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NURSE PRACTITIONERS AND PHARMACIST PRESCRIBERS IN PRIMARY HEALTH CARE:  
A REALIST EVALUATION OF THE NEW ZEALAND EXPERIENCE

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BY

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## ABSTRACT

Internationally, health workforce redesign provides a means to cope with an increasing demand for health services. The development of advanced practitioner professions provides a major change in health service delivery that challenges traditional practice boundaries. Yet, we know very little about how to introduce such roles into existing health systems successfully. This research investigates how nurse practitioner and pharmacist prescriber roles are developing in New Zealand primary health care, and what is needed to better support the future development of these roles.

A realist methodology guided this research. The study used a qualitative research design involving semi-structured interviews of (1) policy, training, and advocacy stakeholders; (2) primary health care nurse practitioners, pharmacist prescribers, and general practitioners; and (3) patients of advanced practitioners and carers of patients using such services. Documents provided by interviewees relating to practice-specific roles supplemented these interviews. Data analysis facilitated the generation, testing, and refinement of theories on nurse practitioner and pharmacist prescriber role development.

This research provided an account of the complexities of developing new health professional roles in an already established health system. Theories formed in this research considered advanced practitioner role creation, realisation, and subsequent delivery of health services. Mechanisms for their development included: (1) engagement in planning and integrating roles; (2) establishing opportunities as part of a well-defined career pathway; and (3) championing role uptake and work to full scopes of practice. Various health system and workplace contexts, practitioner goals, and patient needs influenced the ability for these mechanisms to trigger and thus have an effect on role development.

Theories arising from this research emphasise the complexity inherent in the development of advanced practitioner roles. In addition, the findings demonstrate that a structured and informed health workforce redesign could improve use of roles, such as those of the nurse practitioner and pharmacist prescriber. In light of these results, this study recommends, implementing a national strategy that aligns policy and practice decisions if we are to succeed in making better use of such practitioner skills and expertise.



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I find it hard to articulate what this experience means for me. On the one hand, I have achieved a goal that I have had for a long time. On the other, I realise how much life has happened over the past almost four years. This research is dedicated to all those people helping me through life, those who make it to the milestones, and those lost on the way. You have all made these milestones worthwhile. You have made my life richer.

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## GLOSSARY

Term	Definition
<i>Advanced practitioner</i>	Health professionals, excluding medical doctors, who operate at advanced levels of practice in an expanded practice scope that may include prescribing. In this research, it refers to nurse practitioners and pharmacist prescribers. This term has no connotation of practitioner inferiority or superiority and is used in place of the equivalent term ‘non-medical prescriber’ (Weiss & Sutton, 2009).
<i>CMO</i>	Context-Mechanism-Outcome. The relationship between context, mechanism, and outcome is a foundation of the realist methodology.
<i>Constructivist</i>	A philosophy of science positing “given that all we can know has been interpreted through human senses and the human brain, we cannot know for sure what the nature of reality is” (Wong, Greenhalgh, Westhorp, & Pawson, 2012, p. 91).
<i>CPD</i>	Continuing Professional Development.
<i>DHB</i>	District Health Board. In New Zealand, DHBs are the predominant regional funder and provider of health services. There are currently 20 DHBs in New Zealand.
<i>DMP</i>	Designated Medical Practitioner.
<i>Generalisability</i>	The external validity of the research, that is, the applicability of results beyond the population in which the study is conducted (F. J. Smith, 2010).
<i>Government</i>	The New Zealand Government.
<i>GP</i>	General Practitioner.
<i>Grey literature</i>	Informally published material including government reports, theses, and conference presentations.
<i>HWNZ</i>	Health Workforce New Zealand. HWNZ is a business unit of the National Health Board; it leads New Zealand’s health and disability workforce planning and evolution.

<b>Term</b>	<b>Definition</b>
<i>MOH</i>	Ministry of Health.
<i>NCNZ</i>	Nursing Council of New Zealand.
<i>NP</i>	Nurse Practitioner.
<i>NPAC-NZ</i>	Nurse Practitioner Advisory Committee of New Zealand.
<i>NZNO</i>	New Zealand Nurses Organisation.
<i>OECD</i>	Organisation for Economic Co-operation and Development.
<i>PCNZ</i>	Pharmacy Council of New Zealand.
<i>PHARMAC</i>	Pharmaceutical Management Agency.
<i>PSNZ</i>	Pharmaceutical Society of New Zealand.
<i>PHC</i>	<p>Primary Health Care.</p> <p>A broad approach to the provision of care in community settings that includes the wider determinants of health and traditional primary care models (such as general practice).</p> <p>The term ‘primary health care’ aligns with the Declaration of Alma Ata, which emphasises the importance of health promotion and disease prevention and the roles of different members of the health care team in care delivery and community development (World Health Organization, 1978).</p>
<i>PHCS</i>	Primary Health Care Strategy.
<i>PHO</i>	<p>Primary Health Organisation.</p> <p>In New Zealand, 36 PHOs provide primary health care services either directly to patients or through member primary health care practices (Ministry of Health [MOH], 2015a).</p>
<i>Positivist</i>	A philosophy of science, which believes that “there is a real world which we can apprehend directly through observation” (Wong et al., 2012, p. 91).
<i>PP</i>	Pharmacist Prescriber.
<i>Prescribing practicum</i>	<p>Supervised placements in practice settings to develop and assess advanced practitioner skills related to the prescribing process.</p> <p>Candidate nurse practitioners and pharmacist prescribers undertake practicums.</p>

<b>Term</b>	<b>Definition</b>
<i>Prescribing process</i>	A process beginning with patient consultation and condition diagnosis and culminating in agreed decisions to prescribe specific treatments (Aronson, 2006). The process generally involves history taking, examination and investigation, diagnosis, determination of the course of the patient's condition, treatment with consideration of safety, side effects and interactions, and ongoing management (MOH, 1997).
<i>Prescriptive authority</i>	In New Zealand, prescriptive authority is a right held by registered health professionals to prescribe medicines. These health professionals are authorised by the Medicines Act 1981, the Medicines Regulations 1984, and the health professional-specific Regulations.
<i>Primary care</i>	Primary care is an aspect of PHC. It refers to the delivery of first point of entry health care, typically in a general practice environment (McMurray & Clendon, 2015).
<i>Reliability</i>	The degree of reproducibility and internal consistency of procedures, measures, and study data (F. J. Smith, 2010).
<i>Responsible authority</i>	Regulated health professionals must register with their responsible authority (for example the PCNZ, or NCNZ). Responsible authorities register health professionals, prescribe qualifications, set professional standards, and otherwise regulate their profession.
<i>Role</i>	The function or purpose of a person or position in a particular organisation or workplace.
<i>Scope of practice</i>	The predefined role attributes of specific health professions. The registered health practitioner's responsible authority determines these attributes. Health professionals may work within practices that allow them to operate within only a subset of their scope of practice.
<i>Snowball sampling</i>	A technique where citations from sources are used to identify additional relevant literature. This concept originated from the snowball sampling technique for research participant selection where participant recruitment occurs on the recommendation of other participants.

<b>Term</b>	<b>Definition</b>
<i>Standing order</i>	Written authorisation given by medical doctors or dentists to non-prescribers engaged in health service delivery to administer or supply certain medicines to certain patient groups (Bhanbhro, Drennan, Grant, & Harris, 2011; MOH, 2012c).
<i>UK</i>	The United Kingdom.
<i>USA</i>	The United States of America.
<i>Validity</i>	Validity refers to “the extent to which the findings of a study are a true reflection of phenomena under study” (F. J. Smith, 2010, p. 57).

## DISSERTATION STRUCTURE

This study examines the development of nurse practitioner and pharmacist prescriber roles in New Zealand primary health care. **Part A** (Chapters 1 and 2) positions this research within the New Zealand health system, and within the body of literature on advanced practitioner (nurse practitioner and pharmacist prescriber) role development. It identifies the contested, complex, and changing ground in which these roles develop. **Part B** (Chapter 3) examines the methodology, research design, methods, and ethical stance in this research. **Part C** (Chapters 4, 5, 6, and 7) presents research findings, discusses results, and then evaluates the contribution this research makes to health workforce policy and practice. It lays out theories regarding how advanced practitioner role development occurs resulting in the eventual delivery of patient services. A synopsis of individual chapters follows.

**Chapter 1: Introduction** offers a platform against which to assess the development of advanced practitioner roles in New Zealand primary health care. It states the research questions, presents definitions for key research concepts, and outlines the research methodology. Chapter 1 also describes health workforce supply and demand issues, and outlines the strategic direction for health. In so doing, it begins to frame the environment in which advanced practitioner roles develop.

**Chapter 2: Literature Review** comprehensively reviews literature related to nurse practitioner and pharmacist prescriber policy and practice, and theories of advanced practitioner development. It provides a basis against which to structure the remainder of this dissertation, and creates initial theories of how advanced practitioner roles develop in New Zealand primary health care.

**Chapter 3: Research Overview** provides an account of the realist approach as the methodology for this research. It then describes and justifies ethical considerations, research design, and data collection and analysis methods. The main research question and its sub-questions guide choice of research methodology, which, in turn, informs the choice of research design and methods.

**Chapter 4: Describing the Social World** outlines attributes of the research population. It then presents a chronology of advanced practitioner development in New Zealand and offers a refinement of initial theories. These theories are at the centre of analysis decisions made in evaluative research steps.

**Chapter 5: Role Creation** reports on the analysis of data related to advanced practitioner role creation. The findings, laid out as refined theories, offer possible explanations for how advanced practitioner role creation occurs in the New Zealand health system. Chapters 5 and 6 suggest mechanisms underlying the success of this outcome and contexts influencing these mechanisms. In line with the principles of a realist approach, these two chapters move beyond simply considering whether the advanced practitioner development process ‘works’, to considering the preconditions necessary to make outcomes likely amongst certain populations.

**Chapter 6: Role Realisation and Delivery** reports on the analysis of data related to advanced practitioner role realisation and service delivery in New Zealand primary health care. Chapters 5 and 6 lay out theories tested and refined using several different data sources that represent a wide range of policy and PHC workplace conditions.

**Chapter 7: Discussion and Conclusions** explores the unique contribution this research makes to the issue of advanced practitioner development. It summarises research findings analysed in prior chapters and discusses these findings in relation to reviewed literature. It presents a further refined theory that is abstracted to apply across other forms of health workforce development, but able to inform future advanced practitioner development. Chapter 7 then offers policy and practice recommendations in light of this investigation. This chapter concludes by outlining research limitations and highlighting areas for future inquiry.

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PART A

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# 1 INTRODUCTION

Plans for nurse practitioner (NP) and pharmacist prescriber (PP) roles emerged in New Zealand in response to anticipated problems in meeting health service demand and recognition that scarce health professional workforce resources could be used more effectively. However, development of these roles within a contested area of professional practice has been challenging, resulting in training and role uptake failing to meet government expectations. This research seeks to understand why so little has been achieved in developing advanced practitioner roles.

This chapter defines advanced practitioner scopes of practice, and lays out the main problem statement and research questions this study seeks to answer. It then positions the development of NP and PP roles within the New Zealand primary health care (PHC) system and sets out the rationale for their formation in light of changing health service demand, health workforce supply, and government strategic direction. The chapter also briefly explains the realist methodology used in this research, and ends by laying out my ‘voice’ in this research.

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## 1.1 PLACING THE RESEARCH

This research analyses the development of NP and PP roles in the New Zealand PHC system. Over recent years, New Zealand governments have intended these advanced practitioner roles to improve the use of skilled nurses and pharmacists, and enhance patient outcomes and access to care (Hughes & Carryer, 2002; MOH, 2012a; MOH, 2017b). The introduction of new roles was designed to expand career pathways for nursing and pharmacy professions (Hughes & Carryer, 2002; Pharmacy Council of New Zealand [PCNZ], 2010a). However, introducing new roles within an already established health care system is not without difficulty. The Nurse Practitioner Employment and Development Working Party (2006), a working party established by the New Zealand Government, anticipated that approximately 100 NPs would graduate annually. Since its inception in 2001, over 3000 nurses have completed postgraduate training to reach NP education levels (Thomas, 2017), but in 2015 only 142 NPs are registered and practising in New Zealand (Nursing Council of New Zealand [NCNZ], 2015). Similarly, the Ministry of Health (MOH) stated that they expected approximately 20 pharmacists to obtain PP status annually following 2013 regulations to introduce these roles (MOH, 2012b). In 2014, no new individuals enrolled in PP training programmes (Piper, 2014b), bringing in doubt the future of the course. As of August 2016, only 18 pharmacists are registered in the PP scope of practice (MOH, 2017b).

An in-depth understanding of advanced practitioner role development is required to identify the difference between policy expectations and reality. Insights from research can determine how to improve the policy and practice environments in which practitioners work and, subsequently, clarify the impact these roles have on individuals and communities. Gaining such insights is the focus of this dissertation.

## 1.2 DEFINING ADVANCED PRACTITIONERS

Health professionals practice within a specific area or scope of practice. In New Zealand, the term ‘scope of practice’ is legislated as the professional health services a group of health professionals are authorised to perform (Health Practitioners Competence Assurance Act 2003). These services are defined by responsible authorities (see Glossary, above).

Advanced practitioners are health professionals able to operate competently in an expanded scope of practice; they may have the legal remit to prescribe medicines. Advanced

practitioners gain this expanded scope after completing additional postgraduate training and other requirements specified by their responsible authority.

New Zealand-based advanced practitioners are *independent prescribers*, defined in the academic literature as those able to prescribe fully autonomously within their area of competence (Emmerton, Marriott, Bessell, Nissen, & Dean, 2005). Under independent prescriptive authority, the individual practitioner is legally and independently liable for their own prescribing practice within the limits of their governing regulations and scopes of practice (Shaw, Print, & Duffull, 2013). In contrast, *supplementary prescribers* are those health professionals who, through collaboration with medical doctors and patients, can prescribe medicines within patient-specific clinical management plans (Emmerton et al., 2005). NPs and PPs are both independent prescribers, yet their roles differ. At a broad level, this difference relates to how their roles are legislated and regulated.

The Medicines Act 1981 is the primary legislation in New Zealand granting prescriptive authority for appropriately trained health professionals. The Act and its accompanying regulations restrict prescribing of medicines to what are known in New Zealand as authorised prescribers, which include designated prescribers, and delegated prescribers (Table 1.1). NPs are authorised prescribers and PPs are designated prescribers.

**Table 1.1: Prescriber types.**

	<b>Legislated ability</b>
<i>Authorised prescribers</i>	May prescribe all medicines classified in Schedule 1 of the Medicines Regulations 1984. Prescriptive authority is limited only by practice scope (Wilkinson, 2011).
<i>Designated prescribers</i>	May prescribe only subsets of the scheduled medicines based on health profession-specific regulations. This restriction constrains designated prescribers in the benefit they can provide to patients (Cassie, 2013; Wilkinson, 2011).
<i>Delegated prescribers</i>	Receives prescriptive authority from an authorised prescriber, and works within guidelines specified by that prescriber.

Laid out below are the scopes of practice for New Zealand NPs and PPs.

### **1.2.1 Nurse practitioners**

Although originally designated prescribers, NPs achieved authorised prescriber status under the Medicines Amendment Act 2013. They are able to work both independently and embedded in health care teams in their specific area of practice (Hughes & Carryer, 2002). They may be involved in health promotion, sickness prevention, diagnosis, assessment, and health condition management (NCNZ, 2017c). They are able to offer differential diagnoses, order and interpret diagnostic and laboratory tests, and prescribe and administer therapies (NCNZ, 2017c). [Differential diagnosis refers to the process of determining the condition or disease a patient presents with while eliminating other possible conditions.] NPs often work in areas of practice including PHC and acute care. Thirty-nine percent of New Zealand's current 142 NPs work in PHC or community services (NCNZ, 2015).

To register with the NCNZ in the NP scope of practice, candidate registered nurses must:

- complete an approved clinical master's degree with a prescribing practicum; or an equivalent overseas qualification;
- demonstrate advanced practice and prescribing competencies in a defined area;
- achieve a pass in the NCNZ NP competence assessment; and
- have at least four years post-registration experience in a specific practice area (NCNZ, 2017b).

### **1.2.2 Pharmacist prescribers**

PPs are able to provide medicines management and prescribing services to patients within their specific practice areas, for example, PHC, or hypertension management (Paget-Hay, 2013). They must work in a collaborative health team environment (Paget-Hay, 2013); that is, within a multi-disciplinary team where patients are the “focus and beneficiary of the collaboration” (PCNZ, 2011b, para. 1). They do not work as dispensary pharmacists or in community pharmacies. Half of New Zealand's 18 registered PPs work only in PHC, or in a combination of PHC and secondary health care (MOH, 2017b).

PPs may not act as primary diagnosticians (Paget-Hay, 2013). They are able to initiate or modify treatment, conduct and interpret laboratory and diagnostic investigations, assess and monitor patient treatment, and educate patients on medicines (Paget-Hay, 2013). As with NPs, PPs are independently responsible and accountable for their treatment decisions. Unlike NPs, as designated prescribers, PPs have greater restrictions on their practice.

In addition to registration as pharmacists, the PCNZ requires potential PPs to:

- complete an approved postgraduate certificate from a New Zealand pharmacy school, or be an international PP with a recognised qualification (Paget-Hay, 2013). To enrol in this course PP candidates must first complete an appropriate postgraduate diploma in clinical pharmacy (PCNZ, 2012).
- have at least three years' recent and relevant work experience post-registration in a collaborative health team environment (PCNZ, 2015).
- submit a plan of their intended area of practice (PCNZ, 2015). A clinical leader in the PP's practice must endorse this plan to confirm that the PP has clear workplace roles and responsibilities.

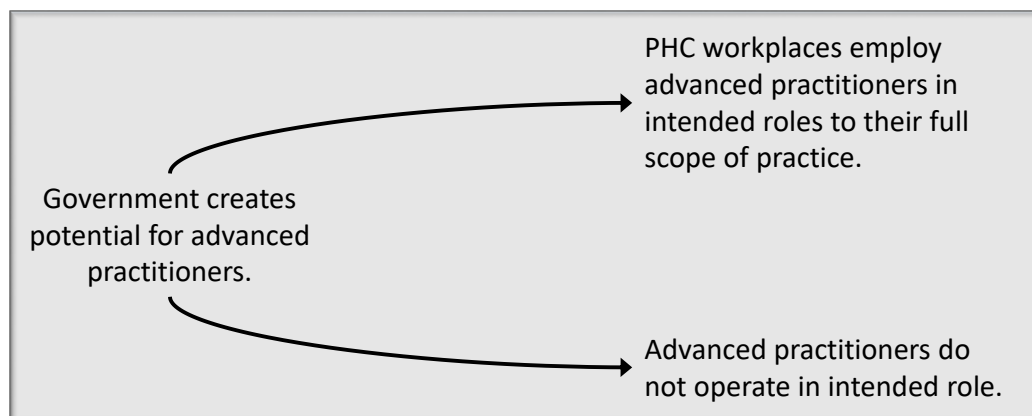
### 1.3 PROBLEM STATEMENT AND RESEARCH QUESTIONS

NPs and PPs come from large professional groups in nursing and pharmacy respectively. Their roles are evolving, and, in future, they may act in greater numbers within PHC (see Glossary, above) to deliver health care services, supporting the health care system to deliver services more accessibly, effectively, and efficiently. The evolution of such roles may help the New Zealand health system to use scarce health professional resources to meet the growing and changing needs of the New Zealand population. Yet, in New Zealand, the uptake of training and availability of roles is failing to meet government projections; their low penetration means that these roles currently do not contribute significantly to improve population health care delivery. Furthermore, these practitioners may not necessarily operate in PHC practice environments; they may instead work in solely primary care (service provision) business models that fail to facilitate full use of their extended scopes. The scopes of practice for both NPs and PPs identify the potential for these roles to deliver care within the wider PHC framework; yet, current primary care business models may have forced practitioners into narrow service provision roles.

There is little evidence-based literature that focuses on the links between policy processes governments have at their disposal to support the successful development of advanced practitioner roles and the implementation of these processes at micro (practitioner) and macro (health system) levels (Chapter 2). Similarly, New Zealand-based evaluations of these roles are few, what there is suggests that, to date, the health system has not implemented these roles in an informed manner.

## Introduction

This research rigorously evaluates NP and PP development in New Zealand PHC. Development, as defined in this research, is a process (arrows, Figure 1.1) beginning in policy, and influenced in implementation by changes occurring in the wider world across multiple social settings. These changes can result in successful or unsuccessful role development. In this process, there are junctures where stakeholders individually and cumulatively influence success. For example, government creates advanced practitioners, NP and PP candidates make decisions to undertake training, and practices then employ them. Previous knowledge of this issue is limited; there remains a ‘black box’ where little attention has been paid to how successful development occurs (Figure 1.1). In Figure 1.1, this black box is the arrow leading from a role ‘potential’ to either success or failure of the advanced practitioner profession. This research seeks to unpack the black box that currently explains the development of these roles from policy intent to macro and micro outcomes. As a result, throughout the following chapters a more refined understanding will eventuate mapping the components of this process.



**Figure 1.1: Evaluating the black box of advanced practitioner development.**

The research fills a significant gap in our knowledge of how to develop NP and PP roles successfully in existing, complex health systems. Improved knowledge on how to develop such roles should enable policy and practice changes to support role development in New Zealand and elsewhere. This knowledge may also benefit emergent health professions, including registered nurse prescribers (MOH, 2016c) and physician assistants (MOH, 2015e), both of whom may face similar development pathways to advanced practitioners.

This study answers the following general research question:

***How does the development of nurse practitioner and pharmacist prescriber roles, within New Zealand primary health care, occur?***

In light of gaps in research, and signals to expand the roles of other health professionals, this research sought the perspectives of individuals operating across the continuum of advanced practitioner development. These individuals included policymakers, academics, health professionals (NPs, PPs, and general practitioners (GPs)), and patients or their carers (Chapter 3, Research Overview). These individuals provide heterogeneous views; their insights assist in refining an understanding of NP and PP development.

To answer the research question above, three sub-questions are posed, emphasising contexts, mechanisms (described below), and outcomes of the development process:

***(a) What are the key contexts within policy and practice affecting the development of NP and PP roles in New Zealand?***

This investigation operates under the principle that context (features forming an established milieu) indirectly influences the creation, delineation, and realisation of NP and PP roles, and the delivery of advanced practitioner services. These health professionals work in varying organisational configurations, support structures, and roles that collectively constitute their practice environment. Given the mixed settings in which they operate, it is important to ascertain the effect of policy and practice environments on role development.

***(b) What are the key underlying mechanisms explaining how NP and PP roles develop?***

Operating from a realist perspective, as set out in Chapter 3, this research views *mechanisms* (reasoning and reactions of individuals) as the underlying causal power explaining why things work the way they do (Pawson & Tilley, 1997). Mechanisms are “sensitive to variations in context, as well as to the operation of other mechanisms in a particular context” (Astbury & Leeuw, 2010, p. 369). This means that the contexts identified through sub-question (a) are able to trigger mechanisms explaining how advanced practitioner role development occurs.

***(c) What are the outcomes of advanced practitioner role development?***

Intended final outcomes from introducing and using advanced practitioners are similar across the globe. In New Zealand, advanced practitioners are intended to reduce health inequalities (Hughes & Carryer, 2002; PCNZ, 2010a). The government saw NP

introduction as a means of improving patient choice of health provider, and improving access to care within high-risk populations, such as low socioeconomic status and rural communities (Hughes & Carryer, 2002). PPs are to improve medicines management, and support medical doctors through collaborative practice (PCNZ, 2010a). In so doing, they are to assist in providing ‘better, sooner, and more convenient’ services, improve patient outcomes, and deliver cost-effective quality treatment (MOH, 2017b). Both NP and PP roles may also allow better use of advanced practice skills in nursing and pharmacy.

In this research, the key outcome of interest is an intermediate outcome, effective development of advanced practitioner roles, with NPs and PPs successfully delivering services to their full scope of practice. Contexts and mechanisms influence role development and the ability to ‘complete’ various stages of this process. Where development is not successful, the ability for advanced practitioners to deliver on the intended outcomes of their roles is limited.

#### 1.4 HEALTH WORKFORCE REDESIGN

In common with international trends, New Zealand’s health workforce must adapt to meet projected increases in health service demand. In 2014, half of all New Zealand adults aged over 65 years had two or more long-term health conditions (MOH, 2014a). Individuals with long-term health conditions are more likely to require health services in general, and are likely to require a greater range of services. Statistics New Zealand (a source of official statistics for the New Zealand Government) predicts that by 2061, the proportion of the New Zealand population over 65 years old will be 26%, compared with 14% in 2012 (Bascand, 2012). In its current form, the health system’s ability to respond effectively and efficiently to increasing demand from ageing populations with multiple long-term health conditions is limited. There is a well-recognised need for health workforce redesign (MOH, 2006; New Zealand Medical Association, 2013b).

Despite increases in the relative population penetration of medical doctors, pharmacists, and nurses (OECD, 2013), rural and remote areas show a greater and rising unmet demand for an appropriately trained health workforce (Ashton, 2010; World Health Organization, 2006; Zurn & Dumont, 2008). Furthermore, PHC remains an area across New Zealand that is hard to staff with sufficient medical doctors and nurses (MOH, 2016a). This workforce deficit is likely to cause service delivery and development problems (Callister, Badkar, & Didham, 2008; Ministry of Health, 2007, 2014b), affecting patient access to care.



Supply-side changes, including workforce demographics and shifting working patterns, also modify the health workforce's capacity to cope with rising health service needs. The health workforce is ageing. In 2015, 45.2% of the nursing workforce was aged over 50 years (MOH, 2016a). Similarly, 40.1% of licenced medical doctors were aged 50 years or over (MOH, 2016a). This is an almost five percentage point increase on 2009 levels. Additional demographic changes that influence workforce availability relate to changes in the proportion of male and female health professionals. In New Zealand, female medical doctors have increased from 39.1% of total physicians in 2009 to approximately 41% in 2013/2014 (MOH, 2016a). They account for the majority of New Zealand physicians under 35 years of age (OECD, 2013), and, according to 2006 numbers, are 3.5 times more likely than their male counterparts to work part-time (21% compared with 6%) (Callister et al., 2008). Female medical practitioners are also more likely to be younger when retiring than their male counterparts (OECD, 2008).

Concomitant with problems of an ageing workforce are issues of medical doctors retiring earlier than previously (Ineson, 2011) and reducing their weekly hours of employment (Cullen, 2013; Ineson, 2011). Doctors' average weekly hours worked have decreased from 48 hours in 1997 (Cullen, 2013; Ineson, 2011) to 43.6 in 2014 (Cullen, 2013). Work hours for doctors in general practice are lower still, averaging 36.8 hours per week across all sites (Cullen, 2013). These changes reduce the medical workforce supply.

Increasing trends in female medical doctor employment, reductions in working hours, and an increasing demand for health services, necessitate health workforce redesign. Advanced practitioners may present part of the solution to this workforce supply shortage. In an average week, over 40% of NPs work less than 35 hours a week (NCNZ, 2015). Twenty-seven percent reported working less than a 0.9 full-time equivalent total weekly workload (NCNZ, 2015). The extent to which employment positions use NPs or PPs within their full practice capability is uncertain. However, international research suggests these practitioners deliver safe and effective care (Chapter 2, section 2.5.2). It may be that a latent capacity exists to ameliorate supply-side issues. Moreover, in New Zealand the introduction of this workforce was to present a chance to deliver services more cost-effectively, freeing up medical doctor services for complex cases (Buchan & Calman, 2005; Hughes & Carryer, 2002; PCNZ, 2010a). Therefore, if advanced practitioners are to be part of the solution to burgeoning demand and projected inadequate supply, then it is necessary to understand how these roles are actually developing in practice.

## 1.5 HEALTH POLICY DIRECTION

Arguments for forming advanced practitioner roles began because of perceived inabilities to meet health system demand with existing resources, emphasising the need to use resources more efficiently. Entwined with these arguments is the strategic direction governing the health system and health professions. Chapter 4, section 4.2, explores policy and legislative changes specifically relevant to NP and PP roles in detail; however, this section describes New Zealand's overarching health policy direction.

### 1.5.1 The New Zealand Health Strategy

The New Zealand Health Strategy, released in 2000, laid out the Government's roadmap for its management of the health sector, applying between 2000 and 2016. Formation of advanced practitioner roles initially occurred under this strategy. The vision of this strategy was for life-long good health and well-being for all New Zealanders in a high-performing, timely, and equitable health system (King, 2000). The 2000 Strategy highlighted government priority areas to ensure most benefit for the population and to reduce health-related inequalities. The Strategy, in line with the Ottawa Charter for Health Promotion (World Health Organization, 1986), noted the need to focus on broad determinants of population health (for example, education or housing), but also noted the need to foster personal skills and reorient health services to tackle these determinants (King, 2000). Reorienting health services necessitates changes in health professional education to focus on the total needs of the individual.

Responding to changing population demographics and the need for fiscal sustainability, the MOH reviewed and refreshed the New Zealand Health Strategy in 2015/2016 (Minister of Health, 2016a, 2016b). The 2016 Strategy has emphasised the goals of people-powered (patient-centred), multidisciplinary team-based care. It made specific reference to enabling the health workforce to use their health skills and training fully. Furthermore, one of the key areas for action in this Strategy was a 'one team' approach. This approach brings forth the idea of patient-centred care where individuals within the health system have distinct roles, responsibilities, and accountabilities, and workforce sustainability and flexibility is supported (Minister of Health, 2016a, 2016b). With the introduction of the refreshed Strategy, questions have, however, been raised over the value the MOH attached to the PP role as statements present in earlier Strategy drafts supporting PP role creation were

removed in the final version (Norton, 2016). No specific comments surrounding the NP role have been made in this Strategy either.

### 1.5.2 The Primary Health Care Strategy

PHC is health care delivered within communities, traditionally by GPs, pharmacists and practice nurses (King, 2001b). In line with the Declaration of Alma Ata, PHC refers to the delivery of health care in the community including consideration of the wider determinants of patient health (World Health Organization, 1978). The 2001 Primary Health Care Strategy (PHCS) laid out the Government's direction regarding changes to PHC service provision. This strategy has focused on reducing health inequalities apparent within the population and "encouraging developments that emphasise multi-disciplinary approaches to services and decision making" (King, 2001b, p. ix). As part of this Strategy, the move from GP-focused fee-for-service payments to population-based (capitation) PHC funding was intended to enhance choice through improving workforce flexibility (King, 2001b). This was to encourage delivery of services by other health providers. The PHCS identified nursing as a crucial part of the solution for improving population-focused health care delivery and increasing the range of services. As part of this, the PHCS has recognised the need to set educational and career frameworks to facilitate PHC nursing expansion.

## 1.6 INTERNATIONAL UPTAKE OF ADVANCED PRACTITIONERS

Globally, there is increasing acceptance and interest in advanced practitioner roles. These roles create opportunities to advance better health care through nursing and pharmacy professions and facilitate changes in workforce planning. Benefits emerging from their use include improved health service accessibility (Bissell et al., 2008; Martin-Misener, Downe-Wamboldt, Cain, & Girouard, 2009), overall patient experience (Latter et al., 2011), and quality of care (Horrocks, Anderson, & Salisbury, 2002) (see section 2.5.2).

Advanced practitioner introduction began in the United States of America (USA) in the 1960s with advanced nursing roles. Other Western countries followed, including the United Kingdom (UK), Canada, and Australia. With the exception of Australia, each of these countries now has some form of advanced practice nurse and pharmacist role. Australia is yet to create their PP role, although several pilot studies exist (Hoti, Hughes, & Sunderland, 2011; Le, Braunack-Mayer, & Laurence, 2017; Spooner, 2017).

Educational standards, legislative requirements, practice scopes, and title protections for these health professionals differ between countries. Pulcini, Jelic, Gul, and Loke (2010)

surveyed nurses from 32 countries to describe trends in growing advanced nursing roles. They identified variations in nomenclature both between and within countries to describe these roles, and in educational preparation, scopes of practice, and educational levels required for advanced practice. Consideration of the PP role suggests similar variations (Bourne, Baqir, & Onatade, 2016; Cope, Abuzour, & Tully, 2016; Emmerton et al., 2005; Nissen et al., 2010). Chapter 2 lays out a review of the literature regarding the development of advanced practitioner roles. It is noteworthy that significant differences exist between countries in the educational preparation and clinical practice environments in which advanced practitioners operate. Nevertheless, this literature presents a research starting point by emphasising the lack of clarity around advanced practitioner role development within policy and practice.

## 1.7 METHODOLOGY

NP and PP role development are two programmes that have similar pathways. They share a ‘family resemblance’; that is, they have similar underlying characteristics explaining how they change (Pawson, 2002, 2006). Each programme involves multiple stages and actors, and operates in an open system with multiple inflows, and outflows. Researching advanced practitioner role development requires the use of a methodology that embraces complexity and recognises the vagaries of human volition. NP and PP programmes, while beginning from a common basis in policy, operate in different environments (for example, primary care practices, or districts of New Zealand). Given the inherent heterogeneity within the health system and across workplaces, characterising the components that influence advanced practitioner role development may allow changes to be made in role development and lead to an improved use of limited resources. Stemming from the research questions set out above, this research embraces a realist approach, guided by Pawson and Tilley (1997), to construct, frame, and refine theories explaining NP and PP role development. This methodology allows a more general understanding to form about how to institute advanced practitioner roles successfully.

The realist approach assists in forming, iteratively testing, and refining theories that explain how NP and PP development occurs. These *middle-range theories* offer explanations for observed patterns that accommodate contingencies and exceptions, and build understanding in the field of research (Wong et al., 2012). At a general level, this approach helps answer the question “what works for whom, in what circumstances, in what respects, and how?” (Pawson, Greenhalgh, Harvey, & Walshe, 2004, p. v). The realist approach posits that

programmes work only in certain circumstances (contexts) and for certain individuals (Hewitt, Sims, & Harris, 2012). That is, in certain contexts, individuals are likely to make similar (semi-predictable) choices (Shepperd et al., 2009). These contexts provide subjects with room to trigger underlying causal mechanisms leading to certain outcomes. Therefore, the three fundamental principles of the realist approach are *context*, *mechanism*, and *outcome*. Chapter 3 discusses the realist methodology and its use in this research.

## 1.8 RESEARCHER'S 'VOICE'

Throughout this dissertation, I refer to my role in this research. A realist methodology accepts the researcher's role in positing potential theories for testing how a programme may work (Pawson & Tilley, 2005). My background informs choices surrounding the scope of this research. As a pharmacist who first registered shortly before the introduction of the PP role into New Zealand, I was drawn to the potential of this role to provide opportunities for the pharmacy profession. However, from my observations, NPs and PPs are not currently part of established health professions and their competencies are often unrecognised by health professionals and patients. As Chapter 2 conveys, role development is influenced by the environments in which they form, and the colleagues with whom NPs and PPs work. This understanding assists in recognising the benefit in using a realist approach in conducting this research. This approach specifically looks at the effect of contexts and mechanisms on how a programme operates.

## 1.9 SUMMARY

Globally, health service demand is increasing, influenced by ageing populations often suffering the burden of multiple comorbidities. At the same time, supply of practitioners is likely to be insufficient to meet future population demand due to changing workforce demographics, distribution, and employment patterns. This results in concerns about the ballooning levels of health expenditure that might be needed to meet patient needs. Against this backdrop, traditional health professional roles are changing. Redesigning the health workforce in line with strategic objectives may improve the use of health professional skills. This may make for more efficient resource use and the ability to improve management of patient care.

This research investigates the development of NP and PP roles in New Zealand PHC. Given anticipated expansions in practice scopes for more health professions, and a requirement to make better use of available resources, it is essential to consider how health

## *Introduction*

system and PHC changes alter the development of these roles. This area appears to have received only limited attention in relevant literature, particularly as it relates to the PP role.

This research contributes to knowledge on advanced practitioner development and builds a lens through which to view this process within the complex and ever-changing health system. This research begins by recognising that advanced practitioner role development follows many stages, and that there are contextual features underlying this process. These features are present both in policy and PHC development stages and characterise the contested ground in which these roles form. Furthermore, these features influence decision-making and resultant health care delivery outcomes. Once identified, these features can be managed to achieve superior outcomes.

Chapter 2 reviews literature on the advanced practitioner development process. This review provides initial theories explaining this process and acts as a base for more refined theories reported later in this dissertation.

## 2 LITERATURE REVIEW

Chapter 2 lays out a review of relevant literature to begin the process of determining theories of advanced practitioner development. This review serves two main functions. Firstly, it discusses current knowledge on advanced practitioner roles relevant to policy, training, and practice. Secondly, it provides initial theories explaining their development.

Literature was chosen selectively to assist in forming, refining, and reviewing theories of advanced practitioner development. All studies consider nurse practitioners (NPs), advanced practice nurses, or pharmacist prescribers (PPs). Literature used in this review was deemed relevant if it initially helped identify theories under study and then tested these theories (Pawson et al., 2004; Pawson, Greenhalgh, Harvey, & Walshe, 2005). Evidence appraisal was iterative and undertaken to populate theories purposively, and then to compare and contrast empirical evidence (Pawson et al., 2004). This chapter charts the conceptual and theoretical territory of advanced practitioner development and provides a broad overview of this process. New Zealand literature on the development of these practitioners is sparse. Therefore, international literature affords a starting point for initial middle-range theories. From the literature review, I generated three stages of role development:

1. role creation, which considers the impact of greater (macro) systems in facilitating the possibility of advanced practitioner roles;
2. role commencement, which stresses the influence of the micro (workplace and health system) environment in moving from policy intent to practice reality; and
3. long-term sustainability, which reflects responses to NP and PP policy and practice.

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## 2.1 SEARCH STRATEGY

This literature review focused on informing initial theory creation. Under realist principles, literature from a range of primary studies can help identify, refine, and modify programme theories. Literature should help craft extant theory on NP and PP development considering policy intentions and practice, and give information:

1. on the contexts in which the programme has worked and the outcomes of this;
2. on the relationship between the intervention and the context in which it operates, and the impact this relationship has on outcomes; and
3. that is of sufficient relevance and rigour to addresses theories under examination and contribute to theory building (Pawson et al., 2004, 2005).

A Victoria University of Wellington subject librarian with expertise in health and policy-related research reviewed the literature search strategy and advised on the appropriate bibliographic databases and search catalogues to use. Guided by the research questions (page 7), the search for evidence used the Cochrane Database, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Google Scholar, Medline, and Ovid. Grey literature, identified using the Google search engine and the New Zealand MOH library catalogue, provided supporting information. Other search engines located unpublished doctoral and master's theses. Use of grey literature, such as policy documents, non-peer reviewed literature, and literature on stakeholder perspectives, imparted information that was not present in academic literature. Supplementary reference texts sourced from the university library offered a broad base of knowledge on the role development process. Furthermore, I inspected the reference lists of relevant identified studies for additional literature sources that may arbitrate between potential theories.

Combinations of the following search terms and their synonyms directed the initial search: non-medical prescribing, pharmacist prescribing, nurse prescribing, prescriptive authority, nurse practitioner, pharmacist prescriber, primary health care, policy, access, quality of care, retention, and role development. Searches included papers and grey literature published in English. The search was primarily limited to literature from the last approximately 30 years, as during this time comparable countries began exploring contexts shaping the ability of advanced practitioners to deliver care effectively.

Initially, papers were vetted by title and abstract with duplicates removed. From this, I explored papers relating to NP and PP development in primary health care (PHC), and the



development of equivalent advanced practice positions. Additionally, purposive search approaches involving citation tracking as a means of snowball sampling retrieved literature to test specific theories. The research applied an iterative test of information saturation and the search process halted when later literature bestowed no additional knowledge to theory building. Papers met the inclusion criteria if they addressed theories being tested and were able to make a “methodologically credible contribution” (Pawson et al., 2005, p. s1:30) to testing proposed theories. Consequently, as the review progressed, the literature inclusion criteria were amended to reflect their contribution to theory building (Pawson et al., 2004).

Selection and appraisal of studies occurred throughout analysis of this literature. A wide range of literature contributed to the formation of three initial theories explaining advanced practitioner development (section 2.2). Appraisal of the quality of this literature was based on its relevance to theory building, and its rigour; that is, whether methods used were credible and trustworthy (Wong, Greenhalgh, Westhorp, Buckingham, & Pawson, 2013). Therefore, following principles of realist research and because of the exploratory nature of this review, literature was not solely excluded based on study design (Wong et al., 2013). Throughout the review process, I discussed and debated research findings and proposed frameworks with my supervisors. Literature was excluded from review if it:

- explained interventions to a limited extent only, without description or analysis;
- was a quantitative study that offered limited knowledge to theory building;
- investigated work under patient group directions or standing orders; or
- involved studies of specific clinical conditions without reference to the underlying change process.

Secondary sources such as literature reviews (for example Bhanbhro et al. (2011); Bonsall and Cheater (2008); Cooper et al. (2008); Horrocks et al. (2002); Latter and Courtenay (2004); Sangster-Gormley, Martin-Misener, Downe-Wamboldt, and Dicenso (2011) and Tonna, Stewart, West, and McCaig (2007)), authored textbooks, and agency or governmental reports were included to gain perspectives on international changes in the research area.

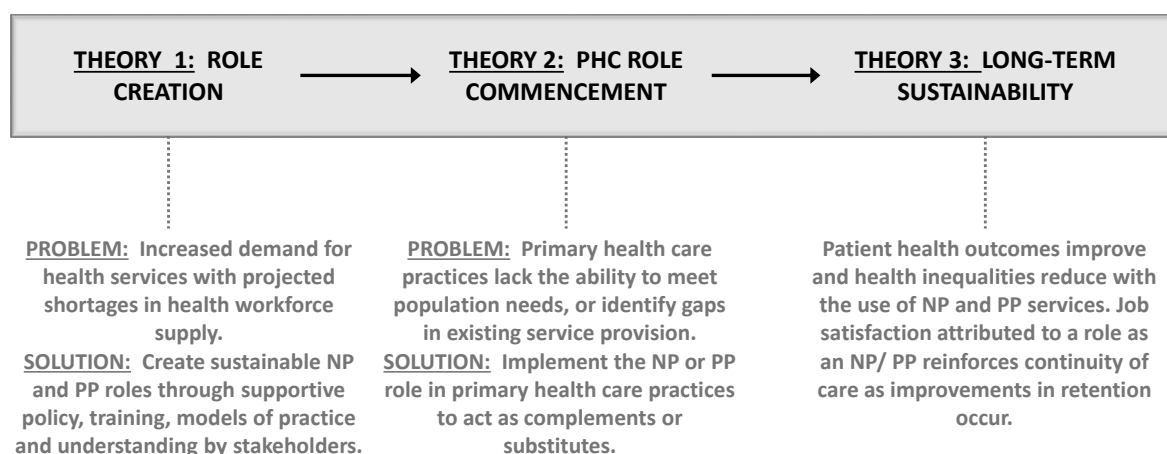
## 2.2 INITIAL THEORIES OF ADVANCED PRACTITIONER DEVELOPMENT

Background documents and literature present the basis for theories explaining how NP and PP roles develop. This process occurs within a *complex* health system (Shiell, Hawe, & Gold, 2008). That is one that is open, non-linear, multi-faceted, adaptable to environmental

changes, and is both constructed from and interacts with other systems (Shiell et al., 2008). Changes in one part of the system alter other parts of the system. NP and PP development in PHC is an example of a complex *programme* introduced into a complex system. In this system, advanced practitioner roles may differ from initial policy expectations.

This literature review follows the spirit of Pawson et al. (2005) in their paper describing how to conduct realist syntheses. Pawson et al. (2005) use the example of a policy of public disclosure of information on performance to describe realist synthesis steps. They describe this programme as consisting of several activities (and hence theories) that explain how public disclosure works. Rival or contending theories present alternate explanations. In line with this paper, I have articulated theories that lie behind advanced practitioner role development. Literature in this review provides strength to these hypothesised theories.

Figure 2.1 shows a unidirectional flow of NP and PP development. Based on empirical literature, the three initial theories describing this flow surround the ideas of role creation (section 2.3), PHC role commencement (section 2.4), and long-term sustainability (section 2.5). Each subsequent theory is dependent on the previous one. These theories are not exhaustive explanations of NP and PP development in PHC. For example, role commencement may result in other contending theories. Furthermore, changes upstream or external to the model may have flow-on effects to other parts of advanced practitioner role development.



**Figure 2.1: Advanced practitioner development process.**

In brief, Figure 2.1 presents a picture of the advanced practitioner development process where government policy establishes the possibility for the existence of NPs and PPs. This is somewhat akin to setting a ball rolling: the initiative has started, and the commencement

of NP and PP roles in PHC may then occur to provide workplace complements or substitutes for existing services. Development of these new roles, in a dynamic health system, offers challenges that may not be evident in already established professions. Long-term sustainability may eventuate with the improved use of skilled practitioners and a greater understanding of how best to use these roles. Knowledge of how policy development translates into practice development is important for the successful establishment of NP and PP roles, and for decisions on whether to continue implementing these positions. Studies discussed in the following sections iteratively test the proposed theories.

### **2.2.1 Stakeholders**

Stakeholders influence the development of advanced practitioner roles. These individuals operate across the continuum of role development and bring their own beliefs and attitudes to this process. Their actions can either detract from, or bolster this process (Martin-Misener et al., 2009; Pojskic, MacKeigan, Boon, & Austin, 2014). Stakeholder engagement and active support for advanced practice roles are necessary for sustainable role creation and commencement.

Stakeholders may influence the direction that advanced practitioner development takes. Interested parties in the development process include patients, health practitioners, government agencies involved in policy and funding, and professional organisations (Bryant-Lukosius & DiCenso, 2004). Each of these stakeholders operates from a different perspective and may contribute differently to the programme under study. DiCenso et al. (2010) in a paper on factors enabling advanced practice nursing integration in Canada suggested that health care administrators attributed absence of stakeholder involvement as contributing to a lack of clarity in advanced practice nursing roles. Management of stakeholder interests involves educating and informing them of health workforce options and effectively cultivating relationships between health professional, regulatory, and government agency sectors (Hughes & Lockyer, 2004). The following subsection explores the perspectives of these stakeholders.

In New Zealand, nurse leaders (from organisations including the NCNZ, MOH, and DHBs) saw NPs as able to offer significant improvements to PHC services through improving patient choice and access (Finlayson, Sheridan, & Cumming, 2009). Nurse leaders viewed introducing NP roles as freeing medical doctors to concentrate on cases that were more

complex. Interestingly, New Zealand NP development occurred in an environment of both inter-professional and intra-professional conflict (section 4.2.1) (Jacobs & Boddy, 2008). During the advent of NP roles in New Zealand, many doctors expressed concern over the competence of advanced practitioners to prescribe without training equivalent to that in a medical degree (Hughes & Lockyer, 2004). Internationally, this concern related to perceptions that advanced practitioners ‘practise medicine’ (Zand, 2011). This resistance was felt by rural New Zealand NPs who perceived that GPs opposed the NP role because they feel ‘threatened’ (Carryer, Boddy, & Budge, 2011). A lack of understanding of NP roles by PHC doctors and other employers may limit the full use of NPs in PHC (Van Soeren, Hurlock-Chorostecki, Goodwin, & Baker, 2009). Similarly, it is likely that a lack of understanding within nursing and pharmacy professions may lead to ineffective development of advanced practitioner roles.

The patient is the recipient of care. Their opinion is an important early indicator of the viability of NP and PP services. Patients perceiving NPs or PPs as supplying inferior services, or who are unaware of the existence of these practitioners, may choose not to use their services. In studying the views of GPs on NPs, Wilson, Pearson, and Hassey (2002) suggested that GPs believed patients, particularly older patients, would be resistant to using NP services. GPs felt that patients would believe that doctors were the health professional most able to make appropriate diagnoses (Wilson et al., 2002). Van Soeren et al. (2009), in their study of NPs in Ontario PHC, noted that lack of public understanding regarding the NP role discouraged NPs in the workplace. Similarly, McCann et al. (2015), while considering patient perspectives on pharmacist prescribing in Northern Ireland, reported a lack of patient awareness of the relative capabilities of medical doctors and PPs. In their UK study of patient opinions on advanced practitioners across four primary and secondary care trusts, Hobson, Scott, and Sutton (2010) remarked that poor patient awareness of pharmacist training and knowledge altered patient confidence in consulting a PP. This lack of confidence may influence the roles advanced practitioners are able to offer and alter the acceptance of advanced practice services.

Stakeholder knowledge of advanced practitioner development is an important step in ensuring their effective participation in this process. A prevailing theme in the literature was the lack of awareness from medical doctors and others regarding advanced practitioner roles and skills (Bryant-Lukosius & DiCenso, 2004; MacLeod-Glover, 2011; Weiss, Sutton, & Adams, 2006). Canadian researchers Bryant-Lukosius and DiCenso (2004) in their nine-

step PEPPA framework (Participatory, Evidence-Based, Patient-Focused Process for Advanced Practice Nursing Role Development, Implementation, and Evaluation) explained that stakeholder awareness is a factor influencing implementation of advanced practice nursing roles. They suggested that stakeholder education is needed to facilitate this implementation. The framework has applicability to the PP role; section 2.4 provides a breakdown of the framework steps.

In addition to profession-specific objectives that may or may not align with the goals of advanced practitioner development, lack of understanding may also prevent successful development. In realist parlance, the resources and reasoning of these stakeholders provide the causal power explaining how advanced practitioner development occurs. Consequently, these actors influence the following theories. Section 2.3 presents a discussion of the first theory, role creation.

### 2.3 THEORY 1: ROLE CREATION

<b>THEORY 1: ROLE CREATION</b>
<p><b>PROBLEM:</b> Increased demand for health services with projected shortages in health workforce supply.</p> <p><b>SOLUTION:</b> Create sustainable NP and PP roles through supportive policy, training, models of practice and understanding by stakeholders.</p>

**Figure 2.2: Role creation.**

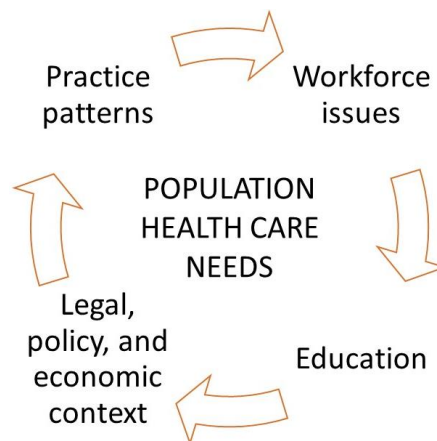
Theory 1 (Figure 2.2) maps the initial policy development stage responsible for sustainably creating these roles. Ineffective role creation may act as a barrier to NP and PP role development by resulting in a failure to create a new prescriber group sustainably (Coull, Murray, Turner-Halliday, & Watterson, 2013). Figure 2.2 describes role creation occurring against a backdrop of influential contexts, such as demand for health services and projected shortages in health workforce supply. A perceived inability to meet future demand for health workers has produced possibilities for advanced practice roles.

Theory 1 primarily builds on the work of Schober, Gerrish, and McDonnell (2016), Laurant et al. (2009), and De Geest et al. (2008). Schober et al. (2016) in their research on the development of advanced practice nursing in Singapore created a conceptual policy framework to explain this process. Using an instrumental case study approach, the framework was based on the idea that establishing advanced practice nurse policy in itself is not sufficient to develop these roles effectively. Instead, there is a need for a coordinated approach that involves identifying drivers for advanced practice nursing services, and defining their position in the health care workforce. Schober et al. (2016) pinpointed

certain critical points essential for policy development. These points include establishing the legitimacy of the role, identifying decision-makers and their sphere of influence, establishing the role as a legislated profession, identifying measures required to accomplish successful implementation, and verifying support at all levels of development.

Laurant et al. (2009) in their review on the impact of non-physician clinicians in care delivery produced a framework describing factors governing role revision. They depicted health policy change as occurring in response to issues driving change in the greater health system. Such factors included population ageing and increasing health care costs. The framework highlighted barriers and facilitators affecting revision of professional roles including patient and health professional attitudes, funding systems, and professional regulation, and training. Laurant et al. (2009) suggested factors influencing successful role revision included clear role definitions, development of training programmes, accreditation systems, revised legislation, funding systems that encourage role uptake, change management skills, and indemnity insurance.

A similar Swiss framework by De Geest et al. (2008) considered introducing NPs into the health system as synergistically driven by population health needs, availability of appropriate education, workforce issues, practise patterns, and legal, policy, and economic contexts (Figure 2.3).



**Figure 2.3: Drivers influencing role development.**

In presenting a review of extant literature, the following subsections discuss the influence of several drivers on the role creation process. The first of these drivers, perceived need, was covered in section 1.4. Consequently, these subsections consider the influence of health system strategic direction, legislative and regulatory context, and education.

### 2.3.1 Strategic direction and health system philosophy

At the macro (system) level, policy enabled creation of NP and PP roles. Furthermore, policy barriers and facilitators influenced funding of education and the establishment of advanced practitioner employment positions. Successful programme delivery required removal of barriers to role creation. In New Zealand, these roles supported the goals of the 2001 Primary Health Care Strategy (PHCS). Finlayson et al. (2009), in an evaluation of nursing developments, identified that since introducing the PHCS, nursing roles and their capabilities have improved in Primary Health Organisations (PHOs).

More recently in New Zealand PHC, Harvey, Papps, and Roberts (2015b), found that NPs perceived that a general lack of strategic direction existed in managing their role development. Specifically, several respondents felt that gaps existed between government commitment and the support needed by NPs in PHC. This lack of commitment was seen in such factors as inconsistencies in budgets funding their roles and in lack of support for continued professional training opportunities (Harvey et al., 2015b). Macro barriers to practice inhibited the delivery of services in primary care practices. These constraints might have presented as inability to alter the status quo – such as through lack of enabling changes in funding and legislation. Their effect might be immediate or downstream, influencing the ability for advanced practitioners to operate to their full potential as established members of the health care team.

Health system philosophy influenced decisions to take up advanced practitioner roles. For example, Bourgeault, Kuhlmann, Neiterman, and Wrede (2008) and Delamaire and Lafortune (2010) reported that the UK (a mostly publicly funded health system) had lower opposition to advanced practice nursing role development amongst the medical profession than the USA (a market-led health system). UK health service financing under capitation payment and salaries incentivised recruitment and use of advanced practice positions in PHC (Delamaire & Lafortune, 2010). This contrasted with the USA, where fee for service payment to medical doctors might have resulted in competition between health providers (Bourgeault et al., 2008). While this example demonstrated the difference of health system philosophy on creation of advanced practitioner roles, these roles also differed between countries in their scope and training requirements. They, therefore, operated in different ways. As a result, health system philosophy is not the only context that influenced role creation.

Several studies point to the influence of neoliberal philosophy on the establishment of health system roles. Nancarrow and Borthwick (2005) contend that neoliberalism results in changes to workforce boundaries, in part due to attempts to provide more cost-effective solutions to care delivery and increased consumer choice. In contrast, in their conference paper on a New Zealand institutional ethnographic study, Adams, Carryer, and Wilkinson (2017) implied that this philosophy impedes the establishment of NP roles. Adams et al. (2017) argued that neoliberal philosophy led to increasing competition, short-term contracts, and a focus on health outputs. This environment may have prevented NPs from establishing their services in rural New Zealand PHC. However, Wilkinson (2012) suggested that such environments may allow NP roles to grow in third-sector (gap filling non-governmental, non-profit) workplace environments. In New Zealand, these organisations grew because of the 1990s neoliberal reforms. Yet, it is only in recent years that greater numbers of NP candidates in New Zealand have passed their viva voce registration examinations. Health system strategic direction and philosophy ultimately influenced advanced practitioner creation.

### **2.3.2 Legislative, regulatory, and funding context**

In New Zealand, both health practitioners and the MOH have noted legislative barriers preventing deployment of NPs and PPs. These included barriers in regulation and funding arrangements. Within primary care, funding models for service delivery were historically tied to GPs, and NPs were unable to access funding on the same basis as GPs (Finlayson et al., 2009). This changed the likelihood of NPs being employed or contracted as service providers (Finlayson et al., 2009). Nurses perceive lack of employment opportunities, funding streams, and support as preventing them from pursuing NP accreditation (Finlayson et al., 2009).

Similar findings apply internationally. Stewart et al. (2009), in their evaluation of PP, medical doctor, and patient views on pharmacist prescribing in Scotland indicated that both PPs and doctors perceived differences in funding streams to be a challenge for supplementary PPs. Similarly, in Canada, a small qualitative study of recently introduced NPs identified system-level factors including funding, and practice restrictions, as the most salient barriers to NP deployment (Gould, Johnstone, & Wasylkiw, 2007). Sibbald, Shen, and McBride (2004) in their paper on skill mix change (section 2.4.1) noted the impact of funding on changing workplace practice. They stated that attempts at skill mix change are



tied to funding. Where supportive funding did not facilitate changes to workplace practice then the pace of reform slowed.

In New Zealand, the current capitation model should have assisted general practices in allocating funding in the manner they wish and delivering health services in a variety of innovative ways. Yet, as GPs often received higher patient co-payments if they personally deliver services, and traditional medical business models captured much of patient demand, this has not always encouraged use of other health professionals (Finlayson et al., 2009; Finlayson, Sheridan, Cumming, & Fowler, 2012). More recently, a qualitative exploratory study by Carryer and Adams (2017), on alignment of NP roles in New Zealand within a transformative service agenda, reasoned that NPs could deliver the full potential of their role only under supportive employment conditions. They continued to explain what these conditions entailed. Carryer and Adams (2017) theorised that funding and management decisions impeded moves towards using NPs as intended. Instead, funding models favoured traditional medical models of service delivery.

