impacts on the Nurse Practitioner.

1.4 A brief history of continuing professional development in Australia

The term continuing professional development and its abbreviation CPD has only been in use since the early 1990s (Eden, 2012). In the past, different terminology was used, including terms such as continuing education, continuing professional education, continuing nursing education, lifelong learning and knowledge transition. Throughout the literature, these terms have been used interchangeably with the term Continuing Professional Development (Hegney,

Tuckett, Parker, & Robert, 2010). In Australia, CPD is the currently used abbreviation and has been since it became mandatory for RNs to undertake CPD in 2010, with the creation of the NMBA.

Before 2010 and the creation of the NMBA and the Australian Health Professional Regulation Authority (AHPRA), it was the remit of each state or territory Nursing Board to determine what CPD the RN undertook. For example, in New South Wales before 2010, there was no requirement for the RN to undertake CPD (The Lamp, 2011), whereas, in Queensland, a RN was expected to undertake ten hours of CPD each year. It was the “Health Practitioner Regulation National Law Act” (2009), Subdivision 3, section 128, that formally adopted the term Continuing Professional Development and determined it to be a mandatory activity.

There was discussion around the issue of mandatory CPD for the RN in Australia before the enactment of the Act in 2010. The Australian College of Nursing (ACN) first discussed the need for mandatory CPD for RNs in 1996. Hamilton (1996) discussed the benefits of CPD becoming a mandatory requirement. Hamilton argued that CPD would enhance the provision of services, change an individual’s knowledge and skill base, benefit the profession and the community, and protect the public against outmoded practices. Introducing mandatory CPD would demonstrate to the critics of the nursing profession that nursing took the responsibility of the competency of its practitioners seriously (Hamilton, 1996). AHPRA now monitors the compliance of Nurse Practitioners in meeting their CPD standards on behalf of the NMBA.

1.5 Continuing Professional Development and the Australian Nurse Practitioner

It is a requirement that all Nurse Practitioners undertake CPD. The requirement to undertake CPD is legislated in the Health Practitioner Regulation National Law Act 2009, Subdivision 3, Section 128 (“Health Practitioner Regulation National Law Act,” 2009). Section 128 states that “*a registered health practitioner must undertake the continuing professional development required by an approved registration standard for the health profession in which the practitioner is registered*” (“Health Practitioner Regulation National Law Act,” 2009). The enactment of this section of the Health Practitioner Regulation National Law Act 2009 meant CPD was regulated and mandatory for the first time in Australia. The enactment of this Act also saw the creation of the Australian Health Practitioner Regulation Agency (AHPRA). AHPRA was created to support 14 National Boards responsible for the regulation of health

professionals in Australia. AHPRA has now expanded to support 15 National Boards, with the Paramedicine Board being added in December 2018. One of the supported boards is the Nursing and Midwifery Board of Australia (NMBA). Before the creation of AHPRA and the NMBA, each state or territory had its own Nursing and Midwifery Board. Each of these boards was responsible for the registration and standards of practice for nursing and midwifery.

The NMBA sets the CPD standards for the Nurse Practitioner. The current standard for CPD is 20 hours per year for RNs. A RN who holds an endorsement as a Nurse Practitioner is required to undertake a further 10 hours of CPD. This further 10 hours of CPD is to be related to the advanced practice role of the Nurse Practitioner.

The NMBA mandates advanced practice CPD for the Nurse Practitioner be related to prescribing and administration of medicines, diagnostic investigations, consultation, and referral (Nursing and Midwifery Board Australia, 2016c). A Nurse Practitioner is therefore expected to complete a total of 30 hours of CPD each year to maintain their registration as a RN and their endorsement as a Nurse Practitioner, with the extra 10 hours of CPD demonstrating a specific relationship to the Nurse Practitioner's scope of practice. The NMBA guidelines are vague around how the Nurse Practitioner demonstrates the relationship between CPD and their scope of practice. The guidelines recommend that a range of different activities be undertaken to fulfil CPD requirements, as this demonstrates more effective learning (Nursing and Midwifery Board Australia, 2016c).

The importance of CPD has long been recognised by authors in the nursing literature. As stated, CPD is a mandated standard that the Nurse Practitioner needs to meet to be able to practice their profession (Boud & Hager, 2011). Furze and Pearcey (1999) and Kemp and Baker (2013) show the existence of a long-held argument that CPD is necessary for the RN to enhance their practice. However, CPD is also a necessary mandatory activity for the Nurse Practitioner to maintain their registration as a RN and endorsement. This necessity is due to the constantly evolving knowledge within the healthcare that the Nurse Practitioner needs to be continually updated to be in a position to provide the best care to their patients (Bjork, Torstad, Hansen, & Samdal, 2009). Levett (2011) echoed this statement, suggesting that CPD was used by Nurse Practitioners to demonstrate that their knowledge had not stagnated.

The demonstration that the Nurse Practitioner has undertaken CPD may also help maintain the public's trust and confidence in the profession. A member of the public may be aware that a

Nurse Practitioner needs to undertake CPD. The member of the public may even know about the knowledge the Nurse Practitioner requires to practice safely. If this member of the public encounters a Nurse Practitioner who does not act in the way they expect, that member of the public loses trust and confidence in that professional. Therefore, as Levett (2011) argues the undertaking of CPD by the Nurse Practitioner, the Nurse Practitioner is able to demonstrate that they have kept up to date with contemporary practice even if that practice is contrary to what the member of the public holds to be true.

Chiarella and White (2013) argue that keeping up to date using CPD may make the Nurse Practitioner a safer practitioner, but it does not necessarily create a competent practitioner. The link between CPD and competence to practice is unclear, as a practitioner could perform competently during one assessment and not perform competently the next time (Chiarella & White, 2013). It has been argued by Taylor (2010) that rather than being directly about competence, CPD is undertaken by a practitioner due to a heightened sense of self-awareness of what they need to maintain their competency.

1.6 The provision of continuing professional development assistance in Australia

As Nurse Practitioners are mandated to undertake CPD, each state or territory government has incorporated different levels of entitlement for CPD leave, and a CPD allowance is factored into pay awards for all publicly employed Nurse Practitioners. The Enterprise Bargaining system of each state or territory develops these entitlements when negotiations occur to determine pay scales and benefits of public employees.

In Australia, Enterprise Bargaining involves representatives from Health Services, unions and other representative professional bodies. Representatives meet to negotiate pay scales and benefits for employees. In Australia, each nursing union is affiliated with the Australian Nursing and Midwifery Federation (ANMF) (Australian Nursing and Midwifery Federation, 2016).

The ANMF has a national membership via state and territory unions of around 275,000 members (Australian Nursing and Midwifery Federation, 2019). As of June 2019, there were around 303,991 RNs registered with the NMBA (Nursing and Midwifery Board of Australia, 2019). The ANMF, therefore, represents around 90% of the total RN workforce of Australia.

The ANMF can claim to represent the wishes of most nurses and midwives at the negotiation table.

The entitlements that the Enterprise Bargaining system has negotiated about CPD includes either paid time off, a monetary allowance to assist with undertaking CPD, or a combination of these. These entitlements are usually only available to RNs and Registered Midwives who work in the public health service. Often the full entitlements will only be available to permanent employees, with part-time staff receiving the entitlements on a pro-rata basis.

Part-time staff may only receive pro-rata entitlements, however, those who are on casual or temporary contracts may not be entitled to these allowances. Employers may view the entitlements related to CPD as a reward system for loyal staff that work permanently for them, thereby excluding those who are on casual or temporary contracts (Keuskamp, Ziersch, Baum, & LaMontagne, 2013). The exclusion of these staff may be viewed as unjust, as those who do work on a casual or temporary basis are still required to undertake the same CPD requirements mandated by the NMBA.

The NMBA only grants a pro-rata reduction in CPD in specific situations. Pro-rata CPD applies to RNs or Registered Midwives who register with the NMBA via AHPRA part way through the current registration year (Nursing and Midwifery Board Australia, 2016c). The NMBA allows exemption from CPD for one period in any four-year period (Nursing and Midwifery Board Australia, 2016c). However, this is for exceptional circumstances only. There is a specific application process for an exemption to be granted by the NMBA. The NMBA does not grant exemptions for those who work reduced hours due to being part-time, casual or temporary employees.

RNs or Registered Midwives who are casual or temporary employees or who work for a private employer or are self-employed are required to pay for their own CPD activities. The Australian taxation system offers some assistance with this. An employee in Australia may claim tax deductions for work-related self-education expenses if the CPD has sufficient connection to their current employment role (Australian Taxation Office, 2016). The Australian Taxation Office website provides clear guidance on what qualifies as self-education expenses. Some of the expenses that are claimable include accommodation and meals if away from home; course fees; stationery; student union fees, textbooks; and subscriptions to professional or academic

journals (Australian Taxation Office, 2016). Being able to claim these expenses back via the taxation system can enable CPD to become cost neutral.

Being cost neutral does not mean cost free. The participant is still required to pay all the expenses associated with the CPD activity at the time of the activity. The cost-neutral aspect comes when the participant claims these expenses when they file their tax return at the end of the financial year. The cost in lost tax returns to the government is over \$78 million, which is the figure claimed as self-education expenses by RNs in 2015-2016 (Australian Taxation Office, 2018). This is \$78 million that cannot be used to fund services that taxpayers may use.

In summary, these sections have provided context for the Nurse Practitioner role. The title Nurse Practitioner is legally protected in the US, Canada, New Zealand and Australia, but not in the UK where there is no legislative protection of the Nurse Practitioner title (Buckley, Stasa, Cashin, Stuart, & Dunn, 2015). The Nurse Practitioner does operate under a similar scope of practice in each country, they are RNs who have undertaken further education to allow them to investigate, diagnose, treat and prescribe for their patients autonomously (Carter et al., 2015; Gagan et al., 2014; Nursing and Midwifery Board Australia, 2016b; Royal College of Nursing, 2018). Until 2017 Queensland was the only state that required the Nurse Practitioner to publish a scope of practice. This is no longer required. This brings Queensland into alignment with other Australian States and Territories. One of the standards of practice for the Australian Nurse Practitioner is to undertake 10 additional hours of CPD each year. The states and territories provide support to enable CPD for Nurse Practitioners, but this is not necessarily available to Nurse Practitioners who are privately employed.

From initial readings of the literature in preparation for the research there was no direct evidence immediately available that showed a link between CPD and the impact it has on patient care. Where CPD is discussed in relation to patient care, it involves the RN or other healthcare practitioners, not the Nurse Practitioner. This thesis will provide a report about Australian Nurse Practitioners and their perceptions of the impact of CPD on their patients. The following section will provide a critique and synthesis of the literature related to CPD and the RN and other healthcare professionals as a background to the research.

1.7 The relationship of CPD to the Registered Nurse and other Healthcare Professionals

A hallmark of a profession is its distinct body of knowledge uniting its members together, which members maintain and develop through CPD throughout their career (Queensland College of Teachers, 2013). The undertaking of CPD is integral to the lifelong learning process of enhancing professional practice (Kemp & Baker, 2013). As a RN in Australia it is mandatory to undertake 20 hours of CPD each year (Nursing and Midwifery Board Australia, 2016a). Therefore, for the RN CPD is a mandatory necessity to maintain their professional career.

A purpose of CPD is to ensure that the care provided by the RN is up to date. This was an argument put forward by Levett (2011) in an editorial after the introduction of mandatory CPD for the RN in Australia. Levett (2011) offers no evidence to support the view that the public is aware that this is a reason why the RN undertakes CPD or that they are aware of the need of the RN to undertake CPD. What the public does expect according to Berhane and Enquesselassie (2016) is to receive the best treatment possible and trusts the RN to deliver this. Therefore, the RN needs to be responsible to undertake and learn from CPD relevant to the patient care they deliver.

Mandatory CPD for RNs was introduced into Australia in 2010 with the creation of AHPRA and the NMBA. A review of mandatory CPD was then completed by James and Francis (2011). This review lacked the structure of a literature review as no search strategy was defined by James and Francis (2011), so there is no way to confirm if all the appropriate literature was included. This may have led to author bias, with James and Francis (2011) only choosing articles that suited their needs. The arguments that James and Francis (2011) presented around the benefits of mandatory CPD, the motivations for undertaking CPD and the barriers to undertaking CPD were supported by appropriate literature. A conclusion made by James and Francis (2011) was that CPD did not always equate to learning or an improvement in patient care. Which puts the validity that CPD improves patient care in doubt. As the studies by Levett (2011), Wolak, Cairns, and Smith (2008), and Tarnow, Gambino, and Ford (2013) all asserted that CPD leads to improved patient care. For CPD to be successful for the RN learning needs to occur, as Cleary, Horsfall, O'Hara-Aarons, Jackson, and Hunt (2011) state learning from CPD ensure that the best care is provided. This was found by Cleary et al. (2011) after undertaking 50 semi-structured interviews with RNs in a rigorous well balanced study. While the study undertaken Cleary et al. (2011) is well presented there are only 50 participants, which

makes the results difficult to generalise. Yet, it makes a point that for CPD to have an effect some learning needs to occur. Therefore, without this learning CPD is not effective and could be detrimental to patients. The RN needs to take the opportunity to learn from their CPD, by not doing so they are doing themselves, their profession and their patients a disservice.

Learning from CPD is becoming more important for health professionals to stay up to date, since internet access provides patients with extensive opportunities to research their condition. If a patient knows more than the professional, the confidence in the professional may suffer. A study by Chung, Oden, Joyner, Sims, and Moon (2012) found that 59% of their participants had researched their symptoms on the internet prior to attending a healthcare professional. This figure rose to over 90% in a study by Scott et al. (2017). 61% of Chung et al. (2012)'s participants believed personal research led to them receiving improved care, a finding that is not mentioned by Scott et al. (2017). The health care professional is expected to be a health care expert and therefore, needs to keep up to date with new developments. In a review into the economic costs of CPD to the RN Bjork et al. (2009) found that CPD was increasingly about the constantly changing treatments the healthcare system offered. Therefore, the RN who fails to keep up to date could potentially harm their patients because they are not aware a once common practice is no longer used as evidence now exists to show that practice is dangerous.

In 2009, the American College of Chest Physicians reviewed how CPD was defined and used by its members. This led to CPD being defined by Lowe, Aparicio, Galbraith, Dorman, and Dellert (2009) as *“the educational activities which serve to maintain, develop or increase the knowledge, skills and professional performance of that physician,”* in a review about the future of CPD by the American College of Chest Physicians. This is similar to the definition *“the means by which members of the profession maintain, improve and broaden their knowledge, expertise and competence, and develop the personal and professional qualities required throughout their professional lives,”* used by the NMBA to define CPD (Nursing and Midwifery Board Australia, 2016c). Which in turn is the standard definition used by all 15 professional boards under the jurisdiction of AHPRA (Aboriginal and Torres Strait Islander Health Practitioner Board of Australia, 2015; Chinese Medicine Board of Australia, 2012; Chiropractic Board of Australia, 2015; Dental Board of Australia, 2015; Medical Board of Australia, 2016; Medical Radiation Practice Board of Australia, 2015; Occupational Therapy Board of Australia, 2012; Optometry Board of Australia, 2013; Osteopathy Board of Australia,

2015; Paramedicine Board of Australia, 2018; Pharmacy Board of Australia, 2010; Physiotherapy Board of Australia, 2015; Podiatry Board of Australia, 2015; Psychology Board of Australia, 2015). Therefore, there is a reasonable consistency across all APHRA boarded healthcare professions as to the meaning of CPD.

There is consistency in the amount of CPD undertaken, with each Board defining the amount of CPD required from its registrants. In Australia, the NMBA states that the RN is expected to undertake 20 hours CPD each year. The volume of CPD expected of the RN in Australia, is comparable to standards in other countries. For example, in New Zealand a RN is expected to have undertaken 60 hours of CPD in the previous three years to re-register as a nurse (Nursing Council of New Zealand, 2019). In Canada the requirement is 100 hours of CPD for each five-year registration period (Canadian Nurses Association, 2012). In the UK there is a reduced requirement of 35 hours CPD every three years (Nursing and Midwifery Council, 2011). The lowest amount of CPD required was by the Texas Board of Nursing at 20 hours of CPD every two years (Texas Board of Nursing, 2011).

1.7.1 The perceived impact of CPD on patient care

The question of whether CPD had an impact on patient care or on the practitioner has been raised in the literature. A scoping literature review by Allen, Palermo, Armstrong, and Hay (2019), found that the impact CPD had was not on the patient but on the practitioner who saw an improvement in their knowledge, behaviour, confidence, skills and attitudes. The impact CPD had on patient care was not discussed by Allen et al. (2019). Yet, many articles as early as Warmuth (1987) alluded that the impact of CPD was improved patient care not on the practitioner.

The notion that CPD led to improved patient care is explored throughout the literature. An early qualitative study involving a potential 32 participants who attended a training course were telephoned six months post course by Warmuth (1987). This study found that 29 out of 32 participants were able to identify five ways in which the CPD activity had had an impact on patient care. These five ways were: changes in practice, changes in thinking, changes in perspective, the teaching of others, and the use of the content outside of the workplace (Warmuth, 1987). Whilst providing potential impacts of CPD, this study lacks the rigour of more recent studies. Warmuth (1987) only briefly mentions the methodology used, there is a

lack of information on how bias was controlled for, no discussion of the process of data analysis used and no discussion if ethical approval was obtained. This lack of information raises questions as to the validity of the results found by Warmuth (1987).

Studies since Warmuth (1987) have come to similar conclusions that CPD has an impact of patient care. A study by Kellmer-Langan, Hunter, and Nottingham (1992) offers partial validation of Warmuth (1987), that CPD has an impact on patient care. Kellmer-Langan et al. (1992) described a quasi-experimental cohort study of the 27 RNs about their opinions on the concepts, principles, and application of the physical assessment skills taught in a CPD activity. These 27 RNs had their opinions tested pre- and post-activity and then again three-months post activity and determined that there was an increase in retained knowledge and a higher application of the skills taught. Yet, it is a limitation of Kellmer-Langan et al. (1992) not to discuss any potential confounding factors that may have influenced the results at the three-month post activity review. One potential confounding factor was if the participant had undertaken any further education between the completion of the course and the three-month follow-up.

Later studies also support the notion that CPD has an impact on patient care. Studies by Wolak et al. (2008) and Tarnow et al. (2013) also concluded that CPD had an impact on patient care. Both these later studies came to similar conclusions. Wolak et al. (2008) sent questionnaires to 49 RNs one year after a CPD activity, asking what they were able to recall about the activity and how it impacted on their practice (14 (28.5%) responded). It was found that participants did recall the activity and the activity did affect their practice (Wolak et al., 2008). Yet, how the impact of the CPD activity impacted on patient care is not explored. Also, the low response rate makes it hard to generalise and those limitations reduce the confidence in the conclusions made by Wolak et al. (2008).

The positive effect CPD had on patient care and the workplace of practitioners was seen by healthcare professionals six months post CPD activity. Using a mixed-methods approach of survey and focus groups which were then triangulated together, Tarnow et al. (2013) explored the opinions of 75 participants about the impact of a CPD activity on patient care.. The demographics of the participants states that RNs, physicians and other healthcare professionals participated, but no further details are not provided by Tarnow et al. (2013). A limitation of this paper is that it does not go into any depth about the conclusions it reaches. Exploring these

conclusions further, would have allowed Tarnow et al. (2013) to discuss how CPD had a positive effect on patient care and the workplace.

Some training events are a single episode of education, yet, many CPD activities are tertiary courses of study. These tertiary courses often lead to a recognised qualification (Feltham & Horton, 2006). A post-graduate diploma course was seen by participants to increase their ability to apply research, better able to evaluate care, better able to assess patients, better able to plan care and deliver high-quality care. Wildman, Weale, Rodney, and Pritchard (1999) arrived at these conclusions after surveying 113 students from seven cohorts of students who attended a course. This conclusion is supported by Pelletier, Donoghue, and Duffield (2003), from 236 participants in a 10-year longitudinal study of a post-graduate course. The participants felt that the course improved their patient advocacy skills, role modelling skills, research skills and decision-making skills. However participants in Pelletier et al. (2003) felt that CPD related to resource management, computer use, and staff morale did not have an impact on patient care. Both Wildman et al., (1999) and Pelletier et al. (2003) explored populations of students from a single institution, normally the generalisability of the findings would be difficult for each study. When the results of the two studies are compared results become similar leading to the supposition that the results are comparable and therefore generalisable to similar populations.

RNs who attended an Intensive Therapy Unit (ITU) course, saw this course of study impacting on patient care. Tennant and Field (2004) developed a Goal Attainment Score tool and administered it to five RNs. Results were then compared to five RNs who had not attend the ITU course. This tool identified that the RN felt the course improved their clinical skills, and led to an improvement in participants identifying their own learning needs (Tennant & Field, 2004). However, the tool demonstrated a similar growth in skills in those who did not attend the ITU course, and the reasons for this are not explored by Tennant and Field (2004). It is possible to speculate that this could be due to not undertaking the course and learning new skills from those who did undertake the course; or because they undertook a different CPD activity.

A growth in knowledge from exposure to CPD through a course of study, helps participants to perceive an impact of CPD on patient care. A systematic review of 15 studies related to the impact of a Master's qualification led Cotterill-Walker (2012) to make this conclusion. From these 15 studies five themes were identified, these were: increased confidence and self-esteem,

enhanced communication, personal and professional growth, application of theory to practice, analytical thinking combined with better decision making (Cotterill-Walker, 2012). A growth in knowledge could lead to improve patient outcomes as the practitioner had a growth in confidence and self-esteem, which allowed them to develop both personally and professionally. This growth allowed the practitioner to become more analytical in their thinking which allowed them to improve their decision-making skills to the benefit of their patients.

None of these studies included Nurse Practitioner participants. Therefore, there is a deficit in the literature around how the Nurse Practitioner perceives CPD impacts on patient care. While the Nurse Practitioner might perceive an impact of CPD similarly to other nurses and healthcare practitioners, this thesis will explore if this is the case.

Reviewing the literature associated with CPD it was identified that when CPD is offered the RN or healthcare professional still required motivation to attend. A qualitative study by Spencer (2006) of 12 RNs, midwives and health visitors explored motivations to attend CPD. This study identified that a practitioner had either personal or professional motivations to attend CPD. Spencer (2006) defined personal (internal) motivation as the desire to be personally and academically challenged and professional (external) motivation related to workplace expectations and career development.

The personal motivations to be challenged by CPD encouraged the Nurse Practitioner to attend different CPD activities. These personal motivations to undertake CPD were further confirmed by Richardson and Gage (2010) and Olsson, Persson, Kaila, Wikmar, and Boström (2013). Focus group interviews were used by Richardson and Gage (2010) to explore the motivations of 16 RNs in New Zealand. A questionnaire sent to 42 participants from six different healthcare professions was used by Olsson et al. (2013). Richardson and Gage (2010) found the RN was motivated to attend CPD if part of like-minded groups. This is supported by Olsson et al. (2013) who found being with like-minded professionals motivated CPD attendance. Both Richardson and Gage (2010) and Olsson et al. (2013) are small studies and it is therefore difficult to contextualise their findings outside of the individual study settings. Yet, both studies arrived at similar conclusions around the personal motivations to attend CPD. Olsson et al. (2013) goes on to highlight that different professions share similar motivations to undertake CPD.

Different professions holding similar motivations to undertake CPD was also highlighted by Zahran (2013). Zahran (2013) used semi-structured interviews with 44 participants to reach this conclusion. The majority of these participants were RNs, but the sample population also included medical staff, academics and other healthcare professionals (Zahran, 2013). While Zahran (2013) mentions other healthcare professionals as being part of the sample population, it is not mentioned what professions they come from, therefore, it is not possible to compare this paper with Olsson et al. (2013) to determine if participants from the same profession expressed similar views. Yet, Zahran (2013) does highlight similar findings to both Richardson and Gage (2010) and Olsson et al. (2013), that healthcare professionals are personally motivated to learn to enable them to provide the best care they can to their patients.

As well as personal motivations for undertaking CPD there are also professional motivations to undertake CPD. These professional motivations were explored by Cooley (2008), in 18 RNs, using focus groups and interviews and in 23 RNs using a postal questionnaire from a provincial Greek hospital by Yfantis, Tiniakou, and Yfanti (2010). Both, Cooley (2008) and Yfantis et al. (2010) found that these RNs were motivated to attend CPD by their desire to progress their career and keep up with the workplace expectations for their role. Cooley (2008) does not mention if data saturation was achieved in the study, which limits the robustness of the conclusions drawn from the verbatim transcripts obtained from participants. Both studies are limited by being small studies and the contextualisation of results to a specific location. Yet these small studies are supported by Brekelmans, Maassen, Poell, Weststrate, and Geurdes (2016) in a larger study involving RNs from multiple Dutch hospitals. This study involved 1,329 RNs, from different hospitals, where different aspects of CPD were explored using a survey (Brekelmans et al., 2016). Brekelmans et al. (2016) supports the conclusions of Cooley (2008) and Yfantis et al. (2010) giving validity to all the results. Brekelmans et al. (2016) also supports the conclusions of Richardson and Gage (2010), Olsson et al. (2013), and Zahran (2013) around the personal motivations for undertaking CPD giving validity to the results of these smaller studies.

The use of a mentor can motivate a practitioner to attend CPD activities by helping to identify personal and professional motivations for them attend. Using a survey and a focus group of 14 Advanced Practice Nurses (APN) Doerksen (2010) found that having a mentor motivated the APN to attend CPD activities. The mentor was able to guide the APN to CPD activities that would help develop the skills and knowledge required and to overcome some of the barriers

the APN may face in obtaining CPD (Doerksen, 2010). By having multiple mentors with different areas of expertise ensured that the APN developed in all areas related to their standards of practice.

In summary, attendance at a CPD activity will be either personally or professionally motivated by the healthcare practitioner. When this is the case the practitioner will obtain the best result from the activity, for example, an increase in knowledge or the learning of a new skill. Knowledge or skills that can be used to improve patient care. If these motivational forces are not there, then the practitioner will not achieve anything from attending the activity. The practitioner could see the activity as a waste of their time and money, which could negatively impact on patient care. Having a mentor to guide the practitioner could help prevent them attending CPD they are not motivated to attend or motivate them to learn from an activity they had no personal or professional motivation to attend. However, none of these studies specifically identified or included Nurse Practitioners.

A further theme that consistently appears in the literature when discussing CPD is barriers. Many barriers are cited in the literature affecting the RN from undertaking CPD, these include: unsuitable conference dates (James & Francis, 2011); level of personal commitment or time available to attend (Coventry, Maslin-Prothero, & Smith, 2015; Kubsch, Henniges, Lorenzoni, Eckardt, & Oleniczak, 2003); location and distance to travel (Penz et al., 2007; Shahhosseini & Hamzehgardeshi, 2015); and lack of interesting or relevant topics being offered (Smith, 2004). The barrier that is cited most within the literature is the barrier of cost (Govranos & Newton, 2014; Hegney et al., 2010; James & Francis, 2011; Jukkala, Henly, & Lindeke, 2008; Kubsch et al., 2003; Shahhosseini & Hamzehgardeshi, 2015). The cost of undertaking a CPD activity may be the largest barrier a practitioner faces, but the barriers a practitioner may face are often multi-factorial and no single barrier prevents a practitioner from undertaking CPD.

RNs in a metropolitan hospital identified three types of barrier to obtaining CPD. These three types of barriers were personal barriers, interpersonal barriers and structural barriers. These three types barriers were identified in a mixed-methods study of 361 RNs and 25 semi-structured interviews by Shahhosseini and Hamzehgardeshi (2015)

Structural barriers were identified as creating the most barriers to participation in CPD. The structural barriers identified by Shahhosseini and Hamzehgardeshi (2015) related to the costs of a course, the distance to travel, lack of support from the organisation, and lack of relevant

courses. If the RN were able to overcome these barriers there would likely be successful participation in a CPD activity. An integrated literature review by Coventry et al. (2015) found similar structural barriers as Shahhosseini and Hamzehgardeshi (2015). Coventry et al. (2015) also found that structural barriers also included a lack of relief cover, obtaining paid or unpaid study leave, and the use of personal time to undertake mandatory training.

Interpersonal barriers were the next theme to create the most barriers to attending CPD. Interpersonal barriers identified by Shahhosseini and Hamzehgardeshi (2015) included issues around the lack of co-workers support, previous negative experiences of CPD, and lack of family support. For example, if there were a lack of support from co-workers to cover a shift, then the RN would not be able to attend a CPD activity. The interpersonal barriers identified were not fully explored by Shahhosseini and Hamzehgardeshi (2015), as the barriers identified here could be placed under the personal or structural barrier heading. A deeper exploration of these barriers would have made this a stronger theme.

The final theme identified causing barriers to CPD was personal barriers. Personal barriers identified by Shahhosseini and Hamzehgardeshi (2015) included issues around time constraints, domestic responsibilities, emotional stress and poor physical health. These barriers were around the personal lives of the RN and how they impinge on the RN's ability to undertake CPD, the interpersonal barrier of lack of family support could fit into this grouping. For example, a RN with a young family who wishes to expand their career, may have to decide on what had a higher priority, their family or their work.

The structural and personal barriers highlighted above provides confirmation of earlier studies. Banning and Stafford (2008) undertook in-depth interviews with 10 community based RNs and Penz et al. (2007) used a cross sectional survey about the opinions of 2500 rural and remote RNs in Canada about CPD. The main barriers highlighted by Banning and Stafford (2008) were organisation resources (structural barriers) and personal resources (personal barriers). The main barriers highlighted by Penz et al. (2007) were working in rural community (structural barriers), time constraints (personal barriers) and financial constraints (structural barriers). As the focus of this study is on rural and remote RNs, who work in isolated areas or small communities, it is difficult to generalise the findings to RNs who work within metropolitan or regional areas. Yet, when Penz et al. (2007), a rural and remote population, and Banning and Stafford (2008), a community setting, are compared to Shahhosseini and Hamzehgardeshi (2015), a hospital setting, similar barriers are identified.

Financial and time constraints are constant themes in studies looking at the barriers faced by RNs to undertaking CPD. These were two constraints highlighted by Penz et al. (2007) and Shahhosseini and Hamzehgardeshi (2015), but they are also barriers highlighted by Dealy and Bass (1995) in a study involving a survey of 136 RNs from a metropolitan area; Kubsch et al. (2003) in a study involving a survey of 282 RNs from multiple settings; Smith (2004) in a study of 4,000 RNs from multiple settings; Hegney et al. (2010) in a study involving 2,389 RNs and Assistants in Nursing; and Govranos and Newton (2014) in a study of 23 RNs in a metropolitan setting.

In summary, the barriers faced by the RN are similar, regardless of the study setting. This highlights that there are common threads that link the RN to the barriers they face when undertaking CPD. None of the works highlighted discusses the Nurse Practitioner and whether they face similar barriers.

It can be speculated that the Nurse Practitioner perceive the impact of CPD on patient care as their RN and other healthcare professional colleagues. The Nurse Practitioner may also have similar motivations in attending CPD and face similar barriers, as the NP is a RN and healthcare professional. Therefore, the aim of this thesis is to identify if there is evidence from the Nurse Practitioner to support these speculations. The remainder of this Chapter will explore the aims of this thesis and the presentation structure for the thesis.

1.8 The Aim of this thesis

This thesis aims:

- To understand the perceptions of the Australian Nurse Practitioner about the impact their CPD has on the care they provide for their patients.

The aim will be met by exploring the following research questions:

- How do Nurse Practitioners perceive their CPD impacts on the care they provide for their patients?
- What are the motivations of the Nurse Practitioner to undertake CPD?
- What are the perceived barriers the Nurse Practitioner face in obtaining CPD?

The perspective of the Australian Nurse Practitioner will be used to meet the aims of this study. Nurse Practitioners in Australia may hold a different perspective from Nurse Practitioners globally. It is not within the scope of this thesis to determine if there is a causal link between the undertaking of CPD and an improvement in patient care. The scope of this thesis is to determine if there is a perceptual link between undertaking CPD and an improvement in patient care.

To answer the aim and the research questions, the researcher will use Critical Realism as a sense-making framework to describe how Nurse Practitioners perceive the impact CPD has on patient care. This perceived relationship will be examined using an exploratory sequential mixed-methodology study. The study involves three smaller studies that, once completed, will have each dataset combined using triangulation. Study One is a single focus group. The role of the focus group is twofold. The first role of the focus group was to review the draft questions developed by the researcher to create an exploratory survey for Study Two. The second part involves the transcript of the focus group being explored using qualitative content analysis. Study Two is an online exploratory survey. Data from Study One and Study Two was used to develop the questions used in the structured interviews used in Study Three. All the data collected was triangulated, in the fourth stage of the research, to provide a deeper and richer understanding of the topic. Corroboration of the categories and sub-categories identified was sort across Study One, Two and Three.

1.9 The thesis

Chapter One has provided a background to this research and its aim and research questions. Chapter Two presents a scoping review of the literature on Nurse Practitioners and CPD. This exploratory scoping review of the literature synthesises the contemporary evidence regarding the Nurse Practitioner and CPD. Exploration of the literature will be guided by the research questions: what the perceived impact of CPD on patient care is; what the motivations for the Nurse Practitioner are for undertaking CPD; and what are the perceived barriers to undertaking CPD.

Chapter Three introduces the reader to the theoretical framework used in this study, Critical Realism. An analytic synthesis of Critical Realism is first provided, including an introduction to the ontology and epistemology of Critical Realism, followed by an exploration of the use of

Critical Realism in nursing research and research concerning CPD. The use of Critical Realism as a theoretical framework for this study is detailed. The chapter concludes by providing the conceptual map used for planning the study and a description of the research plan.

Chapter Four presents Study One. This study is a focus group discussion comprising of an expert panel of Nurse Practitioners. The main aim of the focus group was to provide expert comment on the draft set of questions that, once refined, would be the basis for Study Two. The second aim was to explore participants' general views about CPD and patient care. The qualitative data from the focus group discussion underwent qualitative content analysis. The analysis was guided by the key concepts in the study's research questions as categories, the perceived impact of CPD on patient care, the motivations for undertaking CPD and the perceived barriers to undertaking CPD. The researcher was also open to categories that may emerge from the data during analysis.

Chapter Five presents Study Two. This study is an online exploratory survey, with the aim of gathering the opinions of a wide range of Australian Nurse Practitioners. Participants for this study were drawn from members of the Australian College of Nurse Practitioners. The responses provided by participants as part of the open questions in the survey underwent qualitative content analysis to explore for deeper meanings of the participants' opinions using the key concepts of the research questions as categories.

Chapter Six presents Study Three. The results of the qualitative content analysis from Study One and Study Two guided the creation of the interview questions for Study Three. This Study comprises a series of structured interviews, to reveal the deeper opinions of Nurse Practitioners on CPD. The qualitative content analysis used the key concepts of the research questions as categories.

Chapter Seven presents the final stage of this exploratory sequential mixed-methods study. The chapter presents a triangulation of the results of each study. In this chapter, the categories based on the key concepts of the research questions are identified in Study Three are then triangulated against the results of Study Two and Study One. The triangulation process is the link between all three studies. The process of triangulation reveals a deeper understanding of the topic.

Chapter Eight presents a synthesised discussion of the combined findings of the full study. The discussion places this study alongside contemporary literature, highlighting its contribution to the body of knowledge. The chapter discusses how the aim of the study was achieved, namely how Nurse Practitioners perceived the impact of their CPD on patient care. Transferability of the findings from this study to Nurse Practitioners globally and to the RN is also discussed.

Chapter Nine presents the conclusions and recommendations, highlighting the need for further confirmatory research, to more fully understand and measure Nurse Practitioners' perceived impact of CPD on patient care.

1.10 Summary

This chapter commenced with an overview of the Nurse Practitioner role in the US, Canada, the UK and New Zealand and finally in Australia. Here discussion focused on the development and the role of the Nurse Practitioner in the Australian healthcare setting. This section concluded with a discussion of the scope of practice of the Australian Nurse Practitioner.

The chapter progressed to explore the topic of CPD. A brief history of CPD was provided, followed by a discussion of the relevance of CPD to the Nurse Practitioner. This section goes on to discuss employer assistance, which is designed to enable the RN/Nurse Practitioner to undertake CPD.

The next section provides an overview of different aspects of CPD as presented in the broader nursing and other healthcare professions literature. This section presents the inferences made about the perceived impact of CPD on patient care, the motivations for undertaking CPD and the perceived barriers to CPD from the perspective of the RN and other healthcare professionals. None of these studies mentioned the Nurse Practitioner as part of their sample population, this allows the researcher to focus in Chapter Two on the literature related to the Nurse Practitioner.

The final section of this chapter provided an overview of the thesis. It contains details of each chapter and the contents of that chapter.

In the next chapter, the researcher presents a scoping review of the literature. This review will synthesise the contemporary state of knowledge regarding Nurse Practitioners and CPD.

Chapter 2

A scoping review of continuing professional development for Nurse Practitioners

2.1 Introduction

This chapter will present the results of a scoping review of the literature undertaken by the researcher. This scoping review used contemporary published nursing literature to identify the existence of any issues around the Nurse Practitioner and continuing professional development (CPD), including the perceptions of the Nurse Practitioner about the impact of CPD on patient care. As the literature around the RN and other healthcare practitioners has been described in Chapter 1, the focus of this scoping review is purely on the Nurse Practitioner.

The chapter commences by providing the background for this scoping review. The chapter goes on to identify who Nurse Practitioners are and how CPD is relevant to the Nurse Practitioner. There is a discussion about what has previously been reported in the literature around the topic of the impact of CPD on patient care from the view of the literature related to the RN and other healthcare professionals.

The final section of this chapter provides an analytical discussion of how the results of this scoping review fit with the rest of the published literature. There is also discussion on how current literature that deals with health professionals other than Nurse Practitioners may contribute to the aim and research questions of this study.

2.2 Background

The literature dealing with the RN and other healthcare practitioners implies that CPD has an impact on the outcomes of patient care. An early study by Warmuth (1987) argued that the CPD undertaken by a RN does have an impact on the clinical outcomes of a patient. The impact of CPD was believed to be from the enhancement of knowledge, which Ryan (2003) argued led to an improvement in patient care. Cotterill-Walker (2012) and Tarnow et al. (2013) also made this same argument, both concluding that an increase in knowledge would lead to an improvement in patient care. Clearly CPD is an important activity for all nursing professionals and other healthcare professionals. Yet, the impact of CPD is not a topic that has previously been explored from the viewpoint of the Nurse Practitioner.

As of June 2019, in Australia, there were 303,991 RNs (Nursing and Midwifery Board of Australia, 2019). Lenthall et al. (2011) stated that RNs represented the most evenly geographically distributed members of the healthcare workforce in Australia. As of June 2019,

there were 1,889 Nurse Practitioners in Australia, which represented 0.6% of the RN population of Australia (Nursing and Midwifery Board of Australia, 2019). Nurse Practitioners are advanced practice nurses who have direct clinical contact with patients and practices within a specific scope of practice (Nursing and Midwifery Board Australia, 2016b). Nurse Practitioners will see CPD activities form the longest phase of their professional education the same as other healthcare practitioners (Chipchase, Johnston, & Long, 2012). There is an expectation by the NMBA that Nurse Practitioners will continue to undertake new learning experiences throughout their entire career; and these experiences will foster the development of new skills, update practice, and refresh old knowledge. To meet the standards of their profession, Nurse Practitioners are required to undertake additional and context specific CPD (Boud & Hager, 2011). It is argued by Kemp and Baker (2013) that CPD becomes integral to the life-long process of learning that is essential for their role. Bjork et al. (2009) argued that CPD is increasingly important due to the pace of development of evidence-based practice. Participating in CPD to update their knowledge and skills would allow Nurse Practitioners to demonstrate that their knowledge has not stagnated (Levett, 2011).

Continuing professional development is an activity mandated by the NMBA under Subdivision 3, section 128 of the "Health Practitioner Regulation National Law Act" (2009) for the Nurse Practitioner to undertake. Therefore, it is appropriate for the researcher to explore the literature, and an objective of this scoping review is to map what evidence is available to describe what are the Nurse Practitioner's perceptions around the perceived impact of CPD on patient care are, what are their motivations for undertaking CPD and what are their perceived barriers to undertaking CPD.

2.3 Does continuing professional development impact on patient care?

Within the broader nursing and healthcare literature many authors have asserted that CPD enhances the provision of services (Gould, Drey, & Berridge, 2007); changes an individual's knowledge and skill base (James & Francis, 2011); enhances the professionals' knowledge (Ryan, 2003); protects against outmoded practices (Ross, Barr, & Stevens, 2013); and enhances the care provided to patients (Hamilton, 1996). Pelletier et al. (2003) explored the views of RNs to discover their perceptions around the impact their programme of study had on patient care. Participants only perceived an impact on patient care when aspects of the course dealt

with patient advocacy skills; role modelling skills; research skills; and decision-making skills. There is limited empirical evidence to support these assertions from the perspective of the Nurse Practitioner.

Other health professionals have investigated aspects of CPD. Wenghofer et al. (2015) used a case-control study of two groups of physicians to explore a possible impact of CPD. The control group included a group of physicians who had no complaints against them. Physicians in the group who had a complaint made against them were then matched against this control group. This study found that those physicians who had undertaken CPD had fewer complaints made against them, compared to those physicians who had not undertaken any CPD. Wenghofer et al. (2015) concluded that CPD impacted on the physician, and this led to improved patient care by the physician.

It could be argued that the results for both Pelletier et al. (2003) and Wenghofer et al. (2015) should be similar for the Nurse Practitioner, as Nurse Practitioners are also healthcare professionals, however, there is a lack of any evidence to support or refute this. Thus, the researcher decided to undertake a scoping review of the literature to determine whether the healthcare literature could provide evidence of a link between CPD, and the impact it has on patient care and the Nurse Practitioner. Undertaking this scoping review provided the researcher with background data for the aim of this study, with the objective of this scoping review to understand the perceptions of the Nurse Practitioner about the perceived impact their CPD has on patient care.

2.4 Search Methods

The databases used in this review were: Medline Science Direct, Sage, PubMed, Health Source Nursing Academic edition, Joanna Briggs Institute library, CINAHL, and Cochrane Library. The listed databases were searched using the following terms: “nurse”, “advanced practice nurse”, “Nurse Practitioner”, “continuing medical education”, “continuing professional development”, “continuing education”, “professional development”, and “impact”. The search included articles up to and including December 2018. A summary of the search strategy is shown in Table 9.1 Appendix One. The researcher decided to limit this scoping review to literature that focused on the Nurse Practitioner, as this research is a Professional Doctorate based on the Nurse Practitioner and no other health professionals. Therefore, there is a bias for

the researcher to want to focus on this area of the literature. While the literature from the RN and healthcare professionals is important in informing the background to this scoping review and the overall research, as highlighted in Chapter 1, section 1.7, the view of the Nurse Practitioner is paramount in a Professional Doctorate about Nurse Practitioners.

The inclusion criteria for studies were, they had information that related to both the Nurse Practitioner and CPD; the article discussed the barriers related to CPD from the perspective of the Nurse Practitioner, and the article discussed the potential impact on patient care from CPD from the perspective of the Nurse Practitioner. Articles were excluded if they were editorials, did not include information that could be extracted that related to both the Nurse Practitioner and CPD, or were unavailable in English.

Potential articles for this review underwent examination by the researcher to determine appropriateness for inclusion. These articles were compared to the inclusion and exclusion criteria. The results of this review were presented to the researcher's supervisory panel to discuss the results.

Using the key concepts of the research questions as categories the articles included in the review will be explored deductively with the following categories: the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to undertaking CPD. Whilst a deductive process is being used, the exploration will also be open to any other emerging categories.

2.5 Results

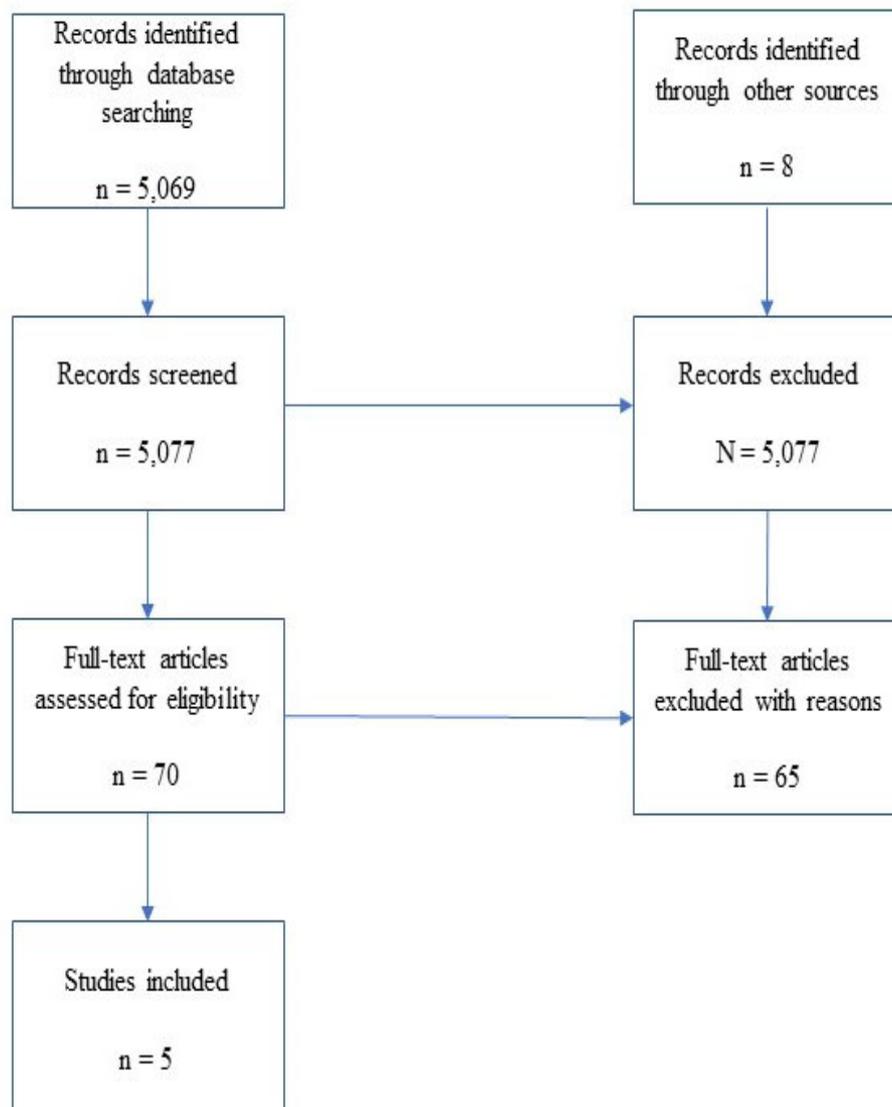
Table 9.1 in Appendix One provides a detailed breakdown of the search results from the databases used to explore the literature. The Medline database yielded most texts that underwent full text review for this scoping review. While the Science Direct database produced the greatest number of hits for the searched phrase, 31,174, when these results were explored the database had linked the abbreviation CPD to "Continued Peritoneal Dialysis" and not "Continued Professional Development". Therefore, only the first 500 results of this database were explored. In total 5,069 potential articles were explored, 5,007 were excluded and 62 underwent full-text evaluation for inclusion in this scoping review.

To demonstrate how the literature was explored the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) tool, developed by Moher, Liberati, Tetzlaff, and Altman (2009) and Figure 2.1 created. The four stages of PRISMA used were: 1. Identification, after the initial phase of the search; 2. Screening, after the initial studies had been identified, screened and assessed for inclusion; 3. Eligibility, closer scrutinisation to be included; and 4. Included studies.

The initial search strategy revealed 5,069 articles. The titles and abstracts of these articles were scrutinised to determine whether they met the inclusion and exclusion criteria of the review and to remove any duplicates. After this process, a potential 62 studies underwent full-text review by the researcher. The reference lists of these 62 articles were manually searched by the researcher to identify any study not found via the database search. This manual search identified a further eight studies that had the potential to be included in the final review. Figure 2.1 provides the PRISMA illustration of the number of articles found, the number of articles screened, and the number of articles excluded at each stage of the review process.

Figure 2.1 demonstrates how many articles identified had the potential to be included in Stage 1. Stage 2 demonstrates the number of excluded articles after title and abstract had been matched against the inclusion and exclusion criteria by the researcher. For Stage 3, the eligibility of the remaining articles was then assessed by the researcher, who reviewed the full text of the article to determine whether it met the inclusion criteria. Stage 4 demonstrated how many of the remaining articles met the inclusion criteria of the study.

Figure 2.1 PRISMA diagram demonstrating the stages of the scoping review



The PRISMA diagram in Figure 2.1 demonstrates the results of the literature search from the 5,077 articles; to the 70 assessed as potentially eligible for inclusion, to the five articles included in the final review. These five articles met the inclusion criteria as they had both the Nurse Practitioner and CPD as core themes. Table 2.1 highlights the number of articles excluded at stage 2 of the PRISMA process and the reasons for exclusion.

Table 2.1 Number of articles excluded and reasons

Total number of studies excluded	Reasons for exclusion
592	The abbreviation of CPD in the title referred to Continuous Peritoneal Dialysis rather than Continuing Professional Development
3,404	Dealt with CPD and did not explicitly mention the Nurse Practitioner, or it was not clear what data related to the Nurse Practitioner
491	Open pieces or editorials
422	Dealt with the impact of Nurse Practitioners and not CPD
51	Were unavailable in English
35	After reading the abstract found to be opinion pieces or dealt with the Nurse Practitioner or CPD but not both
12	Looked at the Nurse Practitioner only and not CPD or looked at CPD for Registered Nurses only

In Table 2.1 most of the articles (3,404/5,007) were excluded as they dealt with the concept of CPD but failed to mention the Nurse Practitioner in a transparent way or it was not clear what data related to the Nurse Practitioner. Using the abbreviation CPD in the database saw articles related to Continuous Peritoneal Dialysis (592/5,007) as results. Therefore, these articles were excluded as they did not meet the inclusion criteria of the study. Articles were excluded that were opinion pieces or editorials (491/5,007) as they provided only opinions on the topic and

provided no evidence. The impact of the Nurse Practitioner role was discussed, but these articles did not deal with the concept of CPD (422/5,007), therefore, were excluded from the study. There were 51 articles where no English translation was available, and therefore, they were excluded. A further 35 articles were excluded after the abstract indicated they were opinion pieces about either the Nurse Practitioner or CPD but not both. Finally, 12 articles were excluded because they looked at the Nurse Practitioner only and not CPD or looked at CPD and the RN but did not include the Nurse Practitioner.

The researcher found 70 articles with the potential to be included. These then underwent full-text analysis to determine if they met this scoping review's inclusion criteria. After this review, only five articles were identified that dealt with both the Nurse Practitioner and CPD.

The remaining 65 articles were excluded for the following reasons. Ten (10) dealt with other types of advanced practice nurses, not the Nurse Practitioner. The Nurse Practitioner was mentioned, but there was not enough information provided to determine how the data related to the Nurse Practitioner. The focus of the article was on the RN in 16 articles, and the researcher was unable to distinguish how the data related to the Nurse Practitioner. Sixteen (16) articles were excluded as they discussed how a specific CPD activity or a specific course was implemented and not the impact that CPD had on patient care. While these 16 articles mentioned the Nurse Practitioner there was no data on how the concepts were linked. Two studies needed to be excluded due to the poor way in which they had been reported. The results and conclusions these two studies made were unsupported by the evidence provided within the paper about the study. Four studies required exclusion because although they mentioned Nurse Practitioners and CPD, they were about educational courses leading to a Nurse Practitioner qualification and not about educational courses that were undertaken post endorsement as a Nurse Practitioner which would be viewed as CPD. The remaining studies were excluded as they dealt with other issues that related to the Nurse Practitioner and CPD, for example, barriers to technology use, rather than about the impact CPD has on the practice of the Nurse Practitioner.

A summary and overview of the five articles included in this review are in Table 2.2. These five articles originated from three countries: Australia - Newman, Buckley, Dunn, and Cashin (2009); US - Charles and Mamary (2002) and Wynne (2015); and Canada - Baxter et al. (2013) and Tilleczek, Pong, and Caty (2005). There were no articles identified from New Zealand or the UK. These five articles discussed both the Nurse Practitioner and CPD as central themes

to their work. The article by Wynne (2015), a review of the literature, was included in this scoping review as it met the inclusion criteria of the review. Wynne (2015) discusses the concept of CPD from the Nurse Practitioner viewpoint, as well as highlighting potential barriers and the potential impact of CPD on patient care.

Prior to further exploration of these articles the reference lists of each were explored to determine if other articles had been missed and needed including in this review. Wynne (2015) was the only paper that highlighted a potential paper for inclusion, this was Charles and Mamary (2002), which had already been captured by this scoping review. The remaining articles within this groups reference lists were, discussion articles about policies or statements from government and professional bodies; were articles discussing specific aspects of CPD; or they discussed the accreditation process for CPD. None of which met the inclusion criteria for this scoping review. The researcher then explored these five articles using a deductive approach to identify the categories relevant to the research highlighted by the aim and key concepts of the research questions. The researcher remained open to the identification of other commonalities, and a further category was identified from these articles, the Nurse Practitioner's preference to undertaking CPD.

Table 2.2 Summary of the five included articles

Author and Country	Sample Group	Method	Results	Conclusions	Limitations
Newman et al. (2009) Australia	68 Endorsed Nurse Practitioners in Australia. This represented 30% of Endorsed Nurse Practitioners at the time of the study. 70% of participants were female. Most participants came from NSW (56%), there were participants from all other states and territories represented. 94% of participants worked within the public sector. Participants came from over 30 different specialist areas.	The researchers used a self-administered online survey. This was open for participants for a two-week period. An email invitation was sent to all members of the Australian Nurse Practitioner Association, the precursor to the Australian College of Nurse Practitioners. The survey was developed from previously held focus groups, consisting of Nurse Practitioners, educators and service managers.	CPD related to medication updates and requirements was rated as very important by 93% of participants. The remaining 7% rated it moderately important. The preferred methods of obtaining CPD were email – 93%, conference workshops – 90%, interactive online case studies and downloadable packages – 88%, interactive CD modules – 87%, face-to-face lectures/workshops – 85%. The least preferred methods were – case studies, online discussion groups and downloadable audible files.	The prescribing potential for Nurse Practitioners can be improved using online learning and resources. The use of online resources allows the Nurse Practitioner to keep up to date with information. Undertaking CPD related to pharmacology can promote confident and effective Nurse Practitioner Prescribing.	Participants without direct access to a computer may not have been able to participate. Generalisability of the results is difficult as only 30% of the potential participants participated in the study, therefore it is unclear if this is a true representation of all Nurse Practitioners. There is no comparison of the results to Nurse Practitioners outside of Australia. Not able to determine if there is a difference in experiences between Nurse Practitioners in metropolitan and non-metropolitan areas, as the uptake from those in non-metropolitan areas was small. Does not discuss those Nurse Practitioners who do not have prescribing as one of their roles.

Author and Country	Sample Group	Method	Results	Conclusions	Limitations
Tilleczek et al. (2005) Canada	472 Nurse Practitioners from Ontario Canada were invited to participate. Responses from 146 participants were used in the data analysis. 27% of participants came from urban communities, 27% of participants came from remote communities, and 46% of participants came from rural communities.	Potential participants were mailed a copy of the survey by the researchers. The addresses of participants were held by a third party and the researchers did not have access to confirm they were accurate. The survey consisted of 28 questions which required either a closed or open response. The survey was a need's assessment of rural and remote Nurse Practitioners CPD needs. The questionnaire was developed by the researchers and a group of Nurse Practitioners. The survey was pilot tested for content validity and readability.	The most frequent methods of undertaking CPD identified by participants were face-to-face approaches (86%), which included workshops, conferences, seminars and lectures. 95% (138) participants highlighted that CPD was either "very important" or "extremely important" to them. The four main barriers to CPD were; Distance to travel, expense, lack of employer-designated funds, lack of knowledge of continuing education opportunities. Face-to-face CPD methods were found to be the most helpful for Nurse Practitioners to improve their knowledge.	CPD needs to be of a high quality and relevant to Nurse Practitioners to be successful. Technological issues that rural and remote Nurse Practitioners may face need to be evaluated and considered before any online courses are delivered to these areas.	This study had a small sample size, making it hard to generalise the findings to the broader Nurse Practitioner population. Does not explore the views of the Nurse Practitioner in the metropolitan areas or in areas with a population of greater than 10,000. There is limited demographical data about the sample participants presented. The response rate may have been higher if the researchers were able to confirm the mailing address for all participants.

Author and Country	Sample Group	Method	Results	Conclusions	Limitations
Baxter et al. (2013) Canada	209 participants who had enrolled in one of five CPD activities were invited to participate. The responses from 60 Nurse Practitioners was analysed. 54 (90%) of Nurse Practitioners worked in primary health care. 88% (53) of the participants were female. There was a mean of 7.9 years Nurse Practitioner experience among the participants.	The researchers used a cross-sectional online survey administered to all potential participants, with the results of those who identified as Nurse Practitioner filtered out and analysed. The survey was modelled on previous work by Tilleczek et al. (2005) Content and readability were pilot tested on a group of Nurse Practitioners. Final survey consisted of 23 questions.	CPD related to pharmacotherapeutics, care of the older adult and rural and remote health were in the greatest demand. The preferred ways to obtain CPD was via online, self-directed learning, followed by face-to-face activities. 83% (50) of participants identified that CPD was extremely important to them. 60% (36) of participants denied facing any barriers to CPD. The top barriers identified by participants were time issues, family obligations, finances and fatigue.	The Nurse Practitioners who participated recognised the importance of CPD. CPD is undertaken to reflect the complexity of their patient's needs and support their practice. Highlights similar issues to Tilleczek et al. (2005). Only identified one previous study that specifically addressed the CPD needs of the Nurse Practitioner Tilleczek et al. (2005).	Limited sample size and the low number of participants therefore makes it hard to generalise to the wider Nurse Practitioner population. Participants may not have completed the survey as they were expected to register with an external company to get a username and password to access the survey and this may have deterred participants. There is no comparison of the results filtered out to those of the other participants who completed the survey

Author and Country	Sample Group	Method	Results	Conclusions	Limitations
Charles and Mamary (2002) United States of America	The entire population of licenced Nurse Practitioners in Nevada, a potential 191 participants. 103 (54%) of the surveys were returned completed. 90% of the participants were female. The participants had a mean of 13 years' experience as a Nurse Practitioner.	The researchers used a two-page self-administered questionnaire as the research tool. Questions were based on a previous questionnaire. The questionnaire was reviewed by a committee of health profession educators and pilot testing occurred.	98% of participants obtained their CPD via in-person conferences. 3% of participants obtained CPD via computer-based methods. The most cited reason for not using computer based CPD methods was the response "not knowing how".	A wide variety of CPD methods needs to be available for the Nurse Practitioner. Face-to-face CPD is the most popular way to obtain CPD for Nurse Practitioners to obtain CPD at the time of this study. Education at this time is needed to help the Nurse Practitioner to embrace the use of computers.	A small sample population that at the time could be representative of the Nevada Nurse Practitioner population. Results are not generalisable to wider Nurse Practitioner population. Study could be considered out of date as the use of computers has become more common place, as highlighted by Baxter et al. (2013) and Newman et al. (2009) who demonstrate that obtaining CPD via a computer is becoming more prevalent. While asking about all forms of CPD and barriers, discussion is limited to those forms of CPD and barriers related to technology. The basis for the questionnaire is not fully explored.

Author and Country	Sample Group	Method	Results	Conclusions	Limitations
Wynne (2015) United States of America	No sample population or group, as this paper is a literature review.	<p>This paper was a review of the literature published between 2001 and 2011. The aims were to explore the literature related to the funding of CPD, any outcomes related to CPD, and the regulatory requirements of CPD.</p> <p>The search used the MEDLINE and CINAHL databases only.</p> <p>Some reference lists were explored.</p> <p>No inclusion or exclusion criteria were set.</p>	<p>Regulation around CPD varied according to the different certification organisations and state bodies.</p> <p>There was an increase in the use of computer-based CPD.</p> <p>Nurse Practitioners are often thought of as an add-on group for other groups. For example, when physicians are surveyed Nurse Practitioners are added on to increase responses.</p> <p>Results in research are often aggregated and you are unable to identify the Nurse Practitioner response.</p> <p>Identified gaps in the literature around Nurse Practitioner preferences for CPD and the impact of CPD.</p>	<p>CPD can be bias towards the funding body for the CPD activity.</p> <p>The literature identified did not clearly support the connection between CPD and an improvement in the provision of care to patients or the improvement in the participants knowledge.</p>	<p>A restricted review of the literature with no clear inclusion or exclusion criteria.</p> <p>Does not explore why and which reference lists were explored.</p> <p>No clear identification of how the literature was identified to support the results or conclusions made.</p> <p>More literature may have been found if other databases were used or a different timeframe used.</p>

2.5.1 The perceived impact of CPD on patient care

None of the five included articles explicitly identified, measured or mentioned the impact CPD had on patient care. None of the five articles described the perceptions of the Nurse Practitioner around the impact of CPD either. Wynne (2015) in a review of the literature was the only paper to mention the impact of CPD on patient care from the view of the Nurse Practitioner. Wynne (2015) concluded that there was no literature to support the inference that CPD leads to an improvement in the provision of care by Nurse Practitioners related to the CPD they undertook. This conclusion highlights that there is a gap in the literature around the perceived impact CPD has on patient care from the perspective of the Nurse Practitioner.

With the exception of Wynne (2015), none of the other four included articles have discussed the impact of CPD on patient care. Yet two articles, Newman et al. (2009) and Baxter et al. (2013), highlighted that the majority of participants in their studies did rate the undertaking of CPD as very important (93% of Newman et al. (2009)'s participants) or extremely important (83% of Baxter et al. (2013)'s participants). The reporting of these results indicate that it may be possible to infer that Nurse Practitioners may see an impact of CPD on patient care, otherwise they would not value the importance of it as much as they do.

2.5.2 The motivations for undertaking CPD

None of the five included articles discussed what motivated the Nurse Practitioner to undertake CPD. The lack of discussion of this in the contemporary literature highlights another gap in the literature around the Nurse Practitioners motivations for undertaking CPD.

2.5.3 The perceived barriers to undertaking CPD

Two articles explored the perceived barriers to Nurse Practitioners undertaking CPD. Both Tilleczek et al. (2005) and Baxter et al. (2013) found that common barriers included the distance to travel to a CPD activity and the financial cost of attending a CPD activity. Tilleczek et al. (2005) argue that the distance to travel to a CPD activity may only be a barrier experienced by those who work in rural and remote areas. The relevance of this barrier to those in metropolitan areas was not explored any further by Tilleczek et al. (2005). The relevance of

distance to travel to a CPD activity is also not explored further in the remaining literature. Further research would be required to discover whether there is a difference between CPD uptake from those in rural and remote settings and those in metropolitan areas.

Further barriers identified by Baxter et al. (2013) were regarding time pressures. Undertaking CPD activities can be time intensive. The Nurse Practitioner may have difficulty getting time away from work or away from patient care. The CPD activity may also clash with time they have set aside to be with their family. These are common factors that related to the pressure of time. Baxter et al. (2013) argue that time pressures require the Nurse Practitioner to decide whether to give up their valuable work or family time to attend a CPD activity. Baxter et al. (2013) also argued that time away from work can mean that patients may suffer as there would be no-one to backfill the Nurse Practitioner.

2.5.4 Preferences for undertaking CPD

This is a category that emerged from the literature whilst the researcher was reviewing the included articles, four articles discussed the preferred methods of Nurse Practitioners to undertake CPD. These were Charles and Mamary (2002), Tilleczek et al. (2005), Newman et al. (2009) and Baxter et al. (2013). This finding suggests an impact as it is recognised by Nurse Practitioners because they are motivated to undertake different types of CPD and therefore have preferences identified as to what CPD they undertake.

Early studies by Charles and Mamary (2002) and Tilleczek et al. (2005) found that computer-based CPD activities were among the least favoured methods of undertaking CPD by Nurse Practitioners. Charles and Mamary (2002) does highlight that the most common reason for not wanting to undertake CPD using computer-based methods was that the user did not know how to correctly use the computer. It could be speculated that this lack of computer literacy at the time of Charles and Mamary (2002) and (Tilleczek et al., 2005) was only 40% of the population of US and Canada households owned computers (Miniwatts Marketing Group, 2018; Ryan & Lewis, 2017). By the time of the later studies by Newman et al. (2009) and Baxter et al. (2013) the number of households in Canada owning a computer had risen to 83% and in Australia this figure had risen to 80% of households (Australian Bureau of Statistics, 2018; Miniwatts Marketing Group, 2018). This rise in computer ownership could explain why participants in Baxter et al. (2013) and Newman et al. (2009) found the opposite, and highlighted that

computer-based CPD activities were among the most preferred ways for Nurse Practitioners to undertake CPD.

Further preferences for undertaking CPD were explored by Charles and Mamary (2002), Tilleczek et al. (2005), and Baxter et al. (2013). All three studies highlighted that attendance at conferences was a preferred method for undertaking CPD. Other preferred methods for undertaking CPD included: print-based self-study materials and video conferences (Charles & Mamary, 2002); non-electronic media and face-to-face workshops (Tilleczek et al., 2005); and online activities, self-directed courses, and workshops (Baxter et al., 2013). Attendance at conferences and face-to-face workshops were also a method supported for undertaking CPD by Wynne (2015). The literature review that was undertaken by Wynne (2015) also supported the view that Nurse Practitioners preferred live, in-person education sessions.

Across three of these studies, Charles and Mamary (2002), Tilleczek et al. (2005), and Baxter et al. (2013), there was a consistent theme. This theme is that Nurse Practitioners undertake CPD in many different formats. Some of these formats may have evolved, particularly the progression from non-computer based CPD activities to computer based CPD activities. The most consistent and preferred methods of obtaining CPD was still via face-to-face contact either at conferences or in workshops.

2.6 Discussion

This review did not identify any studies that explored the perceptions of Nurse Practitioners on how CPD impacts on patient care or their motivations for undertaking CPD, which are two of the research questions used in this study. Therefore, discussion on the perceived impact of CPD on patient care and the motivations for undertaking CPD will rely on the literature around the RN and other healthcare professionals. This review did highlight two studies that discussed the perceived barriers Nurse Practitioners faced to undertake CPD, Tilleczek et al. (2005) and Baxter et al. (2013). The review did identify five articles that discussed the Nurse Practitioner and CPD. After reviewing these articles, a new category was identified, this new category was the preferences for undertaking CPD. This discussion will draw on the wider nursing and healthcare professional literature as a basis for comparison of the results of this research to the broader nursing and healthcare professional literature to either confirm or refute the similarities between this literature and the perceptions of the Nurse Practitioner participants in this thesis.

2.6.1 The perceived impact of CPD on patient care

The lack of literature pertaining to the Nurse Practitioner about the perceived impact of CPD on patient care, means that this discussion will focus on the broader healthcare literature. This will allow a comparison of the results of this research with this literature to confirm or refute the similarities between the RN and the Nurse Practitioner. Throughout the nursing literature, there is a perception of a causal link between the RN and other healthcare practitioners undertaking CPD, and an improvement in patient care as evidenced previously by Wolak et al. (2008), Tarnow et al. (2013) and Cleary et al. (2011). It has been argued by Pelletier et al. (2003) that there was an improvement in patient care when practitioners undertook formal courses of study. It was further argued by Gould et al. (2007) that the enhancement of a healthcare practitioner's knowledge and skills led to an improvement in patient care. The argument that CPD enhances knowledge was first put forward by Ryan (2003) and then further confirmed by Custers (2010) and James and Francis (2011), both of whom argued that CPD enhances the healthcare practitioner's knowledge and skills, which leads to an improvement in patient care. The enhancement of a healthcare practitioner's knowledge is further supported by Ross et al. (2013), who agreed that an enhancement of knowledge was beneficial to patient care. Instead of using the argument that an enhancement of knowledge from CPD improved patient care, Ryan (2003) and Ross et al. (2013) argued that the enhancement of knowledge from CPD protected the patient from outmoded practices.

Many early studies that discussed the impact of CPD on the patient care, dealt with CPD that took place as a single activity. These were by Warmuth (1987), Kellmer-Langan et al. (1992), Nolan, Owen, and Nolan (1995) and Nolan, Owen, Curran, and Venables (2000). While lacking the rigour of more recent studies Warmuth (1987) did highlight that there was an improvement in patient care from undertaking CPD. While this study may be of poor quality, the conclusions it makes about the impact of CPD have been validated in more rigorous later studies, such as Kellmer-Langan et al. (1992), Nolan et al. (1995) and Nolan et al. (2000).

In a later study by Kellmer-Langan et al. (1992), it was found that there was an increase in the applications of skills taught at a CPD activity which led to a conclusion that CPD did make a difference in knowledge and practice. This conclusion that CPD increased knowledge and skills at the three-month stage may have been due to confounding factors. One potential

confounding factor could be that in the intervening time, the RN may have undertaken further CPD activities and it was these activities that caused the higher score. If this is the case, the original CPD could still be said to have had an impact as it stimulated the RN to go out and learn more. However, no exploration of this or other confounding factors was undertaken by Kellmer-Langan et al. (1992).

The confirmation of these early studies by Warmuth (1987) and Kellmer-Langan et al. (1992) by the later studies of Wolak et al. (2008) and Tarnow et al. (2013) all demonstrate that patient care may be impacted by a CPD activity. There are flaws in all these studies, as highlighted in section 1.7.1 p35. Yet, the inferences and conclusions that they reach are consistent across each study, the RN and other healthcare professionals do perceive an impact on patient care from the CPD they undertake.

A single question in a larger study, reviewing a CPD framework, led Nolan et al. (1995) to conclude that the 1,255 RN participants felt that CPD led to an improvement in patient care. The study failed to delve deeper into this, unfortunately, and this became a missed opportunity by Nolan et al. (1995) to explore this topic any further.

A further study by Nolan et al. (2000) reached a similar conclusion to Nolan et al. (1995), that practitioners valued the improved patient care that CPD provided. The conclusions made from this work again came from a more extensive study. Qualitative data was collected from 236 participants using case studies at six participant sites (Nolan et al., 2000). The conclusion that CPD led to an improvement in care was made by 68% of respondents, who felt that this was due to growth in self-confidence and assertiveness (Nolan et al., 2000). A healthcare practitioner whose self-confidence develops may become more assertive, which in turn may lead to them insisting that evidence-based care is implemented, which ultimately leads to improved patient outcomes (Nolan et al., 2000).

The studies that were undertaken by Warmuth (1987), Kellmer-Langan et al. (1992), Nolan et al. (1995), Nolan et al. (2000), Wolak et al. (2008) and Tarnow et al. (2013) all make a tenuous inferred link between CPD activities and improved patient care. This inferred link is from the perceptions of the individual healthcare practitioner rather than from any direct, measurable evidence. The healthcare practitioner's perception is that if they undertook a CPD activity, they would improve their knowledge, and this improved knowledge would lead to improved patient care. The best demonstration of this is where the healthcare practitioner becomes self-

confident and assertive, which leads to the implementation of evidence-based care and better patient outcomes.

These studies made their inferences from short course CPD activities, activities that last less than one day. Several pieces of work including, Wildman et al. (1999), Pelletier et al. (2003), Tennant and Field (2004), and Cotterill-Walker (2012) all make their inferences around the perceived impact of CPD after participants had attended CPD activities over a period of time. So, the participants had prolonged exposure to new concepts and skills, in an environment that allowed them to be explored in depth. Each work highlighted that the perceived impact of CPD was multi-faceted and there was not a simple way of identifying how CPD impacted on patient care.

The highlighted studies have commonality in the different facets that may impact on patient care. All highlighted that if there was an increase in knowledge around decision making and critical thinking then there was an improvement in patient care (Cotterill-Walker, 2012; Pelletier et al., 2003; Tennant & Field, 2004; Wildman et al., 1999). Three of these works, Wildman et al. (1999), Pelletier et al. (2003), and (Cotterill-Walker, 2012) highlighted that an increase in knowledge around the application of research to practice also led to an improvement in patient care.

In summary, none of these studies are directly about Nurse Practitioners, yet, the conclusions they all draw are similar. All participants in these studies perceived that CPD did have an impact on patient care. These studies are pertinent to the practice of the Nurse Practitioner, as the Nurse Practitioner is essentially first and foremost a RN and healthcare practitioner. While it may be difficult to generalise the findings of all these studies, they do all conclude that a CPD activity, brief or prolonged, can demonstrate that knowledge has improved. This knowledge improvement is then perceived by the practitioner to lead to better care for patients. Yet, none of these studies explore the perceptions of the Nurse Practitioner. This is acknowledged by Lowe et al. (2009) and by Wynne (2015) for Nurse Practitioners, as a gap in the literature. This thesis will contribute to the nursing literature to help close this gap.

2.6.2 The motivations for undertaking CPD

None of the five articles discovered in this scoping review discussed the motivators for Nurse Practitioners to undertake CPD, there is published literature that discusses the motivators experienced by RNs or healthcare practitioners. By discussing the motivators for the RN and other healthcare professionals, the results of this research can be compared to this discussion to confirm or refute the similarities between the RN and the Nurse Practitioner.

The literature identifies motivational factors tended to be either related to personal or professional influences (Spencer, 2006). The personal motivations include: personal satisfaction from learning (Richardson & Gage, 2010), the personal challenge of learning (Olsson et al., 2013) and their personal drive to learn and self-develop (Zahran, 2013). Professional motivations include: to keep up with workplace expectations for their role (Cooley, 2008), and to allow the practitioner to develop their career (Brekelmans et al., 2016; Yfantis et al., 2010). Without these motivational factors' attendance at a CPD activity is not likely to be enjoyable for the practitioner. Yet, Doerksen (2010) found having a mentor could allow the practitioner to determine and attend the most appropriate CPD.

Barriers to CPD for the Nurse Practitioner discussed by Tilleczeck et al. (2005), and Baxter et al. (2013) were also discussed by Doerksen (2010), who found the use of a mentor helped motivate a practitioner to overcome these barriers. The mentor became a motivator to achieving a positive outcome from a CPD activity. A lack of understanding of the advanced practice role meant that many healthcare practitioners were unwilling to act as mentors. Doerksen (2010) demonstrated that having a mentor meant the APNs achieved their CPD goals. These mentored APNs were then more motivated to go on and become mentors themselves (Doerksen, 2010).

In summary, motivation to undertake CPD occurs when it is deemed essential to further the career of the RN or the RN feels personally motivated to learn about a topic. When these motivational forces are missing knowledge enhancement from CPD does not occur. The motivational forces for the Nurse Practitioner are not fully explored in the literature. Therefore, by exploring and understanding what motivates the Nurse Practitioner to undertake CPD adds to the nursing literature. Designers of CPD activities will then be able to design activities that the Nurse Practitioner is motivated to attend. This research will allow the comparison of the Nurse Practitioner motivations to other healthcare professionals.

2.6.3 The perceived barriers to CPD

The two studies by Tilleczek et al. (2005) and Baxter et al. (2013) highlighted barriers to CPD faced by Nurse Practitioners in Canada. The barriers highlighted by Tilleczek et al. (2005) and Baxter et al. (2013) do demonstrate a similarity between the barriers faced by Nurse Practitioners and the barriers faced by RNs. This overlap shows that while research about the RN may not discuss the Nurse Practitioner, the experiences of the Nurse Practitioner are like the RN. This does not mean that the perspectives of the Nurse Practitioner should be ignored, the Nurse Practitioner is a senior clinical practitioner and while similarities may exist, their seniority may highlight different barriers or regulate those faced by the RN as being of lesser importance.

Time was one theme highlighted by Baxter et al. (2013) as a barrier. Baxter et al. (2013) divided this theme into smaller sub-themes, which were; having time off work and time away from patients and family obligations. These time barriers are similar to those found by Dealy and Bass (1995), Kubsch et al. (2003), Smith (2004), and Govranos and Newton (2014). All highlighted time was a barrier for RNs when undertaking a CPD activity. The comparison of all these studies demonstrates that the Nurse Practitioner and the RN consider time to be a barrier that needs to be considered when planning to attend a CPD activity. This comparison also highlights that the barrier of time has not changed despite there being 19 years' difference between the first and last studies discussed.

The cost around a CPD activity was a barrier highlighted by Tilleczek et al. (2005) for the Nurse Practitioner. Tilleczek et al. (2005) claimed that the cost of undertaking a CPD activity was the most significant barrier faced by the Nurse Practitioner. The cost of CPD was also highlighted by Penz et al. (2007), Smith (2004), Hegney et al. (2010), and Govranos and Newton (2014). Hegney et al. (2010) also made the claim that the most significant barrier faced by RNs was the cost of attending CPD. Comparing Tilleczek et al. (2005) to the studies involving the RN demonstrates that cost is a linking barrier shared by the Nurse Practitioner and the RN.

When the barriers to CPD identified by Dealy and Bass (1995), Kubsch et al. (2003), Smith (2004), Penz et al. (2007), Hegney et al. (2010), James and Francis (2011), Govranos and Newton (2014), and Coventry et al. (2015) are reviewed, each barrier could fit under the over-

arching themes highlighted by Shahhosseini and Hamzehgardeshi (2015). For example, time can be a personal barrier because the participant may not wish to spend extra time away from their family. However, time can also be a structural barrier as time away from the workplace may not be possible and thus work commitments become the barrier.

It is possible to compare the barriers found by Baxter et al. (2013) and Tilleczek et al. (2005) to those highlighted by Shahhosseini and Hamzehgardeshi (2015). These included: CPD was time intensive (structural or personal); it was difficult to get time off work or away from patient care (structural or interpersonal); CPD clashed with family obligations (personal); fatigue (personal); and financial costs of attending a CPD activity (structural or personal).

The financial barriers identified by James and Francis (2011) were that the majority of CPD activity expenses needed to be met by the RN. These expenses are potentially greater if the RN comes from a rural or remote setting because there is a higher cost for transport and additional accommodation and other expenses from staying away from home, not borne by the RN who is metropolitan based and lives close to the CPD activity.

Both James and Francis (2011) and Tilleczek et al. (2005) also identified that those working in a rural or remote setting could experience more difficulty in undertaking CPD compared to their urban or metropolitan colleagues. Time considerations included time away from family, which could cause stress and disruption to family life; and time away from work, making it hard to get managerial support to attend (James & Francis, 2011).

The distance to travel to a CPD activity may be a structural barrier only applicable to those who work in rural or remote areas. Those in metropolitan areas are not necessarily affected. The literature does not fully explore the barrier of distance to travel to a CPD activity. Further research would be required to see if there is any difference between CPD uptake from those in remote areas and those in metropolitan areas and the location of the CPD.

In summary, many of the perceived barriers highlighted in the Nurse Practitioner literature demonstrate similar barriers to the RN and other healthcare professionals. The prime barrier faced by both groups of professionals is the cost of a CPD activity. This was followed by the barrier of time. This research will help to further demonstrate the link between the barriers faced by the Nurse Practitioner and other healthcare practitioners.

2.6.4 Preferences for undertaking CPD

The exploration of the CPD preferences of Nurse Practitioners specifically related to their prescribing practices was undertaken by Newman et al. (2009), which is the only Australian study this review identified. This study by Newman et al. (2009) is similar to a UK study by Latter, Maben, Myall, and Young (2007). The study by Latter et al. (2007) explored the CPD preferences of nurse prescribers in the UK. In the UK, the role of a nurse prescriber is an advanced practice role for a RN as defined by the Nursing and Midwifery Council (2018) who see the role as a post-graduate qualification. The knowledge needed to prescribe would be akin to a Nurse Practitioner in Australia. As Nurse Practitioners are independent prescribers in Australia, the researcher feels a comparison of these two studies is justified.

The electronic CPD strategies of 68 Nurse Practitioners was explored by Newman et al. (2009). This small sample represented only 30% of the endorsed Nurse Practitioners in Australia at the time of Newman et al. (2009)'s study. As 68 Nurse Practitioners is a low representation of the Nurse Practitioner workforce at the time of the study, it becomes a limitation of the study's generalisability, a limitation that Newman et al. (2009) readily acknowledges.

The views of 246 independent nurse prescribers in the UK were explored by Latter et al. (2007). These 246 nurse prescribers represented 49.2% of the nurse prescribers in the UK at that time (Latter et al., 2007). The representation of a more substantial proportion of the available sample population, means the results of the Latter et al. (2007) study become more generalisable than those of Newman et al. (2009). However, it still cannot be said to be a full representation of the potential sample population and therefore still lacks generalisability to the entire nurse prescriber population of the UK.

Nurse Practitioners in Australia were found by Newman et al. (2009) to identify that CPD activities around medication updates were essential to help meet legislative requirements. It is not explored any further what these legislative requirements were. At the time of Newman et al. (2009), it was a widely held belief among Nurse Practitioners in Australia that they were required to undertake 10 hours of pharmacology related CPD each year to maintain their registration. While there is a lack of credible evidence to support this belief. Statements like this are a valuable attribute to this thesis as they describe what was believed at a time by Nurse Practitioners. As a new Nurse Practitioner in Australia at the time and a participant in this

study by Newman et al. (2009), the researcher had many discussions with peers around this belief. The Nurse Practitioners' preferred methods to receive updates about medications was found by Newman et al. (2009) to be via email, though how or what format these emails consisted of is not explored.

In contrast to Newman et al. (2009), Latter et al. (2007) found that nurse prescribers in the UK preferred to obtain their CPD from more informal routes. The informal routes described by Latter et al. (2007) included private study or the reading of journals. The use of these informal routes to obtain CPD were not explored further by Newman et al. (2009) in their study. Neither the Newman et al. (2009) or Latter et al. (2007) studies found any significant association for CPD related to prescribing from formal face-to-face education or workshops, in contrast to authors such as Tilleczek et al. (2005) and Baxter et al. (2013), who found these activities were among the preferred methods for obtaining CPD for the Nurse Practitioner.

When discussing Nurse Practitioners and how they obtained CPD, Charles and Mamary (2002) found that US Nurse Practitioners preferred to attend conferences as a favourite way to obtain CPD. Print-based activities and interactive video conferences were the next preferences for CPD activities (Charles & Mamary, 2002). The least favourite way to undertake a CPD activity, for the Nurse Practitioner, was found by Charles and Mamary (2002) to be computer-based activities.

Equally, the study undertaken by Tilleczek et al. (2005) with Canadian Nurse Practitioners also found that computer-based activities were among the least favoured ways to obtain CPD, whereas the study by Baxter et al. (2013) found that the preferred way for Canadian Nurse Practitioners to obtain CPD was via online and self-directed courses. There is eight years' difference between Tilleczek et al. (2005) and Baxter et al. (2013) and 11 years between Baxter et al. (2013) and Charles and Mamary (2002). So, the growth in computer use over this time could potentially explain the rise in preference for computer-based CPD activities between these three studies.

Despite the differences in preferred media for obtaining CPD, all these studies came to similar conclusions. All the studies cited attendance at conferences, workshops, and seminars as being among the top preferences for Nurse Practitioners to obtain CPD (Baxter et al., 2013; Charles & Mamary, 2002; Tilleczek et al., 2005). In reading these studies, there is not one single preferred way in which a Nurse Practitioner obtains their CPD. The use of technology may be

becoming more popular to obtain CPD, but Nurse Practitioners still preferred face-to-face methods when it came to undertaking CPD.

Conversely, when Wynne (2015) undertook a literature review of the concepts of the Nurse Practitioner, CPD and its effect on patient outcomes, her conclusions were different to the research of Baxter et al. (2013) and Tilleczek et al. (2005). The literature review by Wynne (2015) concentrated on the choices that Nurse Practitioners made regarding their mandatory continuing education and the factors influencing the availability of continuing education courses. Much of the information found by Wynne (2015) about CPD and the Nurse Practitioner was obtained from physician surveys where the Nurse Practitioner was an add-on, or from aggregated data on RN surveys without any specific identification of the Nurse Practitioner response (Wynne, 2015). The literature that Wynne (2015) did identify indicated that the Nurse Practitioner preferred live, in-person educational sessions with a clinical focus. Another finding by Wynne (2015) was that funding for CPD was biased toward biomedical and pharmacological interventions, suggesting that this may contribute to practice gaps rather than improve them. Practice gaps develop, and the Nurse Practitioner may become biased towards one drug because the CPD they attended was provided by one company, leading them to ignore another potentially better drug because its sponsorship is not as prolific. The conclusion from Wynne (2015) was that there is no evidence in the literature that there is an improvement in the provision of care by Nurse Practitioners related to the CPD they undertake. The researcher then suggests that this gap in our understanding of the possible connection between CPD and the impact it has on patient care needs further research.

In summary, the preferences for undertaking CPD have changed over the years. Charles and Marny (2002) and Tilleczek et al. (2005) found computer-based CPD the least favoured methods for undertaking CPD. Yet, the opposite was found in the studies by Newman et al. (2009) and Baxter et al. (2013). Despite the increase in popularity of computer-based CPD, the attendance at face-to-face events remained among the preferred ways of obtaining CPD.

2.7 Summary

The purpose of this chapter was to provide background on the importance of this scoping review to the aim and the research questions of this study. In describing the search methods,

the researcher undertook to identify articles for inclusion in the scoping review. The search results initially identified 5,077 articles that had the potential to be included in this study.

After comparing these studies to the inclusion and exclusion criteria established by the researcher, this explorative scoping review identified five articles with the potential to discover the perceptions of Nurse Practitioners on how CPD impacts on patient care. A deductive approach using the key concepts of the research questions as categories, the perceived impact of CPD on patient care, motivations for undertaking CPD and the perceived barriers to undertaking CPD, was used to explore these articles, with the researcher open to any other emerging categories. A further category, preferences for undertaking CPD was identified and discussed.

All five articles in this review highlighted or implied that Nurse Practitioners recognised the importance of CPD in their practice. None of these studies clearly articulated any specific link in the perceptions of Nurse Practitioners and the impact of CPD or the motivations of the Nurse Practitioner to undertake CPD. There was discussion around the perceived barriers faced to obtain CPD.

These articles demonstrated that Nurse Practitioners obtain CPD from many different sources. No one source of obtaining CPD was shown to be superior or could claim to impact on patient care directly. This scoping review has also demonstrated that there are similarities in the barriers faced by the Nurse Practitioner, the RN, and other healthcare practitioners.

Thus, this scoping review of the literature highlights a need to explore further the perceived impact of CPD on the care provided by Nurse Practitioners. There are only inferences made in the literature about the perceived impact of CPD on patient care. Individual Nurse Practitioners may perceive the impact of CPD on patient care. The available articles do not fully explore these perceptions.

The following chapter discusses the sense-making framework used in this study, Critical Realism. Critical Realism is a theory that fosters explanations as to why things exist (Wilson & McCormack, 2006). The use of Critical Realism makes it an apt framework to understand Nurse Practitioners, CPD and its perceived impact on patient care.

Chapter 3

Critical realism as a sense-making framework for understanding the perceptions of Nurse Practitioners and continuing professional development

3.1 Introduction

This chapter presents an analytic synthesis of the theoretical framework used in this research, Critical Realism. The chapter begins by discussing Critical Realism as a sense-making framework. The ontological and epistemological foundations of Critical Realism are discussed, as well as how these foundations of ontology and epistemology link to the Nurse Practitioner. The chapter describes how Critical Realism has been used as a framework in previous studies, providing examples of both mixed-methods and single-method studies in nursing. Examples are also provided of how Critical Realism has previously been used to explore the concept of CPD outside of the nursing environment. The focus will return to this study and how Critical Realism has been used by the researcher to fulfil the aim and answer the research questions of this study. Here the researcher will present how theories developed around the generative mechanisms that exist in critical realism are linked to CPD by the researcher to provide an understanding of the Nurse Practitioner's perceptions of the impact of CPD on patient care.

Critical Realism permits the use of a pragmatic approach in research. By adopting a pragmatic position, Russell (2013) argues that the researcher will be able to unite theory and practice. Within this study, the theory generated around CPD becomes linked to the perceptual notions of the Nurse Practitioner about the perceived impact of CPD on patient care. Developers of CPD activities can use this generated information to allow them to develop CPD activities that better meet the needs of the Nurse Practitioner. According to Glasgow and Chambers (2012) by remaining pragmatic, the results produced become relevant and rigorous, both for the Nurse Practitioner and for those creating a CPD activity.

Critical Realism is a theoretical framework that is often used by mixed-methods researchers (Creswell & Plano Clark, 2011). Using Critical Realism will allow the researcher to use components from different research paradigms, including positivism and interpretivism, in this study to collect a broad range of data. Collecting this broad range of data, according to Fletcher (2017) will allow the researcher to provide a detailed account of ontology and epistemology around an event. The event explored in this study is the Nurse Practitioner's perceptions of the impact of CPD on patient care.

After this discussion of Critical Realism, the chapter recaps the aim and the research questions of the thesis. This recap is followed by an explanation of the research design for this

exploratory sequential mixed-methods study. A concept map of this design is presented in Figure 3.1 to demonstrate how each of the three studies and the triangulation links together to fulfil the aim of the study.

The final sections of this chapter relate to the trustworthiness and ethical considerations related to the research. The first section will discuss issues of trustworthiness and how they are addressed for this research. This is followed by a discussion of the ethical issues. This discussion presents how participants were recruited and how consent was obtained for Studies One, Two and Three. The trustworthiness and ethical issues discussed here are relevant to Studies One, Two and Three. Specific issues related only to each individual study are presented within the appropriate chapter.

3.2 Critical Realism as a Sense-Making Framework

The use of Critical Realism as a framework, as argued by McEvoy and Richards (2006), offers the researcher an alternative to the established research paradigms of positivism and interpretivism. Critical Realism presents the argument that a person's knowledge of the world is limited. This knowledge is limited by the lens through which a person views the world. Thus, as Mingers, Mutch, and Willcocks (2013) state, knowledge is always local and historical to a fixed point of time. Critical Realism attempts to demonstrate or define these forces at play, the forces that either influence or hinder this knowledge (Allmark & Machaczek, 2018).

In Critical Realism, there is no absolute right or wrong. The correctness or wrongness generated for any answer is dependent on the context surrounding the answer. For example, a Nurse Practitioner may see two similar patients for review, to determine if they require admission to a residential care facility. After going through the criteria for admission, it is determined that one patient would benefit from admission to the residential care facility, and one doesn't. Here, the findings of the review have changed in some aspect; it may be that the family of one of the patients has more capacity to care for them than the other, therefore the context for the need for residential care changes, not the condition of the patient.

When using Critical Realism as a framework to undertake research, it is used to provide a more in-depth explanation of the ontology and epistemology of that topic. Critical realists will look for a deeper meaning in ontology and epistemology to help explain a situation in context, to

the time and place in which the situation occurs. To enable critical realists to gain a deeper understanding, researchers can gain this deeper understanding from the use of mixed-methods research (Parpio, Malik, Punjani, & Farooq, 2013).

3.3 Critical Realism and Ontology

Within Critical Realism, there are three domains of ontology as defined by Bhaskar, in his initial work in 1978 *A Realist Theory of Science*. In this work, Bhaskar states that the three domains of ontology are: the *empirical*, the *actual* and the *real*. Each domain is separate from the others, yet there is an essential linear link between each of the domains. The domain of the *real* influences the *actual* which then influences the *empirical*. Research in Critical Realism tends to focus on each of these domains of ontology. Each domain of ontology has its own definition.

The domain of the *empirical* is understood to be the level of human perception and experience (Clark, Lissel, & Davis, 2008). These perceptions and experiences combine to make each person unique. No two people will ever experience or perceive things in the same way. There may be similarities in experiences and perceptions which can be used by researchers to define shared experiences. Events observed in the *empirical* are used to help identify components within the ontological domain of the *actual*.

The middle domain of ontology is that of the *actual*. Within the domain of the *actual* events and experiences are produced, which have the potential to be experienced in the *empirical* (Bergin, Wells, & Owen, 2010). The domain of the *actual* in theory is a place where all possibilities exist, and all are possible. Each of the possibilities generated in the domain of the *actual* exists in the *empirical* until experienced. Not every possibility created from the domain of the *actual* will be experienced in the domain of the *empirical*. Equally, not everyone will experience every possibility from the *actual* in the same way. Existence in the *actual* means that there is potential for a possibility to be experienced (Blom & Moren, 2011). The world is greater than that which is observed, perceived and experienced by the individual. The events and experiences of the *actual* are all derived from the generative mechanisms of the *real*.

The final domain of the ontology for the critical realist is the domain of the *real*. The domain of the *real* is independent of thought, awareness and existence (Bhaskar, 1978). All

experiences originate in the domain of the *real*; mechanisms then develop in the domain of the *actual* which create phenomena in the domain of the *empirical* to be experienced (Hedlund-de Witt, 2013; Modell, 2009). Critical realists know the mechanisms of the *real* as generative mechanisms. It is the generative mechanisms of the *real* that give rise to possibilities in the *actual*. It is through researching the *empirical* and *actual* domains that knowledge and understanding of these generative mechanisms develop. Through research, these generative mechanisms may become either fully known or partially known. The generative mechanism may also remain completely hidden or be elusive.