Legislative barriers and restrictions on funding roles and education limited sustainability of advanced practice roles. Structural macro barriers exist internationally, for example, in a small study on NP deployment in the UK, stakeholders perceived that the hierarchical structure of the National Health Service inhibited role progress (Marsden, Dolan, & Holt, 2003). As revealed in advanced practice nursing literature, regulatory and legislative environments can shape NP roles, either by impeding their progress or promoting their growth (Bryant-Lukosius & DiCenso, 2004; Bryant-Lukosius, DiCenso, Browne, & Pinelli, 2004; Bryant-Lukosius et al., 2016; Edwards, Rowan, Marck, & Grinspun, 2011; Schober et al., 2016; Stange, 2014). East, Knowles, Pettman, and Fisher (2015), in their study on organisational challenges and opportunities for advanced practice nurses, suggested that the absence of regulatory policy in England governing these roles resulted in variability in titles, role descriptions, and overall comparability of advanced practitioner roles. In New Zealand, Carryer and Adams (2017) also concluded that health strategy, and employment structures failed to align to facilitate the transformative potential of the NP role. They proposed that as a result of these factors NPs operated as substitutes to medical practitioner care delivery (section 2.4.1), rather than as a health profession with their own model of practice, that places the focus on the patient and family embedded in holistic service provision (Hughes & Carryer, 2002).

Early NP literature explored the effect of the wider practice environment on the supply of NPs. Sekscenski, Sansom, Bazell, Salmon, and Mullan (1994) determined that in USA states where practice environment scores were high (these scores were based on legal status, reimbursements, and authority to prescribe) supply of NPs was greater. This held true also for states where shortages of supply of generalist physicians existed. This study was limited in not exploring other factors shaping the practice environment, such as acceptance by other providers, or access to practitioner and patient insurance. A doctoral dissertation by Whelan (2000) discussed the link between state regulation and NP practice. The study analysed practice patterns and location of work for NP practice. It found that greater restrictions on state regulatory environments led to NPs working in health professional shortage areas, and underserved populations. There were no differences in the effect of regulations on practice patterns. Overall, as with Sekscenski et al. (1994), Whelan (2000) found that in states with restrictive regulations, for example around prescriptive authority or NP reimbursements, the proportions of NPs were lower.

Legislation, regulation, and funding act as levers of health system responsiveness to creating new roles. Where these contexts fail to keep pace with change, then the direction of advanced practitioner role creation will change.

### **2.3.3 Education**

Educational preparation provided a means to equip advanced practitioners and those undergoing required training with the skills necessary to work at the relevant level of practice. It also differentiated the advanced practitioner from others and through continuing professional development (CPD) maintained their skills and registration. As with titling and registration, educational requirements for advanced practitioners differed between countries and states (Bryant-Lukosius et al., 2004; DiCenso et al., 2007; Donald et al., 2010; Hobson, 2008; MacLeod-Glover, 2011). They may also have differed between education providers, particularly in apprenticeship-style training pathways (Bryant-Lukosius & DiCenso, 2004). Understanding the influence of educational issues on role creation provided the ability to target these factors.

In New Zealand, responsible authorities have set competence standards for safe and efficacious practice that advanced practitioners must meet to maintain registration in their scopes. Spence and Anderson (2007) in a study on nurse practitioner prescribing practicums in New Zealand noted the importance of a pre-established working relationship

with a practicum supervisor. This relationship improved the ability of supervisors to determine NP candidates' clinical credibility, and consequently affected supervisor confidence in these candidates (Spence & Anderson, 2007). Internationally, the value of pre-existing established working relationships has also been noted, as has a need to remove barriers and negotiate entry to practice (Tann, Blenkinsopp, Evans, & Grime, 2008; Tann, Blenkinsopp, Grime, & Evans, 2010; Weiss et al., 2006). Spence and Anderson (2007) also remarked on the importance of orienting practicum supervisors to the purpose of their role and the expected clinical progress of the trainee NP. To some extent, Spence and Anderson's (2007) work suggested that NP training in New Zealand has not moved beyond providing an understanding for stakeholders of individual NP educational requirements. Consequently, there remains a lack of recognition of the requirements and competencies of this then-new profession.

Access to CPD may influence the ability for prescribers to meet competence requirements, respond to patient needs (Stewart et al., 2009), and maintain workplace satisfaction (Coull et al., 2013; DiCenso & Matthews, 2005). Internationally, studies indicate that access to formal CPD is limited (Carey & Courtenay, 2010; Courtenay, Carey, & Burke, 2007; Latter, Maben, Myall, & Young, 2007; Stenner & Courtenay, 2008b; Stewart et al., 2009; Watterson, Turner, Coull, & Murray, 2009). Courtenay et al. (2007) in their questionnaire survey of independent and supplementary nurse prescribing in the UK suggested that nurses working in PHC have a greater extent of unmet CPD needs. Latter et al. (2011) in their evaluation of nurse and pharmacist independent prescribers in the UK found that overall nurse prescribers had greater access to CPD opportunities than PPs did. Experience and knowledge are crucial to an effective prescribing process (Latter et al., 2004) and without access to sufficient and adequate training, the ability of NP and PP to prescribe effectively will likely be unduly constrained, in turn, influencing their capacity to operate at the full potential of their role. More recently, a questionnaire survey by A. Smith, Latter, and Blenkinsopp (2014) of independent nurse prescribers (976 prescribers) and non-medical prescribing leaders (87 leaders) in England reported more positive results for CPD, indicating that adequate opportunities exist for the majority of independent prescribers to access relevant CPD. Furthermore, the greater ramifications of inadequate CPD opportunities lie in their influence on patient safety and fitness to practice (A. Smith et al., 2014; Watterson et al., 2009).

*Career pathways*

There is no guarantee of employment following training as a NP or PP. In a New Zealand study by Carryer et al. (2011), NP candidates expressed concern over a lack of employment certainty following NP training completion. This uncertainty increased due to funding and legislative barriers preventing full use of NP roles. Despite apparent desires by both responsible authorities and government to implement these roles (Carryer et al., 2011), no national formalised processes have been created for transitioning interested nurses (or pharmacists) along educational pathways to become advanced practitioners. The same may be said for UK advanced practitioner candidates who have had little certainty of role availability following qualification (Courtenay, Carey, & Stenner, 2011). This may have altered prescriber confidence in their ability to practice as advanced practitioners (Courtenay et al., 2011). Formalised career pathways may encourage uptake of advanced practice roles.

#### **2.3.4 Summary**

The ability to develop advanced practitioner roles effectively is to some extent dependent on how the development process begins. This process involves creation of a potential resource in the form of competent health professionals. Increasing patient demand for appropriate patient-centred health care, and problems in meeting this demand has caused changes in health workforce structure. In a perfect market, demand for services will meet supply at an equilibrium point. In limiting health professional supply, through registration regulations, and limits on training capacity, government has imposed market distortions and made it difficult for workforces to adapt to meet demand. These limitations may also protect patients from less competent individuals and their inappropriate health care practices. In attempts to correct this imbalance, governments may intervene further through additional macro level health policy and system changes. Evaluation of NP and PP role development in light of these changing macro contexts requires an appreciation of the effect of its policy, training, and legislative drivers. These areas, in turn, influence commencement of advanced practitioner roles. From the above review, it appears that in New Zealand advanced practitioners operate in a contested environment where effective use has not been made of these drivers. The next subsection explores the theory of advanced practitioner role commencement in PHC.

## 2.4 THEORY 2: ROLE COMMENCEMENT

<b>THEORY 2: PHC ROLE COMMENCEMENT</b>
<p><b>PROBLEM:</b> Primary health care practices lack the ability to meet population needs, or identify gaps in existing service provision.</p> <p><b>SOLUTION:</b> Implement the NP or PP role in primary health care practices to act as complements or substitutes.</p>

Having created the possibility for advanced practitioner roles, PHC practices may choose to implement these roles in response to workplace requirements. Not all individuals who have completed advanced practitioner training will necessarily attain roles as advanced practitioners (Carrier et al., 2011; Thomas, 2017). Commencement (Figure 2.4, Theory 2) involves using practitioners as substitutes or complements in PHC practices.

**Figure 2.4: Role commencement.**

To some extent, Theory 2 builds on the work of Schober et al. (2016) in their conceptual policy framework for advanced practice nursing (based on earlier doctoral work). Their research on factors influencing advanced practice nurse role development in Singapore stressed the existence of critical points for policymakers and frontline staff to consider when undertaking policy development and implementation. These are to:

- include managers and other relevant staff in implementation discussions;
- define role descriptions and scopes of practice prior to implementing new roles;
- define mechanisms for reporting, assessment, and performance, and institute process for role evaluation;
- identify reporting pathways for the advanced practice nurse role;
- establish infrastructure for peer support and continuing education; and
- define plans for disseminating information on the advanced practice nurse role to health professionals and the public.

Furthermore, the PEPPA framework of Bryant-Lukosius and DiCenso (2004) contributed to refining theory on role commencement. The framework has nine steps. The first seven of these steps are relevant to discussions in this section. Steps one to six consider the need to establish role structures in order to promote the optimal development of advanced practice nurse roles. These structures include planning and decision-making about new models of care where an advanced practice nurse may fit. Step seven of the framework involves initiating implementation plans and introducing these advanced practitioners into practice. These plans include providing education and other resources, and developing policies and protocols. The PEPPA framework, although intended for use in implementing advanced

practice nursing roles, also has applicability to PP development. Specifically, the framework emphasises the importance of setting parameters and following implementation plans so that health professions operate to their full potential and are fit for purpose.

Introducing NP and PP roles into PHC changes the long-standing medical-dominated structure. The New Zealand Treasury, in their 2014 Ministerial Briefing, saw task transfer from medical doctors to other health professionals as reducing costs and improving ‘skill mix’ (Treasury, 2014). Buchan and Calman (2005) describe skill mix as the combination of health workers and the various role demarcations in the health system. The MOH highlights the need to manage skill mix (MOH, 2014b). Management of skill mix involves considering: (1) NP and PP role overlap with other service providers, (2) advanced practitioner compatibility with PHC practices; and (3) domains, practice settings, resources, and support necessary to commence NP and PP roles.

#### 2.4.1 Skill mix

The introduction of advanced practitioners into workplaces results in changes to skill mix. Sibbald et al. (2004) presented a framework for considering changing skill mix. They theorised that within a given service, four types of skill mix change were possible:

- Enhancement: increasing role depth through expanding roles or worker proficiency;
- Substitution: expanding role breadth through overlapping scopes of practice and interchanging workers;
- Delegation: transfer of task up or down a disciplinary hierarchy; and
- Innovation: introducing a new type of worker, and creating new jobs.

NP and PP roles are classifiable as (imperfect) role *substitutes* for existing practitioners (GPs) (Sibbald et al., 2004). That is, while advanced practitioners might have to some extent substituted for physicians, their perspectives on care delivery differ because of their education and professional perspectives. Nancarrow and Borthwick (2005) referred to this as a type of vertical substitution. NPs and PPs may also be considered as enhancers (*complements*) to care delivery (Sibbald et al., 2004). Used as complements, advanced practitioners delivered additional services extending those of medical doctors and others in the PHC team. The justification for using advanced practitioners as physician substitutes centred on them providing “the same services as physicians to reduce physician workload, increase service capacity, and/or reduce costs” (Laurant et al., 2009, p. 40s). Implemented successfully, this would increase overall service capacity (Laurant et al., 2009). The

challenge is that these practitioners have differing worldviews from those of medical doctors (Carryer, Gardner, Dunn, & Gardner, 2007; McCann et al., 2012), and that the services they delivered may differ to an ex-ante unknown extent. There is a risk, but also an opportunity for new ways of practice. It is likely that these prescribers are not absolute substitutes for medical roles (Stange, 2014). Instead, advanced practitioners were likely to operate as both substitute and complement (Laurant et al., 2009). The question remains as to whether by operating as substitutes advanced practitioners failed to live up to policy and personal expectations of their role.

Vertical role substitution between health providers can occur due to differences in authority between them (Nancarrow & Borthwick, 2005). In cases of vertical substitution, the health discipline with the greater autonomy, medicine, determines the advanced practitioner role. Several critics questioned the use of NPs and PPs (Moller & Begg, 2005; New Zealand Medical Association, 2013a; The Editors, 2000). They remarked that advanced practitioners might operate in roles traditionally belonging to medical doctors without the skills in diagnosis necessary to perform these roles safely. Working as complements, advanced practitioners delivered additional services with the aim of improving care range and quality (Laurant et al., 2009). A small study of patient views on pharmacist prescribing in Northern Ireland demonstrated that patients felt that multidisciplinary teams with practitioners using their complementary skills offered better overall care (McCann et al., 2015). The extent to which advanced practice roles deliver substitute or complementary services depends on the PHC practices in which they operate.

A barrier to growing NP and PP roles is their perceived poor legitimacy as professions with their own identity. For example, in Ontario (Canada), barriers occurred when medical doctor replacement and substitution were emphasised over integrating advanced practice roles within their full scope into health care teams (Heale, 2012). Full integration requires mature, well-implemented roles (DiCenso et al., 2010). Furthermore in Blenkinsopp, Tann, Evans, and Grime (2008) the authors suggested that GP perceptions of pharmacist supplementary prescribing in the UK were influenced by the mode of introduction of the PP role. Blenkinsopp et al. (2008) elaborated that GPs perceived that the introduction of PP roles was to meet government agenda and to improve access to medicines. They proposed that this did not necessarily match with practice requirements; practices where extension of PP roles had occurred achieved this incrementally without necessarily having an

overarching strategic direction to appoint a PP. Without potential employers recognising the value of advanced practitioners, the commencement process (Theory 2) is likely to stall.

*Autonomy*

Autonomy constitutes the authority held by a prescriber to make decisions, implement treatments, and be responsible for decisions independent of any other prescriber. Advanced practitioner autonomy may improve timely access to services for patients (Stenner & Courtenay, 2008a). It may also improve professional satisfaction, respect, status (Carey, Stenner, & Courtenay, 2014), and continuity of care. In their review of literature related to organisational climate, Poghosyan, Nannini, and Clarke (2013) suggested that autonomy, when granted, enabled practitioners to operate within the full confines of their roles, and improved responsiveness to patient needs. In a study on NP practice in the UK, perceptions by key stakeholders indicated that the autonomy of these practitioners also engendered effective risk management (Marsden et al., 2003).

The context in which a practitioner operates determines their role's autonomy. In general, an employer's ability to grant role autonomy relied on standardised education, stakeholder support, and clarity of existing roles (Tomblin Murphy Consulting Incorporated, 2006). Lowered autonomy is often associated with greater organisational hierarchies (Delamaire & Lafortune, 2010). Schindel et al. (2017) in their study of perceptions of the pharmacist role in Canadian society suggested that increased autonomy through expanded practice might be a means of enhancing collaborative practice. Offredy and Townsend (2000) conducted a study on NP roles and practices in primary care using a small convenience sample of four general practices in England. All GPs interviewed in this study reported that the use of NPs had reduced their routine workload. Referral practices varied between workplaces, with NPs who experienced high levels of autonomy and trust able to refer patients to external agencies. In contrast, a study by Main, Dunn, and Kendall (2007) suggested that some NPs and GPs perceived the role of the NP as an autonomous practitioner to be a barrier to role uptake as the NP was perceived as reluctant to take up more responsibility. In general, however, impairments in autonomy appeared to limit patient care outcomes and advanced practitioners' professional satisfaction.

*Role overlap*

Introducing advanced practitioners to multidisciplinary teams involves a role realignment, which has the potential to disrupt workplace practice. It needs to be managed effectively



and is likely to result in a degree of overlap between roles (Delamaire & Lafortune, 2010; DiCenso & Bryant-Lukosius, 2010). In their discussion of factors enabling advanced practitioner integration in Canada, DiCenso et al. (2010) suggested that role overlap might influence inter-professional relationships. Furthermore, Weiss et al. (2006) in their evaluation of supplementary pharmacist prescribing indicated that the main reason for conflict identified by PPs in their study related to uncertainty over the nature of the PP role. They emphasised that where there is uncertainty over boundaries and scopes of practice for these practitioners, then others in the workplace may feel threatened. The extent of perceived overlap may depend on the extent to which NP and PP roles substitute or complement existing roles.

Extending prescriptive authority can succeed only with stakeholder cooperation (Cumming et al., 2005). Traditional role boundaries place diagnosis and prescriptive authority squarely within the realms of medical practice. With the formation of NP and PP roles, these boundaries have become more fluid. Some medical doctors have the perception that their traditional control is eroding and that “if nurses [or pharmacists] want to be doctors, they should go to medical school” (Mackay, 2003, Discussion section, para. 4). Both sides have an apparent insecurity over their professional identity (Mackay, 2003; Tann et al., 2010). Role overlap may lead to increased perceptions of position uncertainty in workplaces, affecting effective role functioning.

An exploratory study, conducted by Mackay (2003) in Northland (New Zealand) assessed GP perceptions on NP roles. It discovered that GPs (n=47, 43.5% usable response rate) responded generally favourably to proposals of working with NPs, although approximately one-third of GPs felt ‘uncertain’ about the concept of the NP. Yet, despite perceptions that NPs would improve delivery of health care, GPs were concerned about aspects of the roles NPs would undertake, particularly related to prescribing, ordering laboratory tests, and diagnosing conditions. These functions were more commonly associated with medical doctors. Approximately 80% of Mackay’s (2003) participants anticipated problems occurring with physician acceptance of NP roles. This may be because medical doctors perceived that introduction of NP roles encouraged competition (Mackay, 2003). GPs, as significant PHC stakeholders, may influence both the level of support and expansion of NP and PP roles. It is, therefore, important to manage awareness and understanding of NP and PP roles, define their role, and frame their relative position in PHC.

### 2.4.2 Compatibility

Assessing compatibility of individual NP or PP roles in PHC requires consideration of two issues: firstly, how these roles fit with the roles of other practitioners in PHC; and secondly, whether micro (practice) barriers and facilitators exist that modify role development (section 2.4.3).

NPs and PPs can legally operate within their scope of practice only. Employers may further limit the extent to which they operate by placing them in roles only partially aligning with their fields of competence. Furthermore, the health system may impose additional constraints on their operation in the form of regional or site-specific policies and practices. Successful development of advanced practice roles requires that practitioners operate within the limits of their practice scope while meeting demand for PHC services (Guirguis et al., 2014; Poghosyan, Boyd, & Knutson, 2014). However, Unac, Marshall, and Crawford (2010) in a New Zealand study of NP access to diagnostic services provided an example of how regional differences influenced the ability of NPs to meet patient demand for services. In their purposively sampled descriptive survey of NPs, Unac et al. (2010) determined that NPs have reasonable access to laboratory tests, but with regional variation in the types of tests they can order. Furthermore, some NPs lacked access to tests; this placed an artificial constraint on NP practice that potentially prevented them from operating as intended. At a broader level, Unac et al.'s (2010) study highlighted that while NPs were legislated to be able to act at an advanced level of practice, inter-regional and practice specific variation may have influenced the ability to practice as intended.

A literature review conducted by Tomblin Murphy Consulting Incorporated (2006) on the recruitment and retention of PHC NPs indicated that NP role descriptions should align with employer vision, while addressing community needs, and using the expertise of NPs. In a study of PHC NPs in Ontario, NPs involved in creating their job descriptions experienced higher levels of job satisfaction, and fulfilment with their roles in decision-making, and team collaboration (DiCenso & Matthews, 2005). Heale (2012) discussed factors enabling work within full practice scopes in a NP-led clinic in Ontario. The study clinic had medical doctors acting as specialists in the practice, with NPs consulting and referring to them. NPs also had a voice in clinic governance, and were patients' primary care providers. Heale (2012) noted that to ensure NPs operated to their full scope of practice, that is, the full extent of role capability delimited by education and legislation, the clinic's governance board was constituted to have a 51% NP representation. This study highlights two

considerations, firstly the value of advanced practitioner roles in management/ governance, and secondly, the ‘power of the majority’ in instigating change, thus allowing for consideration of how best to fit new roles into practice.

*Compatibility with patients*

Relationship building occurs between advanced practitioners and patients, and others in the workforce. Characteristics of strong relationships include trust in practitioners, and compliance with treatment decisions. Strong relationships shape responses of both PHC workplaces, and patients to advanced practitioner roles.

‘Knowing’ the patient, or having an understanding of the patient’s condition and their views on how to manage it, is important. Courtenay, Carey, and Stenner (2009) studied nurses’ prescribing for patients with dermatological conditions. They reported that interviewed nurses and medical doctors considered nurses as offering a different consultation style to physicians and as being more approachable and offering more support. This style was seen as leading to superior treatment selection for patients (Courtenay et al., 2009). As part of building rapport with patients, Courtenay et al. (2009) pointed out the value of maintaining long-term relationships with patients so as to ensure continuity of care. On the other hand, Laurant et al. (2009) and Sibbald et al. (2004) emphasised potential issues with changing skill mix to include new roles. They highlighted that increasing team sizes (where greater role overlap occurs) with the introduction of new roles might increase difficulties in coordinating care, and thereby influence personal (one-to-one) continuity of care. Carter et al. (2010) conducted a study of the roles of nursing leadership in integrating advanced nursing positions into Canadian health care delivery. They noted the importance of strong leadership that recognises population requirements and matches advanced practice roles to both the skills of the individual practitioner, and population requirements. Inevitably, without this insight, the fit of the advanced practitioner position in PHC is impaired.

A series of case studies by Bowskill, Timmons, and James (2013) of nurse prescribers in the UK illustrated that trust between medical doctors, nurses, and employers was necessary for effectively integrating roles into workplaces. In the absence of trust, the role of advanced nurses was limited, as they would not receive prescriptive authority. This might have, in turn, affected the quality and accessibility of services delivered to patients, and practitioners’ satisfaction in their roles. Similarly, in their case study of NP implementation

in three primary care settings in British Columbia (Canada), Sangster-Gormley, Martin-Misener, and Burge (2013) demonstrated the difficulties ensuing when implementing roles into environments unfamiliar with them. In relation to the concept of patient trust, Sangster-Gormley et al. (2013) indicated that unfamiliarity with the NP role required individuals within PHC to 'sell' the role to patients, as patients were unaware of, and potentially reluctant to use, a new service.

*Compatibility with other providers*

Ineffective role demarcations resulted in an inability for patients to make an informed choice regarding the services they want from NPs and PPs. Patients might forgo opportunities presented by these practitioners. Ambiguous role demarcations also influenced initial decisions to pursue advanced practitioner registration, and subsequent certainty of advanced practitioners in operating in their work roles. Wilson et al. (2002) studied 25 GPs in four practices in the UK. They noted that GPs, who had not previously worked with NPs, were concerned that employing NPs would result in the deskilling of GPs, and a loss of GP self-esteem and status. GPs reported fearing threats arising from the use of advanced practitioners that would cause medical doctors to take on more complex cases with a correspondingly greater stress on them (Wilson et al., 2002). Similarly, having explored NP implementation shortly after the role was legislated in Canada, Sangster-Gormley et al. (2013) reported that practices were unfamiliar with NP roles and were, therefore, uncertain how best to use their skills. In their single case study with three embedded units of analysis, Sangster-Gormley et al. (2013) described the need for members of the PHC team to work together to clarify and define expectations of practice. During this clarification process, NPs experienced constraints on their practice.

Role support shaped the extent to which NPs and PPs operated in advanced roles in PHC practices, and subsequently influenced their impact on service delivery. A small study of advanced nurse prescribers in the UK found that if support for their roles was low, then this may impinge on the confidence of these prescribers in their practice (Travers, 2005). Role commencement requires support from administrators, management, and other PHC team members. Bryant-Lukosius and DiCenso (2004) established that administrative support was necessary to implement the advanced practice nurse role effectively and promoted entry into the PHC practice system. Without this support, NPs and PPs may have difficulty in effectively delivering services (Bryant-Lukosius & DiCenso, 2004; Carter et al., 2010;

Hacking & Taylor, 2010). Such administrative support related to aspects of role delegation, and resources, for example, time to manage paperwork.

Both advanced practitioners and their prospective workplace require confidence in the roles of NPs and PPs. Stenner and Courtenay (2008b), while studying nurse prescribers' views of inter-professional relationships, identified building rapport with medical doctors as supporting nurse prescriber work. Furthermore, clinical supervision sessions allowed an analysis of complex cases, building prescriber confidence. Relationship building improved understanding of decision-making processes, allowing sharing of knowledge, and increased trust in nurse prescribers. Much of this study explored the views of non-PHC nurse prescribers. As such, it is possible that the views expressed by these nurses will not entirely represent the views of PHC nurses.

In a study of nurse prescribing across the east of England, support for their roles influenced decisions by advanced nurse prescribers to take on new practice areas, and affected their confidence in their decision-making (Carey et al., 2014). Changing managerial support, through, for example, funding changes, raised concerns for advanced prescribers in Carey et al.'s study. Advanced nurse prescribers were concerned for both their future roles and their ability to contribute to service provision where medical doctors and services managers had greater control over limited resources (Carey et al., 2014). Resistance to NP and PP roles and a lack of support from management remain underlying impediments to role commencement. In contrast, management may support this process through aiding PHC team understanding of the purpose of new roles, supporting advanced practitioners in role change, and by helping to incorporate the role into a team structure (Reay, Patterson, Halma, & Steed, 2006). Reay et al. (2006) in their case study of introducing a NP role into a rural clinic in Alberta (Canada) emphasised the importance of mentorship and community connections in ensuring the compatibility of the NP role in the community. The work of DiCenso et al. (2010) and others further underscored the importance of nursing and medical doctor champions in promoting advanced practitioner role commencement.

#### **2.4.3 Domains and practice settings, resources, and support**

Having discussed many of the issues of workplace skill mix and advanced practitioner compatibility with patients and other providers, this section describes physical factors influencing the role commencement process. Organisational reforms are essential to facilitating PHC NP and PP role growth. Generally, as reported by Delamare and

Lafortune (2010), greater opportunities for implementing advanced nursing roles may be expected in group practices than in sole practitioner workplaces. The predominant model of primary care in New Zealand is group practice. This can ideally impart a foundation for the commencement of NP and PP roles.

Micro barriers and enablers make up the context in which NPs and PPs operate. These features are either operational, or involve organisational values and beliefs. Operational barriers and enablers set the boundaries into which an advanced practitioner works within primary care. Several studies have commented on operational barriers to the initial formation of NP and PP roles. These barriers might be as simple as computer systems not recognising advanced practitioner prescribing rights, lack of physical space, or prescribing pads not made available to advanced practitioners (Bissell et al., 2008; Courtenay et al., 2007; Sangster-Gormley et al., 2013; Stenner, Carey, & Courtenay, 2010). Other barriers included delays between completing training and commencing practice as a prescriber (Bissell et al., 2008). These simple barriers can undermine government's implementation objectives (Cooper et al., 2008). Faris, Douglas, Maples, Berg, and Thrailkill (2010) identified a lack of administrative support, and advanced practitioners working in non-advanced practice roles, as barriers to the development of advanced nurses in the USA's Veterans Health Administration health system. These roadblocks are largely artificial – successful implementation would lower or remove these constraints.

In a study on the competency standards of NPs in New Zealand and Australia, NPs noted they often commenced advanced roles in workplaces poorly prepared, and sometimes antagonistic to their introduction (Gardner, Carryer, Gardner, & Dunn, 2006). In contrast, a study by Stenner et al. (2010) on nurse prescribing in diabetes, noted that nurse prescribing when introduced into pre-existing roles, and following a drive for improved service provision, operated in conditions allowing successful role development. Additionally, in an earlier national survey of extended formulary independent nurse prescribers in the UK, Latter et al. (2004) suggested that working within a team context improved nurse prescribing practice, through role support and recognition, supervision, and CPD.

A USA study conducted in a primary care health centre catering to mainly poor Spanish-speaking patients described the role of pharmacist prescribing under collaborative practice agreements for diabetes and comorbid conditions (Leal, Glover, Herrier, & Felix, 2004). Health centre staff were employees of the delivery system and not stakeholders. The study

described this as allowing improved integration of the PP role, which supported delivery of care (Leal et al., 2004). PP-delivered care resulted in statistically significant improvements in patients attaining treatment goals, and in attending recommended tests and examinations (Leal et al., 2004). While this study assessed treatment from only one PP, it supported the idea that employment within less hierarchical settings and greater understanding of patient needs were important to ensure care quality.

A 2009 study on chronic disease management in different primary care delivery models in Canada identified superior chronic disease management as associated with the presence of a NP in community health centres (Russell et al., 2009). These centres employed multidisciplinary teams, with salaried staff, including at least one NP. Health centre practitioners perceived that they had less time-related demand on their practice. That is, in these health centres, practitioners felt more freedom to offer longer consultations involving patient education. This study imparted evidence supporting the idea that practice setting influenced care quality, and that including advanced practitioners into a workplace might influence quality of care. It is reasonable to expect that an appropriate setting is necessary though not sufficient to enable NP and PP role realisation.

The literature substantiates that even when health professionals approach advanced practitioner integration into a workplace with support, there are challenges to do with organisational structures that must be met to grow these roles further.

#### **2.4.4 Summary**

Theory 1 of the advanced practitioner development process described creating a potential solution to changing macro health system influences. It also described changes required to facilitate competent solutions to issues with health workforce supply and demand.

Continuing from this, using extant literature, Theory 2 explored the concept of advanced practitioner role commencement. In response to patient cues, PHC workplaces seek means of delivering care. Introducing advanced practitioners into these workplaces resulted in changes to workplace skill mix and required delineating health professional roles clearly.

Literature often focused on constraints and enablers to instituting these roles into workplaces effectively. These features included relationships between health professionals and the influence of the wider health system. The next subsection explores the third theory of the advanced practitioner development process, long-term sustainability.

## 2.5 THEORY 3: LONG-TERM SUSTAINABILITY

<b>THEORY 3: LONG-TERM SUSTAINABILITY</b>
Patient health outcomes improve and health inequalities reduce with the use of NP and PP services. Job satisfaction attributed to a role as an NP/ PP reinforces continuity of care as improvements in retention occur.

Having considered role creation and commencement, Theory 3 (Figure 2.5) discusses the long-term sustainability of NP and PP roles. In this research, the theory of long-term sustainability fits broadly with the ideas discussed in Bryant-Lukosius et al. (2016) and Bryant-Lukosius and DiCenso (2004) in steps eight and nine of the PEPPA framework. These steps refer to evaluating and monitoring advanced nursing roles and models of care.

Figure 2.5: Long-term sustainability.

Much of the extant research focuses on aspects of long-term sustainability related to quality of care, and patient access to services. These areas define the successful development of roles from policy and practice perspectives. Another aspect of long-term sustainability is health workforce retention. Poor health care provider retention can result in additional health system costs either directly, or through reduced health outcomes. Understanding NP and PP motivation, as seen in their role satisfaction, is necessary to manage the formation and deployment of these prescribers appropriately.

The primary purpose of this research is to explore how advanced practitioner roles develop. As such, this section only briefly discusses patient and provider outcomes of having advanced practitioner roles in an attempt to frame reasons for growing these roles.

### 2.5.1 Monitoring and evaluation

New Zealand has not conducted comprehensive evaluations of either NP or PP roles. However, during the early introduction of NP roles, a ten-year longitudinal study was initiated to evaluate the implementation of the NP model in New Zealand (Trim, 2004). Logistic difficulties in following up NPs over this time prevented the research from completing or reaching any conclusions (M. Finlayson, personal communication, May 5, 2014). While individual practitioners may have monitored and evaluated their practice, at present no complete picture of the development process exists. Gagan, Boyd, Wysocki, and Williams (2014) in their paper on the first decade of nurse practitioners in New Zealand suggested that a lack of clear national NP policy created an inability to ensure systematic long-term monitoring of these roles. The importance of monitoring and evaluation to the long-term sustainability of advanced practitioner roles was a theme Bryant-Lukosius and



DiCenso (2004) explored in their PEPPA framework. They described how assessing implementation assisted in explaining how environmental factors and relationships affected advanced practice nursing implementation outcomes. They suggested that evaluation of roles should consider outcomes related to patient safety and satisfaction, practitioner efficacy, and nurse-sensitive outcomes (that is, those outcomes occurring because of nursing intervention). Several other papers highlighted lack of monitoring arrangements as influencing the ability for practitioners to ensure good clinical governance (Courtenay et al., 2011; Courtenay, Carey, & Stenner, 2012) and for the health system to understand how role implementation occurs in response to macro, meso, and micro system-level dynamics (Edwards et al., 2011). Bryant-Lukosius and DiCenso (2004) also explained that role monitoring is iterative in part to gain an understanding of the influence context has on implementation success.

#### *Economic viability*

Any input into the health system will have costs associated with it. In creating advanced practitioner roles these costs must be balanced with the intended gains of the role. Looking firstly towards costs, these include those related to funding education and workplace roles. Findings in the literature surrounding the economic viability of advanced practitioner roles are few (Buchan & Calman, 2005; Health Education North West, 2015; Hollinghurst, Horrocks, Anderson, & Salisbury, 2006; Horrocks et al., 2002; Martin-Misener et al., 2015). As with much of the literature explored in this chapter, testing the economic viability of workforce roles largely focused on the role of the NP, and not of the PP. Buchan and Calman (2005) in their literature review addressing the issue of skill mix, advanced nursing roles, and policy change in the health workforce reported issues with determining the cost-effectiveness of advanced nursing roles. More recently, in their systematic review of randomised control trials of NPs in primary and specialised ambulatory care roles, Martin-Misener et al. (2015) showed that NPs are cost-effective, albeit within the narrow treatment parameters of the study. Economic evaluations of advanced practitioner roles are complex. They often fail to acknowledge training and preparation requirements as well as differences in remuneration and context-specific expenses (for example in registration costs).

#### **2.5.2 Patient outcomes**

A variety of sources (literature reviews, narratives, individual studies, and randomised control trials) commented on aspects of the care quality delivered by advanced practitioners

(and particularly NPs). Evidence in this area draws a picture that NPs and PPs facilitated patient satisfaction, good patient experience, and equivalent quality of care (Horrocks et al., 2002; Kinnersley et al., 2000; Stanik-Hutt et al., 2013; Tinelli, Blenkinsopp, Latter, Smith, & Chapman, 2013; Venning, Durie, Roland, Roberts, & Leese, 2000; Weeks, George, Maclure, & Stewart, 2016). Similarly, literature points to improved access to health services attributed to the use of advanced practitioner roles (Bhanbhro et al., 2011; Perry, Thurston, Killey, & Miller, 2005). Several randomised control trials of NP care compared to GP care reinforced arguments for improved or comparable patient satisfaction and improved patient knowledge following NP consultation (Kinnersley et al., 2000; Lenz, Munding, Kane, Hopkins, & Lin, 2004; Munding et al., 2000; Venning et al., 2000). A randomised control trial from the UK aimed to compare cost-effectiveness between NPs and GPs in general practice (Venning et al., 2000). The study is generalisable to only non-prescribing NPs working in primary care teams with GPs. It found similar prescribing patterns and health outcomes between patients of each provider group. However, their satisfaction levels with NP care were higher; this difference remained following control of consultation length, which for NP consultations was longer. Health care costs did not exhibit significant differences between providers.

In a small systematic review of advanced nursing roles in primary care, Swan, Ferguson, Chang, Larson, and Smaldone (2015) concluded that these health professionals provided safe and effective care, that was comparable (and at times superior) to medical practitioner care. In a Cochrane review assessing clinical, patient-reported, and resource use outcomes of 46 studies, Weeks et al. (2016) found that advanced practitioners in nursing and pharmacy, although working under different titles and practice restrictions, were able to deliver comparable outcomes to medical doctors in a number of markers of acute and long-term health problems. Furthermore, they demonstrated that advanced practitioners deliver services resulting in comparable patient satisfaction. In relation to resource use outcomes, Weeks et al. (2016) discovered little difference between groups for factors such as patient hospitalisation rates and outpatient visits, but found greater medicines prescribing and intensified drug dosage amongst patients of advanced practitioners.

Literature repeatedly reported patient satisfaction with advanced practitioner services. Latter et al. (2011) also conducted a survey of patient experience with advanced practitioner practice. They found that overall patients expressed approval with advanced practitioner services. Ninety-four percent of 141 patient respondents expressed satisfaction with nurse

independent prescribing services, and 87% of 132 patients were very satisfied with pharmacist independent prescribing services. Additionally, most patients in this study were happy with their involvement in decision-making, and with the level of information that their prescriber gave. In a study of patient satisfaction with services delivered by two specific NPs in New Zealand primary care, Gagan and Maybee (2011) surveyed 193 patients and reported overall patient satisfaction with care and acceptance of NP services. Literature demonstrated that advanced practitioners were generally perceived as having a beneficial impact on care.

### 2.5.3 Role retention

In general, literature posits that NPs and, from a weaker position, PPs, experience satisfaction with their advanced roles (Latter et al., 2011), but may be less satisfied with elements of their work environment. In studying UK advanced specialist nursing roles, including the NP role, Ball (2005) found that on average study participants expressed high satisfaction with their jobs, particularly with their ability to influence patient care, and shape service delivery. Ball (2005) also noted a lack of understanding of roles by others in the health workforce as a source of frustration for advanced nurses. Just under 40% of respondents perceived that their roles were not operating to their full scope of practice, consequently constraining patient benefit. Respondents attributed the existence of this constraint primarily to service under-resourcing from a variety of causes including lack of time either to perform the role or to receive training, funding, and clerical support. In contrast, in one survey of 57 NPs in New Zealand, the results indicated that 80% of research participants felt they operated to their full scope of practice, although interestingly a small minority of the study population explained that they currently operated as registered nurses, rather than NPs (South Island Workforce Development Hub, 2015).

Factors that NPs and PPs derived most job satisfaction from differed between studies. Ball (2005); Kacel, Miller, and Norris (2005); Schiestel (2007); Stenner and Courtenay (2008a) indicated that NPs received highest satisfaction scores from having a sense of accomplishment, autonomy, and challenge in their work. This was reiterated in Brady's (2013) dissertation on NP job satisfaction in Alaska, where the highest levels of job satisfaction were attributed to role autonomy. In this study, feelings of autonomy were attributable to NPs' ability to work independently with full prescriptive authority, and without supervision. Bonsall and Cheater (2008), in a literature review of advanced primary care nursing roles, speculated that confusion over role demarcation might affect job

satisfaction for nurses, and development of advanced roles. Positioning health professionals in roles that fail to use their full scope of practice, may alter their retention within these roles, and contribute to overall workforce shortages.

Studies in the late 1990s further improved understanding of the outcomes of use of NPs. In the area of job satisfaction and retention, Collins et al. (2000) considered the views of nurses and allied health professionals in innovative roles. Their study found that role enhancement might alter workforce retention, either through endowing status and remuneration with advanced roles, or through creating career pathways and team integration. Sixty percent (n=350) of study respondents felt that support, from management and consultants in particular, was important to help work within innovative roles. Communication and autonomy were also factors contributing to role success. Collins et al. (2000) also found that job satisfaction related significantly to feelings of role integration and that, unsurprisingly, low job satisfaction was significantly associated with an individual's intent to leave.

#### **2.5.4 Summary**

The final theory explored in this chapter relates to the long-term sustainability of advanced practitioner roles. As explored earlier (Chapter 1), New Zealand uptake of advanced practitioner roles and training positions has failed to keep pace with initial government expectations. In the case of PPs, this may put their future in doubt. In reviewing extant literature, the following components of long-term sustainability became apparent:

- Advanced practitioners are able to deliver quality, effective, and safe patient care (stronger evidence for NPs);
- Advanced practitioners may improve access to health care services;
- Where advanced practitioners have satisfaction in their roles, this is influenced by practice-specific characteristics and relationships between providers; and
- Research on advanced practitioner monitoring and evaluation is limited. The value of long-term monitoring is related to the ability to 'prove' outcomes and establish a position and policy directive for advanced practitioners as a profession.

Prior to concluding this chapter, the following subsection describes some limitations of literature explored in this review.

## 2.6 LITERATURE LIMITATIONS

Studies examined in this review frequently acknowledged a range of design weaknesses and limitations. Reviewed studies lacked common contextual underpinnings both because of differences between countries, and differences at the practice level. This investigation is in a position to impart a more general perspective on how NP and PP roles develop in different contexts and across multiple PHC sites to deliver outcomes.

Differences due to health system structures, policies, and in practice role development may affect the relevance of literature to the New Zealand setting. For example, in New Zealand, legislation protects NP and PP titles; certainty of a minimum competency for these prescribers exists. NP and PP are generic titles covering different roles in different countries. Role definition is further diluted by a lack of international standards for role regulation (Buchan & Calman, 2005). Studies often afforded only cursory descriptions of environmental influences and intervention development (Bryant-Lukosius et al., 2004). This may be due to changing role structures and prescriber educational requirements (Laurant et al., 2009). It may also be partially attributable to a lack of consistent theoretical frameworks underpinning existing research. Additionally, most research on NP and PP role development did not assess the long-term effect of this process.

Studies failed to discuss the policy development side of instituting advanced practitioner roles into PHC. They lacked 'big picture' contexts (such as a recognition of the effect of PHC workplace performance on decisions to employ advanced practitioners) that may have shaped the development of these roles. Only one study provided a perspective on the process of policy development and subsequent policy and practice action that led to advanced practice nurse (advanced practitioner) development (Schober et al., 2016). Schober et al. (2016) contended that although constructive policy supporting advanced nursing is crucial, there remained inadequate literature demonstrating the way relevant policy processes formed these roles. Having an understanding of how policy action evolved into practice can improve future implementation of these roles. Lack of literature exploring this process created an interstice where this investigation fits to look at how policy intent translates into practice realisation.

Finally, literature often failed to elaborate on the use of NPs and PPs against their full scope of practice. That is, while discussing the ability for NPs and PPs to deliver health outcomes, studies did not explain whether advanced practitioners delivering these outcomes

operated at the upper limits of their competence. Operating to the full potential of a role may not necessarily align with the full skills of advanced practitioners. That is to say, they may work in roles forcing them to work as ‘inefficient resources’. Knowing the features that impair the ability for advanced practitioners to work to their full potential can facilitate future improved use of these resources.

## 2.7 SUMMARY

Overall, Chapter 2 presented a review of advanced practitioner development based on predominantly international research. This literature served two purposes. Firstly, it identified that globally this development process follows pathways with similar constraints and facilitators. From the available literature, I proposed three initial theories explaining advanced practitioner development: (1) role creation, (2) role commencement, and (3) long-term sustainability. The three theories offered a non-exhaustive explanation of how advanced practitioner development occurs. Macro-level health system stakeholders created the potential for these roles; individuals decided to act on this potential and take up positions; and, to ensure the sustainability of these services, monitoring, and evaluation of these roles occurred. A core concept behind each of these theories has been the importance of context in influencing the direction of advanced practitioner development.

The second purpose of this review was to identify the features essential to implementing the potential of advanced practitioner roles effectively. Inconsistencies and constraints impaired the success of this development. In all likelihood, policy created, without an intent to facilitate its use will fail. Literature substantiated key features essential to facilitate this process:

1. the need to align policy intentions with practice reality;
2. the need to operate in an environment that supports NPs or PPs operating to their full scope of practice;
3. a mandate to differentiate the role advanced practitioners play from other roles in the workplace, and from others with similar skills; and
4. continuing monitoring and follow up of these roles to ensure their sustainability.

The first theory explored in this chapter, role creation, considered the impact of macro efforts at health workforce redesign with the introduction of new roles into the health system (NPs and PPs). Studies on health workforce redesign confirmed the importance of features such as legislation, education, and career pathways to facilitate the creation of

advanced practitioner roles. Without these contextual features, there was poor alignment between policy intent and the environment allowing advanced practitioners to achieve this intent. The second theory, role commencement, considered the role that advanced practitioners play within a health care team. Studies on skill mix, relationship building between patients and health providers, and on models of practice, indicated two main points. Firstly, that advanced practitioners, in entering an already established system face other members of this system (health professionals, patients, etc.) who were not always welcoming of an unknown element. In relation to this, literature indicated tensions between members of the health care team, and NPs and PPs due to role overlap and changing roles. Secondly, advanced practitioners operated as both substitutes and complements to other forms of health care delivery, but they may have also operated in roles not fully using their capabilities.

This chapter touched briefly on a third theory: long-term sustainability of advanced practitioner roles. Many publications, particularly around the advanced nurse or NP role demonstrated that these practitioners contributed to patient care through improving access to quality health services. Literature on patient satisfaction consistently reported patient satisfaction with NP and PP services. However, literature also considered that recognition of the potential of advanced practitioner services was required to ensure the sustainable development of these roles. When looking particularly at the PP role, studies suggested that these individuals contributed effectively to care delivery, but these studies were relatively limited in number and often failed to address issues of economic viability. In general, literature established a base from which to recommend advanced practitioner roles as part of health workforce redesign.

NP and PP role development is a complex, dynamic process, due not only to the roles themselves, but also to the various stakeholders, and external influences within the system in which they are formed. The real world expansion of NP and PP policy may produce results differing from ex-ante policy expectations due to the contested environment in which they operate. This may manifest as differences in responses to the role development process and in how advanced practitioner roles function in practice. This chapter sought to reinforce that where responses to role development impaired the ability to deliver patient and provider outcomes as intended, this could result in advanced practitioners failing to operate to their full potential.

## *Literature Review*

The literature explored in this review paints an incomplete picture of advanced practitioner development. Only one study on advanced nurses set in Singapore demonstrated how policy intention translated into practice reality. Research that examines this issue could be beneficial not only to NP and PP role development in New Zealand PHC, but also to other expanded roles in New Zealand and globally. This research seeks to build on the discussion occurring in this chapter to understand the development of advanced practitioner roles.

The next chapter establishes the chosen methodology, research design, and method used to investigate advanced practitioner role development in New Zealand PHC.



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PART B

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### 3 RESEARCH OVERVIEW

In Chapter 2, literature on ‘advanced practitioner development’ positioned this research. It highlighted both the complex process involved in forming these roles and the inherent uncertainty over how best to develop them to realise their potential. However, uncertainty remains over how the development of nurse practitioner (NP) and pharmacist prescriber (PP) roles occurs in New Zealand PHC. This research fills this space, beginning with examining policy aspirations in creating these roles, and concluding with implementing NP and PP roles.

Chapter 3 lays out this research’s methodology, and introduces its research design and methods to provide a reproducible and coherent guide to the research process. In this chapter, the realist approach is discussed based on its philosophical and theoretical foundations, and a rationale for its use is proposed informed by the research questions. Section 3.2 next highlights the influence my background has on the investigation. Chapter 3 then lays out this investigation’s research design and justifies methods of data collection, data analysis, and participant recruitment. These data collection methods include semi-structured interviews, document review, and use of a field log. The chapter concludes by presenting a review of ethical considerations posed in this research.

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### 3.1 PHILOSOPHICAL AND THEORETICAL PERSPECTIVE

Discrepancies exist between the intent of NP and PP roles, and the extent to which the intent is realised (Chapter 2). This research investigates how advanced practitioner role development occurs. Studying this process necessitates understanding the influences shaping it. Advanced practitioner literature reports several contextual features as influencing the formation of these roles. Such features constitute tensions within (1) policy and workforce planning, (2) the overall health system, (3) PHC, and (4) individual practices. The former three systems create a macro-environment, while the fourth shapes the micro-environment in which health professionals operate. Advanced practitioner role development occurs in a complex and active ‘living’ environment with many stakeholders influencing the process. Consequently, this research requires multiple perspectives to explain how this development process occurs. Although the same programme may operate in multiple areas, it will not function identically. As a result, any investigation of this process requires a methodology that captures the impact of stakeholder reasoning and environmental features.

#### 3.1.1 Theory-based designs (realism), constructivism, and positivism

Methodology is the aspect of a research paradigm concerned with how knowledge is gained (Giddings & Grant, 2014). It provides the lens through which to view information. Acknowledging the need to consider the influence context has on advanced practitioner stakeholder reasoning, this research follows a realist methodology, a type of theory-based design. Given the changing nature of policy, and the multiple stakeholders involved in the advanced practitioner development process, this approach is the most appropriate methodology.

The basic tenet behind theory-based designs is that theories capture the core assumptions necessary to explain the way a programme works (Coryn, Noakes, Westine, & Schröter, 2011; Vaessen & Leeuw, 2011). In contrast to experimental designs, theory-based designs account for the fact that interventions occur in non-experimental ‘real world’ (complex) conditions (Pawson et al., 2004). Such designs offer the ability to determine how NP and PP programmes (which in themselves are complex) fare in real-world contexts. Theory-based designs acknowledge that interventions may:

- be deployed in widely varying contexts (for example rural and urban);

- be variable in their content (such as modifying NP or PP roles to individual practice requirements);
- be delivered differently (such as variably applying NP or PP services in different patient cohorts); and
- result in different, perhaps unpredictable, outcomes (Walshe, 2007).

There is much debate surrounding different forms of realism and their grounding in science and social science philosophies (Bhaskar, 2013; Kazi, 2003; Pawson, 2006; Pawson & Tilley, 1997). This debate is beyond the scope of this dissertation. This research's theoretical contributions are aligned with the realist paradigm as described by Pawson and Tilley (1997). For the purposes of this study, realism lies somewhere on the path between constructivist and positivist methodologies (Pawson, 2006). The former theorises that given that all we know has been interpreted through human senses, we cannot know with certainty what reality is. The latter, positivism, follows the principle that there is a real world that we can see and understand directly through observation.

The premise behind a realist approach is that reality exists independently of an individual's understanding of it, but that this reality is processed through individual understanding (Wong, Greenhalgh, Westhorp, & Pawson, 2014). As such, reality cannot be directly measured but can be understood only indirectly (Wong et al., 2013). Under a realist approach, the health system, health policies, PHC workplaces, and the arrangement of those operating within these practices constitute the 'real' world. Stakeholders including individuals in the policy space, patients, and health practitioners may act to effect change within the real world. All programmes "are constituted in complex processes of human understanding and interaction" (Vaessen & Leeuw, 2011, p. 13). Stakeholder experiences of reality are subjective and shaped by their backgrounds, other individuals, and their positions in the NP and PP change process. Realist approaches, therefore, assert that an external reality exists, sorted through the reasoning of individuals, their senses, language, and background (Wong et al., 2013; Wong et al., 2014).

Like positivism, realism abides by the possibility of a single external reality. However, in contrast to positivism, realism recognises that 'contingencies' limit the objectivity of this reality (Befani, Ledermann, & Sager, 2007). Such contingencies exist where the reality of social action relies on the circumstances (context) in which these actions occur (Befani et al., 2007). The value of experimental (positivist) designs to provide generalisability in

complex settings, such as where advanced practitioners operate, is limited (Walshe, 2007). Positivist approaches are less appropriate for revealing the nature of social action, or for understanding experiential data of participant behavioural, cultural, emotional, or social responses (Walsh, Duke, Foureur, & Macdonald, 2007). These designs often overlook the impact context or setting has on programme success or failure.

The basic model of experimental design involves an intervention given to one cohort, and not to another 'identical' control cohort. Pre-and post-intervention data from the two cohorts allow differences to be attributed to the intervention. In attempts to manage biases, often allocation to cohorts is random and research subjects do not know the cohort to which they belong. Experimental designs may inform understanding of whether interventions work in trial conditions through explaining observed correlations or associations within data. Yet, such positivist approaches are less useful in explaining mechanisms behind how and why programmes work within open systems where there are uncontrolled inflows and outflows, or where multiple contexts operate, such as within PHC. In contrast, the realist approach generates theories explaining the effect these components have within a system. These theories inform understanding of policy and practice decisions.

Like the chosen realist methodology, the constructivist worldview recognises the value of individual perspectives. However, this worldview lacks objectivity and as such does not distinguish one position as offering more than another offers. Following constructivist philosophy, it is not possible to ascertain the true nature of reality (Westhorp, 2014), as reality differs for each individual (multiple realities exist). Overall, constructivist approaches have limited ability to establish causal relationships between programmes and their outcomes; comprehension of subjective reality cannot be improved. In contrast, realism posits that an external social reality exists that influences human behaviour (Wong, Pawson, & Owen, 2011). This reality cannot be directly measured, but can only be indirectly known (Wong et al., 2013). Realism holds that the 'real world' constrains the interpretations we can reasonably make of it and, therefore, perception of this reality can be improved (Wong et al., 2012). In terms of this research, using a constructivist approach could have limited the ability to ascertain how development of advanced practitioner roles occurs. Instead, a realist approach allows knowledge of reality to accrue with insights from different perspectives.

The subject matter of this research is NP and PP development. A realist approach views these programmes as ‘theories incarnate’ (Pawson & Tilley, 2005), meaning that whenever a programme is implemented there are theories explaining how the implementation occurred. This methodology is compatible with programmes where stakeholder action and interactions influenced by context (social and organisational norms) determine outcomes. The realist methodology is, therefore, particularly appropriate to appraising advanced practitioner development. Section 3.1.2 lays out key components of realist inquiry.

### 3.1.2 Realist research and their components

Realist appraisals of programmes shift focus from whether programmes achieve outcomes, to questioning within contextual constraints *how* they achieve outcomes. This requires an understanding of how programme participant behaviour influences outcomes in light of contexts. When viewing causal pathways from a realist perspective, a *generative* logic of causality applies where contexts ‘trigger’ (cause to have effect, turn on, modify) underlying causal mechanisms, explaining outcomes (Pawson et al., 2004, 2005; Pawson & Tilley, 1997; Vaessen & Leeuw, 2011; Wong et al., 2013). The generative logic sees outcome patterns forming when different mechanisms trigger or fail to trigger because of context. This differs from experimental designs that suggest programmes passively affect participants, causing outcomes independent of the reasoning of individuals. Fundamental principles of the realist approach include *context*, *mechanism*, and *outcome* that together form configurations offering a generative causal explanation.

#### *Context*

Advanced practitioner role development is a complex programme, operating within evolving and established social milieus (aspects of which form the *context*). The ability for programmes to prevail is contingent on these contexts triggering mechanisms (see below) (Jagosh et al., 2012). Context can include features such as infrastructure, institutions, and interpersonal relationships, and may also be specific to individuals (Pawson, 2006). Contextual features in varying combinations may enable or constrain a programme by modifying whether mechanisms trigger. Pawson (2002) further elaborates that programme complexity and differences in context mean that a programme that is effective in one environment, may fail in another. This reemphasises the importance of knowing how programmes operate within contextual constraints to determine where, how, and for whom they best work. In identifying the effect context has on advanced practitioner role change, sub-question (a) (page 7) of this research can be answered.

### *Mechanism*

Health care programmes do not act on passive recipients (Blamey & Mackenzie, 2007). Rather, *mechanisms* are the processes occurring because of particular contexts that generate outcomes (Astbury & Leeuw, 2010; Pawson & Tilley, 2004). Mechanisms explain how a programme generates an effect. Under certain contextual restrictions, mechanisms trigger in the reasoning of individuals or groups, leading to outcomes (Astbury & Leeuw, 2010; Pawson, 2002). Mechanisms may remain dormant under other conditions. Knowledge of how programmes work accumulates when the same mechanism is linked to the same observable outcome, and in the absence of this mechanism, the outcome fails to occur.

Hedström and Swedberg (1998) group mechanisms as situational, action formation, or transformational; the general principles behind these mechanisms are:

1. changes occurring at the macro (overarching) level;
2. result in changes in the behaviour of individuals (micro level); that
3. result in changes at the macro level.

*Situational* mechanisms operate as macro-to-micro conversions (1 to 2 above) (Hedström & Swedberg, 1998). These mechanisms explain how situations or events at the macro level shape participant behaviour (Astbury & Leeuw, 2010). *Situational* mechanisms operate at the policy and workforce planning stages. *Action formation* mechanisms operate at the micro-micro level (2 above), and describe how individual desires generate action (Hedström & Swedberg, 1998). Such mechanisms operate in individual primary care practices. *Transformational* mechanisms cover micro-to-macro levels (2 to 3 above) and describe how the actions of individuals lead to higher-level outcomes (Hedström & Swedberg, 1998). In this research, mechanisms reveal causal chains describing the advanced practitioner development process beginning at the macro policy level, and ending in the micro practice environment. This part of the methodology helps answer sub-question (b) (page 7).

### *Context-mechanism-outcome configuration*

As mentioned above, contexts allow different mechanisms to trigger. Realist approaches explicitly focus on the iterative and cumulative testing and refinement of theories, with generative mechanisms establishing causal relationships (Blamey & Mackenzie, 2007). Context-mechanism-outcome (CMO) configurations provide the causal connections explaining how programmes operate (Pawson, 2006). That is, how cascades of



mechanisms triggering amongst populations due to specific contexts give rise to programme outcomes (Pawson, 2006, 2013; Pawson & Tilley, 2004; Wong et al., 2014). Outcomes of one configuration may be contexts for other configurations (Astbury, 2013). This knowledge can allow programme targeting to specific contexts to meet policy objectives (Pawson & Tilley, 2004). This part of the methodology assists in answering sub-question (c) (page 7).

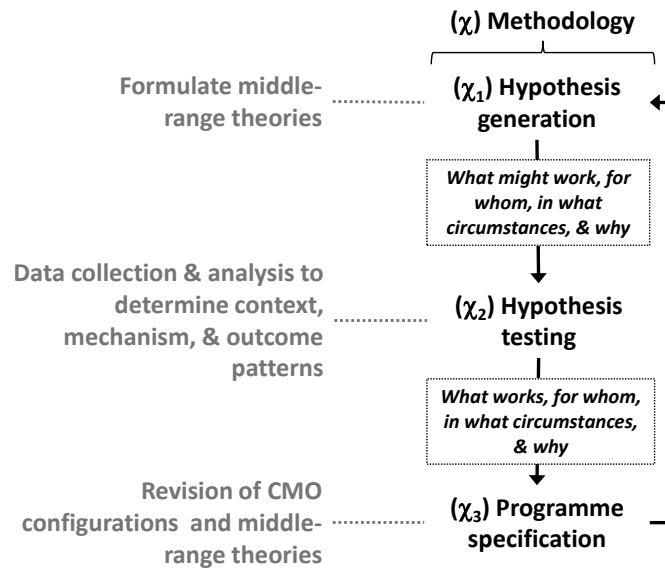
#### *Middle-range theory*

The products of realist study are middle-range theories that, in this research, explain the advanced practitioner development process. These theories present a set of generalisable statements explaining how a programme works. Following an iterative approach comparing multiple CMO configurations (Blamey & Mackenzie, 2007; Jagosh et al., 2012), this research generated candidate and refined middle-range theories (see section 3.3.2, 'Data analysis'). Middle-range theories "lie between the minor but necessary working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain the observed uniformities of social behavior, social organization and social change" (Merton, 2007, p. 448). These theories are iteratively tested with observable data and are general enough to apply across different domains, but specific enough to form hypotheses (Wong et al., 2014). The transition from CMO configurations to middle range theory denotes a move to more generalisable theory (Byng, Norman, & Redfern, 2005). The refined theories deliver nuanced patterns of programme success and failure (Pawson & Tilley, 2004); therefore, they may impart transferable characteristics of how and why programmes work. This part of the methodology informs the overall research question (page 7).

Wong et al. (2012) described realist research as not proving whether a middle-range theory is correct, but rather as producing "explanations which: (i) plausibly account for observed patterns in the data; (ii) accommodate... the range of contingencies and exceptions found, and (iii) fit closely and build on current best understandings" (p. 93). In this research, as part of an iterative explanation building process, multiple methods and data sources were used to produce explanations of how advanced practitioner roles change (section 3.3). The middle-range theories formed are the product of multiple CMO configurations representing combined perspectives across the field of advanced practitioner role development.

### 3.1.3 The realist research cycle

Realist research processes involve conducting empirical research to uncover, select, and refine middle-range theories. Figure 3.1 illustrates the realist approach cycle, adapted from Pawson and Tilley (1997). The figure shows the iterative creation of theories.



**Figure 3.1: Realist approach cycle.**

The cycle has the following three main steps:

1. Hypothesis generation ( $\chi_1$ ) involves eliciting and formalising middle-range theories and reshaping CMO configurations as hypotheses for testing (Marchal, van Belle, van Olmen, Hoérée, & Kegels, 2012; Ogrinc & Batalden, 2009; Pawson & Tilley, 1997, 2004). Hypothesis generation advances an initial idea of what might work, for whom, and in what circumstances. It is during this step that this research generated initial theories from available literature (Chapter 2).
2. Hypothesis testing ( $\chi_2$ ) involves collecting and analysing data for outcome patterns and then testing these against hypothesised CMO configurations. The purpose of testing these configurations against the collected data is to determine whether initial theories sufficiently explain observed outcome patterns (Pawson & Tilley, 2004).
3. Programme specification ( $\chi_3$ ) involves assessing, interpreting, and then refining CMO configurations found during hypothesis testing. From this, refined middle-range theories form (Westhorp, 2014). These theories explain what works, for whom, in what circumstances. They can become the basis for future inquiry, forming a realist approach cycle. Each cycle iteration improves interpretation of programme reality.

The realist methodology captures programme complexity by offering a way to discern it through the interplay of contexts, underlying mechanisms, and outcomes. Theory formed in this way may be transferable to other settings, imparting direction for similar future programmes. A discussion regarding the rationale for using the realist approach (section 3.1.4) and a brief treatise on the reproducibility of such an approach (section 3.1.5) follows. Chapter 7 further elaborates on challenges and limitations of the realist approach.

#### **3.1.4 Rationale for using a realist approach**

The programme under study is complex and dynamic with many stakeholders and functional parts. These stakeholders see the underlying logic of advanced practitioner programmes from differing perspectives and within differing contexts (Marchal et al., 2012). The realist approach is increasingly used when evaluating complex programmes or systems (Marchal, Dedzo, & Kegels, 2010; Pawson & Tilley, 2004; Wong et al., 2013). PHC NP and PP roles are constructs of their surroundings. That is, individual primary care workplaces employ advanced practitioners in a variety of roles influenced by policy, practice and population needs, and environmental conditions. The complexity of the PHC system with its numerous inter-relationships influences how new roles grow and the extent to which advanced practitioners deliver PHC services. In drawing attention to underlying middle-range theories, this research may improve generalisable explanations of advanced practitioner role development. This can provide practitioners with directions on how to modify programmes based on circumstance, population, and setting to meet patient needs better. From a policy perspective, knowing where and how resources (advanced practitioners) are employed imparts guidance on how most efficiently to allocate these resources.

#### **3.1.5 Realist approach reproducibility**

Since all conclusions are contextual, limitations to the realist approach broadly relate to problems in result reproducibility and generalisability (Pawson et al., 2004, 2005), a problem not limited to realist investigations. Future programmes may not evolve in the same manner as current programmes. Similarly, existing programmes, which run within complex, real-world circumstances, evolve due to unobserved features. This research, while able to offer theories of how advanced practitioner role change currently occurs in New Zealand PHC, may not be directly applicable to programmes operating in different circumstances. However, the theories generated in this research offer insights of value for

future programmes that bear a ‘family resemblance’ to the evaluated programme. Pawson and Tilley (2004) argue that although realist research does not explore all eventualities, it does allow for greater mastery of theories than other methodologies. Realist approaches, by working at the level of theories, tend to be applicable to interventions sharing similar traits across organisational boundaries (Pawson & Tilley, 2004). Thus, this research does not intend to confirm causative relationships, but rather it offers insights and greater confidence in patterns of advanced practitioner change across different PHC practices and the health system. This is pertinent from both policy and practice perspectives.

The following section explains my position in this research. Following this, section 3.3 describes the methods followed in evaluating the development of advanced practitioner roles. In so doing, section 3.3 refers to the realist approach as it influences data collection and analysis strategies. Finally, section 3.4 outlines some ethical considerations particularly pertinent to this research.

## 3.2 THE RESEARCHER

Using a realist approach requires that, as a researcher, I recognise how my observations and analysis may influence the direction theory creation and refinement takes. We all have preconceptions based on professional and personal learnings. Throughout the research process, I have actively reflected on findings in light of my own experiences and beliefs. Mays and Pope (2000) describe such practices as being reflexive. Reflexive practices act as a quality assurance mechanism (Pawson et al., 2005; Rycroft-Malone et al., 2012), beginning during research planning, and continuing throughout the study.

In this research, these quality assurance mechanisms have involved assessing research questions against my own preconceived biases. I am a pharmacist and a past and present member of various Pharmaceutical Society of New Zealand (PSNZ) regional boards. These roles have emphasised the importance of maintaining workforce competence through working in environments that allow individuals to expand their full scope of practice. Such roles have also reinforced the need to protect and work collaboratively with potentially vulnerable patient populations. As a pharmacist, I actively reflect on my practice and outcomes achieved from interventions I deliver. I have continued to use this skill and awareness in this research. As such, at each research step, I have reflected on the extent to which my experiences might affect results.

Research participant perspectives affect the direction research takes. Stakeholders are sources for ascertaining and refining middle-range theories, and determining how programmes work (Pawson & Tilley, 2004). Several distinct positions exist in the debate over growing advanced practitioner roles. For example, the Editors of the New Zealand Medical Journal speculated that independent nurse prescribing would “inevitably increase fragmentation of care and stifle inter-professional cooperation” (2000, p. 411). Moreover, Moller and Begg (2005) voiced disapproval for independent nurse prescribing, considering the nurse training and knowledge base to be insufficient to ensure appropriate diagnostic skills. Research participants are not all knowing, but rather they respond to tested theories (Pawson & Tilley, 2004). This research used parties across the spectrum of opinion to form a picture of advanced practitioner role development. At the data collection and analysis steps, reflexive practices then involved checking and rechecking coding of participant interviews to reflect their views accurately. As part of this process, research participants had opportunities to review both information they supplied and summaries I created of their interviews. This ensured that theories incorporated participant inputs and were not purely artefacts of researcher preconceptions (page 70).

I share a similar educational background to individuals participating in this research. This acted as both a boon and burden. As a pharmacist, I communicated with other health professionals as colleagues (I am able to ‘talk the talk’), possibly resulting in improved access to advanced practitioners and greater acceptance from these practitioners (Corbin Dwyer & Buckle, 2009). Similarly, patients trusted that I not only recognise their concerns, but that I also operated with empathy and integrity.

On the other hand, my background meant that I may unconsciously not investigate perspectives that other researchers would investigate, as I may have made assumptions regarding workplace culture (Asselin, 2003). I have maintained a field log documenting the steps taken during this research. The field log was used to record features not necessarily referred to in participant interviews, and to record my thoughts and observations before and after these interviews. It also served as ancillary information for this research, as discussed on page 74. Secondly, to mitigate the effect of these blind spots, I discussed my research with my supervisors, who bring their own (non-pharmacist) perspectives to this research. These discussions served to challenge potential theories formed throughout my research.

Manzano (2016) stated that in realist research evaluators do not take insider or outsider perspectives in evaluating a programme. Realist research operates from the perspective of generating and refining theories. Arguably, having commonalities with the study population presented an opportunity to refine theories emphasised by research participants more clearly. I share certain characteristics with other health professionals, but I am not an advanced practitioner. This may mean participants felt they could discuss issues that they were unable to discuss with their colleagues or usual health professional (Bonner & Tolhurst, 2002). This research refines theories of advanced practitioner role development. It does not take an insider or outsider perspective. However, in conducting interviews with research participants invariably having mutual understanding of concepts assisted in building knowledge of theories under discussion. It also assisted in identifying the many stages of advanced practitioner development.

### 3.3 RESEARCH DESIGN AND METHOD

The questions posited in this study are exploratory and guide a choice of methodology to uncover, select, and refine underlying middle-range theories. This approach informs choice of research design and method (Figure 3.2). In refining these theories this research can identify policy caveats and considerations altering future advanced practitioner roles.

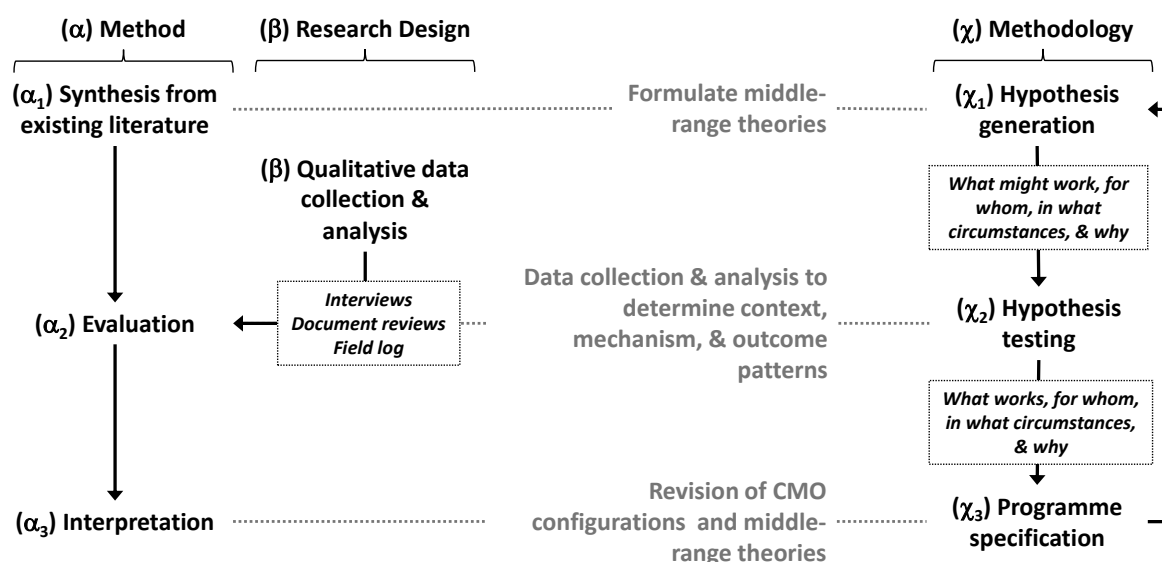


Figure 3.2: Linking methodology, research design, and method.

As laid out in Figure 3.2, this research uses a qualitative research design (β). The rationale behind this design is that qualitative data collection and its subsequent analysis grant a broad appreciation of participant views (Bazeley, 2013). These individuals operate at

different steps in the development process. They can proffer insights into how a programme fails or succeeds in the delivery of outcomes. By researching cases of advanced practitioner development, qualitative research also allows the impact of settings or contexts on individual cases to be clearly articulated (Bazeley, 2013). Consequently, the data offers a glimpse of emergent theories and CMO configurations. Additionally, in soliciting the experiences of multiple sectors, such data allows for elaboration on outcomes and consensus on conjectured configurations. The use of qualitative research techniques captures the diversity of reasoning at different levels of advanced practitioner development. This offers depth to refined middle-range theories.

This research initially involves a synthesis ( $\alpha_1$ , Figure 3.2) of existing literature to generate middle-range theories. These theories offer a general perspective on the advanced practitioner development process (Chapter 2) and act as a backdrop against which to position this study through the creation of an initial theoretical framework. The research then assesses advanced practitioner formation in New Zealand PHC ( $\alpha_2$ ). This involves multiple methods (interviews, document review, and field logs) that collectively offer the ability to verify results, thereby improving internal validity. Following data analysis, data interpretation ( $\alpha_3$ ) permits revision of middle-range theories.

This research follows discrete steps, each of which has one or more supporting methods, which, in turn, inform construction of more refined middle-range theories. As a health professional and researcher, bringing issues of ethical conduct to the forefront of my research is important. From the outset, the PCNZ Code of Ethics 2011 guided my behaviour. The Code captures the “responsibilities and professional values that are fundamental and inherent to the pharmacy profession” (PCNZ, 2011a, p. 1). This meant that where necessary, I considered both clinical questions posed by participants, and issues of (1) informed consent, (2) privacy of information, and (3) population benefit from this research. Section 3.4 explores these issues.

Table 3.1 summarises the method used in  $\alpha_2$ . Sections 3.3.1 and 3.3.2 examine and justify data collection and analysis strategies respectively. Chapter 7 lays out challenges and limitations of the research methods.

**Table 3.1: Method overview.**

Steps	Method
<i>Data Collection</i> (section 3.3.1)	<ul style="list-style-type: none"> <li>• Literature synthesis;</li> <li>• Theory-driven one-to-one interviews in person with policy stakeholders, advanced practitioners, GPs, and patients or carers;</li> <li>• Document review; and</li> <li>• Field log kept during interviews.</li> </ul>
<i>Data Analysis</i> (section 3.3.2)	<ul style="list-style-type: none"> <li>• Computer-assisted analysis against initial theories with coding for context, mechanism, and outcome.</li> </ul>
<i>Interpretation</i> (section 3.3.2)	<ul style="list-style-type: none"> <li>• Refining middle-range theories to offer recommendations for future studies, and policy and practice changes.</li> </ul>

### 3.3.1 Data collection

Realist approaches are method-neutral or pluralist (Pawson & Tilley, 2001). Building on Marchal et al. (2012), and supporting Salter and Kothari (2014), in a brief review Manzano (2016) determined that amongst 40 realist evaluations the majority combined multiple qualitative methods to answer their chosen research questions. The most common methods were semi-structured interviews with document analysis and ethnographic observations. Section 3.3.1 details methods of data collection used in each step of this research between December 2015 and October 2016.

#### *Synthesis*

The first research step ( $\alpha_1$ , Figure 3.2) involved theory building based on ideas present in literature, policy, and in planning documents. Collectively these documents imparted the tools to form initial middle-range theories. This wealth of information may not have been otherwise attainable solely from key participant interviews in a realist evaluation (Pawson & Tilley, 1997). Furthermore, purposive literature and document sampling in this synthesis step allowed examination of specific characteristics of initial and evolving middle-range theories (Pawson, 2006). Iterative literature sampling was undertaken as theoretical knowledge grew through, for example, theory revision in later research steps.

Literature used in this synthesis was selected to examine programmes that have a ‘family resemblance’, that is, they have similar underlying theories for how they operate (Pawson, 2002, 2006). This provided the ability to compare whether mechanisms triggered in similar



programmes operating in different contexts. The reviewed papers had their contexts, mechanisms, and outcomes studied. The synthesis process stopped when evidence was sufficient to impart plausible theories, and additional evidence did not enhance understanding of NP and PP development in PHC (Pawson et al., 2005). Following this synthesis, I was in a position to begin a realist investigation of New Zealand NP and PP role development.

Policy documents obtained under the Official Information Act 1982 provided background on the chronology of advanced practitioner development, and allowed theory refinement reflecting New Zealand specific changes. I made requests for these documents to the MOH (including Health Workforce New Zealand; HWNZ). I also made requests to DHB Shared Services (now CentralTAS), a group responsible for providing support to the nation's DHBs. I sought further information from the NCNZ, the PCNZ and their respective societies and associations. These documents contained nuggets of wisdom on the way policy was created to begin the development of advanced practitioner roles in New Zealand. They reported perspectives on how the Government anticipated NP and PP roles to grow, with a particular focus on potential context influencing this process. Documents that are more recent afforded the ability to begin questioning why the process did not occur as anticipated. These documents, therefore, offer some consideration of the generative mechanisms influencing advanced practitioner development. That is, because they show the development of advanced practitioner roles from initial conception to present day, they demonstrate how the process has changed over time (that is, 'we expect this to be done') and offer reflective reasons for why (that is, 'if we do 'x', 'y' will happen, because...') (Westhorp, 2014). Building on the literature review in Chapter 2, Chapter 4 presents an initial refinement of theories using these documents.

#### *Semi-structured theory-driven interviews*

Greenhalgh et al. (2009) in their realist study of whole-system interventions in health care noted that the pursuit of rigour in realist research adopts many of the principles of interpretive case studies. Stake (1995) described the importance of defining and justifying the case under study. Factors worthy of consideration in this process included the systematic collection and analysis of information, reflexivity by both research participants and researcher, and the iterative creation of theories as data became available.

Realist research works under the principle that stakeholders contribute diverse perspectives because of their roles in a programme. In the case of this research, NP and PP development is subject to the reasoning, choices, and resources of those likely to use, and affect change in, these programmes. Any investigation should consider the opinions of stakeholders and their ability to contribute judgements to forming CMO configurations (Pawson, 1996; Pawson & Tilley, 1997). Pawson and Tilley (1997) explained that each component of CMO configurations (context, mechanism, and outcome) required gaining insight from different types of research participants. The methods used in this research facilitated the collection of participant knowledge and contributed to theory building.

Interviews emerged as the best data collection method to capture these opinions. In addition to methods discussed on pages 73 (Document review) and 74 (Field log), this research consisted of two rounds of qualitative semi-structured face-to-face interviews. Individuals from training, policy, regulatory, and union sectors participated in the first round of interviews. Manzano (2016) indicated that interviewing individuals in these areas was appropriate for bringing together initial theories. The tacit knowledge of these individuals regarding advanced practitioner development helped in interrogating initial theories. Furthermore, these interviews offered a point around which CMO configurations could take shape and be further refined in subsequent interview rounds.

The second round of nationwide data collection involved interviews with NPs, PPs, GPs, patients, or, in the case of individuals who are unable to give consent, individuals responsible for their care. One PP interview occurred during the policy interview round. This was not intentional, but the PP was available only during this time. Individuals interviewed in this round operated at various points along the continuum of advanced practitioner formation – from initial employment and collaborative working arrangements to delivery and receipt of care. Manzano (2016) contended that interviewing ‘frontline practitioners’, such as NPs, PPs, and GPs, offered insight of programme constraints and facilitators from different experiences following top-down programme implementation.

In contrast, patients and carers were more likely to be sensitised to outcomes of the advanced practitioner development process. Although Manzano (2016) identified that, to build theories from policy to practice, this group should be interviewed separately, in my research budget constraints in most cases prevented repeat visits to regions.

The value of the two interview rounds lay in being able to test and refine emergent middle-range theories. Interviewing a purposively selected population, selected based on their knowledge of the programme under study and via snowball sampling, created an information-rich sample (Patton, 2002). These participants either possessed specific knowledge (Mays & Pope, 1995; F. J. Smith, 2010) of the advanced practitioner process, or they ‘lived’ (Mays & Pope, 1995) the change process (advanced practitioners, patients, and others in the health workforce). Sampling these groups provided a theoretically informed sample, each group of which offered knowledge of different CMO configuration components necessary for theory building. This was where the scientific validity of the chosen sampling procedure rested (F. J. Smith, 2010).

#### CASE SELECTION AND RECRUITMENT

This section describes case selection and recruitment for both interview rounds described above. Leading on from this, the remainder of the chapter justifies the use of a realist semi-structured interview approach, considers other data collection and analysis methods used in this research, and discusses pertinent ethical considerations. Later, section 4.1 discusses attributes of the interviewed population.

#### **Training, policy, and advocacy (TPA) sector individuals**

This investigation used purposive and snowball sampling strategies, forms of non-random sampling, to select policy participants. Key TPA interviewees worked across government, responsible authorities, health professional representative organisations, and tertiary training institutes. These organisations have played a part in instigating the creation, direction, and change of advanced practitioner roles. The stakeholders interviewed are unlikely to be representative of the whole NP or PP policy sector. Rather, these interviewees give informed opinions on NP and PP role development from differing perspectives. For example, reflecting differences in organisation purpose, individuals from responsible authorities held differing theories from their government counterparts on the development of these practitioners.

By virtue of their position and experience, these stakeholders have broad knowledge of NP or PP roles and could discuss general middle-range theories. As a rule, policy interviewees may also have had knowledge from similar programmes in which they have been involved (Manzano, 2014). Specifically, these stakeholders imparted knowledge on (macro) contexts and underlying situational mechanisms operating during policy creation. These individuals

were often not able to provide strong perspectives on the in practice use of advanced practitioner roles or the outcomes NPs and PPs deliver. The particular benefit of policy interviews was in forming theories of role creation.

I initially contacted participants via email requesting an interview. Attached to the email was a participant information sheet (Appendix 1: Information Sheets). Where necessary, I followed up my request via email after one week and via phone after an additional week. In most cases, participants responded promptly, at which point a mutually agreed time was set for interview. Prior to interviews, participants received and signed a copy of the research consent form (Appendix 2: Consent Form). If policy stakeholders declined to participate, I invited them to propose an alternative individual from the policy sector with knowledge of advanced practitioner role development.

### **Advanced practitioners**

Advanced practitioners working in New Zealand PHC or across both primary and secondary care participated in one-to-one interviews. These individuals offered perspectives on ‘in practice’ advanced practitioner roles and commented on wide-ranging contexts. They also discussed their journey towards becoming advanced practitioners. This provided background on how their roles formed. Advanced practitioners, being the principal agent of the development process, were aware of mechanisms affecting their role formation. More broadly, from a realist perspective, these practitioners supplied knowledge of all three key aspects of theory building (context, mechanism, and outcome).

The PHC advanced practitioner cohort in New Zealand is small. I enlisted support from the following groups to recruit NPs and PPs:

1. Nurse Practitioners New Zealand, a New Zealand nursing organisation representing and advocating for NPs (College of Nurses Aotearoa New Zealand, 2013);
2. Clinical Advisory Pharmacists Association, a New Zealand pharmacy organisation supporting clinical, academic, and consultant pharmacist members (Clinical Advisory Pharmacists Association, n.d.); and
3. the PSNZ.

Each organisation agreed to send an invitation and information sheet describing the research to their member NPs or PPs (Appendix 1: Information Sheets). Advanced practitioners who were not members of these organisations did not receive this invitation. I originally approached NP and PP responsible authorities (the NCNZ and the PCNZ

respectively) for assistance in contacting advanced practitioners. These authorities have complete lists of NPs and PPs. However, both responsible authorities declined to assist; the former citing a change in core business focus, and the latter an inability to release contact information to Victoria University of Wellington.

Having facilitated initial contact, advanced practitioners then contacted me to indicate their willingness to participate. We then discussed their potential research involvement. Participating advanced practitioners began selecting GPs, and patients or carers for interview. Following recruitment of these participants, we agreed an interview time.

#### **General practitioners**

General practitioners (GPs) approached for this research had experience working with NPs or PPs. They contributed a perspective primarily focused on the contexts influencing advanced practitioner role change in their workplace. They were also able to comment on the outcomes of this process.

Advanced practitioners preferentially selected a GP with whom they had the most contact either in their current practice, or in a recent past workplace. If these GPs were unwilling or unable to participate, the advanced practitioner then selected another GP who provided the NP or PP with peer review. Advanced practitioners supplied their selected GP with the relevant information sheet (Appendix 1: Information Sheets). Having received the GP's initial consent, I made contact with them to confirm participation and arrange an appropriate interview time.

#### **Patients and carers (PC)**

Advanced practitioners provide services to patients and their carers. These participants offered perspectives on NP and PP role formation and perceived value. The primary benefit of patient interviews to this research surrounded their knowledge of advanced practitioner-delivered patient outcomes. To a lesser extent, this research found that some patients and carers also acknowledged the effect of context on their care delivery and were able to highlight mechanisms changing parts of the NP or PP programme.

Advanced practitioners helped recruit patients and carers for this research. These practitioners determined whether their patients were sufficiently medically fit to give informed consent and to undertake a face-to-face interview. Patients were all:

- over the age of 18 years (patients younger than 18 years may not be able to give informed consent, or understand the interview topic);
- current patients of advanced practitioners (having had advanced practitioner treatment at least once in the past year). These patients are likely to be more familiar with their NP or PP; and
- not acutely ill or facing extenuating family circumstances, as judged by their advanced practitioner.

Where patients were under 18 years or otherwise unable to consent to participate in this research, then the parent, guardian, or other individual or organisation hiring advanced practitioner services was instead asked to participate in this research.

Recruitment involved asking each interviewed advanced practitioner to generate a blinded list of patients (and their carers) meeting the above selection criteria from their daily appointment register. From this list, either the advanced practitioner or I randomly selected one potential participant each day for up to four consecutive working days to participate in an interview. This ensured that for each NP or PP there were four possible participants involved in the research. In some cases, due to the nature of the advanced practitioner's role, selection of four participants was not possible. For example, where the advanced practitioner treated a small patient population or a population unable to consent for themselves, then the number of patients or carers approached for interview was reduced to an agreed number that more closely reflected the potential population available for interview. Additionally, not all advanced practitioners agreed to participate in patient recruitment. At least nine of the interviewed NPs and five of the interviewed PPs indicated initial agreement to recruit patients or carers. Practitioners then supplied these patients or carers with a letter inviting them to contact me, an information sheet describing this research, and a consent form (Appendix 1: Information Sheets and Appendix 2: Consent Form). Upon patients or carers facilitating initial contact, I confirmed their understanding of the research and we agreed an interview time.

#### REALIST SEMI-STRUCTURED INTERVIEWS

The researcher's role is to help research participants interact with the conceptual programme structures (Pawson, 1996) based on the researcher's theories (Manzano, 2014). This means that researcher and participant together uncover proposed conceptual structures under examination. Participants then make "an informed and critical account of them"

(Pawson, 1996, p. 313). The interviewing process involved following up inconsistencies in participant responses (F. J. Smith, 2010), and asking participants to elaborate further on statements made. The interview guides (Appendix 3: Interview Guides) also provided prompts intended to highlight hypothesised theories deduced during the literature review. This, combined with questions designed to understand how advanced practitioner role development differed from initial expectations, offered a basis for refining theories.

Participants had the opportunity to explain and clarify their thinking during the interview process. These interviews, aided initially by literature synthesis, allowed key contextual features and mechanisms to emerge. Pawson and Tilley (1997) described interviews using a realist approach as a form of idea exchange so that interviewees can iteratively confirm, disprove, or refine theories. Interviews were semi-structured and used open-ended questions to give participants the opportunity to elaborate on their experiences. These experiences illuminated the varying processes and outcomes inherent in a programme (Patton, 2003). As such, middle-range theories explaining the advanced practitioner development process remained the central focus of these interviews.

Realist interviews follow a teacher-learner cycle (Pawson, 1996). The role of interviewees is to validate and refine theories (Manzano, 2016). Pawson and Tilley (2004) described the teacher-learner cycle as involving teaching interviewees about hypothesised theories so that they can “summon responses which speak in relevant ways to CMO configuration..., having learned the theory under test... [interviewees are] able to teach the evaluator about those components of a programme in a particularly informed way” (p. 12). In general, semi-structured interviews are information-rich, as interviewees can explain relevant topics in their own words (B. Matthews & Ross, 2010) and the interviewer is free to probe and ask questions relevant to the topic of interest (Patton, 2002). This is an advantage over structured interview approaches. Such structured approaches may prevent participants from expressing their views on issues and experiences, and constrain their ability to contribute to theory refinement (Pawson, 1996). In terms of this research, using a structured interview approach may have limited the ability to explore or recognise mechanisms underlying programme processes. Furthermore, it may have limited the ability for interviewees to participate as a ‘teacher’ of hypothesised theories. Consequently, this research used a semi-structured interview format.

The advantage of semi-structured over entirely unstructured interviews is that they attempt to ensure consistency across interviews (B. Matthews & Ross, 2010; Patton, 2002). An unstructured interview by its very nature reduces the reproducibility of results. This may result in inadvertently ignoring topics otherwise covered in a structured or semi-structured interview and may mean that interviewees fail to recognise hypothesised theories. It may also mean that comparing information provided by participants is difficult (Pawson, 1996).

I chose to follow a semi-structured interview approach using a teacher-learner cycle. The following extract from one of the conducted interviews illustrates the teacher-learner cycle and how individual cases can be used to refine middle-range theories:

*Interviewer:* That's exactly what others have said. They've said I want to come at it from a nursing perspective, as you say a holistic perspective, but my workplace won't allow me to operate as I would like to. Do you agree with that?

*Interviewee:* They've been supportive here. Initially, she said if you have a GP registrar, they have half-hour slots until they get faster or whatever. Then, a few months back they said let's try to do it so you have 15-minute slots and then a 15-minute catch-up, so seeing three patients in an hour. But the thing is, many of the patients come in, they're brand new patients to me, I don't know them... When they come in, because of my skill set, the patients that were being booked into my clinic are complex, highly comorbid patients. I was really, really struggling to fit it into that, even if it was going with that biomedical model approach.

Supporting comments made by Manzano (2016) and Pawson (1996), the example above shows how the interviewee reacted and refined tentative theories (in this case related to models of practice) proposed by the interviewer. Acting as teachers, interviewees had expertise in different parts of the development process. As more individuals participated, comparisons were made and theories refined. As a result, this informed understanding of how advanced practitioner role development occurs.

The final semi-structured interview guides resulted after reviewing literature on interview techniques and qualitative interviews (Mays & Pope, 1995), realist interview approaches (Manzano, 2014; Pawson, 1996), pilot interviews, and after consultation with individuals proficient in qualitative research techniques. Prior to pilot interviews, my supervisors, the



Victoria University School of Government Research Committee, and the Victoria University Human Ethics Committee approved use of these interview guides.

Pilot interview data was not included in final data analysis, but resulted in slight changes to introduction questions and interview prompts. Each interviewed group (for example, GPs, or advanced practitioners) participated in interviews that used different interview guides, except for patients and carers, who were interviewed using the same guide. In line with realist principles, additional questions emerged depending on the answers interviewees gave and their influence on theory building (Manzano, 2016). Continuous revision of both prompts and question order allowed me to pursue emergent theories and lines of participant reasoning. All guides focused on three main areas:

1. background: interviewee role in the development of advanced practitioner roles;
2. contexts and mechanisms: including components affecting the role; and
3. outcomes: impact of the advanced practitioner role.

In opening each interview, I informed interviewees of research objectives, explained the participant information sheet and consent form, and answered participant questions. At times, these questions meant explaining additional details of methodology. Interviews did not commence until interviewees signed their consent forms. With participant consent, I recorded and transcribed interviews. Interviews lasted between ten minutes and two hours, concluding when participants felt they had no further information to provide. Wherever possible, interviews with health providers occurred in their workplace.

Prior to each interview, I searched for documents communicating a position statement for the organisations or individuals interviewed. Such documents included written statements, blogs, magazine articles, and other grey literature. Where found, these documents imparted an additional idea of the organisation or individual perspective on advanced practitioner role development. They also offered an opportunity to note how much the views advanced in writing (in some cases many years ago) differed from those seen in practice.

#### *Document review*

In this research, documents obtained from PHC advanced practitioners, their practices, and patients served two primary purposes. Firstly, these documents acted as a source of information complementing face-to-face interviews, triangulating data and corroborating findings (Bowen, 2009; Patton, 2002). Patton (2002) described documents as able to convey knowledge on areas not directly observable by researchers, for example, related to

things that have happened in the past. The second purpose was to elaborate on the context in which advanced practitioners operate (Bowen, 2009). Purposively selected documents included:

- job or role descriptions (from six advanced practitioners);
- practice plans (from three advanced practitioners);
- reports, presentations, and articles (from four advanced practitioners, and two policy interviewees);
- business plans/ cases (from one advanced practitioner);
- a registration portfolio (from one advanced practitioner); and
- a letter from a patient to their practice (from one patient).

Research participants, responding to interviewer request, supplied these documents. There is variability in the quality, level of detail, and information these documents contribute. In part, this may be due to these documents reflecting practise at the time they were written, and not necessarily at the time that I conducted this study. This variability may have influenced results by increasing the perception that advanced practitioner workplaces did not maintain current descriptions of the intended roles of their advanced practitioners. Gathering data from multiple sources (semi-structured interviews, field logs, and these documents) enhanced the overall validity and reliability of this research through building on the strengths and minimising weaknesses of each method (Patton, 2002). In the following chapters, quotes from these documents are not directly attributed to a particular interviewee, protecting interviewee anonymity.

#### *Field log*

Flick (2009) and Richards (2005) emphasised the influence of researcher and research participant on the topic of interest. In the teacher-learner cycle, both these parties' subjective feelings, impressions, and beliefs influence the direction of theory refinement. A 'field log' kept throughout the interview process (before and after interviews), aided recognition of key contextual features in advanced practitioner workplaces. This log augmented information offered by interviewees and facilitated recording of interview details not available solely from interview transcripts.

As described in section 3.2, the field log allowed me to practise reflexivity, maintain audit trails, and consider changes in hypothesised theories in light of research interviews. This

improved introspection and the ability to refine hypothesised middle-range theories. As such, field logs enabled early data analysis.

### 3.3.2 Data analysis

Data analysis involves creating usable information from data. Realist analysis seeks CMO configurations within cases and between environments (Wong et al., 2016). Informed by Byng et al. (2005) and Manzano (2016) among others, this section describes the analysis process used to make sense of interviews, document reviews, and my field log.

A professional transcriptionist, having signed a confidentiality agreement (Appendix 4: Transcriber Confidentiality Form), transcribed interview recordings verbatim into Microsoft Word. For accuracy, I checked these transcribed interviews against the original audio. To protect research participant anonymity, I assigned each interviewee a unique identifier based on a prefix identifying their role in the development process, and a number (for example, NP1).

Research participants had the option of requesting interview summaries or completed transcripts. Preparing these documents served two main functions. Firstly, it offered the chance to elucidate early theories raised by research participants. Secondly, these documents gave participants the chance to amend their opinions, refine their perspectives on emergent theories, and confirm the accuracy of summaries. Participants had up to four weeks to amend and return their transcripts. In each cohort, most interviewees requested either a copy of their transcript or a summary of their interview. The statistics are:

**Table 3.2: Interviewees requesting transcripts or interview summaries.**

Group	Interviewees	Transcripts/ summaries
<i>GP</i>	15	7
<i>NP</i>	16	15
<i>PC</i>	21	13
<i>PP</i>	9	6
<i>TPA</i>	23	15

Two policy interview transcripts were analysed by one of my supervisors and myself. This involved firstly reviewing and coding interview portions, then comparing aspects of the coding framework relevant to these transcripts against coding decisions made during transcript analysis. Joint coding of these transcripts helped cultivate an appreciation of

particular contexts, mechanisms, and outcomes in advanced practitioner development. Memos written throughout the coding process documented new and refined conceptual links and observations about the data (Byng et al., 2005).

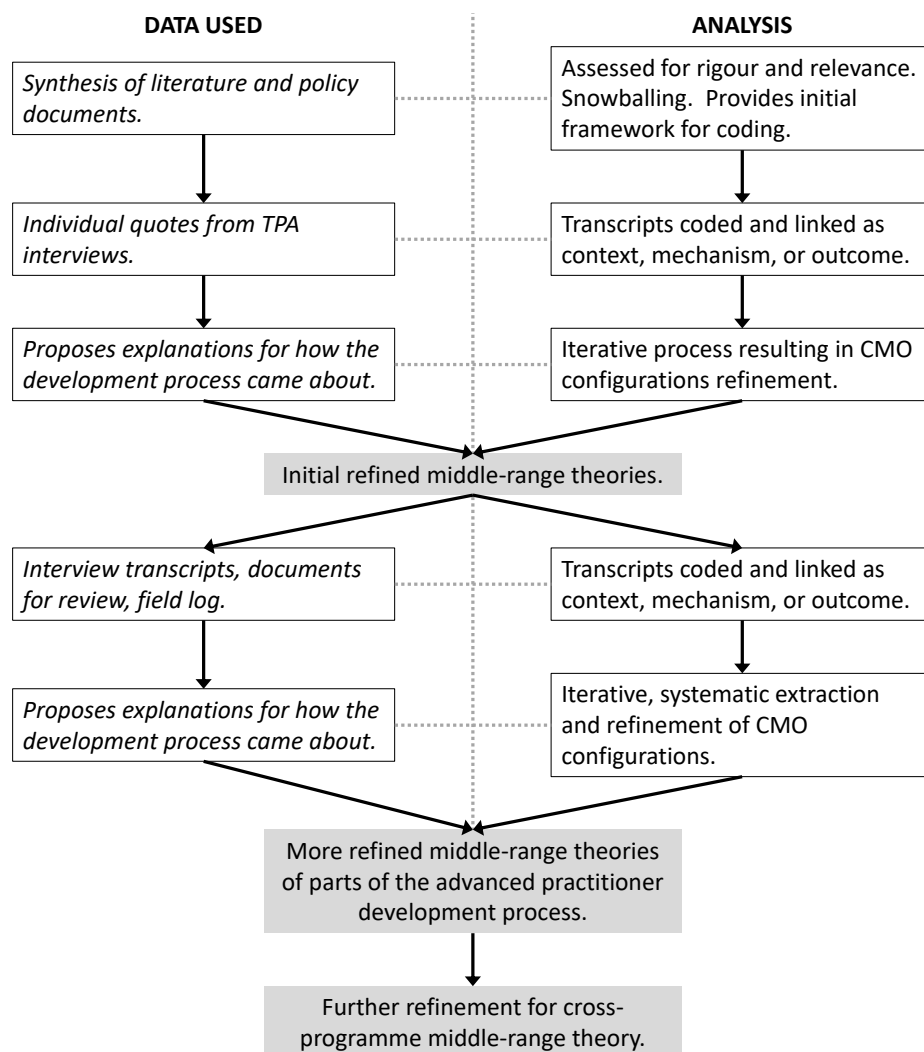
Data analysis commenced following transcription of the first interview and continued concomitant with data collection. Using the qualitative research software, NVivo 11 Pro (QSR International), interview transcripts, and documents for review were stored and their contents coded consistently.

An initial synthesis of literature (Chapter 2) surrounding NP and PP role change in PHC created a basis against which to formulate *a priori* CMO configurations and middle-range theories. Following a realist approach, data analysis used these CMO configurations as the primary imaging/ coding structure (Marchal et al., 2012; Pawson, 2013). Data was compared firstly to the research questions to identify relevant responses. Building on initial configurations, using TPA interview data I then identified further refined CMO configurations. Coding went through several checks and iterations resulting in preliminary CMO configurations and a refined framework. I then systematically applied this framework to transcripts and documents for review, adding additional codes as they emerged from the data. In common with other methods of qualitative data analysis, each round of analysis, corresponding to the introduction of data from different stakeholders and documents, led to more refined theories and data triangulation. Constant comparison of transcripts ensured testing and refinement of theories, and recognition of differences between data sharing similar codes (F. J. Smith, 2010). This, in turn, allowed grouping of data coded to largely similar concepts.

Having analysed data from interviews, documents for review, and field logs, the next round of analysis aimed to generalise information from the specifics of individual cases to middle-range theories (Byng et al., 2005). To do this, I ascertained how mechanisms operating across cases resulted in different outcomes owing to the influence of context. From this, the research was able to make inferences about generative causality attributed to different contexts (Greenhalgh et al., 2009). The last analysis round aimed to generalise theories from different parts of the advanced practitioner development process to form a middle-range theory useful to policy and practice audiences. This round also built further rigour into this study by considering data across multiple sources and from relevant

literature. This round fits with the ‘Interpretation’ step in Table 3.1 (page 64) and the ‘Programme Specification’ step of Figure 3.1 (page 58).

In total, the analysis step transitioned from policy interviewee informed initial CMO configurations, to configurations informed by in practice advanced practitioner development. It then transitioned to comparative analysis and more refined middle-range theory. Adapting Figure 2 of Byng et al. (2005) and informed by Pawson and Tilley (1997), this analysis is depicted as follows (Figure 3.3):



**Figure 3.3: Transformation of data into middle-range theories.**

### 3.4 ETHICAL CONSIDERATIONS

On 2 November 2015, the Ministerial Health and Disability Ethics Committee advised that this research “does not appear to be within the scope of [their] review” and need not proceed through their approval process (Appendix 5: Ethics Approval). As such, prior to commencing data collection, this research gained ethics approval on 2 December 2015 from

the Victoria University of Wellington Central Human Ethics Committee (approval number 22388). The Committee granted further amendments to the research on two separate occasions. The first, on 29 April 2016, covered an application to:

1. approach potential advanced practitioner participants without use of a third party;
2. recruit patient carers where the advanced practitioner either treats patients under 18 years or adults in aged-care;
3. allow advanced practitioners more flexibility in how to select patients; and
4. provide participants with small koha (gifts) in the form of morning or afternoon tea.

The second amendment to the original ethics application received approval on 29 August 2016. This amendment sought to clarify information in the initial application surrounding use of a field log in this research. It clarified that this field log would serve as a tool in gathering observations made throughout the research.

Several NPs and PPs sought approval from either their GP or workplace ethics committees to participate in this research. On one occasion, this meant I completed an additional ethics application. The practice's Clinical Governance Group approved this application on 27 April 2016; to maintain participant confidentiality, I have not reproduced this approval letter in the appendices.

I received a Victoria University of Wellington Doctoral Scholarship to conduct my research. In 2016, I also received a small research grant from the New Zealand Pharmacy Education and Research Foundation, a charitable trust with a board comprising representatives from across the pharmacy sector.

The following ethical considerations required specific attention.

### **3.4.1 Informed consent**

Participants signed consent forms permitting me to record their interviews, promoting research accuracy. Participants were aware that upon request, interview recording would stop. No participants stopped their interviews, but some requested that parts of their interview not be recorded. Participants could bring a support person with them to interviews. No participants took up this option. Participants also had the opportunity to ask questions throughout and after data collection.

### **3.4.2 Privacy and confidentiality**

Interview location is an important determinant of participant confidentiality. Interviews were conducted in mutually agreed locations. This is likely to mean that participants were more comfortable in expressing their personal views. Locations preferably included offices or meeting rooms where conversations could not be overheard.

Transcripts were stored separately from identifying interviewee names. Password-protected computers and locked drawers housed all material. Only my supervisors and I were able to identify all participants. Participants wishing to review their interview transcripts had the opportunity to do this. They also had the option to request a summary of their interview. This meant that interviewees could confirm that transcripts accurately reflected their thoughts and words. From a realist perspective, it also accorded an opportunity to re-open brief dialogue with participants to explore hypothesised theories further in light of both changes in research participant opinions, and because of knowledge gained from other interviews (Manzano, 2016).

Analysis of organisational documents given in good faith remained confidential until they lifted this classification. As laid out in the ethics approval application, destruction of interview recordings, documents, and observations will occur ten years after the research's conclusion.

Since numbers of PHC NPs and PPs in New Zealand are small, demographic information about participants is not linked to specific individuals. Furthermore, where interview quotes allow readers to infer who a participant is, I have either removed identifying phrases of speech, or not used the quote. In certain cases, to prevent linking research participant comments from one chapter to another, I ascribed quotes to a particular interviewee class, but not to an individual (for example, NP1, or NP2 would be coded as NP\*).

### **3.4.3 Population benefit**

Hypothetically, any patient can access advanced practitioner services. This includes patients from potentially vulnerable populations. Such groups include rural, remote, Māori, and Pasifika communities, and those who may otherwise lack health services. These patients participated in my research. As such, it was important to acknowledge and mitigate potential challenges for these populations in research participation. For this reason, I conducted interviews at mutually agreed times and locations, and offered a small koha for those travelling to meet me.

In conducting research into minority communities, it is important to acknowledge their cultural values and worldviews, and protect their safety as research participants (N. Matthews, 2009). I consulted with a senior Māori researcher in the Victoria University Health Services Research Centre before initiating data collection in my patient and carer population. They further advised of the importance of respecting cultural values and recognising language barriers. I conducted my interviews based on these principles.

### 3.5 SUMMARY

This chapter explains and justifies use of a realist approach as the preferred research methodology. At its core, the realist approach enables generation of a causal explanation underlying how a programme works (middle-range theories). The realist approach cycle involves the iterative and systematic testing and refinement of these theories. Such an approach accepts that the ‘same’ programme in different contexts can produce different results. The realist approach recognises that under specific contexts, mechanisms (stakeholder resources and reasoning) trigger delivering outcomes. Conversely, the same mechanisms, in the absence of context(s) may not trigger.

Earlier discussion on NP and PP roles identified a paucity of New Zealand-based evidence on their development. The contested area in which advanced practitioner roles develop has not been clearly examined. The realist approach provides a lens to explore this process. Through this lens, outcomes may be seen to differ between advanced practitioners. It also proffers reasons behind these differences. This methodology contrasts with experimental methodologies, which aim to test constructed hypotheses, but are not strong at generating them. The complexity of both advanced practitioner programmes and the contexts in which they operate ultimately substantiate the choice to conduct realist research.

To proceed meaningfully in conducting this research, there must be alignment between methodology, ethics, research design, and method. This research uses a sequential qualitative research design. Qualitative data collection and analysis furnished hypothesised theories of advanced practitioner development with descriptions of the effect of underlying contexts and mechanisms on outcomes. This research combines methods of data collection, which include multiple streams of stakeholder interviews, document review, and field notes. Interviewees included patients (or their carers), health providers, and individuals within policy and training. These methods allowed the generation of CMO configurations from multiple data sources.



Table 3.3 summarises key features of methodology, research design, data collection, analysis, and ethics.

**Table 3.3: Research overview.**

<b>Feature</b>	<b>This research uses...</b>	<b>because...</b>
<i>Methodology</i>	The realist approach of Pawson and Tilley (1997).	Knowledge about NP and PP development is best created through exploring the interplay between context and triggered mechanism in role creation and across PHC workplaces. This development process occurs in a complex health system.
<i>Research Design</i>	A qualitative research design with multiple methods to triangulate results.	Qualitative research assists in generating middle-range theories, while multiple methods can improve result validity.
<i>Data Collection</i>	Interviews, field logs, and document reviews.	These methods of data collection bestow the ability to generate middle-range theories using individuals at multiple points on the development pathway, who have experience of past and recent changes to the advanced practitioner agenda.
<i>Data Analysis</i>	CMO configurations as the coding structure.	Use of CMO configurations initially based on available literature remains in line with the realist approach and supports the creation of theories explaining the programme under study.
<i>Ethics</i>	A protocol approved by the university's ethics committee.	Maintaining practice standards and ethical conduct protects research participants and ensures research methods are reproducible.



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PART C

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Chapters 4, 5, and 6 present the results of realist research into NP and PP development in New Zealand PHC. This development process can be broken into chains of theories. The theories generated in this research present a picture of advanced practitioner development beginning in policy, forming in PHC practices, and culminating in health care delivery. The following chapters iteratively refine the framework proposed in Chapter 2 through the analysis of data gathered during this research. This analysis gives voice to participant views on possible CMO configurations, allowing readers to form their own conclusions. Where relevant, findings are presented with reference to literature explored elsewhere in this dissertation.

Throughout these chapters, relevant interview excerpts provide examples of CMO configurations. Research participants seldom explicitly stated these configurations. Nevertheless, they became apparent because of both participant perspectives and documents showing variable development processes. To avoid repetition, quotations relevant to more than one potential CMO configuration have been included only once. The following key describes acronyms for each interviewed cohort.

*GP*: General practitioner

*NP*: Nurse practitioner

*PC*: Patient or carer

*PP*: Pharmacist prescriber

*TPA*: Training, policy, or advocacy interviewee

## 4 DESCRIBING THE SOCIAL WORLD

Chapter 4 firstly lays out the characteristics of interview cohorts. Following realist principles outlined in the preceding chapter, this chapter then presents an overview of the programme under study and initial refined theories explaining how advanced practitioner development occurs. These theories, originally generated from extant literature, are further refined through review of policy documents providing the chronology of events leading to the current state of advanced practitioner development. These documents present events that may act as contexts in CMO configurations described in Chapters 5 (Role Creation) and Chapter 6 (Role Realisation and Delivery).

Analysis of grey and academic literature indicates that policies introducing advanced practitioner roles are broad, malleable, and implemented variably. Statements made by the MOH and various Ministers of Health allude to shifting health system foci, but largely similar goals for these roles. Overall, the development of these programmes is complex. In this sense, a more rigid methodological design may have failed to recognise the evolving nature of policies influencing advanced practitioner development. In contrast, realist research offers the ability to do more than simply describe this change process. This chapter concludes by proposing areas of consideration for subsequent chapters.

<b>4.1</b>	<b>Attributes of the Research Population</b>	<b>86</b>
<b>4.2</b>	<b>Chronology of Events</b>	<b>90</b>
<b>4.3</b>	<b>Theory Refinement</b>	<b>100</b>
<b>4.4</b>	<b>Summary</b>	<b>105</b>

## 4.1 ATTRIBUTES OF THE RESEARCH POPULATION

The following four stakeholders influence the advanced practitioner development process:

1. Training, policy, and advocacy interviewees, who shape programme direction;
2. Advanced practitioners, who impart ‘lived experiences’ of the development process;
3. General practitioners, who work alongside advanced practitioners; and
4. Patients and carers, who receive services from these practitioners.

In attempting to generate theories explaining these programmes, individuals occupying stakeholder roles participated in interviews. They represented a range of disciplines and brought different perspectives to this research. A description of interviewees and characteristics of advanced practitioner workplaces follows.

### 4.1.1 Training, policy, and advocacy interviewees

Thirty people in training, policy, and advocacy (TPA) received initial requests to participate in interviews. Of these, 24 showed initial interest in participating. Of the remaining six, three did not respond to multiple attempts at contact, and three declined to participate. Of those declining, one passed the interview request to another team member, who also declined to take part. While showing initial interest, one additional person who did not participate, failed to respond to subsequent attempts to organise a time for interview. The seven people who elected not to participate in this research belonged either to the government sector, or to professional registration and union organisations.

Ultimately, 23 TPA interviewees opted in to this research from the 31 approached (74% participation rate). With the exception of one interview involving two participants, all interviews were one-to-one. TPA interviewees had knowledge of at least one of the following:

- NPs (some of these interviewees had nursing qualifications);
- PPs (some of these interviewees had pharmacy qualifications);
- the whole health workforce; or
- contexts identified in extant literature or early policy interviews.

One nurse practitioner (NP) and one pharmacist prescriber (PP) were also members of the policy cohort. This research records their participation as advanced practitioners, and as such, they are not counted amongst the 23 TPA interviewees.

#### 4.1.2 Advanced practitioners

Twenty NPs and ten PPs indicated initial interest in participating in this research. Of these, sixteen NPs and nine PPs participated. This represents approximately 29% of the registered NPs working in PHC or in the community, and 90% of the PPs working in PHC at the time of interview. All participants in this cohort were registered in their advanced practitioner scope. Amongst the remaining four NPs who did not participate, one did not fit the inclusion criteria (having moved out of PHC), and three decided not to participate in this research. Financial barriers prevented me visiting the last PP; they agreed to participate in interviews after I had completed data collection.

All NPs and PPs characterised themselves as working in PHC, but they had different scopes of practice and workplace characteristics (section 4.1.6). In relation to the former, practitioners may have all operated in PHC, but they registered in different areas. Some advanced practitioners interviewed had registered in areas based on location, age range of treating population, or disease they could treat. However, some NPs registered in areas that were difficult to differentiate from each other, such as registering in ‘primary health care’ or ‘primary care’. Additional characteristics varying between interviewees included:

- length of time registered as a nurse or pharmacist, and as an advanced practitioner;
- entry-level (pre-registered nurse or pharmacist) qualifications;
- hours of employment in advanced role(s);
- number of previous and current NP and PP roles; and
- years of employment in their current role(s).

#### 4.1.3 General practitioners

NPs and PPs selected GPs for interview with whom they either currently or recently worked, according to protocols laid out in section 3.3.1. Sixteen interviewed advanced practitioners nominated GPs for interview, it is unclear exactly how many approached GPs. Fifteen GPs participated in interviews – five of whom worked with PPs at the time of interview, the remainder either currently or recently worked with interviewed NPs. Two advanced practitioners nominated two GPs for interview. Only one of each of these GPs was available for interview. One advanced practitioner nominated a GP for interview who then failed to attend the interview.

No interviewed GPs worked with more than one of the participating advanced practitioners. GPs had between approximately one and nine years' experience working with an advanced practitioner. Professional relationships between GPs and their NP or PP varied – some GPs worked as employers or employees of advanced practitioners, others as co-workers or in organisations using advanced practitioners as consultants. Some GPs had experience working with more than one advanced practitioner or with both NPs and PPs.

#### **4.1.4 Patients and carers**

Twenty-eight patients and carers (PC) returned consent forms to participate in this research. Eighteen patients and three carers participated in interviews (75% participation rate). Twelve of these interviewees received NP services, nine received PP services. It is unclear how many interviewees each advanced practitioner approached. Of those not participating in this research, one failed to give contact details, one returned a blank consent form, and the remaining five returned their forms after I had completed all other interviews. All interviewed patients fit the inclusion criteria described above (page 69). Participants or their charges had varying ages, ethnicities, socio-economic statuses, and medical needs. Their relationships with the medical team and the advanced practitioner varied from only recently (within the past year) having enrolled in the practice, to having the medical practice or advanced practitioner treating multiple generations of their family.

#### **4.1.5 Participant contribution**

With one exception, participant contribution seemed fair, considered, and value adding. One patient interviewee failed to recall any details about their treating practitioner.

Policy interviewees showed good knowledge of their subject area, and for the most part, offered current perspectives in the advanced practitioner space. Three trends became apparent after interviewing NPs, PPs, and GPs. Firstly, these professions were ill-informed about the training, rights under legislation, and funding agreements of each other's profession. Secondly, interviewee recognition of new workplace roles did not necessarily equate with support for their development. Finally, advanced practitioners were more open to discussing workplace reforms than their GP counterparts. More generally, members of all professions responded to questions and showed willingness to discuss NP and PP roles.