Just because a generative mechanism remains hidden or elusive through research does not mean that it does not exist. The domain of the *real* influences everything via generative mechanisms. These generative mechanisms must exist as their influences are experienced and observed by people via the *actual* in the *empirical* (Bryman, 2004). Research is used to help identify these generative mechanisms. Sometimes the research methods used fail to define these generative mechanisms clearly or only provided a hint of their presence or meaning.

3.4 Critical Realism and Epistemology

While Critical Realism divides ontology into three domains, Critical Realism also divides epistemology into two dimensions. These two dimensions of knowledge are known as the intransitive dimension and the transitive dimension. The intransitive dimension deals with the structures, mechanisms, processes, events and possibilities that make up what people experience (Nairn, 2012). These factors will occur independently of human awareness or understanding (Bhaskar, 1978). To demonstrate how the intransitive dimension can be understood, we can use an example of the power dynamics between a Nurse Practitioner and his or her patient. In this situation, the patient may adopt a subservient role. The patient may feel intimidated by the Nurse Practitioner or be deferential to their status and knowledge. The Nurse Practitioner understands that the patient has valuable information which is needed to ensure that correct treatment is provided to the patient. Knowledge of these power dynamics forms part of the intransitive dimension as neither the patient nor the Nurse Practitioner are aware of or acknowledge it. The structures and processes of power dynamics are intransitive.

The transitive dimension of knowledge is how people understand the world around them (Bhaskar, 1978). Therefore, transitive knowledge is the human understanding of how the world

operates, how the different roles and structures in the world interact and work together. Transitive knowledge is the product of society; the formation of which may differ under the influence of different social mechanisms (Danermark, Ekstrom, Jakobsen, & Karlsson, 2002).

Using the above example of the power dynamics that exist between the Nurse Practitioner and patient, in the transitive dimension the Nurse Practitioner or the patient, or both will know these power dynamics involved in their relationship. The knowledge of these power dynamics becomes part of the transitive dimension of their relationship. With this knowledge, the participants will ignore these power dynamics and act as they had before, or they may try to equalise the power balance between them. This example of power dynamics demonstrates how individual circumstances can interact to change the usage of transitive knowledge.

Being aware of a mechanism, such as power dynamics, is the difference between the transitive and intransitive dimensions of knowledge. Research involves developing a theory of the intransitive dimension and converting what knowledge is gained via this research into knowledge that is accessible in the transitive dimension.

When knowledge crosses from the intransitive dimension to the reality of the transitive dimension that knowledge becomes contextualised. Created knowledge then becomes contextualised to the time and place in which it is generated. It may, of course, also be transferable to other times or places and be relevant there. However, often, this knowledge is only partially transferable to another time or place, because people may interpret the data in different ways and therefore partially change the context of the knowledge. By doing this, they may agree or only partially agree with the initial findings. They interpret the results in their own way, contextualising the research to fit their circumstances. This contextualisation of knowledge demonstrates how transitive knowledge evolves and becomes usable for all.

The evolution of knowledge in the transitive dimension continually changes over time. New knowledge is created, disseminated and interpreted, all altering the original meaning of the knowledge. Each person will provide a unique interpretation of this knowledge, which they then transmit to others. Knowledge becomes fallible, as Cruickshank (2004) argues knowledge is always open to critical revision and replacement. Thus, the knowledge of an individual is always new and continually being updated as the individual learns and develops. The constant updating of knowledge may be a possible intention of CPD, as the knowledge of the Nurse

Practitioner becomes updated through their attendance at a CPD activity. This updating of knowledge may then be the perceived impact CPD has on patient care.

3.5 The Use of Critical Realism in Nursing Research

Many nursing researchers have used Critical Realism in their research, including O'Brien and Ackroyd (2012); Sword, Clark, Hegadoren, Brooks, and Kingston (2012); and Harwood and Clark (2014). Although all these researchers used Critical Realism as a framework, they all used Critical Realism differently, as explored below.

The interconnected sequences of actions in the recruitment and retention of overseas nurses were explored by O'Brien and Ackroyd (2012) using a Critical Realism framework, in a comparative case study. The aim of O'Brien and Ackroyd (2012) was to determine whether a set of interconnected sequences found in one area of recruitment and retention could exist under similar conditions in another area. It was argued by O'Brien and Ackroyd (2012) that Critical Realism was superior to the positivist approach, as Critical Realism allowed them to explore the complex process of interaction without having to define dependent or independent variables, with the exploration of all variables in the study occurring as one variable, and universal themes identified.

A Critical Realism framework was used by Sword et al. (2012) to explore, acknowledge and identify personal factors observed within their study of postpartum mental health. This study explored the postpartum mental health issues of women to identify which generative mechanism(s) were in operation. The generative mechanisms were then identified, before being contextualised by Sword et al. (2012) to help describe their influence on the health outcomes of those suffering postpartum mental issues. This interplay of personal experience, location and cultural norms, to influence health outcomes is acknowledged as significant by critical realists (Clark et al., 2008). The identification and definition of generative mechanisms that relate to postpartum mental health led Sword et al. (2012) to develop further areas of research, which may, in turn, lead to a deeper understanding of postpartum mental health issues.

An ethnographic study with Critical Realism as a framework was used by Harwood and Clark (2014) to explore chronic kidney disease. This study involved 13 participants who lived with

chronic kidney disease and agreed to be part of the study. The personal perceptions of the participants around their condition were explored using a stratified ontology lens. This stratified lens allowed Harwood and Clark (2014) to understand how the relationship between perceptions and actions was influenced by social structure. The stratified lens was able to take in both the subjective and objective perspectives of those involved in the study.

In a series of articles, a three-phased mixed-methodology study by Wand, White, Patching, Dixon, and Green (2010) was used to evaluate the introduction of a Mental Health Nurse Practitioner role using a realistic evaluation framework. The research methods used included a focus group, an expert advisory panel, and semi-structured interviews. The interviews allowed Wand, White, and Patching (2010b) to explore the perspectives of both patients and staff towards the Mental Health Nurse Practitioner role. The use of a realistic evaluation by Wand, White, and Patching (2010a) demonstrated that it is not the programme that works but the interaction of the participants choosing to make the programme work.

3.6 Critical Realism used in the research of CPD

Critical Realism was used by Boud and Hager (2010) in educational research to define CPD and how practitioners utilise CPD. It was highlighted by Boud and Hager (2010) that CPD should have a focus on real-world practice, rather than be about the collection of points or hours to fulfil a minimum standard of CPD. The implication by Boud and Hager (2010) was that CPD should exist to teach and improve standards and not be decontextualised by educators. Decontextualisation is about being generic and not being specific to the needs of the end users of a CPD activity.

Contextualisation is a concept that is important to both educators and Nurse Practitioners. In nursing, Martyn, Terwijn, Kek, and Huijser (2014) state that contextualisation should be promoted alongside problem-based learning, to provide a more realistic learning scenario for the healthcare practitioner. After contextualisation of theory to practical, real-life situations, the CPD activity becomes more relevant to the Nurse Practitioner. So, contextualised problem-based scenarios relevant to the Nurse Practitioner's place of work will highlight learning areas relevant to their practice. Nurse Practitioners are then able to develop a better understanding of patient needs. The use of decontextualised education may not meet this need as the relevance to the workplace becomes lost. Boud and Hager (2010) found that decontextualisation often

occurred in CPD, as this allowed educationalists to appeal to a wide variety of participants. The use of contextualisation, according to Boud and Hager (2010), allows CPD to become more relevant and more appealing to participants.

Critical Realism was again used by Boud and Hager (2011) to explore an organisation's perspective of CPD. Here the researchers found that professional organisations that promoted CPD were more favourable compared to professional organisations that mandated CPD activities. The professional organisation would mandate what specific CPD activity was to occur. Professional organisations that mandated the CPD curriculum often did so without consulting their members. Thus, members associated CPD with merely attending an activity, rather than taking it as an opportunity to learn something new or to refresh knowledge (Boud & Hager, 2011). Boud and Hager (2011) argued that CPD needs to focus on what the professional needs to know and not on what the organisation mandates the professional should need to know.

Critical Realism was used by Crawford (2010) to explore the rules and resources academics used to approach professional development. Collection of data occurred via narrative interviews with 36 academics. The relationship Crawford (2010) explored was between the rules and resources around professional development. The data were explored to identify what generative mechanisms existed for their actions. One generative mechanism identified that encouraged the undertaking of professional development was the allegiance of the academic to a professional body. Crawford (2010) found academics who held allegiance to a professional body gave more weight to keep themselves up to date, especially in a specialist subject area. The concept of allegiance to a professional body is pertinent to the Nurse Practitioner who holds a professional allegiance to their regulatory body, the Nursing and Midwifery Board of Australia. Whilst the Nursing and Midwifery Board of Australia is not a professional body, it is the primary regulatory body for the Nurse Practitioner. It is this regulatory body that endorses their entitlement to use the title Nurse Practitioner. Therefore, by maintaining and adhering to the registration standards for the Nurse Practitioner there is a professional allegiance between the Nurse Practitioner and their regulatory body the NMBA.

3.7 The Use of Critical Realism in this Study

This study uses a mixed-methods research design to gather data about the Nurse Practitioner's *empirical* experiences of CPD. The data collected is about the Nurse Practitioner's transitive knowledge of his or her CPD experiences. The researcher also collected data on the perceptions of the Nurse Practitioner around the impact of CPD on patient care. Thus, the obtained data are unique to each Nurse Practitioner. Each Nurse Practitioner will uniquely experience the *empirical*. Data analysis will highlight commonly shared experiences of the *empirical*, and this will, in turn, highlight common components in the *actual* that is shared by Nurse Practitioners.

These identified common components in the *actual* will then provide explanations around: how Nurse Practitioners perceive the impact of CPD on patient care; the motivations for undertaking CPD and the perceived barriers for undertaking CPD. This exploration of the *actual* may be incomplete as some experiences may not be defined fully. The Nurse Practitioner may not fully understand or be able to express his or her experiences. So, some data which could help define this understanding may be missing, and thus incomplete definitions created.

Through this exploration of the *actual* and the *empirical*, theories and notions of generative mechanisms that exist in the *real* will emerge. To start with it is acknowledged that these generative mechanisms are intransitive, as they occur independently of the human mind (Nairn, 2012). The exploration of the *actual* and *empirical* allows these theoretical generative mechanisms to become recognised and transitive. It is this exploration that brings their nature to awareness and allows the definition of them in the transitive dimension.

Generative mechanisms start as a theory that requires defining. Often, these theories are not directly measurable. However, the effect of this theory is perceived or experienced in the *empirical* via components in the *actual*. This study will explore three theoretical generative mechanisms: the perceived impact of CPD on patient care, the motivations for undertaking CPD, and the perceived barriers to undertaking CPD. These theoretical generative mechanisms may not be directly measurable. The researcher is seeking common factors that define or demonstrate these theoretical generative mechanisms through an exploration of the *empirical* and the *actual*. Defining these common factors will allow the researcher to provide a voice to Nurse Practitioners in the literature about their perceptions of how CPD impacts on patient

care, the Nurse Practitioner's motivations for undertaking CPD, and the perceived barriers to undertaking CPD.

To explore the theoretical generative mechanism, the perceived impact of CPD on patient care, the researcher needs to look at what factors influence the impact CPD has on patient care and how the Nurse Practitioner experiences these factors. Potential factors that may influence this theoretical generative mechanism are discussed below in Table 3.1. Much of the nursing and other healthcare literature infers that CPD has an impact on patient care. Table 3.1 cites the factors that impact on CPD. This research is exploring whether the Nurse Practitioner experiences these factors. If these factors are experienced in the *empirical* how do, they link to the *real*. For example, what aspects of knowledge are linked to the impact of care, is it just one aspect of knowledge or several different aspects of knowledge. The same for barriers, what barriers do Nurse Practitioners face in the *empirical* and do they influence the impact of CPD.

The theoretical generative mechanism, the motivations for undertaking CPD will be explored in a similar way. Table 3.2 has identified several potential factors for these motivations, from the nursing and other healthcare literature, that the Nurse Practitioner may experience in the *empirical* domain. The researcher is exploring what aspects of knowledge link to this theoretical mechanism or is it the experience of knowledge overall that links the *empirical* with the *real*.

Several potential factors in the *empirical* have been identified by Nurse Practitioners as potentially linked to the theoretical generative mechanism the perceived barriers to undertaking CPD. These factors are discussed below in Table 3.3. This research is looking to confirm that these barriers are experienced by the Nurse Practitioner in Australia and how strongly these barriers are influenced by the theoretical generative mechanism, the perceived barriers to CPD.

By exploring these three generative mechanisms, the researcher will be able to quantify how strongly some of the factors are experienced in the *empirical* are influenced by the theorised generative mechanisms. For example, the theorised generative mechanism the impact of CPD may influence the *empirical* factor knowledge, through a pathway in the *actual* that means knowledge has a large impact on patient care. This could also be true for the theoretical generative mechanism, the motivations for undertaking CPD. Here different pathways in the *actual* may change the experience of knowledge in the *empirical* as a motivator to undertake CPD. By exploring these theoretical generative mechanisms in this way, allows the researcher

to meet the aim of the research the Australian Nurse Practitioner's perceived impact of CPD on patient care, and the research questions of the thesis.

3.8 Generative mechanism – the perceived impact of CPD on patient care

There is no Nurse Practitioner literature that discusses the perceived impact of CPD on patient care. Therefore, to help support this theorised generative mechanism the literature from the RN and other healthcare professionals will be used. The impact of CPD on patient care is discussed in the literature, although no one study can demonstrate this link. The researcher theorises the following process about the perceived impact of CPD on patient care:

1. The Nurse Practitioner undertakes CPD and learns something new.
2. The Nurse Practitioner then implements this new knowledge when caring for a patient.
3. The implementation of new knowledge, in turn, leads to an improvement in patient care.

Thus, by undertaking CPD, this CPD has an impact on patient care. This impact on patient care then becomes the generative mechanism for the Nurse Practitioner to undertake CPD. This generative mechanism would be made up of many different components in the *actual*. These components would reflect the many different factors the Nurse Practitioner experiences in the *empirical*. An example of a factor experience in the *empirical* would be the type of CPD the Nurse Practitioner undertakes.

Using a deductive approach within the literature identified through the scoping review highlighted in Chapter 2, and the RN and other healthcare professional literature highlighted in Chapter 2 and Chapter 1 section 1.7 the researcher was able to identify several potential factors which could link the *empirical* to the *actual* to define the generative mechanism for the perceived impact of CPD in the *real*.

Table 3.1 highlights the results found using this deductive approach to find potential components and factors which influence the impact of CPD on patient care in the identified literature. The three potential components that link the *actual* with the *empirical* are knowledge, barriers and types of CPD. The names of these potential components may change following analysis of the data. From these three potential components, 17 potential factors

were highlighted to exist in the *empirical*. Demonstration of the relevance of each of these potential factors will occur after data analysis.

Table 3.1 Summary of potential components and potential factors for the perceived impact of CPD has on patient care

Potential Components	Potential Factors	Authors
Knowledge	Personal	Ryan (2003)
		James and Francis (2011)
	Shahhosseini and Hamzehgardeshi (2015)	
Barriers	Professional	Ryan (2003)
		James and Francis (2011)
		Shahhosseini and Hamzehgardeshi (2015)
	Self-esteem	Cotterill-Walker (2012)
Barriers	Registration and course fees	Tilleczek et al. (2005)
		Baxter et al. (2013); Hegney et al. (2010)
	Time away from the workplace	Banning and Stafford (2008)
		Hegney et al. (2010)
	Time away from family	Shahhosseini and Hamzehgardeshi (2015)
	Lack of relevant courses	Shahhosseini and Hamzehgardeshi (2015)
	Lack of managerial support	James and Francis (2011)
Types of CPD	Conference	Tilleczek et al. (2005)
		Baxter et al. (2013)
	Being a student	Wildman et al. (1999)
		Pelletier et al. (2003)
		Cotterill-Walker (2012)
	Being a teacher	Warmuth (1987)
	Reading journals	James and Francis (2011)
	Self-directed learning	Baxter et al. (2013)
	Research	Pelletier et al. (2003)
	Mandatory education	James and Francis (2011)

Wynne (2015)

Being a mentor or a mentee

Yfantis et al. (2010)

Online activities

Baxter et al. (2013)

3.9 Generative mechanism – the motivations for undertaking CPD

No one article was identified from the Nurse Practitioner literature that discussed the motivations for undertaking CPD. Therefore, to help support this theorised generative mechanism, supporting evidence from the RN and other healthcare professional literature was used. The generative mechanism, the perceived motivations for undertaking CPD, is about the intrinsic reasons as to why Nurse Practitioners undertake CPD. The perceived motivations of CPD are different from the extrinsic motivations of the perceived impact CPD has on patient care. There will be a similarity between these intrinsic and extrinsic motivations, as the intrinsic motivations for undertaking CPD may also be related to the perceived impact CPD has on patient care.

Table 3.2 Summary of potential components and potential factors for motivations undertaking CPD

Potential Components	Potential Factors	Authors
Knowledge	Personal	Ryan (2003) James and Francis (2011) Shahhosseini and Hamzehgardeshi (2015)
	Professional	Ryan (2003) James and Francis (2011) Shahhosseini and Hamzehgardeshi (2015)
	Self-esteem	Cotterill-Walker (2012)
Qualification	Professional obligation	Brekelmans et al. (2016)
	Legal obligation	Wynne (2015)

As Table 3.2 highlights, there were only two components identified that potentially link the *actual* with the *empirical*. These are knowledge and qualification. These two components highlight five factors in the *empirical*. Knowledge is closely linked with the generative mechanism of the perceived impact of CPD. The second component is qualification. The two factors associated here demonstrate the Nurse Practitioner is aware of their legal and professional obligation to undertake CPD.

3.10 Generative mechanism – the perceived barriers to undertaking CPD

Two articles from the Nurse Practitioner literature are used to help support this theorised generative mechanism. To provide further support the literature from the RN and other healthcare professionals was used. It has been demonstrated in discussions in section 2.6.3 that there is evidence to link the Nurse Practitioner and RN and other healthcare professional together as they face similar barriers to obtaining CPD. Barriers to undertaking CPD may have an impact on how or when a CPD activity occurs. Perceived barriers can be a generative mechanism, as not all barriers to CPD are experienced in the same way by the Nurse Practitioner. For example, the barrier “distance to travel.” A Nurse Practitioner who works in a rural or remote location will see this barrier differently to a Nurse Practitioner who works in the metropolitan area who cannot drive.

Table 3.3 Summary of potential components and potential factors for the perceived barriers to undertaking CPD

Potential Components	Potential Factors	Authors
Cost	Registration/attendance fees	Tilleczek et al. (2005) James and Francis (2011) Baxter et al. (2013)
	Associated costs of attendance	Tilleczek et al. (2005) James and Francis (2011) Baxter et al. (2013)
Employer support	Lack of managerial support	Tilleczek et al. (2005)
	Lack of employer funding	James and Francis (2011)
Time	Time away from the workplace	Banning and Stafford (2008) Hegney et al. (2010)
	Time away from family	Shahhosseini and Hamzehgardeshi (2015)
Others	Distance to travel	Tilleczek et al. (2005)
	Lack of relevant courses	Shahhosseini and Hamzehgardeshi (2015)

Table 3.3 highlights that four potential components potentially link the *actual* with the *empirical*. These are cost, employer support, time, and others. These four components give rise to eight potential factors that are experienced by the Nurse Practitioner in the *empirical*.

All the possible components and potential factors highlighted for each potential generative mechanism will go through a review process as data are collected in each study in the research to ensure that they remain relevant. Until tested, they are only potential factors, which may or may not be related to this generative mechanism. Once they have been tested against the generative mechanism and have shown an influence on that generative mechanism, can they become components and factors related to that generative mechanism? The name of each component or factor may also change post data analysis, to reflect more accurately the experiences and perceptions of the Nurse Practitioner.

3.12 Research Design

This research used an exploratory sequential mixed-methods research design to meet its aim and research questions. The mixed-methods design was selected to gain richer and more in-depth knowledge on the topic of the perceived impact of CPD on patient care; gained knowledge that according to Lunde, Heggen, and Strand (2013) does not come from a single quantitative or qualitative study. There will be equal importance given to the quantitative and qualitative data collected in this study. Three smaller studies will be undertaken before being combined in the fourth stage of the research, triangulation. It is at this stage that the integration of the data from each study occurs to provide a rich insight into the perceptions Nurse Practitioners hold about the impact of CPD on patient care. This fourth stage of triangulation will provide cross-validity for the data collected in each study.

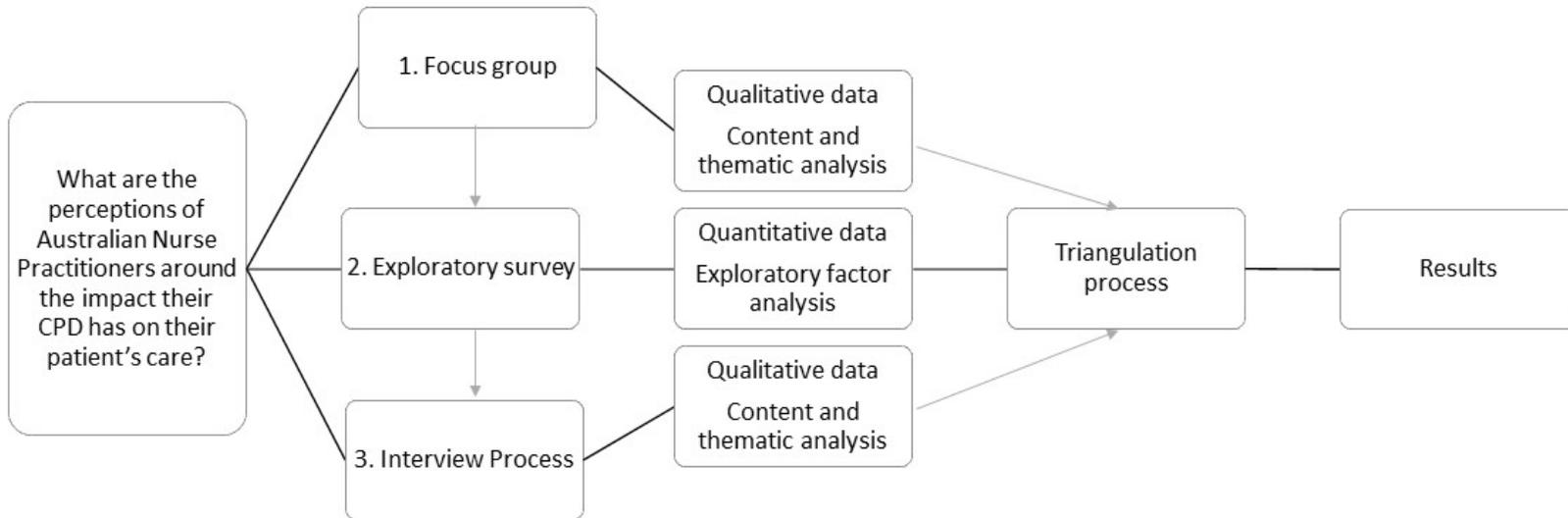
A concept map of the research plan was created to demonstrate how each study was linked, and how the final stage of triangulation unites all studies together. This concept map is provided below in Figure 3.1. The concept map demonstrates how each study is interlinked. The concept map also demonstrates the types of data collected and the method of data analysis for each study.

The concept map shows the three Studies. In Study One, Box 1 - Focus Group, the focus group was an expert panel of Nurse Practitioners whose principle aim was to provide expert comment

on the draft questions proposed for the exploratory survey tool used in Study Two. The transcript was further explored using qualitative content analysis. Study Two, Box 2 – Exploratory Survey, data collected here is via an online survey tool. This tool canvassed the opinions of Australian Nurse Practitioners about CPD and their perceptions about its impact on patient care. Study Three, Box 3 – Interviews, this is the final phase of data collection. This phase provided a deeper meaning to the study’s aim and research questions.

The concept map also demonstrates the type of data collected and the method of data analysis involved in each study. The four boxes of data analysis are Box 1a – the focus group will collect qualitative data, and the method of data analysis will be qualitative content analysis. Box 2a – the exploratory survey will collect both quantitative and qualitative data; the method of data analysis will be exploratory factor analysis. Box 3a – the interview process will collect qualitative data; the method of data analysis will be qualitative content analysis. The final Box 4 represents the final stage of this study, the triangulation of the data, where the categories identified throughout the research are explored in Study One, Two and Three.

Figure 3.1 Concept Map of the Research Design



3.13 Trustworthiness

The trustworthiness of each study will be maintained the same way throughout this exploratory sequential mixed-methods study. The first criteria for ensuring rigour or trustworthiness in qualitative research were detailed by Guba and Lincoln (1985) and Guba and Lincoln (1989). These criteria included credibility, transferability, dependability and confirmability, and have changed very little since their introduction (Morse, 2015). These four criteria were updated by Nowell, Norris, White, and Moules (2017) to include audit trails and reflexivity. The researcher uses the six criteria established by Nowell et al. (2017) to ensure that trustworthiness is maintained throughout the research.

The researcher used the six criteria in the following way:

- **Credibility** – is determined when readers are confronted with an experience and recognise it (Guba & Lincoln, 1989). According to Nowell et al. (2017), credibility can occur through the use of verification checks, data triangulation and peer debriefing. Verification checks occurred at several points in this study. These points included participant verification of transcripts, verification of the survey and category checks between the researcher and the supervisory panel. Participants in Study One and Study Three undertook verification of transcripts. These participants reviewed the verbatim transcript of their participation and agreed it was accurate. Participants were also asked to confirm the researcher’s conclusions to ensure they accurately reflected their position. Triangulation of the data during Stage Four of data analysis also provides credibility to the data obtained as similar points were highlighted by participants in each study in the research. Peer debriefing occurred with the researcher having discussions with the supervisory panel to ensure accuracy and that the conclusions made were pertinent to the study.
- **Transferability** – refers to the generalisability of the study (Nowell et al., 2017). The researcher is responsible for providing a thick description of the research for others to determine whether the research is transferable to other populations (Elo et al., 2014). Within this research, the researcher will fully describe all the processes used in the research. The results for the four data analysis stages will be presented for the reader to determine for themselves whether the data are transferable. Allowing the reader to determine if the data are transferable is in line with Guba and Lincoln (1985), who states it is up to the individual to judge if the research is transferable to their site.

- Dependability – refers to how logical, traceable and documented the research process is (Connelly, 2016). Within this study, the researcher has presented the logical flow research design for the three studies of data collected and the four stages of data analysis used in Figure 3.1 and described in sections 4.4, 5.5, 6.4 and 7.3 of this thesis.
- Confirmability – refers to establishing that the interpretation and findings from the research are derived from the data (Nowell et al., 2017). Within this research, confirmability will be maintained with each decision made by the researcher and the research process being documented and presented for the reader to determine the appropriateness of the decision. Triangulation of results also helps with the confirmability of the study (Morse, 2015).
- Audit trails – provides evidence of the decisions and choices regarding theoretical and methodological issues within the study (Nowell et al., 2017). Evidence for each of these decisions is presented for the reader to determine the appropriateness of the decisions. A copy of the raw data, transcripts and the reflective journal of the researcher are kept secured as an audit trail of the research process.
- Reflexivity – is a self-critical account of the research process, documented by the researcher of the research journey (Nowell et al., 2017). This self-critical account is contained as part of the research journal kept by the researcher and is open to the researcher’s supervisory panel.

3.14 Ethical considerations

Participation in this study was voluntary. No gifts or coercion were used by the researcher to entice participation. Nurse Practitioners from a local network of Nurse Practitioners were asked to volunteer in the focus group for Study One. Participants in the focus group were provided with a copy of the Participant Information Leaflet and asked to sign a consent form. A copy of the Participant Information Leaflet and Consent form are in Appendix Two and Appendix Three. Each member of the focus group then had an opportunity to discuss these documents before the commencement of the focus group. If participants were unhappy with participating in the focus group, they were free to leave the focus group.

An application was made by the researcher to the Australian College of Nurse Practitioners (ACNP) to contact members to invite them to participate in this study. This application

explained the study and what the sample population would be required to undertake. This application was to enable the researcher to access ACNP's email database to recruit participants. An undertaking was given by the researcher that there would be no other emails sent to participants, other than emails related to the study. Upon completion of the study, a copy of the results was presented to the ACNP to share with its members.

Consent for Study Two occurred electronically. The opening screen of the online survey explained the study and asked the participant if they consented to proceed. Clicking their acceptance meant the participant was taken to the rest of the online survey to complete. Clicking their non-acceptance meant the participant was taken to the final thank-you screen and not given access to the online survey. Instructions given to the participants indicated they needed to complete the online survey in one sitting as no data were saved or collected, which would allow them to return to the survey. At the end of the survey, the participant was asked to supply an email address if they were happy for the researcher to contact them to participate in Study Three.

Only those who provided a valid email address in Study Two were contacted to participate in Study Three. Consent for Study Three was via a written consent form (Appendix Three). Interview Participants who volunteered for Study Three received a copy of the Participant Information Leaflet and the Consent Form (Appendix Two and Three) via email. If they then agreed to participate in Study Three, they were asked to sign the Consent Form and scan and email it back to the researcher, along with their contact details. The interview took place at a mutually agreed time. This interview took place at either a neutral venue or at a time when an uninterrupted telephone conversation could occur.

The participants of both the focus group and the interviews granted permission for their participation to be digitally recorded and were informed that all recordings would be kept secure. The researcher undertook the transcription of all the recordings at the earliest possible time after the focus group and interviews. There was anonymisation of the transcripts, so no personal data or any identifiable information was in the transcripts. All participants were given codes to identify them within the transcripts. All stored copies of the collected data were in password-protected files.

If participants wished to withdraw from either Study One or Study Three of the study, they would be asked to complete a withdrawal form. This form would allow the researcher to have

an audit trail of those participants who wished to have their data removed from the study. A copy of this form is in Appendix Four. Then all data provided by that participant would be withdrawn from the study. Those participants who wished to withdraw from the exploratory survey only needed to shut their web browser. Once they did this, no data from them would be saved in the study.

To allow the researcher to use quotations obtained from the data to help define the identified categories, the participants in each study of data collection were de-identified and given designated codes. The designated codes indicated which round of data collection they had participated in and gave them a participant number. Participants in Study One received the code FGP (Focus Group Participant), participants in Study Two received the code SP (Survey Participant), and participants in Study Three received the code IP (Interview Participant). Therefore, the code allocated to the sixth person to participate in any study was either FGP 6, SP 6 or IP 6. The names of the participants were collected in Studies One and Three only, and a corresponding key was created by the researcher to work out what each participant's code was. This designated code allowed the researcher to re-identify the participant if needed. There was no key created for those who participated in Study Two; these participants did not supply their names.

Study One and Study Three might have raised issues of concern for some Nurse Practitioners and caused them stress if the Nurse Practitioner perceived he or she were not doing a good enough job. If this were to occur, the researcher would reiterate that there are no correct responses and that everyone does what he or she perceives is correct and that this study is about identifying commonality among these ideas and not about identifying incorrect practices. If this induced further stress, then the participant would be removed from the situation, the information provided would not be used in the study, and the participant would be given the contact information for Lifeline.

All emails sent to participants that came from the researcher were sent from a separate email account that only the researcher had access to. This was also the only email address supplied to participants they could contact the researcher on. The exception to this was the email invitations to participate in Study Two, and these invitations were sent from the Australian College of Nurse Practitioners servers. This enabled the researcher to keep all email address separate from his personal and work emails and reduced the risk of breach of confidentiality.

All consent forms and any other written data generated by this study will be scanned into a computer and stored in a secure password protected file. The electronic data will also be transferred to secure password-protected files on a password protected computer that only the researcher has access to. This will reduce the risk of breach of confidentiality and identification of any participant.

3.15 Summary

This chapter has provided the sense-making framework for this thesis. The researcher has argued that Critical Realism is an appropriate sense-making framework to use to understand the perceived impacts, motivations and barriers to CPD. The appropriateness was provided by describing the ontological and epistemological foundations for Critical Realism and discussing how they can relate to the Nurse Practitioner and CPD. The researcher has also demonstrated that Critical Realism is an appropriate sense-making framework for research by providing previous examples of how Critical Realism has been used in nursing and educational research.

The chapter demonstrated how the researcher would use Critical Realism in the study to meet the aim of the research. The researcher identified three generative mechanisms theorised to exist in the *real*. From the literature potential components, of the *actual*, along with potential factors of the *empirical*, were identified. This research will go on to test and identify which of these potential components and factors link to the theorised generative mechanisms. The linking of the factors in the *empirical* to these generative mechanisms in the *real* will allow the researcher to understand how different influences unite to demonstrate how the Nurse Practitioner perceives the impact of CPD on patient care.

The final section of the chapter provided a recap of the aim and the research questions of the thesis, before providing the research design and concept map of the study. The research design discussed how Studies One, Two and Three in this exploratory mixed-methods sequential study are linked together before all three of these studies are triangulated. The concluding sections of the chapter discuss issues of trustworthiness and ethical considerations related to each study.

The following chapters present each of the three studies that are part of the overall research. Each chapter will present an introduction, methods, analysis, results and discussion pertinent to that study.

Chapter 4

Study One – Focus Group

4.1 Introduction

Chapter Four presents the first study undertaken in this exploratory sequential mixed-methods study. Study One provides the foundation for Study Two. The chapter opens with a summary of the exploratory sequential mixed-methods study that is the basis for this research.

The chapter discusses the research method for this study, and the data collection method used, that is, the focus group. An expert panel of Nurse Practitioners was convened to discuss the content of the draft questions that were proposed for study two, to increase the researcher's confidence in their relevancy and usefulness. There is a description of the study's method, a discussion providing detail about the participants, the recruitment process and data analysis techniques.

The last section of this chapter presents the results. This description commences with a demographic description of the participants. A discussion follows on alteration of the draft questions to be used in the exploratory survey tool for Study Two, with the rationale for the change. These changes ensured that participants of Study Two were presented with a tool that was relevant to Nurse Practitioners. The results of the content analysis of the focus group transcript conclude the chapter.

4.2 Background

Nurse Practitioners in Australia are mandated to undertake 30 hours of CPD each year to maintain their endorsement (Nursing and Midwifery Board Australia, 2016a). The general nursing literature implies that CPD has an impact on the outcomes of patient care. The exploratory scoping review presented in Chapter 2 revealed a gap in the literature, as no study has explored the perceptions of Nurse Practitioners around the impact of CPD on patient care.

This research aims to understand the perceptions of Australian Nurse Practitioners about the impact their CPD has on the care they provide for their patients. This exploratory mixed-methods study will explore the following key concepts of the research questions as categories: the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to obtaining CPD.

4.3 Methods

In November 2014, a convenience sample of Australian Nurse Practitioners were invited to form an expert panel to discuss the concept of CPD and the Nurse Practitioner and review the draft questions developed by the researcher for use in Study Two. The draft questions were drawn from the literature highlighted in Chapter 2 and Chapter 1 section 1.7. The draft questions presented to this expert panel is provided in Appendix Five. The expert panel was asked to confirm that the questions asked were relevant to the study and to provide guidance around any missed elements or categories. Consequently, participants provided a consensus opinion on the relevance of the questions to be used in the final exploratory survey tool. Consensus was agreed through the discussion of a point, until the point of conflict was resolved, and then consensus was deemed to have been achieved, as no further discussion occurred. This process of consensus achievement through discussion in focus groups was reported by Ogbeifun (2017) as being an effective way to achieve consensus.

Facilitating the expert panel to comment, explain, disagree, share attitudes and experiences around this topic is consistent with the role of focus groups as discussed by Curtis and Redmond (2007) and Shaha, Wenzel, and Hill (2011). The use of a focus group early in a study, according to Curtis and Redmond (2007), allows the researcher to conceptualise and understand the factors involved in the research. The participants in this focus group were asked to focus on the content of the questions not the design of the exploratory online survey. The design of the exploratory survey and pilot testing of its content was undertaken as part of Study Two.

The focus group was scheduled to last for 90 minutes. The first 30 minutes of discussion was for welcoming the participants and introductions. The participants were then presented with the participant information leaflet (Appendix Two) and given the opportunity to ask general questions about the study. Once the participants were happy with what was to happen, they were asked to sign the consent form (Appendix Three). When the participants had signed their consent form, they were presented with a copy of the draft questions (Appendix Five). The remainder of the time allowed for open discussion of the draft questions to take place. Each question on the draft tool was explored in the sequence demonstrated in Appendix Five, with a discussion at the end to address any topics not covered.

The population for the focus group were currently registered and practising Australian Nurse Practitioners. For this study, a convenience sample was drawn from this population of Nurse Practitioners who were geographically local to the researcher. The researcher held their contact details through previous contact with them for other work-related activities. Invitations were emailed to 20 Nurse Practitioners, inviting their participation in the focus group, six weeks before its proposed date. After two weeks, there had been four positive responses to the invitation and two negative responses. The 14 non-responders received a reminder invitation. A week before the focus group, there were ten positive responses, six negative responses, and there was no response from four participants. On the day, seven participants attended. This group of Nurse Practitioners were known to each other at a collegial level. The potential bias from the researcher knowing the participants of this focus group are discussed below in section 4.5.

4.4 Data Analysis

Qualitative data was collected from the focus group, and qualitative content analysis was considered the most useful analysis technique. Using the three phases of qualitative content analysis proposed by Elo and Kyngäs (2008) of preparation, organising and reporting, the focus group transcript underwent a process of deductive content analysis. The preparation phase consisted of selecting what was to be analysed and what was to be looked for in the text (Elo & Kyngäs, 2008; Graneheim, Lindgren, & Lundman, 2017). For the preparation phase, the researcher ensured a completed transcript of the focus group was available, plus a copy of the draft presented to the participants. In the organisation phase, the data was sorted into a categorisation matrix, this enabled the data to be explored, which looked for data related to a particular code or theme (Elo & Kyngäs, 2008). In this phase, the data was sorted into categories related to the draft question being discussed, as this is data which will lead to changes in the questions. The final stage reporting presents a review of each question that the participant's state by consensus needs altering, highlighting how these changes to the draft questions are incorporated into the final exploratory survey tool.

The transcript underwent a second more detailed qualitative content analysis, using a deductive approach but being open to the emergence of any new categories. The analysis explored the deeper meanings of what was being said by the participants during the discussions. The analysis

was driven by the categories derived from the key concepts of the research questions: the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to CPD. The framework for qualitative content analysis by Elo and Kyngäs (2008) was used here. To prepare for this second content analysis, the transcript of the focus group was needed, and the categories related to the aim and research questions prepared. The data was then organised under these categories, the perceived impact of CPD on patient care, the motivations for undertaking CPD and the perceived barriers to undertaking CPD. The researcher was also open to emerging categories that did not fit the existing categories (Bengtsson, 2016), but the focus group felt were of relevance. The reporting stage presents what data was found related to each category and any emerging category.

Using this three-step process of qualitative content analysis is consistent with how Vaismoradi, Turunen, and Bondas (2013) saw qualitative content analysis to be used, where common concepts were highlighted in the data and then descriptively described. By descriptively describing what the researcher finds in the data, the researcher was able to describe the changes that the focus group may recommend for the layout of the questions to be used in the final version of the exploratory survey tool. With the second analysis of the transcript, the researcher is also able to provide a deeper understanding of the participant's perceptions on the aim and research questions of the research.

There was a digital recording of the focus group, using two recorders, ensuring the capture of all conversations in the room. The use of dual recordings allowed the researcher to confirm conversations when transcribing the work if the recording was faint on one of the recorders. The focus group recordings were transcribed verbatim into one document by the researcher. This document was sent to all participants to verify its content. All participants reviewed the transcript of the focus group. The participants requested no amendments or alterations to the transcript. Therefore, the researcher took that this verbatim transcript was an accurate reflection of the discussion that had taken place in the focus group.

4.5 Ethics

Ethical approval for this study was obtained from the Human Research Ethics Committee of the University of Canberra in June 2014, reference 14-101. A copy of the approval letter is in

Appendix Six. Discussion of the maintenance of the trustworthiness and ethical considerations of the entire study is provided in sections 3.13 and 3.14.

Within Study One, there is the potential for various biases that may threaten the validity of the research. Morse (2015) describes one such bias as that the researcher may anticipate what they wish to see, rather than allow the data to reveal itself. In this research the researcher acknowledges they are a Nurse Practitioner, so they already have preconceived ideas around the impact of CPD on patient care. Therefore, it is difficult for the researcher to isolate their views on this topic. To counteract this potential bias, the researcher presented the findings to the supervisory panel, who are not Nurse Practitioners to increase the confidence in the accuracy of the findings.

A further risk of bias stems from the focus group participants coming from a similar geographical area and not representative of the national opinion of the subject. This underrepresentation of diversity from a national perspective of the Nurse Practitioner population could skew the results of the focus group (Nadan, Spilsbury, & Korbin, 2015). The skewing of results could demonstrate a bias towards local issues and opinions, rather than on national issues and views on the topic. An aim of this focus group is the development of an exploratory tool that can be used by the national body of Nurse Practitioners, this bias although present should not be a distraction from the main study.

The participants of the focus group are from the same geographical area as the researcher, many will be known to the researcher. Therefore, these participants may have similar opinions on the topic as the researcher. Because of the potential for shared opinions social desirability bias may arise (Althubaiti, 2016). This had the potential to bias the data obtained from the focus group. The aim of the focus is the development of an exploratory tool to be used nationwide. Similarity in opinions is expected, and success of the tool will be demonstrated if Nurse Practitioners nationwide held similar opinions. To overcome this social desirability bias Althubaiti (2016) recommends a process of internal validation and external validation. Internal validation occurs when the results of the focus group are compared to the results of the other studies in this research and similar results are discovered. External validation will occur when participants of the focus group review the verbatim transcript of the focus and confirm its authenticity.

By interviewing participants that may be known to the researcher, there is a risk that there would not be a free flow of discussion in the focus group, as participants may feel that they cannot express a contrary position to the researcher and therefore need to remain silent. Although no participant will be forced to express an opinion, a frank and honest discussion will be promoted in the focus group to help identify pertinent issues in the exploratory tool. To promote this type of discussion Ryan, Gandha, Culbertson, and Carlson (2014) recommends the use of open-ended questions which have the potential for discussion. These questions are designed to prompt a response that is detailed and provoke an expression of different views.

4.6 Results

4.6.1 Participants

All participants in this study share a similar life history homogeneity. Life history homogeneity was defined by Robinson (2014) as all participants sharing a similar life experience. In this study, life experience was working as a Nurse Practitioner caring for patients. While the sample is homogenous, the group will also demonstrate some heterogeneity as well. The heterogeneity is seen by Polit and Beck (2012) as the degree of the variance seen within a sample. In this study, a demonstration of the degree of variance was in the range of scopes of practice that the sample of Nurse Practitioners practice under. The sample for this study is both homogeneous and heterogeneous, in that they all have a similar background, but all work under a different scope of practice.

Five female and two male Nurse Practitioners participated in the focus group discussion. Five participants worked in the public sector; three worked in emergency, one worked in mental health and one in cardiology. Two participants worked in private practice, one as an employee of a General Practitioner and one was self-employed. The youngest participant was in the 30 to 35-year age range and the oldest in the 50 to 55-year age range. The group was homogenous. The homogeneity enabled them to explore their views and experiences with like-minded participants. There was also some heterogeneity in the group as participants came from different specialities and worked in either the public or private sector.

4.6.2 Alterations to the exploratory survey tool

The discussion in the focus group resulted in changes to four questions of the draft exploratory survey tool. The four questions changed were Questions 5, 8, 10 and 11. Presented below is a discussion of how these questions in the exploratory survey tool came to be altered. The focus group participants (FGP) were numbered FGP 1 to FGP 7 so that the researcher could use anonymised quotes.

4.6.2.1 Question 5 – “How do you usually participate in CPD activities?”

In the set of draft questions presented to the focus group, Question 5, had 22 potential responses. These 22 were derived from the contemporary Nurse Practitioner, nursing and other healthcare practitioner literature. In the final version of the exploratory survey tool, 13 of these options were adopted unchanged.

The consensus among members of the focus group saw four options having their wording changed, five options being removed, and three new options added to the list. Table 4.1 highlights the changes made to Question 5. This table provides the wording presented to the focus group participants in column one. Column two highlights if a factor was changed or not. If the wording was changed by these participants, the new wording appears in column three. Column three also highlights if a factor was removed or added to the list. Column four highlights the reasons why a factor was changed.

Table 4.1 Changes made to Question 5

Original version	Changed or not changed	Final Version	Reason for change
Conference attendance		Conference attendance	
Video conference		Video conference	
Teleconference		Teleconference	
In-service – you are the student	Changed	In-house teaching – you are the student	Changed as focus group participant felt that in-service related to a specific unit or ward. Whereas, Nurse Practitioners attend CPD in many different areas.
Reading Journals		Reading Journals	
Online activities		Online activities	
Case studies		Case studies	
Interactive discussion boards		Interactive discussion boards	
Mentoring students		Mentoring students	
Meetings		Meetings	
Interactions with colleagues		Interactions with colleagues	
Computer based activities	Changed	Removed	Participants felt that this was obsolete and did not reflect how CPD was undertaken
CD-ROMs	Changed	Removed	Participants felt that this was now covered my online activities

Original version	Changed or not changed	Final Version	Reason for change
Download computer programmes	Changed	Removed	Participants felt that this was now covered my online activities
Self-directed learning		Self-directed learning	
The utilisation of senior staff	Changed	Peer review	Participants felt it excluded other Nurse Practitioners from being used to help with CPD
Face-to-face teaching	Changed	Classroom teaching – you are the teacher	Face-to-face teaching was seen could cover all teaching scenarios the Nurse Practitioner taught in. Changing to classroom teaching represented a more specific aspect of their role, as an educator
One-on-one teaching	Changed	One-on-one teaching – you are the teacher	Adding you are a teacher added clarification to the factor and made the activity more specific
Email	Changed	Removed	Removed as participants felt this was not a way Nurse Practitioners undertook CPD
PDA		PDA	
Audio files	Changed	Removed	Participants felt that this was now covered my online activities
Other – please specify		Other – please specify	
	Changed - Added	Post-graduate courses	Participants felt that many Nurse Practitioners undertook educational courses to help meet their CPD requirements
	Change – Added	Research	Participants felt that many Nurse Practitioners undertook research to help fulfil their CPD requirements
	Change - Added	Mandatory competencies	Participants felt that some Nurse Practitioners may use their mandatory competencies to help fulfil their CPD requirements

4.6.2.2 Question 7 – “What reasons do you have for undertaking CPD?”

This draft question presented the participants with 12 potential answers. Consensus from the focus group participants was that six of the potential responses could be removed, five questions could be used with some rewording and that three further answers could be added. Table 4.2 demonstrates the changes made to Question 8 “what reasons do you have for undertaking CPD?”

When discussing the status of the Nurse Practitioners participants felt that their status was not a reason to undertake CPD. Participants of the focus group felt that CPD was about their knowledge and clinical practice; CPD was not about their standing with the public. This runs parallel to the perspective of the NMBA who see the undertaking of CPD as a way to protect the public from out-dated practices. The participants in this study did not expand further on this viewpoint in this study.

Table 4.2 Changes to Question 7

Original version	Changed or not changed	Final Version	Reason for change
To increase professional knowledge	Not changed	To increase professional knowledge	
To update my existing qualification	Changed	To update my professional qualification	Participants felt that the word professional needed to be added to ensure that the focus was on the professional qualifications of the Nurse Practitioner and not on any other qualifications
To increase the status of the profession as a whole	Not changed	To increase the status of the profession as a whole	
To demonstrate that I am professionally competent	Not changed	To demonstrate that I am professionally competent	
To fulfil the statutory requirements to register	Not changed	To fulfil the statutory requirements to register	
To increase the status of the practitioner	Changed	Removed	Participants felt that the word status could be linked to the employment status of the Nurse Practitioner rather than to the standing of the Nurse Practitioner and that the status of the Nurse Practitioner was not a reason to undertake CPD
To increase my self-esteem	Not changed	To increase my self-esteem	
To obtain a further qualification to be able to apply for promotion	Changed	Removed	Participants felt that there this was not a reason to undertake CPD, if they remained clinical there was no further promotion available to them
I will take up a CPD course is partially funded by my employer	Changed	Removed	Participants felt that this scenario was unlikely to occur, they also stated that the Nurse Practitioner funded the majority of their CPD expenses themselves

Original version	Changed or not changed	Final Version	Reason for change
I am willing to complete a course of CPD if partial study leave is given	Changed	Removed	Participants felt that this scenario was unlikely to occur, they also stated that the Nurse Practitioner funded the majority of their CPD expenses themselves
To prevent me from getting bored	Changed	Removed	Participants stated that the Nurse Practitioner recognised that undertaking CPD was an activity for more important reasons than the prevention of boredom
I am prepared to pay for my CPD course by myself	Changed	Removed	Participants felt that this was an irrelevant question because unless the Nurse Practitioner was publicly employed, the Nurse Practitioner needed to pay for the CPD themselves anyway
	Changed added	To increase my personal knowledge	Participants felt that this was important to demonstrate that CPD was undertaken to increase different types of knowledge
	Changed added	It is a topic that interests me	Participants felt this had a more positive view when compared to the word bored
	Changed added	Other – please specify	This was added to allow the participant to add their own reasons for undertaking CPD

4.6.2.3 Question 10 – “What is your primary reason for selecting a particular CPD activity?”

Discussion of this question in the focus group led to the definitions of “knowledge” used in this study. The participants concurred that knowledge was a broad concept and needed to be more clearly defined. The participants stated that there were three types of knowledge involved in CPD: professional knowledge, clinical knowledge and personal knowledge.

The participants defined professional knowledge as knowledge that dealt with “leadership skills and management skills.” These were essential skills for the Nurse Practitioner to possess. This knowledge was essential to allow the Nurse Practitioner to undertake their professional duties. Leadership and management skills are important areas of the Nurse Practitioner’s scope of practice. These included skills like time management, being a role model for those RNs who wish to transition into becoming a Nurse Practitioner. Professional knowledge had no direct impact on patient care, it focuses on the non-clinical aspects of the role.

Clinical knowledge was the knowledge needed to provide care for patients. Clinical knowledge was defined as the “skills and clinical information you [the Nurse Practitioner] put into practice to care for a patient.” Clinical knowledge allowed the Nurse Practitioner to undertake their clinical duties. Leadership and management are important areas of the Nurse Practitioner’s scope of practice. These included skills like time management, being a role model for those RNs who wish to transition into becoming a Nurse Practitioner. Professional knowledge had no direct impact on patient care, it focuses on the non-clinical aspects of the role.

Personal knowledge was defined as “something that [was] unrelated to what I do, but I just wanted to know a little bit more about.” Personal knowledge for the participants was not the knowledge that was used to go about their lives but was the knowledge related to topics that interested them that is not related to their clinical or professional practice. For example, the Nurse Practitioner “may have an interested in forensic mental health issues, but this is not a topic related to their paediatric scope of practice, undertaking CPD in this area would be to enhance their personal knowledge of topic,” (FGP 4). The Nurse Practitioner is undertaking CPD for their personal knowledge, not to enhance their clinical or professional knowledge.

Expansion of one of these areas of knowledge can lead the Nurse Practitioner to expand their scope of practice and develop their practice into different areas. This may start with the Nurse Practitioner developing a personal interest in a topic and then exploring the professional aspects of the topic before focusing on the clinical aspects of the topic to ensure that patients are

receiving the best care. This demonstrates that knowledge whilst having different aspects, they all link together to develop the Nurse Practitioner.

Three responses were initially presented to the focus group participants regarding this question. Table 4.3 highlights these responses in Column 1. As highlighted in Column 2, two of these responses were removed and one response had its wording changed. Column 3 demonstrates what the wording on the final survey looked like and the new responses proposed by the focus group participants. The final column provides the reasons for the changes to this question.

Table 4.3 Changes to Question 9

Original version	Changed or not changed	Final Version	Reason for change
To improve my knowledge	Changed removed		Participants felt that the knowledge of definition was too broad and proposed three different definitions which was felt to cover the concept of knowledge better
Cost	Changed	Cost, location and timing of the activity	Participants felt that Nurse Practitioners would need to consider all three of these when considering whether to undertake a CPD activity or not
Current position	Changed removed		Participants felt that this was not a reason for selecting a CPD activity
	Changed added	To improve my personal knowledge	This was added as after discussion within the focus group about the concept of knowledge
	Changed added	To improve my clinical knowledge	This was added as after discussion within the focus group about the concept of knowledge
	Changed added	To improve my professional knowledge	This was added as after discussion within the focus group about the concept of knowledge
	Changed added	How accessible the CPD activity is from my location	This was added as a separate option as the location may be the only aspect that prevents attendance at a CPD activity, but could also be a motivator for attending a CPD activity
	Changed added	To obtain CPD points	There was agreement amongst participants that many Nurse Practitioners may undertake CPD as they need the points to meet their mandatory requirements
	Change added	Other – please specify	Added to allow participants to define their own primary reason for selecting a CPD activity

4.6.2.4 Question 11 – “What are the main barriers you face when undertaking CPD?”

The researcher had identified four main barriers from the literature that may act as barriers to CPD. These were: cost, travel, time constraints and time away from the family. Discussion in the focus group saw these four potential barriers, plus the factor “other – please specify”. This final factor allowed the participant to enter a barrier not in the options presented to the participants.

Through discussion of these five factors, two factors were included in the final exploratory survey unchanged. Two of the factors were removed and one had the wording changed. Nine new factors were added to the final factors used in the final exploratory survey. These changes are described in Table 4.4. Column 1 provides the original factors presented to the focus group participants. Column 2 highlights if there were changes made to these factors. Column 3 shows the final wording of the factors in the exploratory survey. Column 4 provides the reasons for any changes for the factors.

Table 4.4 Changes to Question 10

Original version	Changed or not changed	Final Version	Reason for change
Cost	Changed removed		Participants felt that this was a too restrictive to be a single factor and therefore was expanded into two new categories described below
Travel	Changed	Time to travel to undertake a CPD activity	Participants felt that changing the wording made it clearer to participants what travel meant as a barrier to CPD
Time constraints	Changed removed		Participants felt that this was too broad as a factor and was therefore expanded into two new categories described below
Time away from family		Time away from the family	
Other – please specify		Other – please specify	
	Changed added	Cost of attendance	Participants felt that this helped described the factor of cost more accurately, this aspect of cost related to the registration fees of the course, workshop or conference
	Changed added	Cost of expenses	Participants felt this this helped describe the factor of cost more accurately, this aspect of cost related to the expenses of attending an activity, for example travel, food and accommodation expenses
	Change added	General constraints	Participants felt that this would cover all other time barriers not captured by the other two-time categories
	Change added	Time away from work	Participants felt that this covered time barriers related to the workplace
	Change added	Lack of relevance in courses offered	Participants identified that there was a lack of courses available to enable them to expand their scope of practice

Original version	Changed or not changed	Final Version	Reason for change
	Change added	A limited amount of conferences aimed at Nurse Practitioners	Participants felt that this was different to the factor described above which was about a course of study. Here it was about opportunities for the Nurse Practitioner to network with peers, as well as an opportunity to gain new knowledge
	Change added	Unable to obtain backfill their position	Participants felt this related more to the Nurse Practitioner in private practice, who was often a sole practitioner and therefore, had difficulty covering their role
	Change added	Insufficient CPD days from employer	Participants felt that the entitlements offered to Nurse Practitioners in public service were insufficient for them to meet their CPD obligations fully
	Change added	Lack of managerial support or opposition from management	Participants felt that managerial support was vital for a CPD activity to be successful and if it was present then it became a barrier to Nurse Practitioner attending

4.6.3 Focus group discussion

The researcher also explored the deeper meanings of the focus group participants' responses. This exploration provided further insight into the topic of CPD. The focus group transcript underwent a process of qualitative content analysis using the framework of Elo and Kyngäs (2008).

The researcher read the focus group transcript multiple times to become familiar with it in its entirety. The analysis was deductively driven using the key concepts of the research questions as categories: the perceived impact of CPD on patient care, the motivations for CPD and the perceived barriers to undertaking CPD. During the analysis, a further category emerged from the data, namely the identification of "*Knowledge*" as a complex issue that was related to CPD and therefore, further exploration was needed to confirm its importance. The results of this content analysis were presented to the researcher's supervision panel to ensure that the conclusions reached were consistent with the aim and research questions.

4.6.3.1 The perceived impact of CPD on patient care

All the focus group participants perceived that CPD had an impact on the care they provided for their patients, with FGP 1 stating "*CPD has a huge impact on what I do...it allows me to provide a high standard of care.*" This sentiment was also echoed by FGP 2 and FGP 4, who stated that "*CPD has an impact on the care that I provide to my patients.*" The focus group participants also saw the impact of CPD on their scope of practice as it not only allowed them "*to keep my scope of practice up to date*" (FGP 7), but also that "*it allows me to expand my scope of practice to provide broader care to my patients*" (FGP 5). As well as having an impact on the care they provided to their patients and their scope of practice, the focus group participants highlighted that CPD also had an impact on their colleagues, "*what I learn at a CPD activity, I would bring back and use to help educate my colleagues who were unable to attend the activity*" (FGP 4). Therefore, the impact of CPD was seen by the focus group participants as far-reaching and significant to their practice.

4.6.3.2 The motivations for undertaking CPD

Focus group participants highlighted that the regulations and standards that exist for CPD were a motivational force for the Nurse Practitioner to undertake CPD. An issue identified related to regulation. This discussion in the focus group centred on the standards for CPD set by the NMBA. As FGP 5 states, the standards “*are very broad, just need to be specific to your work.*” This discussion also broached what was classed as a valid CPD activity, as they “*do not say exactly what they are after*” (FGP 5). There was an agreement in the focus group that CPD was only valid if “*it focused on my scope of practice*” (FGP 1).

Another issue identified related to regulation was the inclusion of mandatory education, specifically, whether the hours used for mandatory education should be included as part of their overall required CPD hours. Participants saw mandatory education as more about “*accreditation for the hospital we work for; it is not about us. It is about meeting the requirements for the hospital*” (FGP 2). All participants of the focus group agreed that mandatory education was about the facility and not about them. FGP 7 stated, “*mandatory education was about everyone doing the same thing not about the individual.*” FGP 1 reiterated this statement by FGP 7 by stating, “*mandatory education is a tick box thing done by all and not about me, I do it because I have to.*” For the focus group participants, the undertaking of mandatory education was not the purpose of CPD. To the focus group, the purpose of CPD was learning to do things better and to stay up to date. It was the patient who should benefit from CPD, not the organisation.

4.6.3.3 The perceived barriers to undertaking CPD

The barriers discussed by the focus group participants included cost, management support and accessibility. The dominant barrier discussed regarding barriers to CPD was centred around the expense of undertaking CPD. This expense was a double issue. The first was the expense of the activity itself. The second was the associated expenses related to the activity. These associated expenses included travel, accommodation, and food expenses.

The next most significant issue identified under the theme of barriers was related to managerial opposition to CPD. FGP 7 highlighted this theme, stating, “*line manager refuses to support or approve your application.*” This lack of departmental or managerial support to attend a CPD

activity, especially if several staff members required CPD leave at the same time, was a barrier. The department found it increasingly challenging to backfill staff.

A CPD activity needed to be accessible for it to be of benefit to the Nurse Practitioner. If the CPD activity was not accessible, then attending the activity became a barrier. As FGP 2 and FGP 7 stated, “*if the CPD activity is inaccessible, then it is a barrier, especially if it is an activity that would benefit me.*” Accessibility also related to accessing journal articles for CPD. If the Nurse Practitioner was self-employed or privately employed, it was expensive to access some relevant journal articles as “*it costs you money to be part of that journal*” (FGP 5). To gain access to certain journals, the Nurse Practitioner needs to either pay for access or become affiliated with an organisation that has this access.

4.6.4 Knowledge

An additional theme emerged from the analysis process as the researcher remained open to the data. Participants identified three types of knowledge relevant to them, professional knowledge, clinical knowledge and personal knowledge. The participants highlighted how knowledge had different meanings depending on the context in which the Nurse Practitioner used it. The participants discussed each type of knowledge and came to the following consensus on the definition of each type of knowledge. These definitions were:

- Professional knowledge – the knowledge that dealt with their leadership skills and management skills
- Clinical knowledge – the knowledge related to their skills and clinical information put into practice to care for a patient
- Personal knowledge – the knowledge the Nurse Practitioner expands as something that was unrelated to their scope of practice but was something they wanted to know a little bit more about.

Participants in this study identified professional knowledge as the background for their practice; its focus was understanding the rules and regulations behind their practice. Professional knowledge was related to anything that did not have a direct patient focus. To the Nurse Practitioner, professional knowledge was “*management and leadership skills, not related to your clinical knowledge*” (FGP 3). So professional knowledge was different from

the clinical knowledge of the Nurse Practitioner. Professional knowledge comprised of the skills essential for participants to be able to practice as a clinician.

To further help differentiate between clinical and professional knowledge, FGP 2 provided the following explanation. *“Nurse Practitioners and lawyers are both different professions. They both share common professional knowledge. This professional knowledge is all about communication, management, time management and other skills not directly related to their everyday work. Their everyday work is where the differentiation occurs. This is where specialist knowledge sits. For the lawyer, this specialist knowledge is legal knowledge. For the Nurse Practitioner, this specialist knowledge is their clinical knowledge. It is this access and use of specialist knowledge areas that differentiate the two professions.”* So, participants in this study understood professional knowledge to be the common link between all professions. The knowledge that differentiates the professions is the specialist knowledge they use each day to perform their roles safely.

4.7 Discussion

4.7.1 The perceived impact of CPD on patient care

Reviewing the current Nurse Practitioner literature as reported in Chapter Two, none of the five articles explored the perceived impact of CPD on patient care. This lack of discussion in the literature around the perceived impact of CPD is a gap that was highlighted by Wynne (2015). All the focus group participants perceived that CPD had an impact on the care they provided. Undertaking CPD allowed them to provide a high standard of care; expand their scope of practice to provide broader care to their patients. Therefore, CPD was essential and impactful by the focus group participants to their practice.

4.7.2 The motivations for undertaking CPD

None of the five articles highlighted in Chapter Two reported on the motivations for undertaking CPD. The focus group participants highlighted that regulation was a primary motivator for undertaking CPD for them. This regulation was divided into three areas: the

regulatory authority, the standards for CPD, and the inclusion of mandatory training hours as part of CPD hours.

Discussing who the regulatory authority for Nurse Practitioners is in Australia is disconcerting. Nurse Practitioners are supposedly senior clinical practitioners, and one would expect them to know who their regulatory authority is. This focus group demonstrated that confusion still existed at the time the discussion took place, as to whether AHPRA or NMBA was the regulatory authority.

Regarding the standards of practice set by the NMBA for CPD, they are broad to allow flexibility in what is undertaken by the Nurse Practitioner to fulfil their CPD requirements. No two Nurse Practitioners have the same scope of practice, and while they may often undertake the same CPD, there will be many times when this does not happen. By providing a broad standard, there is the flexibility to pick and choose their CPD activity.

Mandatory education is an important aspect of the CPD undertaken by the Nurse Practitioner as it ensures that they meet the minimum safety standards required to fulfil their role. However, the focus group participants felt that these activities were more about the facility than them learning something new that may benefit their patients. The focus group was not advocating not doing this mandatory education, but doing this outside their mandatory 30 hours of CPD. This way, their mandatory CPD could all be about self-improvement and patient focused learning.

4.7.3 The perceived barriers to undertaking CPD

The focus group revealed barriers to Nurse Practitioners attending CPD that were consistent with both Tilleczeck et al. (2005) and Baxter et al. (2013). These authors explored the perceived barriers to CPD from the viewpoint of the Nurse Practitioner. The common barriers these studies found were cost and distance to travel to attend a CPD activity. While the focus group participants did not identify the distance to travel as a barrier. They did identify cost as a barrier to accessing a CPD activity. Where both Tilleczeck et al. (2005) and Baxter et al. (2013) saw cost as being just a single factor, the focus group participants saw it as being a dual factor, the cost of the activity and the associated costs. Either one of these costs could prevent a Nurse Practitioner from attending a CPD activity.

The focus group also found that managerial support was essential to be able to attend some CPD activities. If the department was able to backfill their position and not too many staff members needed time off, then managerial support was easily granted. If these conditions were not met, then they were unlikely to get managerial support to attend an activity. If they then wanted to attend a CPD activity, they would have to do it in their own time and at their own expense.

4.7.4 Knowledge

Professional knowledge was different from the clinical knowledge for the Nurse Practitioner. In this thesis professional knowledge comprised of the skills essential to be able to practice as a clinician, in contrast, clinical knowledge was defined by this focus group of Nurse Practitioners as the skills they needed to provide care to their patients. The professional knowledge defined in this study is different from how Kinsella (2010) saw professional knowledge, here it was seen as something that would benefit the patient. This view was also seen by Kvale and Bondevik (2010), Chow, Chan, Ho, and Ng (2017) and Bhalla (2017), all of whom saw professional knowledge as knowledge that led to enhanced patient care. How these authors saw professional knowledge was not how participants in this study saw professional knowledge; participants in this study saw professional knowledge as not having a direct impact on patient care. These authors are using a definition of professional knowledge that is different to the definition of the Nurse Practitioners in this study. These author's definitions of professional knowledge referred to skills that included leadership and management, as well as clinical knowledge, but, in this study the Nurse Practitioner's defined professional knowledge as leadership and management only, and clinical knowledge as a separately defined aspect of knowledge.

4.8 Summary

Chapter Four has provided a summary of the aim and research questions of the exploratory sequential mixed-methods research project, which this study is a part. The chapter has then described the research method used in Study One.

The focus group acted as an expert panel to review the draft questions that were proposed to be used in the exploratory survey tool in Study Two. This expert panel made alterations to this tool and confirmed by consensus the appropriateness of the tool to be used with Australian Nurse Practitioners and to help the researcher meet the aim and research questions of the study.

Qualitative content analysis, driven using the key concepts of the research questions as categories, was undertaken and discussed, the analysis revealed a further, previously undiscovered category of “Knowledge.” The following chapter will discuss Study Two the exploratory survey.

Chapter 5

Study Two – Exploratory Survey

5.1 Introduction

Chapter Five presents Study Two. The aim of Study One was to refine the survey tool, and then use this tool in Study Two to canvass the broader Australian Nurse Practitioner population. The chapter begins with a summary of the exploratory sequential mixed-methods study that is the basis for this research. The chapter then discusses the research method for this study, and the method of data collection used, the online exploratory survey. Participants in Study One confirmed by consensus the appropriateness of the exploratory survey tool used in Study Two. The participants in this study were recruited from members of the Australian College of Nurse Practitioners. The process of exploratory factor analysis is then described. The aim of using exploratory factor analysis as part of Study Two will allow the researcher to define the theorised generative mechanisms described in section 3.8 p86 the perceived impact of CPD, section 3.9 p90 the motivations for undertaking CPD and section 3.10 p91 the perceived barriers to CPD. By defining these generative mechanisms, a deeper understanding of the aim and research questions of this thesis is provided. A rationale for the values for each stage of the exploratory factor analysis is provided.

The next section of this chapter presents the results obtained in Study Two. The section describes the demographic details of the participants. The results of the pilot study used to test the functionality of the online exploratory survey tool are then presented.

The last three sections of this chapter present the results of the exploratory factor analysis used in Study Two to explore the key concepts of the research questions, that is, the perceived impact of CPD; the perceived motivations for undertaking CPD; and the perceived barriers to CPD. These sections demonstrate how the *empirical* experiences of the Nurse Practitioner are linked to the generative mechanisms theorised to exist around CPD in the *real*, via identified pathways in the *actual*. This process demonstrates how Critical Realism was used as a sense-making framework in this study.

5.2 Background

Nurse Practitioners in Australia are mandated to undertake 30 hours of CPD each year to maintain their endorsement (Nursing and Midwifery Board Australia, 2016a). The literature implies that CPD has an impact on the outcome of patient care. Yet, there is no literature

available that discusses this from the view of the Nurse Practitioner. Therefore, these inferences are derived from studies related to the RN and other healthcare professionals, not the Nurse Practitioner. Thus, many of the views of the RN are used as a starting point for this research as the Nurse Practitioner is firstly a RN. This is a gap in the literature, as no study has explored the perceptions of Nurse Practitioners around CPD, this research will begin to fill this gap.

To fill this gap in the literature, the researcher developed an online survey tool in Study One of this research. The aim of Study Two was to provide data that could undergo quantitative analysis to explore the perceptions of the Nurse Practitioner about the impact their CPD has on the care they provide for their patients. Study Two will also explore the following key concepts of the research questions: the perceived impact of CPD; the perceived motivations for undertaking CPD; and the perceived barriers to obtaining CPD.

5.3 Methods

The findings from the focus group in Study One informed the exploratory survey tool for Study Two. Amendments recommended by the participants in Study One were incorporated into the exploratory survey tool. This exploratory survey tool was used to canvass the opinions of Australian Nurse Practitioners about CPD and their perceptions about its impact on patient care.

The final exploratory survey tool is shown in Appendix Seven. Surveys are a feasible means to gather information from many people (Young et al., 2014). An online survey was selected because it can be administered to a higher number of participants at the same time over a wide geographical distance (Aaron, 2012). Online surveys are cheaper than traditional survey methods (Lee, 2010). Data collected online is easier to collate and analyse than paper-based surveys and according to Taylor and Doehler (2014) avoids transcription errors when data are entered by researchers. Online surveys can be distributed quickly to the sample (Hoonakker & Carayon, 2009) and have a quick turnaround time (Aaron, 2012). Data can easily be exported into data analysis software (Gill, Leslie, Grech, & Latour, 2013). Skip, and content logic can be used to make the survey more efficient for the participant (Gordon & McNew, 2008).

The use of an online survey tool also allowed the researcher to send reminders to participate in the exploratory survey. The content of the reminders included a statement that if the participant had already completed the exploratory survey or was not interested, they could ignore the email.

The survey was uploaded to a web-based survey company, Qualtrics (SAP, Salt Lake City, Utah). Qualtrics is the web-based survey company partnered with the University of Canberra. The researcher used the tools available in the Qualtrics programme to add skip and content logic to the questions which, Gordon and McNew (2008) state allow the survey tool to become more relevant and personal to the participant. Skip logic was defined by Gordon and McNew (2008) as the process in online surveys which allows the content not relevant to participant to be displayed. For example, in a simple question with a yes/no response, the yes response may direct the participant to the next question and the no response may direct the participant to a comment section for them to complete or another part of the survey. Here, skip logic is used to determine what information is next presented to the participant. Content logic is similar to skip logic, as according to Dykema, Jones, Piche, and Stevenson (2013) content logic only allows questions pertinent to the participant to be displayed, the information not pertinent to the participant is skipped. Content logic is determined by the responses to questions. For example, at the start of the survey participants are asked if they are happy to participate in the survey. If they respond yes, then the contents of the survey are opened to the participant. If they respond no, then no content is opened to them and they are taken to the final thank you screen.

To ensure that these functions of skip and content logic flowed correctly, the researcher undertook pilot testing of the exploratory survey. The pilot testing was to ensure that the tool flowed correctly in the online environment and was user-friendly. During May and June 2015 the researcher undertook pilot testing of the finalised exploratory survey tool. A total of 15 Professional Doctorate and PhD candidates enrolled within the Faculty of Health at the University of Canberra were emailed a link to pilot the study. These diverse participants were asked to explore the exploratory survey tool and provide feedback to the researcher on the flow and user-friendliness of the tool. Participants were asked to provide this feedback in an email to the researcher. A copy of the finalised exploratory survey tool based on this feedback is provided in Appendix Seven. The researcher received positive feedback from this pilot testing. Participants agreed that the exploratory survey flowed correctly. The questions presented were

easy to understand. Also, the skip and context logic used within the exploratory survey worked correctly. Typographical errors highlighted by the pilot participants were corrected. Data from the pilot group was not analysed since the purpose was to check the flow of the questionnaire, not to collect data.

5.4 Participants

Participants for Study Two were members of the ACNP. The ACNP was used as it the peak national professional body for the Nurse Practitioner in Australia, and its membership at the time of the survey was approximately 50% of the Nurse Practitioners in Australia and therefore, was deemed to be able to provide a sufficient population. The ACNP was also able to ensure that there were no breaches of confidentiality by holding the addresses of the participants. Permission was granted by the ACNP to send a series of emails to members held on its membership database. A copy of the letter of Approval from the ACNP for this process is presented in Appendix Eight. Participants in the focus group from Study One may have received an invitation to participate in Study Two if they were members of the ACNP. It is not possible to determine if participants were recruited to both studies, due to the anonymity of participants in Study Two. Participants in Study Two may have been part of the focus group in Study One. It was not possible to determine if this was the case as only basic demographic data was collected as part of Study Two.

The first email provided information about the study. Included in the email was a secure encrypted link generated by Qualtrics to an anonymous survey in accordance with the ethics approved for this research. The two subsequent emails provided the same information and invitation to participate. Further information in the final two emails included an option to ignore the email if they had already participated or did not wish to participate in the study.

The exploratory survey was open for participation between July 2015 – November 2015.

All participants in this study shared a similar homogeneity as all had a similar life history (Robinson, 2014). This similarity is demonstrated by all having a career as a Nurse Practitioner caring for patients. The heterogeneity of the group is demonstrated by the range of scopes of practice the Nurse Practitioners work under. This heterogeneity will bring different experiences to the group (Polit & Beck, 2012). Therefore, the sample for this study is both

homogeneous and heterogeneous, in that they all have a similar background, but all work under a different scope of practice.

5.5 Data Analysis

Collection of data for Study Two was via the exploratory survey tool, which collected both quantitative and qualitative data as shown in Table 5.1. Analysis of the quantitative and qualitative data occurred separately. The questions used in this exploratory survey are novel to this survey, as no research has previously been undertaken in this area. However, participants of Study One confirmed the content validity of the questions used as being appropriate to be asked of Nurse Practitioners on this topic.

The final version of the online survey consisted of 31 questions and is presented in Appendix Seven. The responses to these questions were collected via a combination of binary, Likert scale, open text box, and predetermined list, as demonstrated in Table 5.1. Question 1 collected electronic consent from the participant to participate in the survey. Questions 2 – 11 were designed to help answer the aim and research questions of the research. Questions 12 – 16 were designed to provide further information about CPD. Questions 17 – 21 allowed demographic details of the participants to be collected. The final questions 22 and 23 were asked to determine the extent Nurse Practitioners were engaged in research and to allow the participant to express any opinions about CPD not already collected.

Table 5.1 Table showing each question of the survey, the type of question, and source of the question

Question number	Question	Format	Quantitative or Qualitative	Why asked
1	I have read the above information and agree to participate in the study?	Binary Yes/No	- na	Opening question used to obtain consent from participant to proceed with the survey
2	Have you been audited by the NMBA as a Nurse Practitioner	Binary Yes/No	- Quantitative	Serves as an opening question for participants to focus on CPD
2a	Please briefly tell me about the audit process you went through	Open text box	Qualitative	Allows the participant to provide a detailed response to a yes response in Q3
2b	Please tell me what you know about the audit process	Open text box	Qualitative	Allows the participant to provide a detailed response to a no response in Q3
3	How much impact has the CPD you have undertaken had on the care you provide to your patients?	Likert Scale	Quantitative	Using a four-point Likert scale of a lot, some, a little and none; participants were asked directly about their perceptions of the impact of CPD on patient care to meet the aim of the research: what is the perceived impact of CPD on patient care.
3a	In what ways do you think this CPD has impacted on the care you provide to patients	Open text box	Qualitative	Allows the participant to provide a detailed response when Q4 was answered with the response a lot or some. This allowed the researcher to explore deeper as to why there was a positive perception towards CPD
3b	Why do you think the CPD you have undertaken has not had an impact on the care you have provided to patients	Open text box	Qualitative	Allows the participant to provide a detailed response to when Q4 was answered with the response a little or none. This allowed the researcher to explore deeper as to why there was a negative perception towards CPD
4	What reasons do you have for undertaking CPD?	Predetermined list and open text box	Quantitative and qualitative	This question was included because the literature including Spencer (2006), Cooley (2008), Yfantis et al. (2010), Zahran (2013) and Wynne (2015) suggested the reasons for undertaking CPD included: to increase professional knowledge, update professional qualifications, increase the status of the Nurse Practitioner, to increase their self-esteem or fulfil their statutory requirements. The focus group (Chapter 4, p127-128) recommended the addition of the following to the survey, to increase personal knowledge and the topic interests me. The focus group also

Question number	Question	Format	Quantitative or Qualitative	Why asked
				recommended the addition of the open text box 'other' to allow participants to submit other reasons for undertaking CPD
5	From Q4 above what are your top three reasons for undertaking CPD?	Nominal list	Quantitative	Allows the researcher to identify the reasons most important to the participants as to what motivates them to undertake CPD
6	What is your primary reason for selecting a particular CPD activity	Predetermined list and open text box	Quantitative and qualitative	This question was included because the literature (including Spencer (2006), Cooley (2008), Yfantis et al. (2010), Zahran (2013) and Wynne (2015)) suggested the reasons for undertaking CPD included the accessibility of the activity, the cost, the location and the timing of the activity and to obtain CPD points. The focus group (Chapter 4 p131) recommended adding the following: To improve person knowledge, to improve professional knowledge, to improve clinical knowledge. The focus group also recommended the addition of the open text box 'other' to allow participants to submit other reasons for undertaking CPD
7	Why did you choose your answer for Q6	Open text box	Qualitative	Allows the researcher to gain a deeper understanding of the motivation's participants have when undertaking CPD
8	How do you usually participate in CPD activities	Predetermined list and open text box	Quantitative and qualitative	This question was included because the literature (including Charles and Mamary (2002), Tilleczek et al. (2005) and Baxter et al. (2013)) suggested the following activities were used to obtain CPD: conference attendance, video conference, teleconference, reading journals, online activities, case studies, interactive discussion boards, mentoring students, meetings, interactions with colleagues, self-directed learning. The focus group (Chapter 4 p123-124) recommended the following be added: mandatory competencies, research, post-graduate courses, one-on-one teaching as the teacher, classroom teaching as the teacher, peer review and in-house teaching as the student. The use of the open text box 'other' allowed the participants to describe other activities they regularly obtain CPD from
9	From Q8 above what are your top 5 ways of obtaining CPD?	Nominal list	Quantitative	Allows the researcher to identify the main activities participants used to undertake CPD

Question number	Question	Format	Quantitative or Qualitative	Why asked
10	What are the main barriers to you undertaking CPD?	Predetermined list and open text box	Quantitative and qualitative	This questions was included because the literature (including Tilleczek et al. (2005), Baxter et al. (2013), Govranos and Newton (2014), Coventry et al. (2015) and Shahhosseini and Hamzehgardeshi (2015)) indicated that the following may be barriers to obtaining CPD: cost, travel, time constraints. The focus group (Chapter 4 p 134) recommended adding the following: lack of relevant courses offered, time away from work and time away from family. The use of the open text box 'other' allowed the participants to describe other barriers they regularly faced to obtain CPD
11	From Q10 above what is your main barrier to undertaking CPD?	Open text box	Qualitative	Allows the participant to provide a detailed response to Q11
12	Is there a difference between the CPD you undertake as NP and the CPD you undertake as an RN?	Binary Yes/No	- Quantitative	From informal discussions with colleagues prior to the research, used to identify if there is a difference between the RN and NP needs for CPD
12a	How is the NP CPD different?	Open text box	Qualitative	Allows the researcher to explore how CPD is different for the Nurse Practitioner and the RN, exploring these differences will allow the research to determine if the impact of CPD, barriers and motivations towards CPD remain the same between the different levels of the profession.
12b	Why is the NP CPD not different	Open text box	Qualitative	Allows the researcher to explore why the Nurse Practitioner and the CPD are not different from each other. The research is then able to highlight the similarities between the impact of CPD, barriers and motivations towards CPD for the Nurse Practitioner and the RN
13	Does undertaking CPD change your practice?	Binary Yes/No	- Quantitative	This question asks the participant to consider if they notice a change in their practice from undertaking CPD. A yes response to this question would suggest to the research that CPD is used to change the Nurse Practitioner's practice which would indicate that CPD has an impact on patient care
14	How does undertaking CPD change your practice	Open text box	Qualitative	By asking the participants how their practice changes because of CPD allows the researcher to understand the perceptions of Nurse Practitioners around the impact of CPD on patient care.

Question number	Question	Format	Quantitative or Qualitative	Why asked
15	How many hours of CPD have you undertaken in the last 12 months?	Open text box	Qualitative	To identify how many hours of actual CPD the Nurse Practitioner undertakes in comparison to their mandated number of hours
16	If you have undertaken more than 30 hours, what reasons are you able to give undertaking those hours?	Open text box	Qualitative	To provide an insight as to why the Nurse Practitioner may undertake more than their mandated number of CPD hours
17	In which age range do you fall?	Predetermined list	Quantitative	Participant Demographics: To identify the age range of participants to evaluate how representative this sample is of the National Register
18	What is your gender?	Predetermined list	Quantitative	Participant Demographics: To identify the gender distribution of participants to compare to the National Register
19	In what State/Territory do you live?	Predetermined list	Quantitative	Participant Demographics: To identify where participants worked and to identify the representational spread of the participants
20	Are you a public employee, a private employee, self-employed, a combination of the above	Predetermined list	Quantitative	Participant Demographics: To identify the sector of work for the participants
21	What is the main specialisation in which you work?	Open text box	Quantitative	Participant Demographics: To identify the spread of specialities in which the participants work
22	Are you currently undertaking a Doctorate degree?	Binary - Yes/No	Quantitative	Participant Demographics: To identify in participants where undertaking doctoral research
22a	Please share what your thesis is about	Open text box	Qualitative	Participant Demographics: Allows the participant to provide a detailed response to a yes response in Q22
23	Is there anything else you wish to add?	Open text box	Qualitative	Participant Demographics: To allow participants to provide any further information they felt was relevant

CPD = Continuing Professional Development; Q = Question

Predetermined list = this is a list of predetermined responses derived from the literature and the recommendations of the focus group; Open text box = allows the participant to respond to the question using their own words; Nominal list = a list created by the participant from previous response

For Question 3 a four-point Likert scale was used. As a four-point Likert scale allowed the researcher to dichotomise the results of the responses. Participants were asked to determine in their response whether CPD either had an impact or not. Instead of a binary response of yes or no the use of four-points allows the points to express some deeper opinion, rather than just yes or no. There is some variety in response. This variety allows those participants who feel there is only a slight impact of CPD on patient care to demonstrate their view. Hence the question prompted the participant to decide whether the impact was a lot; some; a little; or none. While ‘some’ and ‘a little’ may appear similar, they are different. This was a reducing scale, a lot reducing to none. Therefore, participants responding with a little were seen more as a negative response than some, so if a participant felt that CPD had no or little impact on CPD they would have chosen this response or none. If a fifth middle option had been added, this could have been an ambivalent answer. If this answer was selected the question of the impact of CPD would not have been clearly answered.

Presented first, from the quantitative data is a description of the demographic data of the participants. The demographic data included: the age and gender of the participants; the state or territory they practice in; their area of specialisation; and their sector of employment. The quantitative data was then used to confirm the link between the *empirical* and *actual* to the theoretical generative mechanisms highlighted in Chapter 3. The collected data were entered into SPSS 23, to enable the Exploratory Factor analysis calculation to occur.

Exploratory Factor analysis was chosen by the researcher as it makes no assumptions of the number or nature of the factors used (Taherdoost, Sahibuddin, & Jalaliyoon, 2014). This is an exploratory study being used to generate theory. Undertaking exploratory factor analysis allows the researcher to explore and define the strength of a relationship between the experience and the theory. To ensure the reliability of the results found using the process explained below, a statistician at the University of Canberra was asked to review the results to ensure the accuracy of the findings.

Exploratory Factor analysis allowed the reduction of a set of factors (*empirical* experiences) to sets of components (*actual* links) that encapsulated primary factors to help define a construct (a generative mechanism in the *real*) (Howitt & Cramer, 2011). Exploratory Factor analysis is not a single statistical method, but a group of methods that require the researcher to make subjective decisions to improve the accuracy of the solution (Beavers et al., 2013). The subjective decisions made by the researcher were: the inclusion rate of those who failed to

complete the survey fully; the acceptance level of the Kaiser-Meyer-Olkin measure of sampling adequacy; Bartlett's test of sphericity; and the eigenvalue used to ensure the accuracy of the data.

To ensure that incomplete data from the survey did not skew the results of the survey, those survey participants who failed to complete 60% of the exploratory survey had all their results excluded from the data analysis. This listwise deletion of participants with missing data is a standard solution used by researchers, Newman (2014) argues, for preventing skewing of the study's results. Before undertaking the factor analysis, each factor was cleaned to ensure that all factors contained the same number of responses. Unevenness in the responses can lead to skewed and unreliable results (Baglin, 2014). Factors with fewer than 71 responses had a "0" added to ensure each factor totalled 71. Adding "0" ensured that all factors had 71 responses. The adding of a "0" did not compromise the data, as the data collected was of a binary nature for each factor. The participant either responded to the factor or did not respond to the factor. Therefore, a "1" represented a positive response to a factor, and a "0" represented a non-response to a factor. By ensuring that all factors had this binary response is an appropriate way for factor analysis to be executed according to Howitt and Cramer (2011) (p288). Once all the factors had been reviewed to ensure consistency, it was possible for factor analysis to occur. By cleaning the data in this fashion, the researcher sets the dataset up so that it can be used by anyone else to get the same result as the researcher (Fink, 2017).

Factor analysis of the data occurred using predefined parameters identified by the researcher. The predefined parameters used by the researcher in SPSS 23 to run factor analysis were highlighted by Yong and Pearce (2013) as the most commonly used parameters in research. The factor analysis calculation process in SPSS used the same parameters for each calculation. Using the same parameters enabled the researcher to maintain consistency of results, as the researcher used the same fixed parameters for each calculation performed. The parameters for each step of the factor analysis are described below.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to measure the shared variance in the factors analysed, to demonstrate how interpretable the final factor pattern was (Beavers et al., 2013; Kaiser, 1974). The interpretation of the KMO measure was established by Kaiser (1974) as: in the 0.90 range marvellous; 0.80 range meritorious; 0.70 range middling; 0.60 range mediocre; 0.50 range miserable; and below 0.50 as not suitable for factor analysis.

Bartlett's test of sphericity was used to confirm there was a pattern in the relationship between factors (Yong & Pearce, 2013). Factor relationship needs to have a significance of less than 0.05 to demonstrate that there is a relationship between the factors (Field, 2005). Having a significance of less than 0.05 demonstrates that factor analysis was appropriate for the data (Field, 2005).

The eigenvalue was used to represent the statistical variance of each principal component found in the data (Suhr, 2005). The higher the value, the higher the significance of the component. The eigenvalue cut-off used during data extraction was set at 1. An eigenvalue of 1 is the most commonly cut-off value used in research (Gaskin & Happell, 2014). Tabachnick and Fidell (2014) state that using a value of less than one is not demonstrating a significant link.

The relationship between the factors (*empirical* experiences) was tested against the construct (generative mechanism of the *real*) and to test the inter-factor relationship to provide the common link (the components of the *actual*) between the factors (Howitt & Cramer, 2011). Thus, factor analysis was able to demonstrate how *empirical* experiences link to the generative mechanisms of the *real* via the *actual*.

The qualitative data from the open-ended questions in the exploratory survey tool were analysed using the descriptive qualitative framework described by Elo and Kyngäs (2008). The survey was designed around the three key concepts from the research questions, the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to undertaking CPD and the emergent category of knowledge identified in Study One. Deductive analysis therefore commenced using these categories and sought to validate the conceptual pathway of the thesis by the survey responses. Using a deductive approach allows focus on content that is specific to the research aim and the key concepts of the research questions, the researcher also remained open to recognise new ideas and categories that may emerge from the new data obtained from the survey. This was achieved by the reading and the coding of responses provided in the survey. The researcher worked through this process and then shared the results with the supervision panel as a reflective process to confirm that an accurate representation had been achieved. Further coding was left until Stage 4 of the research, Triangulation. In this section of the research only exemplars of the main categories were identified and coded.

5.6 Results

5.6.1 Participants

Emails were sent to 629 Nurse Practitioners containing a link to the exploratory survey. After 12 weeks, the exploratory survey was closed; there had been a total of 91 exploratory surveys submitted. Twenty of these exploratory surveys failed to meet the minimum 60% completion rate set by the researcher so were not included in the data analysis. Therefore, Stage 2 of the data analysis included a total of 71 completed surveys. These 71 completed surveys represent a response rate of 14% from the 629 emails sent out to potential participants. The exploratory survey participants (SP) were labelled SP 1 to SP 71 so that anonymised quotes could be extracted from the qualitative data and reported as part of the results.

5.6.2 Demographics

Age and Gender

There were 55 (77%) female and 16 (23%) male responders. Within the current nursing population, 89% are female, and 11% are male (Nursing and Midwifery Board of Australia, 2019). Therefore, this study has a lower female representation and a higher male representation when compared to the national body of nursing. It is not possible to correlate the female/male ratio of the whole Nurse Practitioner population as the NMBA does not collect this information. Comparing the participant information to the membership data of the ACNP, there is an equal ratio between the two groups, as the ACNP records show that at the time the exploratory survey was collected 82% of their membership was female and 18% was male (Australian College of Nurse Practitioners, 2017). Therefore, this is close to a representative sample of the ACNP membership.

The age range for participants is shown in Table 5.2. Table 5.2 indicates that most Nurse Practitioners who participated fall between the ages of 41 and 60, whereas the age registration data held by the NMBA shows that most of the nursing workforce falls between the ages of 30 and 60 years old (Nursing and Midwifery Board of Australia, 2019). This shows that Nurse Practitioners are within the older age range of RNs in Australia.

Table 5.2 The age of the participants

Age range	Count	%
21-30	0	0
31-40	14	21
41-50	21	29
51-60	33	46
61-70	3	4
N	71	100

State or territory of practice

The 71 completed exploratory surveys included in the study showed the participants' principal state or territory of practice. In this study, Western Australia had a participation rate of 33%. Western Australia only has 13.5% of the endorsed Nurse Practitioners in Australia (Nursing and Midwifery Board Australia, 2019a). The participation rate for both New South Wales and Queensland was 19%. Both of these are lower than their national representations; New South Wales represents 23%, and Queensland represents 26% of the endorsed Nurse Practitioners in Australia (Nursing and Midwifery Board Australia, 2019a). There were no participants in this study from the Northern Territory or Tasmania. When compared to the national representation of Nurse Practitioners, these two areas each only represent 3.7% of the endorsed Nurse Practitioner population. In the national data 0.7% of the Nurse Practitioner population do not state which state or territory they practice in (Nursing and Midwifery Board of Australia, 2019). Overall this study attracted participation from Nurse Practitioners from most states or territories in Australia. A complete breakdown of state or territory participation is shown in Table 5.3.

Table 5.3 State or territory where the Nurse Practitioner is employed

State or Territory	Exploratory survey	National figures*
ACT	3 (4%)	50 (2.7%)
NSW	14 (19%)	424 (23%)
NT	0 (0%)	27 (1.4%)
QLD	14 (19%)	484 (26%)
SA	5 (7%)	156 (8.4%)
TAS	0 (0%)	43 (2.3%)
VIC	12 (12%)	405 (22%)
WA	23 (33%)	248 (13.5%)
N	71 (100%)	1,837 (99.3%)

*National figure based on figures as of June 2019 (Nursing and Midwifery Board Australia, 2019a)

Area of specialisation

The participants in the exploratory survey were asked to define their specialist area of practice. The study participants identified a total of 22 areas of specialist practice. A total of 11 participants reported having more than one area of specialisation. Reporting of more than one area of specialism was due to the participant holding employment in two different work areas. Each area of employment requires them to undertake a different role. For example, one participant worked both as a Primary Care Practitioner and as a Cosmetic Practitioner. Another example was a participant who was employed as an Emergency Nurse Practitioner and a Paediatric Nurse Practitioner in the same department.

The declared specialism of participant in this study were compared to the working definitions of Gardner et al. (2013) and Helms et al. (2017) of the six meta-specialities highlighted for Nurse Practitioners. This comparison found that the highest meta-speciality was emergency and acute care (20). This category was followed by aged and palliative care (17), primary healthcare (16) and the care of people with long-term conditions (15) meta-specialities. Mental healthcare (9) and child and family healthcare (5) were the meta-specialities with the fewest reported areas of specialisms.