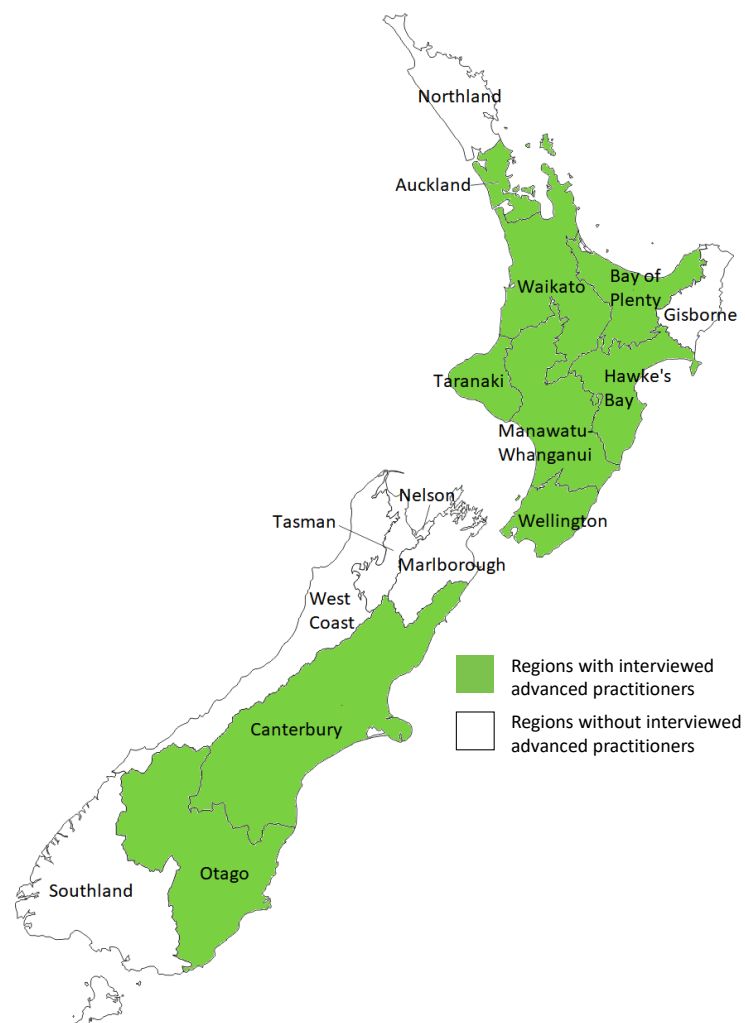
In interviews with patients and carers, two things became apparent. Firstly, that patients largely felt that they benefited from their advanced practitioner's care; and secondly, that they were not always certain of their NP or PP's abilities. This became increasingly evident



when patients described their advanced practitioner as being their ‘general practitioner’. While potentially complementary, such statements fail to recognise that NPs and PPs bring their own expertise to tasks and that their skills differ from those of GPs.

#### 4.1.6 The advanced practitioner workplace

Individuals across New Zealand participated in this research. Confidentiality restrictions necessitate presentation of geographic and practice characteristics aggregated at the level of the advanced practitioner to prevent identification of specific individuals. Loosely reflecting population distributions, the most common regions that interviewed advanced practitioners operated were Auckland, Waikato, Wellington (North Island), and Canterbury (South Island). Several individuals worked in multiple locations within a region. NPs and PPs generally worked in rural or low socioeconomic status areas. The green areas in Figure 4.1 are the regions where interviewed advanced practitioners operated.



**Figure 4.1: Location of interviewed advanced practitioners by region.**

Eight advanced practitioners worked as private contractors, had their own businesses, or had director or managerial roles in their workplace. Twenty-four interviewed practitioners operated in PHC practice or rest homes, six in roles delivering care in homes or schools, and three in the interface between primary and secondary care. NPs and PPs often worked in more than one location, explaining why there were more sites served by advanced practitioners than there were advanced practitioners. Workplaces with advanced practitioners ranged from large integrated health centres to sole-practitioner organisations.

One of the early findings of this research was that some organisations working with NPs and PPs more fully realised the potential of these roles. Several advanced practitioners identified that their workplaces were not using their roles to their full capabilities. Where problems arose, research participants often attributed them to policy, legislation, funding, and workplace-specific issues.

## 4.2 CHRONOLOGY OF EVENTS

Advanced practitioner role development must be understood within its relevant legislative and policy context. History reveals much about how programme focus and enthusiasm change as different ideals and understandings form (Pawson, 2013). The following chronology begins a discussion of the features that may influence programme change. Appendix 6: Advanced Practitioner Timeline presents a brief account of relevant events.

### 4.2.1 The nurse practitioner

Several documents discuss the chronology of New Zealand advanced nursing in detail, for example Jacobs (2005). However, the following account helps in understanding the environment and decisions leading to both the creation of these roles, and continued efforts to establish them in the health system.

In New Zealand, moves to create advanced practitioner roles began with the nursing profession. In preparations for discussions between the nursing sector and the then Department of Health, Brash (1986) prepared a discussion paper to clarify misconceptions and propose guidelines on the role of the independent NP in New Zealand. This report considered factors including NP scope of practice, requisite education, prescriptive authority, and economic viability. Discussions in New Zealand surrounding the NP role coincided with an increase in the professionalisation of nursing and moves internationally that had resulted in introducing NP roles. Furthermore, neoliberal health system and state

sector reforms in the late 1980s and 1990s, and Third Way perspectives in the early 2000s provided impetus for changes in patient care management.

In 1994, the MOH commissioned a discussion document on prescribing by health professionals such as nurses and pharmacists (Shaw, 1994). It identified public access to medicines, prescribing quality and safety, changing professional aspirations, education and regulation, and changing pharmaceutical usage as issues affecting extension of prescribing rights (Shaw, 1994). The paper identified several health professions to whom prescribing could be extended, including, nurses, and pharmacists. The MOH consequently decided that plans to introduce prescriptive authority to other health professions were best managed one profession at a time – starting with the profession where the largest benefit from introducing such authority was thought to exist: nursing (MOH, 1997).

A 1996 working group established by the Government considered issues relevant to instituting restricted prescribing rights for registered nurses (MOH, 1996). Such issues included patient safety, prescriber scopes of practice, requisite education, and prescriber access to subsidies and diagnostic tests. The working group determined that nurse prescribing be restricted by areas of practice (e.g. rural practice, nurse specialists in diabetes), and that nurses operating within these scopes should exhibit advanced clinical skills and knowledge, competence in their speciality, and have completed appropriate postgraduate education (MOH, 1997). The working group found potential benefits of nurse prescribing included improved:

- access to timely health services;
- comprehensiveness of nurse-delivered services;
- collaboration;
- treatment compliance;
- health promotion; and
- patient education, leading to reduced costs (MOH, 1997).

In early 1998, Bill English, the then Minister of Health, established a taskforce to consider health care delivery obstacles and strategies for change in the nursing profession (Ministerial Taskforce on Nursing, 1998). The Taskforce endorsed flexible models of nurse prescribing with the ability to order tests and refer patients (Ministerial Taskforce on Nursing, 1998). They also noted several potential systemic barriers around health system structure (e.g. in accessing laboratory testing services, or funding for education),

established attitudes (e.g. a lack of health system recognition of nursing roles), and legislation preventing effective and complete service provision by nurses. Amongst their 37 recommendations, the Taskforce identified that absence of NP prescriptive authority affected timeliness, accessibility, and cost-effective service provision (Ministerial Taskforce on Nursing, 1998). The New Zealand Nurses Organisation (NZNO), the largest nursing organisation in New Zealand, had been part of the Taskforce for its first five months; however, infighting and disagreement over what amounted to advanced nursing led to their withdrawal from this process (Jacobs, 2005; Ministerial Taskforce on Nursing, 1998; Wilkinson, 2008).

Before the Taskforce completed its deliberations, Minister English announced plans to introduce legislation expanding prescriptive authority to registered nurses in two areas: 'aged care' and 'child family health'. In late 1998, the MOH consulted with the health sector on a proposed regulatory framework for nurse prescribing and on future scopes of practice in these two government priority areas (MOH, 1998). The Medicines (Designated Prescriber: Nurses Practising in Aged Care and Child Family Health) Regulations were enacted in 2001. NPs first obtained prescribing rights under these regulations and were able to prescribe from a set formulary. Jacobs (2005) suggested that nurses expressed surprise at the focus on these two physiologically and potentially socially more complex areas of practice. In contrast, Cumming et al. (2005) implied that these areas of practice were likely to provide improved flexibility in health service delivery, and improve patient access to treatment in provincial and rural areas. Only one NP received prescriptive authority under these regulations.

The Nurse Practitioner Advisory Committee of New Zealand (NPAC-NZ) formed in 2002 with the goal of advancing development of NP roles in New Zealand. It comprised representatives of the four key New Zealand nursing organisations (Nursing Review, 2012). NPAC-NZ disbanded in 2012, but during its tenure sought to enhance nursing collaboration on issues related to NP registration and expansion of the NP model in New Zealand.

In 2005, the Government revoked and replaced the 2001 regulations allowing 'child family' and 'aged care' prescribing. NPs received designated prescriber status (Hodgson, 2005). Also in 2005, the then Minister of Health established a Nurse Practitioner Employment and Development Working Party with the aim of encouraging the rapid diffusion and development of NP roles in New Zealand (CHSRP & University of Auckland, 2006). The

working party's key recommendation to the Minister was to implement a Nurse Practitioner Employment Facilitation Programme to reduce barriers to NP practice.

'Authorised prescriber' status came into effect on 1 July 2014 under the Medicines Amendment Act 2013. As section 1.2 mentions, as authorised prescribers, NPs faced fewer legislative constraints on their ability to practise than they had previously experienced as designated prescribers.

More recently, in 2016, as part of the process of streamlining the NP training pathway and facilitating employment following training, two New Zealand universities began running a HWNZ-funded NP training pilot. The pilot was to address problems with progressing from clinical master's training to NP registration. Candidates on this programme require employer commitment to support them through training, and to employ them following training (The University of Auckland & Massey University of New Zealand, 2015). The pilot programme was extended into 2017, but as yet its extension past this year and its spread to other education providers is not confirmed (Nursing Review, 2017).

Legislation allowing registered nurse prescribing passed in late 2016. This legislation allows prescribing by registered nurses who have completed requisite training (NCNZ, 2017d). The effect this new role will have on NP training and employment is currently unknown. However, its introduction sets more of a clinical, educational, and practice pathway towards NP status. Going forward, differences between the role of the NP and the registered nurse will need to be clearly articulated (Nursing Review, 2016a). If they are not, then employers and funding organisations may fail to differentiate between these roles.

In 2016, the Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill passed. The Bill amends eight different acts, including those related to burials and cremations, supervision of designated prescribers, and prescribing of controlled drugs in the treatment of addiction. By 7 November 2018, these amendments will increase the range of tasks certain health professionals can complete, making their legislative rights more in line with those of medical doctors (MOH, 2017a). These changes have greatest impact on the NP as specific mention is made of their expanded practice in the amended acts. This Bill should improve the use of health workforce skills, improve skill mix options, workforce sustainability, and allow patients to receive more timely and convenient health care (MOH, 2017a; Nursing Review, 2016b).

In 2017, a new scope of practice for NPs removed requirements for these practitioners to operate in a particular area. This was intended to ensure that the NP workforce was flexible enough to respond to population health care demand. As part of the NCNZ's consultation on scopes of practice, they also developed new education programme standards requiring students to grow NP skills in more than one setting. Another part of their consultation was on the role of the NCNZ as registration examiner. Their consultation on scopes of practice and education revealed concerns regarding the partiality and consistency of examination if education providers were to conduct these final assessments (NCNZ, n.d.). As a result, the NCNZ maintained their original role in examining candidates for NP registration.

#### 4.2.2 The pharmacist prescriber

Meanwhile, in 1998, signals from the pharmacy profession indicated a desire for advanced pharmacist practice (PCNZ, 2007b). In 2001, the PSNZ established a working party to consider prescribing issues. In the same year, the then Minister of Health, Annette King, indicated that pharmacist prescribing was an area of opportunity for the pharmacy profession (Topham-Kindley, 2001). Following this, in 2003, the PCNZ received feedback from the pharmacy profession indicating a desire for future advanced pharmacist scopes (PCNZ, 2007b). Leading on from this, 2004 saw the Pharmacy Sector Action Group create their ten-year vision for pharmacist practice in New Zealand. This group was comprised of representatives from academia, and hospital, wholesale, and community pharmacy. The Action Group's primary vision statement was to ensure patient-centred care. They proposed that accredited pharmacists carry out prescribing within collaborative arrangements in care teams (Pharmacy Sector Action Group, 2004).

In 2005, the MOH signalled that they anticipated receiving applications to legislate PP roles as designated prescribers. In response, the PCNZ and the PSNZ agreed to prepare an application (PCNZ, 2007b). In 2007, the PCNZ formally proposed prescriptive authority for qualified pharmacists (Coombes, Wheeler, & Hale, 2011; Wheeler et al., 2012; Wheeler et al., 2010). Consultation documents released by the PCNZ proposed a new scope of practice for pharmacists recognising both:

1. Advanced Pharmacist Practitioners; and
2. Advanced Pharmacist Practitioners with independent prescriptive authority (PCNZ, 2007b).

Overall, feedback received from the consultation process for this scope of practice was positive, with general support of *collaborative* pharmacist prescribing as part of a health care team (PCNZ, 2007b). Nursing and some public organisations supported the concept of *independent* prescriptive authority for pharmacists (PCNZ, 2007b). However, neither pharmacists, nor the rest of the health sector showed support for independent pharmacist prescribing (Pharmacy Today, 2008). Overall, collaborative practice within a multi-disciplinary team was the preferred model of implementation (Wheeler et al., 2010). Concerns from the consultation process surrounded whether the intended scope of practice (above) should be broken into two separate scopes, that is, one of advanced pharmacist practice, and one of advanced pharmacist practice with prescribing. No clear consensus was reached at this point regarding separating the scopes (PCNZ, 2007a).

Established by the Minister of Health in 2001, the ‘New Prescribers’ Advisory Committee’ supplied the Minister with advice on extending prescriptive authority to other health professionals (King, 2001a). Early in the Committee’s existence, with the introduction of child family health and aged care nurse prescribers, the Committee was to advise on proposals for further nurse prescribing scopes of practice. The terms of reference for this committee specified that they:

1. establish criteria that all health professional groups must meet in preparing their applications for prescriptive authority;
2. assess these applications for:
  - (a) risks and benefits to consumers,
  - (b) suitability of proposed training and competencies,
  - (c) arrangements for CPD, monitoring, assessment, and registration, and
  - (d) medicine types proposed for prescriptive authority and match with training.
3. provide recommendations, and advise the Minister on terms and conditions to impose on prescriber groups (Creech, 1999).

The PCNZ initially intended to submit their application for a PP role to this committee. However, the committee disbanded in 2006 and in 2009, the HWNZ assumed its role. In this research, several participants questioned both the role of this committee, and the extent to which HWNZ assumed all its functions (Chapters 5 and 6).

During the creation of a PP scope of practice, the pharmacy sector recognised the need to differentiate between the roles of the PP and that of a medical doctor. In an interview, the

then University of Otago School of Pharmacy Chair in Clinical Pharmacy, Professor Stephen Duffull, highlighted the need for formal government funding mechanisms around PP services to facilitate this recognition (Kumar, 2009). In 2010, the PCNZ submitted an application to HWNZ for designated prescriptive authority (independent prescribing) for suitably qualified pharmacists (Coombes et al., 2011; HWNZ, 2010; Wheeler et al., 2012). The HWNZ board agreed in principle to having PP training demonstration sites (HWNZ, 2010). The New Zealand schools of pharmacy supported by the PCNZ formally proposed to HWNZ that the first cohort of PP in training be a demonstration project (Shaw, Duffull, & Print, 2013). Informal approval of the demonstration project was gained in early 2012 (Shaw, Duffull, et al., 2013) and in late 2012 Cabinet approved the drafting of PP regulations (PCNZ, 2013). The Medicines (Designated Pharmacist Prescriber) Regulations 2013 were then introduced giving effect to PPs (MOH, 2012b; PCNZ, 2014).

In 2014, no PP candidates commenced the requisite training pathway (Piper, 2014b). Since then, numbers in the training course have risen slightly, but concern remains as to the ability to attain relevant employment following training completion (Piper, 2014a). Piper (2014a) also implied that the process required to complete PP training discouraged individuals from pursuing this educational pathway. In 2014, a PP stakeholder group was convened to begin discussions around issues of PP role sustainability, employment streams, and access to sites of employment (Piper, 2014b). This group comprised members of HWNZ, the pharmacy and medical sectors, as well as PPs. Yet, this group never had formal terms of reference and as such never published any recommendations (A. Shirtcliffe, personal communication, April 24, 2018).

In 2015 and 2016, the MOH produced two action plans relevant to the PP role. The first of these, 'Implementing Medicines New Zealand 2015 to 2020' supported action across seven areas to facilitate access, optimal use, quality, safety, and efficacy of medicines. The action plan made mention of the PP role in achieving goals in three of these areas:

1. enabling shared care;
2. optimal medicines use in older populations and long-term conditions; and
3. removing barriers for patients to access medicines (MOH, 2015c).

Following this action plan, in 2016 the MOH produced their 'Pharmacy Action Plan 2016 to 2020'. Submissions on the draft action plan indicated confusion by respondents over the role and boundaries of PP practice (MOH, 2016b). The final action plan emphasised the PP



role as part of medicines management and highlighted key actions required of DHBs, the MOH, and the wider health sector to facilitate role uptake.

More recently, the University of Otago has advised that in 2018 they will not be running their PP postgraduate certificate training course (University of Otago, 2017).

### 4.2.3 Education

Table 4.1 summarises NP, PP, and GP qualification requirements and registration types. All prescribers have completed undergraduate training prior to moving into these scopes. NP and PP candidates can meet the minimum time to complete training only if they undertake postgraduate education as full-time students. Not all medical doctors working in general practice are vocationally registered. Instead, they could be completing their postgraduate training, or could have selected not to become vocationally registered.

**Table 4.1: Comparative education and registration characteristics.**

	<b>Qualification and experience</b>	<b>Registration</b>
<i>GP</i>	Minimum 5 years postgraduate training comprised of 2 years hospital-based, and 3 years in a general practice education programme.	Vocationally registered as GPs.
<i>NP</i>	Minimum 2 years master's qualification and at least 4 years post-registration experience in an area of practice. Separate NCNZ registration oral examination and portfolio.	Registered as NPs. No longer registered in specific areas.
<i>PP</i>	Minimum 2 years to complete a postgraduate diploma and certificate. At least 3 years post-registration experience in a collaborative health team. No separate registration exam.	Registered as PPs. Plan specifies area of practice.

Health professionals participate in CPD to maintain their competence. For NPs, this includes ongoing peer review of their prescribing with an authorised prescriber (NCNZ, 2017c). Likewise, when a PP changes their practice area they must complete a plan that is signed off by the medical doctor supervising their initial practice (their DMP; designated medical practitioner), or by their workplaces' clinical lead (Muller, 2013).

### 4.2.4 Funding

Advanced practitioners require funding primarily at two points on their pathway. Firstly, during practitioner training, and secondly when they operate in practice. Sources of funding vary and include government, employer, or personal funding. Patients may also

pay part-charges for treatment. Table 4.2 provides a summary of advanced practitioner and GP access to funding for their education and roles.

**Table 4.2: Access to funding for training, role, and prescriptions.**

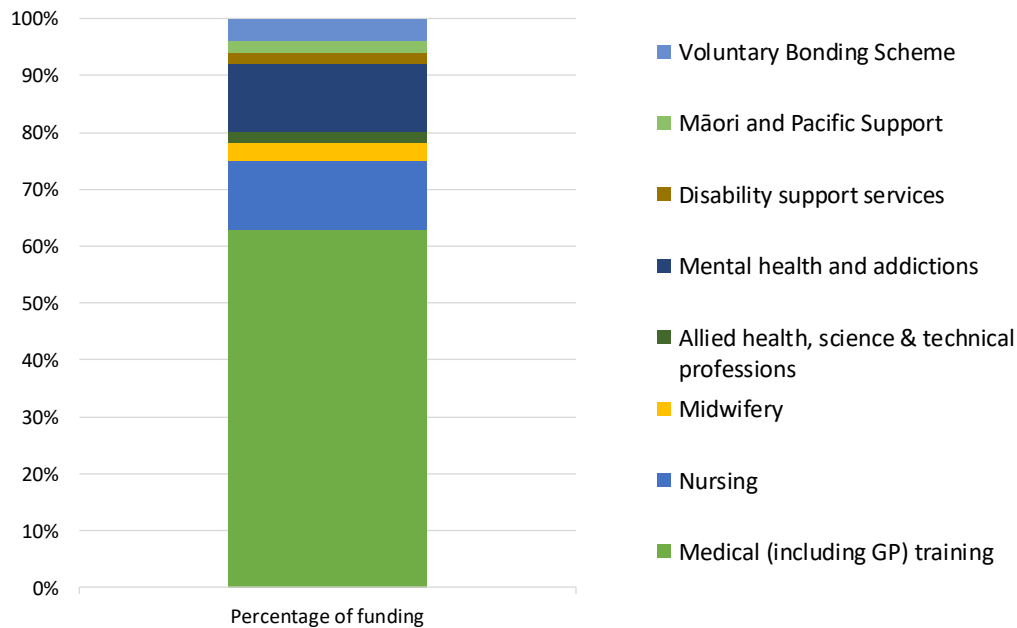
<b>Funding required for...</b>	<b>GP</b>	<b>NP</b>	<b>PP</b>
<i>Postgraduate education funding</i>	Available	Available	For first training cohort only
<i>PHC funding streams</i>	Full	Less access to certain streams	Not directly
<i>Access to general medicine schedule</i>	Yes	Yes	Subset
<i>Can apply for special authority</i>	Yes	Yes	No
<i>Funded prescriptions</i>	Yes	Yes	Yes

*Funding training*

Each advanced practitioner candidate must cover the costs of postgraduate education, registration with their responsible authority, and in some cases participation in a prescribing practicum. The current cost to undertake master’s training to progress down the NP training pathway is approximately NZD 41,000 (CareersNZ, 2017a). Of this, students contribute between NZD 17,000-18,000, and government subsidises the remainder. In addition, the cost to apply for registration in the NP scope of practice is currently NZD 1,500 (NCNZ, 2017a). In comparison, PP candidates must complete a relevant postgraduate diploma as a prerequisite to entry into the postgraduate certificate programme. The tuition fees for these tertiary education qualifications are approximately NZD 23,500 (NZD 9,000 student contribution) and NZD 12,000 (NZD 4,500 student contribution) respectively (CareersNZ, 2017b). In addition, the cost to apply for registration in the PP scope of practice is currently NZD 90. Without adequate funding, advanced practitioner candidates may deem costs of training as prohibitive.

Government funding for postgraduate training differs between health professions. HWNZ distributes the majority of this postgraduate funding (NZD 185.014 million total budget in 2016/2017). They are currently reviewing their investment approach for postgraduate training (MOH, 2017c), however, 2016/2017 numbers (Figure 4.2) show that medicine receives 63% of funding, nursing 12%, and allied health, science and technical professions

(which includes pharmacy) only 2%. Further emphasising this difference in available funding is the size of each of these workforce populations. There are over 50,000 nurses, 15,000 medical doctors, and a range of allied health professions totalling over 23,000 individuals. A lack of investment in different health professions will likely affect their ability to deliver patient care sustainably and effectively. Consequently, discrepancies in access to funding may not only affect the journeys of individual advanced practitioners, but also affect the overall sustainability of the health workforce.



**Figure 4.2: Health Workforce New Zealand distribution of funding 2016/2017 budget.**

Although not necessarily accessible to all candidates, funding pathways exist for NP candidates. With the exception of the first cohort of PPs, HWNZ funding does not cover their advanced practitioner training. As a result of these differences, advanced practitioners seek funding from sources such as their employers, DHBs, family, or use their own resources. The question this raises is, does distribution of postgraduate education funds reflect both health workforce need, and system skill requirement?

*Funding the role*

The 2001 PHCS ushered in Primary Health Organisations (PHOs). These organisations provide local governance and deliver PHC services via general practices. PHOs channel government funding for PHC services. General practice funding predominantly occurs through a model of capitation funding with patient co-payment. Capitation funding is based on a practice’s enrolled population. Patients may enrol in a practice under either their NP or GP. As such, both these health professions may extend workplace capitation

funding. PPs do not have access to capitation funding. A second funding stream is the general medical services subsidy, a type of fee-for-service subsidy. This subsidy operates in cases where a general practice or after-hours treatment provider treats a patient not enrolled in a PHO or a patient who receives treatment from a practice belonging to another PHO.

Aspects of funding for NPs differ from that of GPs. For example, NPs receive less funding for treating injured patients from the Accident Compensation Corporation, a New Zealand Crown entity responsible for the country's universal no-fault accidental injury scheme.

#### *Funding prescriptions*

Extending prescriptive authority to new prescribers does not automatically extend prescription subsidises to their patients (PCNZ, 2010b). The Pharmaceutical Management Agency (PHARMAC) is responsible for determining government subsidies for medicines and therapeutic products (PHARMAC, 2014). Access to prescription subsidies influences patient demand for treatment (PHARMAC, 2001). Patients unable to receive subsidised medicines on prescriptions written by one prescriber may choose a different prescriber who can write these prescriptions. Stephenson (2013) reported that over the months between PP gaining prescriptive authority and PHARMAC confirming PP access to subsidies, PHC PPs did not prescribe. PHARMAC (2013) saw subsidised access to medicines as strengthening health workforce functioning by enabling PPs to work within their expanded scope.

PHARMAC subsidies are available on an inconsistent basis to prescribers. PPs, for example, require assistance from a GP or other eligible prescriber for application to prescribe special authority medicines. These medicines have specific criteria to protect against excessive and inappropriate use, or to limit the prescriber pool to control pharmaceutical expenditure. In contrast, both NPs and GPs are funded prescribers with access to the general medicine schedule. NPs may apply for special authority for funded access to many medicines, although this range differs from that accessible to a GP. Lack of subsidised access to some medicines may limit the services PPs can offer.

### 4.3 THEORY REFINEMENT

Having confirmed the composition of the policy under investigation, this section uses the changes discussed in section 4.2 and realist research explored in this section, to refine the theories proposed in Chapter 2. In so doing, this section progresses a list of theories for further testing with research participants.

Pawson (2013) outlined the key characteristics of programme complexity through the acronym ‘VICTORE’ (Volition, Implementation, Contexts, Time, Outcomes, Rivalry, and Emergence; see Figure 4.3 for definitions). Using this as a checklist, and based on the chronology of events leading to advanced practitioner practice, characteristics of complexity become visible. As Figure 4.3 outlines, advanced practitioner development is complex. Any analysis of this process contributes only partial knowledge (Pawson, 2013). This knowledge captures a perspective on advanced practitioner development in New Zealand PHC. Outcomes of interest are those occurring along the implementation chain and in a world of rival programmes.

<b>Volition</b>	<p><i>Programme architecture including how subjects may respond (i.e. the understanding of the stakeholders).</i></p> <p>Stakeholders (health professions and other sectors of health care delivery, for example funders and patients) interpret the purpose and process of advanced practitioner development differently.</p>
<b>Implementation</b>	<p><i>Programme implementation chains.</i></p> <p>Implementation chain begins in the head of policy architects and ends with the care delivered to patients. In passing between chains initial programme objectives distort. The development process is ‘improved’ differently in each environment.</p>
<b>Context</b>	<p><i>Circumstances in which a programme plays out. Institutions, infrastructures, and individuals differ, adding complexity.</i></p> <p>The NP and PP roles are introduced into varying environments. Some will have experience with these practitioners or these roles, others will not.</p>
<b>Time</b>	<p><i>Programme history and timing.</i></p> <p>NP role introduction occurred in the early 2000s after a time of neoliberal health philosophy. PP roles were introduced after NPAC was disestablished – the responsibilities of HWNZ differ from NPAC in relation to introducing new roles. Both roles introduced following an impetus for change.</p>
<b>Outcomes</b>	<p><i>Monitoring approaches and how stakeholders may interpret outcomes. Possible for contested performance measures.</i></p> <p>Multiple outcomes possible. Long-term evaluation and systematic monitoring of outcomes seemingly non-existent.</p>
<b>Rivalry</b>	<p><i>Policy backdrop in which programmes are embedded.</i></p> <p>Multiple programmes operating e.g. registered nurse prescribing and other workforce policies. As well as more broadly changes to for example, the Medicines Act 1981.</p>
<b>Emergence</b>	<p><i>Potential long-term adaptations and emergent effects. Programmes change the conditions that make them work.</i></p> <p>Policies introducing advanced practitioner roles are evolving, for example with changes to NP scopes of practice. A further example is The Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill which adapts the environment in which NPs (and to a lesser extent PPs) operate.</p>

**Figure 4.3: Considering complexity of advanced practitioner development.**

Realist principles emphasise the importance of building on relevant pre-existing middle-range theories. To date (2017), a synthesis of academic literature did not find other reviews applying the realist approach to the concept of role development for both NP and PP roles in PHC. However, this methodology has demonstrated its utility in assessing the introduction of various aspects of nursing practice. For example, in his doctoral study, Wand (2011) conducted a mixed methods analysis of the impact of an emergency department based mental health NP outpatient service using a realist methodology. Prosser, Clark, Davey, and Parker (2013) conducted a realist evaluation of NP services as part of aged care practice models. Currie, Chiarella, and Buckley (2017, 2018) conducted an Australian-based realist evaluation study on the impact of privately practicing NPs on patient access to health care. Furthermore, looking towards realist syntheses, Hoare, Mills, and Francis (2012) conducted an adapted realist synthesis of government policy in nurse-led care in general practice in the UK, Australia, and New Zealand.

Another realist methodology example is the work of Contandriopoulos et al. (2015), who used a logic-analysis approach based on a realist synthesis of literature and expert advice to guide NP integration into PHC teams in Quebec (Canada). Contandriopoulos et al. (2015) put forward five core themes for consideration when integrating these roles: planning, role definitions, patient care practice models, collaboration, and team support. The paper proposed that effective planning for NP roles must reach all individuals in a practice, as the introduction of these roles will change other workplace roles. Contandriopoulos et al. (2015) reiterated the importance of support for maintaining effective clinical practices. They considered support as occurring within three interdependent spheres: (1) at the clinical level, (2) at the team level, and (3) at the system level. This support influenced the ability to operate autonomously within full practice scopes.

More generally, Contandriopoulos et al. (2015) supported the idea that NP role integration required considering how best to fit roles into infrastructural and patient requirements. Their themes also acknowledged that PHC clinics might evolve to accommodate new roles. In regards to role definitions, the paper reasoned that these definitions should allow individuals to practise to their full potential, and build their skills. Overall, Contandriopoulos et al. (2015) used realist techniques to explain features important in facilitating successful NP integration into PHC.

Most recently, Stewart et al. (2017) presented results of a 'realist type' evaluation of pilot services providing patient-centred pharmaceutical care in remote and rural Scotland. The pilot services involved clinical pharmacists providing medication review services for patients. Three of the clinical pharmacists in this pilot also operated as independent prescribers, albeit with the ability to alter medication dose and formulation only. Stewart et al. (2017) suggested that amongst interviewed patients and staff there was support for continuing this programme. They proposed theories leading to this support. These theories included having a multidisciplinary team approach that triggered coherence in the aims of the programme; clear definitions of the pharmacist role and position in the team, triggering collective action; and reflexive monitoring.

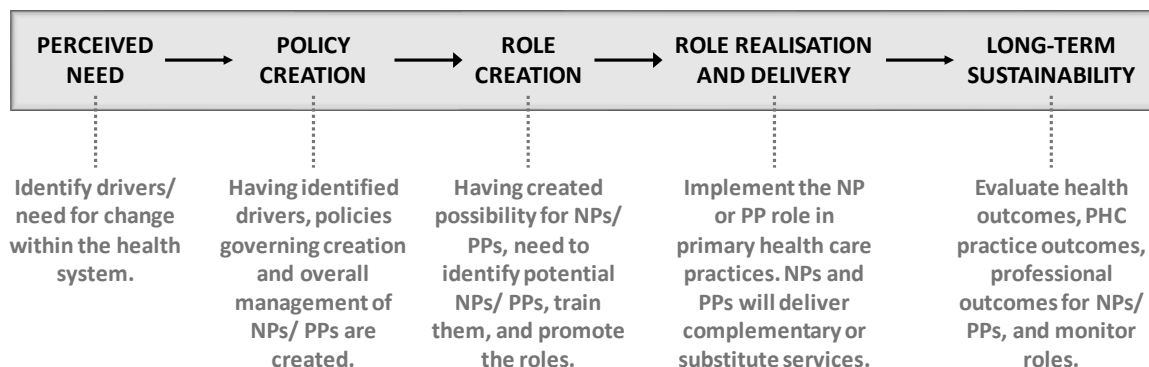
The realist research of Macfarlane et al. (2009) around human resource management policies in large-scale innovation programmes provided broader concepts to draw on when refining the theories used in this research. Macfarlane et al. (2009) found five main mechanisms that when triggered enabled successful health workforce development: recruiting staff with skills in service transformation, redesigning and creating new roles, improving workforce planning, linking staff development to service needs and priorities, and creating shared learning and knowledge exchange opportunities. The paper indicated that structural local and national barriers largely impeded effective workforce development. The following contexts were likely to result in successful workforce development:

1. an adequate and mobile pool of individuals who are appropriately qualified;
2. good human resource support and a culture facilitating role redesign;
3. extended staff roles and identities built up by role change;
4. policy allowing flexibility to meet local goals; and
5. a health care workforce with embedded skills and responsibilities that achieve change goals.

The benefit Macfarlane et al. (2009) and Greenhalgh et al.'s (2009) earlier paper in this series make to refining initial middle-range theories relevant to my research lies in their perspective on change occurring at the policy and health system level. Studies described earlier in this section largely focused on changes in nursing within a practice environment. In contrast, these studies acknowledged the impact of change on multiple parties, not simply on one group. My research explores the development of advanced practitioner

roles, beginning with their conception in the heads of policymakers and continuing with the formation of their roles in practice. This is a process involving multiple stakeholders.

Figure 4.4 presents a refinement of the original model (Figure 2.1, page 18). In addition to breaking Chapter 2’s role commencement theory into two separate theories of ‘role creation’ and ‘role realisation and delivery’, this new model acknowledges the separate effect of drivers on policy creation.



**Figure 4.4: Framework refinement following policy review.**

Five refined middle-range theories explain how advanced practitioner roles develop:

**Theory 1: Perceived need:** The outcome (perceived need) occurs due to mechanisms (expectations of individuals and groups) triggered by contexts (social determinants of health, and health system resourcing).

**Theory 2: Policy creation:** The outcome (policy creation) occurs due to mechanisms (professional and political appetite for change) triggered by contexts (perceived need).

**Theory 3: Role creation:** The outcome (advanced practitioner role creation) occurs due to mechanisms (role training and health system role promotion) triggered by contexts (health system drivers and policies directing the appropriate use of resources).

**Theory 4: Role realisation and delivery:** The outcome (role realisation and delivery) occurs due to mechanisms (implementing roles in practices as substitutes or complements) triggered by contexts (practices have a recognised need for new roles and advanced practitioners have strong relationships within their workplace and with patients).

**Theory 5: Long-term sustainability:** The outcome (long-term sustainability) occurs due to mechanisms (monitoring and evaluating roles) triggered by contexts (delivery of care by advanced practitioners).



In moving forward with this investigation, two things became apparent. Firstly, TPA interviewees advised that discussions have largely moved beyond consideration of whether advanced practitioner roles should exist, to questions of how best to implement them. Given that advanced practitioner policy creation has occurred, this research can contribute most value to understanding health workforce redesign by focusing subsequent chapters on theories of advanced practitioner ‘role creation’, and ‘role realisation and delivery’.

The second consideration relates to refining the theory of long-term sustainability. In New Zealand, advanced practitioner role development is still in its infancy. There is limited ability to determine the uncontested influence of NP and PP roles on patient outcomes. This is partly attributable to these health professionals working in teams where others also deliver health services. However, it is also attributable to advanced practitioners operating in roles that fail to use their full abilities in nursing or pharmacy. Given the small NP and PP population in New Zealand, it is not possible to comment on their influence on population health. As such, there is currently limited ability to investigate the middle-range theory of ‘long-term sustainability’ described above.

#### 4.4 SUMMARY

Chapter 4 began by outlining research participant attributes. In total 84 individuals participated in this research. Interviewees have different experiences of NP and PP development across different parts of the process. Consequently, they can make informed inputs to theory refinement. Table 4.3 presents a summary of the individuals participating in this research; the overall participation rate of potential participants was 79%.

**Table 4.3: Research participant numbers.**

Code	Potential participants	Participating
<i>TPA</i>	31	23
<i>NPs</i>	20	16
<i>PPs</i>	10	9
<i>GPs</i>	17	15
<i>PC</i>	28 [these individuals chose to contact me]	21

A characteristic feature of realist research is the iterative creation and refinement of theories explaining how change is expected to occur. This chapter used findings from advanced

practitioner policy and planning documents, and grey literature to reach interim middle-range theories explaining how advanced practitioner development occurs. This chapter, therefore, strengthened the explanatory ability of theories originally proposed in Chapter 2.

Advanced practitioner role development began in the early 2000s with the NP. The PP role followed in the early 2010s. Over this time, several individuals have been involved in efforts to minimise legislative, funding, and educational constraints. The development of advanced practitioner roles represents an innovative policy change expected to influence the New Zealand health care workforce. From a review of this chronology, I proposed five theories of advanced practitioner development. These theories surround an implementation chain taking advanced practitioners from idea conception born of a perceived need for change, to operating to the full extent of their abilities.

The Government's health policy agenda promotes greater reductions in overall population inequalities through PHC. Perceived increases in demand for care, issues of health workforce distribution and skill mix heavily influence the development of these roles. For NPs and PPs to be able to improve patient access to quality health services, role creation must be sustainable. Engagement of stakeholders and management of issues operating at the policy, organisational, and inter-personal levels are necessary for role development. This engagement must transcend ideology and practice divides to ensure a well-defined role, and management of workforce composition.

Advanced practitioners operate across New Zealand, delivering services to patients and operating as substitutes or complements to medical doctors. The ability for these individuals to deliver health services relies on strong relationships between health providers, and between advanced practitioner and patient. Finally, to enable the long-term sustainability of advanced practitioner roles, monitoring and assessment are required of both role outcomes and how best to use these roles.

The theories presented in this chapter serve as both a base and direction for the remainder of this dissertation. They begin to characterise the terrain on which advanced practitioner roles develop in New Zealand. Policy documents and early interviews with the TPA cohort highlighted that advanced practitioner development has progressed beyond policy creation to considering how best to create advanced practitioner roles (Theory 3: *Role Creation*), and realise and deliver the potential of these roles (Theory 4: *Role Realisation and Delivery*). The following chapters focus on these theories.

## 5 ROLE CREATION

Chapter 3 laid out a realist methodology that informs analysis of semi-structured interviews and documents used in this research. This chapter and Chapter 6 lay out the results of realist research following the examples of Greenhalgh et al. (2009) and Macfarlane et al. (2009). In their analysis of large-scale change initiatives, Greenhalgh et al. (2009) provided diagrams depicting the influence of contexts on mechanisms. Similar diagrams are used here. The current chapter highlights mechanisms this research reveals as shaping role creation, and contexts likely to affect mechanism triggering. Differences in the pathways for nurse practitioners (NPs) and pharmacist prescribers (PPs) are noted where identified.

Advanced practitioner role creation is an intermediate outcome of the development process (Figure 4.4, page 104). Successful role creation is an enduring recognition of the value that these roles provide. The initial middle-range theory describing role creation is:

*The outcome (advanced practitioner role creation) occurs due to mechanisms (role training and health system role promotion) triggered by contexts (health system drivers and policies directing the appropriate use of resources).*

This research proposes three refined mechanisms for advanced practitioner role creation:

- Enhancing Workforce Planning;
- Facilitating Fit for Purpose Advanced Practitioners; and
- Motivating Uptake.

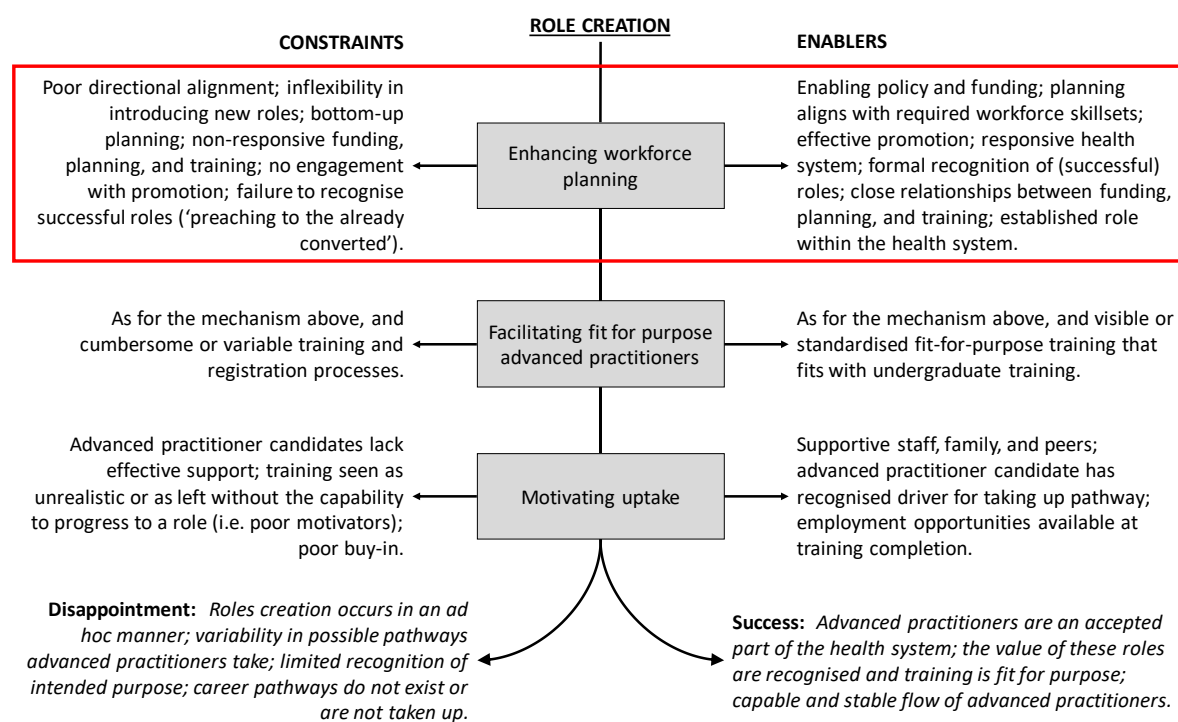
The former two mechanisms operate within the greater health system. They are essentially situational mechanisms (Hedström & Swedberg, 1998), explaining how situations at the macro level shape behaviour (Astbury & Leeuw, 2010). In contrast, when discussing the mechanism of ‘motivating uptake’, an action formation mechanism (Hedström & Swedberg, 1998), section 5.3 compares micro-level contexts. This chapter ends by stating a refined middle-range theory of advanced practitioner role creation.

<b>5.1</b>	<b>Enhancing Workforce Planning</b>	<b>108</b>
<b>5.2</b>	<b>Facilitating Fit for Purpose Advanced Practitioners</b>	<b>126</b>
<b>5.3</b>	<b>Motivating Uptake</b>	<b>138</b>
<b>5.4</b>	<b>Summary</b>	<b>151</b>

## 5.1 ENHANCING WORKFORCE PLANNING

Policy creating the potential for NP and PP positions occurred against a backdrop of health workforce redesign to improve use of available resources, and thus enhance health care access. Establishing advanced practitioners in the New Zealand health system requires planning. This planning is needed prior to and during role implementation. It guides decisions regarding the appropriateness of candidates (discussed later in this chapter), and issues of funding, legislation and other contextual features. Chapter 2 emphasised aspects of system planning with reference to funding availability, direction, and role purpose.

Figure 5.1 presents a summary of the effect constraining and enabling contexts have on three mechanisms involved in role creation. The right of this diagram (enablers) illustrates conditions likely to support role creation. The left of this diagram (constraints) depicts features within the health and policy system likely to constrain efforts at change. Where mechanisms fail to trigger due to the presence of constraints/ absence of enablers ‘disappointing’ outcomes are likely to eventuate. The following three chapters present variations on this diagram. Reality rarely exists with only enabling contexts. As a result, most advanced practitioner roles are likely to meet with some degree of success and disappointment.



**Figure 5.1: Contexts triggering planning for advanced practitioners.**

Participants indicated that certain contexts enabled or constrained planning for advanced practitioner roles (red box, Figure 5.1). These features broadly relate to:

- Direction (section 5.1.1);
- Defining workforce requirements, and restructuring the profession (section 5.1.2);
- Funding (section 5.1.3);
- Legislation (section 5.1.4); and
- Promotion (section 5.1.5).

The following subsections elaborate on the effect these contexts have on the mechanism of system planning for advanced practitioner roles.

### 5.1.1 Direction

Several participants discussed the significance of health system direction in shaping the creation and purpose of advanced practitioner roles. Literature attests to the importance of identifying an intended path, both within the health system, and within health professions (DiCenso & Bryant-Lukosius, 2010; Harvey, Papps, & Roberts, 2015a; Harvey et al., 2015b; Schober, 2013; Schober et al., 2016; Watterson et al., 2009). This assists in facilitating role creation through enhancing workforce planning. Research participants suggested that direction requires alignment from the top to the advanced practitioner:

*Pharmacists, both in hospital and community settings, have positions... remunerated based on what they do and achieve... There's no role like that... for [PPs]... The documents for the [PP] demonstration project clearly indicated that was needed and that never happened. – TPA7*

*There's no organised pathway done by top down, ... where someone's thought 'how is this new role going to be implemented?'. That has never seemed to be something on anyone's agenda. – TPA17*

NP and PP role creation occurred in part as a response to government strategic intentions. Yet, interviewees viewed government's direction on advanced practitioners as being neither articulated nor acted upon clearly. Individuals involved in NP role development expressed these feelings particularly strongly, perhaps due to the 'benefits' of hindsight:

*We were all really disappointed, because... with the introduction of PHOs, we all expected... that this big new world would reduce the power of GPs and open up for all health practitioners to work on an even keel... The general practitioner movement was very clever at grabbing the territory and more or less maintaining the status quo. – TPA4*

*[NPs] were seen as a lever to move the Primary Health Care Strategy, so again it fitted with government policy... it may have been an idea too soon for the Ministry of Health. There're many doctors in the Ministry and even if they would not overtly subvert what the Government's policy is, there was enough structure and history and things that bind the status quo to... let it roll and do not much about it. – TPA16*

TPA16's quote is particularly illustrative of the environment in which advanced practitioner roles form: the policy sector, as with all other sectors, is composed of individuals with their own biases and agendas. These individuals might influence policy direction and, in so doing, enhance, or limit the success of advanced practitioner formation. Establishing new roles in a system with pre-existing hierarchies and expectations for practice required effective promotion. PP2 described the impact promotion within policy documents can have on workforce planning:

*With... the submissions for the Pharmacy Action Plan..., there were some barriers against pharmacist prescribing because... [they] were focusing on various other aspects of the sector as opposed to all pharmacist roles, and that was disappointing. I was pleased when the actual plan came out and it was promoting pharmacist prescribers because some of the submissions weren't. I felt that was like the profession stabbing ourselves in the foot. – PP2*

The 2001 PHCS promoted *nurses* as important to delivering government priorities on health. The NP role was highlighted as one means of achieving these priorities (Hansen-Turton & Hughes, 2010; Hughes & Carryer, 2002). The Government saw the Strategy as a platform upon which NPs practice in health care teams (Expert Advisory Group on Primary Health Care Nursing, 2003). The MOH, in its publication 'Nurse Practitioners in New Zealand' described the aims of introducing NPs as, firstly, to improve health outcomes and access to services, and, secondly, to improve retention through creating improved nursing career pathways (Hughes & Carryer, 2002). Notably, the Government has yet to promote PPs in similar publications, and it has scarcely highlighted the NP role in existing strategic documents. Several interviewees commented to the effect that having an intended direction without managing its implementation fails to deliver on expectations:

*The policy was there. The Primary Health Care Strategy really is a strategy driven from a policy... The exact same issues that we are facing now were the same ones as the original Primary Health Care Strategy... The infrastructure to support the best use of all the scopes... is still not there and much of that is not so much policy as the contractual arrangements, and who owns the business. – TPA16*

Participants commented on the direction taken by nursing and pharmacy professions in hindering or facilitating planning and establishing advanced practitioner roles. TPA2 noted that prior discussion within the pharmacy profession and with other stakeholders meant that the Ministry did not receive a “barrage of negativity and misinformation” on the proposed introduction of the PP. Having said this, both TPA3 and TPA17 noted the effect of an unclear direction within nursing and pharmacy professions:

*The NZNO at the time had a classic union stance, which is that nurse practitioners would be people who had been nursing a long time, and were, therefore, expert... That caused the Ministerial Taskforce virtually to implode because we argued that somebody could be doing the same thing for 20 years and not be any more expert than they were when they started... That was a... historical period where we'd had years of National Government, the Employment Contracts Act,... nursing had been damaged hugely through the 90s... The NZNO had a very... 'they're out to get us' attitude, which was really why the College was established and... other voices started to surface. – TPA3*

*It's a fault of the profession... not fighting hard enough for it as well... Pharmacy... probably in part because it's just so small,... [lacks] that feeling of we can do these things. Perhaps they're too cautious and nurses there's more of a feeling well if something new is happening we can do it no matter what. – TPA17*

Policy interviewees pointed out perceptions broadly held within nursing and pharmacy that advanced practitioner roles formed due to a need to capture an opportunity that may not be available later. This had the effect of leaving planning for role creation as a side-note:

*From the pharmacy sector perspective,... there was a bit of a sense that the sector felt that they wanted to wait for another role. The policy was saying 'well that role isn't around, so if you want it, you better go for it the way it looks right now'. There's a little bit of a sense of one feeling as if it was told to do something so it did it, and then the policy arm did its bit, but then didn't really do anything to support future steps. – TPA20*

**Summary:** Section 5.1.1 posits that profession aspirations, coupled with government strategy triggers planning for advanced practitioner roles. Participants indicated that health system direction on advanced practitioner roles is not clearly articulated. The complexity of the system in which NPs and PPs operate, means that failing to express a strategic direction for advanced practitioners is likely to affect later steps in their formation. Part of this direction requires policy entrepreneurship from within nursing and pharmacy professions.

### 5.1.2 Defining workforce requirements, and restructuring the profession

Changing demographic trends coupled with inequalities in health emphasised the need for a workforce catering to population-specific health concerns while making efficient use of its resources. TPA4 described reasons behind creating NP roles:

*Everyone was grappling with the need to provide access to [care for] patients... They were broad thinkers, knowing... that the more health practitioners you can get qualified and can give patients access to the better health you're going to get in the community. We didn't need to keep reinforcing that with them because they were seeing the health environment as a whole. – TPA4*

The initial prescribing role for nurses was in the area of aged care and child-family health. Participants questioned the intended effect of creating registered nurse prescribing in these areas:

*You couldn't choose two more complex areas. If the decision had been okay, we want to give the green light to nurse prescribing, let's choose... something where it was somewhat circumscribed... That would make sense... that action set the whole thing back. It was building up... steam and... people were starting to align themselves with the fact that this was a reality but by doing that... was it just a ploy on the part of government and the Ministry to slow the whole thing down really, because realistically it was never going to happen. – TPA19*

Until April 2017, NPs were able to register in scopes limited to specific areas only. Interviewees suggested that these scopes have constricted NP practice, potentially impairing the relevance of their roles (section 6.1.1). One of the original intentions behind establishing NP roles was to have individuals operate in broad scopes. NP roles were to differ from those of clinical nurse specialists, who were to operate within tighter (specialist) areas. Narrowed scopes could have made it difficult to distinguish NP roles from those of others in nursing:

*They should not have been narrowed like they've been narrowed... The scope of the nurse practitioner needed to be at population health end... The issue was it became narrower and narrower, and now they're banded right in with clinical nurse specialists. And that was the warning. That was the warning... internationally. But there's a massive need for them, and we need more of them. – TPA10*



*I was at a meeting... with one of the physicians and he said 'Oh we've got a really good team of nurse specialists'. And I said 'No, no, we've got both nurse practitioners and... nurse specialists.' He replied, 'Oh, what's the difference?' ... It's going to be even worse because the Nursing Council are now giving CNSs [clinical nurse specialists] prescribing rights, and you've got specialist nurses and nurse specialists, and nurse practitioners – it's so confusing to try to articulate what the differences are. – NP\**

The NCNZ list of registered nurses offers evidence supporting this NP's statement. There are many largely similar NP scopes of practice. In PHC scopes, for example, a NP could be registered in either primary care, primary health care, or primary health care (rural health). NPs, despite working in similar areas are not fully interchangeable. Therefore, a NP's scope does not clearly define their potential role.

However, NP scopes are currently broadening:

*Now we've got much broader practice definitions, so we've got primary health care, acute care... There's a lot more room for manoeuvre within those boundaries... Rather than trying to squeeze themselves in a niche, because that niche was supportive. – TPA12*

During the writing of this dissertation, the NCNZ gazetted new NP scope of practice requirements potentially enhancing workforce flexibility and more appropriately meeting health system requirements (Reed, 2017). Newly registered NPs have broad scopes without constraints stipulating practice in specific areas. This should expand the ability for NPs to contribute within the health system, while at the same time make distinct differences between NPs and clinical nurse specialists.

On the other hand, a minority of policy interviewees emphasised potential issues that may arise when not specifying practice areas. Such issues surround the inherent uncertainty within the greater health system when unable to differentiate between roles:

*You could be a nurse practitioner in respiratory medicine but as far as the world is concerned, you're a nurse practitioner. You're not a specialist in a subarea so it's very hard for a system to know these are the things you should be looking after and not these things. It's very hard to say we can open up access to nurse practitioners in respiratory medicine because that's technically not a thing. – TPA6*

Both NPs and PPs were introduced to improve access to care. PPs (designated prescribers) must work under a designated schedule of medicines delimiting their prescribing formulary.

## Role Creation

They have greater limits on the quantity and range of medicines they can prescribe than authorised prescribers do. Policy interviewees specialising in pharmacist prescribing emphasised that defining the PP as a designated prescriber affected their viability:

*The list is a very mechanistic way of going about it because to say that this drug is safe for a nurse or a pharmacist to prescribe kind of misses the point. It's only safe around the context of the patient, their diagnosis, everything else about them. – TPA5*

Some participants (mainly PPs) commented on the need for an appropriate and recognised structure in nursing and pharmacy to facilitate planning for this new workforce. As it currently stands, individuals explained that the PP role essentially does not exist:

*The Government hasn't discussed potential roles with DHBs or made any movement at all towards supporting the role. At this stage, the role doesn't exist. People might be able to chisel their way into a role but that's not common... The biggest limitation towards moving forward is simply that the Government doesn't support the roles. – TPA7*

*There's sort of no role... The expectation is that we're going to help people when we can barely help ourselves... I don't think anyone managed to get full-time funded work... The role is not there. – PPI*

Part of this redesign should involve laying out how the advanced practitioner workforce fits within greater nursing and pharmacy professions. In considering this, participants noted limitations in the ability to pursue clear training and employment career pathways.

Remarking on the poor uptake of PP training, one individual commented:

*That's an example of rolling out a new expanded role without really looking to see did the people have the skills and the ability to take on that role. There's an assumption that pharmacists are sitting there waiting to do these new roles with all the skills at their fingertips, but if you're not using those skills in practice and you've got a new role, you can't just roll out the new role and hope it's going to be successful. – TPA17*

Participants viewed the introduction of the registered nurse prescribing pathway as one way to enhance clarity as to where the NP role fits within nursing career pathways:

*It's viewed as a bit of an uphill battle in some cases... Our vision for registered nurse prescribing is to make a more clearly defined advanced nursing career pathway because we're envisaging that registered nurse prescribers are more than likely to progress on to become nurse practitioners. – TPA11*

NP10 provided alternate sentiments to TPA11, pointing out that NP career pathways might not exist in workplaces that see individuals without advanced training as able to fill similar roles to NPs. They also suggested that certain classes or individual NPs might not be required:

*The problem is the politics and the support... I know all these people who would love to be nurse practitioners and have the absolute skill to do it or even have their master's, and they hear 'no sorry, I could employ a CNS' and it stops them. – NP10*

More broadly, NP10's comment mirrored others stating that individuals may desire to pursue advanced practitioner pathways, but will not necessarily be able to do so if they are not part of the required workforce.

**Summary:** Unclear scopes of practice, uncertainty in the advanced practitioners' health system and profession-specific position (context) have constrained system planning for advanced practitioner roles (mechanism), and have resulted in ineffectively created roles (outcome). Recent moves to define the scope and limits of NP roles clearly (context) may enable planning for roles (mechanism). This should positively influence role creation in the nursing profession and in the health system (outcome). The NP role expanded when legislation changed to make them authorised prescribers. It is likely that similarly expanding the PP scope would improve their contribution to health care delivery.

### 5.1.3 Funding

This section lays out findings from research participants on funding (context) influencing the planning of advanced practitioner roles in New Zealand (mechanism). Interviewees emphasised that government funding was an important component ensuring training uptake and employment opportunities:

*The role is as it was intended to be, the pressure will now come on in terms of the employment structures and to some extent, the funding structures as to how much those nurse practitioners can practice in the way that it was intended. – TPA3*

With the exception of the first cohort, PPs do not directly receive government funding for their prescriber training. However, they may receive funding from their workplace, DHB, or PHO. NPs are able to access funding from a variety of sources. This does not necessarily mean that they receive funding for their entire postgraduate training. Policy interviewees noted that inconsistent funding affected the ability to plan for PP roles and,

therefore, to create a supply of advanced practitioners. As TPA8 noted, accessing funding is the part of the process to begin PP training where everything “falls over” for those in PHC. While prospective PPs in secondary care may have found their DHB willing to fund them, PHC PP candidates faced additional problems in accessing funding. They were consequently likely to self-fund training. PP\* highlighted the value of accessing funding on their decision to take up advanced practitioner training:

*The Health Workforce demonstration pilot was definitely a positive because that funded the training and it supported us to do the course; we wouldn't be here now if that hadn't happened... Sometimes I think 'would I have done it if there wasn't the funding for it?' As of now, I have not been paid a premium to be a prescriber. – PP\**

NPs received funding for training from various sources including the Accident Compensation Corporation, and the Clinical Training Agency (now administered by HWNZ). NPs have established pathways for funding and they recognised the benefit this had in the establishment of their roles. Research participants generally viewed government funding as a primary feature triggering planning of advanced practitioner roles. These inputs into the development process were particularly important for establishing credibility to the advanced practitioner role.

Government funding encouraged the uptake of new roles. TPA11 explained, “there was recognition that we were going to have higher primary care needs so there were primary care nursing scholarships, so nurses could be funded to do papers at university.” As TPA2 noted this response to a perceived need also legitimised the profession receiving funding:

*One of the biggest shifts I saw... was the medical and nursing professions, and even the funders saying they've moved from the question 'why should a pharmacist prescribe' to 'how do we make it happen'. Had [funding] come on board then even the professional bodies would have had something to [support]. It was quite hard for the professional bodies to [support] something that wasn't being funded for... That was probably the biggest downfall; ... there was the established lack of job description and no funding to support the role and to implement it. – TPA2*

Thus far, this section has focused on the positive influence of having accessible funding on establishing NP and PP roles in the health system. One participant however, noted the potentially constraining effect of having access to funding. TPA22 described how access to funding affected trainee NP views on their training:

*The whole funding of postgrad education for nurses it's a phenomenal blessing. It's made a huge difference to how nurses are able to practise in this country. But, on the other side, what we see quite a bit of is this whole sense of entitlement. – TPA22*

Participants also discussed the influence PHC funding streams had on creating advanced practitioner positions. NPs and GPs have access to a range of funding sources (section 4.2.4). While NPs can access these funding streams for their roles within PHC and can enrol patients under their own names, PPs cannot. As PP3 pointed out, PPs must actively search for funding to establish their roles within their workplace:

*The barriers have definitely been a lack of a defined model or any defined structure afterwards. We were bushwhacking and finding our own way. In whichever context we were working, people had to go and advocate for themselves, advocate for the roles... The practice doesn't get any funding for a pharmacist prescriber... they have to reassign money out of the GMS [General Medical Services subsidy]; there isn't a funding stream that we can tap into. – PP3*

PPs saw changes to funding models as potentially allowing for new forms of practice to eventuate in PHC. As mentioned in Chapter 2, while introduction of PHOs and new funding streams were to facilitate increased use of nursing roles, this did not necessarily eventuate (Finlayson et al., 2012). In my research, TPA14 expressed that creating new roles in PHC occurred slowly responding to flexible funding pools:

*A couple of funding streams that used to be allocated to particular types of things were freed up. It became more of a flexible funding pool so that primary health organisations and GPs could kind of pick a little bit more how they use their funding to strategic advantage better. It takes a while for those... decisions to filter down into changing practice so we may see increasingly new GP models of care, possibly using more pharmacist prescribers as people get familiar with what they can do and then their value-add. The health sector is remarkably slow at changing. – TPA14*

Contrasting the view that funding triggers planning, TPA9 implied that the influence of funding as a feature enabling creation of advanced practitioner roles was minor:

*Ultimately, when we have permissive funding models I may be wrong and nurse practitioners may exist in their thousands... I bet you they don't and the reason why I say that is that of all these years where's the noise for the demand? – TPA9*

Sections 5.1.5 and 5.3 explore the concept of “the noise for the demand” further when considering health system promotion of advanced practitioner roles, and their value-add.

**Summary:** Funding (context) influences planning for advanced practitioner roles (mechanism). This context is both an indicator of support for a role, and encourages uptake of advanced practitioner training or roles. As with all other contexts, funding operates alongside many other features. Dalkin, Greenhalgh, Jones, Cunningham, and Lhussier (2015) point out that triggering of mechanisms occurs on a continuum of ever-evolving context. Consequently, changes to funding are only one means by which planning may be triggered. It may have positive and negative effects.

#### 5.1.4 Legislation

Advanced practitioner literature reinforced the concept that supportive legislation and practice standards enabled NPs and PPs to operate to their full scope. Legislation was a context that triggered workforce planning. As mentioned in section 5.1.1, research participants felt that structural changes in features such as funding and supportive legislation did not always accompany changes in government strategic direction:

*When the Ministry launched the 2001 Primary Health Strategy, they put in place a very visionary strategic document..., but they left... all of the operational constraints that protected the old way... They left the funding model favouring the old model of general practice, they left the employment of practice nurses with GPs, they wrote general practitioner into the PHO/ DHB contract so that nobody... [knew] whether nurse practitioners could enrol patients. Nobody was very clear about whether nurse practitioners could claim capitation... you can't have a vision around workforce flexibility and new roles and new ways of doing things but leave in place all [the] structural constraints that made it possible for the existing vested interest... to stay running the show. – TPA3*

Legislation sets the structure in which nursing and pharmacy work. NPs, PPs, and TPAs added their opinions on the impact of legislation on role creation. Several individuals noted that inadequate legislative change adversely affected role establishment:

*There's clunkiness in the system that's created by contracts and previously accepted or acceptable practices... A lot of these things have been developed long before nurse practitioners were ever invented, long before pharmacists ever prescribed... The legislation... hasn't kept up to pace with how fast we've progressed our professions. – NP7*

One policy interviewee highlighted the impact of legislation on the nursing profession's actions in planning for roles:

*All the other little adjustments were made to get it through and satisfy the barriers and to meet what was required in the regulations... If we'd gone for all registered nurses [prescribing], ... or all clinical nurse specialists or all nurse practitioners... we'd never have got any of it through, or we wouldn't have got any momentum. – TPA4*

*The other thing we wanted right from the beginning in the legislation was no differentiation between prescribing and nurse practitioners... The Government imposed that on us by the way they worded the Medicines Act and the regulations. We didn't want to hold back nurse practitioners, so we got around that in the first instance by saying nurse practitioners without prescribing and nurse practitioners with prescribing. – TPA4*

Participants noted the impact of separating practitioners into authorised and designated prescribers. Two things became apparent from participant comments. Firstly, being a designated prescriber might have artificially limited the ability to deliver health services. Secondly, classifying individuals as either 'authorised' or 'designated' was a concept poorly understood outside of the policy arena and health professions. This lack of understanding manifested in greater workplace and professional hierarchies:

*In principle, all prescribers must prescribe within their scope of practice and, for pharmacist prescribers... prescribing within the limited list is part of their scope of practice... It doesn't make any sense to have this distinction... It sort of perpetuates... the hierarchical distinction about prescribing – that medical practitioners are authorised to do whatever they want and everybody else must have a different title because they've got conditions on their prescribing. – TPA14*

TPA8 and TPA16 explained the limitations placed on the ability to prescribe for PP and previously for NPs:

*[PPs] are designated and have a list of medicines, and... they're only allowed to prescribe for controlled drugs three days..., it almost precludes them from working in pain management [or]... mental health... It's got more risk of fragmenting care than enabling them to prescribe within their scope of practice with no limitations on what they can or cannot prescribe... It's quite unworkable... if they're working in general practice it's likely to be a barrier because they can only prescribe certain medicines off the patient's list when they come to see them. – TPA8*

*At that stage, nurse practitioners were still designated prescribers... What happen[ed] was people [said] ... 'we can't employ a nurse practitioner... because they can't write a sickness benefit, they can't order a termination of pregnancy'... The truth was they didn't really want them so they use the barriers as the reason. – TPA16*

Additionally, TPA18 commented that designated roles prevent health professionals from being adaptable to patient needs and changes in best practice:

*Nurse practitioners worked... as designated prescribers from a set list of medicines. That list of medicines had been around for a while..., with new drugs coming in etc. they weren't added to that list... If you were working in cardiac and someone appeared with renal issues, under designated... you prescribed in your area of practice... You might have had the skills, knowledge, and competence to prescribe in renal... [but] you couldn't prescribe in that. Whereas with authorised it opens it all out. – TPA18*

When thinking about legislation as context for establishing advanced practitioner roles, it became apparent from interviews that some individuals questioned the impact legislative amendments had on the establishment of advanced practitioner roles:

*The act might pass in favour of us being able to increase our range of practice, or at least work to the top of our scope. But there's regulations that come in under that act that also have to be changed... There's enough instances of that that the Government or the ministers involved have started to realise that there is some stuff they're going to have to say 'okay, look we're just going to do that'. – NP7*

Some of the first PP cohort commented on the effect of having to wait for legislation to pass following completion of their training:

*I had been aware of it and once it became known that there was a possibility that we could enter ... we had no surety at that stage, the legislation hadn't been passed. I guess it was a bit of a risk to take and say okay, I'm really prepared to do that... We got through that first year of the course and it wasn't until June the following year that the legislation was passed. – PP\**

**Summary:** As a contextual feature, legislation can either enhance or constrain workforce planning. In New Zealand, legislative changes lag behind changes in health system requirements. Principally, this legislation governed the scopes under which advanced practitioners operated, and modified the strategic environment in which they worked. Such features appeared to diminish planning for advanced practitioner roles (mechanism) and, therefore, adversely affected the creation of these roles (outcome). At the very least, as NP7 above noted, legislation might have left in place legacy arrangements and constructed additional hierarchies that failed to support establishment of advanced practitioner roles.



### 5.1.5 Promotion

Advanced practitioner development, particularly the initial formation of NP roles, occurred against widespread resistance from groups within the health sector, see for example Moller and Begg (2005). This resistance to change in New Zealand mimicked resistance seen in other countries. The MOH, NCNZ, DHBNZ, & NPAC- NZ (2009) report on the first 50 NPs in New Zealand emphasised their trailblazing role, and also the need for additional promotion to help establish these positions. Part of this promotion necessitated government and cross-agency action to embed roles into the health system. Little active promotion of advanced practitioner roles has occurred:

*There's been no publication, no advertisements. We are... becoming an integral part of medicine, of nursing –we're in lots of clinics and lots of hard to fill areas. There's never been a public campaign about it. – NP16*

*What... influenced [the NPs] was lack of recognition and support from the top. When I say the top, I'm... talking more about governmental support through... the Ministry of Health, HWNZ, DHBNZ and those sorts of things... There's generally good support from within professional organisations but... at that wider level there's never been... a forum on non-medical prescribing that would involve all of those parties. – TPA19*

As PP6 stated “one of our biggest barriers is nobody... knows what we can do, and no one knows what we do, do.” Research participants discussed the importance of health system familiarity with advanced practitioner roles as it relates to ensuring effective role creation:

*I have brought many other people along the journey with me. Many people don't know what a nurse practitioner is or have never worked with one. There were many negatives to that and I wore a flak jacket for quite a long time. But they've now got to know the NP role and that's from visiting consultants, to the nursing staff I'm working with, to the community. It's paving the way for more NPs to come through, because now people are familiar and there is not the suspicion or the unease because we aren't working in a traditional nursing role. – NP7*

As mentioned in Chapter 2, successful introduction of advanced practitioner roles depended to some extent on the level of stakeholder involvement during various stages of implementation. The question of where responsibility lies for promoting these roles is one where amongst NPs and PPs there was an almost unanimous call for MOH role promotion. PPs also called for greater promotion from their professional representative bodies:

*I've done quite a lot with GP conferences and rural GP conferences as well, trying to make people really clear on what our role is, where we work, what our limitations are etc... There's Ministry of Health, Health Workforce New Zealand, all the pharmacy stakeholders need to have a role in that. Health Workforce New Zealand, they were the ones who supported the initial cohort of pharmacist prescribers so you'd like to see some more skin in the game from them. – PP8*

As PP8 advised, promotion of advanced practitioner roles cannot be the sole responsibility of one group. There is a need for all parties to be involved:

*Because education and understanding, and seeing and meeting and having nurse practitioners talk about their practice – that will change things as much as anything else. It's a multi-pronged thing. Same with any other prescribers we've got in the country. – TPA16*

Several PP interviewees commented that they were part of a minority in pharmacy and consequently, the PSNZ, the largest pharmacy membership body in New Zealand, saw little value in providing support. The PSNZ thinks differently, see Norton (2015a). PP5 further elaborated:

*The Society acknowledges pharmacist prescribers. It's funded by owners, who pay for the subscriptions of their pharmacists... [The PSNZ are] very careful... if they're not seen to be supporting community pharmacy, that's where most pharmacists are, then what are they doing? It's hard for the Society. – PP5*

This has placed PPs in an interesting position. Without having the PSNZ's active support for these new roles, the question must be asked: is the role valued? This is the same question TPA9 (page 117) posed when asking, "where is the noise". If the profession itself is not making 'noise', that is, promoting the role, then successful planning for these positions in the health system will not occur. PP4 made an interesting comment on the impact of poor support from within the pharmacy profession. They explained that working in a supportive team means that assistance from within pharmacy is not necessary for their continued practice. They however, acknowledged that this lack of encouragement impaired this new profession's attempts at growth, acceptance, and moving forward. TPA13 conveyed that pharmacy's lack of impetus to promote new roles stemmed from being tied to community pharmacy interests. PPs do not operate in these businesses. Introducing these roles into the health system, therefore, did not directly affect the majority of pharmacy:

*Pharmacy is some of their own worst enemy... You've got your professional body and the Guild, and I've... said you've got to open your mouths more, you've got to protest more and speak up for patients. But it's because of this funny model we've got; survival is to sell a whole lot of other stuff. – TPA13*

During NP role introduction, attempts were made to promote these new health professionals. Promotion included publications by the MOH shedding light on the work of the first 50 nurses who qualified as NPs (MOH, NCNZ, DHBNZ, & NPAC-NZ, 2009), and a national roadshow in 2000 conducted by the MOH (Thomas, 2017). Participants raised questions regarding the effectiveness of promotional endeavours:

*We went to every DHB in the country and did a 'here this is what a nurse practitioner is'... In every DHB, we preached to the converted..., none of the funding and planning managers... [or] CEOs came. If the Ministry had sent out a letter saying, 'we're going to create a new medical role',... the funding and planning managers, chief executives, [and] senior management team would have all turned up. Because it was a nursing role, they sent the director of nursing and stayed away so they remained ignorant. – TPA3*

Furthermore, the question of visibility is seminal to promoting health system roles:

*Central government promotion of the [PP] role could have been better. They've profiled cases and put things on Health Workforce [New Zealand]... but... the general, general practice... doesn't... know that these roles are out there and that they could be employing someone... I don't doubt the information is there, it's the visibility of the benefits of [having] these roles... At a strategic level all the connections have probably been made but at the grassroots level, ... the practices... in primary care and maybe even in some hospitals don't necessarily... know to what value am I going to trust and employ [a PP]. – TPA2*

Policy interviewees and advanced practitioners noted actions occurring within the health system to improve the visibility of advanced practitioner roles:

*There are not many nurse practitioners so there are not many GPs who have worked with a nurse practitioner. When that incident... cropped up with the nurse practitioner who wanted to join a peer group, we did a bit of a profile of her... in the hope that this would raise awareness of what nurse practitioners look like, who they are and what they do. – TPA21*

Some interviewees commented that lack of visibility might be a greater issue for PPs. Many of the interviewed GPs who were not working with PPs incorrectly assumed that these individuals worked in community pharmacy and consulted with patients on

treatments such as the emergency contraceptive pill. In New Zealand, any registered pharmacist who has completed additional accreditation training may perform such consultations. Pharmacy is a profession not typically associated with work in medical centres, or with other health providers in primary care. Instead, it is a profession with its own domain, typically the community pharmacy:

*Nurses are pervasive across the community and, therefore, it's likely that nurses are more likely to be successful in these wide-ranging roles because they already have roles in those circumstances already, whereas here pharmacists sometimes don't have those roles and stepping into a role and then have a prescribing version of that role becomes more complicated. – TPA7*

Launching PP roles into the health system is occurring concurrently with introducing pharmacists into general practice. Trials for pharmacist facilitator positions in the Hawkes Bay and Southland regions of New Zealand are suggested to have improved care coordination (McMillan, 2014; Norton, 2015b). These roles have the advantage of increasing visibility of the pharmacy profession outside community pharmacy. However, introducing a new concept into clinics that previously lacked any pharmacist roles may be controversial, particularly amongst the pharmacy profession:

*There was neither a push from that part of the profession nor a pull in terms of business model... How good would that business model have to be for me to leave my world where I'm king or queen, where my consumers really like me, I'm making a comfortable living, I have autonomy, into a world where I've got to deal with the traditional hierarchy of health care, doctors etc. I mean this is threatening. – TPA9*

Ineffective planning for advanced practitioner roles impedes their creation. It is a consequence of poor appreciation, and an unwillingness to gain insight into the advanced practitioners' intended roles and the processes creating these roles. Advanced practitioner policy creation involved stakeholder consultation and research. Yet, promoting these roles occurred with little thought to expanding the awareness of other parties:

*A number of those professions saw this as a lever to advance their own particular professional interests. It became increasingly apparent that each of those individual groups, nursing, pharmacy, and physiotherapy etc., had very little understanding or perspective on the other groups. It was really about what we can do and how we can contribute. It wasn't looking at it from a public health or patient perspective. – TPA19*

Nursing, pharmacy, and medical professions are the three main bodies impacted by the introduction of NP and PP roles. If the former two professions lack an appetite for new roles, then there will not be any real uptake of advanced practitioner training opportunities. TPA interviewees and advanced practitioner interviewees remarked that the nursing and pharmacy professions exhibited apathy or resistance to introducing these new roles. This resistance may have affected the establishment of advanced practitioner roles:

*Even within my own profession, there's a degree of antagonism towards nurse practitioners. Probably not so much in this country, but... nurses are seen to be selling themselves out to medicine by becoming NPs. A bit of the tall poppy thing, who do they think they are? What makes a NP better than a regular RN? So it's not plain sailing within nursing itself, let alone when we look at it with reference to other professions. – TPA\**

*I don't think even other parts of pharmacy understand how the pharmacist prescriber role works and what its value-add is... it's no surprise that other parts of health, let alone the wider sector or community, don't understand the role... There needs to be systematic support for a new role like that, for it to grow strong roots and really add value... In the funder/ employer part of the world, I don't really think the thinking has moved on a great deal, and in the pharmacy sector, I don't think that the thinking... [has moved to] what needs to be in place to support the role. – TPA20*

Organised medicine (such as medicine membership groups) and individual medical doctors influenced the shape of advanced practitioner roles. Perhaps no better comment illustrated this point than that of NP4:

*The deputy chair, who was a nurse practitioner, asked a question and his [then Minister of Health, Jonathan Coleman's] comment was if she worked really hard, she could become a doctor too. – NP4*

As mentioned previously, individuals in the health system have their own agenda. The comment by NP4 is particularly telling as Dr Jonathan Coleman, the Minister of Health (2017), had previously worked as a GP. The Minister of Health's perspectives on advanced practitioner development will invariably direct health workforce planning.

As an example of the effect patch protectionism had on system responsiveness, TPA13 noted that the influence of the medical fraternity hindered attempts to promote advanced practitioner roles within policy:

*The Nursing Council needed to be more nimble, and they needed to be more assertive about what they wanted and fought harder over things like nurse prescribing... When it came to nurse prescribing, we immediately got into the old patch protection battles... The New Prescribers' Committee was meant to be able to decide who could do this. It has made hardly any progress... maybe there were so many other things on their plate, and they weren't getting a lot of encouragement. – TPA13*

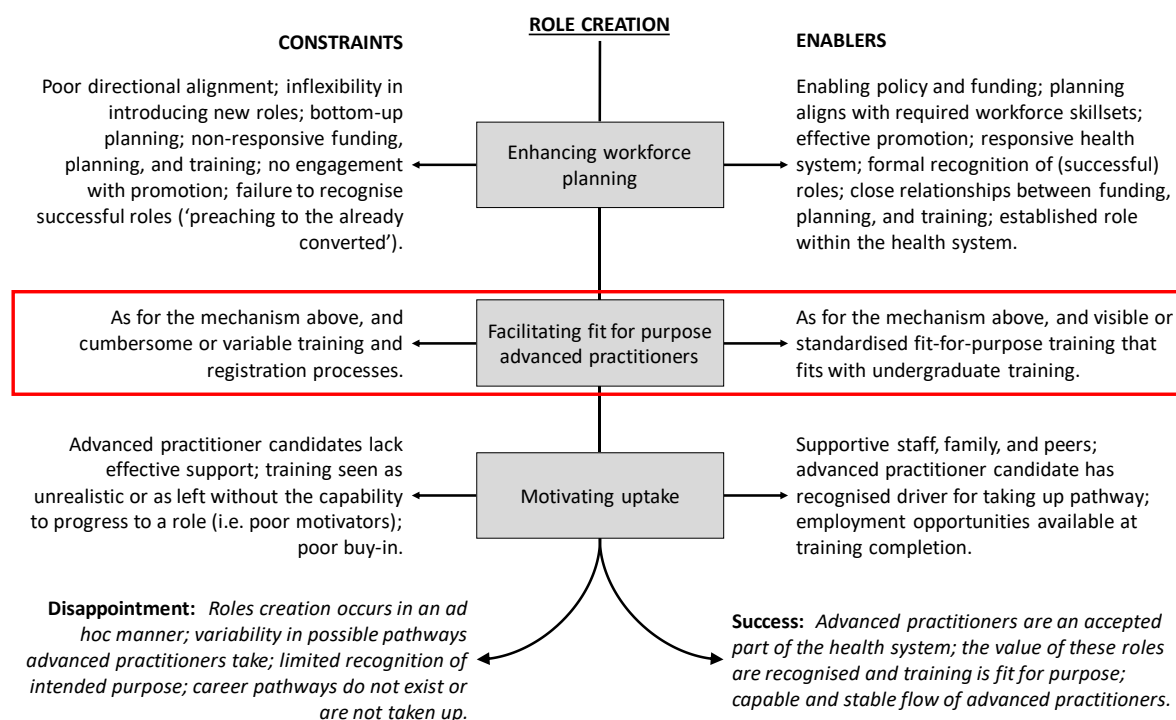
The consequence of government failing to recognise the value of advanced practitioners appears to be poor progress in promoting these roles. Interviewees discussed differences in the perspectives of individual and organised medicine. Historically, organised medicine favoured arguments against the safety and competence of advanced practitioners, and for the value of medical education. TPA14 underlined the difference between views expressed by individual physicians and organised medicine:

*When they're not wearing their official hats, they're very open to the use of other practitioners in the prescribing space. But when they're making formal submissions... or when you're in more formal meetings when there are large groups of them, they typically sort of adhere to this principle that you have to be a medical practitioner in order to have the diagnostic skills to prescribe adequately. – TPA14*

**Summary:** Promoting advanced practitioners is necessary to entrench them within the health system. Enhancing workforce planning requires a drive to promote these roles. While advanced practitioners may advocate for their own role growth, they did not necessarily view their positions as well established. Interviewees suggested that within nursing and particularly pharmacy professions there was poor promotion, visibility, and support for advanced practitioner roles. They identified that patch protectionism remained amongst the medical fraternity, and that government agencies, such as the MOH, failed to promote these roles effectively. The health system failed to recognise these new roles.

## 5.2 FACILITATING FIT FOR PURPOSE ADVANCED PRACTITIONERS

The second mechanism described by participants as affecting role creation is 'facilitating fit for purpose advanced practitioners' (red box, Figure 5.2). If training is not fit for purpose, then workforce competence and credibility will reduce. The following section outlines constraining and enabling contexts triggering this mechanism (middle shaded box). Interviewees identified contextual features as those related to clarity of training pathway, feasibility and accessibility, and relevance. Additionally, they indicated that features in section 5.1 also influenced this mechanism.



**Figure 5.2: Contexts triggering facilitating fit for purpose advanced practitioners.**

The following subsections present an elaboration on the effect of these contexts on the mechanism of facilitating fit for purpose advanced practitioners.

### 5.2.1 Clarity of training pathway

Training of advanced practitioners occurs at the postgraduate level after many years of work in related fields of employment. Part of the training for both NPs and PPs involves an in-house practicum intended to provide candidates with relevant experience. In the past, training pathways for NP candidates were not so well defined; candidates and those who worked with them lacked knowledge of the process to become NPs:

*My idea of transparency is within the training. So, for example, you as a pharmacist will have finished school, started your degree, there's a set pathway and there's probably some structure post-graduation too... We're really good in terms of our registered nurses, but what happens after that?... I got here accidentally, as I said. It doesn't mean I put any less work in. It doesn't mean that I didn't learn what I needed to know. I've met all my competencies. But it was hard because there was always some sort of what paper do I have [to do]. – NP7*

Participants observed that lack of clarity (standardisation and fit with past training) in training affected the perceived legitimacy of advanced practitioner roles. GP9 expressed

concern that unstandardised training pathways led to poor comprehension of NP competencies:

*Their route to nurse practitioner is very varied depending on your background, whereas everybody who's a GP or other doctor, you've been to a medical school somewhere and there are similarities in your training... Whereas the nurse practitioner role, depending on where they were, their route [varied]. – GP9*

Concerns over the lack of training clarity are in line with the experiences of other NPs who suggested that they received conflicting or incorrect advice over the papers required to complete their master's qualification. Introducing the new NP training programme (piloted at present, 2016, and 2017), registered nurse prescribing, and new registration requirements should improve programme clarity, resulting in perceptions that the NP workforce is standardised and fit for purpose:

*That's what makes it transparent, ... people can say 'oh okay, so you've done that course, you've done that training'. It makes people feel better; it gives people more confidence. I'm not saying they're going to be any better NPs than we are now. The fact is we've met the competencies. What it might mean is we have more people get to panel, that get to meet the competencies because their training is a bit more consistent. – NP7*

GP2 commented that having a clear appreciation of the requisite training and competence of NPs meant being able to understand where the role of one health professional ends and where the next begins:

*It's not that I think the nurse practitioner isn't clinically competent; I don't know. I've got no information about that. Try as I might... I couldn't get the syllabus off the website and I was thinking apart from applying to do the nurse practitioner training master's, I'm not sure how else I'm going to get the information I want... That information should be readily available for doctors who are working with them, as well as patients who are using them as their sole practitioner, their sole provider of clinical expertise. – GP2*

GP2's statement emphasised two contrasting points. Firstly, clarity on NP roles can enhance confidence in advanced practitioner abilities. On the other hand, such discussions have traces of paternalism. That is, where GPs being the 'leader of the team' have a need for oversight of other members of their team. Still in 2015, the MOH described NP roles as acting as physician extenders (MOH, 2015b). Expectations to have access to NP syllabi emphasise that GP2 did not necessarily recognise or understand NP competence standards.



NP candidates submit portfolios for review and pass oral registration examinations to become advanced practitioners. NPs, GPs, policy interviewees, and PCs noted concerns with the level of standardisation of the NP examination process. Their concerns related to variability in examination outcomes due to the capabilities and make-up of examination panels. In addition, NPs expressed concerns over variability in requirements for their portfolios. Section 5.2.3 further describes these points.

Historic variability and lack of visible standardisation in NP training pathways and registration processes inhibited fit for purpose advanced practitioners; this impaired role creation:

*I had a really good panel, my portfolio was pretty good because they didn't come back and say we need this, this and this ... I had a friend... who I remember always thinking wow, ... you'll smoke it... She had to go back twice... It sounded like the kind of make-up of her panel was not great... It's very subjective. And that is going to change, which is a good thing. – NP16*

Moves to streamline the NP registration process are currently underway. According to TPA16, changes to the process would:

*Mirror what we're doing for others but it would also... start to set a bit of a gold standard so then employers could have more confidence that when they're employing a nurse practitioner they've all met the same education, supervision, competency and registration requirements. – TPA16*

The pathway to becoming an advanced practitioner begins with undergraduate education. As such, undergraduate and postgraduate training must align to facilitate training uptake and continued educational relevance across a career pathway. Several individuals (particularly PPs) commented on the irrelevance of their undergraduate training in establishing a pathway for future training. Interviewees indicated that undergraduate training did not fit with the training expectations in the PP course. Given that PP interviewees completed undergraduate training many years previously, their comments are unsurprising. However, when undergraduate training fails to align with postgraduate training, PP training uptake is likely to be low. This begs the question of whether the PP course should exist without catering to pharmacy undergraduate training.

*The underpinning training that a BPharm gives pharmacists... doesn't necessarily lead on well to being a prescriber... because there's core skills and knowledge that prescribers need that isn't taught well in the BPharm and postgraduate work. – TPA17*

*The postgraduate diploma... [is] where it needs to start. I don't think at undergrad level you can do all of that... The postgraduate programme should be redesigned to support progression through to pharmacist prescriber, whereas now it supports... a progression through to master's and PhD. It's not really fit for purpose where we're evolving to. – PP4*

Interviewees did not raise concerns over the clarity of the PP training programme. Rather they were more likely to indicate that potential employers did not know that these roles existed in the first place (section 5.1.5, above).

**Summary:** Participants indicated that training pathways lacked clarity. Standardisation and fit with past training (context) is necessary to trigger a fit for purpose advanced practitioner workforce (mechanism). Without it, a lack of certainty remained over workforce capability. Concerns surrounding the standardisation of NP training and registration lend weight to this CMO configuration. Further changes to NP training programmes also reflected the importance of clarity in facilitating a fit for purpose health profession. Discussions on the next two contexts further illuminated these concerns, describing how 'fit for purpose' advanced practitioners exist only where training is feasible, accessible, and relevant.

### 5.2.2 Feasibility and accessibility

Advanced practitioners require formal feasible and accessible training programmes to become a competent and credible health workforce able to meet health system expectations. Workplace and regional features influenced the suitability of education programmes. Interviewees discussed this concept in relation to differences between (1) PHC and secondary care, (2) training programmes and prescribing practicums, and (3) funding. This section explores the former two factors in more detail; however, the latter feature is covered in section 5.1.3.

#### *The PHC and secondary care divide*

Workplace features influenced advanced practitioner candidate abilities to participate in training. PHC and secondary care have different capacity to provide candidates with dedicated learning time and time to participate in training. TPA4 noted issues for individuals in PHC to participate in advanced practitioner training:

*It was difficult for primary health nurses to get through and meet all the requirements... the doctors who employed them wouldn't free them [for training]. It was difficult for them to get to lectures and complete the course. Then with the prescribing practicum as part of the master's course, they had to have a doctor supervisor. Usually, that would be the doctor with whom they worked, so if the GP that employed the primary health care nurse wasn't actively prepared to support her prescribing then... they couldn't complete the course. There were more barriers for primary health care nurses than there were for nurses in hospitals with consultants who were really happy to support them all the way through – support the practicum, give them the certainty, the prescribing under supervision that they needed, sign it all off, help them to get there. – TPA4*

#### *Training programme and prescribing practicum*

Several individuals commented on the influence their workplace had on taking up training. PP candidates and NP candidates on the pilot programme required employer support as a prerequisite to enrolling in advanced practitioner training. All candidates required this support when undertaking their prescribing practica. Having this requirement for support may have limited the pool of would-be NP and PP candidates. Potential candidates without solid workplace support may have wished to undertake training. Under such a model, they were unable to proceed down this pathway. Potentially competent candidates must forego becoming NPs or PPs:

*A friend of mine about three years ago had tried to find a prescriber... She could see like five or ten years ahead, she was really quite forward thinking. She got less than nothing. She got absolutely no support. In fact, she almost had the shutters come down... The university tried very hard to get her a prescriber... In the end, she gave up as she was battering her head against a brick wall. – NP3*

*Someone who's doing it has to have the support in their clinical setting, and they have to have a nurse practitioner position to move into... I don't believe it should be the only way because there are some people, because of all the politics, who... [won't] get the opportunity at work... This model means training as a nurse practitioner would be entirely dependent on the managers/funders/clinician. I don't think it should be the only way, but... it's better. – NP10*

The HWNZ board attributed a dearth of NP numbers to an absence of employer support and reluctance on the part of employers to provide appropriate remuneration (MOH, 2015d). On the other hand, from a health system perspective, having a requirement for workplace support may have facilitated the 'correct' candidates becoming advanced practitioners. In

such cases, only those candidates ‘wanted’ by their workplace will have progressed down the training programme. TPA16 gave voice to this argument by pointing out that completing advanced practitioner training did not automatically result in the availability of relevant employment:

*One of the problems many directors of nursing encounter is that you’ll get a nurse practitioner who was a former staff nurse or a rural nurse specialist or a clinical nurse specialist, who says ‘oh hi, I’m a nurse practitioner now so I want you to make me one’. You go ‘well (1) either you’re not the right candidate for the job, or (2) I don’t really want you to be in this job as a nurse practitioner’. – TPA16*

Using the words of TPA16, the ‘right candidate’ is a concept also explored in the academic world and used commonly in society to explain why an individual may receive a promotion or a job at the expense of another candidate. However, having the ‘right candidate’ to some extent goes against efforts to create advanced practitioner roles. As stated at the beginning of this dissertation, many nurses, having completed their master’s training, have not become NPs. This constraint potentially fails to enable goals of the New Zealand Health Strategy to use health workforce skills and training fully (Minister of Health, 2016b). The introduction of registered nurse prescribing has meant that registered nurses, having undertaken the relevant training, can prescribe. It has offered a chance for academia to identify their ‘right candidates’ and provided possible advanced practitioner candidates with the first step on their NP pathway. TPA16 continued to elaborate:

*That’s about getting a career pathway going, but getting the right person to the next level of their career from a university perspective, so academically. Then the employer says yes, and they’re the sort of person we would support, so there has to be employer buy-in, and we will promise to employ them at the end of it [when they complete their NP training]. So you can’t train them and then they not have a job. – TPA16*

TPA16 highlighted that, at a broader level, NPs lacked integration of their roles. Some of the interviewed advanced practitioners described difficulties in obtaining employment. At the start of their training programme, PP candidates are required to have identified a role where they intend to practise at the end of their training. This was intended to facilitate fit for purpose roles, and perhaps more importantly, it was to ensure advanced practitioner skills are used. In New Zealand, introduction of registered nurse prescribing, and the new NP training pilot occurred to streamline the advanced practitioner training process:

*It's to have a more work-ready cohort of nurse practitioners, it's to make the final part of education much easier to navigate and mean that the prescribing part is done with a lot of practice... It has to be done with an employer's support, and they have to have a position at the end of it. In the past, nurses have worked towards nurse practitioner, gone through... registration..., and then not been able to get a job as a nurse practitioner or work one day as a nurse practitioner and four days as a registered nurse. It's a lot of investment in education, ... time and energy in getting through the registration... not to have a job... [or] practice [at] your advanced level. – TPA11*

The introduction of the new NP training programme poses questions as to what the ultimate training pathway for NP candidates will be. Unlike undergraduate students, postgraduates (being older and more mature) are likely to have greater commitments to, for example, families, and work. Training under the new programme may not be sensitive to the needs of adult learners based around the country:

*People do it hard. The advanced training programme is a good way of sorting that. It might not be for everybody. We still need a way that you can do it if you're the mother of four kids and you can't necessarily get away; you've got to be able to do that extramural training. – NP7*

Both NP and PP candidates must undertake a practicum to prepare themselves for prescribing and other aspects of their role. NP candidates may receive funding for their practicum making undertaking training financially feasible. Yet, many NP candidates may require additional funding to cover supervision costs in excess of those already covered. PPs did not receive funding for this practicum. Advanced practitioners without access to funding may choose not to complete training programmes. As a result, this limited the accessibility of training opportunities and thereby impaired the ability to facilitate fit for purpose NPs and PPs through education:

*I gave the practice I work in some money for my mentorship because... they spent hours and hours teaching me... Nurses have this big issue. If you're a medical student, and you come into a practice you pay. They pay quite a lot of money. Nurses don't, because there's no money. I was dirt poor at that time. – NP5*

*You had a lot of help with that practicum. A lot of funding, Health Workforce New Zealand... helped fund that... I got money to pay my GPs to supervise me..., that kind of thing. At the end of that year, bang, it's all gone, and then you've got to... forge through, still to get supervision and stuff to get enough experience to become a nurse practitioner. – NP16*

Thus far, this section has focused on the feasibility and accessibility of advanced practitioner training for NPs and PPs. Briefly, before concluding the section, I would like to discuss this context related to the financial feasibility of continuing to run PP postgraduate education. This dissertation began by commenting on the poor uptake of PP training opportunities. Student numbers determine the extent of funding universities receive for courses. In 2014, no new PP candidates took up training. Although 2015 saw increasing numbers of PP students (Norton, 2015a), the course viability remained in doubt:

*The universities have supported this as much as they can, but essentially, when they run the prescribing programme, because of the number of students, it runs at a loss. Therefore, the university is supporting local... professional development and health care by running this programme when it costs more to run than it gets back from revenue. – TPA7*

**Summary:** Facilitating fit for purpose advanced practitioners (mechanism) requires catering to the feasibility and accessibility of training (context). Aspects of this context include advanced practitioner candidate training uptake, employer support, and adequate training systems. The feasibility of the advanced practitioner programme depended on having courses catering to experienced health professionals that (within PHC especially) may operate in environments antagonistic to creating new roles (section 6.2.3).

### 5.2.3 Relevance

All advanced practitioner candidates, irrespective of their intended practice area, participated in nonspecific training programmes to become NPs and PPs. The two New Zealand schools of pharmacy conduct PP training. There are eight New Zealand schools of nursing offering clinical master's training as a prerequisite to applying for registration as a NP. Section 5.2.3 reveals the quality and relevance of advanced practitioner training and registration programmes.

Looking to the first of these points, individuals had varying perspectives on the quality of training and registration processes. NPs felt that their postgraduate training provided opportunities to improve knowledge and skills, leading them to become competent health professionals with knowledge breadth and depth:

*When I did my prescribing paper and my master's, I was blown away by what I didn't know... It's like my goodness, we give all this stuff, and we've no idea... You felt..., [like] I know so much more about all these things. – NP12*

However, a small number of interviewees commented on problems with course quality. Interviewees questioned whether their training fitted NCNZ requirements, or prepared them for practice:

*In one of my case studies, the pharmacology person told me... that this wouldn't have made Council... Some of it didn't marry up. If you're going to do it there needs to be a very standard thing..., there're definitely some universities that... would probably let people through maybe easier than others. – NP12*

Being nonspecific, advanced practitioner training should prepare all candidates with the same minimum skill level. On the other hand, this training may fail to meet scope-specific requirements of individual advanced practitioner candidates. In line with NP12's comment, according to NP15 content-focused training may not have been as relevant to all types of nurses:

*The people that were in my class... [there was] mental health, there was palliative care, there was oncology, there was respiratory. We were all in these classes coming from vastly different areas, how can you make lectures or the material that's given, how can you make it appropriate for everybody sitting in that classroom, you can't really. – NP15*

PP2 thought differently about training with individuals who wanted to register in diverse scopes:

*The most valuable part of the course was meeting with people going through the course, all doing different scopes of practices and talking about our different roles... Also the onsite days at university,... that was so valuable, discussing and hearing from people who were prescribers what they'd been through... Going through some of the pitfalls. – PP2*

Interviewees expressed mixed views on the quality of training PP candidates received. Individuals commented that the first PP training course was “a little bit like the blind leading the blind” (PP\*) as they felt the course was hastily arranged. However, they generally agreed that the course filled gaps in clinical assessment skills. PP3 commented on the relevance of parts of the training course:

*We wrote an essay on [clinical governance and] how that would be covered off when we were in practice, but it's completely different... when you go into practice. When you first start as a pharmacist intern, everything you've learnt seems to go out the window because you're focusing on getting processes right and making sure that you've circled the right code... and all that kind of stuff. [It is the same here]. – PP3*

NP comments on the in practice relevance of their training also reflected those of PP3. Of interest, however, NP16 commented comparing the training they undertook to become an advanced practitioner, to training offered to current NP candidates:

*The clinical assessment and reasoning papers were superb. Pharmacology and pathophysiology were so huge that I probably don't use that much of it. A lot of the other stuff was nebulous... You take little snippets out of a lot of it, but... it'll be much better now because you're targeted from here to here whereas... it wasn't even happening, really. I did a bit of this and a bit of that and fell into it. – NP16*

NP16 and PP3's earlier comment instilled doubt as to the relevance of parts of their training programme to their workplace role. In contrast, TPA19 shed light on the potential value of the pharmacology component of training:

*Unless you pitch up at the top of the game, you're not going to be taken seriously. If you want this to become a reality, you've got to talk the same language that the doctors do... You have to establish that credibility. If you don't have that, you're not going to be taken seriously... There's a danger that they're slipping a little bit... They have set the bar... for nurse prescribing very high and consequently, we haven't, at least until relatively recently, seen a deluge of nurse prescribers, and the initial ones have been very much pioneers and have struggled. Not necessarily in their clinical discipline but around the whole framework and environment. – TPA19*

While potentially not immediately relevant, this non-specific training provides NPs with a common background to others in the health system and acts a basis for discussion and cooperation among health professionals.

Part of NP and PP training involves a practical component. Several individuals commented on the variability that ensued from having practica run in active workplaces. As one GP stated, “we aren't official trainers. I'm not a med school. She had to learn by doing it and looking at it” (GP5). While all NPs and PPs go through examination processes to confirm their competence, the training internal to each practicum is not consistent, potentially leading to variability in how these practitioners practise when caring for patients:

*Trying to learn things, different things to do with clinical examination of a patient, and mainly the hands-on side of things, to be able to do a good thorough assessment and stuff, was a bit difficult because my employer didn't even do it. It was trying to model a behaviour from someone that wasn't modelling a behaviour. – NP14*



Interviewees commented on the current lengthy NP registration process. In addition to this, some individuals described the NCNZ registration portfolio as being “like another master’s” (NP12). The question of whether this registration process placed onerous requirements for registration on NPs is one that received several comments. Additionally, some NPs commented on variability in the registration process. This is potentially more concerning for the creation of a fit for purpose training programme:

*One... person... who didn't get through, we asked for the transcripts from the panel... The questions and scenarios were inappropriate. They were... nurse practitioners [who]... weren't used to conditions in our part of New Zealand..., and [who were] not adhering to what we would adhere to in the guidelines. Some of the things that they were saying she should do clinically were completely out with what we would do. – NP6*

The PP training programme takes one year to complete working full-time. This course imparts the foundational skills necessary to operate as a PP. At least when first registered, several participants suggested that the training programme impaired the ability to create fit for purpose prescribers. By design, while training imparted necessary skills, it could also create PPs that registered in narrow scopes of practice. This may have limited the initial use of PPs:

*The limitations on the prescribing meant that I didn't fit in the field that I wanted to go down, but it did provide a really good base to be a safe prescriber, to be able to make decisions in that smaller area. It gave you the skills to understand what was required for decision-making, to be able to develop other areas and scopes of practice. – PP4*

When PPs initially register, they may operate within narrow scopes of practice. Given time and continuing education, they can apply to expand this scope. For this to happen, PPs required access to relevant workplace support, and continuing education opportunities (sections 6.2.1 and 6.3.1). TPA17 pointed out that over the one-year training period PP candidates might find it difficult to prove competence in a larger domain. The course acted as a foundation and individuals may later choose to expand their scope:

*It's like an assessment centre rolled into the course. To see that people are competent, we need to have evidence... We know from our experience that if they tried to prescribe across different clinical conditions, they wouldn't be able to show us that they were competent because they wouldn't have developed those skills within one year. – TPA17*

**Summary:** Current training for both NPs and PPs is not perceived as consistently relevant. Advanced practitioners noted variability particularly in prescribing practicums and for NPs during registration examinations. This lack of consistency might impair the ability to create a ‘fit for purpose’ workforce. Conversely, most PPs perceived their training programme as offering a good basis for clinical skills and creating work-ready prescribers. However, these individuals may operate only in a small area due to the focus of their training programme. Such limits mean that PPs may need to amend their practice areas shortly after registration to work in their chosen workplace. The new NP training programme and introduction of registered nurse prescribing are nursing sector changes that enhance training relevance. Such moves mean that courses build on each other, resulting in health professionals progressing through a defined pathway rather than an *ad hoc* process.

### 5.3 MOTIVATING UPTAKE

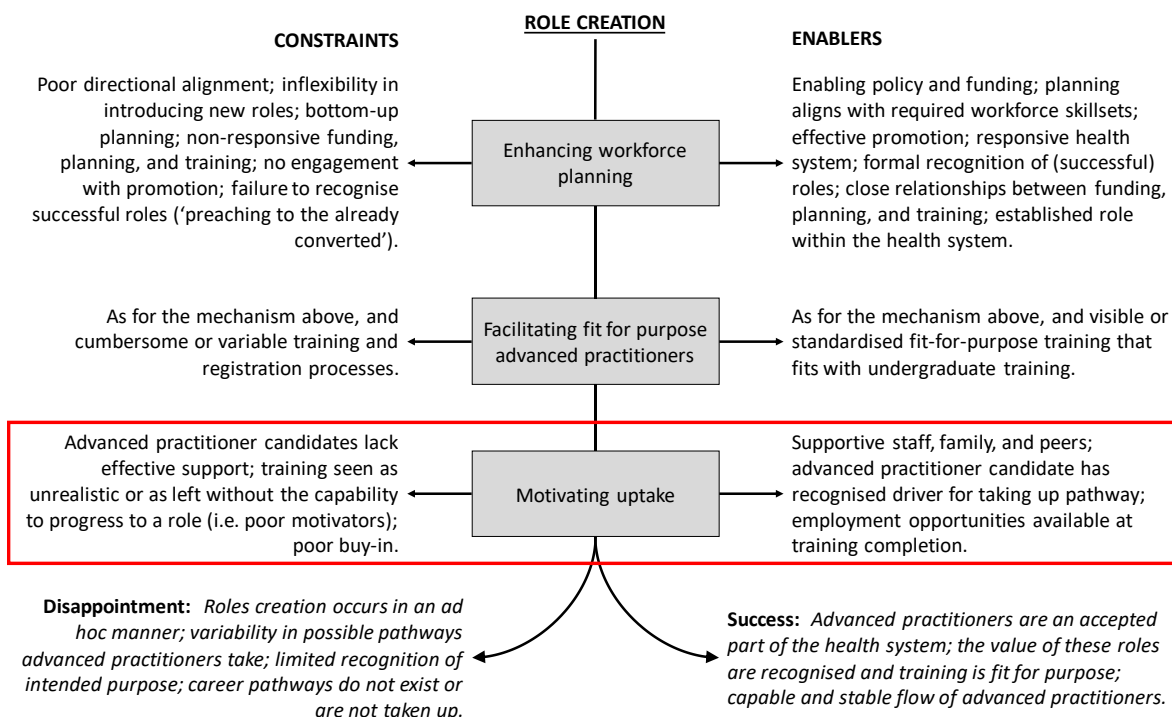
Sections 5.1 and 5.2 concentrated on contexts triggering the processes of planning and facilitating advanced practitioner roles (mechanisms) in New Zealand as part of top-down role creation. Another part of role creation involves motivating advanced practitioner candidates to take up training and employment pathways. Section 5.3 presents perspectives generated more from NPs and PPs about their career pathways. TPA\* explained the importance of such pathways:

*The key thing it did was give a clear clinical career pathway that hadn't been there... For all of our generation of nurses, we moved into either nursing management, hospital management or teaching, ... to get away from the staff nurse at the bedside. Once you got past middle management or charge nurse role, there wasn't anywhere to go in nursing, especially once they cut all the hospital directors of nursing [positions] ... in the early '90s... What the nurse practitioner pathway does is give nurses who really want to stay in clinical nursing a clear career pathway. – TPA\**

PP9 suggested that established career pathways leading to advanced practitioner status did not exist; rather advanced practitioner motivation facilitated the take up of training and availability of employment opportunities:

*We've come into a role that isn't there... We've put in a proposal and said we would like to do this job... With pharmacist prescribers, everything we do is pushing the envelope a little bit, and there's no funding structure or acknowledgement for that role. – PP9*

Building on PP9's perspective, section 5.3 presents the influence of contexts motivating training uptake and uptake of advanced practitioner positions (red box, Figure 5.3). These contexts include internal motivators to become an advanced practitioner (section 5.3.1), external motivators such as training support (section 5.3.2), and workplace responsiveness to growing NP or PP roles (section 5.3.3).



**Figure 5.3: Contexts triggering motivating uptake.**

It is noteworthy that the contexts explored in this section are largely enabling. If interviewed, individuals who failed to progress to advanced practitioner status may have presented views providing a preponderance of constraining influences. These constraints are likely to include those explored in prior sections on workforce planning, and facilitating fit for purpose roles. All advanced practitioners are likely to have experienced these constraints, but these features may have affected individuals who fail to navigate the development process more. As TPA20 pointed out in relation to funding:

*There's also the question of some health professionals get funding from Health Workforce New Zealand for training... That's been used in the minds of many people as a barrier. A total stop barrier, as opposed to, it's something we need to keep working on but there are other things that we could be doing in the meantime. – TPA20*

The following subsections record the influence of context on motivating uptake.

### 5.3.1 Internal motivators

All advanced practitioners were asked to describe the journey that led to their current roles as NPs and PPs. They talked often about the causes motivating them to commence further training. It became apparent that as advanced practitioner candidates, they were motivated to take up training (mechanism) and began the process of creating their role (outcome) because of features they recognised in their environment (context). NP5 conveyed that the journey to becoming a NP was one of personal sacrifice:

*Nobody had a model; nobody had any idea of what this would be. I did it anyway, and my husband kept saying to me 'what are you going to do at the end of it, spending all this time and money?' ... I said 'at the end of it I will be a nurse practitioner and I know that there is a need. I know there's a huge need and the patients will determine that. I don't know how I'll fund it, I don't know how it will work, but it will work.'* – NP5

Advanced practitioners indicated that several features motivated their desire to commence training including a:

- recognised need, within the health system or workplace;
- recognised ability to contribute more fully to health care delivery through expanded roles and career progression;
- desire for career advancement amongst disillusioned individuals; and
- drive for more knowledge.

#### *Recognised need and ability*

Mirroring health system drivers for advanced practitioner role creation, nurses, and pharmacists were motivated to expand their skill base partly because they recognised a need for change in their workplace or the wider health system. NP5 and NP8 described issues motivating their training uptake:

*I was working as a practice nurse in a rural practice and... the limited resources were affecting outcomes for patients. They had to wait a long time to see the doctor; they were unsatisfied with what was happening. So much could have been done at a different level. – NP5*

*By then I knew what a nurse practitioner was going to look like, because it had come out in 2001, and I knew at that point that I was on a journey to become a nurse practitioner. Because what I needed to do for my communities who were rural and isolated was I needed more skills that I didn't have as an advanced nurse. – NP8*

The practice plan of one NP sheds light on internal motivators for change. Health system changes from policy and funding decisions in the 1990s meant that the role of this then-registered nurse was at risk of deskilling. This NP decided to push “professional boundaries, moving into the domain of other health professionals” as a direct result of these threats.

Individuals commented that in their roles as registered nurses or pharmacists, they were unable to cater effectively to health service demand in their practice population. To ameliorate this problem, NPs and PPs indicated that they decided to engage in additional training. Some NPs indicated that they did not intentionally pursue advanced practitioner training pathways. Instead, they sought training that then converged with NP pathways:

*I did my master's, and in the process of doing my master's, really wanted to become a nurse practitioner. [From] many of the things I'd learnt... I'd felt like my work was better. I had a lot more job satisfaction, ... because I could see what was going on with a patient and figure out what was wrong with them, but couldn't do anything about it. It was like I have to get them to see the doctor, or I would tell the doctor... this is what's wrong, can we do a prescription for this or this. When I decided I wanted to be a nurse practitioner, I thought well that was the track that I'd gradually been working down with my studying. – NP14*

Similarly, PPs emphasised that:

*I'm already sitting here writing out prescriptions. Yes, I have to get them signed, but you know I'm kind of doing 85% of it anyway. Once I did get that big tick, and that sign off I couldn't believe how much difference it made to my practice. My whole practice, being able to do the whole thing for somebody here in front of me right now. Just making sure it was a complete one-stop type thing. – PP8*

*Career advancement and drive for knowledge*

Advanced practitioners recognised that working at a higher skill base allowed them to work autonomously. PP1 pointed out that taking up advanced practitioner roles legitimised treatment recommendations made as a clinical pharmacist (these pharmacists tend to have a greater focus on medicine as it fits with individual patient requirements than community pharmacists):

*The clinical medication review... the patient will often come in and something else has happened, so the change isn't made, even though it's agreed. [Becoming a PP] was really a way that if we've agreed to do something then there's the ability and it improves the access to the patient and it means that things will be done. Because you know someone says 'oh yeah... we'll do all those', but someone comes in and they've got an acute anxiety disorder then you know, the last thing you're going to do is a medication review. – PPI*

Several advanced practitioners reasoned that their training afforded the chance for career advancement and increased role satisfaction:

*I got back to New Zealand and it hit me again how poorly regarded nurses are. How the public truly has no idea of what we do. They think that we just wash people in bed and turn them around. They have no idea how many times a day we save their lives... Nurses themselves have also come to believe it. I don't think they take pride in who they are or have any idea how important they are. – NP15*

Several NPs, particularly those who pioneered the career pathway, remarked that they did not intend to become advanced practitioners. Rather, they described this as something that occurred because of a recognition of the value of training, a quest for knowledge, and a progression resulting from undertaking this training:

*I never felt... that I had made a decision to be a nurse practitioner... I'm the sort of person who likes to finish things, so once I started doing my postgrad cert I had to finish it. Then the postgrad diploma, I had to finish it. Then the master's, I had to finish it... At no stage did I say I want to be a nurse practitioner. – NP15*

**Summary:** Issues motivating individuals to take up advanced practitioner training are a vital part of advanced practitioner role creation. In the absence of motivation to take up training, potential candidates are unlikely to create their own roles. In a sense, therefore, the concept of internal motivators is akin to that of 'Direction' (section 5.1.1). In the above section, individuals commented that direction is required to ensure that the health system knows of advanced practitioner roles and recognises how they plan to use them. In this section, an individual's motivation triggered them to create their own role.

### 5.3.2 Support

As mentioned previously, advanced practitioners required workplace support to commence and continue training pathways. This section considers support as a context that influenced advanced practitioners to take up training and assume roles. NP11 drew attention to the

value of support in an environment where there were no established pathways to become an advanced practitioner:

*Nurse practitioners were very new and there were no real pathways [or] guidelines... I carried on with the master's... it took a number of years, and then started thinking well maybe I could be a nurse practitioner. I had a good nurse manager, and even the practice manager, they were supportive and went in to bat for me, working out a pathway, a way it could work here. – NP11*

Some of the documents supplied by advanced practitioners support this claim:

*As an established and trusted member of our practice team, we were happy to support [the PP candidate] in becoming a pharmacist prescriber. We envisaged that this would further enhance their current role as well as assist the practice in moving to a newer model of care that utilises their skills in an integrated team environment. – Presentation*

Generally, both NPs and PPs acknowledged receiving support during their training programme. This support came from various elements of their working life, including management, mentors, family, and peers. The impact each of these groups has had on motivating uptake for advanced practitioner roles differs.

Looking firstly at the impact of management support, NPs and PPs described this support as facilitating training opportunities and role establishment within the workplace. NP11 and PP4 revealed the impact managerial support had on their ability to begin advanced practitioner roles:

*In that time, having to build a role and I lost the nurse manager and the practice manager in the middle of it and that changed things significantly... Is this role going to make money? Is it going to be financially viable? How is it going to look? Of course, we didn't know, they didn't know. They didn't even understand what a nurse practitioner is... There was also that nurses getting too big for their boots [talk]. – NP11*

*The manager until the end of 2014... only saw the facilitation role. The manager that came back to the role... she'd come from a... background where the pharmacist was involved in decision-making... She felt from a DHB perspective, the rationalisation of medicine use could be done both in a facilitation way and in a pharmacist prescribing way... She valued those two combinations of working as part of the team to make those decisions and being able to carry through those decisions, and also the wider population health aspect of it. – PP4*

## *Role Creation*

NPs and PPs all completed advanced practitioner training. However, some interviewed NPs did not gain registration in their first attempt, others attained registration without prescriptive authority. NPs fitting in these two groups described reasons for not gaining full registration as at least partially attributable to a lack of workplace support or mentorship:

*I registered and I worked in the practice that I had been working in... I didn't have the experience or the mentorship to complete the prescribing part, so I didn't have that. I was a nurse practitioner and I was working at a higher clinical level, I was reaching diagnoses and I was able to do a lot more integration with the science of what we were doing. But I still couldn't prescribe. – NP5*

In the preceding section, advanced practitioners described workplace requirements for new roles as triggering motivation for them to undertake advanced level training. For example, in one workplace a loss of medical doctors resulted in the advanced practitioner operating in a role that was able to use their skills. In another, the PP candidate undertook training because they recognised that they could use their skills more effectively with prescriptive authority. As policy and training interviewees alluded to, the retirement of medical doctors has led some practices to seek alternative arrangements in the form of NPs. As TPA3 pointed out, advanced practitioners have not been passively waiting for health care needs to arise in their workplace or community. Support helped these roles grow:

*There's an escalation in... 'our three GPs are retiring, where am I going to get a nurse practitioner?' My answer's always the same 'you should have been growing your own on-site'... You can't pluck one, they're not sitting in the wings, fully qualified, waiting to be summoned... You grow nurse practitioners by taking the nurse who has been in practice for at least three years, encouraging them that at the end of the master's degree, there'll be a position and then off they'll go and do it. – TPA3*

GP mentorship is another support type participants noted as assisting training and role uptake:

*It is personal drive. It's their own motivation, which is number one. Second is support from their multi-professional team... The people who have had a close relationship with their supervising doctor during the course have usually been the ones that have gone on to continue that relationship, and that's helped them become prescribers when they set the role up. There's been a lot of goodwill from medical professionals helping pharmacists to get the roles established. – TPA17*



*It's been GPs more than anyone else who I've worked with along the way. I had a GP who, when nurse practitioner first came out, said you want to do that, and I said yes, one day. But he immediately said you could do that, this is not outside of what you are capable of doing. I had huge support from him. – NP8*

Workplaces supporting specific NPs did not necessarily support or recognise the value that the NP profession adds. This was particularly apparent in one large workplace where the NP was an integral and appreciated team member. Yet, in this workplace, GP15 rationalised that an individual as talented as their NP should have retrained as a physician:

*It's unfair to the poor nurses... We expect them to do a doctor's work without having the ability to go through a doctor's training... It's an enormously long road for these girls. If you think about our nurse practitioner, how long she had to study and how many hoops she had to jump through but in retrospect, wouldn't it have been better to 20 years ago tell her you will be a good doctor, let's send you back to varsity for five years and get it out of the way? – GP15*

Support from families and peers influenced the ability for NPs to pursue advanced practitioner pathways. This likely related to the longer registration pathway travelled by NPs, and in terms of peer support, likely reflected larger NP networks (section 6.3.2):

*Good family support, that was important. If I hadn't had the support from my husband, I couldn't have done it... He was keen for me to get there because he knew that that was a goal I had. – NP2*

*When you do your studying you meet many nurses that are like-minded, so I guess being in an environment with lots of people that want to learn. Everyone's on that same kind of journey, which was really good. – NP4*

However, when interviewing some NPs it became apparent that a degree of antagonism existed within the nursing community towards NPs. NP4 described this issue:

*The structure of the health system is quite negative towards it. There's that tall poppy syndrome with nurses because while I want nurses to be the best they can be and work at the top of their scopes of practice, many nurses are afraid to do that. They are scared that if I am working at the top of my scope..., I'm going to insist that they do it. That pushes them outside their comfort zone, so anything they can do to undermine that, they will. Nurses are very good... [at] eating their young. – NP4*

**Summary:** Workplace mentoring, and peer and family support trigger motivation of training and role uptake. While considered an enabling feature in the sense of creating roles, the question remains as to whether this support is for the individual practitioner, or

for the NP or PP profession. This question is particularly relevant given earlier discussions around promoting advanced practitioner roles and the perspectives of nursing and pharmacy professions on creating these positions. The next section details the effect of workplace responsiveness on motivating training and role uptake.