Sector of employment

The final demographic detail collected was the employment sector in which the Nurse Practitioner was employed. The participants were asked to identify whether they were a public or private employee; self-employed; or a combination. Most participants, 76%, identified themselves as being public employees. These participants would be eligible for the assistance provided by employers to undertake CPD activities, as discussed in Chapter One section 1.6. Only 3% of participants identified themselves as being self-employed, and 12% of participants identified themselves as being privately employed. These participants would not be eligible for CPD benefits, as highlighted by SP 41 who stated, “*in private practice, we are required to fund our CPD expenses.*” This statement is further supported by SP 43 who stated, “*employers rarely pay for anything, so I have to cover the majority of cost.*” Therefore, it is likely that these participants are reliant on claiming their self-education expenses via the Australian taxation system. The remaining 9% of participants who were employed in a combination of positions, across different sectors may be eligible to claim some employer assistance for CPD if employed in the public sector.

Participants in the survey raised the issue around private employer funding to attend CPD activities. These participants stated that private employer funding is limited and unlikely to cover the expense of attending all the CPD activities the Nurse Practitioner needs to attend to meet their CPD requirements. Therefore, participants highlighted that all Nurse Practitioners do have the opportunity to claim a refund for their CPD as part of their tax benefits under the Australian Taxation system.

Nurse Practitioner preferences for undertaking CPD

Participants in Study Two were given a list of everyday CPD activities compiled from the literature and the discussions in Study One. Participants were asked to select all the usual activities they commonly undertook to obtain CPD. Participants were free to choose more than one activity. Table 5.4 presents a breakdown of how Nurse Practitioners in Study Two responded.

Table 5.4 Nurse Practitioner preferences for undertaking CPD

CPD activity	Number (%) (n=71)
Conference attendance	67 (89)
Video conference	23 (31)
Teleconference	16 (21)
Local study sessions – you are the student	30 (40)
Grand rounds	26 (35)
In-house teaching sessions – you are the student	26 (35)
Reading journals	63 (84)
Online activities	55 (73)
Case studies	44 (59)
Online discussion boards	12 (16)
Mentoring students	42 (56)
Meetings	37 (49)
Interaction with colleagues	49 (65)
Self-directed learning	57 (76)
Peer review	20 (27)
Classroom teaching – you are the teacher	34 (45)
One-on-one teaching – you are the teacher	27 (36)
Post-graduate courses	29 (39)
Research	31 (41)
Mandatory competencies	45 (60)
Other – please specify	5 (7)

Those participants who provided a response in the “other” category were asked to elaborate on what this “other” activity was. The other activities participants identified included seminars and congresses; course development for international universities; writing blogs; coaching; editing; professional organisation participation; and drug company sponsored events.

Conference attendance was the most popular way of obtaining CPD for Nurse Practitioners in this study. Nurse Practitioners in this study saw conferences as an opportunity to learn as “*there is always something significant to be learnt at a conference*” (SP 68).

Another favourite CPD activity undertaken by Nurse Practitioners in this study was attendance at post-graduate courses or workshops as students. The participants highlighted that the types of courses or workshops which were most popular were the ones that offered practical hands-on experiences. “*A practical workshop or course that is relevant to my scope of practice will change and improve my practice, and care I provide*” (SP 71). These courses or workshops are often local and seen by the Nurse Practitioner as “*the most clinically relevant way to obtain CPD*” (SP 71). Outside of these locally organised workshops or courses “*there is a limited amount of Nurse Practitioner relevant workshops available in Australia*” (SP 58).

Many Nurse Practitioners saw reading journals as a way of obtaining CPD hours. Reading journals was undertaken for many different reasons, including “*reading around my specialist area*” (SP 64) and “*reading evidence-based articles help to improve my practice*” (SP 2). Other Nurse Practitioners read journal articles to “*facilitate discussions with colleagues*” (SP 3).

5.6.3 Generative mechanism – the perceived impact of CPD on patient care

A total of 31 potential factors were highlighted in the online survey as representing the experiences and perceptions of the Nurse Practitioners in the *empirical* domain related to the impact of CPD on patient care. The responses to these 31 factors were used in the exploratory factor analysis calculations for this generative mechanism.

The first two tests reviewed in the results were Bartlett’s test of sphericity and the Kaiser-Meyer-Olkin measure and are shown in Table 5.5. The results of these two tests helped to determine the validity of this data for factor analysis. The Bartlett’s test for sphericity was 0.00. The Bartlett test indicated the data were suitable for factor analysis to take place.

However, the Kaiser-Meyer-Olkin measure was 0.512. Performing the Kaiser-Meyer-Olkin score resulted in a low score which according to Kaiser (1974) meant the data was suitable for factor analysis as the result was greater than 0.5. However as Kaiser (1974) highlighted while a score of greater than 0.5 demonstrates the suitability of factor analysis, the relationship between these factors would be of low value. As both scores indicated that factor analysis was appropriate, further analysis of the data took place.

Table 5.5 Kaiser-Meyer-Olkin and Bartlett score for the perceived impact of CPD test 1

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.512
Bartlett's Test of Sphericity	Approx. Chi-Square	697.058
	df	465
	Sig.	.000

The eigenvalues were the next section of the results to be reviewed. With an eigenvalue of one, the results demonstrated that 12 components accounted for 72% of the variance seen in the data. Therefore 28% of the variance is left unexplained. Further research in the future may help to explain this unexplained variance. A copy of the eigenvalue table is presented as Table 5.6.

Table 5.6 Table of variance for factors associated with the perceived impact of CPD on care

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Initial Eigenvalues			Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.028	12.995	12.995	4.028	12.995	12.995	2.348	7.575	7.575
2	2.618	8.445	21.440	2.618	8.445	21.440	2.270	7.324	14.899
3	2.185	7.049	28.489	2.185	7.049	28.489	2.221	7.164	22.063
4	2.055	6.629	35.118	2.055	6.629	35.118	2.142	6.910	28.973
5	1.866	6.018	41.136	1.866	6.018	41.136	2.099	6.773	35.745
6	1.744	5.626	46.762	1.744	5.626	46.762	1.823	5.879	41.624
7	1.618	5.221	51.983	1.618	5.221	51.983	1.739	5.610	47.235
8	1.463	4.719	56.701	1.463	4.719	56.701	1.694	5.464	52.699
9	1.364	4.400	61.102	1.364	4.400	61.102	1.604	5.175	57.874
10	1.322	4.266	65.367	1.322	4.266	65.367	1.528	4.928	62.802
11	1.127	3.636	69.003	1.127	3.636	69.003	1.514	4.885	67.687
12	1.032	3.331	72.334	1.032	3.331	72.334	1.440	4.647	72.334
13	.942	3.037	75.371						
14	.899	2.901	78.272						
15	.766	2.470	80.742						
16	.692	2.233	82.974						
17	.648	2.091	85.065						
18	.628	2.026	87.091						
19	.567	1.828	88.919						
20	.524	1.691	90.610						
21	.419	1.350	91.960						
22	.392	1.265	93.226						
23	.372	1.199	94.425						
24	.313	1.009	95.434						
25	.287	.927	96.361						
26	.256	.826	97.187						
27	.217	.701	97.888						
28	.196	.633	98.521						
29	.174	.561	99.082						
30	.153	.492	99.574						
31	.132	.426	100.000						

Extraction Method: Principal Component Analysis.

Table 5.7 presents how each of the 31 potential factors were related to each component. For example, in Table 5.7 component 1 was associated with multiple factors. The stronger these factors are to the value 1 the stronger that factor is associated with that component. Should the factor have a negative number associated with it, that factor then has a negative impact on that component. This negative impact means that that factor is acting against that component in some way.

Table 5.7 how each perceived impact on patient care factor relates to each component highlighted in Table 10

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Mentoring students	.600		.239	.173			-.258	-.355			-.140	.132	.105
Interactions with colleagues	.594		.243		-.133		-.283			-.172	-.199	.113	-.443
Peer review	.576	.273	.163		-.137	-.197	-.116			.149		-.169	-.394
Meetings	.541	-.181		-.422		.279	-.288	.262				-.201	
Self-directed learning	.526	.148	-.115	.114		.319	-.159	.174	-.490	-.296	-.133		.102
Mandatory training	.493	-.195		-.241	.291	-.230				-.431			.216
Online discussion boards	.453	-.124		-.133	-.203		.449	.259	.150	.201	-.120	-.213	
The topic interests me	.404	.203	-.155			.365		.194	.341	-.266	.173	-.101	.365
Conference or course fees	-.153	.655		.189	.308		-.271	.223		.228			
Other expenses	-.143	.544	.245	-.157	.211	-.186	-.300	.371	.147	.188			
Lack of NP relevant courses		.541	.206		.435	-.113	-.155		.169	-.120	-.231		
Increase status of NP	.278	.524	-.291		-.354			.121	-.307		-.157	.199	
Local teaching as a student	.103	-.440		.106	.144	.430		.245	-.122	.324	.249	.189	.133
Time clashes		.221	.585					-.261	-.108		.223	.302	.253
Update professional qualification	.188	.375	-.466	.258	-.185		.326	.271	.215		-.154		
To meet statutory requirements	.300	.164	-.462	.113	.229			-.326	.134	.208		-.149	.194
Unable to backfill position	.269	.317	.430	-.197		.130	.420	-.164		-.150			
Classroom - teacher	.522	-.324		.559	.229				.106		.133		

One-to-one teaching	.524	-.132		.538			-.148		.264	.301			
Increase personal knowledge	.327		-.239	-.494	.422	.143	.237	-.127	.179		.218		-.160
Insufficient CPD from employer	.160	.122	.291	-.492	-.310		.136		.216		-.145	.252	.153
Lack of relevant courses	.167	.122		.325	.560		.119		.233	-.369			-.271
Online activities	.399		.138	-.229	.540	-.163	.379						
Time away from work	-.154	.311	.491	.242	.100	.531	.132		-.290			-.166	
Increase self esteem	.203	.304	-.363		-.161	.473		.122			.281	.161	-.127
local study sessions as a student	-.356		.215	.202		.399	.354	.317			-.157	.251	-.211
Post graduate courses	.246	.267			-.129	-.423	.431	.276	-.330		.218	-.116	
Conference		-.252	.277	-.180		-.184	-.264	.519		.126	-.116	-.193	
Update professional knowledge	.185				-.366	-.111			.402	-.448	.337		
To maintain professional competency	.183	.291	-.236	-.199				-.430		.432		-.115	
Lack of managerial support	.305		.231	-.281	-.298	.266			.252	.404		.109	-.106
Reading journals	.388	-.261		.202			.176				-.540	.174	.242
Research	.384		.239	.330	-.183	-.318			.132		.396	.171	
Time away from family	-.122	.241	.398	.334	-.190	.194					-.109	-.586	.156

Extraction Method: Principal Component Analysis.

a. 13 components extracted.

The 12 identified components suggest that relationships between the factors were widespread. Therefore, these 12 components may not be an accurate representation of the factors involved in the generative mechanism for the perceived impact of CPD. As there was widespread data, the researcher undertook a closer review of the results. This review looked to narrow the spread of the data to determine a more accurate representation of the generative mechanism around the perceived impact of CPD. The researcher assessed the score each factor achieved. A factor that obtained a score of less than 0.5 was either removed or combined with another similar factor to become a new joint factor. A score of less than 0.5 indicated that there was only a small link between that factor and the generative mechanism.

This review led the researcher to remove the following factors as their score indicated that they only had a minor relationship with the generative mechanism the perceived impact of care. These factors were: increase the status of the Nurse Practitioner; increase self-esteem; conference; reading journals; meetings; interactions with colleagues; self-directed learning; peer review; classroom teaching; post-graduate courses; research; time clashes; time away from family; lack of relevant courses; and lack of relevant Nurse Practitioner courses.

The review also led the researcher to combine factors with similar meanings. The new factors that the researcher identified were: time factors work – this combines the two factors time away from work and unable to backfill time at work. The new factor of teaching – this combined the factors mentoring of students and one-on-one teaching. The new factor online – this combined the factors online activities and online discussion. The new factor work – this combined the factors lack managerial support and mandatory education. The new factor student – this combined the factors local CPD activity as a student and local study as a student. The combining of factors was discussed with the researcher's supervisory panel and the statistician at the University of Canberra who confirmed this as a valid process.

This revised list of 11 factors was re-input into SPSS by the researcher, Kaiser-Meyer-Olkin score and Bartlett's score for this second test are shown in Table 5.8. Review of the results shows this dataset to have a Kaiser-Meyer-Olkin score of 0.768 and Bartlett's test of sphericity of 0.00. The Kaiser-Meyer-Olkin of 0.768 shows that the relationships between this new factor list would produce a meritorious result (Kaiser, 1974). Indicating the link between the factors and the generative mechanism would have more validity and reliability. The combined Kaiser-Meyer-Olkin score and Bartlett's test of sphericity confirmed that factor analysis of this data set is appropriate and will provide a valid result.

Table 5.8 Kaiser-Meyer-Olkin and Bartlett score for the perceived impact of CPD test 2

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.768
Bartlett's Test of Sphericity	Approx. Chi-Square	628.221
	df	55
	Sig.	.000

The eigenvalue for this dataset remained at one, and the results were reviewed. Reviewing the results highlighted that four components accounted for 78% of the variance between the factors. There is still 22% of variance unaccounted for, and future research would be required to explain this further. These discovered components provided a better definition of the generative mechanism. It may not be a complete definition as some of the variance remains unexplained. A copy of this table is presented as Table 5.9.

Table 5.9 Table of variance for factors associated with the perceived impact of CPD on care

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.526	41.144	41.144	4.526	41.144	41.144	4.492	40.832	40.832
2	1.631	14.829	55.973	1.631	14.829	55.973	1.654	15.039	55.871
3	1.373	12.486	68.459	1.373	12.486	68.459	1.250	11.366	67.237
4	1.038	9.433	77.892	1.038	9.433	77.892	1.172	10.655	77.892
5	.903	8.208	86.101						
6	.606	5.506	91.606						
7	.446	4.050	95.657						
8	.326	2.965	98.622						
9	.069	.629	99.251						
10	.059	.540	99.791						
11	.023	.209	100.000						

Extraction Method: Principal Component Analysis.

The researcher explored each of the four components to examine the factors that made up each component. The factors that make up these four components is presented in Table 5.10. Common themes were identified by the researcher to define how the component linked the factor to the generative mechanism. Component one consisted of six factors. There were three linked pairs of similar factors. The pair of factors in this component with the most reliable links comprised the factors student and updating clinical knowledge. The other two pairs of factors within component one had similar standing. The factor time became paired with the factor work, and the factor online was paired with the factor teaching.

The second component reviewed consisted of a single pair of linked factors. The two factors that became linked in this component were the factor expenses and the factor conference and course fees. This was the only strongly bonded pair of factors within this component.

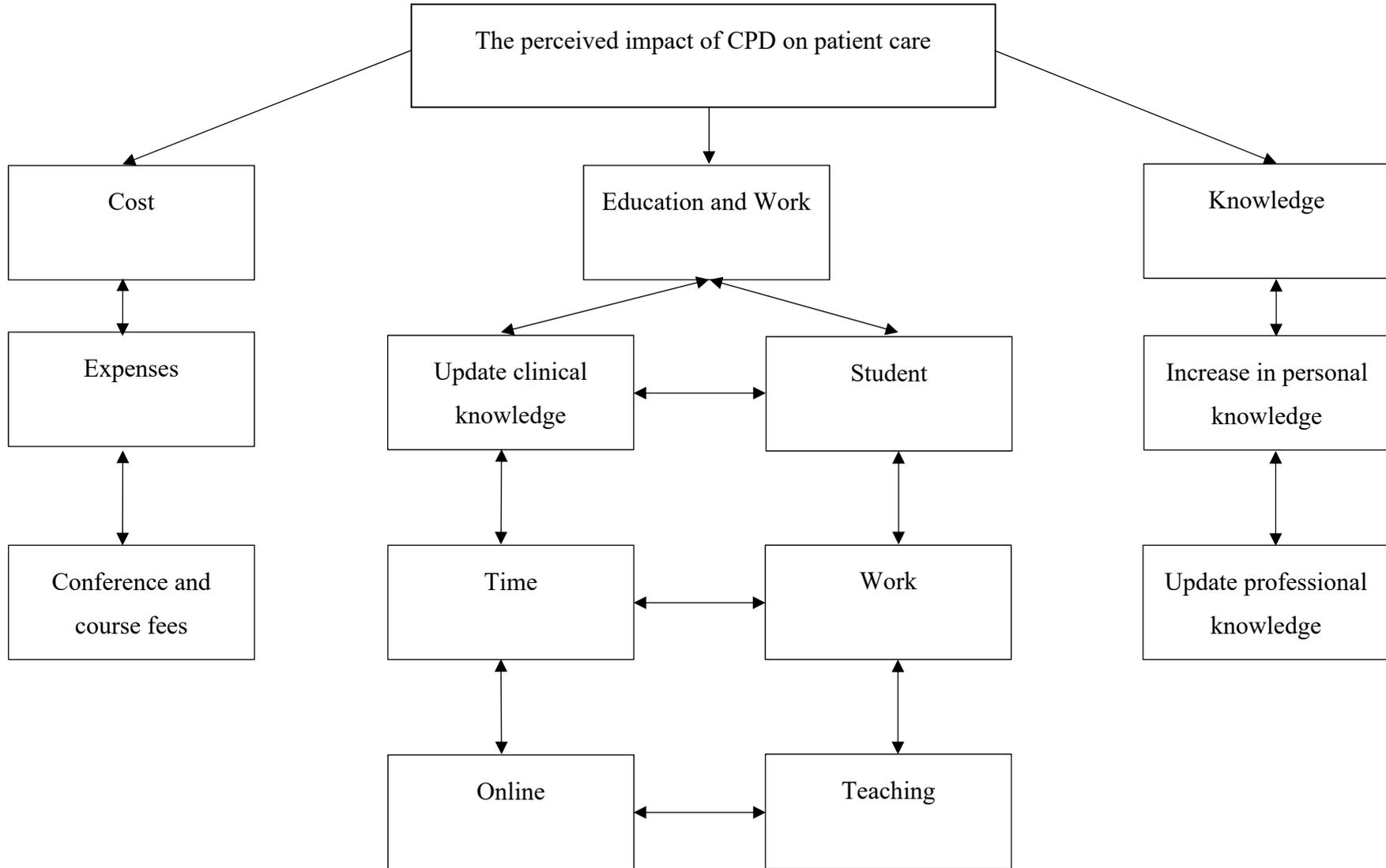
Review of the third and fourth components demonstrated that each consisted of a single factor. The factor associated with component three was an increase in personal knowledge. The fourth component comprised of the factor updating professional knowledge. There was an individual factor that demonstrated an affinity with both the third and fourth component. This factor was the topic interests me. The researcher decided to combine components three and four into a single unified third component. This third component consisted of the factors increase in personal knowledge, update professional knowledge, and the topic interests me.

Reviewing the components allowed the researcher to give each component a name that linked the factors together under that component. Component one became education and work, component two became cost, and component three became knowledge. Figure 5.1 highlights how the generative mechanism the perceived impact of care is linked by the components to factors. Figure 5.1 demonstrates the links between the three domains of ontology of Critical Realism in this study. Here the generative mechanism of the *real* (the top box) has been linked to the factors of the *empirical* (the bottom boxes) via the component links in the *actual* (the middle boxes).

Table 5.10 how each perceived impact on patient care factor relates to each component highlighted in Table 5.9

	Component			
	1	2	3	4
student teaching and local	.926		-.118	
clinical	.917			
managerial support and mandatory training	.899		-.113	
time factors work - away from work and backfill	.885	.103	.151	
online activities and discussion	.863	.146	.188	
teaching mentoring and one on one	.670	.213	.119	.126
Conference or course fees		.860		
Other expenses	-.180	.857		
The topic interests me		.117	.820	
Update professional knowledge		-.185	.469	.759
Increase personal knowledge		-.139	.607	-.664

Figure 5.1 Factors that influence the perceived impact of CPD on patient care



The exploratory survey directly asked participants about their perceptions of the perceived impact of CPD on the patient. To gauge the Nurse Practitioner's perception of this, the question within the survey tool asked: "how much impact has the CPD you have undertaken had on the care that you provide to your patients?" Participants were asked to rate this question using a four-point Likert scale. The points on the scale were: a lot; some; a little; or none. The four-point Likert scale was chosen by the researcher to encourage participants to adopt either a positive or negative response to the question. There was no neutral position for the participants to adopt. The full reasons for choosing a four-point Likert scale are described in section 5.5 above. Review of the 71 completed exploratory surveys highlighted that 100% of participants (48/71 (68%) a lot and 23/71 (32%) some) stated that CPD had a positive effect on the care they provided to their patients. No participants in the exploratory survey responded to this question using the responses "a little" or "no perceived impact" on patient care from the CPD they undertook.

Participants in the exploratory survey were asked to further elaborate on how CPD impacted on the care they provided. Many saw that CPD started with an increase in knowledge, "*with an increase in knowledge, there is an increase in confidence in providing care*" (SP 63). The statement by SP 26 supports this, "*any increase in knowledge of medicines, pathology, and radiology led to improved clinical care for patients.*" An enhancement in all forms of knowledge was seen by participants to inform their practice and ensure their practice was contemporary.

The CPD activities that the participants chose were "*based on the knowledge deficits*" (SP 35). This simple statement suggests that Nurse Practitioners sought knowledge to enhance skills; a decision the Nurse Practitioner made based on self-awareness of their knowledge deficits.

The impact of CPD also linked the concept of knowledge with the concept of evidence-based practice. Many exploratory survey participants highlighted that knowledge of evidence-based practice "*improved patient care*" (SP 15); "*maximised patient care*" (SP 12); and "*the patient was getting the best possible care they could*" (SP 16). Knowledge of evidence-based practice meant the Nurse Practitioner could use "*current research, and this leads to an improvement in patient outcomes*" (SP 23). Knowledge of evidence-based practice suggests that the Nurse Practitioner saw that using evidence-based practice as staying current and a standard against which they could measure their practice.

An increase in knowledge and understanding of evidence-based practice allowed the Nurse Practitioner to increase their scope of practice. By increasing their scope of practice, the Nurse Practitioner was not only able to “*deliver a better service to patients*” (SP 71); but also, to gain an “*increased understanding of the care required for their patients*” (SP 71). Nurse Practitioners were able to “*increase the scope of practice that they were able to offer patients*” (SP 70), which led to “*broader and more holistic care*” (SP 41) being provided by the Nurse Practitioner for their patients.

5.6.4 Generative mechanism – the motivations for undertaking CPD

Nine factors were considered relevant from the literature identified in Chapter 1 section 1.7, Chapter 2 and from the focus group discussion around the perceived motivations for undertaking CPD. Five factors came from the literature. These were: to update professional knowledge; to update professional qualification; to meet statutory requirements; to increase self-esteem and to update personal knowledge. Discussion from the focus group added a further four factors. These four factors were: to increase the status of the Nurse Practitioner; to maintain professional competency; the topic interests me, and to increase clinical knowledge.

The Kaiser-Meyer-Olkin score and Bartlett’s test of sphericity were the first results to be reviewed and are shown in Table 5.11. The Kaiser-Meyer-Olkin score achieved was 0.600. According to Kaiser (1974), this would be a mediocre result; it is still a valid result. It highlights that links between the factors were present and reasonably strong. Bartlett’s test of sphericity was 0.01, indicating the factors were suitable for factor analysis. The result of both these tests indicated to the researcher that factor analysis was appropriate for this data and would provide a reasonably strong link between the factors.

Table 5.11 Kaiser-Meyer-Olkin and Bartlett score for the factors associated with the motivations for undertaking CPD

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.600
Bartlett's Test of Sphericity	Approx. Chi-Square	69.665
	df	36
	Sig.	.001

With the eigenvalue set as 1, three components had a score higher than 1. These three components accounted for 54% of the variability among the nine factors. Here 46% of the variance could not be explained by the factors explored. Further research will help to narrow this variance further. A copy of this eigenvalue table is presented as Table 5.12.

Table 5.12 Table of variance for factors associated with the motivations for undertaking CPD

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Loadings			Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.147	23.851	23.851	2.147	23.851	23.851	1.753	19.476	19.476
2	1.411	15.681	39.531	1.411	15.681	39.531	1.678	18.643	38.120
3	1.272	14.128	53.659	1.272	14.128	53.659	1.399	15.540	53.659
4	.926	10.292	63.952						
5	.837	9.295	73.247						
6	.821	9.123	82.369						
7	.614	6.820	89.189						
8	.519	5.763	94.952						
9	.454	5.048	100.000						

Extraction Method: Principal Component Analysis.

Each of these three components was reviewed by the researcher to identify the comprising factors. The factors that make up each of these components is presented in Table 5.13. By identifying each of the components' factors, the researcher was able to name each component. These components were named: professional status; legal requirements; and knowledge. The components comprise several influencing factors.

Each component underwent a review to determine the factors associated with that component. There are two factors associated with the component professional status. These were the factors: increase the status of the Nurse Practitioner and update their professional qualification. There are two factors associated with the component legal requirements. These were the factors: maintain professional competency and meet statutory requirements. Two factors also influenced the final component knowledge. These two factors were: the topic is of interest to the Nurse Practitioner and to update their professional knowledge.

There was a third factor linked to both the professional status and legal requirement component. This factor was to increase personal knowledge. Further research is needed with a larger group of participants to confirm which component this factor sits within. This further research will help to highlight why this is the case. Figure 5.2 demonstrates the links between the three domains of ontology of Critical Realism in this study. Here the generative mechanism of the *real* (the top box) has been linked to the factors of the *empirical* (the bottom boxes) via the component links in the *actual* (the middle boxes).

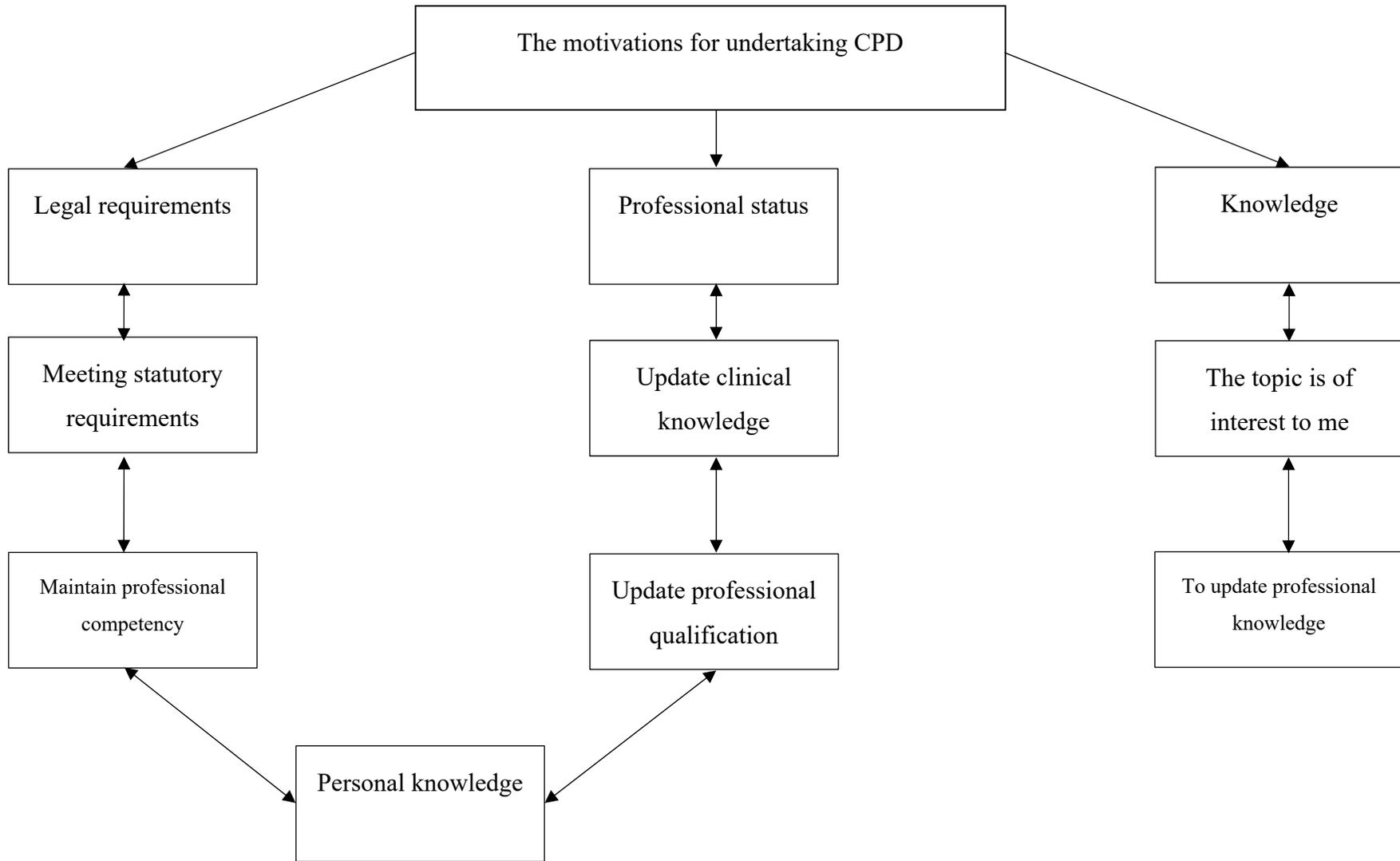
Table 5.13 How each factor for the motivations for undertaking CPD are related to each component highlighted in Table 5.12

	Component		
	1	2	3
Increase self esteem	.631		
Increase status of NP	.606	-.399	-.350
Update professional qualification	.604	-.452	-.103
To meet statutory requirements	.565	.401	-.108
Increase personal knowledge	.365	.659	.298
To maintain professional competency	.435	.507	-.331
The topic interests me	.542		.602
clinical	.193	-.110	-.538
Update professional knowledge	.210	-.418	.524

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Figure 5.2 Factors that influence the motivations for undertaking CPD



Within the exploratory survey, there was an option to add another reason not listed as to why the participant undertook CPD. Reviewing these results listed by the participants highlighted that 12 participants had responded. Some of these participants provided more than one reason. The researcher reviewed their responses and identified five themes amongst these responses. These were: learning; personal interest; professional status; practice expansion; and networking. The first four of these themes fit readily into the components already discovered. The final theme of networking was not part of the components or factors tested in this section. Future research would need to consider including this as a potential factor for this generative mechanism.

Participants in the survey demonstrated the theme of learning with the statements “*learning is never wasted*” (SP 4) and “*to keep up to date with new information and evidence*” (SP 48). This was also supported by the statement “*I want to keep learning to [sic] improve patient care*” (SP 63 and SP 42). These statements can be linked to the component knowledge, as they fit with the factor to update professional knowledge.

Participants in the survey demonstrated the theme of personal interest with the statements “*because I want to*” (SP 35) and that undertaking CPD was “*enjoyable*” (SP 53). Also, “*a topic that raises interest in me makes me hungry for knowledge*” (SP 71). Linking this theme to the component knowledge is possible. However, this theme could also link to the factor the topic is of interest to me.

Participants in the survey demonstrated the theme of professional status with the statements “*increasing the status of nursing as well as the Nurse Practitioner*” (SP 53) and the “*promotion of the Nurse Practitioner profile within the community*” (SP 52). This theme could also become associated with the component professional status. Within this component, they fit under the factor increase the status of the Nurse Practitioner.

The theme practice expansion was demonstrated with the statements “*expand my practice as a Nurse Practitioner*” (SP 64) and it “*increases my scope of practice, making me more useful*” (SP 4). This theme could also become associated with the component legal. Within this component, they fit under the factor of professional competency.

The final theme to be identified was that of networking. Statements from three exploratory survey participants demonstrated the theme of networking. These statements were:

“*professional networking*” (SP 30); “*local, national and international networking*” (SP 20); and “*to reduce the isolation felt at times, as I am an independent rural practitioner*” (SP 8). Networking was not a factor that was recognised in the literature or highlighted by the focus group process. Thus, networking is a new entity that has been highlighted in this study from the exploratory survey, as a potential reason that Nurse Practitioners undertake CPD. This study suggests that Nurse Practitioners undertake a CPD activity for the networking opportunities offered by that activity. Further research looking at the perceived reasons for undertaking CPD would need to include networking as a potential factor. The inclusion of this factor could explain some of the 46% unexplained variance in the missing components.

5.6.6 Generative mechanism – the perceived barriers to undertaking CPD

The literature from Chapter 1 section 1.7 and Chapter 2 highlighted eight factors related to the perceived barriers to CPD. These were: conference or course fees; other expenses associated with a conference or a course; distance to travel; time away from the workplace; time away from family; lack of relevant courses; lack of managerial support; and insufficient CPD from the employer. The factor lack of managerial support was split into two separate factors by the focus group participants; these were: inability to backfill position and insufficient CPD time from the employer. The focus group discussion also added two further factors. These were: time clashes and lack of relevant Nurse Practitioner courses. The twelfth factor added was “other,” this factor allowed participants the opportunity to add unrepresented barriers to the exploratory survey results.

The Kaiser-Meyer-Olkin score and Bartlett’s test of sphericity were the first results to be reviewed are shown in Table 5.14. The Kaiser-Meyer-Olkin score calculated for this generative mechanism was 0.593. The low Kaiser-Meyer-Olkin score, according to Kaiser (1974), may only produce a miserable to mediocre result, with little linking between the factors. However, this is an exploratory study, and as this score is above the minimum acceptable level for factor analysis to take place, the researcher decided to proceed with the factor analysis for this generative mechanism. The Bartlett’s test for sphericity was 0.000. These two results confirmed that factor analysis was appropriate for these factors.

Table 5.14 Kaiser-Meyer-Olkin and Bartlett scores for the perceived barriers to undertaking CPD

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.593
Bartlett's Test of Sphericity	Approx. Chi-Square	160.970
	df	66
	Sig.	.000

With the eigenvalue set as 1, there were four components that had a score of greater than 1. These four components accounted for 60% of the variability among the 11 factors. Therefore, 40% of the variance could not be explained by the factors explored. Further research will help to narrow this variance further. The results showing the component distribution is shown in Table 5.15.

Table 5.15 Table of variance for factors associated with the barriers to undertaking CPD

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	2.598	21.651	21.651	2.598	21.651	21.651	1.899	15.824
2	1.804	15.037	36.688	1.804	15.037	36.688	1.821	15.177	31.001
3	1.435	11.959	48.647	1.435	11.959	48.647	1.805	15.042	46.043
4	1.340	11.170	59.817	1.340	11.170	59.817	1.653	13.774	59.817
5	.924	7.699	67.517						
6	.889	7.409	74.926						
7	.788	6.565	81.490						
8	.560	4.670	86.160						
9	.541	4.506	90.666						
10	.431	3.588	94.254						
11	.404	3.370	97.623						
12	.285	2.377	100.000						

Extraction Method: Principal Component Analysis.

Each of these four components was reviewed by the researcher to identify the comprising factors. The factors that make up each of these components is presented in Table 5.16. By

identifying each of the components' factors, the researcher was able to name each component. These components were named: cost; time; employer support; and miscellaneous. There are several influencing factors in each component.

Reviewing each component identified which factors became associated with which component. The theme cost became associated with the factors the cost of a conference or course and other expenses associated with the conference or course. The component time became associated with the factors time away from family and time away from work. The component employer support became associated with factors insufficient time off from work to attend a CPD activity and lack of managerial support to attend an activity.

The component "miscellaneous" became associated with three unrelated factors. These factors were: distance to travel to a CPD activity; inability to backfill their position; and lack of relevant courses available for the Nurse Practitioner to attend. Further research is required to determine the exact makeup of this component. The factor inability to backfill their position could be part of the employer support component. Also, the factor distance to travel to activity could be a factor placed in the time component. The final factor lack of appropriate CPD activities available for Nurse Practitioners is a sole factor in this component.

Further research with a larger sample may confirm the movement of these two factors and highlight further factors that join a lack of appropriate CPD activities as part of the fourth component. Figure 5.3 demonstrates how the three domains of ontology of Critical Realism have been linked in this study. Here the generative mechanism of the *real* (the top box) has been linked to the factors of the *empirical* (the bottom boxes) via the component links in the *actual* (the middle boxes).

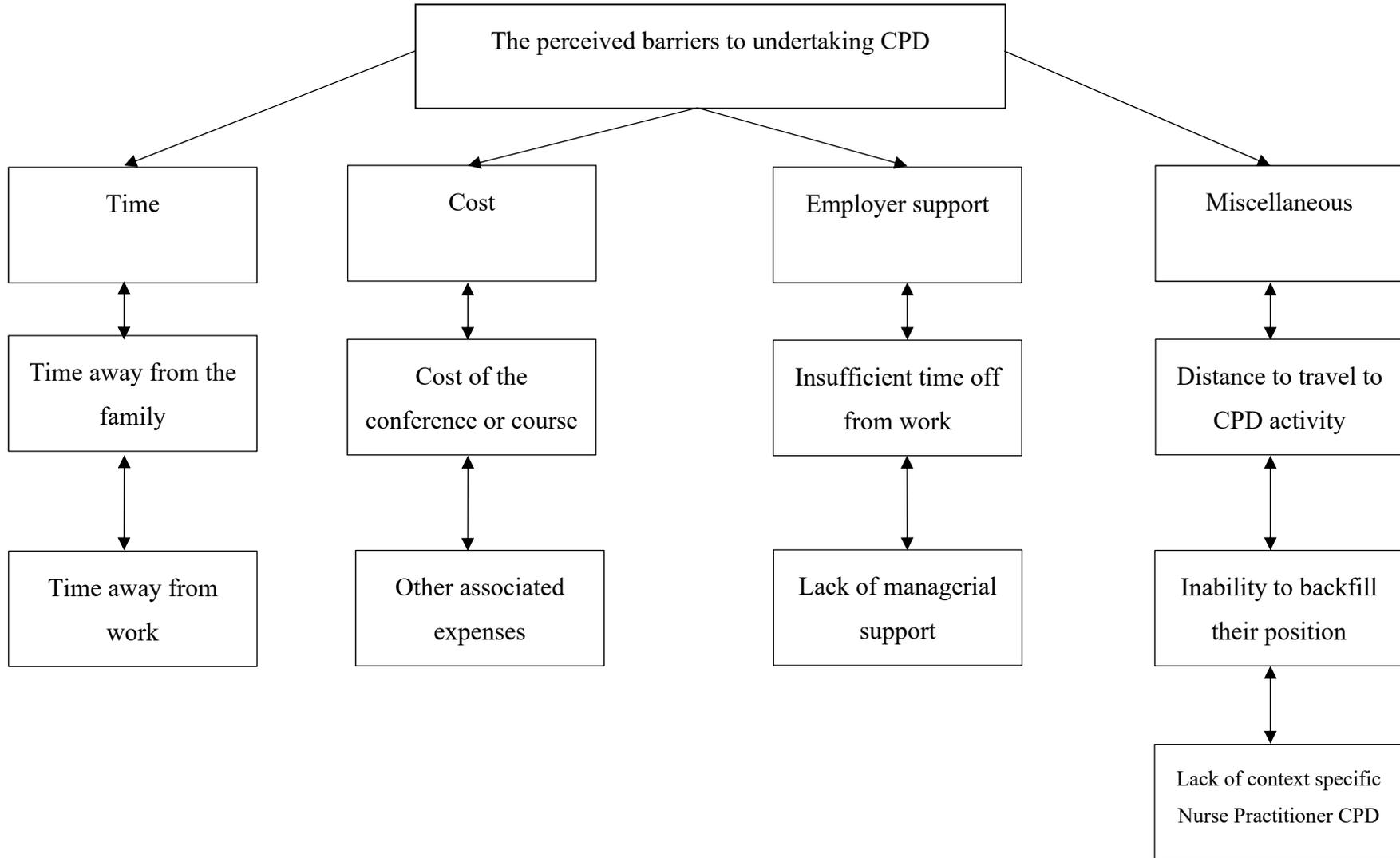
Table 5.16 How each factor for the perceived barriers to undertaking CPD are related to each component highlighted in Table 5.15

	Component			
	1	2	3	4
Time away from work	.589	-.111	-.353	-.442
Distance to travel	.577		-.335	.295
Lack of NP relevant courses	.570	.432	.164	.361
Unable to backfill position	.570	-.310	-.198	.413
Time clashes	.534	-.239		
Time away from family	.491	-.174	-.349	-.375
Other	-.387	.308	-.151	.377
Conference or course fees	.427	.630	.331	-.295
Lack of managerial support	.174	-.528	.442	
Insufficient CPD from employer	.220	-.514	.458	.473
Lack of relevant courses	.224	.465	-.393	.387
Other expenses	.530	.403	.565	

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Figure 5.3 Factors that influence the perceived barriers to CPD



5.7 Summary

Chapter Five has provided a summary of the aim and research questions of the exploratory sequential mixed-methods research project, which this study is a part of. The chapter has described the research method used in Study Two, discussing the purpose of the online exploratory survey tool and how participants were recruited. To ensure continuity on how the Exploratory Factor Analysis was performed, the description and rationale of the decisions made for each step were presented.

The first section of the results discussed the demographic characteristics of the participants. Most participants in this exploratory survey were female (55, 77%). The top three meta-specialities that participants identified working in were: emergency and acute care (20), aged and palliative care (17) and primary healthcare (16). Most participants identified themselves as being public employees.

The online exploratory survey provided the data that was used via Exploratory Factor Analysis to define the theorised generative mechanisms related to CPD, these generative mechanisms being the perceived impact of CPD; the perceived motivations for undertaking CPD; and the perceived barriers to CPD.

All participants in the survey perceived there was an impact from their CPD on patient care. Exploration of the perceived impact of care as a generative mechanism indicated that the impact was from having a positive effect on the participant's knowledge and their education and work. Knowledge was also a perceived motivation for undertaking CPD. Knowledge, along with legal requirements and professional status were components of the generative mechanism, the perceived motivations for undertaking CPD. The participants in Study Two saw perceived barriers to CPD related to issues around cost, time and employer support. The following chapter will discuss Study Three – the interview process.

Chapter 6

Study Three – the Interview Process

6.1 Introduction

Chapter Six presents the Third Study undertaken in this exploratory sequential mixed-methods study. Study Three sought the opinions of participants via structured interviews. The chapter opens with a summary of the exploratory sequential mixed-methods study that is the basis for this research.

This chapter discusses the research method for this study, and the method of data collection used, structured interviews. The interview guide for this Study Three was developed from Study Two and Study One. Participants for the study were participants who volunteered at the end of Study Two. The process of data analysis for this study is described, providing details of the qualitative data analysis process used by the researcher.

The last section of this chapter presents the results obtained in Study Three. This description commences with a presentation of the demographic data captured about the participants. There is then presentation of the categories obtained by the qualitative data analysis.

6.2 Background

Nurse Practitioners in Australia are mandated to undertake 30 hours of CPD each year to maintain their endorsement (Nursing and Midwifery Board Australia, 2016a). The general nursing literature implies that CPD has an impact on the outcomes of patient care. The researcher was unable to identify any studies related to the Nurse Practitioner. Thus, there is a gap in the literature, as no study has explored the many aspects of CPD related to the Nurse Practitioner.

To fill this gap in the literature, the researcher developed an exploratory sequential mixed-methods study to answer the aim of understanding the perceptions of the Nurse Practitioner about the impact their CPD has on the care they provide for their patients. This exploratory mixed method study also explores the following key concepts of the research questions: the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to obtaining CPD.

6.3 Methods

Study Three aims to collect data that will provide a deep and rich understanding of the Australian Nurse Practitioners perceptions of CPD's impact on patient care. The data in this study were collected using structured interviews. The key concepts of the research questions, plus the category of knowledge identified from analysis of the results were used as the basis for the interview schedule in Study Three. The interview questions were open-ended questions designed to cover these areas. The questions were then discussed with the researcher's supervisory panel to ensure they were consistent with the aim and the research questions. A copy of these interview questions is presented in Appendix Nine. The interview questions were designed to elicit relevant data from the participants.

This study used a structured interview approach to collect the data — a series of 11 direct open-ended questions on a pre-determined topic (Alshenqeeti, 2014). The pre-determined questions were developed from the results of Study One and Two, to meet the key concepts of the research questions the perceived impact of CPD on patient care, the motivations for undertaking CPD and the perceived barriers to undertaking CPD. Using a structure means there is little room for the interviewer or interviewee to explore or expand what is said (Berg, 2007). By using this structured approach, the researcher can conduct the interview in a time efficient manner (Hofisi, Hofisi, & Mago, 2014). Therefore, the interviews undertaken by the researcher are shorter than those interviews that use an unstructured or a semi-structured approach as the researcher is collecting data efficiently directly related to the key concepts of the research questions, without being distracted by exploring information that may not be relevant to the study. This rigid structured approach is a limitation of the research, as opportunities are missed at times to explore issues further.

The questions developed for the Study Three interviews were all open-ended questions. The use of open-ended questions allows the interviewee to provide a fuller response to the question, rather than just yes or no responses (Scholfield & Forrester-Knauss, 2017). The use of open-ended questions by the researcher allows the collection of an extensive amount of data, which, when grouped together can be explored for common categories (Lewis, 2015). Therefore, using the developed open-ended questions for Study Three will allow the participants to provide an answer in as much detail as they wish to before the next question is asked. The researcher is then able to collect deeper information to answer the research questions posed by the study.

The number of interviews undertaken was determined by the data collected. Data saturation needed to occur to cease the interviews. There is no agreed definition for data saturation in the literature. However, Francis et al. (2010) define data saturation as occurring when no new themes arise when interview results reveal only findings or concepts already known in previous data. Four principles were proposed by Francis et al. (2010) to help confirm that data saturation had occurred. These four principles are initial analysis sample; stopping criteria; an outside agreement that the analysis is robust and reliable; and the reporting of data saturation (Francis et al., 2010).

Initially, ten participants were interviewed to determine what concepts were highlighted in the data. The use of ten interviews was seen as the starting number for the interviews as according to Guest, Bunce, and Johnson (2006) data saturation commonly occurs between six and 12 interviews. After qualitative analysis of these ten interviews, new categories were being identified. Therefore, further interviews were undertaken. After undertaking the qualitative analysis of each new set of data, no new categories emerged during analysis of the 14th interview, a 15th interview was then undertaken to confirm that no new categories were emerging. Saturation point was reached at the 14th interview and confirmed in the 15th interview.

As a doctoral study, the researcher held regular discussion with the supervisory panel around the data and data analysis. These discussions provided outside agreement that the analysis was robust and reliable, a necessary criterion (Francis et al. (2010)). The supervisory panel confirmed the conclusions made by the researcher.