### 5.3.3 Workplace responsiveness

Workplace responsiveness to advanced practitioner roles can motivate an individual to take up training and employment opportunities. Health professional supply and patient demand for services influence this responsiveness, as does system and workplace familiarity with advanced practitioner roles, and NP and PP candidate ‘fit’ with practice business models. Section 5.3.3 presents findings from participants suggesting that where workplaces were responsive to new roles, individuals pursued these roles, leading to role creation:

*Because of the lack of workforce planning and lack of any service planning, they are getting jobs because they need to get jobs. Some of them aren't getting jobs... They just can't wake up one day and say they're going to be a nurse practitioner and then four years later say 'why haven't I got a job?' – TPA10*

Most interviewed GPs highlighted their reasons for employing or working alongside an advanced practitioner. They explained that insufficient doctor supply to meet patient demand for health services necessitated innovative approaches to health service delivery:

*It's very hard to get doctors. That's the bottom line. We couldn't get anyone, even trainees, specialists, registrars... We could get the students, no trouble getting medical students and the nursing students... But we couldn't get registered doctors... to come and work with us, even if it was part-time. They're not there; they still aren't there. – GP11*

*But GPs, you have to be more pragmatic. We do have workforce issues. GPs work within communities; they work alongside practice nurses to a high degree. They value practice nurses, and if practice nurses can take some of the load off GPs then... that's awesome. – TPA21*

Part of the concept of workplace responsiveness is health system familiarity with advanced practitioner roles. Given low NP and PP numbers, the question of whether these practitioners have reached a critical mass, where as a group they are able to instigate change or be recognised, is an important one. Several advanced practitioners and TPA interviewees noted the influence system and workplace familiarity had on practitioner role uptake. TPA3 and TPA21 rationalised that having an emergent supply of NPs meant that other nurses saw being an advanced practitioner as a viable option, strengthening the role:

*It's visibility as well... In 2000, probably 95% of the profession had never met a nurse practitioner whereas now pretty much everybody knows one... They are spread all over the country and people all know who they are. So that focuses people's thoughts. – TPA3*

*The role has strengthened over time. As more nurse practitioners have registered, you start to get a collective voice and you start to see changes. It wasn't until we probably hit about 150 that we started to see a bit of movement... Other nurses could see that there was a potential for that. You started to get a shift to primary health care. – TPA21*

A letter written by a general practice team in support of a NP candidate wishing to apply for registration served as an example of the benefit of a growing NP mass:

*[This practice] currently employ[s] a full-time nurse practitioner. Implementation of this role in the practice has been successful and as such, it is possible to see how patients and their families within their communities might benefit from the care of a nurse practitioner with [another NP candidate's name] expertise. – Business plan*

However, TPA22 indicated, that their current NP supply was insufficient to ensure medical fraternity awareness:

*There're only about 150 in the country... that's not a lot of NPs to have been exposed to doctors... That's when the shift happens. For doctors, it's when they know and have worked with a NP and there's an opportunity to develop some trust and respect for one another's practice that they go 'oh okay, now I know what it's about'. 150 isn't enough to saturate the medical fraternity, or their psyche, and so if they don't know about NPs, then they go 'that's a nurse, they can't do that'. When they're in 'that's a nurse, they can't do that' mode, then you get resistance and, depending on how bolshie they are, they make a noise about it. – TPA22*

Current New Zealand PP numbers are small, even less work in PHC. This coupled with limited promotion of these roles led to unfamiliarity in the health system. As PP3 described, health system familiarity with their role did not exist. Their ability to act as an advanced practitioner relied on strong workplace engagement:

*So many people aren't pharmacists have facilitated me to what I'm doing now. My DMP [designated medical practitioner] and the management here, they don't have to do any of it... There are only 15 of us so everything that happens is because... we're advocating and driving stuff, but if other people didn't respond and engage, then nothing would happen. – PP3*

Upon completing training, individuals do not necessarily have guaranteed NP or PP employment positions. They must seek employment:

*In primary care, ... a key focus is the funding for a role... There are other issues, like the logistical issues and things like that. But fundamentally, if you don't have a pathway for a role, then you're never going to have a role there. So the people who tended to get a role in primary care are people who forged out their own little niche, rather than it being anything that they've been supported to do with a pathway created. – TPA17*

*Not having a job when I came out of it. There was some uncertainty around that... where am I going to work, what am I going to do, and how am I going to do it? ... In my mind I had a clear pathway and I'd already had discussions with management around these are my intentions. I'd never been secretive about it; I was always out there and probably made it quite clear where I wanted to go. I'd had conversations with key people to make sure that there was going to be eventually support and development of a nurse practitioner role. – NP13*

The introduction of the new NP training programme was one means by which NP candidates may gain certainty over their future employment:

*Many of the initial nurse practitioners really had to fight to get jobs. They had to put business cases forward. They had to be really quite politically... and financially savvy because you had to push the role and its value... Whereas this group almost has all of that stuff, it already exists – hey, the employers willing to take you as a nurse practitioner once you've completed this programme. – TPA18*

For PP candidates, the training programme specified employer support when entering the programme. However, as with NPs, this was no guarantee that employment positions eventuated following training completion, or indeed that if a role did exist that it would use the skills gained during PP training. That is, there was no guarantee that individuals will operate to their full scope of practice:

*I'm doing what I've always done. So there's no additional – there's been no acknowledgement or anything regarding that... Yeah, now I do a bit more... That has always been the case – 'this will be great if you do this; oh, could you do this as well and could you do this?' Unfortunately, there's not ever any money because of our political environment, the DHB doesn't offer more. – PP9*

PP7 took this description further, explaining that in some of their workplaces, GPs deliberately sought to reduce the PP role:

*He very gently said to me... prescribing is a very complex whatever and it's not your role to do that. So if a patient gets referred to you, I only want you to do what you used to do years ago, you know how you did this stuff on interactions and you made GPs aware of the triple whammy, that's the sort of thing I want you to do. – PP7*

For the purposes of discussing workplace responsiveness and role uptake, both PP9 and PP7 (above) clarified that having advanced practitioner status by itself did not lead to roles that effectively use their skills. Rather, business models and supportive environments need to align. Section 6.2 explores features affecting trust in the ability for advanced practitioners to deliver service that reflect their full potential (outcome).

Business models supporting the development of advanced practitioner roles (context) have motivated commencement of these positions. TPA18 explained that initial NP cohorts fought to put business cases forward that showed the (financial) value of their role. Presently, NP candidates, particularly those participating in the NP training pilot, will have benefited from business cases supporting these roles. They will have a greater surety of employment at the conclusion of their training. However, according to PP3, PPs “don’t have any research or data that would support a business case.” Regardless of the potential benefit to patients, development of advanced practitioner positions is unlikely to go ahead in the absence of a solid business case. GP5 explained:

*Everything is 100% dependent on the funding that she gets because otherwise, she couldn't work with us. The DHB..., we thank them for supporting her in her role. We couldn't pay for it as a practice because it doesn't make money... we would like to but we can't pay for it. – GP5*

TPA14 questioned the responsiveness of PHC practices to change. They explained that within PHC introducing PP roles presented difficulties because workplaces lacked the ability to think strategically about new roles:

*For pharmacist prescribers... there are barriers to them working more in general practice because largely a lot... of GP practices, they're very busy. They don't often have time to lift their heads and think strategically about how they use the funding they have and the value of having a pharmacist prescriber... There haven't been good demonstrations and business cases... [around] pharmacist prescribers. – TPA14*

Supported by the earlier statements of GP5, in effect, TPA14 considered that without PPs bringing successful business cases to their workplaces, practices are unlikely in themselves to innovate new roles.

Several advanced practitioners commented on the influence their pre-established workplace relationships had on the role they filled as advanced practitioners. Such relationships meant that their workplace recognised them as capable of operating at an advanced level:

*We're getting people that are coming through that have the postgraduate that then want to do the prescribing course... We're finding the ones that are taking it up are... already in that collaborative environment, who are ready to go and it's... a case of getting them up to speed and their team wants them to be the prescriber. There's... a drive and a support network for them. We've got others in primary care where they're having to forge and fight to find some funding or find a site to take them... A lot of them can find sites, who would love to have them, but... funding, that's where it's falling over. – TPA8*

Like the PP role, the NP role has not consistently progressed beyond a role ascribed to an individual rather than to the NP profession. Individuals may be accepted but that does not necessarily mean acceptance of the NP profession. This may be an issue of critical mass, lack of clear career pathways, or minimal support for the roles.

Many interviewees identified establishing relationships within workplaces as triggering uptake of training. Participants remarked that if individuals who intended to undertake training as advanced practitioners approached workplaces that were unfamiliar to them, then they faced constraints on their ability to pursue this pathway:

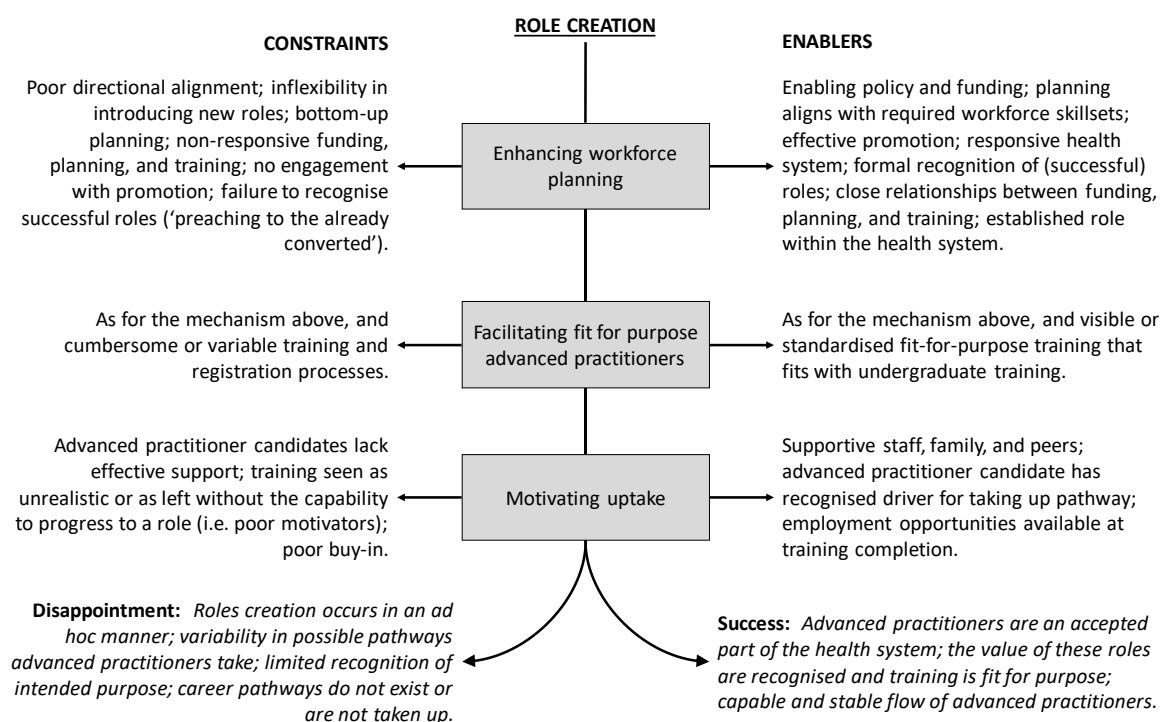
*In primary care often... we're finding that where a pharmacist is already working in a collaborative environment, apart from funding, there is acceptability with the practitioners that they're working with for the pharmacist to become a prescriber... If you had a pharmacist who went in cold to somewhere they didn't know, there's not that acceptability... The multidisciplinary team... needs to be working together already for the other practitioners and the designated medical practitioner to have confidence that that pharmacist is capable and competent to fulfil that role. – TPA8*

**Summary:** Creating advanced practitioner roles in the health system relies on motivating individuals to take up training, and then roles as NPs and PPs. Interviewees indicated that workplace responsiveness was an enabling feature to motivate uptake of training and positions. Such responsiveness takes the form of health system and practice familiarity with the advanced practitioner, and recognition of the value advanced practitioners add. Interviewees acknowledged that not all individuals gain this reception. For example, advanced practitioners faced difficulties in gaining employment when they lacked an

existing relationship with their intended workplace. At the broader level, this is indicative of limited recognition of advanced practitioner professions (rather than the individual). In such situations role creation is unlikely.

#### 5.4 SUMMARY

Chapter 5 indicates that advanced practitioner role creation occurs because of multiple components and does not follow simple linear on/ off relationships between input and outcome. Successful role creation involves multiple parties taking action at various stages of development. These stages often require complementary changes in policy and practice. This research illustrates that NP and PP candidates face similar processes when preparing for advanced practitioner roles. Given that these roles exist in a system anchored by history and, therefore, influenced by a contested health care environment, it is unsurprising that establishing them in the health system is challenging. Figure 5.4 shows a realist analysis of the enabling and constraining contexts that trigger mechanisms influencing role creation.



**Figure 5.4: Constraining and enabling features leading to role creation.**

In no particular order, the realist analysis of experiences with enhancing workforce planning and facilitating fit for purpose NP and PP roles (first two mechanisms, Figure 5.4) reveals that such processes are more likely to succeed when:

- health system stakeholders are engaged and open to different models of practice;

## *Role Creation*

- the concept of NP and PP roles are established within professions;
- role descriptions consider how advanced practitioners fit within their profession and the health system;
- funding mechanisms are established;
- changes in legislation keep pace with workplace requirements and do not artificially constrain practice;
- training pathways are clear, standardised, and cater to the needs of potential candidates without necessarily being dependent on workplace support; and
- professional stigmas attached to being ‘different’ or expert are reduced or removed.

Furthermore, research data identifies that motivating advanced practitioner candidate uptake of training and roles (mechanism) is more likely to succeed when:

- the system is familiar with advanced practitioner roles;
- practice and health system requirements drive role uptake;
- advanced practitioner candidates have support structures in place;
- advanced practitioners operate in workplaces open to new models of practice; and
- advanced practitioners have business models supporting their employment.

This research began with a proposal that role creation involved the identification of advanced practitioner candidates and role promotion (see middle-range theory, page 104). Following data analysis, the middle-range theory was refined as follows:

*Successful advanced practitioner role creation relies on policy structures that facilitate a health system direction growing the capacity and capability of the health workforce to meet these needs. Role creation occurs in response to enhancing workforce planning, facilitating fit for purpose advanced practitioners, and motivating uptake of training and employment opportunities.*

Chapter 5 presented an assessment of the effect of contexts on mechanisms triggering the creation of advanced practitioner roles. Chapter 6 follows presenting results related to advanced practitioner role realisation and service delivery in PHC. In an environment where the health system constrains advanced practitioner candidates, the following chapter records components affecting advanced practitioner ability to meet policy expectations and operate to the full intended scope of their roles.



## 6 ROLE REALISATION AND DELIVERY

The preceding chapter examined the advanced practitioner ‘role creation’ process through the experiences and views of interviewees. This chapter focuses on theories of ‘role realisation and delivery’. This outcome describes the ability for qualified nurse practitioners (NPs) and pharmacist prescribers (PPs) to work in a role where they use their full professional skills to deliver patient care. This intermediate outcome of the advanced practitioner development process occurs after ‘role creation’ where individuals complete required training and obtain relevant employment. Section 4.3 above laid out the relevant initial middle-range theory as follows:

*The outcome (role realisation and delivery) occurs due to mechanisms (implementing roles in practices as substitutes or complements) triggered by contexts (practices have a recognised need for new roles and advanced practitioners have strong relationships within their workplace and with patients).*

Chapter 6 draws on analysis of interviews primarily with advanced practitioners, general practitioners (GPs), carers, and patients. Additional material comes from documents produced by advanced practitioners, their workplaces, and patients. In this chapter, I report on three mechanisms for role realisation and delivery. These mechanisms are largely action formation mechanisms describing how individual desires generate action at the micro (or workplace/ individual practitioner) level (Hedström & Swedberg, 1998). For each of these mechanisms, Chapter 6 lays out the influence of health system, PHC, and individual workplace contexts.

<b>6.1</b>	<b>Integrating Role in Practice and Health System</b>	<b>154</b>
<b>6.2</b>	<b>Trust in Ability</b>	<b>179</b>
<b>6.3</b>	<b>Creating Opportunities for Shared Learning, Extending Competence, and Knowledge Exchange</b>	<b>192</b>
<b>6.4</b>	<b>Summary</b>	<b>202</b>

## 6.1 INTEGRATING ROLE IN PRACTICE AND HEALTH SYSTEM

Instituted successfully, role creation should produce advanced practitioners with comparable skills. Section 5.3 above focused on contextual features affecting training and role uptake. Following this, the process of integrating roles into the health system and workplace begins. NPs and PPs operate in workplaces influencing how they use their skills. As workplaces and DHBs follow policy directives, they construct their own self-governing definitions and policies for how advanced practitioners should operate. Accordingly, the realisation of these roles may differ from intent formed under a standardised and synchronised plan for advanced practitioners. TPA17 remarked that:

*Policy changes... often fail... because the organisational culture hasn't changed. It's sort of top-down, they've changed the policy but underneath it, nothing's been done to make it happen... It's the same issues with... pharmacist prescribing. – TPA17*

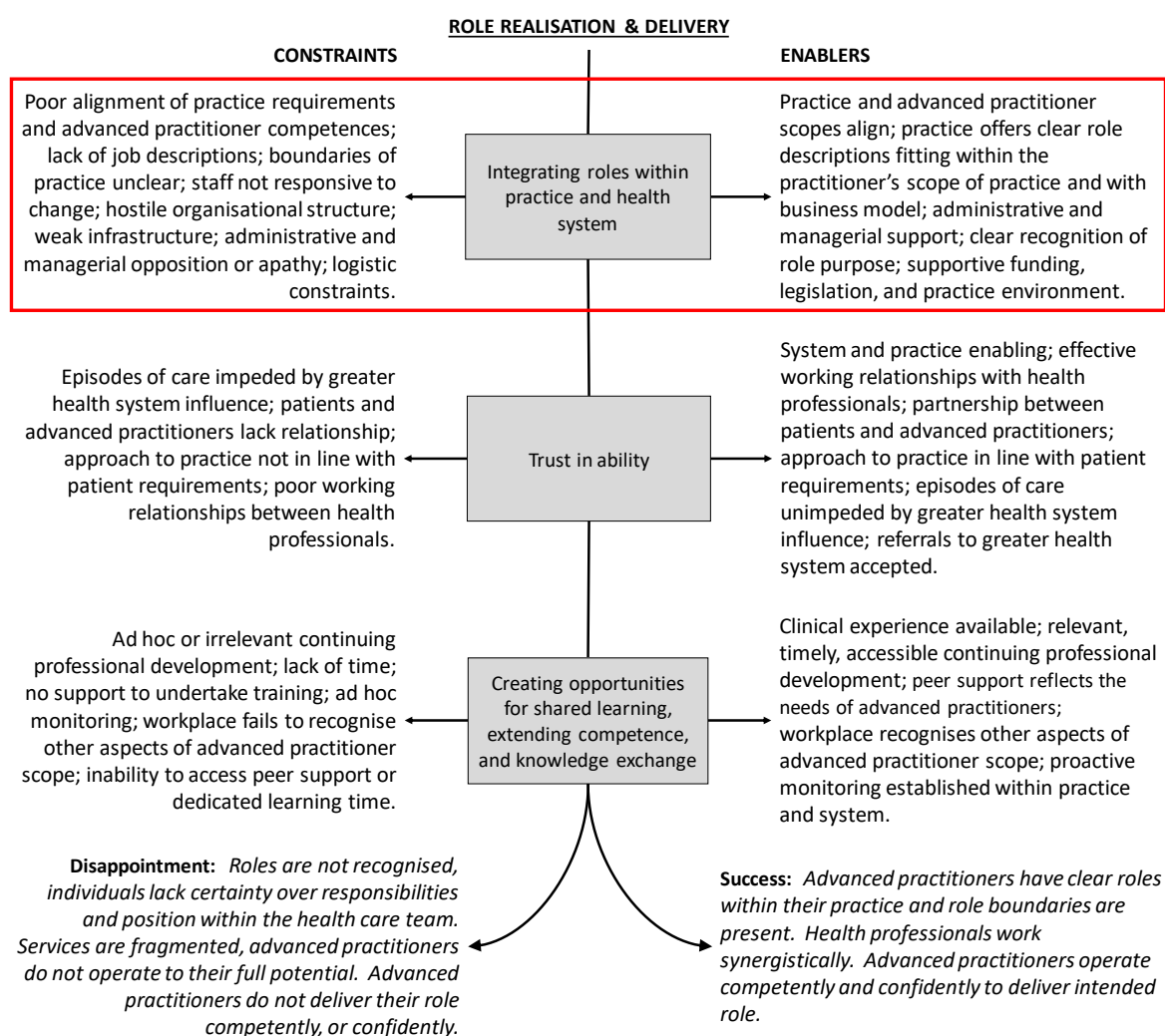


Figure 6.1: Contexts triggering integrating advanced practitioner roles.

Organisational culture and contextual features occurring at the practice level influenced development of advanced practitioner roles. Context triggering NP and PP role integration includes:

- Role purpose (in the practice) (section 6.1.1);
- Role boundaries and skill mix (section 6.1.2); and
- Logistics of establishing the role (section 6.1.3).

The following sections elaborate on the effect these features had on integrating advanced practitioner roles in practices and the health system (red square, Figure 6.1).

### 6.1.1 Role purpose (in the practice)

Section 5.3 theorised that the journey towards becoming an advanced practitioner relied on an individual candidate's motivation to train and carve out a role for themselves. In essence, the health system has yet to establish advanced practitioner roles:

*Normally, ... you'd expect the role to exist before the person gets there, and then when the person fills that role then they will continue in that role. To create your own niche and then to fight for funding, ... it's very difficult... Many services aren't able to continue off that. – TPA7*

Uncertainty surrounds market requirements for an advanced practitioner workforce. It would seem that this niche has yet to be defined. Several individuals commented that workplaces willing to take up new roles were likely to be innovative, receive funding for new roles, or have special population needs. Two practices offered the following material on their decision to employ NPs:

*NPs are in a pivotal position to provide cost-effective, alternative, and effective primary health care. Locally there is a need to change the current workforce and develop new models of care to provide better, sooner, more convenient health services... The proposed NP... role is population focused, needs-based, and is a prime example of enhancing services to complement existing... health care providers. It also offers an opportunity to unite and strengthen the primary health care services... through increased collaboration with providers. – Business plan*

*[Introducing NP roles should] create a new collaborative model of service delivery for provision of a greater level of care... There... [is] a waiting list of people... wish[ing] to join the practice for some time and local people have expressed dissatisfaction at not having a choice of which general practice team they are able to join. – Business plan*

Population needs for health services are heterogeneous. Older populations, for example, require additional and often more complex health services. Social determinants also influence health service requirements. GP7 described the effect patient population characteristics have on integrating advanced practitioner roles into their workplace. This practice required that PPs work autonomously to treat a high needs population:

*This is a high needs clinic; it has very different needs from mainstream practice. It's a clinic where there is difficulty getting doctors to work..., we rely on a lot of locum doctors... there's quite a lot of pressure on making safe prescribing available when it's generated by nurses. The PP, ... upfront she's of immense value because she's able to manage prescriptions without reference to a doctor, and that would be quite different if she were working in a mainstream practice. – GP7*

Patient needs often shape NP and PP roles. For example, some practitioners created their roles in response to feedback from potential patients. This influenced both how their roles were delivered (location, means of communication, patient booking and referral systems), and afforded a sense of accountability to patients. Additionally, DHBs and PHOs employed advanced practitioners under short-term contract, or for the management of specific conditions. Population needs influenced the type of work NPs and PPs performed and potentially their role retention.

Section 6.1.1 presents information from interviews and documents supplied by advanced practitioners on the impact of a defined role purpose on integrating these roles. I have separated this section into two parts (1) contracts, and (2) scope silos.

#### *Contracts and intended role*

Introducing health professionals into pre-established workplaces and the PHC system required clarity over their intended function. Without this clarity, advanced practitioners may have operated in roles not reflecting their full capability and competence:

*They need to work to their full scope, this is not putting them through a programme and then every day they only do a fifth of what they were educated, nurses leave because they get frustrated, because they don't feel valued... They need to... have the autonomy that they're educated for, they need job satisfaction, they need to be working with clients the way they should be, they need to be seen that they are moving and making a difference to clients and not stuck in a rut of an old model. – TPA10*

Poor role clarity marred implementation of some advanced practitioner roles. Several practitioners identified that their contracts did not match the roles they performed, were out

of date, or did not reflect the true nature of their practice. Contracts employing advanced practitioners to their full scope are important to the successful establishment of the intended capability. NP7 described how the introduction of their role occurred without a role description:

*I had more problems in terms of engaging with the nursing staff than I did with anybody else. What are you, what can you do, what can't you do? The job description, if you like, was developed as we went because it was totally new and innovative. And that's scary for some people. The spinoff has been that over time what's happened is I've been able to influence their professional development. – NP7*

An issue identified by interviewees with ties to PPs was the effect of contract length and DHB employment on service delivery. Several interviewed PPs were employed by their DHB or PHO directly, and not by their PHC workplace. In some of these cases, the PP had only short-term contracts. Advanced practitioners, patients, and GPs discussed the effect these features have on their ability to deliver services:

*We were fortunate to have a pharmacist prescriber, in many ways, they're a present given to us, and we're lucky. But... because they're a present we're not allowed to criticise the contents... It's kind of money spent on us from the DHB and we're happy with the pharmacist prescriber but we don't have any say in how the DHB is going to spend the money. – GP5*

PC12 described the impact contract length had on delivery of patient care:

*To hear that her involvement was temporary, ... she was under a short-term contract... That was a bit of a disappointment... If she were utilised properly she would be... around lots of different practices and, therefore, she would only have a limited time at each one. That's being realistic and a good use of resources, but I had to fit into that. – PC12*

PC12 presumed that for their PP to be used properly they should operate across different workplaces. In contrast, some advanced practitioners with part-time contracts commented on the influence these contracts had on their ability to deliver care:

*I'm only there in an infrequent sort of way. I mainly work with the practice nurse and the care assistant, and I leave notes for the GP... Although that GP is very keen, because I'm there infrequently I can't completely manage some patients. I'll talk about things that they're doing, but then they'll pop in... and sometimes the drugs may be changed that I've recommended not because they didn't read my notes beforehand, but I'm not there all the time to see those people. – PP9*

NPs are clinical leaders in nursing. They contribute to policymaking and training of other nurses. Some role descriptions showed an expectation that the NP will “represent [the practice] at the local and national level where required as an ambassador [of] the role of NP within primary care”. Yet, the ability for NPs to take up leadership roles may be constrained by the nature of primary care. NP12 reasoned that primary care business models largely impeded performance of these ancillary functions:

*I get asked to do teaching but... the university doesn't really pay... Unless I'm sitting in front of a patient, I'm not going to be paid. I'm... in a peer group... I said to them... I need you to understand that as a primary care nurse practitioner this teaching stuff is fabulous and I realise it's beneficial, but... I'm not going to be paid for doing it... If you're in a hospital setting... often, it's part of your job and there's an understanding that you'll do that and it's kind of networking, whereas... [it's] not seen... as part of my job. – NP12*

PC20 identified that an expectation for NPs to act in leadership roles within the workplace could constraint their ability to act as advanced clinicians:

*Often the nurse practitioners, because they're the kind of senior nurse in the practice they... take on a lot of nursing leadership for the other registered nurses... I wonder if that's putting too much pressure on [them]... If they're having to carry their quite heavy caseloads and their own autonomous work stream and then carrying maybe nurse leadership roles for the rest of the practice, ... that can be very difficult. – PC20*

Many PPs distinguished between different aspects of their work, for example work as a clinical pharmacist or PP. They represented their role to patients as being ‘clinical pharmacists with prescriptive authority’. This contrasted with NPs who were more comfortable ‘owning’ their title. A NP who worked in multiple positions across different workplaces exemplifies this difference. One of their positions was as a senior registered nurse, but their workplace enjoyed the benefits of having a NP in this role. In contrast, several PPs who also worked across different workplaces described clear distinctions in their roles as clinical pharmacists or PPs. In essence, this implied that PP titles belong with the practitioner’s position and not necessarily with the practitioner. PP2 illustrated this role dichotomy when discussing the different roles they have held:

*Because I was primarily the clinical pharmacist first, there're many other activities I do that don't necessarily relate to me prescribing..., but they affect the quality and safety of prescribing across the practice... Those are the activities that the practice is paying me for but it's not directly getting any revenue. Apart from the fact that we're improving the quality of our prescribing, hopefully getting better patient outcomes and that then gets reflected in the money we get paid for performance incentives. – PP2*

Scope silos and limits to scopes

Several interviewees commented that advanced practitioner scopes of practice affected their integration into workplace roles. Nursing and pharmacy come from generalist professions. Yet, advanced practitioner training may have narrowed the scopes NPs and PPs operate in:

*It was almost as if you'd done the diploma you've kind of worked out your niche area, and for pharmacists... we wanted to maintain our generalist approach to medicine. We didn't want to hone us down into hypertensive, diabetes, or respiratory experts. A lot of that was informed by the initial research that pharmacists [giving]... advice on a patient's therapy... were generalists. They could look across the board and go boom..., this is what we think. – TPA2*

Practices employed advanced practitioners for their skills. Some NPs and PPs worked as specialists in their workplace, others in more generalist capacities. GPs and some advanced practitioners commented on the importance in PHC of having wide scopes of practice to meet patient needs:

*I'm not keen on the disease-based or even particularly age-based scopes of practice, because what our NP has seen is that there is that overlap of adult health problems into youth... I don't think you should be an eczema nurse practitioner or a diabetes nurse practitioner, because I don't think that there's a gap for that... In primary care, we need generalists... We need people who understand the interactions of all of the different medicines and diseases and can provide care. – GP13*

The alternative to generalist roles is operating as a specialist or within a narrow area of practice. GP8 added that focus on specialisation (that is, silos of practice), while potentially benefitting one patient population, can be at the expense of another:

*Diabetes has become a big focus and it's quite time-consuming... There's a danger sometimes in it's a nice thing to focus on, because there are all guidelines and outcomes..., it's a confined population, but I see a bit of risk of taking resources away from other long-term conditions. – GP8*

Equally, PC12 submitted that advanced practitioners working in specialised fields where their capabilities are recognised might be well positioned to deliver appropriate services:

*I do not see why it has to be only one particular type or class of people in an occupation who deal with it. Other subsidiary levels are as capable... I'm sure there are very capable nurses or pharmacists who can deal with many of the same things that doctors do. In some cases, I feel they'd probably deal with it better because they become specialised, perhaps in a smaller field, as opposed to a... general practitioner who has to know so many different areas. I'm sure you can't master all of them. – PC12*

Another aspect to discussing the purpose of advanced practitioner roles surrounds limitations on their ability to deliver episodes of care. Several GPs discussed their advanced practitioner's ability to deliver health services within their scopes of practice. GPs highlighted that constraints in the PP scope and training limited their PPs from operating across the gamut of PHC:

*You're taking somebody without much clinical experience and putting them in with complex people who... won't isolate their medications from everything else about their health. Therefore, they are... going to put out a problem-solving requirement that may be in excess of the prescribing... That means that the PP has to look at who else can manage the identified needs if they're outside... their scope of practice. – GP7*

The above limitation perhaps points to issues where patients have care requirements in excess of PP skills. Meeting these requirements will either necessitate the PP to complete additional training, or require changes in patient and workplace education surrounding when and how best to use the PP role. To some extent, the former solution changes the intended purpose of this new profession, while the latter may result in a role more closely resembling initial intent.

**Summary:** Participants discussed the benefit of having a well-defined role set up to meet population health requirements and compatible with local practices. Advanced practitioner contracts often did not clearly match the roles that they performed. Where this occurred or where contracts left uncertainty over the longevity of NP and PP roles, then the role may not have integrated into the workplace. Likewise, advanced practitioners operating in very narrow scopes were not likely to contribute fully to patient care. Ultimately, having advanced practitioners' scopes and skills aligned with their contracted role and patient requirements triggered role integration leading to role realisation and delivery.



### 6.1.2 Role boundaries and skill mix

Traditional hierarchies of practice place the medical doctor as the practice lead with other health professionals supporting them. The introduction of new health professional roles changes traditional role boundaries, and potentially workplace hierarchies. Section 6.1.2 presents analysis of data on how advanced practitioner roles operate alongside other roles. These other roles included health professionals, management, and administrative staff:

*You can't take these things in isolation. You can't just say... nurse practitioners... worked really well with GPs, that's how you need to set it up... You need to set it up with a wider team environment. – GP3*

Interviewees frequently discussed the process of establishing role boundaries. At a broad level, these discussions focused on the concept of skill mix and workflow change caused by the introduction of new roles into existing practices. Advanced practitioners discussed how working as a complement or substitute affected perceptions of their role. Establishing recognised role boundaries ultimately allowed NP and PP roles to function:

*[I] had bowel cancer and my cancer has recently returned... Now that's very much my GP's [role] at this stage. [The PP] is aware of that and has backed off a little bit... She's still keeping an eye on the diabetes... but we're not doing too much around medications at the moment... There is very much a line drawn when it gets into that serious sort of stuff... That's exactly how she sees it as well. – PC4*

Section 6.1.2 firstly explores the concept of skill mix related to boundaries of practice and complementing or substituting established roles. This section then uses two examples, the roles of administrative staff, and patient referral processes, to elaborate on the influence workflow change has on advanced practitioner role realisation.

#### *Skill mix*

Demand for health professional services is linked to health workforce sustainability. Changes in demand shift requirements for health workforce supply and result in changes to skill mix. New professional groups represent opportunities to expand roles, complement existing practice, and substitute for other health care providers (Bourgeault et al., 2008). These are examples of direct skill mix changes. Skill mix changes may also be indirect changes through altering the interface or location where care is bestowed (Bourgeault et al., 2008). These changes alter continuity and coordination of care. Future advanced practitioner employment requires matching skill mix to patient demand and workplace requirements.

Interviewed advanced practitioners autonomously collaborated with other care providers in the health system. Determining requisite skill mix required defining advanced practitioner roles so that others within the health care team understood and accepted these new roles. GP6 and GP9 explained the impact this might have on integrating roles into practice:

*[For] some of the nurses... at the beginning [this] seemed... to be another registered nurse who was telling them what to do. It was a matter of redefining roles and for them to realise that this wasn't a registered nurse... Some of the older nursing staff... found it easier to accept that because they can still relate to the days when midwives were trained nurses who went on to specialise... They can see the longevity of the career and a change in the career to a specialisation. But it hasn't been a smooth ride. – GP6*

*It was difficult to begin with, and that's probably something I should have done in hindsight, is explain the role... Initially, they thought some sort of glorified nurse but what they didn't appreciate was that eventually [the NP] would be able to practise at this sort of level. – GP9*

The following two subsections consider the issue of skill mix for advanced practitioners operating as complements and substitutes to already established roles in their workplaces. The importance of this discussion lies in how others see these positions and how this influences advanced practitioner role integration and subsequent role realisation.

#### COMPLEMENT

NP2 described their role as being complementary to that of medical doctors and nurses in their practice:

*[I] am able to connect the links with the nurses because you can teach them, you can have that relationship with them and then you're not appearing to be... snobby or different, that you're one of them... They'll go 'can you do this for me', or 'can you have a look at this'..., when they can't get a doctor. [They] have learnt... that they don't need the doctor to assess... the situation. I can help them. – NP2*

NP2's statements above presented an example of established practice boundaries allowing advanced practitioners to deliver services as intended. NP2 operated in an environment where their role differed from that of registered nurse and GP. As a result, they were able to complement these other roles. NP14, also acting as a complement, offered a slightly different example:

*When I first started working here, the practice manager said to me 'I want you to see patients... I don't want you to do that nurse stuff..., we've got other... nurses that can do that. We want you to see patients because the doctor can't see everyone'... I was like 'Oh thank goodness'. Not that I don't, because I do – I see people and at the same time I do their blood, do their dressings, whatever I need to do at the time if I'm not really running behind... But to be able to do that is good and to know that they're like no, people book in with you and you can see them; they can see you and we're happy that you do that. – NP14*

NP14's statement that their role did not frequently involve "nurse stuff" is suggestive of a role more closely resembling that of a GP. Yet, the recognition that they operate in a team where the doctor required their services revealed that they operated as a complement with clearly defined boundaries of role intent.

PC12 and PC19 described the benefit of NPs and PPs working as complements:

*If a pharmacist had a professional relationship with a doctor and they could work together, then it can take some pressure off a doctor so they can focus on other areas or on more people... Then the pharmacist or the very competent nurse... can... offer an even wider service. – PC12*

*It's knitting everything together, and the fact that [the NP] and the GP work closely together means that we are getting that multifactorial level of support. The GP and [NP] support me, I support the team, the team supports the caregivers, and everybody supports the residents. At the end of the day, the knock-on effect is huge. – PC19*

#### SUBSTITUTE AND PATCH PROTECTIONISM

A review of the field log kept during data collection revealed that the majority of advanced practitioners delivered clinical services overlapping at least partially with traditional GP roles. As a result, particularly in response to maintaining financial viability (section 6.1.3), their practice was often similar to that of medical doctors. Many interviewed NPs described their roles as "doing exactly as the GP was doing" (NP12). Similarly, some of the supplied documents placed NPs in a medical team, rather than a nursing team. NP1 pondered whether such a model fitted with the expectations of advanced practitioner candidates pursuing this pathway:

*I'm much more medically focused now. When I could see that changing, I had conversations with [a senior nursing academic]... I remember asking them if PHC NPs were being manoeuvred into a medical model. They said something along the lines [of]... 'well I hate to say it, but you are because... we're so short of doctors in the rural areas'. I said, 'well that's okay, as long as I know. I didn't become a nurse practitioner for that, but I want to be a happy nurse practitioner.' – NP1*

NPs often tempered discussion of working in GP roles with the influence of a nursing model of practice (section 6.2.2, page 184):

*I am criticised for being a substitute doctor... Some of the patients say that, and I don't like it... I say 'no, I'm not a doctor, and the reason you're sitting here and we're having this conversation like we are is that I'm a nurse and I come from a nursing philosophy and background'... The body of knowledge and the philosophy that I come from is a blend; it's a new profession. It's not the same as a registered nurse. It's not the same as a medical practitioner. We're carving out our space. – NP5*

NP and PP roles to some extent overlapped with other established roles in their workplaces. Acting as substitutes for already established positions may have caused other health professionals to protect their 'patch'. Interviewees identified advanced practitioner role overlap as an issue for established health providers. NP10 emphasised the impact this patch protection had on integrating their roles into practice:

*A lot of the GPs, they wanted their own patients for cardiology because they enjoyed it... One GP said to me,... 'I get bored with all the sore throats... cardiology gives me job satisfaction'... I was there for a few years, but never fully utilised. – NP10*

PP7 further elaborated on the impact of patch protectionism on their role:

*The feedback was yes, I'd made a great difference. I'd engaged with patients who had never taken medicines... – I worked with them over a period of time, got them on board. However, shouldn't a GP be doing that routinely and, therefore, why would we pay someone else... when really we should be doing it ourselves? – PP7*

PP7's statement indicates that they acted as a substitute to GPs in their practice. However, medical doctors did not previously perform the role PP7 performed; this is indicative of a complementary service. As such, although PP skills are interchangeable with other health providers, this did not necessarily mean that the roles acted as direct substitutes. The importance of this and the above statements lie in recognising and using the boundaries of workforce practice to integrate these new roles into the workplace.

Having advanced practitioners substitute for medical doctors created an opportunity to ‘free up’ doctors to work in areas where their skills were more fully used. Yet, as PP7 stated, and PP9 corroborated, the issue of medical hegemony potentially placed additional boundaries on the advanced practitioner role:

*Some of the doctors will agree with what I want to do, but will say ‘no thank you because I’m a doctor and you’re not.’ I’ve got a person who is still five months without medicines because he’s not going to the doctor, but she’s declined my input. The person is missing out, but I can’t do anything about that. She’s agreed with what I wanted to do; it’s not a clinical issue, so that’s frustrating. – PP9*

The PPs above described situations where their treatment decisions overlapped with the roles of their medical colleagues. In these cases, practice boundaries preventing integration of these roles impaired the PP’s ability to deliver services.

Role overlap with medicine and other health providers may have occurred as part of establishing the ideal workplace skill mix. Where practice teams viewed the advanced practitioner as a ‘cheap’ (less valuable) alternative to a GP, antagonism may have resulted. For example:

*We did have a nurse practitioner working with us. That turned out to be a bit of disaster... I don’t think the role had been defined, and... management was trying to use her as a cheap GP and she’s not a GP,... hers is nursing training and ours is medical training and the two are miles apart... Her role hadn’t been identified, managers were using her as a cheap doctor, and it didn’t work. There were several unsafe things that happened. – GP1*

GP1’s statement also emphasised the need to establish the role of the NP as a separate professional entity – one with some medical skills, but also with nursing skills.

GP8 suggested an additional constraint on poorly defined boundaries of practice – where patients’ perceptions regarding the value of advanced practitioner services meant that they would not use these services:

*There might be some reluctance... on the patient side to pay for what they perceive as being not quite a doctor, where they could pay to see the doctor, why should they pay to see the pharmacist or the nurse. – GP8*

GP8's comment indicated that where patients failed to recognise the abilities of advanced practitioners, they would not have used their services. This example highlights the impact of poorly established role boundaries on the implementation of new roles.

*Workflow change*

A decision to use all available resources efficiently shifts focus from numbers and occupational mix to questions of how best to use available resources. This paradigm change may also alter how PHC teams operate. In most cases, interviewed advanced practitioners were the first to occupy NP and PP roles in their PHC team. A policy interviewee explained the impact this might have on the advanced practitioner's ability to establish role boundaries:

*What essentially it's doing in primary care is if you think about it, the care model has always been a general practice and a practice nurse model. We're adding another practitioner to that model... There's a lot of organisational change, workflow change that starts happening once you add another person in. – TPA2*

Creation of advanced practitioner roles can occur in response to a practice's need for change (section 5.3.3 above). Once these roles exist, continued change directs work allocation within a team. NP7 operated in a 'forward thinking' workplace; as such, they promoted their NP role as complementary to the existing team:

*My work environment... was looking at changing models... in response to trying to meet the needs of rural communities, having to manage the lack of staffing... I was part of that groundswell of innovation, and as a nurse practitioner, because we are really into innovation, I was able to then complement. – NP7*

NPs, PPs, and GPs operate using different models of practice, largely driven by their institutional knowledge and education backgrounds. Policy documents for NPs and PPs emphasised their skill bases in nursing and pharmacy and recognised their potential to operate from a different perspective. Requirements to deliver services based on a health care demand-driven model may prevent policy intentions and practice models from fully aligning, resulting in advanced practitioners operating from a traditional medical focus. This is because access to PHC funding often necessitates short, focused patient appointments. Contrasting NP7 and PP2's statements above, TPA3 commented that resistance to different approaches might prevent the true potential of advanced practitioners from being realised:

*The current model of general practice is so resistant to change that there's a danger that nurse practitioners will be sucked into practising like general practitioners... When you're faced with a room full of people who've all got desperately necessary acute presenting needs, it's hard to stay thinking the way you've been trained... If nurse practitioners simply start replacing GPs in general practice, we may not see the kinds of transformations that are inherent in the role. – TPA3*

The following examples of workflow change following introduction of advanced practitioner roles demonstrate the need for establishing role boundaries.

#### ADMINISTRATIVE STAFF

Several NPs and PPs described administrative staff as assuming a gatekeeper role, filtering when and with whom patients receive care. If these staff members incorrectly referred patients to or away from advanced practitioner services, then the NP or PP would be unable to deliver effective care. Similar issues arose when advanced practitioners received incorrect referrals from others in the health care team (see the following section). These referrals occurred for numerous reasons including poor understanding of the advanced practitioner's intended role and their hierarchical position in the practice. The following three scenarios from interview participants highlight the influence workflow change has on the integration of advanced practitioner roles into workplaces. The first two scenarios emphasise the effect this context has on patient care delivery. The third scenario focuses on the impact workflow change can have on role realisation and the roles of co-workers.

NP3 worked in partnership with others in their workplace. From observation, they had strong relationships across their workplace and showed control of their own practice. They described the impact administrative support had on their role:

*Some new patients will see [the GP] only. Well not only, they'll see me if they have to, but they prefer [the GP]... The new ones coming in who haven't read the blurb... The front desk works hard to try and [promote the role], but that's all right, it doesn't suit everybody. – NP3*

In contrast, PC7 described a situation where they were unsure how to access PP services:

*Getting through the front counter is probably your biggest hurdle... Unless they know you, the front staff are hard to get through... and they're always changing... You didn't know whether you could approach them in regards to [the PP]. – PC7*

PC7's statement illustrated that workflow change influenced patient ability to access new health services. Both examples above indicated the importance of administrative staff being adequately trained to recognise advanced practitioner skill sets.

NP\* offered a third perspective on the impact of workflow change on integrating advanced practitioner roles into practice. They described a situation where their role expanded the practice's patient population and gave patients another option for care delivery. Yet, this change occurred against a backdrop of active opposition from administrative staff:

*Patients would see me and want to keep coming back to me; the receptionists felt I was poaching other doctors' patients. The doctors didn't care, they were very happy someone was helping them. – NP\**

NP\* then described how their role introduction resulted in workplace restructuring, and the resignation of administrative staff. Successfully initiating new roles requires 'shuffling' established roles to make best use of workplace resources. Failure to support such endeavours constrains advanced practitioner integration and impairs role viability.

#### REFERRALS OF PATIENTS TO ADVANCED PRACTITIONER AND PATIENT SELECTION

Patient characteristics and the range of presenting complaints determine the role advanced practitioners perform in their workplace. Many PPs relied on health provider referrals to place patients under their care. NPs often relied on reception staff to make patient appointments. Traditionally, GPs task nurses with patient follow up. Introduction of NPs and PPs changes this traditional hierarchy, as these new health professionals might also require members of the health care team to perform follow up tasks. TPA2 explained the potential tension introduction of a new role had on workplace dynamics:

*We're... seeing a bit of tension in the practice nurse not quite understanding how to respond to task requests from a pharmacist prescriber... It's like 'I do tasks when I'm told by the GP... But you've come in and you're telling me to follow up on someone, isn't that your thing?... Now you've given me a task, so does that make you the same in hierarchy as the GP?'... Those tensions need to be aired at the very beginning before a pharmacist prescriber goes in... It's important because some of these are lab tests that need to be followed through and the patient needs to be rung up... In the long-term, it makes it harder for the pharmacist prescriber to integrate into the team fully. – TPA2*

TPA2's statement reflected tensions related to changing processes that were consequences of fitting advanced practitioners in existing workplaces. Likewise, GP10 described a



situation where their practice recognised the value of the NP role, but a lack of clear referral paths impaired role integration:

*The staff are keen to have more patients seen, ... it's always a problem... finding patient appointments, so she alleviates that role... For the nursing staff, sometimes it's a bit difficult because it's another practitioner for whom they have to offer some services when patients are seen and dealt with, and there's still not a clear path for her for that. It's obvious who deals with me and... the other doctors. We've had these discussions around who deals with the nurse practitioner but it's much vaguer... That can put pressure on the nurse practitioner and nursing staff when she's got something that needs to be done. – GP10*

GP10's statement reflected the views of other interviewed health professionals and raised the question of who champions delivery of advanced practitioner services. PC12 described the critical nature of buy-in and referrals to facilitate work for advanced practitioners:

*I have a lot of respect for the doctor... If he recommended [the PP], I would take that as sufficient endorsement to treat [them] with respect and listen to what [they] say. As I got to know [the PP], it became clear they know their stuff... I have no problems trusting them. – PC12*

In contrast, several advanced practitioners highlighted situations where elements of their workplace did not champion the introduction of new roles:

*[At] this practice, doctors sit here, nurses sit here..., and what happens is doctors give instructions to nurses that they've got to drive this. I had a nurse with a bit of diabetes speciality... She became quite difficult. I wasn't getting the referral numbers... Apparently, she was given a list that was another thing... that (a) she didn't need, but (b) she was maybe trying to do a bit more with herself... I don't think that was resolved and... it impacted the success in the long-term. – PP7*

GP7 offered an example of how uncertainty over the capability of a recently introduced PP role prevented patient referrals to this prescriber:

*There would definitely be some uncertainty about the role and we're working that through. In peer review or in case reviews with nurses or doctors, an issue will come up and then you could say 'that would be a good case for the PP' and they'll say 'oh I never thought of that', because it's not in their head to think the PP could do that. It's about people learning how to use the new role. – GP7*

Describing another aspect of this issue, PP6 questioned whether difficulties integrating their role into practice stemmed from poor recognition of the value they add. PPs have skills in

medicine-related complications; many of these complications are ‘hidden’ and could be attributed to other causes. As such, identifying the role of a new practitioner in their treatment raised additional problems:

*Nobody’s really good at seeing who needs input from a pharmacist... Patient identification is... a big barrier... I don’t think patients, doctors, or nurses know who needs referring because medication-related problems are hidden. And if someone’s not getting great medication-related outcomes, it’s not always very obvious. – PP6*

Colleagues lacking familiarity with the intended roles of advanced practitioners may have inappropriate referral practices, impairing integration of NPs and PPs into the workplace.

**Summary:** Findings indicated that effective advanced practitioner role realisation required establishing boundaries of practice between individuals in a workplace. Defining the intended skill mix and differentiating between the roles of NP, PP, and others within the practice team allowed team members to integrate into new organisation dynamics. Introducing additional roles into practice teams potentially meant realigning roles and altering workflow. Two workflow changes were in the gatekeeping roles of administrative staff and the referral practices of other health professionals. Using realist language, establishing role boundaries (context) triggered integration of advanced practitioner roles (mechanism); this, in turn, allowed the intended role of the advanced practitioner to be realised.

### 6.1.3 Logistics of establishing the role

Numerous contexts trigger the mechanism of integrating advanced practitioners into their workplaces. While sections 6.1.1 and 6.1.2 present results on non-physical features triggering integration of these roles, this section extends perspectives on other environmental influences to role integration. Problems explored in the previous chapter on creating advanced practitioner roles lay groundwork for this environment. For example, features such as funding and legislation that triggered policy action also influenced the ability for these roles to operate in practice.

*The clinical infrastructure is not in place... At least, it hasn’t been until relatively recently. We’ve had a whole decade or more of battering down the doors and getting people into these positions. We still haven’t had the embedding... into normal culture... It isn’t yet a role, which is understood and well recognised generally. – TPA19*

Integrating advanced practitioner roles into workplaces requires managing financial viability, rules and legislation, and workplace characteristics.

*Financial viability*

Documents supplied by advanced practitioners (particularly PPs) afforded variations on the theme that access to sustainable funding streams most influenced promotion and implementation of advanced practitioner roles. Many individuals described the effect capitation funding had on different skill mixes. Initially, GPs could access intervention levies seemingly unavailable to NPs. TPA12 pointed out that these funding rules prevented NPs from being in the “driver’s seat” of PHC practices. Currently, NPs can access funding streams to almost the same extent as GPs; PPs, however, cannot. Nevertheless, interviewees remarked that capitation payment as means of partially funding PHC services should facilitate opportunities for other routes of delivering patient care:

*In the bad old days of GMS..., you had to see everybody for whatever reasons. Now, with capitation..., nurses certainly play an important part. It's not the nurse practitioner that is important in this practice; it's all the other nurses [that] play a great part as well. It's that whole teamwork approach. When there are resource problems in certain areas, you have to make the most of what you have. – GP14*

*There's... a feeling out there that... there's no funding that goes with nurse practitioners..., [that] they're an expense. I don't think people realise, for example, ACC, which is a big part of the money coming into a GP practice, there's something like... [an] \$8 or \$10 difference between a GP and me, it's not big. You... bring money in. With capitation, it doesn't matter who sees this person if they're on your books and they're registered with you. – NP12*

TPA8 offered a perspective on the constraining effect of public funding on the PP role. They described PPs as benefiting patients, but being inadequately funded; that is, TPA8 suggested that they are not cost-effective in the current funding climate. This perhaps indicated that financial incentives are misaligned with patient outcomes:

*It goes back to funding... It's about a medical practitioner who has... given up some funding to create a role but has said I can only do it for a day a week..., that's all I can allow out of my bulk funding to have a pharmacist prescriber making a fantastic difference. To them... it's not creating anything extra for the business,... [it is improving] patient outcomes, but... it's not increasing the number of patients seen, they're not charging for a consultation with the pharmacist prescriber. – TPA8*

TPA8's comment sheds light on the influence of funding on integrating roles in PHC. Few interviewed PPs found full-time employment as PPs. Additionally, much of their roles involved extended, in-depth consultations focused on issues of medication-associated morbidity; their patients often required long-term management. Several PPs commented that funding directed both the type of role they performed and their workplace retention. PP7 and PP8 discussed this in light of their own experiences:

*I knew at the end of that pilot study that I probably wouldn't get it extended because there was no funding. That was true; it wasn't extended. I went back to doing my clinical advisory role for a year... It wasn't working. – PP7*

*Other than my ongoing surety around funding, and my ability to keep doing what I'm doing and that's dependent on others... The longevity of [the role] – who knows, there's never any confidence or surety. – PP8*

PC21 further corroborated statements made on the influence of funding on advanced practitioner retention:

*I was quite aware that it might be a limited service that was available to me... I felt that she was available for several months but it would depend on funding whether she was able to come back again. – PC21*

Commenting on how available funding affected their role, PP2 described situations in which scope silos formed (page 159) due to the 'guiding force' of funding:

*Most other pharmacist prescribers are either paid by DHB contracts..., or it might be a portion of money that was used for a project and there was some left over or there was some set aside for say maybe diabetes, so they'll employ a pharmacist to prescribe and deal with diabetes. – PP2*

Ideally, integrating advanced practitioner roles into practices will use these roles as intended while acknowledging the underlying different philosophies of nursing and pharmacy. Failure of funding to align with advanced practitioner models of practice may lead to these practitioners being deployed in ways differing from policy expectations and result in practices not gaining full benefit from the role:

*In... most places there are co-payment as well, and the way we generate the rest of the money in primary care is through the 10-15 minute visits. That's not how nursing operates particularly well... If you're dependent on heaps of people coming through and maybe coming back and back and back, and having 10-minute visits to which you charge..., then we've got a funding model that encourages a certain behaviour. – TPA16*

Part of the NP role involves leadership and commitment to encouraging continued innovation of the wider nursing community. PHC practices are business; if they do not cover their costs, they fail. Advanced practitioners contribute to business profits through patient consultations. Several NPs commented on difficulties they had ensuring that their practice was financially viable while managing other aspects of their role:

*I have been... in wider nursing roles and it's an expectation of a nurse practitioner that you are... That's been difficult because... that doesn't earn the practice money... They were starting to get twitchy about that... Although they were paid, I don't think it covered as much as what they paid me... The financial pressure has been huge. – NP11*

#### *Rules and legislation*

In addition to legislative constraints to role creation (section 5.1.4), several interviewees commented on the influence of legislation and DHB rules on role delivery. At a broad level, individuals remarked that following role creation, advanced practitioners operated in a system with legacy constraints preventing them from working to their full potential:

*Once we got the regulations and we got the framework in place, then the lobbying moved to trying to get it practising in practice, and some of the DHBs had strict rules. They put other rules around it as well that prevented the nurse practitioners from working in the way that they were now regulated to do in their scope of practice. – TPA4*

Individual DHB rules and restrictions resulted in regional differences affecting advanced practitioners' ability to practise as originally intended. Section 6.2.3 discusses the effect of regional variation more fully when examining advanced practitioner ability to refer patients for care and diagnostic services. Differences between DHB rules governing who can apply for diagnostic services has meant that some advanced practitioners cannot access these services and have consequently struggled to perform their roles fully. This meant that advanced practitioners might be less effective in treating patients.

Several NPs commented on the effect of legislative barriers to full health system integration. Since completing data collection, the omnibus Bill, The Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill, has passed (section 4.2.1). The amendments made by this Bill will increase the range of tasks certain health professionals can complete, making their legislative rights more in line with those of GPs (MOH, 2017a). Participants discussed constraints on their ability to practise related to issues covered in the Bill such as driver's licencing, death certification, and ACC:

*With ACC, I can put somebody off work for life with an injury. But I cannot put somebody off work for three days with the flu... I can take a person's driver's licence off them, but I can't do the health check for the driver's licence. – NP4*

In considering the influence legislation has on integrating advanced practitioner roles, PC8 presented the example of using a GP to renew their driver's licence. Under the relevant legislation, their NP could not perform the requisite health check. PC8 explained that the GP delivering this service did not know the patient's skill or physical ability to drive a car. This is an example of a legislative constraint inhibiting integration of NP roles as a primary provider of health services.

Enactment of the omnibus Bill will reduce many of the constraints impeding integration of advanced practitioner roles. However, some constraints will remain preventing NPs from accessing funding for certain services:

*I can't sign the form for radiology for ultrasound scans for pregnant women, which is so ridiculous. If I sign it, they don't get funding because... I'm a nurse practitioner... I don't care anymore. I get one of the GPs to sign it because I can't be bothered fighting that issue. I do what I do and eventually, things catch up. – NP6*

NP6's statement provided a good example of the influence legislative constraints have on the integration of NP roles. Policy failed to keep pace with the requirements of their role; this required finding other means to treat patients. In turn, this affected the NP's ability to deliver patient care autonomously.

Further constraints to practice related to the role of advanced practitioners as prescribers. As previously discussed (section 5.1.4), as designated prescribers, PPs have a list of medicines that they can prescribe. This list is a subset of the larger medicines schedule available to many other prescribers. Under legislation, PPs can only prescribe controlled drugs for a maximum of three days. In addition to influencing role creation, such limits curtailed the areas in which PPs work:

*Narrow scopes of practice have real risks associated with them... Lists of medicines are useless because medicines become out of date and then you've got to update the schedule. – TPA21*

Advanced practitioners discussed the potential effect lack of access to the funded pharmaceutical schedule and inabilities applying for special authority had on their delivery of health services. In New Zealand, patients receive access to funded medicines following

(1) a prescription written by certain prescribers, (2) a past prescription by one class of prescriber, and a current prescription by another prescriber, or (3) a prescriber application for funded access (special authority). TPA4 discussed problems in accessing the funded pharmaceutical schedule for early NPs:

*It didn't achieve that in the first years. There was a lot of publicity but they couldn't prescribe because their patients couldn't access the PHARMAC subsidy or the DHBs put all these rules around not letting them prescribe so the hospital pharmacist wouldn't give the drugs unless it was countersigned. – TPA4*

Subsets of New Zealand's funded medicines require application and acceptance of 'special authority' requests. PPs cannot complete applications for special authority. As a result, if they prescribe these medicines, patients will only be subsidised if an eligible prescriber received prior authority (PHARMAC, 2017). Some policy interviewees implied that this constraint did not impinge on care delivery by PPs:

*In terms of... special authority applications... some things that have been taken into account around those new prescriber groups... are that those groups are expected to work in collaboration as part of a team... Their inability to apply for special authority shouldn't be an issue because they will be working with someone who should have that ability. – TPA23*

PPs often operated as consultant specialists in their workplace. In these roles, they often treated specific conditions, potentially in multiple short-term roles. The PP scope of practice specifies that these practitioners must work in collaborative health team environments. Following TPA23's logic, where PPs seek to prescribe special authority medications, other team members could complete the application process. Yet, PPs, as medicines experts, might need the independent ability to apply for special authority, particularly in short-term specialist roles:

*The PHARMAC thing around special authority, which isn't legislative as such, but I can't write the first prescription out for a special authority... That's another step or obstacle for the person sitting in front of me that I have to go through. – PP8*

Contrasting this, TPA6 commented that, given low PP numbers, a decision to grant subsidy and special authority rights applying to a whole discipline could fail to recognise future requirements of the profession:

*It [will] probably become a lot easier in the future when these prescribers are ubiquitous in the system... Activating subsidy rights... [for PPs] is a little bit [like] making big policy decisions based on a few people... To say that all the respiratory nurse practitioners are in rural general practice, well that won't always be the case so we can't make decisions on the basis... that one is in a rural setting but in the future, there'll be 50 and they'll all be in hospitals. – TPA6*

Additional constraints in special authority relate to the failure of the internet-based application system to recognise other prescriber groups and differences in the range of medicines for which NPs and vocationally registered GPs may apply (College of Nurses Aotearoa New Zealand, 2017). In the case of the former, the double handling of authorities will cause extra and unnecessary process costs. For patients, this can mean delays in treatment, as their NP would need to submit written applications for special authority:

*There was a system for doctors to provide their special authority authorisation number electronically... The nurse practitioners could never alongside their medical colleagues enter their number into an electronic special authority. – TPA11*

#### *Workplace characteristics*

NP and PP origins are in traditional nursing and pharmacy practice respectively. In taking up postgraduate training, these health providers have broadened their skill base. As a consequence of this, and their status as the sole advanced practitioner in their workplace, many NPs questioned whether they fit into nursing or medical teams. Paralleling these discussions, NPs in large practices questioned whether their offices should be located with other nurses or with GPs. NP11 strongly emphasised the influence of office space:

*I'm a bit stuck in the middle. I'm not a nurse; I'm not a doctor. I don't notice it now, ... but in the beginning, it was difficult. I used to have an office around in the nurses' clinic and I held onto that. When we did all the alterations, they said did I want another office and I said 'no, I'd like to stay around in the nurses' clinic and be part of something'. – NP11*

NP11 continued to explain the isolation they felt working in the medical wing of their practice. From my own observations, it became apparent that this practice had two main wings and waiting areas, one for nursing, the other for medicine. Placing the NP in the medical wing separated their practice from its nursing roots. This may have served two purposes, firstly, it conveyed to patients and providers that this practitioner acted as a diagnostician; or secondly, it isolated the practitioner, leaving them unable to fit in either nursing or medicine.



NP11's statement exemplified professional isolation due to workplace characteristics as a constraining feature to integrating the advanced practitioner role. In contrast, explaining a very similar setup, one of the interviewed GPs described this as being an enabling context triggering integration. They styled their advanced practitioner as working in her own 'domain' within the workplace. In this area, the NP had defined autonomy visible to other practitioners and patients. From observation, this demarcation instead of creating division between practitioners, aided in establishing practice boundaries between the NP and others.

One way to deliver care catering to service users' needs is through changing the location and form of patient consultations. Many advanced practitioners, particularly PPs, delivered care in locations outside of the traditional primary care environment. These included, for example, home-based care, online consultations, or institutional care. Additionally, with the introduction of electronic portals, patient consultation paradigms have changed. PPs described their roles as making use of these tools when following up with patients via email or telephone to promote timely access to care.

*We give patients our mobile phone numbers so they really do have very good access to us... That helps our effectiveness as well. They might ring and say that they're worried about something, then perhaps you talk them through it or you make an assessment and think well does this person need to go to the GP, do they need to go to the hospital, what do they need to do... That helps build rapport and improve outcomes. – PP6*

PC4 continued to explain that having access to their PP via email allowed for care personalisation and gave patients more control. In terms of integrating the advanced practitioner role into practice, technology allowed PPs to deliver care and patients to recognise the role of the PP:

*It's personalised, which it isn't to the same degree going to a doctor every six months and them saying 'we might increase that' and then it's another six months before 'how did that go?'... She's following up through the testing and saying 'what were your bloods for this week?' You email those to her and she says 'this is cool; we're coming down gradually... so let's do this and let's see how that goes for a couple of weeks'. – PC4*

Several PPs and one NP discussed delivering home-based care to patients. PP4 and PP6 explained that home-based care better enabled them to cater to patient needs and enhanced patient engagement with services:

*I have quite a lot of flexibility, ... I [can] choose to do a home visit for a patient... I'm able to directly model... the way I work to be most efficient to... patient needs, and that's quite different to the usual model of care in general practice. It would be sad to see my role... confined to the model that general practice is used to, which is you have an appointment time slot, people come to see you, if they don't turn up it's their fault. – PP4*

*Without splitting the relationship between patient and GP, it gives them maybe a sounding board, maybe someone who's a little bit independent of the system... If we visit them at home, then they've got time to express their concerns and fears; even for us to explore them more. People are more comfortable in their own environment, so they're perhaps more willing to share. That really helps our rapport. – PP6*

However, PP6 also highlighted potential constraints caused by home visits:

*We're visiting people in their own home, often people have financial issues and it would be very easy for them to say 'can you write me a script for this'. I don't think that would do us any favours with GPs but I also think that I don't want to split the relationship between the patient and their GP. I've been quite hesitant about prescribing for that reason. It's different if you're in the general practice, but because of the home visit side of things, I think it would be very easy for people to see us as a shortcut to getting scripts. – PP6*

As PP6 pointed out and PP4 discussed earlier, delivering care outside of the normal workplace matrix influenced the relationship between patient and advanced practitioner. It also changed relationships between the advanced practitioner and others in their workplace. This can either trigger role integration through providing advanced practitioners with a specific role as described by PP4, or split workplace relationships, as described by PP6.

**Summary:** Integrating advanced practitioner roles into practice (mechanism) allowed these roles to be realised and then facilitated the delivery of their services (outcomes). One part of the trigger for this integration involved management of features within the physical environment (context). Interviewee observations made during data collection identified that an enabling and adequately resourced context involved having infrastructural (including funding, legislation, and workplace structure) support facilitating the appropriate use of advanced practitioners. More specifically, where advanced practitioner workplaces recognised the ability for these health professionals to operate flexibly in other environments, then the role could better integrate into practice.

## 6.2 TRUST IN ABILITY

Ideally, workforce planning, facilitating fit for purpose advanced practitioners, and motivating uptake of training and employment opportunities (mechanisms, Chapter 5) creates an enduring advanced practitioner supply. After training, these practitioners should integrate into a workplace (section 6.1). Having successfully navigated this process, the goal for advanced practitioners is to deliver patient care cost-effectively, competently, and confidently. This would result in successful role delivery (outcome). Yet, while practitioners may operate to the full potential of their *available* role, they may not be operating to their full scope of practice. Some individuals returned to roles similar to those they held prior to completing advanced practitioner training. This was particularly common amongst PPs. Section 6.2 discusses contexts influencing trust, a mechanism that when triggered aids service delivery and allows the advanced practitioner to operate as intended.

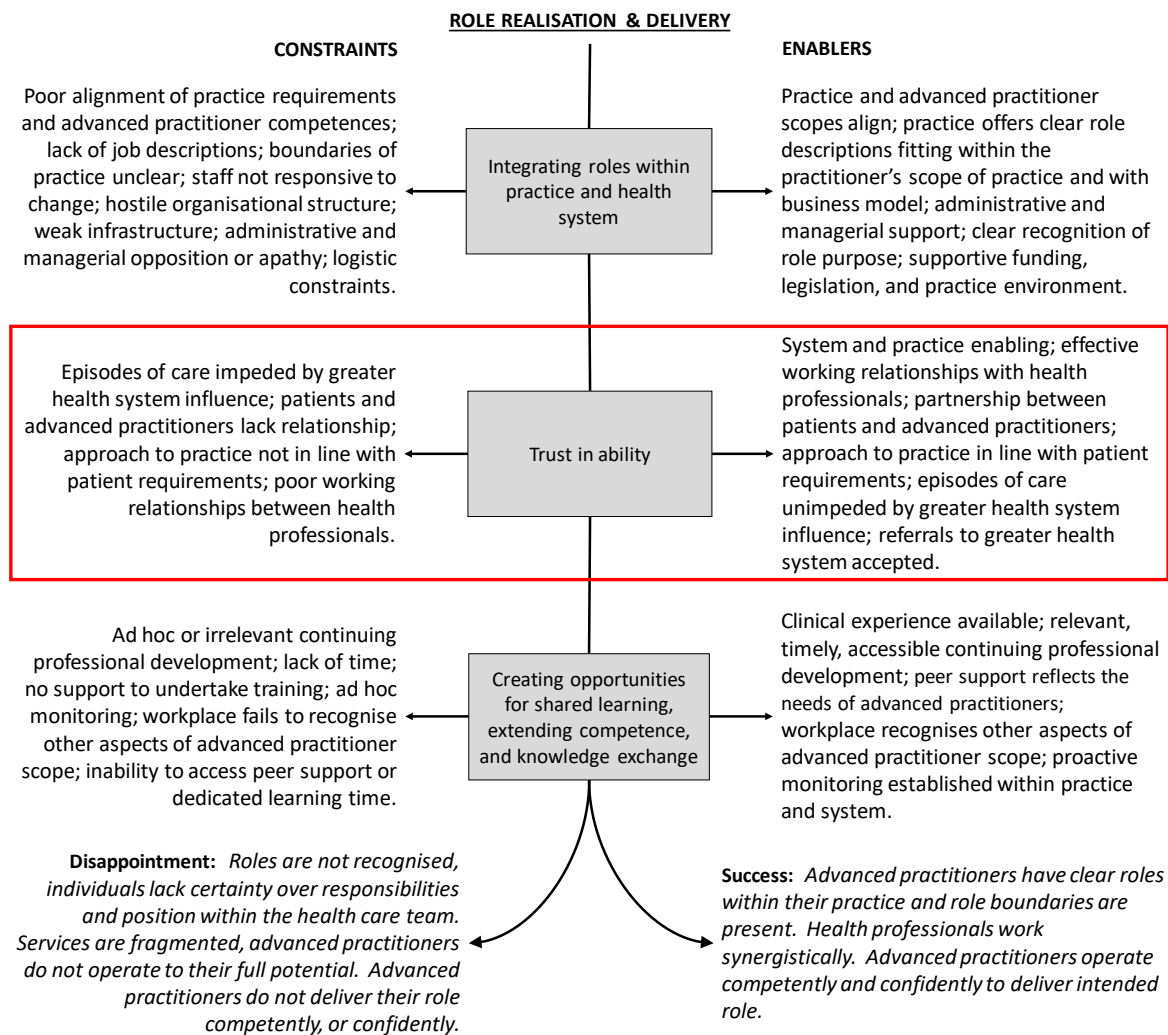


Figure 6.2: Contexts triggering trust in ability.

In addition to contexts described in section 6.1, several features enable trust in advanced practitioner abilities. These include (red box, Figure 6.2):

- Collaborative integrated team environment and relationships (section 6.2.1);
- Patient relationships (section 6.2.2); and
- Greater health care system influence and referrals (section 6.2.3).

### 6.2.1 Collaborative integrated team environment and relationships

Advanced practitioners sometimes operate in roles that do not employ their full scope of practice. In these roles, it is unlikely for them to deliver care reflecting their full competence. Section 6.2.1 presents commentary on the effect of working in a collaborative team on trust in the abilities of advanced practitioners. Many of the contextual features noted in 6.1.2 also apply in this section. All advanced practitioners discussed the influence their practice team had on their ability to deliver patient care. They indicated that their roles were valued more when working in collaborative workplaces. A business plan of one interviewed advanced practitioner explained that in introducing their role into established environments, they contended with collegial resistance and poor understanding of their role in the wider health sector:

*We have overcome many barriers, including collegial resistance to a Nurse-led practice in an environment dominated by [the] 'old-school' of GPs. Other barriers have involved a lack of understanding of the role of nurse practitioners by various government departments and organisations. We have dealt with each of these issues as they have arisen and there is no legislation at Select Committee level that will finally sort out the last barriers to equity. –Business plan*

Interviewees commented on the importance of professional relationships between advanced practitioners and their colleagues to facilitate trust in their roles. Features enabling trust included support from others within the workplace to deliver the advanced practitioner role, recognition of the value that advanced practitioners provide, and patient-focused care. The following three subsections explore these contexts.

#### *Support*

Collaboration involves an expectation of support to function cohesively in a team. Several GPs, NPs, and PPs discussed the role workplace support plays in empowering advanced practitioners to work to their full scope of practice. NP16 discussed how support changed as colleagues became familiar with their role:

*At first, some of them were a bit sceptical but now they're all on board. I believe you've got to have the support, and they've got to have the vision of what you can do as well as yourself. And how best to use that... I had one GP who has been fabulous all the way through and went to bat for me many times. I'm grateful to him... When I'm not there they notice it, which is cool, and so do the patients. – NP16*

A common sentiment amongst PPs and TPA interviewees was that the professional PP role per se did not exist; instead, individuals needed to carve out their own niche. TPA17 commented on the influence of support in helping to define PP roles in this environment:

*Often the reason they're prescribing is through the goodwill of the people that they're working with. They've fought within their own practice or PHO to carve out a niche and almost gone with a begging bowl, saying 'please give me a role and a job, and money', and they've managed to carve out a niche but they've still had trouble doing it. – TPA17*

TPA17 continued to describe the importance of this support in establishing new roles for PPs. They stated that more experienced pharmacists, or individuals with supportive management may more easily establish PP roles:

*[As a] more experienced pharmacist they might have established a role in other ways. They might have established a role as a specialist or a medications pharmacist... They've got that experience. They might have a very supportive manager who can help them establish the role. – TPA17*

Further elaborating on the influence of this support, NP16 discussed a situation where workplace assistance conflicted with health system obstruction:

*I rang up a hospital registrar when I had a kid with pyelonephritis. He gave me a hard time and said 'why don't you start him on antibiotics'... He ran me down... I went and talked to one of the GPs about it. They rang him up and said 'What are you on about? She's done everything right, she wants him to be referred, he needs to be referred', and the kid got admitted... They will back me, but they shouldn't have to. – NP16*

NP16's statement exemplifies the effect workplace support had on enabling practice where the greater health system (section 6.2.3) failed to support new roles. More generally, it demonstrated that several contexts operate in the development of advanced practitioner roles, some enable mechanisms, others constrain. The interplay of these contexts influences advanced practitioner delivery of outcomes.

*Recognised value*

Several interviewees discussed the contextual feature of ‘recognising the value advanced practitioner roles add’. Advanced practitioners considered this feature as pivotal to success in their role. PP7 described the impact this recognition had in their role when working with a sole-practitioner GP:

*I'm really thriving there and it's because the sole practitioner is loving having a colleague to talk about medicine management and he's very open to me saying 'we need to do that different'. He hasn't, yet said don't go there. I don't get a lot of feedback... [But] he's putting such positive feedback to the PHO and to our outreach nurses at the PHO. – PP7*

Moreover, GP3 discussed how proving the value of a NP role established credibility or trust in that role:

*[The NP's] skill set is exceptional, but she had to be because she was leading a path... If she wasn't a nurse practitioner people wouldn't have taken heed of what she was doing..., they would have been overly dismissive of it. What she's done... is... blazed a path for other nurses to follow... I think sometimes the prescribing part wasn't necessary, but it was necessary to put that extra credibility, because she'd done it and she'd got it and she'd been prescribing so people would say 'well there's a nurse that's gone out of her way to excel in her particular field'. – GP3*

Several interviewees offered support for the argument that where the value of advanced practitioner roles was not recognised, then trust in their roles did not exist, impairing their delivery of services. NP9 recounted that due to a lack of recognition of their role, they faced difficulties in admitting patients:

*One weekend when I first started doing it, we had one medical officer who was very rude. He would try to block... [me] from admitting patients, be quite condescending and he wasn't going to take a referral... He left because... he didn't believe in what we were doing. – NP9*

In identifying the value advanced practitioners add, many interviewees voiced concern that NP and PP roles were not understood. This was evident in the language interviewees used to describe NPs and PPs. For example, some patients and carers depicted their practitioner as operating as their medical doctor; others could not describe the skills of their advanced practitioner. Furthermore, GPs not working with PPs showed an almost consistent inability to differentiate between a PP and a pharmacist working in community pharmacy. GP2 and GP12 explained the impact a lack of awareness had on trust in advanced practitioners:

*There's a real hesitancy about nurse practitioners and... a lot of that is because we don't know what the training involves and so you don't know what their competency is. With that comes a certain apprehension, suspicion, [and] anxiety. – GP2*

*Some of my colleagues are very worried... that she may not be skilled enough. I think that's more if you don't work very closely with somebody that you may judge that as not being skilled. And it's interesting, because nurse practitioners are generally, nurses who have been in a practice nurse role for a long time before they finally decide to do the nurse practitioner training. – GP12*

Arguably, because nursing has a better-established position in PHC, NPs have a stronger platform than PPs. Yet, as GP3 stated earlier (page 182), NP role introduction required NPs to prove themselves and establish their position within the health care team. Pharmacists traditionally do not work in general practice. In New Zealand, the introduction of clinical pharmacists into general practice is occurring concurrently with the creation of PP roles. Consequently, PPs emphasised the need to establish their role within their health care team. PP2 reflected on working as a PP in a practice where they had a previously established role:

*There would be tremendous scope if I were going into this role fresh as opposed to coming in as someone established in the team... The pluses are that I'm here, established, and trusted, and I get referrals that I wouldn't otherwise get, possibly. The minuses are that I've got so much other stuff to do as well. – PP2*

#### *Patient-focus*

Patient-centred care is responsive to patient needs. Within PHC, the argument of 'who is in charge of patient care' limits the ability for practices to respond to these needs. History places GPs in this position of responsibility. Yet, as described in section 6.1, introducing new workplace roles resulted in changes to workflow and skill mix. Such changes need a focus on both maintaining patient-centred care and combating patch protectionism:

*She has run into many, many different GPs who have thought that this was not appropriate... There are occasions where other professions may look on a new role as challenging... as taking over some of their duties... You need to create an environment where it's about the patient and about teamwork... There's this argument about who owns the patient and... it's needless and petty. – GP3*

Advanced practitioners and GPs discussed the influence patient-focused care had on trusting NP and PP abilities. These interviewees suggested that such a focus meant that

practices asked ‘who can best meet the needs of patients at this time’. GP6 explained that their advanced practitioner was supported “because we value her role, we see that there’s a huge amount of work to do that I, as a GP, can’t [do] all on my own.” PP\* further described the influence this patient focus had on the services provided in their practice:

*The practice environment has [had a] drive to improve health outcomes for high needs patients and [a] realisation that they need to use multiple strategies to do that... That environment has been conducive to developing the pharmacist prescriber role. Shareholders... own the practice... It’s more a corporate structure, so they look at [their workforce] from a service provision model and what consumers need, rather than I need an income so see this amount of patients. – PP\**

**Summary:** Advanced practitioner health services delivery (outcome) is largely dependent on the ability to garner the trust (mechanism) of those in the team in which they operate. Several contexts in these teams must exist to enable and sustain this trust. Such features include (1) support for the advanced practitioner to operate in the team; (2) recognition of the value advanced practitioner roles add; and (3) a focus in the team on delivery of patient care, not on maintaining existing roles.

### 6.2.2 Patient relationships

Interviewees emphasised the impact patient-advanced practitioner relationships had on patient care delivery and service acceptability. Patients and carers indicated that their use of advanced practitioner services varied. At one extreme, individuals indicated that they viewed their NP or PP as their primary and preferred provider of care. At the other, patients made no distinction between the care received by their advanced practitioner and that of any other members of the health care team. However, all patients and carers, and most advanced practitioners acknowledged the impact of the health provider-patient relationship on a patient’s desire to use services:

*It’s a team thing. All she’s worried about is you, making sure your health is going to be good. Puts you on the right track. – PC6*

*Often... I see patients not on a regular long-term basis. I’m hoping to change that because I believe the patient relationship will make it easier. When you see a patient for a specific purpose, say, you’re intending to get their diabetes better controlled..., if you don’t get the relationship right in that first consult it means it’s very challenging to then do more. – PP4*

Patients and carers deemed relationships with advanced practitioners effective when discussions were open and considered patient-specific clinical signs and symptoms, and the



need for follow up. They identified these relationships as being ‘holistic’ and personalised, and not solely clinical. Good relationships with patients triggered trust in the advanced practitioner, leading to improved delivery of health services.

Advanced practitioners also discussed the impact models of practice had on patient relationships. The nursing model of care often stressed holistic patient-centred care that takes into account clinical needs and patient-specific requirements. PPs emphasised their roles in delivering timely services that cater to patient-specific requirements. NP2 elaborated on the impact of a nursing model of practice on NP-patient relationships:

*It wasn't just you... pushing ideas, it... wasn't the patient pushing and I can't be bothered – it was working out who was central and who had control, and how you were going to work together to get the outcomes. It's modified a lot over time, ... now we're probably looking more at developing that relationship so that you can get those outcomes. – NP2*

Several interviewees (primarily patients and carers) commented on the approach taken by advanced practitioners during patient consultations. One patient provided a copy of a letter they sent to their practice regarding their “phenomenal improvement” because of treatment by a PP. The letter explained the benefit the PP accorded them:

*[The PP] utilised a friendly holistic approach, which included making decisions with me..., connecting, and finding what works for me, checking up on how my diet and exercise was, monitoring my mental and physical health – Patient letter*

Another patient (PC10) stated that the approach of their NP during consultation allowed them to understand the topic of discussion. Patients and carers described consultations with their advanced practitioner as building trust, confidence, and comfort. This, in turn, positively influenced their preference for advanced practitioner services:

*She covers everything – what I need her for, she's there. My medication, talking – which is probably to me too something quite important... I feel confident with her and... I feel I can be open with her. – PC15*

*I trusted her because she knows what she's talking about... She's a non-confrontational person, you could tell that and... because she told me she had a good relationship with him [my GP], I never thought anything of it. I trusted her. I mean, I trust my doctor but, in all honesty, I'd go to her any day, over my doctor. – PC7*

PC7's last sentence reflected other interviewees' sentiments of their relationship with their advanced practitioner. Patients and carers often compared this relationship to that with

their GP. Such comparisons brought to light situations in which relationships with different health providers tempered the relationship between patient and advanced practitioner.

Supporting PC7's statement, GP3 suggested that an awareness of the advanced practitioner's role within a team enhanced patient confidence in treatment:

*She had a good rapport with a large number of patients... They felt comfortable seeing... [the NP] about something they might not have been 100% comfortable talking to me about, but they also knew I was available and I knew them so if there was an issue we could escalate it or de-escalate it... they recognised that we were working as a team. – GP3*

From a patient's perspective, in a traditional workplace hierarchy, NP and PP roles often sat between those of medical doctors and nurses:

*Her knowledge as a pharmacist, she really does know her stuff... It's almost, if anything, having someone like that between a doctor and a nurse... is good because things can happen more quickly. – PC4*

Some patients and carers showed good understanding of the differences between these roles. Still others showed limited recognition:

*Patients... will come and see me and will often say they've seen the other doctor,... [the NP]. You think 'you don't know what service you're getting'... If... her expertise is the same as a GP, you think, well, (a) why have we got different terminology, why not say the nurse practitioner is a GP, and (b) if it's not, then the patient should know. – GP2*

In contrast, PC3 and GP7 remarked that for patients the value an advanced practitioner adds is important, rather than the difference in health provider scopes:

*It's not something you see as a patient. You know that she knows. You've got that confidence that she knows. – PC3*

*There's quite a high level of acceptance of other roles in this community because that's how the clinic has always operated... [For the PP] coming into that environment has made it easier... I would doubt whether a patient understands what a prescribing pharmacist is. They're probably thinking this is a health professional helping me, they're talking competently to me about my medications so I'm fine with that. – GP7*

As noted in Chapter 2, studies indicated that familiarity with advanced practitioner roles drove patient trust in these practitioners. Much of this literature indicated that where health professional peers lacked trust or comprehension of the advanced practitioner role, then

patient appreciation or trust in the role did not form. Such situations may have arisen where advanced practitioners do not receive referrals from other providers,

Another aspect of patient relationships, discussed at length, is the role of the advanced practitioner in patient education. Amongst patients, carers, and advanced practitioners several commented on the value of patient education in empowering patients to manage their conditions:

*She explained to me why I've got the gout... I never knew why I got it... To me, it's always you've eaten the wrong food... She says to me..., 'the reason you've got the gout is because the uric acid... [is] too high and your body can't deal with it'... I asked her 'can I have some naproxen or something'... She said 'yes..., I can give you that but what we need to do... is get it under control, ... so that you don't get the gout anymore'... She's changed my medication... Since... [then] it's been... good. – PC6*

In recognising the advanced practitioner's ability to educate patients, PC20 elaborated on the effect this had on their decision to continue using NP services:

*My eldest son... needed medication..., and [he] needed... behaviour change around managing [the problem]... Sometimes I would take him more to have the education with her. I probably wouldn't have done that with either a registered nurse or a doctor. I wouldn't have taken my child to the doctor for education... because I would feel they thought I didn't know how to do that myself, whereas... he had that relationship with her... and that was a role she would pick up and lead. – PC20*

**Summary:** Patient trust in the NP or PP influences long-term role realisation and service delivery. If patients lack trust then they will seek other health providers. Patients and carers presented a variety of features they considered of value in their experiences with advanced practitioners. These included continuity and completeness of care, patient education, and individualised treatment. When describing the patient-advanced practitioner relationship, patients offered insights into their relationships with medical professionals. Interviewees showed an appreciation of the value advanced practitioner roles add, and emphasised that GPs often lacked time to deliver effective and holistic care. Section 6.2.3 explores health system influence on the mechanism of trust.

### 6.2.3 Greater health care system influence and referrals

The greater health care system can facilitate trust in the advanced practitioner role. Section 6.2.3 uses referral processes for diagnostic services and to secondary care as examples to explore this context. NP and PP scopes of practice specify that they may order and interpret

diagnostic investigations. Using investigative tests can make diagnosis possible and improve its accuracy. The health system does not universally accept advanced practitioner test referrals; one DHB may accept them, and another may not:

*There is still disparity between district health boards in terms of what [tests] we can order, ... what referral pathways we have... It's all custom and practice stuff, none of it's legislative. In one DHB, I could order... an ultrasound scan for someone, ... but in my district health board, they won't let me, and if I were in another one it would be fine. – NP7*

Referral to secondary care and other health providers allows patients to receive treatment when their NP or PP may be unable to treat them fully. As with any health professional, part of the advanced practitioner role is to deliver a complete episode of care either through treatment, or referral. Established protocols for referral ensure provision of safe and comprehensive care. Advanced practitioners, GPs, and PC interviewees emphasised several constraints on the referral process impairing NP and PP ability to deliver patient care. These constraints generally operated within the greater health system and related to difficulties in gaining the acceptance of the referent organisation or individual, and the need for workplace support to change external practices.

*Acceptance and understanding by referent organisations*

The ability to refer patients for diagnostic testing or to other providers can improve care delivery. In some cases, this ability was part of the reason for employing an advanced practitioner:

*An advantage of utilising a NP is the link that a NP can make with secondary care services, including access to laboratory tests, radiology and referral to specialist services that practice nurses working within the scope of a registered nurse cannot achieve. Access to these important services has been previously limited to medical practitioners only, which can create a bottleneck for patients resulting in delays in the provision of care. –Business plan*

Logically, where services delivered by one provider, in this case, an advanced practitioner, were not best-practice care, another option was necessary. Yet, where there remained a lack of acceptance of the advanced practitioner role, referrals were not always accepted. This disempowered the practitioner, reducing their role viability, and impairing service delivery:

*I had this surgery... I got given my discharge results... and even though... [the NP] had done all the work..., everything came back to [the doctor]... The hospital said that they wanted my warfarin reviewed, because apparently when I was on the operating table they found no difference... That letter was sent to... [my doctor]. I thought well..., perhaps I should hear – it's now three weeks later – about a review of the warfarin... Nothing came through at all. – PC8*

Some advanced practitioners commented that they had good relationships with external providers of health services including diagnostic labs, radiology services, and secondary care. However, more commented that lack of understanding and acceptance of the advanced practitioner role by external parties affected not only the advanced practitioner's ability to deliver care, but also others in the practice. In common with PC8, several advanced practitioners (mainly NPs), PCs, and GPs indicated that referrals made by advanced practitioners resulted in responses back to the GP, rather than the referring practitioner. NP5 illustrated the influence a lack of acceptance and understanding of the advanced practitioner role had on patient care:

*I've got a patient who is bipolar... She developed quite a rare... condition and it was very difficult to get her help... I sent her in and they refused to see her. I wrote to the psychiatrist and said 'could any of her medications be doing this?'... and the psychiatrist... rang me up and said 'no we don't think so'... Having that conversation with the psychiatrist, she... [gave] me permission [to] use her name, to get nerve conduction studies done, which is what we wanted in the first place... They came back abnormal... She's been in secondary care since. – NP5*

NP5 continued:

*At one stage, somebody... decided they wanted... [to change her] medication. They didn't do the special authority for the medication that they needed, so they had an alternative... She went off the rails... she spent months trying to recover from her acute exacerbation... That's where my stumbling blocks come in. Communication that doesn't get to me, that doesn't recognise that I... have any management nous, ... that I'm working with these patients. Even though the referrals are from me... nobody has the decency to write back. They write to [the doctor]. – NP5*

The health system lacks general awareness of the PP role. In addition to workplace uncertainty regarding PP roles and positions (section 6.1.1), there is also uncertainty in the greater health system. As GP7 described, acceptance of referrals may depend on whether the health system knew and respected the advanced practitioner:

*Internally, ... [the PP] can refer in any way that is appropriate... But once you start going externally, does she have the status... I think any referrals she's done have been accepted. I'm not sure what her status is, say for example, if she ... wanted an opinion from the physician looking after renal issues and she did a referral, would that referral be accepted? In fact, it would because she has status but would it be accepted if it wasn't her, or ought it to be accepted or is it being accepted because people know who she is? – GP7*

GP15 further elaborated on the influence advanced practitioner reputation has on acceptance of patient referrals:

*Initially, a few snotty registrars said 'look no, I want to talk to a doctor'. I haven't heard of that happening ... for a long time... [The NP] picks up the phone, and I think everyone thinks she's a doctor.... I don't think they think what she is, but she knows what she's talking about – she's experienced, an extremely good physician, good medical knowledge, and good clinical ability. So I don't think anybody thinks what she is, she's a clinician on the other side. – GP15*

Hinting at the importance of reputation, NP12 described advice received from co-workers regarding a perceived lack of understanding by external agencies:

*One of our new GPs... said my advice to you... is do not say you're a nurse practitioner. Say your name and that you're calling from this practice, don't say your role... I can assure you that they'll switch off; as soon as they hear nurse practitioner, they'll decide that they're not going to accept the patient that you want to send in. – NP12*

Despite experiencing instances where external providers failed to accept NP referrals, NP11's situation changed when organisations became aware that advanced practitioner referrals could be profitable:

*I've started getting letters addressed to me. One of them was a private dermatologist who I'd referred two people too. Now the first one came back to Dear Doctor... The second one came back Dear [NP], and at the bottom he said thank you for your referral. I thought oh, he's twigged that he can get money, business out of this. – NP11*

Research into NP ability to access radiology and laboratory services in New Zealand indicated considerable variability in acceptance of their requests to conduct testing. Unac et al. (2010) reasoned that NPs struggling to order diagnostic tests might not be meeting NP competence requirements. Differences in the protocols health professionals follow to order

tests placed constraints on advanced practitioners working to their full potential scope and on the time they spend conducting other aspects of care:

*I have to say it really irritates me that, for example, there's a child that I want to have x-rayed in the community. It's not ACC, it's a chronic thing, or it appears chronic. Now the GPs would be able to refer... I can't. I have to call up and speak to a radiologist. – NP12*

*The radiologists expected her to do another course, even though she'd already done one... Medical students and young doctors don't get taught that half the time. It was a little frustrating to have to let her go out and do all these courses again... – to then be able to do what she was already doing. Because some specialist doctor said it needed to happen. – GP11*

Differences in acceptance of advanced practitioner referrals and requests for diagnostic tests point to different protocols and funding arrangements between DHBs. In turn, this may suggest systemic issues in accepting and understanding advanced practitioner roles.

#### *Workplace support*

Lack of greater health system awareness of the advanced practitioner role influenced NP and PP ability to deliver patient services:

*When I first started as a nurse practitioner, I went to a rest home. The rest home had auditors in for their certification and the auditor told me that I couldn't diagnose. I said 'Really? It specifically says as part of what a nurse practitioner is, is able to diagnose'... Like ordering x-rays, I was rung... and they declined my x-ray for a fracture – only doctors can refer for x-rays. Actually, no. – NP4*

Several interviewees commented on the impact workplace support had on gaining access to referral services. NPs commented favourably on the support received by directors of nursing in facilitating acceptance of practitioner referrals:

*People don't necessarily go out of their way to be obstructive... They're scared about their own roles... I sent a physio referral in...and got this fax back saying we don't accept nurse practitioner referrals... I said... 'you might find you're the only department in the whole... DHB that's not accepting referrals from nurse practitioners... would you mind if I take this further and I meet with the director of nursing of the hospital, the DHB and the director of nursing of... [our PHO]?' They said 'no, no, no, it's all right, we'll take the referral'... Those people do really want to know the problems that we're facing so they can take care of it. – NP15*

In the greater health system environment where advanced practitioner referrals were not accepted, immediate workplace support may have been necessary to facilitate the referral process:

*I'd write a prescription for someone and have to get the nurse to do the lab test form... in the doctor's name, or wait outside the doctor's door for them to... sign my form. [My DMP and I] went to the [DHB's] clinical governance group... and put a proposal to them to allow me to do lab testing... they accepted it... To safely prescribe you need to be able to do monitoring and here I was, a pharmacist prescriber, with all these years of clinical pharmacy experience, advising doctors on appropriate use of lab tests, trying to cut down on unnecessary lab tests. – PP2*

The case PP2 described is interesting for numerous reasons. Firstly, they identified differences in PP abilities to gain access to laboratory services. As stated previously, rules, guidelines, and practices differ between workplace, PHO, and DHB. Secondly, PP2 suggested that when advanced practitioners could not directly access referral services, they chose alternate routes to order tests. Thirdly, PP2 illustrated the enabling effect of collaborative health professional relationships (section 6.2.1). Finally, PP2 also mentioned that laboratory test ordering rules impaired their ability to operate to their full potential.

**Summary:** Trust in advanced practitioner abilities influenced their capacity to operate to their full scope of practice. Contexts triggering this trust largely related to the workplace environment, relationships with patients, and external referral process. Several interviewees, when discussing patient referrals, indicated that support from their immediate workplace offset the effect of poor acceptance by external parties. If advanced practitioners can order and interpret diagnostic tests as part of their scope, then having to defend this right to practise appropriately is indicative of a dysfunctional system. Additionally, where the greater health system failed to acknowledge the advanced practitioner role, there were possible treatment delays, cost increases, and reduced ability for advanced practitioners to deliver services effectively.

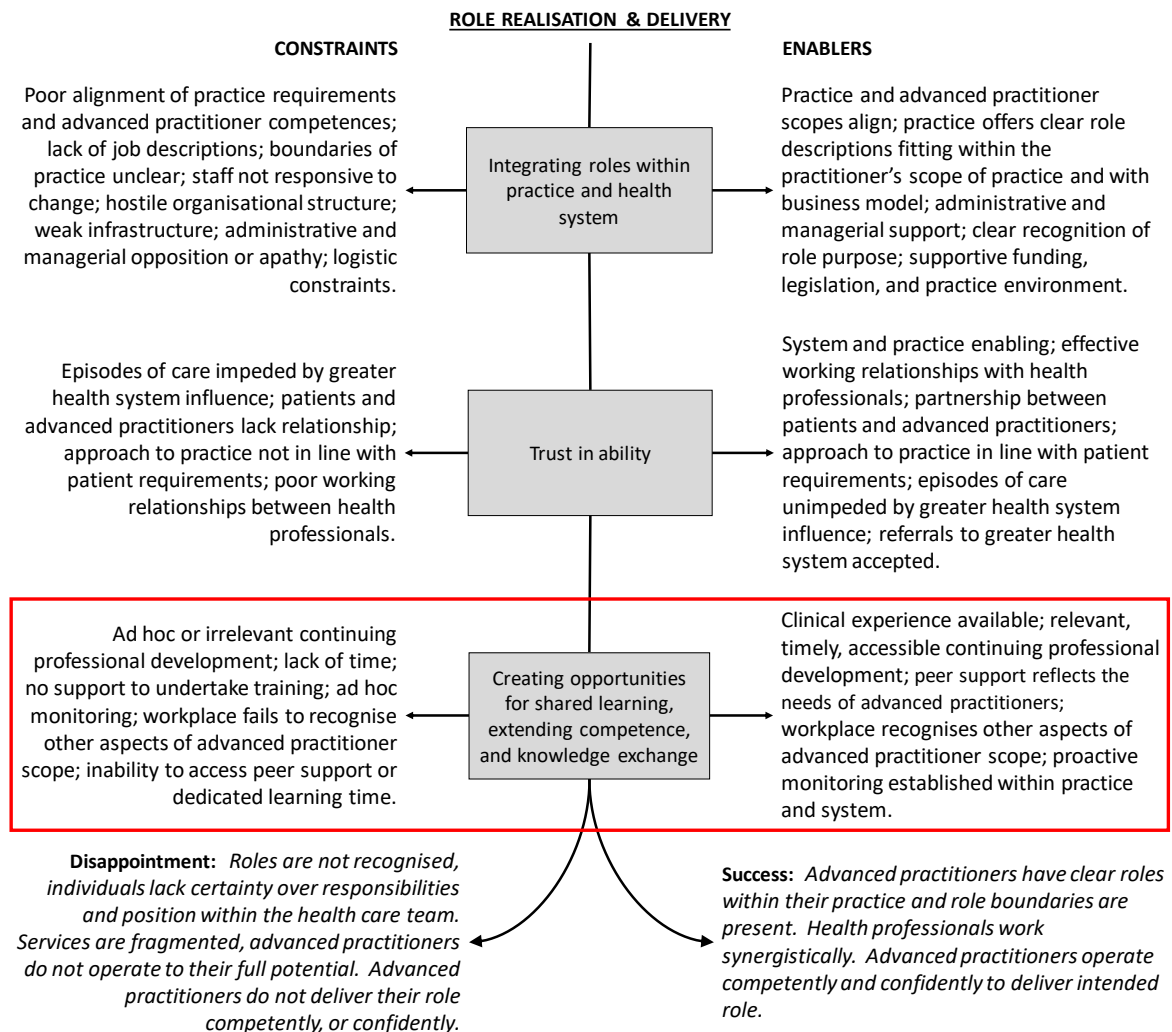
### 6.3 CREATING OPPORTUNITIES FOR SHARED LEARNING, EXTENDING COMPETENCE, AND KNOWLEDGE EXCHANGE

The level of training and CPD NPs and PPs require is higher than that of registered nurses or pharmacists. To continue working as registered health professionals, advanced practitioners must have opportunities for shared learning, extending competence, and knowledge exchange (mechanism, final grey box Figure 6.3). This section offers



commentary on the contexts allowing these practitioners to extend their competence and show evidence of effectiveness. Interviewees noted several features (red box) influencing whether this mechanism triggered:

- Continuing professional development (section 6.3.1);
- Networking and peer support (section 6.3.2); and
- Monitoring (section 6.3.3).



**Figure 6.3: Contexts triggering creating opportunities for shared learning.**

The following subsections elaborate on these contexts.

### 6.3.1 Continuing professional development

Continuing professional development (CPD) involves individuals continuing to train with the intention of maintaining competence, knowledge, and skill. Several health professionals discussed the difference between being competent as compared to confident:

*I'm very aware of the effect of too many prescribers and people prescribing when they don't have the fear of problems. I would hate for that system to be used to let people do more than what they were competent. Comfortable and competent don't always go hand in hand. People can be very comfortable, but not competent and not realise. – PP9*

*There is a lead-in time for any person in a new professional role to gain experience, to become both confident and competent, and so that means that the time taken to ensure that risk is managed and that a competent outcome is achieved is going to be a lot longer. – GP7*

CPD is a fundamental component of ensuring health professional competence. Contexts such as organisational and peer support, and relevant, regular, and timely access to practice updates affected NP and PP roles. Many advanced practitioners (particularly PPs) indicated that accessing relevant CPD presented problems. Both NPs and PPs often attended training directed at medical doctors. The latter explained that traditional pharmacy professional development did not fit their extended competence requirements, but that the training they accessed, mainly aimed at specialists or GPs, failed to meet their requirements consistently:

*It's not up to our medical colleagues to provide CPD for us. It felt like again with the course we were booted out into practice and we had to find our own way in terms of roles. It was also that way in terms of CPD. We pretty much got pushed off the branch and [told] you know what you have to do, you go do it, but it is challenging to get specific CPD for us. Even our Society branch meetings, I don't get much out of them. – PP3*

Advanced practitioners were often the sole NP or PP working in their workplace. This limited the ability to backfill their role in the event of sickness, leave, training, or resignation. Advanced practitioners and TPA interviewees raised the issue of role backfilling when discussing leave from work to complete postgraduate training. They later brought up this issue when considering the need to extend their competence. PC7 commented on the influence lack of backfill had on patients accessing health services:

*Probably my negative would be when she went on the course..., because in that period I got a little bit sick, whereas I knew had I been able to see her then, she would have probably been able to tweak something. – PC7*

PC7's comment raises the question of the value and opportunities NPs and PPs have for on the job training. Such training often took the form of a set supervision times or discussions with DMPs. NPs commented on changes in their ability to access this training following completion of advanced practitioner education pathways:

*Once you become a nurse practitioner, it's considered hands-off. We were having much more... frequent peer review at work than we are now, and we're so busy that on a day-to-day basis we're not getting it. Not only on a day-to-day basis, but also like a weekly thing. Because it's so busy, ... you don't have that opportunity. – NP12*

Advanced practitioners were in one of two camps. They either had scheduled or *ad hoc* meetings to discuss cases with GPs. Practitioners commented that having set times for case discussion enhanced feelings of role support and an ability to improve practice:

*I'm looking into... more ears... I'm upskilling with that and I have the support of my doctor colleague... we have [a set] time... so I'm getting fantastic support to grow my practice... I can feel confident having patients that maybe I need to ask questions about, and if I don't know, I've got someone to ask. It takes that huge stress, that even if you can deal with it, if something came up... there's that support to ask. – NP10*

Conversely, GP interviewees emphasised difficulties in setting aside protected time to support advanced practitioners in extending their competence:

*It's hard to get protected time to teach her because the demand to see patients is high, which is why we've brought her on board. But it's finding a fair amount of time to deal with the learning issues that she develops... to do a good job, to do a fair job for her. – GP10*

*We could improve her role, her outcomes...probably if we would sit down more often and discuss where to go from here. – GP5*

Advanced practitioners identified issues in accessing external training programmes. They separated these issues into three parts. Firstly, related to the potential financial burden of accessing training; secondly, related to the degree of acceptance on programmes by those coordinating these sessions; and thirdly, inter-regional variation in availability and quality of training options.

Many advanced practitioners viewed the cost of accessing continuing education as restrictive. Employment descriptions and practice plans advanced practitioners supplied referred to the need for them to maintain their competence and participate in continuous quality improvement. Such statements made explicit advanced practitioner registration requirements. However, the implementation of such requirements posed problems for some practitioners. NPs, PPs, and TPA interviewees raised the question of funding CPD:

*When I first set up, the director of nursing helped me put my contract together. She said 'you need to put in your contract for \$1,500 every year for clinical supervision'... I do have some clinical supervision allocation, I haven't been this year for various reasons – she's been away and I've been away – but last year there... was a lot of upheaval and stress from managers put on me, politics at work and I used the supervision service a lot. This helped me deal with it. – NP10*

Several NPs emphasised that training organisations at times seemed reticent about accepting them on courses. NP15 and NP2 determined that while attendance at a training programme might be theoretically possible and beneficial to extending practice, this did not necessarily mean that attendance was logistically possible:

*I got into this palliative care course and got accepted, and they didn't realise I was a nurse practitioner, when my colleague tried to get in they said 'no, I'm sorry you can't'. A nurse was saying this... [My colleague] said 'oh but my friend's already done one'. So anyway, they wrote off and asked all the palliative care doctors and they said absolutely, of course... but it's like she's the block, as a nurse. – NP15*

*People were patch protecting. Family Planning was one. We had wanted to be able to insert IUCDs but... they said no the training is for GPs and that's all we're funded for. Could I pay for it myself? No, we don't want nurse practitioners doing that. – NP2*

NP15 and NP2's story is similar to that told by other NPs in section 6.2.3 above when discussing interactions with individuals outside of the immediate workplace. The question this then raises is how advanced practitioners can extend their competence where such extensions are actively opposed. Discussing the availability of CPD opportunities based on region at least partially answers this question. Unsurprisingly, rural areas have less access to external education providers. As discussed earlier in this section, a lack of pharmacy or nursing specific training opportunities constrained the availability of relevant CPD. Acknowledging the inherent difficulties associated with rural-based education, regardless of location, or specificity of training, several advanced practitioners mentioned actively seeking opportunities for further education:

*I'm never without professional development. Professional development is only limited by my ability to sit down and read something. – NP8*

As NP8 and other advanced practitioners noted, traditional CPD routes might be rare, but requirements to maintain competence meant that advanced practitioners sought their own

opportunities. However, as TPA17 explained, if clinically competent PP trailblazers faced difficulties in accessing CPD, then future generations are also likely to face difficulties:

*If the leaders of the profession are asking for more CPD support, then what are the people who are younger and less experienced going to need? They are going to need more. If nothing's been done about the people who you'd think would have more wherewithal to do it, then how on earth are the younger people coming through going to manage it? – TPA17*

**Summary:** CPD ensures health professionals remain competent. Professional development allows practitioners to maintain their full scope of practice and deliver care. Interviewees identified that advanced practitioner role delivery was constrained by difficulties in acquiring appropriate opportunities. They reported a lack of relevant, accessible training both in their workplaces (in the form of teaching sessions and on the job training) and from external agencies. CPD, workplace training, and individual motivation to seek opportunities enabled extension of NP and PP competence, and delivery of effective care.

Section 6.3.2 further builds on one aspect of CPD, networking and peer support.

### 6.3.2 Networking and peer support

Links to other health providers are “very important to maintain safety and currency and legitimacy of practice” (Business plan). As the previous section discussed, NPs and PPs do not necessarily have formal workplace support structures helping prepare them for roles as advanced practitioners. Few interviewed advanced practitioners worked with other NPs or PPs. This limited their opportunities for mutual peer support:

*When I looked up Nursing Council, it said contact us and we'll provide you with a mentor to help you. Well, they didn't... It was such a beginning role..., but suddenly you've got this role and it's big and it's new... You don't have the resources, the time, and... the emotional energy to help pass that knowledge on to somebody else. – NP12*

In such an environment, the ability to network with other advanced practitioners is weak due to distance and small numbers, pointing to a population of less than critical mass:

*As individuals, we are quite isolated because there's only 15 of us. We've managed to get together, have two catch-ups... We talked about probably political and system stuff. We got on to a bit of clinical stuff, but... that's what we're all struggling with, it's sitting down with our peers, having case discussion..., and getting some peer critique. – PP3*

Several NPs commented on the impact increasing NP numbers has on gaining peer support:

*As New Zealand becomes more aware of nurse practitioners and other people prescribing, the negatives are lessening... I have people that understand more, I have more support. There's... more of us out there, I can talk to colleagues... There is more peer support... Originally, I was the only one working in [my scope in my region] and there were only a few in the whole country. Now, I have three in [my scope in my region] and we're all quite close. This reduces those negatives. – NP4*

A PP practice plan demonstrated one way the PP population has maintained peer support. The document clarified that PPs remain in contact using email and telephone, and arrange workplace visits to observe practice and gain peer support. A presentation by an advanced practitioner promoting their role in primary care emphasised the importance of networking. They described three cogs that together position the role: (1) other models of practice; (2) an innovative workplace with links to secondary care; and (3) mentoring, inspiration, and support from within their profession.

As noted in section 6.3.1, gaining GP support was relatively common amongst interviewed advanced practitioners. However, interviewees noted that this support differed from that provided by fellow NPs or PPs. NP12 and PP3 lent weight to the idea that different models of practice influenced the way practitioners looked at clinical issues:

*At one point we've had another nurse practitioner working in our practice..., that's been lovely because we can bounce ideas... in some ways, we've got a much more similar way of looking at things. Whereas, the GP that I mainly work with... I'm much more of the... nurse-carey whole thing, she's more of the... get them in, get them out. – NP12*

*I work with... another clinical advisory pharmacist, and when we're in the office together working on stuff it's cool to be able to say 'oh this patient is really bothering me, what would you do here?' It's getting that pharmacist perspective on a problem... When you have those encounters, you understand what it is that pharmacy brings to the table, because the doctors don't understand what you're wanting... They don't see; they don't have that lens on a problem. – PP3*

Individuals discussed the merits of joining GP peer group meetings. Some NPs, in particular, emphasised the perceived value of this peer support “it's more in tune with my practice. I can help the nurses, but they can't really help me with [my] knowledge base, but the doctors enhance my practice” (NP1). Worthy of note is that although largely not discussed negatively, NP3 and TPA21 reinforced the potential constraining effect of unsupportive peer group structures:

*I was invited to the GP peer reviews, so that's been good... I go to the nurse practitioner peer review... I belong to the clinical governance group. That group they've kind of taken me in but some of them... it's a flier really, waiting for me to trip up... They're frightened... They don't understand the role and how marvellously supportive it can be for everybody, including patients. – NP3*

*There has been a very strong shift in attitudes as time has passed and as some of these roles have become a little bit more embedded. It's not universal. I had a conversation with a nurse practitioner who works in primary care last year who had tried to attend peer group meetings that local GPs attended, and the local GPs said no. – TPA21*

**Summary:** Support to extend advanced practitioner competence (mechanism) is more effective where networking and peer support are available. Peer support presented opportunities to compare and contrast clinical practice, and workplace issues. Peer support may also be available within NP and PP professions. In situations where support came from within these professions, advanced practitioners built knowledge based on similar clinical and educational lenses. However, the problem with effectively using this latter option related to an inability to assume a critical mass of NPs and PPs in the health system.

### 6.3.3 Monitoring

Several role descriptions and practice plans reinforced the value of systematic monitoring and appraisal to explain advanced practitioner effectiveness in treating patients. Yet, current monitoring of NP and PP roles is rarely either proactive or systematic:

*Gaining the support of the practice... hasn't always been an easy thing to do because there's still the unknown quantity of exactly what the role should look like. There's no predefined job description, no key performance indicators that say that the role is working or it's not working. That's been a challenge to try to get that. – PP4*

As PP4 noted, lack of standards against which to monitor progress created challenges for individuals when attempting to 'prove' the success of their role. Several participants noted the potential twofold benefit of conducting monitoring. Firstly, as PP4 communicated, having evidence of success and acceptance of new pharmacy roles influenced momentum for training uptake potentially leading to more PP candidates:

*The amount of people going through the postgraduate courses to get to diploma level has gone up hugely... Momentum is growing as they see these roles evolving and showing success, and acceptance. – PP4*

Secondly, in an environment constrained by funding, monitoring influenced the continued use of these roles and future advanced practitioner role uptake:

*When you go to a service provider or funder, they want to know that the service they're buying is good value for money. If we can't provide evidence of [a] business case, then it's a chicken and egg situation. – PP3*

*Inevitably if people don't start practising and making a difference and we don't start to get data about how it's useful or if it improves outcomes and if it is cost-effective..., then the model will not survive. – PP3*

Some PPs operated on short-term contracts. Their ability to show sustained results partly determined the renewal of these contracts. GP5 and PP2 explained the effect this enforced monitoring had on the perceived value of the role:

*She had to justify her role to the DHB. She had to write many case reports, outcome measurements – how many did you see, how many have you done, how many did you prescribe... She had to justify what she had, not like me, I grind through the patients, and I don't have to tell anyone that I've seen 30 or 35 that day and what I've done with them. – GP5*

*You feel like you're battling the whole time to prove yourself. Everything I've ever done in this sort of role, I'm having to provide bucket-loads of evidence... of the value of the role... We're continually doing reporting on types of interventions and their impact, having to prove our worth the whole time. We do that but it's hard to get funding. – PP2*

GPs, PPs, and TPA interviewees indicated that the PP role, while anecdotally offering patient benefit, failed to draw money into workplaces. A large determinant of commercial viability is the ability to access government co-payments, as discussed earlier (section 4.2.4). PPs do not have access to the same funding sources as NPs and GPs. This raises the very serious question of whether the role is sustainable. Monitoring financial performance should help clarify subsequent business cases:

*When I worked strictly in general practice..., I did some research and... over two years I proved that I paid for myself plus one of the practice nurses in the practice. I paid their wages, from what I earned from all the different sources and scopes. – NP4*

Discussion over the importance of monitoring and evidence for advanced practitioner effectiveness arose often. Advanced practitioners generally indicated that they had only anecdotal information supporting the effectiveness of their role. As noted in section 2.5.1, while early proposals existed for appraising the New Zealand NP role, no formal evaluation



of role success has occurred. TPA10 suggested that with formal and systematic assessment, more NP roles would be created:

*The issue is having ongoing evaluation and research. That's been spasmodic; it's been up to individuals... There should have been a monthly research framework... That's not about evaluating them to say whether it should happen, ... it's about understanding what is improving care for patients. It should be for GPs, it should be for all things we're funding. Then nurse practitioners would be picked up. – TPA10*

Leading on from TPA10's statement alluding to the need for systematic and ongoing monitoring of all health professionals, several individuals questioned where responsibility for monitoring and review of the PP role should lie:

*If we had built in... good evaluation frameworks around the practices of our pharmacists, then by now we would have evidence to show how the scope is doing... I'm not quite sure who knew to take the lead on it... The previous body that looked at all prescriber applications was... the [New Prescribers' Advisory Committee]... By the time... [the PP application was put to government], that... committee was disbanded and we submitted to Health Workforce New Zealand. That committee had... responsibilities to look at implementation plans and evaluations, ... all its roles and responsibilities [were] not taken over by Health Workforce New Zealand... [HWNZ] gave us approval... but there was no committee looking at how non-medical prescribing was working. – TPA2*

The statement above also reinforces results presented earlier in section 5.1 regarding contexts influencing planning for advanced practitioner roles. TPA2 indicated that removing the New Prescribers' Advisory Committee had flow-on effects for the ability to create future roles. These effects included uncertainty regarding where responsibility lay for promoting and monitoring advanced practitioner roles.