At the end of Study Two some participants volunteered agreed to be contacted to participate further. These people comprised the participants for Study Three. Participants who were happy to participate further in the research were asked to send their contact details to a secure email address created for this research. As an email was received from a potential interview participant, the researcher replied, inviting them to participate in Study Three. This email contained a copy of the Participant Information Sheet (Appendix Two) and the Participant Consent Form (Appendix Three). The participant was asked to sign and scan back the Consent Form if they wished to be interviewed, the contact details of the researcher was also provided if they wished to discuss things further prior to signing the consent form and being interviewed. If no response was received after 72 hours, a second email was sent to the participant by the researcher with the same information, then if no response was received after a period of one

week that participant was deemed as not wanting to participate, and no further contact was initiated by the researcher. Once the consent form was returned, the participant was then contacted to arrange a suitable time to conduct the interview either face-to-face or via the telephone. After contacting the participant, if they no longer wished to be interviewed, they were thanked, and no further follow up arranged.

Permission was sought from the interviewees to record the interviews. All the interview recordings were transcribed verbatim by the researcher. Each transcript was then emailed to the interviewee for verification and to confirm its accuracy. Each interviewee was asked if they wished to alter any of their answers provided or elaborate further on their answers. No participant wished to take up this offer to alter or elaborate on their responses further.

6.4 Data Analysis

Study Three was a collection of structured interviews. These interviews collected qualitative data. The average length of the interviews was 15 minutes. Each participant was asked all 11 interview questions. Depending on the interviewee, some questions were answered in detail or only as a brief answer. Providing brief answers led to shorter interviews, and the interviewee could not be encouraged to elaborate further. All interviews took place either via a telephone conversation or occurred face-to-face.

The qualitative data obtained in this study then underwent qualitative content analysis. The process of qualitative content analysis used the three phases proposed by Elo and Kyngäs (2008) of preparation, organising and reporting. Analysis of the data was driven by the key concepts of the research questions: the perceived impact of CPD on patient care; the motivations for undertaking CPD; and the perceived barriers to CPD. The category “Knowledge” which was identified in Study One, was also included. The researcher remained open to any data that did not fit these categories with the potential for new themes to emerge.

6.5 Results

6.5.1 Participants

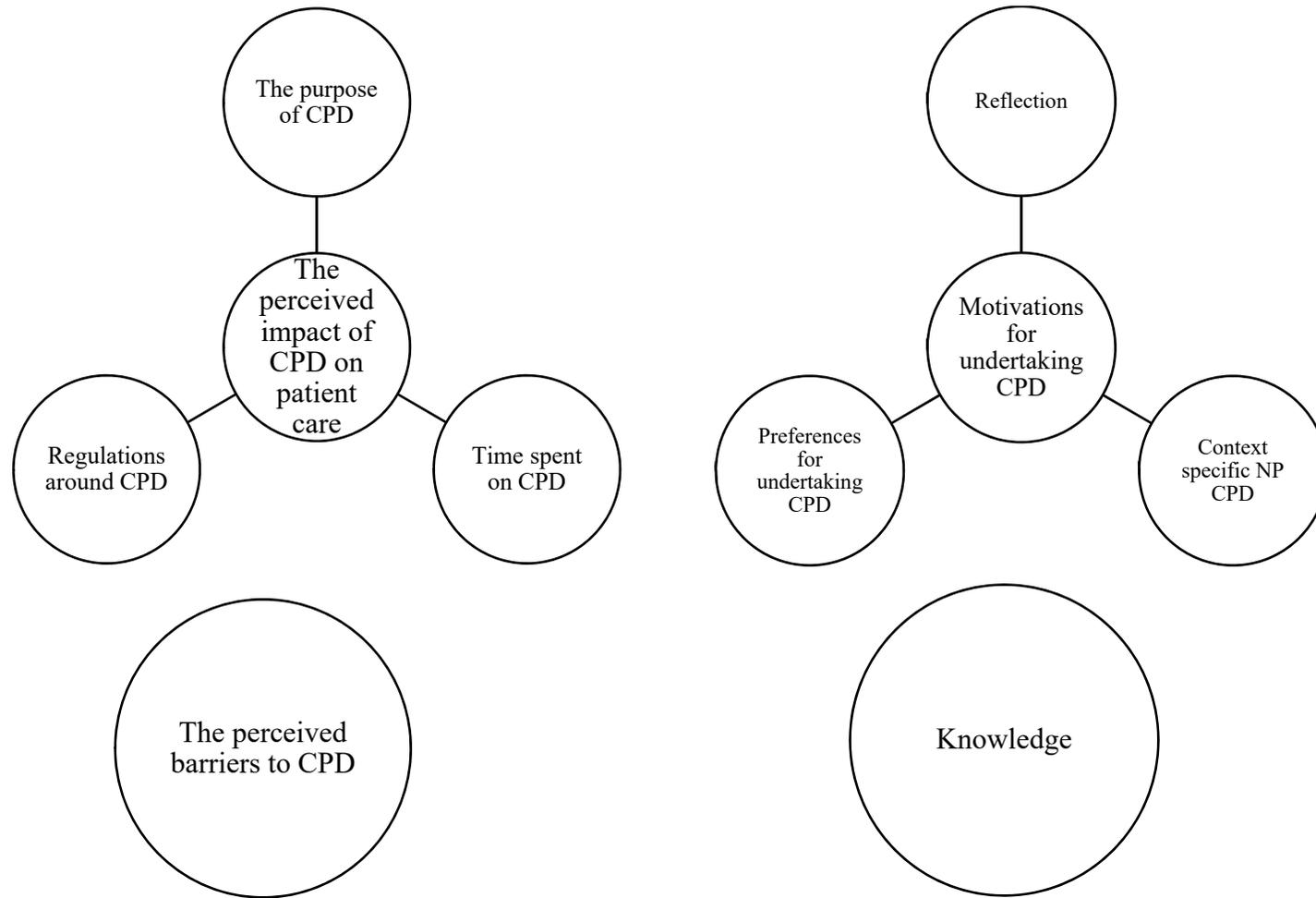
All participants in this study will share a similar homogeneity as they all are Nurse Practitioners who are involved in direct patient care. These participants will also demonstrate heterogeneity as they all have different scopes of practice they work under. Therefore, the sample for this study is both homogeneous and heterogeneous, in that they all have a similar background, but all work under a different scope of practice, which is consistent with the sample in Study One and Two.

A total of 15 interviews were carried out by the researcher to achieve data saturation. Nine interviews were by telephone and six interviews were face-to-face. Eleven of the participants were female, and four were male; no further personal details were collected. Thirteen participants were employed in the public healthcare sector. The healthcare work areas were emergency departments (5); rural and remote areas (3); paediatrics (2); military (1); aged care (1); and pain management (1). The remaining two participants were employed in private practice healthcare as generalist Nurse Practitioners. Seven participants were from Queensland, five from New South Wales and three from Western Australia. To allow direct anonymised quotes to be used interviewees were identified as IP 1 to IP 15, the order the interviews took place.

6.5.2 Qualitative content analysis

The key concepts of the research questions in this study, the perceived impact of CPD on patient care; the motivations for undertaking CPD, and the perceived barriers to undertaking CPD and the category knowledge were the impetus that drove data analysis. It was these categories that were deductively explored for within the study using the criteria proposed by Elo and Kyngäs (2008). Through further reading of the transcripts sub-categories were identified which sat under each of the main categories. Figure 6.1 demonstrates these categories and sub-categories as coded from the data in Study Three.

Figure 6.1 Categories and sub-categories highlighted from the qualitative content analysis of Study Three



6.5.2.1 The perceived impact of CPD on patient care

The perceived impact of CPD on patient care was seen by most participants as being positive. For participants, this impact was “*educating your patient with the latest knowledge*” (IP 5) and “*it is essential in making you a safer practitioner*” (IP 7). Participants also saw the impact of CPD as “*only positive as it helps to improve my skills*” (IP 9) and having “*a massive impact as it improves my knowledge and skills, therefore, I provide a higher standard of care*” (IP 10). Overall the perceived impact of CPD on patient care can be summed up by IP 14, who stated, “*the impact is providing them with the best possible care for my client group.*”

The category, the perceived impact of CPD on patient care was influenced by the sub-categories: the purpose of CPD; the regulations around CPD; and time spent on CPD. The researcher decided all these sub-categories should be linked together under the category the perceived impact of CPD on patient care, as each of these sub-categories had an impact on the CPD the Nurse Practitioner undertook.

The purpose of CPD was seen by participants as having a perceived impact on patient care because it “*keeps me in the mould of lifestyle and learning, helping my practice to keep abreast of what changes are occurring*” (IP 12) and “*I think it is to ensure that we maintain core skills to be safe practitioners*” (IP 8). The regulation of CPD has a perceived impact on patient care as “*it is a mandatory professional requirement for us [Nurse Practitioners] to maintain our endorsement*” (IP 10) and “*to be able to retain your endorsement and registration*” (IP 13). Being regulated often meant that they felt “*highly pressured to produce certificates to prove I had undertaken CPD activities*” (IP 5). The “*collecting of certificates of the CPD I have undertaken distracts from the value of the CPD I undertake*” (IP 10). Time spent on CPD has a perceived impact on patient care as the amount of CPD a Nurse Practitioner completes, as “*on average I would spend at least two hours a week on CPD*” (IP 10) and “*every day I am looking things up and learning*” (IP 10).

6.5.4 The motivations for undertaking CPD

Participants were motivated to undertake CPD “*to get a better understanding of the process and why things work*” (IP 1) and “*to understand the reasons behind my practice*” (IP 10). They are also motivated to undertake CPD as “*it is so that you can provide the best care*” (IP 14).

The category the motivations for undertaking CPD was influenced by the sub-categories: reflection; the preferences for CPD; and context-specific Nurse Practitioner CPD. These sub-categories were seen by the researcher as all being influences on the motivations for Nurse Practitioners to undertake CPD.

Participants saw the use of reflection as a reason to undertake CPD because “*reflection is used to prove what you have learnt and how you have change practice*” (IP 13). Also, reflection was “*important as it demonstrates where you got your knowledge and what you have learnt*” (IP 7). Two participants did highlight that when they reflected, they did so in “*an ad hoc way, not in a prescriptive way*” (IP 5) or they reflected “*using a cycle I have made up*” (IP 4).

Participants preferences for CPD included “*practical hands-on types of CPD with easy to apply knowledge to clinical practice*” (IP 15). Conference attendance was mentioned as being important to participants, as IP 1 stated “*conferences enable me to hear about new research*” and IP 8 stated, “*conferences enable me to feel more confident in new areas of practice.*”

Participants saw undertaking CPD in a different way to the RN. Participants required Nurse Practitioner context specific CPD “*as a RN we all have a baseline knowledge of basic life support, whereas a Nurse Practitioner I work on the higher advanced life support skills*” (IP 1). This higher level of knowledge for the Nurse Practitioner was important, as the Nurse Practitioner saw their “*skill sets as different to the RN, and therefore the expectation of our roles to others are different*” (IP 1). To help obtain a different level of CPD participants would “*undertake CPD that is offered as part of General Practitioners, as it is relevant to their practice, at a challenging level*” (IP 6). The thought that “*there is no difference between the two, I just do continuing professional development to fulfil my requirements*” (IP 3), was also expressed to highlight that CPD needed to be undertaken regardless as to what the motivation was.

6.5.5 The perceived barriers to undertaking CPD

The primary perceived barrier to undertaking CPD was seen by participants as cost, as affirmed by the following statements: “*the cost of travel, accommodation, plus the conference cost are all barriers to CPD*” (IP 1) and “*there are many barriers including, time off, financial costs*” (IP 8). The financial cost was also highlighted by IP 4, who said: “*once you add in travel, accommodation and other expenses to the cost of the conference, things add up and become expensive.*” Another barrier that was highlighted by IP 12 was “*the lack of non-clinical time*

to get to CPD activities, so we have to do it in own time.” IP 13 also highlighted, “there is a lack of Nurse Practitioner specific education at this stage.”

6.5.6 Knowledge

Knowledge was seen by participants as important as *“CPD helps me to solidify my clinical knowledge”* (IP 3) and was *“needed to ensure the clinical knowledge was appropriate for the work we do”* (IP 1). Knowledge was important to CPD as participants stated they needed *“to ensure their knowledge was up to date so that our patients are not adversely impacted”* (IP 14). Knowledge also allowed participants *“to provide better care to their patients”* (IP 7) and to *“solidify their clinical knowledge”* (IP 3).

6.6 Discussion

6.6.1 The perceived impact of CPD on patient care

Qualitative content analysis of the interview's highlights that participants perceived that CPD impacted on patient care. The perceived impact of CPD on patient care was seen to be influenced by the sub-categories the purpose of CPD, the regulations around CPD and the time spent on CPD. This demonstrates that the perceived impact of CPD on patient care is multifactorial and that it may not be possible to study the impact on patient care in isolation.

There are many inferences in the nursing literature about the perceived impact of CPD on patient care including, enhances knowledge (Ryan, 2003); changes knowledge and skills (James & Francis, 2011); and protects patients against outmoded practices (Ross et al., 2013). These are all inferences that are supported by the views of the participants in this study. The participants reveal that their perceptions of the impact of CPD on patient care originate from their knowledge and the enhancement of their knowledge, which protects their patients from outmoded practices.

6.6.2 The motivations for undertaking CPD

Participants saw many motivations for undertaking CPD, one being wanting to provide the best care to their patients. Like the perceived impact of CPD on patient care, the motivations for undertaking CPD are multifactorial. Factors that impact on the participant's motivations for

undertaking CPD included reflection, preferences for CPD and context-specific Nurse Practitioner CPD.

Reflection was used by participants to demonstrate what they had learnt and how they have used their CPD to improve their learning. Participants were aware of the reflective cycle that the NMBA recommends for use when recording CPD (Nursing and Midwifery Board Australia, 2016a), many did not use this cycle, preferring to use their own ad hoc methods of reflection.

Three studies highlighted in Chapter Two, Charles and Mamary (2002), Tilleczek et al. (2005) and Baxter et al. (2013), all highlighted that Nurse Practitioners preferred to obtain their CPD from attending conferences. The results of this study confirm that the participants also preferred to obtain their CPD from conferences. This shows that there is consistency around the globe amongst Nurse Practitioners, about the most preferred method for undertaking CPD.

Nurse Practitioner context specific CPD was important as participants had different motivations to undertaking CPD when compared to the RN. Although the Nurse Practitioner and the RN both have the same baseline knowledge, participants in this study saw the Nurse Practitioner having a higher knowledge requirement than the RN. This higher knowledge is also reflected in the different scopes of practice between the two levels. Therefore, participants in the research stated that Nurse Practitioners sought a higher level CPD that covered issues related to their scopes of practice.

As the Nurse Practitioner, has different CPD requirements to the RN, participants often undertook CPD offered by other professions and then contextualised this themselves to meet their needs. When attending CPD offered by General Practitioners, participants found that many doctors did not like the Nurse Practitioner attending with them. It is not clear from this study as to why the doctors felt like this. Yet, participants felt that they needed to attend other professions' CPD to ensure that they obtained the knowledge they needed.

6.6.3 The perceived barriers to undertaking CPD

Both Tilleczek et al. (2005) and Baxter et al. (2013) found that the common barriers to undertaking CPD were the financial costs associated with CPD, the travel to get to CPD and

time. These are like the barriers highlighted by the participants in this study. In this study, the participants saw that the financial costs of undertaking CPD were a large barrier. Participants also saw that time away from family and from their workplace as another barrier to undertaking CPD. This demonstrates that Nurse Practitioners around the globe face the same barriers when trying to obtain CPD.

6.6.4 Knowledge

In section 3.4 page 79, the nature of knowledge was defined from a critical realist perspective. Knowledge was either transitive, the way humans understand things around them or intransitive, the structure of how things operate outside human awareness. The aim of research is to identify the structures within the intransitive and understand how they are experienced. When exploring the nature of transitive knowledge, the concept of knowledge is seen to exist in many different forms.

Knowledge within nursing was seen by Hood (2014) to include empirical knowledge, aesthetic knowledge, personal knowledge and ethical knowledge. Each of these aspects link together in different ways to define what is nursing knowledge. Empirical knowledge is the scientific basis for nursing, as stated by Garrett and Cutting (2015) empirical knowledge is the knowledge we know because it has been experienced and we can verify that experience is real through research. Experiencing something and verifying it through research makes the knowledge credible but it can also make that knowledge fallible because not everyone will experience something in the same way and therefore that knowledge cannot be verified by everybody.

Personal knowledge according to Hood (2014) relates to how an individual learns, stores and retrieves information about their world. Personal knowledge according to Bonis (2009) is constantly changing as a person interacts with the world around them and reflects on what they have experienced. In nursing the nurse often learns from the repetitive exposure to a situation which Hold, Blake, and Ward (2015) states allows the nurse to learn and develop themselves and change their knowledge. Personal knowledge is also being to be empathetic with someone, being empathetic according to Wikström (2001) allows the RN being open to the feelings and moods of others allowing the RN to provide care that is individualised to that patient.

Personal knowledge is also seen as intuitive knowing and was described by Hassani, Abdi, and Jalali (2016) as the ability to act on something without any clear reason or explanation for doing so. The skill of intuitive knowing is seen by many as being associated with RNs who are expert practitioners (Hassani, Abdi, Jalali, & Salari, 2017). An example of intuitive knowing is a Nurse Practitioner assessing a patient with a vague history and then following a specific path of investigation or treatment without a clear reason why. The Nurse Practitioner's intuitive knowing of the situation is telling them that this is the correct path to follow.

When exploring personal knowledge, it can be seen to be a complicated facet of knowledge. Personal knowledge is constantly changing as a person experiences something new and develops new ideas and practices from the exposure to different situations. Which in turn leads the NP to provide more personal care which is individualised to the patient. Personal knowledge also allows the NP to become more intuitive and in touch with what is around them and react to situations, sometimes without that clear rationale as to why.

Yet, this discussion of personal knowledge as seen by Wikström (2001) Bonis (2009), Hood (2014), Hold et al. (2015), Hassani et al. (2016) and Hassani et al. (2017) conflicts with how the participants in this study saw personal knowledge. What is described by these authors would fit better in the definition of clinical knowledge proposed by the participants of this research, as all these described aspects of knowledge are all related to patient care. Whereas participants saw personal knowledge as having nothing to do with patient care, to them personal knowledge was about an interest in a topic for no reason other than the participant felt it was interesting.

Ethical knowledge was seen by Hood (2014) as focusing on the obligations of the RN and then focusing on what ought to be done in certain situations. These obligations will arise from their code of ethics and code of practice (Nursing and Midwifery Board Australia, 2018). These ethical codes and code of practice will be influenced by the personal ethics of the RN and by the situation dictating the decision. Using this definition of ethical knowledge, participants in this study could see it as both professional knowledge and clinical knowledge. Professional knowledge because ethical knowledge guides and dictates the practice of the NP in the background, it is not necessarily discussed when dealing with patients. Clinical knowledge as it does guide and influence the NP to provide the best care and treatment for the patient, so to act ethically requires a clinical application.

The final aspect of knowledge discussed by Hood (2014) is aesthetic knowledge. Aesthetic knowledge could be the overarching concept of knowledge as it is the knowledge that links all the other aspects of knowledge, empirical, interpersonal and ethical, together to influence the way the RN acts and behaves. Thus, as Siles-González and Solano-Ruiz (2015) expresses aesthetic knowledge allows the Nurse Practitioner to demonstrate nursing care in the act for caring for individuals. Aesthetic knowledge combines the skills of pattern recognition, understanding, skilled know-how seen by Hold et al. (2015) and links it to the empirical knowledge Garrett and Cutting (2015) to help diagnose and treat a patient, that is empathetic and individualised, Wikström (2001) and Bonis (2009), and according to Hassani et al. (2017) intuitive to meet individual needs. Finally, aesthetic knowledge links to ethical knowledge by the Nurse Practitioner understanding their position in a situation and not overstepping boundaries and providing care in accordance to their ethical codes, code of conduct and scope of practice.

Knowledge in the literature may have the above aspects, yet the NMBA defines knowledge in a different way. The NMBA when discussing CPD uses a definition of knowledge that relates to the professional knowledge of the RN. The professional knowledge, according to the Nursing and Midwifery Board Australia (2016c) is the expertise and competence of the Nurse Practitioner to meet their obligations to provide ethical, effective, safe and competent care to patients. This definition by the NMBA combines different aspects of knowledge Hood (2014) described to create a single definition of knowledge which the NMBA calls professional knowledge. For example, effective, safe and competent care could link to the empirical aspects of knowledge described by Hood (2014) and Garrett and Cutting (2015). The definition of professional knowledge by the NMBA could be argued as an attempt to link all aspects of knowledge into a single definition that can be used by all.

Throughout this study it has been highlighted that the participants saw knowledge differently. The participants saw knowledge as being either clinical, professional or personal. With clinical knowledge being the most important to them. This clinical knowledge is related to the knowledge they use to care for their patients and encompasses the different facets of knowledge described above. Yet, participants in this study combined many of these facets together and defined it as clinical knowledge. The participants' definition of clinical knowledge also links to the NMBA definition of knowledge. What the NMBA sees as professional knowledge the Nurse Practitioner saw as clinical knowledge.

This difference between the NMBA and the participants definition of professional knowledge, participants saw professional knowledge as all the aspects of their role not directly patient related. Professional knowledge, to participants, was about the rules and regulations related to their role and not to how they care for patients. This differentiation has the potential to lead to confusion between the Nurse Practitioner and their regulatory body when professional knowledge is discussed as both parties may think they are discussing the same topic, yet because they are using different definitions there can be miscommunication in what is meant.

The participants regulatory body, the NMBA, definition of professional knowledge is totally different to the participants. The NMBA's definition is more akin to how the participants defined clinical knowledge. Both definitions deal with a form of knowledge that is used to care for patients. Whereas the participants defined professional knowledge as knowledge related to activities not patient focused. This is where confusion around the definition of knowledge can arise.

Knowledge as a broad concept was seen by participants as an important reason to undertake CPD. CPD allowed existing knowledge to be developed, leading to them providing better care. To the participants, it also meant that their knowledge did not stagnate, and their practice was always contemporary. Thus, knowledge development was an essential part of the CPD experience. There is enough evidence within this study to suggest that Knowledge should be a category. But the concept of Knowledge is also acknowledged to be intertwined within many of the other categories and sub-categories. Knowledge, therefore, becomes a common link between each of the categories and sub-categories and influences how CPD is perceived to impact on patient care.

6.7 Summary

Chapter Six has provided a summary of the aim and research questions of the exploratory sequential mixed-methods research project, which this study is a part of. The chapter has described the research methods used in Study Three, in which the method of data collection was structured interviews. The chapter discussed how the interview questions were developed and how participants were recruited. Qualitative analysis of the interview transcripts used a deductive approach to explore the transcripts for the categories related to the aim and key concepts of the research questions: the perceived impact of CPD on patient care; the

motivations for undertaking CPD; and the perceived barriers to undertaking CPD. The fourth category explored with a deductive approach was knowledge, as this had been highlighted in Study One and Study Two as being of significance.

The first section of the results discussed the captured demographic details of the participants. This discussion was followed by the results of the qualitative content analysis. Participants in Study Three perceived an impact from their CPD on patient care. Participants saw CPD as having a positive impact as it led to improved knowledge and improved skills. These improvements led to the Nurse Practitioner providing a higher standard of care to their patients. Participants in the study highlighted many motivations for undertaking CPD, including the use of reflection to identify knowledge gaps and fill those knowledge gaps. Knowledge was an important category for participants of Study Three as CPD needed to provide an increase in knowledge for that CPD to have an impact on patient care. Knowledge was also seen as a common link between many of the categories and sub-categories. The next chapter will discuss the triangulation of the results of Study One, Study Two and Study Three.

Chapter 7

Triangulation

7.1 Introduction

This chapter discusses the process of data triangulation used in this exploratory sequential mixed-methods study. The results highlighted from Study One (Chapter 4), Study Two (Chapter 5) and Study Three (Chapter 6) are combined and presented together to highlight the common categories found in this exploratory sequential mixed-methods study.

This chapter commences by providing the background to the exploratory sequential mixed-methods study. It discusses the methods used to triangulate the data. This chapter presents a fuller exploration of the results to demonstrate the richness of data collected across the three studies.

7.2 Background

Triangulation is the process where multiple types of data are united in enhancing a study's trustworthiness and the depth of its findings (Varpio, Ajjawi, Monrouxe, O'Brien, & Rees, 2017). By undertaking triangulation, Bazeley (2018) argues that results can be validated across a study, as similar results are reproduced independently via two or more processes, thus confirming the validity of the researched issue. The three studies in this exploratory sequential mixed-methods study collected both qualitative and quantitative data. Therefore, data from all three studies were triangulated to provide depth. The convergence of data from different perspectives offers corroborating support to the overall findings of the study (Barbour, 2001).

For triangulation to occur, the research needs to have a fixed position, according to Modell (2009), from which the data are explored. The fixed position established in this research comprised the categories and sub-categories described in Study Three.

7.3 Methods: The Process of Triangulation

To facilitate the triangulation of data in this study, the researcher adopted a six-step protocol by Farmer, Robinson, Elliott, and Eyles (2006). This protocol was developed to allow researchers to demonstrate a consistent approach to triangulation. The six steps defined are sorting, convergence coding, convergence assessment, completeness assessment, researcher comparison, and feedback (Farmer et al., 2006).

The researcher used these steps in the following way:

1. Sorting – here the data was read, and a list of common categories identified.
2. Convergence coding – quotes were identified to help define each category, how prominent each category was, or to help support each identified category.
3. Convergence assessment – the information under each category was identified and assessed as to whether it was in full or partial agreement or not covered in that dataset.
4. Completeness assessment – the researcher reviewed all datasets to identify where data originated. This was undertaken to identify whether there was an omission from a study dataset and if so, what was the nature of the data omission? Was it because of the type of data collected or coverage or depth of the data that missed collecting the appropriate data? Did the results complement what was already known about the topic or did it present new ideas?
5. Researcher comparison – there was a discussion of the common categories between the researcher and principal supervisor, and these two researchers then confirmed the categories as being complete.
6. Feedback – the provision of a unified description and interpretation of each category identified.

(Adopted from Farmer et al. (2006))

7.4 Results

Here the results of each study in this exploratory sequential mixed-methods study will be triangulated together. Triangulation constitutes the final stage of data analysis as it unites the results of every single study. To allow triangulation to occur, the qualitative data from each study were combined into a single dataset. Then, using the data triangulation method the researcher adopted from Farmer et al. (2006), described in section 7.2, triangulation of the data occurred.

The first stage of this process was the sorting of the data. The researcher read through the data to identify quotes from the transcript that described the categories and sub-categories highlighted in each of the studies. Therefore, this sorting process was used as a confirmation process to ensure that the categories and sub-categories identified in Figure 6 were still

appropriate and that they were represented in each of the studies. The categories were derived from the key concepts of the research questions used in the research: the perceived impact of CPD on patient care; the motivations for undertaking CPD; the perceived barriers to undertaking CPD. The fourth category knowledge emerged as being important in Study One and was then explored in Study Two and Three. The triangulation results for these categories are shown in Table 7.1. The sub-categories which emerged from the data in Study Three were: the purpose of CPD; regulations around CPD; time spent on CPD; reflection; preferences for CPD; and context-specific Nurse Practitioner CPD. The triangulation results for these sub-categories are shown in Table 7.2.

The second stage of triangulation was convergence coding. Convergence coding was undertaken by the researcher to identify how the data confirmed the categories and sub-categories. The data was reread to identify quotes from the data to help define all the categories identified in this study. Each quote identified was matched to its category or sub-category and added to the appropriate Tables 7.1 and 7.2. Some of the identified quotes were able to be related to more than one category or sub-category; this indicated that the categories and sub-categories did not operate in isolation. Participants in this study saw the categories functioning together to ensure that they got the most from a CPD activity, which they perceived had an impact on patient care. Each quote used kept the same identifying markers previously used. So, a quote from Study One had the prefix FGP, for Study Two, the prefix SP, and for Study Three, the prefix IP, all followed by the number of the participant. The coding of quotes enabled the researcher to identify the source of any quote used. Tables 7.1 and 7.2 demonstrate how data now converge to show the commonality of the categories across all three studies in this research.

The third stage of triangulation was a convergent assessment of all the data across each study. Here the quotes identified by the researcher were reviewed to determine if they either wholeheartedly agreed or partially agreed with the category or sub-category, they are placed under. If a quote placed under a category or sub-category wholeheartedly agreed with the category or sub-category, it was shown as bold text in either Table 7.1 or 7.2. If the comment only partially agreed with the category or sub-category it was placed in it was shown as italic text in either Table 7.1 or 7.2. The validation of the triangulation process comes from the representation of data from all studies demonstrated in the categories and sub-categories. Review of the categories and sub-categories in Tables 7.1 and 7.2 highlights that data from all

studies data collection contributed to all the identified categories and sub-categories. As all studies contributed to each of them, it indicates that all participants of the study had similar perceptions and experiences of CPD.

The fourth stage of triangulation was a completeness assessment of the data. The researcher can state that there is complete data in this study. Data has been collected in all studies of the study to meet the aim of the study. There was no omission of data in any study.

The fifth stage of triangulation is researcher comparison. Here a copy of the research findings was presented to the researcher's supervision panel for discussion. The supervision panel confirmed the achievement of data completeness and that the categories and sub-categories identified were appropriate to the research aim.

The final stage of triangulation is feedback, providing a unified description and interpretation of the identified themes. Tables 7.1 and 7.2 provide examples of quotes identified in this study to define each of the categories and sub-categories. If a quote wholly agreed with its category or sub-category it became bold text if it partially agreed it became italic if it contradicted, then it was left in normal font.

The first category, as described in Table 7.1, was the perceived impact of CPD on patient care. This category addressed the aim and first research question of the study, how the Australian Nurse Practitioners perceive their CPD impacts on patient care. This category had 34 quotes identified across all three studies. Participants in Study One perceived the impact of CPD as *“being a huge impact on what I do, as it keeps things up to date”* (FGP 2) and *“without it [CPD] how can I make any impact on care”* (FGP 1). Participants in Study Two echoed the views from Study One participants. Study Two participants perceived CPD as having an impact *“because it changes practice”* (SP 20) and *“it has enhanced the care I provide to patients”* (SP 14). Participants in Study Three also had similar perceptions to those in the other two studies. Here participants perceived CPD as *“having better knowledge of what I am doing”* (IP 1) and *“it has a good impact because you are educating your patient with the latest knowledge”* (IP 5). After reviewing these results, the researcher can say that the participants perceived there was an impact on patient care provided by the Australian Nurse Practitioner, because CPD improved their knowledge, changed their practice and enhanced the care that they provided to their patients.

The next category addressed the second research question, the motivations of the Nurse Practitioner to undertake CPD. There were 17 quotes identified across all three studies. The motivations for undertaking CPD by participants in Study One included “*to provide contemporary care to my patients*” (FGP 4) and “*guides my practice, to keep my scope of practice up to date*” (FGP 7). Study Two participants also had similar motivations for undertaking CPD: “*I need to keep up to date with clinical knowledge*” (SP 34) and “*to ensure that I am providing current best practice*” (SP 23). The participants in Study Three also had similar motivations for undertaking CPD; these include “*it is so that I can provide the best care*” (IP 14) and “*to understand the reasons behind my practice*” (IP 10). After reviewing these results, the researcher can say that the participants in this study are motivated to undertake CPD because it keeps their knowledge contemporary and up to date; and it allows them to continue providing the best care for their patients.

The third category addressed the final research question, the perceived barriers the Nurse Practitioner faces in undertaking CPD. There were 17 quotes identified across all studies that defined the perceived barriers to undertaking CPD. In Study One, barriers were seen by participants as “*the cost of attendance and travel times are often the main barriers*” (FGP 7 and FGP 1) and “*being a sole practitioner makes it hard to leave your post to attend something*” (FGP 5). Similar views echoed in Study Two, where participant quotes included; “*loss of income as a private practitioner, doubles the cost of a CPD activity*” (SP 49) and “*cost, support to meet these costs is often not available until the last minute ... or support is only for the early bird price, and you have to make up the difference*” (SP 68). Further similar quotes in Study Three also confirm this, where participants stated: “*there are many barriers including, time off, financial costs, poorly coordinated online tools*” (IP 8) and “*there is a lack of Nurse Practitioner specific education at this stage*” (IP 13). Reviewing the results of this study the researcher can say that participants were able to identify many barriers to CPD, and the most significant barrier was the financial costs of attending a CPD activity, closely followed by time.

The final category which emerged from the data was knowledge. Here 29 quotes were identified across all three studies. In Study One, CPD was seen to “*to improve knowledge on a topic*” (FGP 2 and FGP 4) and “*you are a better clinician as you improve your clinical knowledge*” (FGP 5). The theme of knowledge was seen in similar ways in Study Two, as CPD contributed to knowledge by “*I do CPD to challenge and improve my clinical knowledge...it challenges the way I practice*” (SP 16) and “*improved clinical knowledge leads to better*

decision-making regarding patient care” (SP 24). These thoughts on knowledge were also similar in Study Three, where “*the more knowledge you have, the better care you provide*” (IP 7) and “*CPD helps me to solidify my clinical knowledge*” (IP 3). Reviewing these results, the researcher can say that the participants do see knowledge as having three different aspects. These are the three types of knowledge identified in the results of Study One: Clinical knowledge, Professional Knowledge and Personal Knowledge. Through triangulation, it becomes clear that participants saw clinical knowledge as the most important type of knowledge.

Table 7.1 Triangulation of the main categories

Interview Participants	Survey Participants	Focus Group Participants	Category
<i>"it enables me to be a more competent practitioner"</i> (IP 2)	"the more I learn, the more high-quality care I can provide" (SP 4)	<i>"to provide contemporary care to my patients"</i> (FGP 4)	The perceived impact of CPD on patient care
<i>"it enables me to provide them [patients] with quality care"</i> (IP 1)	"it has enhanced the care I provide to patients" (SP 14)	"to improve care" (FGP 2)	
<i>"having better knowledge of what I am doing"</i> (IP 1)	"as it has increased the depth and breadth of my knowledge it has a positive impact on my clinical skills and acumen" (SP 29)	<i>"guides my practice, to keep my scope of practice up to date"</i> (FGP 7)	
"it is impactful; new education changes the way you practice" (IP 3)	"it impacts because it changes practice" (SP 20)	"as cynical as it may sound, the primary reason often to attend a CPD activity was to get the points you need each year to maintain your endorsement" (FGP 2 & FGP 3)	
"if you are not changing your practice then something is wrong" (IP 3)	<i>"with an increase in knowledge, there is an increase in confidence in providing care"</i> (SP 63)		
"undertaking CPD the patient is getting the Mercedes Benz of treatment rather than the bike" (IP 4)	"any increase in knowledge of medicines, pathology and radiology will lead to improved clinical care for patients" (SP 26)		

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<p>“it has a good impact because you are educating your patient with the latest knowledge” (IP 5)</p> <p>“it is an improvement in patient care because you are up to date” (IP 6)</p> <p>“if you are not participating in CPD activities you are doing your patients a disservice” (IP 6)</p> <p>“it is essential in making you a safer practitioner” (IP 7)</p> <p><i>“CPD helps me to do things better”</i> (IP 8)</p> <p>“only positive impact as it helps me to improve my skills” (IP 9)</p> <p>“it improves my skills heaps, it makes me valuable, an even more valuable clinician, and a more efficient clinician” (IP 9)</p>	<p><i>“increases the scope of practice I can provide for patients”</i> (SP 70)</p> <p>“provide the most up to date evidence-based care to patients, by filling knowledge gaps” (SP 22)</p> <p>“improved knowledge allows me to provide better care and widen my scope of practice” (SP 14)</p>		

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<p>“a massive impact as it improves my knowledge and skills, therefore I provide a higher standard of care” (IP 10)</p>			
<p>“the patients benefit because you are up to date with practice” (IP 11)</p>			
<p>“it keeps me up to date with changes that occur in practice and gold standard care which benefits my patients as they get the best knowledge” (IP 12)</p>			
<p>“pretty direct impact, because whatever I learnt or gain knowledge on, I will pass it directly down to my patients” (IP 13)</p>			
<p>“the impact is providing them with the best possible care for my client group” (IP 14)</p>			
<p><i>“it has a positive effect as I am filling in gaps in my knowledge”</i> (IP 15)</p>			

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
“to get a better understanding of the process and why things work” (IP 1)	<i>“providing competent clinical care is an important aspect of my role”</i> (SP 15)	<i>“to provide contemporary care to my patients”</i> (FGP 4)	Motivations to undertake CPD
“it is so that you can provide the best care” (IP 14)	“I need to keep up to date with clinical knowledge” (SP 34)	“to improve care” (FGP 2)	
<i>“to help explain the reasons behind what and how I practice”</i> (IP 6)	“to maintain my ability to teach patients and colleagues correctly” (SP 25)	<i>“guides practice, to keep my scope of practice up to date”</i> (FGP 7)	
<i>“to understand the reasons behind my practice”</i> (IP 10)	<i>“learning is never wasted, it helps increase my scope of practice, making me more useful”</i> (SP 4)	“as cynical as it may sound, the primary reason often to attend a CPD activity was to get the points you need each year to maintain your endorsement” (FGP 2 & FGP 3)	
<i>“share this knowledge with colleagues and help develop an understanding of the lessons being taught”</i> (IP 11)	“to ensure that I am providing current best practice” (SP 23)	<i>“have to provide evidence of 10 hours of pharmacology”</i> (FGP 6)	
<i>“10 hours of which have to be pharmaceutically related”</i> (IP 9)	<i>“ensure that the care I provide is evidence-based”</i> (SP 49)	<i>“have to provide evidence of 10 hours of pharmacology”</i> (FGP 6)	
<i>“20 hours around your choosing and 10 hours of pharmacy”</i> (IP 12)	“ensures that my professional knowledge & skills are contemporary in the field of practice that I work in” (SP 71)		

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
	<p>“a topic that raises interest in me and makes me hungry for knowledge” (SP 71)</p>		
	<p><i>“Promotion of the Nurse Practitioner profile in the community”</i> (SP 52)</p>		
	<p>“allows me to participate in local, national and international networking” (SP 20)</p>		
	<p><i>“passionate about my work and doing it well, so I learn whenever I can”</i> (SP 44)</p>		
	<p>“it is essential to keep up to date and to expand my practice” (SP 6, SP 15, SP 70)</p>		
	<p><i>“10 hours annually must be pharmacology”</i> (SP 25)</p>		
	<p><i>“10 hours pharmaceutical specific”</i> (SP 49)</p>		

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<p>“the cost of travel, accommodation, plus the conference cost are all barriers to CPD” (IP 1)</p> <p><i>“Sometimes a lack of good internet connection can be a barrier, especially when I work in rural or remote areas”</i> (IP 5)</p> <p>“there are many barriers including, time off, financial costs, poorly coordinated online tools” (IP 8)</p> <p><i>“mandatory education is a barrier actually; it is a barrier to adult-based education in itself”</i> (IP 8)</p> <p>“we do not have much non-clinical time to get professional development; we have to give up our evenings or weekends, the time normally spent with families” (IP 12)</p>	<p><i>“there are no barriers to CPD; it is all at your fingertips with social media and the internet”</i> (SP 63)</p> <p><i>“clinical time constraints, as cannot afford to leave a patient or give up a clinic”</i> (SP 1)</p> <p>“Distances from a course means need to consider the validity of attending” (SP 5)</p> <p>“lack of managerial support to undertake CPD in work time” (SP 37)</p> <p>“loss of income as a private practitioner doubles the cost of a CPD activity” (SP 49)</p> <p><i>“lack of CPD aimed at the Nurse Practitioner, those available are a lot more expensive”</i> (SP 59)</p> <p>“Cost, support to meet these costs are often not available until the last</p>	<p>“remote locations, workplace constraints are all barriers to CPD” (FGP 8)</p> <p><i>“being able to backfill our positions is a constraint”</i> (FGP 6)</p> <p>“the cost of attendance and travel times are often the main barriers” (FGP 7 & FGP 1)</p> <p><i>“managerial opposition, your line manager refuses your application for CPD, there is a lack of support”</i> (FGP 6 & FGP 7)</p> <p><i>“we are not given enough days each year to meet our requirements”</i> (FGP 2)</p> <p>“being a sole practitioner makes it hard to leave your post to attend something” (FGP 5)</p>	<p>Perceived Barriers to undertaking CPD</p>

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<i>"there is a lack of Nurse Practitioner specific education at this stage"</i> (IP 13)	minute, with support available earlier you could get the early bird price and save money. Alternatively, the support is only for the early bird price, and you have to make up the difference" (SP 68) <i>"self-employed = self-funded time and courses"</i> (SP 64)	<i>"employers provide mandatory education so why should they provide any more"</i> (FGP 7) "it took over a year to find a particular course, to allow me to expand my scope of practice" (FGP 1)	
<i>"it gives you an opportunity to build your knowledge"</i> (IP 1)	<i>"keeping my clinical practice knowledge up to date"</i> (SP 45)	<i>"it improves your knowledge"</i> (FGP 1) <i>"to improve knowledge on a topic"</i> (FGP 2 and FGP 4)	Knowledge
<i>"the more knowledge you have, the better care you provide"</i> (IP 7)	<i>"maintaining my knowledge in my area"</i> (SP 25)	"you can be better with the improvement of your clinical knowledge" (FGP 5)	
"need to ensure the clinical knowledge we take on board is appropriate for the work we do" (IP 1)	<i>"Ongoing education is vital for knowledge of changes and practice"</i> (SP 69)	"you are a better clinician as you improve your clinical knowledge" (FGP 5)	
"CPD helps me to solidify my clinical knowledge" (IP 3)	"professional knowledge often converts into changes in policies" (SP 10)		

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<p>“we need professional knowledge of our standards to ensure that we are correctly practising” (IP 3)</p> <p>“if it is a topic that interests me then I do it for my personal knowledge” (IP 5)</p> <p>“being embedded and confident in your core clinical knowledge, then going beyond to expand it” (IP 7)</p> <p>“cementing your professional and clinical knowledge together allows you to be a safer practitioner” (IP 7)</p> <p>“I enjoy attending CPD around a clinical [knowledge] focus and a managerial [professional] knowledge focus” (IP 9)</p> <p><i>“I attend conferences to improve specific areas of knowledge that I am lacking” (IP 11)</i></p>	<p>“I do CPD to challenge and improve my clinical knowledge ... it challenges the way I practise” (SP 16)</p> <p>“improved clinical knowledge leads to better decision-making regarding patient care” (SP 24)</p> <p>“need to cover my clinical knowledge to demonstrate expertise in many varied areas related to practice” (SP 21)</p>	<p>“clinical knowledge is about what you need to know as a nurse” (FGP 7)</p> <p>“a lawyer may have the similar professional knowledge, but wouldn’t have clinical knowledge, that is very subjective to us, clinical knowledge is the skills and clinical information you put into practice to care for a patient” (FGP 1)</p> <p>“professional knowledge is the knowledge that deals with leadership skills and management skills” (FGP 3)</p> <p>“personal knowledge is something unrelated to what I do, but I just want to know a little bit more about it” (FGP 7)</p>	

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Interview Participants	Survey Participants	Focus Group Participants	Category
<p>“being up to date with our clinical knowledge means we can pass that knowledge on to our patients” (IP 14)</p>			
<p>“CPD is all about the making sure that our clinical and professional knowledge is up to date to ensure that the patient is not adversely impacted” (IP 14)</p>			
<p><i>“CPD that offers the practical hands-on type of clinical knowledge provides easier to relate to knowledge”</i> (IP 15)</p>			
<p><i>“CPD is about filling all our knowledge gaps”</i> (IP 15)</p>			

Bold = agrees with category; *Italics* = partially agrees with category; Normal font = contradicts category

Table 7.2 highlights the six sub-categories that emerged from the transcripts of this research, and these were: the purpose of CPD; regulations around CPD; time spent on CPD; reflection; preferences for CPD; and context-specific Nurse Practitioner CPD. Below is a discussion of these sub-categories and how this exploratory sequential mixed-methods study defined them.

The first sub-category identified was the purpose of CPD. Here 12 quotes were selected from all three studies to highlight this sub-category. In Study One, participants saw the purpose of CPD as “*to improve my clinical and professional knowledge on a topic*” (FGP 2 and FGP 6). Similar statements were made by participants in Study Two who saw the purpose of CPD as an opportunity “*to give my patients the best clinical care*” (SP 26) and “*to challenge my knowledge and improve my practice*” (SP 16). There were also similar phrases expressed by participants in Study Three, who saw the purpose of CPD as “*to ensure that we are safe and providing quality care*” (IP 1) and “*to improve one’s skills in the workplace*” (IP 10). Reviewing the results of this study the researcher can say that participants saw the purpose of CPD as an opportunity to improve their skills and knowledge, so they could provide improved care to their patients.

The second sub-category identified was the regulations around CPD. There were 18 quotes from all studies in the research that were used to define the regulation of CPD. Here participants in Study One identified that CPD was regulated as “*it is a standard of practice from the NMBA for the Nurse Practitioner to undertake*” (FGP 4), also that CPD “*has to focus on my scope of practice*” (FGP 1). Similar statements were also made by participants in Study Two, who stated: “*it is part of the audit process of current registration*” (SP 3) and “*the board requires evidence that an individual has complied with the requirements of ongoing education*” (SP 13). Participants in Study Three made comments like those in the previous studies. These included saying: “*we have to achieve an amount of CPD to maintain our registration with AHPRA*” (IP 14) and “*we are required to undertake a standardised number of hours for AHPRA*” (IP 6). Reviewing the results of this study the researcher can say that participants recognised that they were mandated to undertake CPD each year to maintain their endorsement and that they were subject to audit to ensure compliance of this standard of practice.

The third sub-category identified was time spent on CPD. There were 12 quotes from across all studies in the research that helped to demonstrate this sub-category. The participants in Study One stated that “*I do far more than 30 hours as I regularly undertake projects relating to my practice*” (FGP 2) and “*I always do more hours than necessary which are specifically*

related to my practice” (FGP 4). Participants in Study Two echoed these comments by saying: *“over 100 hours, as I undertake some form of CPD every day”* (SP 61) and *“51+ hours on journal readings, plus more if I am undertaking courses”* (SP 64). Study Three participants also had similar statements on the hours of CPD they undertook; these included *“I undertake at least a couple of hours each week”* (IP 5) and *“every day I am looking things up and learning”* (IP 10). After reviewing the results of this sub-category, the researcher can say that the participants regularly undertook more CPD than the minimum standard of 30 hours, as they were continually looking to learn new things each day.

The fourth sub-category identified was reflection. Twelve quotes across all the studies helped to demonstrate this sub-category. In Study One participants saw reflection as *“being about what you have gained from a CPD activity”* (FGP 5) and reflection *“has always been part of the requirement of CPD”* (FGP 4). In Study Two reflection was seen *“to allow one to alter practice in line with acquired knowledge”* (SP 27) and *“new knowledge converts into policy changes through reflection on practice”* (SP 10). In Study Three reflection was seen as *“important as it demonstrated where you got your knowledge and what you have learnt”* (IP 7) and *“I reflect in an ad hoc way, not in a prescriptive way”* (IP 15). After reviewing the results of this sub-category, the researcher can say that the participants understood the importance of reflection on a CPD activity and did undertake reflection. This reflection may not occur using a prescribed method of reflection; it is ad hoc.

The fifth sub-category identified was the preferences for CPD. Here eight quotes from across all the studies helped to demonstrate this sub-theme. In Study One, participants stated *“conferences allow me to return to my workplace and teach others what I have learnt”* (FGP 4) and *“reading of journals with reflection is good CPD”* (FGP 3). Study Two participants described what CPD they undertook, by saying: *“there is always something significant that I can learn at the conference”* (SP 68) and *“local and in-house and in-service lectures are often the most clinically relevant CPD”* (SP 71). Participants in Study Three saw conferences as important ways to undertake CPD, stating *“conferences enable me to hear about new research”* (IP 1) and *“conferences enable me to feel more confident in new areas of practice”* (IP 8). Reviewing these results, the researcher can say that in this study, participants undertook CPD in a variety of ways and that attendance at conferences was the most popular choice for a CPD activity.

The final sub-category identified was context-specific Nurse Practitioner CPD. Here 11 quotes from across all studies in the research helped to demonstrate this sub-category. In Study One participants saw the difference by stating “*for a RN, CPD is often provided for them, as a Nurse Practitioner you are expected to find your own CPD*” (FGP 3) and “*as a Nurse Practitioner we have more advanced practice and more leadership styles, our CPD needs to reflect that*” (FGP 6). In Study Two these statements are reflected by participants who state, “*I need increased information as I have to make clinical decisions, which RNs do not have to make*” (SP 4) and “*a different level is expected and required as a Nurse Practitioner*” (SP 52). Participants in Study Three also had similar views on the different CPD between the Nurse Practitioner and the RN. Here participants stated, “*I think we place greater importance on CPD*” (IP 8) and “*our skill set, and the expectation of our role is different*” (IP 1). Reviewing these results, the researcher can say that in this study, participants did see a difference between the CPD they undertook as a Nurse Practitioner and the CPD of the RN. The CPD undertaken as a Nurse Practitioner was at a deeper and more focused level compared to the RN.

Table 7.2 Triangulation of sub-categories

Interview Process	Exploratory Survey	Focus Group	Sub-category
<p>“to ensure that we are safe and providing quality care” (IP 1)</p> <p>“it reflects that we do evidence-based practice, keeping us accountable to patients” (IP 2)</p> <p><i>“to ensure that we have not become complacent in our practice”</i> (IP 3)</p> <p>“I think it is to ensure that we maintain core skills to be safe practitioners” (IP 8)</p> <p>“it is to improve one’s skills in the workplace” (IP 10)</p> <p><i>“to keep in the mould of life-long learning and to keep abreast of changes”</i> (IP 12)</p>	<p><i>“without CPD I would not be able to continue working in this position”</i> (SP 1)</p> <p>“to give my patients the best clinical care” (SP 26)</p> <p>“to challenge my knowledge and improve my practice” (SP 16)</p>	<p>“to improve my clinical and professional knowledge on a topic” (FGP 2 & FGP 6)</p> <p>“to improve my professional career” (FGP 3)</p>	<h2>Purpose of CPD</h2>

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

Regulation of CPD

Interview Process	Exploratory Survey	Focus Group	Sub-category
<p>“we have to achieve an amount of CPD to maintain our registration with AHPRA” (IP 14)</p> <p>“to be able to retain your endorsement and registration as a Nurse Practitioner” (IP 13)</p> <p>“we are required to undertake a standardised number of hours for AHPRA” (IP 6)</p> <p><i>“we need to record our CPD in order to maintain our registration” (IP 2)</i></p> <p><i>“we are registered with AHPRA and expected to record our CPD” (IP 5)</i></p> <p>“we are responsible to undertake a mandated amount of CPD each year” (IP 6)</p> <p><i>“highly pressured to produce certificates to prove I had undertaken CPD activities” (IP 5).</i></p>	<p>“it is part of the audit process of current registration, recency of practice and meeting workplace requirements” (SP 3)</p> <p><i>“Nurse Practitioners can be randomly selected to be an audit of their CPD practices” (SP 12)</i></p> <p>“the board requires evidence that an individual has complied with the requirements of ongoing education” (SP 13)</p> <p>“part of the registration process for the professional” (SP 17)</p> <p>“It is our responsibility to undertake a mandated amount of CPD each year, to maintain our endorsement” (SP 53)</p>	<p>“because the annual registration asks about have you done x amount of CPD” (FGP 2)</p> <p>“it is the standard of practice from the NMBA for the Nurse Practitioner to undertake” (FGP 4)</p> <p><i>“are Nurse Practitioners regulated by AHPRA or NMBA, who are the Nurse Practitioners more familiar with” (FGP 1)</i></p> <p><i>“the standards for CPD are very broad they are just specific to your work” (FGP 5)</i></p> <p>“it has to focus on my scope of practice” (FGP 1)</p> <p><i>“...people are more familiar with AHPRA because it is the national body” (FGP 1, FGP 2 & FGP 3)</i></p> <p><i>“if you were audited to confirm you complied with the standards of</i></p>	

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

“collecting of certificates of the CPD I have undertaken distracts from the value of the CPD I undertake” (IP 10)

practice who would contact you AHPRA or the NMBA?” (FGP 3)

“it would be AHPRA who would contact you” (FGP 2, FGP 4 & FGP 5)

“it would be AHPRA, but they would be acting on behalf of the NMBA” (FGP 6)

Interview Process	Exploratory Survey	Focus Group	Sub-category
<i>"it hard to say because it varies from year to year"</i> (IP 2)	"over 400 hours as just completed a Post Graduate Diploma" (SP 16)	"I do far more than 30 hours as I regularly undertake projects relating to my practice" (FGP 2)	Time spent on CPD
"I undertake at least a couple of hours each week" (IP 5)	"over 100 hours, as I undertake some form of CPD every day" (SP 61)	"I always do more hours than necessary which are specifically related to my practice" (FGP 4)	
"I undertake CPD every day, as I prescribe, and I research my medications" (IP 6)	"51+ hours on journal readings, plus more if I am undertaking courses" (SP 64)		
"I would do 4 hours a week" (IP 7)			
<i>"because I am studying I am doing at least 80 a year on that, but also other CPD as well"</i> IP 8)	<i>"hard to say as regularly undertake CPD"</i> (IP 71)		
"every day I am looking things up and learning" (IP 10)			

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

Interview Process	Exploratory Survey	Focus Group	Sub-category
<p>"I reflect in an ad hoc way, not in a prescriptive way" (IP 15)</p> <p>"I reflect on my learning objectives, and whether they were met, using a cycle I have made up" (IP 14)</p> <p>"I reflect on my practice; I just don't record that reflection" (IP 13)</p> <p>"it is important to reflect as it demonstrates where you got your knowledge and what you have learnt" (IP 7)</p> <p><i>"I reflect using the reflective cycle on the AHPRA website"</i> (IP 6)</p> <p>"reflection gives me the best chance to evaluate my care, identify how my care and knowledge will then impact on the care I provide to my patients" (IP 12)</p>	<p>"AHPRA has always required documentary proof of reflective CPD" (SP 22)</p> <p>"new knowledge converts into policy changes through reflection on practice" (SP 10)</p> <p><i>"reflect on current accepted practice"</i> (SP 23)</p> <p>"reflection of practice allows one to alter practice in line with acquired knowledge" (SP 27)</p>	<p>"unless I reflect it is not considered CPD fully" (FGP 2)</p> <p>"it has always been part of the requirement of CPD to reflect" (FGP 4)</p> <p>"reflection is about what you have gained from a CPD activity" (FGP 5)</p>	<p>Reflection</p>

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

**“you undertake CPD to change
knowledge and learn, reflection
allows you to show you have
learned and changed your
knowledge” (IP 13)**

Interview Process	Exploratory Survey	Focus Group	Sub-category
“practical hands-on types of CPD with easy to apply knowledge to clinical practice” (IP 15)	“local and in-house and in-service lectures are often the most clinically relevant CPD” (SP 71)	“Conferences allow me to return to my workplace and teach others what I have learnt” (FGP 4)	Preferences for CPD
“conferences enable me to hear about new research” (IP 1)	“mentoring candidates keeps me on my toes to ensure my honesty” (SP 51)	“reading of journals, with reflection is good CPD” (FGP 3)	
“conferences enable me to feel more confident in new areas of practice” (IP 8)	“there is always something significant that I can learn at the conference” (SP 68)		

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

Interview Process	Exploratory Survey	Focus Group	Sub-category
<p><i>"there is a common core between the two, but I also focus on my specialised scope of practice"</i> (IP 1)</p> <p>"Our skill set and the expectation of our role is different" (IP 1)</p> <p><i>"some mandatory stuff is the same, but I often take my learning to a higher level"</i> (IP 4)</p> <p><i>"I focus on Nurse Practitioner CPD as I would be treating them as a Nurse Practitioner, not as a Registered Nurse"</i> (IP 5)</p> <p>"I think we place greater importance on CPD" (IP 8)</p> <p><i>"expanding my scope of practice is beneficial to my patients and me by being able to provide holistic care"</i> (IP 12)</p>	<p>"Nurse Practitioner CPD is delivered at a different knowledge or skill or complexity level" (SP 19)</p> <p>"Registered Nurse CPD tends to have information that is way too basic" (SP 40)</p> <p><i>"a different level is expected and required as a Nurse Practitioner"</i> (SP 52)</p> <p>"I need increased information as I have to make clinical decisions, which Registered Nurses do not have to make" (SP 4)</p>	<p><i>"for a Registered Nurse, CPD is often provided for them, as a Nurse Practitioner you are expected to find your own CPD"</i> (FGP 3)</p> <p>"as a Nurse Practitioner we have more advanced practice and more leadership styles, our CPD needs to reflect that" (FGP 6)</p>	<p>Context-specific Nurse Practitioner CPD</p>

Bold = agrees with sub-categories; *Italics* = partially agrees with sub-category; Normal font = contradicts sub-category

7.5 Summary

This chapter has described the triangulation process used in this exploratory sequential mixed-methods study. The chapter begins by describing the process of triangulation adopted by the researcher to ensure that there is validity in the results produced.

A presentation of the results of the triangulation process followed this discussion. These results highlight the categories that were explored in relation to the key concepts of the research questions of this study and the sub-categories that emerged from the literature. The categories were: the perceived impact of CPD on patient care; motivations for undertaking CPD; the perceived barriers to undertaking CPD; and knowledge. The sub-categories were the purpose of CPD; regulations around CPD; time spent on CPD; reflection; preferences for CPD; and context-specific Nurse Practitioner CPD. Analysis of the data using these categories and sub-categories demonstrated that they present within each of the studies in this research. Chapter 8 presents a synthesised discussion of the over-arching categories and sub-categories. A comparison between these results and the existing literature will take place. The triangulation of the datasets will help with the facilitation of this comparison.

Chapter 8

Discussion

8.1 Introduction

This chapter will place the results of this exploratory sequential mixed-methods study in the professional context of the Nurse Practitioner and the current literature. The chapter will firstly revisit the aim of this thesis, the perceived impact of CPD on patient care. Following this discussion, there will be a discussion of the research questions of the thesis, the motivations for undertaking CPD, and the perceived barriers to undertaking CPD. Finally, there will be a discussion around the knowledge gained from CPD, as this was a category that emerged during this research.

Under each of these categories, the relevance of the research will be discussed, highlighting the critical role that CPD plays in patient safety and the practice of the Nurse Practitioner. The researcher will argue that Nurse Practitioners perceive there is a link between CPD and improved patient outcomes and that this link is consistent with the inferences of the broader nursing literature.

8.2 The perceived impact of CPD on patient care

The aim of this thesis was to understand the perceptions of Australian Nurse Practitioners about the impact CPD had on the care they provide for their patients. It was found that participants in this thesis clearly identified that they did perceive an impact from their CPD. These participants believed that CPD was beneficial to their patients and therefore needed to be undertaken. Therefore, the expenditure they accrued as Nurse Practitioners each year on CPD was justifiable to them as a Nurse Practitioner. This belief extends to the loss of tax revenue to the government, as money is spent to improve patient care. Self-education expenses claimed by the RN cost the government around \$78 million per year in lost revenue (Australian Taxation Office, 2013). Therefore, the financial cost of CPD for the government and the Nurse Practitioner is a valid expenditure as participants saw a benefit to patients from undertaking CPD, helping to justify the cost of CPD to the Nurse Practitioner and to the loss in government revenue. Further research would be required to determine if there is validity in cost of CPD and the loss of government revenue and an improvement in patient care. Through CPD, the Nurse Practitioner becomes a more knowledgeable, skilled and competent clinician improving care as they can offer “*the Mercedes Benz of treatment rather than the bicycle.*” (IP 4, Chapter 7, p152).

The participants in this thesis found that CPD changed their knowledge, protected patients from outmoded practices and enhanced the care they provided to patients, confirming the work of Ross et al. (2013), who through discussion inferred that this was a purpose of CPD. This thesis provides a personal experiential link between CPD and the impact on care. The basis of this personal experiential link stems from the experiences of participants in this thesis. It is the Nurse Practitioner who provides the experiences related to the perceived impact of CPD on patient care. This is a relevant link as it originates from an end user of a CPD activity, the Nurse Practitioner, the end user who in this thesis stated they take what they learn at a CPD activity and use it to provide better care to their patients. Through the exploration of the results of this thesis it can be seen that as Nurse Practitioners, participants took their new knowledge and understanding of a topic from their CPD activity and used it to enhance their patient's care.

This research provides evidential support from clinicians who are Nurse Practitioners, that Nurse Practitioners do perceive a link between CPD and patient outcomes like the RN. This evidential support helps to confirm the inferences made previously in the literature by Custers (2010), James and Francis (2011) and Ross et al. (2013) who only discussed the RN, not the Nurse Practitioner. These studies inferred that CPD enhanced knowledge and led to improved patient care. This research also demonstrated that the Australian Nurse Practitioners who were participants of this thesis, like the RNs in Pelletier et al. (2003)'s study and other healthcare professionals in work by Wenghofer et al. (2015), all have a similar common perception that CPD has an impact on patient care. A perception held by those who participated in this thesis, demonstrating their desire to achieve, maintain and provide the best care for their patients. These participants stated that this occurred through the application of skills and knowledge learnt from CPD activities.

The perceived impact of CPD on patient care is demonstrated in this thesis by the participants being self-aware and undertaking enough CPD, both attributes which have been shown by Vernon, Chiarella, and Papps (2018) and Chiarella and White (2013) to lead to safe, skilled and highly competent practitioners. The study by Vernon et al. (2018) was a three-study convergent mixed-methodological study that investigated the relationship between continuing competence and insight in nursing and midwifery. The results of each study were analysed separately before being triangulated in the fourth stage of analysis, consistent with the method of data analysis used in this thesis. Yet, a limitation of the paper by Vernon et al. (2018) is that it does not articulate how the triangulation of the data occurred, unlike this thesis where there

is a clear articulation of the triangulation process. However, this paper does link the concepts of competent practice, CPD and self-awareness together. Consequently, linking these concepts together provides credibility to the reported results (Nowell et al., 2017). The demonstration of self-awareness by participants in this thesis highlighted that they regularly sought CPD activities to fill knowledge gaps they have identified via reflection. Also, participants in this thesis are regularly exceeding the minimum of 30 hours of CPD set by the NMBA as a standard each year.

8.3 The motivations for undertaking CPD

In addition to the perceived impact on patient care, other forces motivate the Nurse Practitioner to undertake CPD. Some of the motivations for undertaking CPD include keeping oneself up to date, their passion for learning and improving the care they provide and for broadening their scope of practice. A further motivational force for undertaking CPD is the legal requirement to undertake CPD, expressed through the NMBA Registration Standard: Continuing Professional Development document (Nursing and Midwifery Board Australia, 2016c).

The undertaking of CPD is a mandatory activity specified under Subdivision 3, Section 128 of the “Health Practitioner Regulation National Law Act” (2009). The NMBA has taken this and defined that the Nurse Practitioner is to undertake 30 hours of CPD each year relevant to their scope of practice, 10 hours of which should be related to pharmacology, diagnostic investigations, consultations and referral (Nursing and Midwifery Board Australia, 2016c). These additional 10 hours relate to the clinical knowledge sought by Nurse Practitioners in this thesis for their CPD activities. Therefore, the creation of this standard by the NMBA in conjunction with AHPRA has become a legal motivation for the Nurse Practitioner to undertake CPD. The Nurse Practitioners in this thesis indicated that they agree with this legislation and that it improves their standards of practice and hence, they are happy to comply with it.

Nurse Practitioners in this thesis recognised that it was their legal responsibility to maintain these CPD standards. *“It is our responsibility to undertake a mandated amount of CPD each year, to maintain our endorsement”* (IP 6 and SP 53, Chapter 7, page 205). So, even though CPD is a mandated activity, Nurse Practitioners themselves in this thesis recognised that CPD was a personal responsibility for them to undertake.

Nurse Practitioners in this thesis also expressed negative motivational feelings towards this legal requirement of CPD. Nurse Practitioners felt “*highly pressured to produce certificates to prove I had undertaken CPD activities*” (IP 5, Chapter 6, page 176), both for their employer and for AHPRA. This “*collecting of records of the CPD I have undertaken distracts from the value of the CPD I undertake*” (IP 10, Chapter 6, page 176). These statements would suggest that the Australian Nurse Practitioners in this research believe that the word of a professional should be acceptable proof that they have done as expected. As Shahriari, Mohammadi, Abbaszadeh, and Bahrami (2013) argue, it is with this honesty that society trusts the Nurse Practitioner to undertake their profession appropriately.

Nurse Practitioners in this thesis have demonstrated that they are committed to undertaking CPD and their self-reporting of between 60 and 70 hours CPD each year, their word should be a sufficient record of their CPD undertakings. RNs may be recognised, according to the Gallup Social Issues poll, as the most honest profession in the world (Kramer et al., 2017). However, using the argument that the professional’s word is acceptable proof of undertaking a CPD activity is a dangerous precedent. As Lipscomb (2016) states, the RN can be prompted to be dishonest to help meet standards and professional expectations that define the profession. So, acceptance of the professional’s word may not be good enough. In this thesis, participants stated they did keep records to meet the current standards for CPD and in some cases, they exceeded these standards. By not complying with these standards there is a potential that a patient may suffer harm from a non-up-to-date practitioner. Therefore, the expectation to keep a log of all CPD activities is relevant as it does allow the Nurse Practitioner to demonstrate that they are keeping up to date with practice. The completion of a log of CPD activities that the Nurse Practitioner has undertaken is expected by the NMBA (Nursing and Midwifery Board Australia, 2016a). The Nurse Practitioner creates an auditable trail of information on the activities undertaken. Being able to demonstrate this log may protect the Nurse Practitioner from accusations of using old knowledge and practices, as they would be able to produce documentary evidence of their knowledge and practice being up to date.

The participants in this thesis self-reported that they undertook between 60 and 70 hours of CPD each year, which is far above their legislated requirements. The participants reported that this total was purely for formal CPD activities for which they had documented evidence. Participants in this thesis saw formal CPD activities as a course of study, a workshop or attendance at a conference. The participants also undertook many more hours of informal CPD

activities that they did not document. These undocumented informal CPD activities included: reading articles but not reflecting on them; mentoring of students; the preparation of teaching sessions or articles for publication; and ad hoc bedside education in which they became involved. Participants felt that it was necessary to undertake between 100 and 120 hours of CPD each year to maintain their clinical relevancy (SP 14, SP 15, SP 7, SP 3). All these activities are consistent with the examples of CPD activities provided by the NMBA in the Registration Standards for CPD (Nursing and Midwifery Board Australia, 2016c).

Another reason the participants in this thesis, undertook CPD, was their passion for learning. This was expressed as “*passionate about my work and doing it well, so I learn whenever I can*” (SP 44, Chapter 7, page 196); or “*it is essential to keep up to date and to expand my practice*” (SP 6, SP 15, SP 70, Chapter 7, page 196). The importance of CPD to the Nurse Practitioner may have been expressed by Tilleczek et al. (2005) who stated without exploring its impact on patient care, that CPD helped to maintain their competency to practice. The literature may also state that CPD helps to change the knowledge of the practitioner (James & Francis, 2011) and protect against out-dated practices (Ross et al., 2013). Ultimately the simplest reason for doing so many extra hours of CPD was that “*I want to keep learning to [sic] improve patient care*” (SP 63 and SP 42, Chapter 5, page 162). The desire and passion that the participants in this thesis have demonstrated towards improved patient care are evident by how much extra CPD they are prepared to undertake. The Nurse Practitioners in this thesis desired to provide their patients with the best possible care, so they are prepared to do this by undertaking extra CPD.

The present thesis is the first to generate evidence as to why Nurse Practitioners attend conferences. Below is a discussion of some of the motivations Nurse Practitioners in this thesis provided as to why they attend conferences as part of their CPD activities.

Nurse Practitioners attend conferences to fulfil some or all their CPD requirements. Attendance at a conference also means many different things to each Nurse Practitioner, demonstrating how knowledge provided or learnt in the *empirical* domain is experienced differently by each participant. Each participant at a conference has a different experience, often dependent on what the Nurse Practitioner wishes to obtain from this activity. Nurse Practitioners in this thesis saw conferences as opportunities to learn about new research or to become more confident in a new area of practice. The motivation for participants in this thesis to attend a conference increased when they were able to use new knowledge or skills to improve patient care. This was highlighted in a discussion paper by Davis (2015) as a motivator for

RNs to attend conferences, whereas this thesis provides evidence that Nurse Practitioners attend conferences for these reasons. The shared motivation to attend conferences demonstrates the link between participants of this thesis with the RN, highlighting that motivations to undertake CPD are similar across professional boundaries.

We can see that the *empirical* experiences of what the Nurse Practitioner experiences at a conference were all different when analysed through the framework of Critical Realism. When using the *empirical* domain, the domain according to Critical Realism of personal experiences and perceptions and the *actual* domain, the domain where experiences and perceptions are created. The experiences of each Nurse Practitioner at a conference was different, depending on what the Nurse Practitioner wished to achieve from the conference. Those Nurse Practitioners who used the conference to network may not improve their knowledge but make connections that could help them in the future. There was a commonality of motivations that linked many experiences together in the *actual*. The motivation to attend a conference was seen by Nurse Practitioners in this thesis to improve knowledge and patient care, as “*there is always something significant to be learnt at a conference*” (SP 68, Chapter 5, page 145) and attendance provided an opportunity to help change practice for the better for their patients. These statements highlight some of the formal motivations as to why Nurse Practitioners attend conferences. The Nurse Practitioner is looking to expand their knowledge in ways to improve patient care.

Participants also expressed other informal motivations for attending a conference. These informal motivations are like the informal ways of undertaking CPD also identified by participants. These informal motivations gave the Nurse Practitioner the chance to network with colleagues, which allowed them to “*share this knowledge with colleagues and help develop an understanding of the lessons being taught*” (IP 11, Chapter 7, page 195). Conferences did not just provide knowledge to those who attended the conference. Nurse Practitioners attending conferences would “*return to my workplace with what I have learnt and teach others who have not been able to attend the conference what I have learnt*” (FGP 4, Chapter 7, page 202). These informal interactions were argued by McCormick (2010) in a literature review related to the education system, to be important motivations to attend conferences, as knowledge was learnt and shared by all and not kept secret. Whilst not about nursing McCormick (2010) findings are shared by participants in this thesis who saw the

sharing of knowledge allowed the care everyone provided to patients to be improved. Therefore, motivations to attend CPD activities are similar across different professions.

Despite all these positive aspects of attending a conference, the cost of attending could be a barrier, as highlighted by IP 4 (Chapter 6, page 177) “*Once you add in travel, accommodation and other expenses to the cost of the conference, things add up and become expensive.*” Despite this expense, the Nurse Practitioners greatly valued the importance of attending conferences, as evidenced by the popularity of attending conferences highlighted in this thesis.

8.3.1 The preferred methods for undertaking CPD

Nurse Practitioners undertake CPD in many ways, which is demonstrated in this research. Table 5.3, Chapter 5, presented a breakdown of how participants of Study Two demonstrated the range of their preferences. For Nurse Practitioners in this thesis, the most popular activity to obtain CPD was formal CPD via conference attendance. This finding is consistent with the previous studies of Charles and Mamary (2002), Tilleczek et al. (2005) and Baxter et al. (2013). The results of this thesis have demonstrated that Nurse Practitioners in Australia do undertake CPD in similar ways to their colleagues worldwide.

This thesis has demonstrated that there are two types of CPD Nurse Practitioners are motivated to undertake. One type of CPD is formal; here, the Nurse Practitioner documents and collects evidence to help them maintain their endorsement, often from attending educational sessions. The second type of CPD the Nurse Practitioner undertakes is the informal CPD that is undertaken but not documented, for example, the discussions they have with colleagues. These formal and informal motivations are similar to what is described by Bahn (2007) based on semi-structured interviews with RNs. Here formal study was educationally motivated and informal was through discussing and sharing things with colleagues (Bahn, 2007). This research, therefore, supports this earlier work around formal and informal motivations for learning.

This informal type of CPD often only relates to the direct care that the Australian Nurse Practitioner provides to patients. For example, checking that the treatment being provided conforms to the gold standard of care the patient requires. Nurse Practitioners obtain informal CPD through reading an article on a new treatment or medication; teaching a student to

examine a patient better or just learning more about a condition. These may be informal routes to CPD, but they are still examples of ways to obtain CPD provided by the NMBA in their Guidelines for CPD (Nursing and Midwifery Board of Australia 2016a). All the participants in this thesis undertook more CPD hours than they documented. It is not reported elsewhere in the literature how much CPD a healthcare professional undertakes above the minimum standard. Therefore, this thesis provides a unique view of the amount of CPD a healthcare professional, the Nurse Practitioner, undertakes each year. The lack of documentation for these extra hours could be for a myriad of reasons, including lack of time, or a lack of enthusiasm to document every little thing they do. Regardless of documentation being present or not, participants in this thesis regularly obtain far more CPD than is required of them.

Participants in this research highlighted that the reading of journals was a favourite way of obtaining CPD. This demonstrates a link between this research and the preferences highlighted by Latter et al. (2007) who highlighted reading journals as a preferred method of undertaking CPD. This demonstrates a link between this study and what is described in the literature as a preference for undertaking CPD. This link also demonstrates that there is potential consistency in preferences for undertaking CPD among Nurse Practitioners globally.

8.3.2 Context-specific Nurse Practitioner CPD

This research found that the extrinsic motivations of the Nurse Practitioner to attend a CPD activity are different from the RN, but the intrinsic motivations are the same. The extrinsic motivations are those that come from outside the Nurse Practitioner; the intrinsic motivations come from inside the Nurse Practitioner. Part of the extrinsic motivation for the Nurse Practitioner includes the extra 10 hours of CPD they are required to undertake. For these 10 hours of CPD, the Nurse Practitioner needs to focus on CPD activities that “*relate to prescribing and administration of medicines, diagnostic investigations, consultation and referral*” (Nursing and Midwifery Board Australia, 2016c), areas that do not typically relate to the scope of practice of the RN, so are not motivational factors for the RN. Gould et al. (2007) argued that the intrinsic motivators for the RN are the desire to enhance the provision of care. This thesis has demonstrated that Nurse Practitioners have similar intrinsic motivators for undertaking CPD.

Some participants in this thesis felt that there shouldn't be a difference between the CPD of the Nurse Practitioner and the RN as "*there is no difference between the two, I just do continuing professional development to fulfil my requirements*" (IP 3, Chapter 6, page 177). There is a regulatory difference in the amount of CPD undertaken by the two groups; the Nurse Practitioner is expected to undertake different CPD to the RN. According to the NMBA, the RN is expected to undertake 20 hours CPD each year, and the Nurse Practitioner is expected to undertake 30 hours each year (Nursing and Midwifery Board Australia, 2016c). The first 20 hours CPD the Nurse Practitioner undertakes may be similar to or the same as the RN. It would be the extra 10 hours that would be different for the Nurse Practitioner. Therefore, although there may be some similarity in the CPD undertaken, the results of this thesis suggest that there should also be a difference. This difference is designed to reflect the advanced nature of the Nurse Practitioner's scope of practice; there is no literature available that discusses a difference between the CPD undertaken by the Nurse Practitioner and the RN. Below is a discussion of this using points raised by the participants of this thesis.

Nurse Practitioners were also motivated to seek CPD activities that were more specific and more representative of their specialised educational needs. The Nurse Practitioner sought topics related to their scope of practice or that were aimed at a higher level than the RN, as this level was more representative of their practice. This higher level of practice was around the knowledge and skills of the Nurse Practitioner related to pharmacology, radiology, diagnosis, consultation and referral, skills that are not generally used by the RN. The Nurse Practitioners in this sample group identified they would often attend CPD that was arranged for their medical colleagues, as this provided a higher knowledge level CPD compared to the RN. An issue identified by participants with regards to attending the same CPD as their medical colleagues were that this CPD lacked any nursing focus. So, they were obtaining a higher level of CPD, but then having to go away and contextualise what they have learnt to a nursing focus.

When discussing the content of the extra 10 hours of CPD the Nurse Practitioner was required to undertake by the NMBA (Nursing and Midwifery Board Australia, 2016c), many Nurse Practitioners expressed the opinion that these 10 hours should consist of pharmacology content only. An opinion reflected across all three studies in the research was that the extra 10 hours of CPD the Nurse Practitioner was mandated to undertake needed to be related solely to pharmacology. This assumption of the extra 10 hours of CPD for the Nurse Practitioner being specific to pharmacology is discussed greatly among Nurse Practitioners and often the first

topic discussed when the extra 10 hours for Nurse Practitioners is mentioned. This is evidenced by the participants of this research quoted in Table 7.1, Chapter 7, page 195-196. According to Buckley, Cashin, Stuart, Browne, and Dunn (2013), 78% of Australian Nurse Practitioners regularly prescribe as part of their practice. The proportion of Australian Nurse Practitioners who prescribe is less than in the US, where according to Dunn, Cashin, Buckley, and Newman (2010), over 90% of US Nurse Practitioners prescribe medications. So, it can be argued that a lot of CPD the Australian and US Nurse Practitioners will undertake will include some form of pharmacology related CPD as it is part of their scope of practice to prescribe.

The final difference in CPD highlighted by the participants in this study was that CPD was used as an opportunity to expand their scope of practice. In contrast, they believed that the RN undertook CPD activities to help maintain their scope of practice. These participants also acknowledged that RNs who undertook certain educational courses may also increase their scope of practice. For those who participated in this research, “*expanding my scope of practice is beneficial to my patients and me by being able to provide holistic care*” (IP 12, Chapter 7, page 211 and SP 41, Chapter 5, page 158). By being able to grow their scope of practice to deliver a better service to patients, highlights that Nurse Practitioners in this thesis have a motivation to undertake CPD to go beyond their current professional and practice boundaries.

The Nurse Practitioners have shown in this thesis they recognise that some of the CPD they are motivated to undertake coincides with the CPD of the RN. However, as demonstrated in this thesis, the Nurse Practitioner is motivated beyond these common reasons to obtain different CPD to the RN. Some of these motivations involve the desire for a deeper understanding of a topic; others are to improve the care they provide to their patients.

8.3.3 The use of Reflection in CPD

According to the NMBA guidelines on CPD, a Nurse Practitioner should actively reflect on a CPD activity they undertake (Nursing and Midwifery Board Australia, 2016c). The Nurse Practitioner is encouraged to reflect on their CPD activities to help them improve learning outcomes from the activity (Nursing and Midwifery Board Australia, 2016c). The practice of reflection is a sentiment that Nurse Practitioners acknowledge as necessary. It is argued by Knapp, Gottlieb, and Handelsman (2017) that reflection leads a practitioner on a path of self-awareness, a route that allows the practitioner to maintain competency. This view was stated

previously by Taylor (2010), who said that self-awareness and reflection led to a competent practitioner. Within this thesis, reflection helped the Nurse Practitioner identify areas of their practice that need improvement. Highlighting that reflection was important suggests that Nurse Practitioners are self-aware of what is needed from their CPD to ensure that they remain a competent practitioner.

While the Nurse Practitioners in this thesis were in favour of reflection, they expressed differing views about the process to undertake. Most Nurse Practitioners were not in favour of formalised evidence-based reflective cycles, like the one recommended by the NMBA. The Nurse Practitioners in this research preferred ad hoc methods of reflection. Other participants saw formalised reflective cycles as time-consuming and non-productive. The literature, like these views, is contrasting. It is argued by Jones and Alinier (2015) that a structured approach to reflection promotes more integrated learning by linking thinking, feeling and doing together. By not having a structured approach to reflection, Jones and Alinier (2015) further argue that learning becomes rote learning and not contextualised. However, Gilbert (2014) argues that peer discussion is a valid informal route of reflection, as it allows peers to contextualise and understand the meaning in their area. Participants in this thesis agreed more with the arguments presented by Gilbert (2014) than the arguments presented by Jones and Alinier (2015), as they saw a discussion with colleagues leading to a mutual understanding of activity and felt that any misunderstanding could be rectified. Therefore, contextualised learning from a CPD activity, will fit better into the practice of the Nurse Practitioner as it is contextualised with the help of colleagues.

The use of reflectivity by some participants in this thesis highlights the self-awareness of the Nurse Practitioner to determine how their practice or knowledge needs to be improved to remain competent and provide better patient care. As IP 12 states, “*reflection gives me the best chance to evaluate my care, identify how my care and knowledge will then impact on the care I provide to my patients,*” (Chapter 7, page 208). Having this insight and self-awareness is seen by Cioffi (2017) as leading to clinical discovery. It is through reflection and self-awareness that the participants in this thesis underwent a journey of clinical discovery to ensure they were providing the best care to their patients.

Reflection can be undertaken as a formalised process using an evidence-based reflective cycle, or an informal process using techniques like peer review and discussion. Irrespective of the process it is a necessary activity for Nurse Practitioners to participate in. Reflection allows the

Nurse Practitioner to demonstrate their knowledge and their understanding of that knowledge. Reflection also provides an opportunity to reflect on the care provided to patients. As IP 13 states, “*you undertake CPD to change knowledge and learn, reflection allows you to show you have learned and changed your knowledge,*” Chapter 7, page 209). Whilst most participants were not in favour of the formal processes of reflection and reflexivity for the activities they were mandated to participate in, they did enjoy personal reflective practice.

8.4 The perceived barriers to undertaking CPD

This thesis’s findings support the international work of Tilleczek et al. (2005) and Baxter et al. (2013) demonstrating the similarity of barriers faced by Nurse Practitioners to undertake CPD. This thesis has also found that the Nurse Practitioner faces similar barriers to those faced by the RN (Shahhosseini and Hamzehgardeshi (2015), James and Francis (2011) and Hegney et al. (2010)).

The barrier most commonly cited within this thesis by Nurse Practitioners was the expense of a CPD activity. The expense of an activity was related to the cost of the conference, course or activity and other expenses associated with these activities. The associated expenses related to travel and accommodation expenses and other sundry expenses they may have to pay to undertake a CPD activity. If the Nurse Practitioner perceives the cost of an activity as too expensive, it deters them from attending that activity.

There is some relief in the Australian taxation system, as participants can claim these expenses back as part of their work-related self-education expenses (Australian Taxation Office, 2016). These expenses can only be claimed at the end of the financial year when the Nurse Practitioner files their tax return. Having to wait to complete their tax return may not help the Nurse Practitioner as these expenses still require payment at the time of booking. Often the expense of a CPD activity must be found before being able to claim the tax rebate. In some circumstances, this could put the Nurse Practitioner in a position of having to choose whether to attend a CPD activity or not. For example, a Nurse Practitioner in private practice must weigh up if it is worth the loss of income and the expense of a CPD activity to attend and then wait to claim the expenses at the end of the year.

The financial expense of undertaking a CPD activity was not the only cost associated barrier of CPD. There was also the cost of the Nurse Practitioner's time. Participants in this thesis highlighted that time included time away from their workplace and patients, and time away from their family to attend a CPD activity. When attending a CPD activity, concerns about time were expressed by participants in this thesis if they came from a rural or remote location. Being from a rural and remote location can also increase the expense of attending a CPD activity. These barriers of time highlighted by participants in this thesis corroborate the time-related barriers highlighted by the Nurse Practitioners who participated in the studies by Tilleczeck et al. (2005) and Baxter et al. (2013). The barriers of time expressed by the participants in this thesis are also similar to the barriers of time Shahhosseini and Hamzehgardeshi (2015) found in their study of RNs. Therefore, the results of this thesis show that time barriers highlighted by the participants in this thesis are the same as those found in other studies that include Nurse Practitioners and RNs.

For some Nurse Practitioners, there were no barriers to CPD as they saw a wealth of CPD available at their fingertips and across many different platforms. These Nurse Practitioners suggested that regardless of where the Nurse Practitioner was situated, there was no excuse for them not to undertake CPD. There is a wealth of knowledge available to the Nurse Practitioner online.

This thesis highlighted barriers to CPD specific to Nurse Practitioners working in private practice. A barrier that was identified by a private practice Nurse Practitioner was their loss of income. The loss of income from being away from their practice meant that attending the CPD activity was more expensive for those in private practice. A similar barrier was highlighted by another private practice Nurse Practitioner, who stated: "*self-employed = self-funded time and courses*" (SP 64, Chapter 7, page 226). These sentiments suggest that as well as sacrificing their income, they also must pay to attend a CPD activity, which means the expense of a CPD activity becomes even more expensive when compared to a public employee who may only have to pay for the activity.

Another barrier highlighted by private practice participants in this thesis was related to time. These participants noted that Nurse Practitioners in private practice might not be able to take any leave to attend a CPD activity. If these Nurse Practitioners did take leave to undertake continuing professional development, they risked losing patients due to not being available when the patient needed to see them. Here the private practice Nurse Practitioner must decide

whether to risk losing patients or undertake CPD. These barriers around obtaining CPD as a private practitioner are similar to the barriers highlighted in a survey of Occupational Therapists by Courtney and Farnworth (2003). The study by Courtney & Farnworth, (2003), found that Occupational Therapists in private practice identified finances, professional isolation and time as the main barriers to CPD. The commonality with this thesis and Courtney and Farnworth (2003) is a further example that experiences of professionals undertaking CPD are similar.

Whilst this thesis highlights finances as being a barrier it does not discuss the professional isolation that may be experienced, which is another aspect that needs to be considered when establishing a private practice Nurse Practitioner service. Further research would be needed to investigate the barriers experienced by those Nurse Practitioners who are in private practice because even though they work in a private practice setting, they are still required to undertake CPD.

The results of this thesis can be compared to the work of Shahhosseini and Hamzehgardeshi (2015), whose work found that RNs faced the following barriers to CPD: personal barriers (time, health and domestic responsibilities); interpersonal barriers (lack of support from co-workers, negative CPD experiences); and structural barriers (costs, distance, lack of organisational support and relevant courses). The three barrier components, of cost, time and employer support, highlighted in this thesis match Shahhosseini and Hamzehgardeshi (2015) findings. Cost is a structural barrier, time is a personal barrier, and employer support is both a structural and interpersonal barrier. When comparing the results of this thesis with those of Shahhosseini and Hamzehgardeshi (2015), it is apparent that in the nursing profession, regardless of the level of practice, nurses will face similar barriers when attempting to obtain CPD.

A barrier identified in this thesis related to mandatory education. Mandatory education is the regular updating of skills an employer requires its employees to undertake each year to maintain their competency in certain aspects of their role. For example, the Nurse Practitioner/RN mandatory education may include, nursing issues like wound management, basic and advanced life support, child protection and manual handling. Participants in this thesis saw this mandatory education as a barrier, as they were required to use their CPD entitlements to undertake this mandatory education. Hence, Nurse Practitioners became reluctant to use their personal time to seek out more relevant CPD. Mandatory hospital

education then becomes a barrier to obtaining more relevant CPD. As discussed by Zummo and Kearney (2009) mandatory education is designed to ensure the hospital is compliant with standards in providing high-quality patient care. Mandatory education is about the hospital meeting certain standards. The organisation may see mandatory education as essential for them to meet their accreditation standards and therefore, a valid use of CPD entitlements. Participants in this thesis did not see this as a valid use of their CPD entitlement as it prevented them from seeking CPD that benefited patients care.

8.5 Knowledge

Knowledge is seen as a category on its own and one that is discussed within the other categories. Meaning that it is not only its own category but also may influence the others. This is because participants in this thesis saw their knowledge as having three aspects: clinical knowledge; professional knowledge; and personal knowledge. Depending on what type of CPD they undertook, it would lead to an increase in one of these areas of knowledge.

Knowledge enhancement occurs in the transitive dimension of critical realism, where the human interpretation of structures, mechanisms and processes occurs (DeForge & Shaw, 2012). Participants divided their understanding of knowledge within the transitive dimension in to three aspects to better understand how they were discussing knowledge. By dividing their understanding of knowledge this way the participants were able to clearly identify why they attended specific CPD activities. For example, an activity was specifically attended because it enhanced their clinical knowledge. The taking of a concept and manipulating the way it is understood allowed the contextualisation of knowledge to help them define their experiences.

Knowledge was also used by participants in this thesis as an all-encompassing term. By using the word as a blanket term, Sakamoto (2018) found, was a demonstration of participants referring to the multiple forms of knowledge that underpin nursing practice. Many participants in this thesis simply referred to their knowledge increasing, without making a specific reference to which aspect of knowledge they meant. Nurse Practitioners use CPD as an opportunity to replace old existing knowledge with new contemporary knowledge. This increase in knowledge is then passed on to colleagues and patients who benefit from this new knowledge. The increase in knowledge is exemplified by IP 15, who stated: “*replacing knowledge has a positive effect for patients, as I am updating myself and providing better care to them,*”

(Chapter 7, page 228). Participants in this thesis saw knowledge as having both a broad and specific definition; which confirms Sakamoto (2018) view that the concept of knowledge is not well defined in nursing.

Within this thesis, participants in the focus group divided knowledge into three distinct aspects. Participants in the focus group provided the definitions used in this research and subsequently confirmed by participants in Studies Two and Three. Participants in this thesis would use the word knowledge without specifying which type of knowledge they were discussing. It was possible as part of the data analysis to assign one of these three areas of knowledge to the type of knowledge the participant was describing. Within this research, the dominant area of knowledge participants identified with was clinical knowledge. Clinical knowledge is the knowledge that participants related directly to their role and the care they provided for patients.

When selecting a CPD activity, this thesis found that Nurse Practitioners were seeking an increase in their clinical knowledge, which was perceived to relate to providing better care for their patients directly. With an increase in their clinical knowledge, participants saw that there was an increase in their knowledge base. To the participants, an increase in their knowledge base meant they could offer better care and an expanded scope of practice. Nurse Practitioners also recognised that their clinical knowledge needed to change as treatments changed.

Professional knowledge has been defined as being composed of three components, basic science, applied science and skills and attitude (Schein, 1973; Schon, 2016). Where Schein and Schon discuss the content of professional knowledge, participants in this thesis talk about clinical knowledge. The basic science for participants is their nursing background, the area where their practice has been developed. Applied science to participants in this thesis would be the science they use to support their practice, their understanding of evidence-based practice, and how patients benefit from it. The final component, skills and attitude, is how participants relate to their patients and use all this science to help improve the care they provide.

Participants in this thesis identified professional knowledge as the background for their practice; its focus was the understanding of the underpinning rules and regulations. Which is different to the definition of professional knowledge above by Schein (1973) and Schon (2016). Here participants saw professional knowledge as anything that did not have a direct patient focus. To the Nurse Practitioner, professional knowledge was “*management and leadership skills, not related to your clinical knowledge*” (FGP 3, Chapter 4, page 122). So professional

knowledge was different from the clinical knowledge of the Nurse Practitioner. Professional knowledge comprised the skills essential for participants to be able to practice as a clinician. However, the view described by some participants in this thesis is different from the published literature. Kinsella (2010) Kvale and Bondevik (2010), Chow et al. (2017) and Bhalla (2017) saw professional knowledge as something that would benefit the patient, namely enhanced patient care.

To help further differentiate between clinical and professional knowledge, FGP 2 provided the following explanation. *“Nurse Practitioners and lawyers are both totally different professions. Yet they both share common professional knowledge. This professional knowledge is all about communication, management, time management and other skills not directly related to their everyday work. Their everyday work is where the differentiation occurs. This is where specialist knowledge sits. For the lawyer, this specialist knowledge is legal knowledge. For the Nurse Practitioner, this specialist knowledge is their clinical knowledge. It is this access and use of specialist knowledge areas that differentiate the two professions”* (Chapter 4, page 123). So, participants in this thesis understood professional knowledge to be the common link between all professions. The knowledge that differentiates the professions is the specialist knowledge they use each day to perform their roles.

Participants identified the final area of knowledge as personal knowledge. Personal knowledge is the area of knowledge in which the Nurse Practitioner has a personal interest. For a CPD activity to be personal knowledge enhancing, the topic of the activity is not related to the clinical role or the professional role of the participant. It is just a topic in which the Nurse Practitioner has an interest. Participants did state that they would not attend a full conference on a topic outside their scope of practice. However, participants would attend a workshop or seminar at a conference outside their scope of practice because it interests them. Participants also stated that they would read a journal article for the same reason. CPD activities around personal knowledge have no direct relationship to the care the Nurse Practitioner provides. There is no evidence in the literature around the development of the personal knowledge of the Nurse Practitioner. While participants in this thesis did seek CPD that was primarily related to their clinical knowledge, followed by CPD related to their professional knowledge, they still undertook some CPD related to personal knowledge. Further research would be required to determine the relationship between CPD and these three aspects of knowledge. When the literature was explored around the topic of knowledge, there is none that defines personal

knowledge as defined by participants in this thesis. Therefore, this is an area of knowledge that may be unique to the participants in this research.

There is a dissonance between the definitions of knowledge used by the Nurse Practitioner in this research and the definition of knowledge used by the NMBA. The NMBA Guidelines on CPD state “*CPD aims to enable nurses and midwives to maintain, improve, and broaden their Professional Knowledge, expertise and competence to meet their obligation to provide ethical, effective, safe and competent practice*” (Nursing and Midwifery Board Australia, 2016c). The NMBA uses a different definition for professional knowledge compared to the definition participants in this thesis used. The NMBA’s uses a definition that is closer to the clinical knowledge definition proposed by participants in this thesis. This could lead to a misunderstanding between the two parties. The NMBA uses a definition of knowledge for the expansion of CPD one way, and the Nurse Practitioner defines the expansion of knowledge from CPD in another way. Consequently, there is potential for confusion about which definition of knowledge is the most appropriate.

Another aspect of how the Nurse Practitioner used knowledge in this thesis was the use of CPD to fill knowledge gaps and consequently expand their scope of practice. The Nurse Practitioner saw this expansion as enabling them to meet their patients’ needs better. It is the view of the Nurse Practitioner that having an expanded scope of practice leads to an improvement in access to health care services for their patients. Thus, filling in knowledge gaps was used as a stepping stone by the Nurse Practitioner to broaden their scope of practice. The Nurse Practitioner’s scope of practice helps to inform other healthcare professionals and patients about the Nurse Practitioner’s capabilities (Cashin et al., 2015). Cashin et al. (2015) used a series of focus groups, surveys, interviews and work-based observation to examine the gap in the competency standards of the Nurse Practitioner and how the Nurse Practitioner practised. A finding of this project was that patients often had different expectations to the Nurse Practitioner as to what the role of the Nurse Practitioner was. This project resulted in the development of minimum standards of practice for a Nurse Practitioner, which were later adopted by the NMBA (Nursing and Midwifery Board of Australia, 2018). The findings from this thesis demonstrated that the Nurse Practitioner undertakes CPD not only to maintain recognised minimum standards of practice, but also improve on these standards and expand their scope of practice.

Participants in this thesis perceived that their increased knowledge had the greatest impact on the care they provided to patients. The use of CPD to fill and expand knowledge gaps has

previously been argued by Levett (2011) to prevent the stagnation of knowledge in health professionals. The participants in this thesis perceived this issue to be a justification for undertaking CPD, as any stagnation in their knowledge could lead to poor patient outcomes. For a Nurse Practitioner to be reliant on old knowledge places the patient at risk of harm. In this thesis, the participants felt that CPD prevented this stagnation in knowledge and allowed them to affirm that their practice was current.

The association between CPD and life-long learning is acknowledged by Nurse Practitioners as a vital professional undertaking. Nurse Practitioners also recognise that CPD is a mandatory requirement of their registration. The pursuit of new knowledge, a willingness to engage in new processes, by the Nurse Practitioner, allows them to develop as a professional. The Nurse Practitioner can develop themselves into fields outside their current scope of practice. They can become a more competent practitioner who can offer a broader scope of practice. Some participants of this research saw the pursuit of knowledge leading to their work being more fulfilling.

Decision-making by Nurse Practitioners regarding the care they provide to patients is based on the knowledge they have, for the context in which they are working. In April 2019, the Nursing and Midwifery Board of Australia released a public consultation on the decision-making framework (DMF) used by RNs and Midwives. The purpose of the proposed DMF is *“to guide decision-making relating to scope of practice and delegation to promote consistent safe, person-centred and evidence-based decision-making across the nursing and midwifery professions. The DMF contributes to flexibility in practice and enables reflection on current practice and practice change, based on the application of the DMF principles”* (Nursing and Midwifery Board Australia, 2019c).

The proposed DMF guides the decision-making of the RN and the delegation of care in clinical care (Nursing and Midwifery Board Australia, 2019c). This document does not discuss the Nurse Practitioner specifically, only the RN but is still pertinent to the Nurse Practitioner as they are primarily a RN.

In the associated document, *Decision-making framework* for nurses and midwives, the 3rd statement of the guide to nursing practice decision-making relates to the expansion of their scope of practice (Nursing and Midwifery Board Australia, 2019b). When deciding to expand their scope of practice, the nurse is encouraged to identify need/benefit; reflect on the scope of

practice and practice standards; the context of practice and appropriate person to perform the activities. This thesis has demonstrated that the practice of the Australian Nurse Practitioner is already consistent with the proposed DMF in relation to the expansion of their scope of practice. It has shown that the Australian Nurse Practitioners use reflection to identify gaps in their practice, which they fill by undertaking CPD. The benefit of them undertaking this CPD is the perceived improvement in patient care that comes from them undertaking CPD. Therefore, support for this DMF can be seen from the Australian Nurse Practitioner as its principles already form part of the practice of the Nurse Practitioner.

8.6 Summary

This chapter has discussed the main aim of this thesis, the perceived impact of CPD on patient care. The discussion centred on the positive and negative aspects of the perceived impact of CPD on patient care, motivations for undertaking CPD, barriers to CPD, and knowledge using the published literature. The views expressed by the participants and the published literature are similar in many but not all aspects.

Nurse Practitioners see CPD as being a vital part of their role. The activities are essential to ensure that clinical knowledge is up to date as clinical knowledge was seen by participants as having the most direct impact on patient care. Consequently, Nurse Practitioners sought CPD activities that improved their clinical knowledge. Nurse Practitioners used reflection to self-identify gaps in knowledge and selected CPD activities that impacted the most on the care they provided to patients. CPD was also sought to expand their scope of practice, through the identification of knowledge gaps, the combination of which had an impact on the care provided to patients.

All Nurse Practitioners within this thesis reported that CPD had an impact on the care they provided to their patients. CPD allowed the Nurse Practitioner to understand new research and pass this knowledge on to both patients and colleagues. For patients, a Nurse Practitioner with an improved knowledge base led to improved care due to the Nurse Practitioner having a deeper understanding of an issue. For colleagues, this is via education sessions where the Nurse Practitioner presented new knowledge and research to them. So, all new knowledge learnt by Nurse Practitioners is always passed on.

Along with this positive impact of CPD, there were also barriers identified. The main barriers were cost and time. All the barriers highlighted were consistent across all three studies in this research. The results here also corroborated the existing literature on barriers to CPD by the RN. Depending on the workplace of the Nurse Practitioner, these barriers would help different people differently. For Nurse Practitioners in a rural, remote or private practice, the main barrier faced was the cost of a CPD activity. Regardless of where they worked, one of the most significant barriers to CPD Nurse Practitioners faced was time. The barrier of time included time away from their family and time away from the workplace. Many Nurse Practitioners had to prioritise CPD over family commitments by undertaking CPD activities either on the weekend or after hours.

Despite all these barriers, Nurse Practitioners in this thesis managed to accumulate far more CPD hours than they required. A reason for this is that healthcare is continually changing, so to ensure the Nurse Practitioner is always current, they undertake additional CPD willingly. Nurse Practitioners recognised that they needed to be the best practitioners they could for their patients. The only way for them to do so was to undertake CPD.

CPD also allowed the Nurse Practitioner to change their practice by expanding their scope of practice. CPD also allowed changes in the practice of those around them to occur. This could be the adoption of new treatment pathways into their practice, which were then also adopted by colleagues. Nurse Practitioners in this thesis were not selfish with new knowledge and regularly shared it with colleagues. Knowledge was also shared through informal discussions and in formal teaching sessions.

Nurse Practitioners in this thesis recognised there was a difference between the CPD they undertook as a RN and as a Nurse Practitioner. Also, there was a difference in the CPD they needed to be compared to medical officers. Nurse Practitioners saw that their CPD needed to span across both these levels, the RN CPD being a fit for the nursing background of the Nurse Practitioner and the medical CPD the higher knowledge content but lacking the nursing focus.

There does need to be a difference between the CPD of the Nurse Practitioner and RN. They are two significantly different roles. Each role is different and has different expectations. The NMBA acknowledges this difference as it expects Nurse Practitioners to undertake a further 10 hours of CPD each year. Nurse Practitioners themselves see CPD differently as well. They expect the CPD they undertake to contain a level of knowledge that is different from that of

the RN. The content is also different. Not only is their CPD highly influenced by topics like pharmacology, diagnostics and treatment, but their scope of practice also influences the Nurse Practitioner's CPD. Nurse Practitioners actively sought CPD activities that would allow them to expand their scope of practice and provide better care to their patients.

Nurse Practitioners reflect on their practice and CPD activities. They acknowledge that this is part of the cycle of CPD. Very few Nurse Practitioners in this thesis used a formal reflective cycle to reflect, most used informal routes to undertake reflection such as jotting down of salient points from an activity; or spending time discussing the implications of the activity with colleagues. Regardless of the process of reflection undertaken, reflection allowed them to identify the new knowledge they have learnt.

The following chapter will provide the recommendations and conclusions of this thesis. It will discuss the thesis limitations, then make recommendations for further research.

Chapter 9

Recommendations, Limitations and Conclusions

9.1 Recommendations

1. Investment is required from CPD providers, to produce CPD activities for Nurse Practitioners, that is relevant to their needs.
 - The Nurse Practitioners in this research highlighted that it is difficult to find and attend a CPD activity specifically aimed at them. To ensure that they met their CPD requirements, the Nurse Practitioners in this thesis would either attend a CPD activity arranged for their medical colleagues, or a CPD activity for their RN colleagues. The issue with attending a CPD activity arranged for medical colleagues was that they often lacked a nursing focus, and the issue of attending a RN CPD activity was that it lacked the depth of specialist knowledge the Nurse Practitioner sought.
 - The investment in Nurse Practitioner context specific CPD would fulfil a need that Nurse Practitioners currently find difficult to meet. This investment would also help the Nurse Practitioner to justify the expense of attending a CPD activity as they have a clear understanding of what they will obtain at the activity and can be reassured that a single activity will meet their needs. Compared to the current situation where the Nurse Practitioner may need to source several different CPD activities to meet their needs, which then becomes harder to justify the expense.
2. Continuing professional development should be undertaken in consultation with Nurse Practitioner's prior to delivery of the activity to ensure that the activity meets the needs of the Nurse Practitioner.
 - The Nurse Practitioners in this research highlighted that when they attended a CPD activity that was aimed at them, the content lacked a clinical knowledge focus and taught at a level below the knowledge required by the Nurse Practitioner. The Nurse Practitioner in this thesis was then aggrieved at the cost of these unrelatable CPD activities. By developing CPD activities in conjunction with a Nurse Practitioner, will ensure that the content contains the clinical knowledge and pitched at the level that the Nurse Practitioner requires. Ensuring that content is relevant to the Nurse Practitioner would attract more participants to an activity. By attracting more participants, the cost of attending an event is reduced, and the Nurse Practitioner would see the financial and intellectual benefit of attending that event.

- Having a Nurse Practitioner help develop context-specific CPD also allows for the development of CPD that would allow others to broaden their scope of practice. As the Nurse Practitioner can undertake a CPD activity that meets their needs, as its context has been designed by a Nurse Practitioner. For example, a Nurse Practitioner who works in the Emergency Department may want to expand their scope of practice to better deal with individuals with diabetes. Therefore, by seeking a CPD activity designed by a Nurse Practitioner experienced in the education of diabetes management, they would know that the content and context of the activity would meet their needs as a Nurse Practitioner.
3. Mandatory education should be counted separately from the 30 hours of CPD the Nurse Practitioner is required to undertake.
- Mandatory education was acknowledged by Nurse Practitioners in this research as a way for employers to demonstrate that they had a safe workforce. Whilst mandatory education is essential for safety, the NMBA stance is that CPD is about expanding the RN's professional knowledge and skills (Nursing and Midwifery Board Australia, 2016a). The Nurse Practitioners in this research agreed with the NMBA and sought CPD to expand their knowledge and skills, which they did not see happening when they undertook mandatory education. Many Nurse Practitioners in this research also saw the undertaking of mandatory education as an easy option that could be counted towards their yearly CPD hours. Therefore, by removing the ability of Nurse Practitioners to count their mandatory education hours towards their yearly CPD hours requirement, would mean that they would seek CPD activities that developed their knowledge and skills, helping to provide better care to their patient, and not letting their knowledge and skills stagnate by doing the bare minimum.
 - Many of the participants in this thesis undertake more than the minimum of 30 hours of CPD mandated for them each year. With the average number of hours being reported by participants in this research being 80 hours per year. Therefore, the removal of the mandatory education hours completed each year from the reported hours would not adversely affect the number of hours of CPD undertaken by the Nurse Practitioner.

4. The entitlements provided to publicly employed Nurse Practitioners become proportional to the hours of CPD that they are required to undertake.
 - Currently, the entitlements that the Nurse Practitioner receives from public employers is the same as the RN, who is expected to undertake 20 hours of CPD each year, whilst the Nurse Practitioner is expected to undertake 30 hours. A proportional increase in these entitlements would be beneficial to the Nurse Practitioner; as recognition of the additional CPD they are expected to undertake. This proportional increase is justified as the Nurse Practitioner is a senior clinically focused nurse who is expected to undertake CPD to ensure that the care they provide to patients is of the highest standard.
 - By increasing the entitlements recognises that the undertaking of CPD is an essential component of the Nurse Practitioner role that is needed to support to ensure that high standards of patient care are maintained.
5. A submission from the researcher, created from this thesis to the NMBA in order to clarify the definition of knowledge used by the NMBA and Nurse Practitioners.
 - Currently, the definition of professional knowledge used by the NMBA is more akin to the definition of clinical knowledge used by Nurse Practitioners in this research as seen in the discussion in Chapter 6 section 6.6.4 p180. Given this, a submission based on this thesis may stimulate a review by the NMBA on how they use the word knowledge, and the many different definitions used by registrants. A review would provide clarity of the definition used by the NMBA for the registrants of the NMBA.
 - Knowledge was discussed by participants in this thesis in many ways, with three different definitions being identified. Facilitating discussion of these definitions allows for clearer definitions to be made. Nurse Practitioners and the NMBA need to agree on what definitions are used, so clarity is maintained.

9.2 Recommendations for further research

1. Further research is required to explore the CPD experiences of those Nurse Practitioners who work in a rural or remote setting, compared to those who work in metropolitan areas.
 - Nurse Practitioners in this research highlighted that those who worked in a rural or remote setting experienced the barriers and facilitators to CPD differently to their metropolitan colleagues. This further research would more accurately determine the evidence to confirm or dispute these experiences. Highlighting, whether those in rural and remote areas do miss out on CPD activities due to their location of work.
2. Is reflection better achieved via formal or informal methods of reflection?
 - The Nurse Practitioners in this thesis found that reflection on a CPD activity beneficial to their learning. However, they felt this reflection was occurred better through informal methods of reflection, rather than in a more formalised fashion. The preferred method of reflection by participants in this thesis was via conversations with colleagues about the CPD activity. Understanding why Nurse Practitioners felt reflection was beneficial would identify whether it was the formal or informal routes of reflection that led to an enhancement in the practice of the Nurse Practitioner.
3. What motivates Nurse Practitioners to attend a specific type of CPD activity?
 - By exploring the motivations of Nurse Practitioners about what attracts them to specific CPD activities will allow the development of programmes of study suitable to meet the needs of the Nurse Practitioners and ensure that the Nurse Practitioners obtains the most from the provided activity. As there is an understanding about what motivates the Nurse Practitioner to attend that activity.
4. The research here is exploratory in nature; the themes presented need further clarification from a larger sample, both nationally and internationally.
 - By taking the findings of this thesis and developing a validated tool that can be used with a larger sample will allow the themes highlighted in this research to be further validated. Then by duplicating the thesis internationally will determine if the themes highlighted in this research are transferrable to the international population of Nurse Practitioners.

5. Research is needed to look at if it would be equitable for all Nurse Practitioners employed by state or territory employers to receive the same CPD entitlements?
 - This research would identify if all Nurse Practitioners working in the public healthcare system were to obtain the same CPD entitlements, would the care they provide for their patients be improved.
6. Research is required to look at perspectives of the NMBA and Nurse Practitioner about the purpose of CPD.
 - As highlighted in Chapter 4 section 4.6.2.2 the Nurse Practitioner holds a different perspective to the NMBA as to the purpose of CPD. Further research would help to identify if there a true difference of perspective or if both parties hold similar views and just articulate them in different ways.
7. Research is required to explore the future career pathways available to Nurse Practitioner post endorsement.
 - Nurse Practitioners in this study highlighted that they were at the top of their clinical careers and no further promotions were available to them. Further research is needed to determine if this is accurate, are there further career pathways open to the Nurse Practitioner? If so, what are these pathways and how does the Nurse Practitioner access them?
8. Research is required to explore what aspects of the self-education expenses claimed via the taxation system are used for CPD activities that directly improve patient care.
 - It is not possible at this point to accurately determine how much of self-education revenue claimed back for CPD is spent on activities that lead to improved patient care. The money the government allows to be claimed back as part of self-education expenses covers more than just CPD activities. Therefore, looking at what proportion of self-education expenses is spent on activities that lead directly to improved patient care would allow the government to formulate clearer guidelines on what can and cannot be claimed as a self-education expense.

9.3 Limitations of the thesis

This thesis needs to be considered in the context of its limitations. A discussion of these limitations follows. Within the scoping review of the literature CPD could be a form of knowledge translation. Knowledge translation has no clear definition and is seen by Granek and Nakash (2016) as the creative dissemination of research findings that lead to better implementation in practice. The aim of this thesis was not about describing how knowledge was translated into practice, but how CPD was perceived to impact on patient care. Therefore, the scoping review of the literature may have been restricted by not using the term knowledge translation as part of the search string.

A further limitation to the exploratory scoping review of the literature is the narrow focus of the literature included in the review. A broader perspective of CPD and its impact on patient care may have been achieved by including literature from the RN and healthcare professionals or other professional groups. The narrow focus of the scoping review is needed as this research is a Professional Doctorate Nurse Practitioner, therefore the focus needed to be on the Nurse Practitioner. The literature from the RN, other healthcare professionals and professional groups is used throughout the thesis to bolster the lack of supporting evidence from the Nurse Practitioner literature.

A limitation in Study one is that only a single focus group was undertaken. Whilst the use of a single focus group is reported in the literature as being appropriate for this type of research. The adding of further focus groups would increase the confidence level of the questions used in Study Two. A further limitation could be the small number of participants in the focus group. Whilst seven participants are reported in the literature as an appropriate size, the addition of more participants would also increase the confidence level of the questions used in Study Two.

A limitation of this thesis is the size of the sample for Study Two of this research, the exploratory online survey. It is possible that the sample in this study was too small to pick up some of the variances used in the factor analysis calculations. By not picking up the variance of some of these factors, the definition of those components is not complete, and there is a lack of generalisability in the results. The response rate achieved by the exploratory survey was 14.5% of all the potential participants. This response rate is comparable to other studies that have used an online exploratory survey tool. These studies report response rates of anywhere

between 6% and 24%, with the most common response rate being around 20% (Dykema et al., 2013; Morris, Fenton, & Mercer, 2004). Because the survey was administered by an external party, it is difficult to identify why there was such a low response rate. The use of follow up reminder emails may have increased the response rate (Cunningham et al., 2015). The researcher was unable to assess how many emails were sent out and then bounced back. The exploratory survey also did not allow participants to save and return to the survey at a later stage, by allowing a save option may have improved the response rate. Thus, some participants may have commenced the exploratory survey and become distracted, closing the web page and subsequently not returning to restart.

A further limitation of Study Two is the use of the working definitions provided by Gardner et al. (2013) and Helms et al. (2017) for the categorisation of participants in Study Two into a meta-speciality. While the final definitions have not been published, there is a possibility that participants will be classified under a different meta-speciality when the final definitions are published.

In Study Three, the use of structured interviews limited the data collected. Here the interviews were short, averaging 15 minutes. This was because all the questions were asked of the participants and no further exploratory questions were asked, and the comments that were made which could have led the researcher to explore other avenues were not followed up, as they were not part of the pre-determined interview questions. Therefore, this was a missed opportunity to explore the in-depth views of the participants to gain a richer and deeper understanding of the topic.

This thesis does not provide a direct, measurable link between CPD and the impact it has on care. It is not straightforward to measure the impact CPD has on patient care. There are many inferences of this impact in the literature, but no clear evidence of a link. Various authors in the literature have argued that: CPD enhances the provision of services (Gould et al., 2007), changes an individual's knowledge and skill base (James & Francis, 2011), enhances the professional's knowledge (Ryan, 2003), protects against outmoded practices (Ross et al., 2013), and enhances the care provided to patients (Hamilton, 1996). All these authors based their arguments on an inferred relationship between education and patient outcomes. It was not within the scope of this thesis to determine causation but to focus on how Nurse Practitioners perceived CPD impacted on the delivery of care to patients.

The literature cited in Chapter Two above, around the impact of CPD, referred to either RNs or other healthcare professionals. None of this cited literature referred specifically to Nurse Practitioners. The impact of CPD is all implied; there is no direct evidence to link CPD and improved patient care. It is possible that the findings of these studies do apply to Nurse Practitioners, as Nurse Practitioners are firstly RNs. Nurse Practitioners have seniority in the nursing profession and operate under the scope of practice that includes first contact practitioner status, prescribing privileges, and extended skills and competencies in a range of situations. Just because the Nurse Practitioner has this seniority and a different scope of practice to the RN does not mean they experience the effects of CPD in different ways. The Nurse Practitioner in this thesis has shown that they are sensitive to the impact of their CPD as they see the direct impact it has on the care they provide to their patients.

The researcher is a Nurse Practitioner and is, therefore, aware of the positive and negative aspects of CPD. This was one of the motivations for the researcher to undertake this research. The benefit of being knowledgeable about the topic of CPD is that I could relate to what is being stated by participants (Berger, 2015) and therefore, provide a richer description of what was being said. The limitation of this was that I could project my own biases and opinions on to the data, rather than having the data yield the opinions of the participants (Drake, 2010). Steps were undertaken during each aspect of this research to minimise my opinions and biases being present, and it is a limitation of the thesis.

9.4 Conclusions

This thesis has demonstrated that the participants do perceive CPD as impacting on patient care. They perceived this impact via improvements in their knowledge and skills gained from attending CPD activities. CPD provided the participants with updates to their knowledge and skills, expanded their knowledge base, and filled any gaps in their knowledge base. These perceptions from the participants in this thesis confirm the inferences made in the literature about the purpose of CPD and how CPD enhances patient care. This thesis confirms that the perceptions of CPD from the Nurse Practitioners who participated are like those of RNs and other health professionals.

It can be seen in this research that the categories do not function in isolation. With different aspects of a category appearing in other categories. For example, the perceived impact of CPD

on the patient can be influenced by the motivation for a Nurse Practitioner undertaking CPD. The category knowledge appears in many of the other categories. For example, a perceived impact of CPD on patient comes from an increase in clinical knowledge from undertaking CPD. Therefore, to state there is a single set of factors that influence the perceived impact of CPD on patient care is inaccurate as in reality, this research has shown it is multifactorial.

The Nurse Practitioners who participated in this research recognised that knowledge was not just a one-dimensional term but could be broken into three different aspects. The aspects of knowledge identified by the participants were clinical knowledge, professional knowledge and personal knowledge. All these aspects had distinct purposes and definitions to the participants. CPD that related to the participant's clinical knowledge was found to have the most perceived impact on patient care. Clinical knowledge was the aspect of knowledge that they used most when dealing with patients.

Professional knowledge was perceived by participants not to have a direct impact on patient care. Participants saw professional knowledge as being related to the managerial or professional issues related to their role as a Nurse Practitioner. The participants in this research perceived non-clinical related CPD activities as having no impact on patient care, though they may have an indirect impact through changing behaviour in the Nurse Practitioner.

The personal aspect of knowledge was deemed the least important by the participants in this thesis. Undertaking CPD activities related to the personal aspect of knowledge occurred less frequently than CPD activities related to the other aspects of knowledge. Usually, CPD activities related to personal knowledge were only undertaken when a topic piqued the interest of the participant.

The motivations for undertaking CPD and how the participants of this thesis undertake CPD are similar to those highlighted by Tilleczeck et al. (2005) and Baxter et al. (2013). Participants in this thesis identified that attending conferences was a favourite way of obtaining CPD. This thesis has shown that there has been a growth in preference for computer-based CPD activities over the years, with participants highlighting that although conferences and face-to-face activities were important ways for them to obtain CPD, the use of online activities was as equally important.

While the use of mandatory education may contribute to the total number of hours of CPD a Nurse Practitioner undertakes. Many participants in this thesis undertook more than double the number of hours required of them by the NMBA. Therefore, participants debated whether the inclusion of mandatory education should be allowed as part of the CPD hours for a Nurse Practitioner. If Nurse Practitioners are regularly undertaking more than double the required number of hours, participants felt that excluding mandatory education would not reduce this total by much.

Like the motivations to undertake CPD, the barriers to undertaking CPD faced by the participants in this thesis are similar to those highlighted by Tilleczek et al. (2005), Baxter et al. (2013) and Shahhosseini and Hamzehgardeshi (2015). Both the Nurse Practitioner participants of this thesis and the RNs in the literature found these barriers to be financial, time, work and personal related. The financial expense was the most significant issue that the participants faced in undertaking a CPD activity, although there may be funding and time available for those who work in the public service. There is support for all practitioners through the Australian Taxation Office, where self-education expenses are offset against their tax paid to the Government.

In conclusion, this thesis has provided a voice for Nurse Practitioners in Australia and has highlighted their perspectives on CPD, a voice that has not been heard loudly before in the literature. The literature combines the voices of the Nurse Practitioner and the RN, rather than allowing to be heard as separate voices. By giving Nurse Practitioners their voice, it is possible to look at the design of CPD activities for the Nurse Practitioner to understand what it is the Nurse Practitioner requires. The current research adds to the body of knowledge that Nurse Practitioners do value CPD, as it is vital to providing the best care they can to their patients. For a CPD activity to do this, it needs to have a high clinical knowledge content as it is this knowledge dimension that has the most significant impact on the care of the patient.

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Appendices

Appendix One

Table 9.1 Summary of the search results

Database	Search terms	Articles	Excluded	Included
Medline	Nurse Practitioner and professional development	990	988	2
	Nurse and continuing medical education or CME	296	295	1
	Nurse and professional development	592	592	0
	Nurse and continuing education or CE	798	791	7
	Nurse and continuing professional development	34	27	8
	Nurse and continuing professional education	6	6	0
	Nurse Practitioner and continuing education	58	54	4
	Continuing professional development and impact	82	78	4
	Continuing education and	61	59	2

Database	Search terms	Articles	Excluded	Included
	effectiveness and nurse			
	Professional development and impact and nurse	50	48	2
	Nurse and continuing professional development or CPD and attitude	42	30	12
	Nurse Practitioner and continuing professional development	3	2	1
Science Direct	Nurse Practitioner and continuing professional development	449	448	1
	Nurse and continuing professional and attitude	605	601	4
	Nurse Practitioner and professional development and CPD	31,174 (1 st 500 only)	497	3
	Professional development or PD and impact and Nurse Practitioner	130	130	0
	Continuing professional	55	54	1

Database	Search terms	Articles	Excluded	Included
	development and impact and Nurse Practitioner			
Sage	Nurse Practitioner and continuing professional development	27	27	0
PubMed	Nurse Practitioner and continuing professional development	13	13	0
Health Source: Nursing and Academic Edition	Nurse Practitioner and continuing professional development	4	3	1
Joanna Briggs Institute	Nurse Practitioners and continuing professional development	5	5	0
Cochrane Library	Nurse Practitioners	48	48	0
CINAHL	Nurse Practitioner and continuing professional development	3	2	
Totals		5,069	5,007	62

Appendix Two

Participant Information Form



Project Title

The Nurse Practitioner, patient care and continuing professional development

Researcher

Name: Anthony Summers
Faculty: Faculty of Health
Phone:
Email:

Supervisor

Name: A/Prof Jenny Browne
Phone:
Email:

Project Aim

The research aims to explore Nurse Practitioners perceptions towards continuing professional development and its effect on patient care.

Benefits of the Project

The information gained from the research will be used to inform Nurse Practitioners and the broader community about how they view continuing professional development and their perceptions on how it impacts on patient care. It will allow those who develop continuing

professional development courses to focus their course on what Nurse Practitioners state they would like developed.

General Outline of the Project

The project involves three Studies. Study One is a focus group which will help to develop the questionnaire for Study Two. Study Two is an online survey that will explore how Nurse



Practitioners undertake continuing professional development and their perceptions of its impact on patient care. Study Three is a series of structured interviews that will explore any issues identified in Study Two.

Participant Involvement

Those Nurse Practitioners that agree to participate will be asked to:

1. If agreeing to participate in Study One, the participant will be asked to join a focus group that will explore the concept of continuing professional development and the Nurse Practitioner to enable the researcher to develop a tool that will be used in Study Two. Participation in this in this Study will last for no longer than one hour. This focus group will be tape recorded and then transcribed by the researcher. The participants will then be asked to verify this transcription.
2. If agreeing to participate in Study Two, the participant will be asked to complete a confidential online survey looking at the concept of continuing professional development and the Nurse Practitioner. Participation in this Study will take no longer than 30-40 minutes.
3. If agreeing to participate in Study Three, the participant will be asked to attend an interview at a time and location suitable to them and the researcher. This interview may be face-to-face or maybe by teleconference or video conference. This interview will last no longer than one hour. This interview will be recorded and then transcribed by the researcher, and the interviewee will be asked to verify the transcription.

Participation in the research is entirely voluntary and participants may, without any penalty, decline to take part or withdraw at any time without explaining, or refuse to answer a question. Clients may choose to participate in some or all of the three research Studies. The researcher values and encourages participation; the researcher respects the right of clients to choose not to participate in research.

The only potential risks to participation relate to privacy and confidentiality. Please be assured that all the data collected from clients will be stored securely and only accessed by the researcher. Great care will be taken to ensure that any reports of the data do not identify any individual or their circumstances.

Confidentiality



Only the researcher will have access to the individual information provided by clients. Privacy and confidentiality will always be assured. The research outcomes will be provided in a thesis to be presented to the University of Canberra and may be presented at conferences and written up for publication. However, in all these reports, the privacy and confidentiality of individuals will be protected.

Data Storage

The information collected will be stored securely on a password protected computer throughout the project and then stored at the University of Canberra for the required five-year period after which it will be destroyed according to university protocols.

Ethics Committee Clearance

The project has been approved by the Human Research Ethics Committee of the University.

Queries and Concerns

Queries or concerns regarding the research can be directed to the researcher and supervisor. Their contact details are at the top of this form. You can also contact the University of Canberra's Human Research Ethics Officer, Mr Hendryk Flaegel, via phone [REDACTED] or email [REDACTED].

If you would like some guidance on the questions you could ask about your participation, please refer to the Participants' Guide located at <http://www.canberra.edu.au/ucresearch/attachments/pdf/a-m/Agreeing-to-participate-in-research.pdf>

Appendix Three

Consent Form



Project Title

The Nurse Practitioner, patient care and continuing professional development

Consent Statement

I have read and understood the information about the research. I am not aware of any condition that would prevent my participation, and I agree to participate in this project. I have had the opportunity to ask questions about my participation in the research. All questions I have asked have been answered to my satisfaction.

Name..... Signature.....

Date

A summary of the research report can be forwarded to you when published. If you would like to receive a copy of the report, please include your mailing address below.

Name.....

Address.....

.....

Appendix Four

Form for withdrawal of participation



The Nurse Practitioner, patient care and continuing professional development

Principal investigator: - Anthony Summers

Supervisor: - Jenny Browne

Institution: - University of Canberra

Declaration by Participant

I wish to withdraw from participation in the above research project and understand that such withdrawal will not affect my relationship with the researcher or the University of Canberra.

Name of Participant (please print) _____

Signature _____ Date _____

In the event that the participant's decision to withdraw is communicated verbally, the Researcher must provide a description of the circumstances below.

Declaration by Researcher

I have explained the implications of withdrawal from the research project, and I believe that the participant has understood that explanation.

Name of Researcher (please print) _____

Signature _____ Date _____

Appendix Five

Draft questions present to the focus group participants in Chapter 4

Q1. Have you ever been audited by NMBA as a Nurse Practitioner?

- If yes, please tell me about this process
- If no, please tell me what you know about this process

Q2. What impact do you believe CPD has had on the care you provide to your patients?

Q3. Do you focus on CPD that will improve patient care or improve your knowledge or your professional self?

Q4. Why did you choose this answer?

Q5. How do you usually participate in CPD activities?

- Conference attendance
 - Video
 - Teleconference
- Local study sessions
 - In-service
 - Grand rounds
- Reading journals
- Online activities
 - Case studies
 - Interactive discussion boards
- Mentoring students
- Meetings
- Interactions with colleagues
- Computer-based activities
 - CD-ROMS
 - Downloaded computer programmes

- Self-directed learning
- The utilisation of senior staff
- Face-to-face teaching
- One-on-one teaching
- Email
- PDA
- Audio files
- Other – please specify

Q6. From the list above what are your top 5 ways of obtaining CPD?

Q7. What reasons do you have for undertaking CPD?

- To increase professional knowledge
- To update my existing qualifications
- To increase the status of the profession as a whole
- To demonstrate that I am a professional competence
- To fulfil the statutory requirements to register
- To increase the status of the practitioner
- To increase my self-esteem
- To obtain a further qualification so able to apply for promotion
- I will take up a CPD course is partially funded by my employer
- I am willing to complete a course of CPD if only partially study leave is given
- To prevent me from getting bored
- I am prepared to pay for my CPD course by myself

Q8. What are your top 3 reasons for undertaking CPD?

Q9. What is your primary reason for selecting a particular CPD activity?

- To improve my knowledge
- Cost
- Current position

Q10. What are the main barriers you face when undertaking CPD?

- Cost
- Travel
- Time constraints
- Time away from family
- Other, please specify

Q11. What do you see as the difference between CPD as an RN and CPD as an NP?

Q12. Do you focus on obtaining CPD as an NP or as an RN?

Q13. What change in your NP practice does CPD have?

Q14. What change in your NP thinking/rationale does CPD have?

Q15. What change in your NP perspective does CPD have?

Q16. What effect does CPD have on your teaching of others?

Q17. Does CPD have a use outside of work?

Q18. Demographic details

- Age Range
- Gender

Q19. Which state do you work in?

Q20. Work states

- Full time
- Part-time

Q21. Speciality you work in

Table 9.2 below has been created to identify each source for the questions/statements presented to members of the focus group to discuss. This table highlights each question in order and then details the origin of that question.

Table 9.2 Identification of sources for questions/statements presented to participants of the focus group

Question	Source
1	Serves as an opening question for participants to focus on CPD
2	This question aims to answer the research aim
3	This question allows participant to start to focus on the purpose of CPD
4	As above
5	Taken from the literature including: Charles and Mamary (2002), Tilleczek et al. (2005) and Baxter et al. (2013)
6	Allows Q5 to be narrowed down
7	Taken from the literature including: Wynne (2015), Cooley (2008); Spencer (2006); Zahran (2013) and Yfantis et al. (2010)
8	Allows Q7 to be narrowed down
9	Taken from the literature including: Wynne (2015), Cooley (2008); Spencer (2006); Zahran (2013) and Yfantis et al. (2010)
10	Taken from the literature including: Tilleczek et al. (2005), Baxter et al. (2013), Govranos and Newton (2014), Coventry et al. (2015); Shahhosseini and Hamzehgardeshi (2015)
11	From informal discussions with colleagues prior to research, used to identify if there is a difference between the RN and the Nurse Practitioner
12	From informal discussions with colleagues prior to research, to identify what are of CPD the Nurse Practitioner focuses on
13	To identify if the Nurse Practitioner saw a change in their practice from their CPD
14	To identify if the Nurse Practitioner's thought processes changes altered due to CPD
15	To identify if the Nurse Practitioner's perspective changed due to CPD
16	To identify if CPD changed what the Nurse Practitioner taught others
17	To identify what extent CPD affected the Nurse Practitioner
18	Standard demographic questions
19	To identify where the Nurse Practitioner worked
20	To identify the work practice of the Nurse Practitioner
21	To identify the spread of specialities Nurse Practitioners work

Appendix Six

A copy of the Ethics Approval Letter



3 June 2014

APPROVED - Project number 4

Mr Anthony Summers
Faculty of Health
University of Canberra
Canberra ACT 2601

Dear Anthony,

The Human Research Ethics Committee has considered your application to conduct research with human subjects for the project titled **The Nurse Practitioner, Patient Care and Continuing Professional Development**.

Approval is granted until 31 May 2017.

The following general conditions apply to your approval.

These requirements are determined by University policy and the *National Statement on Ethical Conduct in Human Research* (National Health and Medical Research Council, 2007).

Monitoring:	You must, in conjunction with your supervisor, assist the Committee to monitor the conduct of approved research by completing and promptly returning project review forms, which will be sent to you at the end of your project and, in the case of extended research, at least annually during the approval period.
Discontinuation of research:	You must, in conjunction with your supervisor, inform the Committee, giving reasons, if the research is not conducted or is discontinued before the expected date of completion.
Extension of approval:	If your project will not be complete by the expiry date stated above, you must apply in writing for extension of approval. Application should be made before current approval expires; should specify a new completion date; should include reasons for your request.
Retention and storage of data:	University policy states that all research data must be stored securely, on University premises, for a minimum of five years. You must ensure that all records are transferred to the University when the project is complete.
Contact details and notification of changes:	All email contact should use the UC email address. You should advise the Committee of any change of address during or soon after the approval period including, if appropriate, email address(es).

Yours sincerely
Human Research Ethics Committee

Hendryk Flaegel
Research Ethics & Compliance Officer
Research Services Office

T [REDACTED]
E [REDACTED]

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Appendix Seven

A copy of the final exploratory survey tool used in Chapter 5

Q1 Many thanks for agreeing to take part in this survey. This survey is designed to look at your perceptions and knowledge of continuing professional development (CPD) and the impact it may have on the care you provide to your patients. There are no correct or incorrect answers. This survey is about finding common themes about CPD. The survey is entirely anonymous. Some demographic data will be collected at the end purely to help classify some of the results. The only people with access to the results of this survey will be my supervisors and me at the University of Canberra. Please ensure you have enough time to complete the survey in one sitting as you will be unable to save the answers and return at a later date to complete the survey. If you are unable to complete the survey in one sitting, you will be able to return to the survey and restart from the beginning. The survey should take no more than 30-40 minutes. Should you want any further information about this study, please contact the researcher at cpdprofdoc@gmail.com. This email address can only be accessed by the researcher. Consent for this survey is collected electronically and if you agree to participate in the study below you will be taken to the first question (see below). If you do not agree to participate in the study, you will not be given access to the study at this stage. If you wish to participate at a later stage, then all you need to do is follow the same link in the email sent to you and click that you agree to participate in the study.

- I have read the above information and agree to participate in the study (1)
- I have read the above information and do not wish to participate in the study (2)

If I have read the above info... Is Selected, Then Skip To The following questions are all about...If I have read the above info... Is Selected, Then Skip To End of Survey

The following questions are all about your knowledge of CPD, how you undertake CPD and your reasons for undertaking certain types of CPD. As stated there are no correct or incorrect answers. Where written answers are requested, please supply as much information as you feel is relevant. Please click below to continue.

Q2 Have you ever been audited by NMBA as a Nurse Practitioner? If you have been audited by the NMBA as an RN, then please answer No, I only require a Yes if you have been audited as an NP.

- Yes (1)
- No (2)

Answer If Have you ever been audited by NMBA as a Nurse Practitioner? If you have been audited by the NMBA as an RN, then please answer No, I only require a Yes if you have been audited as an NP. Yes Is Selected

Q2a Please briefly tell me about the audit process you went through.

Answer If Have you ever been audited by NMBA as a Nurse Practitioner? If you have been audited by the NMBA as an RN, then please answer No, I only require a Yes if you have been audited as an NP. No Is Selected

Q2b Please briefly tell me what you know about the audit process.

Answer If Have you ever been audited by NMBA as a Nurse Practitioner? If you have been audited by the NMBA as an RN, then please answer No, I only require a Yes if you have been audited as an NP. Yes Is Selected

Q3 How much impact has the CPD you have undertaken had on the care you provide to your patients?

- A lot (1)
- Some (2)
- A Little (3)
- None (4)

Answer If What impact do you believe the CPD you have undertaken has had on the care you provide to your patients. None Is Selected

Q3a In what ways do you think this CPD has impacted on the care you provide to patients.

Answer If What impact do you believe the CPD you have undertaken has had on the care you provide to your patients. None Is Selected

Q3b Why do you think the CPD you have undertaken has not had an impact on the care you have provided to patients.

Q4 What reasons do you have for undertaking CPD? Please select all that apply

- To increase my professional knowledge (1)
- To update my professional qualification (2)
- To increase the status of NP as a whole (3)
- To demonstrate that I am professionally competent (4)
- To fulfil the statutory requirements of my registration (5)
- To increase my personal knowledge (6)
- To increase my self-esteem (7)
- It is a topic that interests me (8)
- Other - please specify (9) _____

Q5 From Q4 above what are your top three reasons for undertaking CPD?

Q6 What is your primary reason for selecting a particular CPD activity

- To improve my personal knowledge (this is because of my personal interest in a topic) (1)
- To improve my clinical knowledge on a topic (this is the knowledge I use to provide care to my patients) (2)
- To improve my professional knowledge (this is about knowledge of management and leadership, not direct patient care) (3)
- The cost and location and timing the CPD activity is offered (4)
- How accessible the CPD activity from my location (5)
- To obtain CPD points (6)
- Other - please specify (7) _____

Q7 Why did you chose your answer for Q6

Q8 How do you usually participate in CPD activities? Please select all that apply

- Conference attendance (1)
- Video conference (2)
- Teleconference (3)
- Local study sessions - you are the student (4)
- Grand rounds (5)
- In-house teaching sessions - you are the student (6)
- Reading journal (7)
- On-line activities (8)
- Case studies (9)
- On-line discussion boards (10)
- Mentoring students (11)
- Meetings (12)
- Interaction with colleagues (13)
- Self-directed learning (14)
- Peer Review (15)
- Classroom teaching - you are the teacher (16)
- One-on-one teaching - you are the teacher (17)
- Post-graduate courses (18)
- Research (19)
- Mandatory competencies (20)
- Other - please specify (21) _____

Q9 From Q8 above what are your top 5 ways of obtaining CPD?

Q10 What are the main barriers to you undertaking CPD? Please select all that apply

- The cost of undertaking CPD itself: i.e. conference or course fees (1)
- The expenditure around the CPD activity: i.e. accommodation or flight costs (2)
- Time to travel to undertake the CPD activity (3)
- General time constraints: i.e. clashes with work or other commitments, wrong time of day (4)
- Time away from family (5)
- Time away from work (6)
- Lack of relevance in the courses offered (7)
- A limited amount of conferences available aimed at Nurse Practitioners (8)
- Unable to obtain back-fill for own position (9)
- Insufficient CPD days from employer (10)
- Lack of managerial support or opposition from management (11)
- Other - please specify (12) _____

Q11 From Q10 above what is your main barrier to undertaking CPD?

Q12 Is there a difference between the CPD you undertake as NP and the CPD you undertake as an RN?

- Yes (1)
- No (2)

Answer If Is there a difference between the CPD you undertake as NP and the CPD you undertake as an RN? Yes Is Selected

Q12a How is the NP CPD different?

Q12b Why is the NP CPD not different?

Q13 Does undertaking CPD change your practice?

Q14 How does undertaking CPD change your practice?

Q15 How many hours CPD have you undertaken in the last 12 months?

Q16 If you have undertaken more than 30 hours, what reasons are you able to give for undertaking those hours?

Next are some simple demographic question to help categorize responses.

Q17 Into which age range do you fall?

- 21-30 (1)
- 31-40 (2)
- 41-50 (3)
- 51-60 (4)
- 61-70 (5)

Q18 What is your gender?

- Female (1)
- Male (2)

Q19 In what State/Territory do you live?

- Queensland (1)
- New South Wales (2)
- South Australia (3)
- Western Australia (4)
- Australian Capital Territory (5)
- Northern Territory (6)
- Tasmania (7)
- Victoria (8)

Q20 Are you...

- A public employee (1)
- A private employee (2)
- Self-employed (3)
- A combination of above (4)

Q21 What is the main specialisation in which you work?

Q22 Are you currently undertaking a Doctorate (either a PhD or a Professional Doctorate or equivalent)

Yes (1)

No (2)

If Yes Is Selected, Then Skip To Please share what your thesis is about. If No Is Selected, Then Skip To Finally is there anything else you wi...

Q22a Please share what your thesis is about.

Q23 Finally is there anything else you wish to add on the topic of CPD?

Many thanks for taking the time to participate in this survey. Should you wish to be contacted to take part in interviews on this topic, please email the researcher at [redacted]@gmail.com. The researcher may then contact you arrange a time and location suitable for you for this interview to take place. Thank you again.

Appendix Eight

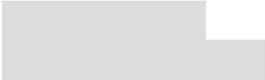
Copy of permission letter from the Australian College of Nurse Practitioners to conduct research with its members.



australian college of
nurse practitioners

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27 May 2015

Anthony Summers


Dear Anthony

Re: Approval for Research Application

Thank you for your application to the Australian College of Nurse Practitioners (ACNP) to access our membership for research purposes.

The College has approved your application and will send an e-post to our membership advising them of the research and attaching the survey link.

The charge for this has been waived due to the fact that you are a financial member of the College, and that the survey findings are deemed to benefit NPs generally.

We would appreciate your feedback in the form of a short report to the College, outlining the key outcomes of your study when available.

Many thanks.

Kind regards

Jenny Pierson

Secretariat

Australian College of Nurse Practitioners – Transforming Health Care

Appendix Nine

Structured interview questions used in Chapter Six

Tell me what you know about CPD...

Tell me what positive experiences you have had for CPD...

Tell me what negative experiences you have had for CPD...

Tell me what you believe the purpose of CPD is...

What factors do you believe enable effective CPD...?

What factors do you believe inhibit effective CPD...?

Do you reflex on the CPD you undertake and how it can have an impact on patient care ...?

For you what impact do you think CPD has had on patients and patient care...

How do you differentiate between obtaining CPD as an RN and as an NP?

In a group setting for CPD of mixed RNs and NPs can this CPD be classed as advanced CPD?

How can you make CPD obtained with an RN pertinent to the NP to use as advanced CPD?