**Summary:** Where monitoring is active, systematic, and assesses NP and PP clinical outcomes and businesses cases (context), opportunities for extending competence and use of health professional roles should eventuate (mechanism). This potentially improves role realisation and delivery (outcome). Amongst advanced practitioners, monitoring served the purpose of ensuring enduring employment. Without systematic processes governed by an organisation with remits for change, monitoring these roles will not be standardised and will fail to aid the enduring formation of advanced practitioner professions.

## 6.4 SUMMARY

Following from Chapter 5's presentation of results related to role creation, Chapter 6 focused on CMO configurations giving rise to role realisation and delivery. Establishing NP and PP roles produced variable reactions from institutions and health professionals. Key mechanisms discussed in this chapter related to (1) integrating advanced practitioner roles in practices and the health system; (2) trusting in NP and PP abilities; and (3) creating opportunities for shared learning, extending competence, and knowledge exchange.

Advanced practitioner role development is a service innovation in a legacy system. It is unsurprising that integrating roles in PHC and the overall health system faced constraining contexts (Figure 6.4). Overall, integration of these roles is more likely when there are:

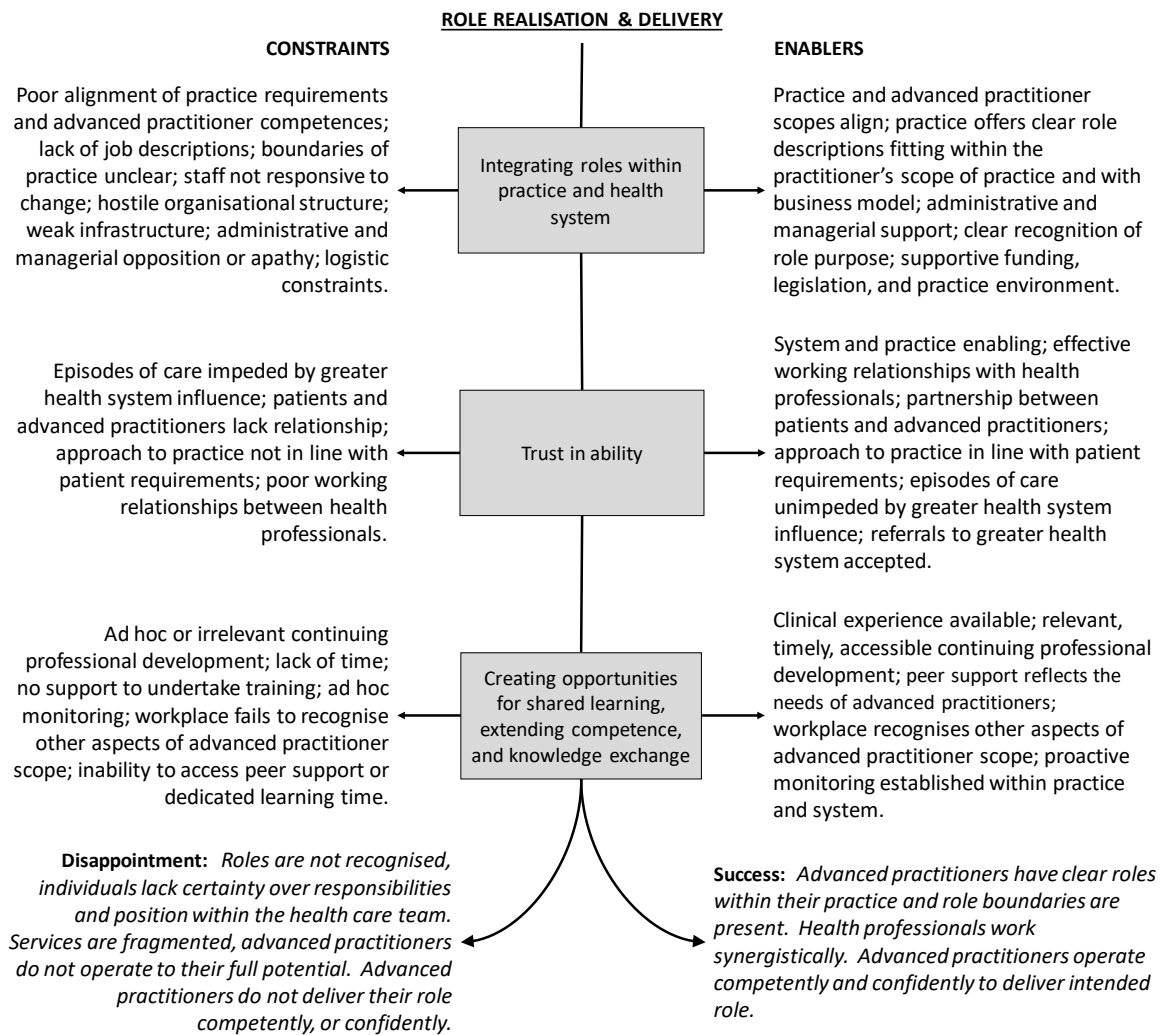
- distinct and defined purposes for advanced practitioners, and well-articulated boundaries and responsibilities for NP or PP roles in the wider team;
- staff and management open to working beside new roles;
- no barriers to patients accessing advanced practitioner services. Barriers may include administrative staff referral practices and other health professionals; and
- supportive infrastructure.

Furthermore, successfully triggering trust in advanced practitioner abilities requires:

- a collaborative integrated team where the value advanced practitioner roles add is recognised and the team operates in a patient-focused manner;
- enabling external referral services and access to them without imposed restrictions (for example, access to diagnostic services, referrals to secondary care); and
- patients readily accepting and valuing NP and PP services.

Developing advanced practitioner roles requires recognition of the competence and value of these practitioners. Creating opportunities for shared learning, extending competence, and knowledge exchange are more likely to be successful for advanced practitioners when:

- they have access to relevant CPD;
- networking and peer support is available and relevant to their needs; and
- monitoring is consistently conducted, systematic, standardised, readily understood, timely, and actively applied to advanced practitioner practice.



**Figure 6.4: Constraining and enabling features leading to role realisation and delivery.**

The middle-range theory was refined as follows:

*The successful development of advanced practitioner roles relies on role realisation and delivery of advanced practitioner services. These health professionals operate in organisational and health system structures triggering role integration, trust in their abilities, and opportunities for shared learning, extending competence, and knowledge exchange. Such structures include adequate financial and logistical resourcing, a competent and supportive (greater) workplace, and patients that recognise the potential value these roles add.*

Chapter 6 ends the results section of this dissertation. Chapter 7 follows presenting a summary of findings, result discussion, and research conclusions.



## 7 DISCUSSION AND CONCLUSIONS

Governments increasingly see health workforce redesign as a suitable policy response to increasing health service demand, desires for cost containment, and workforce shortages. In many countries, nursing and pharmacy professions have expanded their career pathways as part of moves to change the mix of health professional skills delivering health services. In this realist research, I have explored the development of nurse practitioner (NP) and pharmacist prescriber (PP) roles in the contested grounds of the New Zealand health system. This study presents middle-range theories explaining how advanced practitioner development occurs in New Zealand primary health care (PHC). This chapter will demonstrate the unique contribution this research makes to the existing body of knowledge in this area. This contribution enhances policy discourse around reorienting workforce practice, and practice discourse around the employment of advanced practitioners.

This chapter firstly summarises key research findings and reviews the theoretical framework initially considered in Chapter 2. The chapter then lays out the contribution this dissertation makes to advanced practitioner research, and to policy and practice decisions, and offers recommendations in light of the research findings. The chapter then presents challenges and limitations of this research, and sets out areas for future research.

This research is the first to use realist research principles to investigate both NP and PP roles. The realist approach helped to explain *how* the development of these roles occurs. A key element in facilitating this study was a research design following advanced practitioner development from its initial policy beginnings through to clinical practice.

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## 7.1 KEY RESEARCH FINDINGS

In New Zealand, the development of advanced practitioner roles has occurred in an undefined manner, resulting in uncertainty regarding how these roles are created and deliver patient health services. This research considers how the policy intention for NPs and PPs to take a stronger role in PHC service delivery differs from practice reality, due to the influence of macro health system features, and workplace culture and settings.

Literature and policy in this area attest to a paucity of knowledge on how we can successfully develop such roles to their full potential. To this end, this study analyses NP and PP role development as it moves through policy and into practice change. Knowledge gained from this research may be relevant to both the development of these roles in New Zealand and elsewhere, and to the formation of other practitioner roles in the future. In keeping with the reporting standards for realist evaluations (Wong et al., 2016), section 7.1 summarises the main findings of this research and pays particular attention to research questions, and formation and refinement of middle-range theories. Where appropriate, this section also compares research findings with literature.

### 7.1.1 Research method

The key question guiding this research through iterative data collection and analysis was:

***How does the development of nurse practitioner and pharmacist prescriber roles, within New Zealand primary health care, occur?***

In answering this question, three sub-questions were posed:

- (a) What are the key contexts within policy and practice affecting the development of NP and PP roles in New Zealand?
- (b) What are the key underlying mechanisms explaining how NP and PP roles develop?
- (c) What are the outcomes of advanced practitioner role development?

This research began with a literature review to form initial theories of advanced practitioner development. Chapters 1 (Introduction) and 2 (Literature Review) emphasised problems between policy and government expectations surrounding NP and PP roles, and the practical realities of commencing new roles into a pre-established health system. From this literature, data were extracted on:

- the process of introducing NP and PP roles in policy and practice;
- the contexts in which this process evolved;

- how these programmes were to work; and
- the changes in stakeholder reasoning influencing the development process.

Literature provided the basis for initial middle-range theories that this research then sought to refine. Few primary studies identified and tested theories; they gave only limited insight into the underlying reasons behind successful role development from policy to practice. Relevant literature, therefore, offered a useful starting point to identify germane context, but did not always assist in identifying associated behavioural patterns. Instead, these studies provided descriptions of potential ‘constraining’ and ‘enabling’ features in their results and discussion sections. Furthermore, the existing literature often included only limited discussion on system or policy influences on workforce planning. The theories proposed in Chapter 2 were emerging hypotheses about what works, for whom, and in what circumstances. For example, while studies commented on the lack of the correct prescription pads as a constraint to NP practice in the United Kingdom, authors did not go on to consider the circumstances that might have reduced the effect of this constraint (Cooper et al., 2008). While extant literature presented an initial basis for middle-range theories, it also offered opportunities for further theory refinement.

An in-depth examination of policy documents further informed knowledge on New Zealand advanced practitioner development (Chapter 4). This allowed the identification of stakeholder influence in policy making, gave an account of NP and PP policy creation, and provided background for events, dates, and decisions. The analysis of documents also provided opportunities to identify embedded theories. Stakeholders identified from these documents included those in policy, training, and advanced practitioner advocacy roles. These stakeholders participated in the first round of interviews.

Semi-structured one-to-one interviews formed the next research step and captured the opinions of policy interviewees, advanced practitioners, GPs, patients, and carers (Chapters 5 and 6). In particular, this step enabled the development of perspectives on the lived experience of individuals involved in NP and PP development. Interviews occurring earlier in this step focused discussion for later interviews. A field log and documents supplied by interviewees augmented the data gathered during interviews. These documents generated perspectives primarily on the role realisation process associated with introducing NP and PP roles into New Zealand’s health system.

At its heart, analysis of the data gathered in this research stressed problems between policies introducing and promoting advanced practitioners, and practices realising the potential of these roles. This research thus explains how the development of NP and PP roles in New Zealand PHC occurred and in so doing offers insight into why it differed from the initial policy intent.

### **7.1.2 Research methodology**

Methodologies offer a framework through which to accrue knowledge and examine reality. Realist methodology accorded the best fit for this research and allowed for a meaningful examination of research questions. Realist inquiry permits researchers to derive refined middle-range theories explaining how programmes work to deliver outcomes. Such theories can inform practice more generally. This methodology moves from a purely positivist view (A leads to B) to consider the components that make a programme or intervention work (A leads to B because of C in the presence of D). It theorises the impact of human volition and reasoning (mechanism), triggered by context, on outcomes in complex social programmes. Having an understanding of such issues is particularly important to my research as NP and PP role development has occurred in an environment with multiple different interest groups. Outcomes of this process cannot be wholly attributed to one issue in isolation of others.

This research builds on the CMO configurations and research of others within nursing and pharmacy who have assessed similar programmes (Contandriopoulos et al., 2015; Hoare et al., 2012; Stewart et al., 2017; Wand, 2011). While a relatively new methodology in health, nursing, and pharmacy research, the realist methodology is open to the use of multiple methods. It helps formulate a picture of advanced practitioner development in a complex open system where many features influence the development process. The adopted methodology illuminates what works, for whom, and in what circumstances (Pawson et al., 2004) for the process of developing advanced practitioner roles beginning in policy and ending in the delivery of health services. Furthermore, having a small, but relevant research base that uses this methodology reinforces its utility in this research.

Research findings emphasise underlying mechanisms and *enabling* contexts leading to successful development of NP and PP roles. Perhaps more valuably, the research also identifies *constraining* contexts and their influence on mechanisms. By identifying these features, key participants in the health system may take steps to mitigate them and achieve



positive outcomes. Additionally, using this methodology facilitates understanding of components that individuals working in policy, advanced practitioners, and PHC workplaces can control. Collectively, the middle-range theories in this dissertation emphasise the ability realist investigations have to translate research findings into practice.

### **7.1.3 Refining the middle-range theory**

Development of NP and PP roles is a product of both the system in which these practitioners operate and of stakeholder reasoning. In response to system cues, stakeholders decide whether to act. Analysis of data collected through interviews and from documents contributed knowledge to aspects of the advanced practitioner development process that led to the formation of CMO configurations. This New Zealand-based research imparts information potentially useful to other countries. As a country in the relatively early stages of advanced practitioner development, New Zealand provides an excellent example of how policy and practice transformation influence this process. Rigorous assessment of this development that takes note of cultural mores in health and policy systems provides valuable information to assist in improving the future use of advanced practitioners. This study highlights various constraints to creating these roles, realising their potential, and delivering health services. Such constraints include the introduction of new roles into a legacy system, lack of role awareness in both policy and practice environments, and discrepancies in government funding between health professions for education and in the workplace.

The findings of this research establish that advanced practitioners, GPs, and policy interviewees, in particular, viewed the process of creating, realising, and delivering advanced practitioner roles as complex. Operating as they are in the real world, these stages of development are fraught with challenges. This study began by stating that NP and PP role formation has not followed initial government intentions for their development. Instead, this process has occurred in much the same way as an organism forced to grow in inhospitable environments – some grow, the majority do not, very few flourish, and those that do tend to be different, both from what they were intended to be, and from those that failed. NPs and PPs who succeed within the New Zealand health system and particularly in PHC are hardy, having found their own niche. As a result, there is room for further refinement of theories to take into consideration commonalities between role creation, and role realisation and delivery.

The initial theories proposed in this research break advanced practitioner development into three stages (Figure 2.1, page 18). Following analysis of policy documents, these theories were revised. The refined theory proposed that advanced practitioner development occurs in five main stages (Figure 4.4, page 104): perceived need, policy creation, role creation, role realisation and delivery, and long-term sustainability. In this research, data collected and analysed focused on two of these stages: role creation (Chapter 5), and role realisation and delivery (Chapter 6). This led to further iterative refinement of hypothesised theories. Effective and sustainable creation of advanced practitioner roles occurs in contexts that trigger mechanisms of enhancing workforce planning, facilitating fit for purpose advanced practitioners, and motivating advanced practitioner uptake of training positions and roles (Figure 5.4). Effective role realisation and delivery relies on the following mechanisms triggering: integrating roles in the health system; trust in the ability of advanced practitioners; and creating opportunities for shared learning and extending the competence and use of advanced practitioners (Figure 6.4). By having roles effectively created, and then realised and delivering services, advanced practitioners become established within their health system.

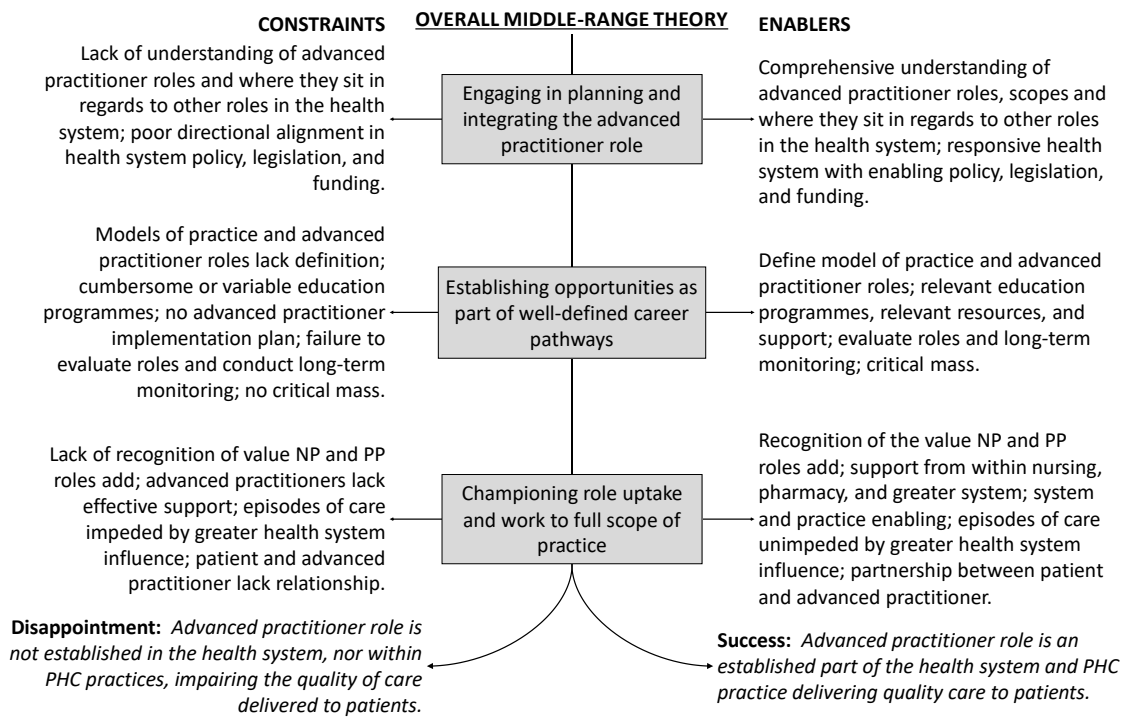
In considering the middle-range theories proposed in the preceding results chapters, commonalities between the theories become apparent. Consequently, a further refinement of the proposed middle-range theories is possible. This represents an additional iteration of analysis. The remainder of this section presents a final refinement of theories, comparing and contrasting between the mechanisms proposed in the earlier results chapters.

Essential features triggering mechanisms of ‘enhancing planning’ in Chapter 5, and ‘integrating roles’ in Chapter 6 maintain some overlap as they translate the impact of policy intention into practice. Contexts influencing these mechanisms describe environments where features such as promotion and establishing boundaries occur to bring roles (or their latent potential) into existence. Collectively these contexts trigger *engagement in planning and integrating the advanced practitioner role*.

Furthermore, the ‘facilitating fit for purpose advanced practitioners’, and ‘creating opportunities for shared learning’ mechanisms also overlap. Both these mechanisms refer to parts of the formation of a career pathway for advanced practitioners. Sections 5.2 and 6.3 present contexts triggering these mechanisms. These features relate to making advanced practitioners competent, and then ensuring the continued competence of the role

through education, support, and ongoing monitoring. The refined middle-range theory brackets these mechanisms together under *establishing opportunities as part of well-defined career pathways*.

The mechanisms of ‘motivating uptake’ (section 5.3), and ‘trust in advanced practitioner abilities’ (section 6.2) have overlap. These mechanisms focus on the influence of context predominantly driven by an external and already established populace. The first of these mechanisms depends on contexts including support from staff and families, as well as personal drivers for training and role uptake. In comparison, trust in advanced practitioner abilities operates under similar enabling contexts that include strong working relationships with health professionals, and approaches to practice that are patient-centred. The refined middle-range theory groups the mechanisms proposed in the previous two chapters under the heading of *championing role uptake and work to the full scope of practice*.



**Figure 7.1: Influences on successful development of advanced practitioner roles.**

The middle-range theories in this study have advanced iteratively following a literature review and New Zealand-based research. Successfully developing advanced practitioner roles means that these practitioners are established in the health system, allowing them to deliver quality patient care (Figure 7.1). The refined middle-range theory is as follows:

*The successful development of advanced practitioner roles in PHC evolves under health system and practice-specific structures allowing their creation and realisation, and the delivery of services. This results in advanced practitioners becoming established parts of the health system.*

*The mechanisms of (1) engaging in planning and integrating the advanced practitioner role; (2) establishing opportunities as part of well-defined career pathways; and (3) championing role uptake and work to full scope of practice, lead to the successful and enduring development of these roles.*

*Conditions for triggering such mechanisms to work include (but are not limited to, see Figure 7.1) a responsive health system with enabling policy, legislation, and funding; and defined advanced practitioner roles and boundaries of practice. Further contextual conditions include defined models of practice, and recognition of the value that advanced practitioner roles add.*

Developing NP and PP roles requires engaging in planning and integrating the advanced practitioner into practices and the greater health system. It requires establishing opportunities as part of a well-defined career pathway, and championing role uptake and work to full potential. The following section discusses the influence of contexts on these mechanisms. This section also compares research results with findings of NP and PP role formation in other research.

#### **7.1.4 Influence of contexts on mechanisms**

Extant literature forms a base for this research. Section 7.1.4 presents a discussion on the influence of specific contexts on the mechanisms described in the refined middle-range theory. This discussion focuses on much of the literature reviewed in Chapter 2. The frameworks of Schober et al. (2016) and Bryant-Lukosius and DiCenso (2004), on the introduction of the advanced practice nurse roles, and Sibbald et al. (2004) on changes in skill mix particularly influence this research. More broadly, Laurant et al. (2009) discuss features governing revision of professional roles. These frameworks, except those of Sibbald et al. (2004) and Laurant et al. (2009), focus on roles in nursing, and do not look fully into advanced practitioner role formation; they have been extended here, alongside other literature.

*Policy, legislation, and funding*

In New Zealand, the refreshed 2016 Health Strategy highlights the importance of an appropriately trained health workforce fully able to use their skills. The 2001 PHCS emphasises nursing's role in delivering care. There was an (unmet) expectation that this emphasis would facilitate the expansion of nursing roles (Wilkinson, 2012). Perhaps the contextual feature most noted by research participants as ultimately influencing advanced practitioner roles is the responsiveness of the health system to the introduction of NP and PP policy. As revealed in this research, regulatory and policy environments influence development of advanced practitioner roles. Interviewees maintain that policy directives and legislative changes do not completely align, and are consequently relatively non-responsive to the requirements of advanced practitioners. This finding is in line with other NP literature, including that of Bryant-Lukosius et al. (2004), Bryant-Lukosius and DiCenso (2004), Bryant-Lukosius et al. (2016), Edwards et al. (2011), and Schober et al. (2016). Such results are also largely in line with other New Zealand research on NPs; see, for example, Carryer et al. (2011).

This research highlights that for attempts at new models of practice to be successful, consideration needs to be given to resource reallocation. Policy interviewees and advanced practitioners often describe the creation of NP and PP roles as occurring without enabling legislation and funding arrangements. For example, government funding is not available to support PPs in their training or in their later roles. Additionally, legislative changes fail to keep pace with the requirements of the interviewed workforce to work to the full extent of their scopes. For example, the Medicines Amendment Act 2013 elevates NPs to authorised prescriber status. This expands their practice and prescriptive authority to cover much of what a medical prescriber can do, but other legislation necessary to provide all associated rights has only recently been amended. This finding is also in line with existing research. Sibbald et al. (2004) note that where supportive funding does not follow changes to workplace practice then the pace of reform slows. In Sibbald et al. (2004), the authors discuss features necessary for success when changing skill mix. They describe regulatory boundaries, such as those governing scopes of practice, as potentially limiting opportunities for role enhancement or substitution. Carryer and Adams (2017), in their qualitative exploratory study on the alignment of the NP role in New Zealand with a transformative service agenda, reason that NPs can deliver only the full transformative potential of their role under amenable employment conditions. They further state that funding and

management decisions impede moves towards using NP models of care and instead favour traditional medical models of service delivery.

*Advanced practitioner roles and scopes*

In this research, individuals comment on the need for comprehensive understanding of advanced practitioner roles, scopes of practice, and their position with respect to other roles in their workplace and the wider health system. Policy groups, health professions, and PHC practices with common expectations of the advanced practitioner role use these roles appropriately and integrate them into practice. In contrast, without an agreed direction for these roles, health professions (such as nursing or pharmacy) will not take up the call and workplaces will not use these roles as intended. This research confirms findings in earlier studies on role ambiguity for NPs and PPs and the influence this has on understanding the concept of advanced practitioner roles. Building on the work of Bryant-Lukosius and DiCenso (2004), Schober et al. (2016) support the idea that role ambiguity contributes to difficulties in defining advanced roles and in determining lines of reporting for advanced practice nurses in Singapore. Additionally, several studies have confirmed concerns around role definitions for NPs (Contandriopoulos et al., 2015; DiCenso & Matthews, 2005; Donald et al., 2010; Marsden et al., 2003; Sangster-Gormley et al., 2011) and, to a lesser extent for PPs (Clinical Advisory Pharmacists Association, 2015; McCann et al., 2012; Schindel et al., 2017). DiCenso and Matthews (2005) and Courtenay et al. (2011) demonstrate that appropriate role definitions are needed to prevent role confusion and issues with role implementation and deployment, for example in the use of prescriptive authority and level of support.

Furthermore, advanced practitioner scopes of practice outline the boundaries of practice and skills required to maintain registration. In New Zealand, the NP role was to have a population focus, rather than a disease-based focus. However, the absence of clear policy intentions or shared strategic directions have resulted in NPs registering in, arguably unnecessarily, narrow scopes of practice (National Nursing Organisations, 2014).

Interviewees commented that advanced practitioners operating in narrow scope silos are unlikely to be as effective in PHC. The NCNZ's removal of requirements to specify NP practice areas may further align with the initial objectives of introducing these roles and may facilitate wider areas of practice. It may also more clearly define differences between the NP role and that of clinical nurse specialists. Having New Zealand-based research highlighting issues of advanced practitioner role direction, definition, and scopes of practice

emphasise the need not only to create advanced practitioner roles, but also to promote and facilitate a direction for these health professionals.

### *Education*

This study shows that advanced practitioners view the process of taking up training and establishing workplace positions as largely driven by internal motivators, workplace and family support, and workplace responsiveness. Interviewees identify that advanced practitioner education programmes fail to build on earlier undergraduate training. They express concerns over the effect of barriers to training entry on individuals becoming advanced practitioner candidates. Policy interviewees contend that there may be differences between the candidates the health system needs, and the individuals seeking to become advanced practitioners. Furthermore, interviewees convey that at present the ability to participate in advanced practitioner education is limited to those working in supportive practices. Reinforcing this finding, earlier work by Spence and Anderson (2007) in New Zealand, and internationally by Tann et al. (2010) and Weiss et al. (2006) also emphasise the value of pre-established working relationships in assisting to negotiate entry to education. Individuals operating in environments where education fails to make practitioners fit for purpose are unlikely to develop their roles effectively as they lack the opportunities as part of well-defined career pathways.

Changes are currently underway making education and training opportunities for NPs sustainable parts of workforce creation. For example, one means of ensuring adoption of training opportunities is the current NP training pilot that funds up to 20 NP training positions annually and facilitates employment for these practitioners in their first year post-registration (The University of Auckland & Massey University of New Zealand, 2015). Concomitant with these changes are expansions of prescriptive authority to registered nurses. In essence, such an expansion facilitates a change in thinking regarding the role of different health professional groups in delivering patient care. Providing support to the middle-range theories highlighted in this research, changes in NP training should assist in the early identification of suitable NP candidates and streamline training pathways.

Advanced practitioners advise that a lack of relevant CPD inhibit their ability to function in their intended roles. They clarify that available CPD is often medically oriented. Several NPs cite barriers to obtaining relevant CPD opportunities, including a reticence on the part of training organisations to accept them on their courses. International studies support the

finding that advanced practitioners have problems in accessing relevant formal CPD (Carey & Courtenay, 2010; Courtenay et al., 2007; Stewart et al., 2009). Although some more recent studies in nurse independent prescribing indicate improved access to CPD in England (A. Smith et al., 2014). In New Zealand, small NP and PP numbers and other staffing issues mean that there is difficulty replacing advanced practitioners who participate in CPD. Sibbald et al. (2004) observe that the speed with which a practice or health system makes skill mix changes is dependent on, firstly, the range of pre-existing skills staff have, and, secondly, on the additional training required to extend skills. Moreover, they note that health care staff who take on extended roles require appropriate training for these roles. Such requirements are rate-limiting steps in changing skill mix and resonate with the findings of my research surrounding an inability to integrate advanced practitioners fully into PHC workplaces.

*System and practice support*

Where the health system and PHC workplaces recognise the value that advanced practitioner roles add, they champion these roles. Interviewees suggest that New Zealand's pharmacy profession and, to a lesser extent, the nursing profession fail to recognise the latent value of these roles, and practices fail to employ individuals appropriately. The PP role in New Zealand must operate in a collaborative health team environment and cannot work in community pharmacies. It also differs greatly from the traditional dispensing role of a registered pharmacist. Being a new career not in line with the traditional direction of pharmacy potentially explains the lack of support from the wider profession. DiCenso et al. (2010) and others have findings in line with this research when discussing the influence ambivalence by regulatory bodies and lack of national leadership has on the visibility of the advanced practice nurse role. Recognising the pharmacy profession's ambivalence to PP roles in New Zealand is important. PPs are a subset of the total pharmacy population; professional apathy may affect decisions by individuals to take up training and by PHC workplaces to employ these practitioners.

My research findings further show that GPs, nurses, and administrative staff working with NPs and PPs often have resistance to the introduction of these new roles. Such resistance comes about due to uncertainty regarding the new role and its impact on already established positions. A key issue in ensuring recognition of the value advanced practitioner roles add is role promotion. Practices where the middle-range theory proposed at the conclusion of Chapter 6 carried more explanatory potential were more likely to see the value of the role,



and assist in managing the constraints imposed by the greater health system. This research, therefore, corroborates findings by Contandriopoulos et al. (2015); Macfarlane et al. (2009); Sangster-Gormley et al. (2011) and Schober et al. (2016), and are in line with recommendations by the Clinical Advisory Pharmacists Association (2015) regarding the need for workforce change champions to facilitate the success of this change.

Where the health system limits advanced practitioner practice, it impairs their ability to deliver health services. This occurs, for example, when NPs refer patients for treatment and rely on their GP to ensure referral acceptance. Interviewees state that where hospitals and other organisations fail to accept referrals, or do not respond to the referring advanced practitioner, this delays treatment and increases transaction costs. GPs question whether acceptance of NP referrals occurs due to recognition of the NP or PP role, or because of recognition of the individual advanced practitioner. This distinction is particularly important in characterising the extent to which the health system has accepted the concept of advanced practitioners. More generally and considering other jurisdictions, the findings of this research align with those of Gould et al. (2007); Poghosyan et al. (2013) and Stewart et al. (2010) and others who describe the influence the greater health system has on referral practices amongst NPs and PPs. Identifying the influence of the health system and individual PHC practices over and above that of policy, training, and regulatory environments is important. In the case of referrals, this points particularly to the need to educate potential employers and others in the health system regarding the scopes of advanced practitioners. To some extent more hopefully, this research also establishes that such changes take time as the health system adjusts to changing practice hierarchies.

#### *Partnership between patient and advanced practitioner*

Personal experience with advanced practitioner services is one way for patients and GPs to recognise the value of NPs and PPs. In this research, GPs consistently refer to their experience with advanced practitioners as influencing their trust in the *individual* advanced practitioner. In the case of both GPs and patients, neither necessarily extends this recognition to PPs and NPs generally. Furthermore, GPs convey that the comparatively limited experience of other medical doctors with advanced practitioners results in concern regarding the competence of these practitioners. As such, this research shares findings with Wilson et al. (2002) in their research on the GP perspective to developing the NP role. Supporting the findings of this research, in their study of NP role implementation in primary care, Sangster-Gormley et al. (2013) substantiate that where patients were unaware

## *Discussion and Conclusions*

of the NP role, then they were unwilling to use this service. Sangster-Gormley et al. (2013) then continued to describe how team member acceptance of the NP role improves with their involvement in clarifying the role, and when they had prior knowledge of the individual NP. Having exposure to advanced practitioner roles is important for both patients and co-workers of NPs and PPs. Raising the profile of these professions is, therefore, an important consideration in facilitating their development.

### *Critical mass*

New Zealand has a small population of NPs and PPs. In this research, advanced practitioners note that their population size places them at a disadvantage in facilitating change. NPs, and particularly PPs, describe that working in a new role without other advanced practitioners meant that they lack peer support. Bradley, Hynam, and Nolan (2007) support these findings in interviews with nurse prescribers, when they found that having a critical mass in an organisation facilitates discussions around prescribing, and aids in practice safety. In New Zealand, PP introduction into PHC coincides with the introduction of clinical pharmacist roles into PHC. To some extent, the clinical pharmacist role is a natural beginning to operating as a PHC PP. Introducing the two roles concomitantly potentially means that there is a further lack of critical mass inhibiting the formation of well-defined career pathways. Several individuals explained that public and health provider familiarity with these roles will influence uptake of training opportunities. Schober et al. (2016) attest that key policymakers influence the momentum of change in advanced practice nursing roles in Singapore. Ultimately, as it currently stands, New Zealand lacks a critical mass of either NPs or PPs. Their ability to influence policy decisions, therefore, relies in large part on momentum within nursing and pharmacy professions.

### *Evaluation and long-term monitoring*

Participant views in this study suggest strongly that the development of NP and PP roles in New Zealand PHC occurs in an unstructured manner. Previous research on NP roles supports that their role introduction was *ad hoc* (Bryant-Lukosius et al., 2004; Carryer et al., 2011; DiCenso & Bryant-Lukosius, 2010; East et al., 2015). In line with findings in my study, Schober (2013) confirms that change needs to be facilitated from policy intent to practice, and that policymakers have a responsibility to address issues arising after policy introduction to achieve a coordinated approach to creating advanced practitioner roles. In this environment, in my research, discussions on long-term monitoring and evaluation of

advanced practitioner roles describe a Catch-22 situation for PPs. PPs often require evidence of effectiveness to extend contracts, or initiate roles. They face constraints on employment hours, and in the roles they perform, due to workplace and health system constraints. This, coupled with limited ability to show effectiveness, due to their relative newness, diminishes the ability to establish opportunities for role growth.

Role monitoring and subsequent analysis should not focus on outcomes of patient safety only. Instead, it should also focus on generating business cases for these roles supporting the health system, and determine how best to realise the potential of advanced practitioners. Bryant-Lukosius et al. (2004) state that assessment of these roles should consider the roles of others in health care teams and how environmental features influence role implementation. Bryant-Lukosius and DiCenso (2004) and Bryant-Lukosius et al. (2004) discuss the importance of assessing advanced practice nursing roles and conducting long-term monitoring of these roles. They describe monitoring as allowing practice to align with the goals of advanced nursing roles, as providing an understanding of best practice, and as influencing advanced practice nurse sustainability. Gagan et al. (2014) in their surveys of NPs in New Zealand note that a lack of clear policy on NP implementation fosters *ad hoc* creation of these roles and a limited ability to conduct long-term monitoring. In contrast, having evaluated the development of NP and PP roles in New Zealand PHC, my research identifies key contexts to be monitored in any review of advanced practitioner development. This research, therefore, not only contributes to an understanding of NP and PP development to offer lessons for future role development, but it also warns that where programme delivery is not systematic and synchronised, the same process is likely to be repeated. As such, this research provides a basis against which to plan the continued development of these roles.

## 7.2 THE CONTRIBUTION

This dissertation began by stating that advanced practitioner role development occurs in a contested and largely undefined area where roles are neither fully understood, nor fully utilised. One of the main contributions this research makes is to characterise the complexity of this area. Findings from this study generate theories of advanced practitioner development based on underlying mechanisms with broad explanatory potential. These theories may apply to other areas of health workforce redesign. By appreciating constraining contexts, this research identifies features that when changed could facilitate

effective role development. This emphasises the potential of realist research to contribute to informed decision-making by evaluating the effect of changes in policy and practice.

NP and PP candidates in this contested area have travelled an indirect path towards advanced practitioner status, some succeeding on this path, others not. This study presents an original framework documenting this process. Key impediments to programme success occur during the initial role creation period. Recognising the impact such issues have on the ability to realise a role, nursing and pharmacy professions can make attempts to resolve these impediments. This research shows that even where supportive contexts exist, the pathway of advanced practitioner development is relatively undefined. Success or failure of this complex programme cannot be attributed solely to the interaction of one context with one mechanism (Greenhalgh et al., 2009). As such, existence of barriers or facilitators does not predestine failure. Rather, the interaction of contexts and the resources and reasoning of stakeholders (mechanisms) influence the success of an intervention. In light of the findings summarised in section 7.1 and the final refined middle-range theory, section 7.2 outlines the contribution this research makes to advanced practitioner research, policy, and practice decisions, and to the use of a realist methodology.

This research emphasises that effective role creation is necessary to ensure that individuals continue along their scoped career pathway. Role creation necessitates planning for these roles, facilitating fit for purpose advanced practitioners, and motivating uptake of training and roles. Failure may result from policy not reflecting the true purpose of introducing advanced practitioner roles, through to advanced practitioner candidates being unable to find relevant employment or deliver services. Crucially, while policy stakeholders may consider that advanced practitioner development has not flourished because the market deemed these roles unnecessary, I argue that the market simply does not know that these roles exist or how they function.

My research demonstrates that there are no clear general definitions for advanced practitioner roles, and often there are no clear definitions of the roles occupied in practice. This research reveals that problems beginning within initial role creation are perpetuated in PHC. Without supportive policy (and subsequent funding, and legislative changes) that translate into supportive practice, the full potential of these advanced practitioners cannot be realised. In turn, this limits their ability to act as part of the solution to burgeoning demand for health services. As such, this research contributes to health policy by

emphasising the need for early consideration of the intended role of new health workforce professions, and continued consideration of how these roles will grow in a legacy system.

The ability for advanced practitioners to deliver benefit is dependent on contexts in health and policy systems, and the reasoning of individuals within these systems. Advanced practitioner roles represent an opportunity for the health system to operate differently and extend patient services. However, tensions exist between these roles and the expectations of advanced practitioners, in terms of models of practice, professional activities, leadership potential, and organisational commitments. Carryer et al. (2007), in their study of the core roles of NPs in Australia and New Zealand, suggest three conceptual categories of NP practice: dynamic clinical practice, professional efficacy, and clinical leadership. However, my study found that tensions in performing core roles were particularly apparent in the PHC NP community. As NPs often have professional and clinical leadership responsibilities in their workplace and the wider nursing profession, this conflicts with their ability to provide awareness of nursing's place in the greater health system hierarchy. Recognising these tensions reinforces the importance of gauging the intent behind the workplace position, the advanced practitioner's intent in taking up training and subsequent employment, and the profession's intent in creating NPs and PPs. This is necessary so that the advanced practitioner programme successfully embeds into practice.

One of the key implications of this research is to reaffirm the characteristics of workplaces that permit advanced practitioners to operate to their full intended scope of practice. Such characteristics include patient and workplace support and trust in the advanced practitioner. These features allow advanced practitioners to realise the intent behind their role. Additionally, advanced practitioners require relevant ongoing opportunities for CPD, monitoring, and networking. This is important for ensuring the continued relevance of roles to respond to health care needs. The findings of this research argue that PPs in particular face constraints on their ability to access relevant opportunities. Having an understanding of key workplace contexts necessary for the sustainable realisation of advanced practitioner roles helps facilitate adequate resourcing for NPs and PPs so that they may realise the full potential of their role.

This dissertation makes an original contribution to understanding how a dynamic legacy system influences the ability to develop advanced practitioner roles. It offers a new way to

identify system and practice-specific constraints, enablers, and potential areas for change in an environment otherwise largely antagonistic to advanced practitioners.

This research also contributes to the body of knowledge on the use of a realist methodology in health workforce research. It does this in two ways. Firstly, in studying the development of both NP and PP roles in New Zealand PHC, this research in effect considers two programmes that have a ‘family resemblance’ and operate across many settings. These practitioners have similar registration requirements that include a set number of years of relevant postgraduate experience, and completion of postgraduate training. Nursing and pharmacy professions are also generalists by training. Likewise, both NPs and PPs have expanded their original practice base through learning traditionally medically dominated skills. The intended outcomes of implementing these roles, improved health care quality and accessibility, are also alike. Many realist studies consider one programme only either operating in one setting, or across settings. This research builds on past evaluations and in researching the development of both NP and PP roles using a realist methodology, it allows comparison to be made between a recently created role, and a more established position. From this, more certainty exists that the generated middle-range theories hold true across different programmes.

The second methodological contribution this research makes relates to my partial insider knowledge and its relevance in conducting realist interviews. As previously discussed (page 70), realist interviews involve a teacher-learner cycle (Pawson, 1996) where interviewees validate and refine theories (Manzano, 2016). The role of the evaluator is not that of an insider, but rather a teacher and then learner of these theories. Having knowledge in common with interviewed health professionals meant that I was in a position to comprehend both what these professionals were saying, and how they chose to say it. As such, this facilitated open dialogue that was unimpeded by communication issues. This improved the ability to generate middle-range theories. Consequently, this research provides an innovative example of applying a realist approach to health workforce research.

### **7.2.1 Examining both roles together**

This research offers sufficiently abstract theories to explain NP *and* PP role formation. By studying these roles together, this research hopes to facilitate discussion on the use of the health workforce based not on silos of practice, but on the skill set most appropriate for a task in a specific environment. Making best use of health professionals requires knowing

how to form these roles appropriately, and then how to use them synergistically. My research facilitates these discussions through considering a plethora of components that influence the development of health workforce roles.

When conducting this research, some participants raised the issue of why two health professions were being researched. In particular, participants with a nursing background questioned whether, as a pharmacist, I would be able to accept the nursing model of practice and its influence on NP roles or patient care. This research shows that NP and PP role expansion follows similar trends. Some features, such as legislative constraints, are more likely to influence NP roles. Others, such as funding or establishing role boundaries are likely to shape PPs, as these roles are newer to PHC and lack the ability to access the same degree of government funding. At the outset, NPs struggled with similar issues. Analysing changes in these two roles together offers a chance to compare roles sharing a close ‘family resemblance’. As such, this research identifies commonalities and further refines theories of advanced practitioner role development. Consequently, not only do I recognise and accept the influence of various models of practice on patient care delivery, but I also acknowledge the many other contexts that influence this development process.

Section 7.3 presents commentary on recommendations for policy and practice.

### 7.3 POLICY AND PRACTICE RECOMMENDATIONS

This research raises important questions surrounding the current position of NP and PP roles. Chapters 4, 5, and 6 generally propose that successful advanced practitioner role development relies on individual tenacity to overcome obstacles. To quote TPA7, “at this stage the [PP] role doesn’t exist. People might be able to chisel their way into a role but that’s not common.” The question, therefore, remains as to whether the health system is ready for the introduction of new models of practice and roles. This research has identified recommendations for further action by advanced practitioners, education providers, the policy sector, PHC workplaces, DHBs, and PHOs. These recommendations are prepared taking into account recently announced legislative changes affecting NP and PP roles. The importance of ongoing monitoring and evaluation is included throughout many of the following recommendations. This emphasises the need to recognise the impact acting on these recommendations has on the health system and advanced practitioners.

### **7.3.1 Recommendation 1: Manage a structured health system redesign**

NP and PP role development, as part of health system redesign, is likely to continue. I argue that while developing these roles has occurred in an *ad hoc* manner, it need not occur in this way. Given recent introductions of additional new health system roles, including the physician assistant and registered nurse prescriber, having a structured expansion may result in less risky career pathways and more appropriate use of health professionals. Part of this structured redesign may include ceasing the introduction of new roles until the health system understands those currently introduced. Properly managed, the development of new roles ought not to induce fear of erosion in medical dominance and practitioner safety. In New Zealand, strict competence requirements, adequate educational preparation, advanced practitioner experience, and codes of ethics covering acceptable practice should ensure the inherent ability of these advanced practitioners to operate safely. To form these roles effectively, debate must consider from an early point the match between intended advanced practitioner roles, how roles are to be promoted, how they operate, their influence on other PHC roles, and the components that affect the match-up between role intention and reality. This research highlights the need to ensure that educational and regulatory contexts prepare practitioners for their roles, and that practices, funding, and planning are prepared to accept their existence. It is a recommendation of this research that employing organisations (PHC practices, DHBs, or PHOs) address both features shaping support for integrating these roles, and those influencing trust in the advanced practitioner. These will also be useful for the possible future introduction of other new health workforce roles.

To facilitate this structured redesign, a comprehensive strategy is necessary. This strategy should take into account current health system requirements and bring about changes in how health services are delivered to make best use of the available workforce. Tools facilitating this strategy could be in the form of economic evaluations, such as those conducted overseas (see section 2.5.1), and creating performance measures of individual health professionals. The complexity of workforce development issues and the potential for widespread change in health service delivery underscore that strategy creation and implementation require input from sources across health, funding, and planning.

Ultimately, such a strategy may result in changes to current health workforce structures and to the use made of different members of the workforce. The research presented in this dissertation indicates that the development of advanced practitioner roles occurs without maintaining strong links between role creation and role realisation. This affects the success



of NP and PP role development. For the proposed strategy to be successful, it must include consideration of the roles of players across the health care system and necessitates strong leadership in nursing and pharmacy professions. It is essential that ‘ownership’ of the advanced practitioner development problem occurs in both policy and practice sectors. The successful implementation of this recommendation may require a collaborative redesign effort involving all parties within the health system.

NP and PP roles often grow in workplaces where they have established relationships. Patient and community recognition of these roles is important to ensure the continued use of advanced practitioners and the establishment of patient-centred care. Engaging patients and the community in a structured health system redesign could assist in effectively establishing these roles. One means of facilitating this community-centred approach include the participation of more patients and advanced practitioners on PHO boards. For the former group, this could facilitate the introduction of roles into PHC workplaces that can better meet community needs. For the latter, this would also further establish advanced practitioners as leaders in nursing and pharmacy. In turn, this could change feelings of ‘ownership’ of patients and funding streams with changes in PHO governance.

### **7.3.2 Recommendation 2: Ensure the appropriate allocation of funding for education**

Establishment of advanced practitioner roles in New Zealand PHC depends on a number of components, including the successful creation of career pathways for advanced practitioner candidates. Part of this creation entails recognising health system requirements and matching funding, planning, and training to meet these better. This research has shown that a lack of funding for PPs presents as a possible constraint to individual motivation to progress down training pathways, and that lack of funding to assume employment positions is likely to shape whether practices encourage role uptake. If advanced practitioners are to be part of the solution to an insufficient supply of appropriately trained health professionals to meet projected health service demand, it is imperative that funding opportunities support them through role creation and realisation. One part of ensuring this is to reconfigure government funding for postgraduate education so that instead of profession-specific funding, funding is based on shortages in required skills with the aim of optimising workforce deployment. Furthermore, facilitating access to continuing education funding

and support for all advanced practitioners could be one means of ensuring they remain able to deliver care effectively.

Changing the distribution of postgraduate education funding may not be necessary if current health workforce configurations deliver patient services effectively, and changes present no added benefit to patients. At present, however, an optimum distribution is largely unknown. Bryant-Lukosius and DiCenso (2004) demonstrate that monitoring and evaluation of advanced practice nursing roles are necessary to ensure safety and alignment with health system needs. The need for continued monitoring and evaluation applies to all health professions. Regular and systematic audits of all health professionals to identify and share current New Zealand best practice may assist in identifying features impairing their development. It may also facilitate more appropriate health workforce configurations, and assist in the subsequent distribution of educational funds.

### **7.3.3 Recommendation 3: Remove legislative constraints and impediments to operation in scopes of practice**

As this research conveys, professions use scopes of practice for different purposes. Combined with differences between the rights of health professions operating as authorised or designated prescribers, this impairs the ability for advanced practitioners to operate to their full potential. PPs (designated prescribers) may face additional constraints on their ability to deliver current best practice, for example, where they may prescribe only some medicine types that their patients require. Scopes of practice should govern the roles that health professionals perform. As such, this study recommends that, firstly, responsible authorities use scopes of practice in a standardised manner, and that, secondly, legislation is streamlined with the removal of the designated prescriber role and the migration of all designated prescribers to authorised prescriber status. In the case of the latter, responsible authorities would use scopes of practice to govern the limits of health professional practice (Cumming et al., 2005). This would leave advanced practitioners with the same requirements, for example, for PPs around working in collaborative teams, but would reduce regulatory issues. Patients benefit from such a legislative change. Having scopes of practice govern practice limits, rather than legislation, means that there is an ability for responsible authorities to respond to changes in best practice. This assists health professionals with delivering patient care.

The above paragraph also hints at the need to define advanced practitioner roles clearly through their scope. Although not currently an issue due to low registration numbers, there may come a time when advanced practitioners need vocational registration in specific areas of practice. At their heart, both these roles are generalist in scope and training. NPs have only recently (2017) had requirements to work in stated areas of practice removed from their registration requirements. Yet, in future, with increasing NP numbers, an additional level of specialisation (and training) may facilitate greater recognition of the differences between advanced practitioners. This could be useful in facilitating targeted access to services, subsidies, and other resources in the greater health system when a critical mass is reached.

#### **7.3.4 Recommendation 4: Promote uptake of training and employment opportunities and advanced practitioner roles**

For the sustainable development of advanced practitioner roles, specific attention is also needed to increasing the supply of PP candidates, and the supply of master's trained nurses registering as NPs. Within the pharmacy profession, there is poor promotion of the PP role. The nursing profession also lacks a strong voice to promote uptake of NP employment opportunities. Without recognising the value of these roles, and increasing uptake of training, NP and PP roles will fail. To some extent, at present both these professions lack a critical mass. Research participants question where responsibility for promoting these roles lies. The nature of this problem lends itself to a range of stakeholders acting together to facilitate promotion. Such stakeholders include the MOH, responsible authorities, health professionals, representative organisations, DHBs, and tertiary education providers. Promotion of advanced practitioner training and role uptake needs dedicated resourcing, clearly identified stakeholder roles, and open discussion among stakeholders. The roles and responsibilities of these groups in relation to promoting health service innovations require revision. In the first instance, this study recommends greater promotion of advanced practitioner training and employment within nursing and pharmacy professions. This may increase supply of advanced practitioners and facilitate opportunities for improved professional networking.

Clarification of the role, scope of practice, and level of advanced practitioner autonomy are dependent on these roles fitting the health system. In this system, there is limited appreciation of advanced practitioner roles and practice boundaries. This research found

little overt NP role promotion and even less PP promotion. Interviewed patients and carers largely recognise the benefit of advanced practitioner roles. Furthermore, from GP perspectives, advanced practitioners offer another means to deliver patient services either as a specialist or as another set of hands in GP-centric roles. This points to support for the role of individual NPs and PPs from those familiar with their role. This study recommends a two-pronged approach where practices, and more importantly the MOH, continue to promote NP and PP roles to the public and other PHC workplaces. This is particularly important for PPs, as (unlike NPs) their introduction is occurring concomitant with the introduction of clinical pharmacist roles, and PHC practices are adapting to two changes simultaneously. As part of this promotion, in line with Schober et al. (2016) and Bryant-Lukosius and DiCenso (2004), I recommend instituting evaluation and monitoring processes to look at the advanced practitioner role in clinical practice. These processes should be systematic and align with mechanisms for reporting and building on findings. In promoting these roles, areas where monitoring is important include the uptake of advanced practitioner training and NP and PP retention in the workplace. For example, the new registered nurse prescribing programme is intended to create a career pathway preparing individuals to become NPs. In monitoring the transition between registered nurse prescriber to NP, the health system can ascertain whether this programme facilitates the creation of a recognised and legitimate professional development pathway.

### **7.3.5 Recommendation 5: Focus on clearly defining the role of advanced practitioners in the workplace**

One of the contexts highlighted as impairing the ability to integrate NP and PP roles into PHC relates to a lack of clear role definitions and boundaries of practice for advanced practitioners. This consequently impairs advanced practitioner role realisation. Where advanced practitioners lack appropriate role definitions then they may operate in roles that fail to use their full scope of practice. Such roles either may use a subset of this scope, or may leave advanced practitioners operating in excessively broad roles. In turn, this may mean that advanced practitioners and others in the workplace lack an understanding of where responsibility for patients lies. As part of effectively realising the potential of advanced practitioner roles, I recommend that PHC practices clearly define advanced practitioner roles, and that the MOH defines universal core competencies of each health profession working in PHC. These definitions should become part of standard business models for NP and PP roles, and allow for comparison of roles between and within

workplaces. Additionally, particularly with respect to those advanced practitioners operating in specialist, or multiple short-term roles, these definitions should be updated regularly to reflect changes their temporary roles have on care delivery. Furthermore, where advanced practitioners provide complementary health services, then they should clearly demonstrate their value-add, and this value-add should be defined by their workplace to improve recognition of this new profession.

Potentially, another aspect of defining the advanced practitioner role lies in establishing system-level monitoring and performance frameworks that make specific mention of advanced practitioner roles. This could assist in establishing these roles, and start the discussion of NPs and PPs belonging to ‘new’ advanced professions. In so doing, profession-specific monitoring may also facilitate the recognition of the specific value-add of the NP or PP. Responsibility for establishing this standardised monitoring programme of patient outcomes lies with the MOH and DHBs.

#### **7.3.6 Recommendation 6: Change the focus of health workforce research and move beyond profession-specific discussions**

Health professions tend to examine workforce expansion issues relevant to their individual professions only. This fails to acknowledge that best practice may eventuate from multiple professions used in collaboration. Discussions surrounding developing new roles should move beyond profession-specific tunnel vision seen in academic literature, policy documents, and the media, to considering practice and health system requirements as they relate to the entire workforce. My research highlights that NP and PP roles operate in a system with many different health workforce members. These individuals have competing interests and their own agendas. Agreeing with the work of Nancarrow and Borthwick (2005), as a general rule, I propose that health workforce literature become profession agnostic so that we instead focus on providing the best patient-centred care with the available workforce. Furthermore, discussion of health workforce issues should offer insight into how professions fit within the greater health workforce, rather than in isolation. Perhaps one way to facilitate this lies in having coordinated undergraduate education programmes involving more future health professionals. In terms of the previous recommendations, this means that decisions to act on these suggestions should occur following informed consideration of relevant health workforce issues.

### **7.3.7 Dissemination and uptake of research findings and recommendations**

Policy development is an incremental process. In the case of the development of NP and PP roles, it involves multiple actors, with multiple different agendas. Structural changes within a legacy health system will be slow and will ultimately require a change in culture. This study began (section 1.6) by suggesting that the skills, legislation, and processes governing advanced practitioners differ between countries. However, this research offers lessons that could be of relevance nationally and internationally. Having given my research participants the option to receive copies of the final report (this thesis), I have created an opportunity to disseminate my findings to various groups around New Zealand.

Furthermore, I have circulated results and recommendations of this research to wider audiences through publications, international presentations, and university seminars.

While not all concepts presented in the middle-range theories may translate in the same way to other countries, certain key factors will remain relevant to other countries and policy actors at different levels of the health system. Such factors include, education, definition of advanced practitioner roles, managing legislative changes, and health workforce funding. Tailoring this information to other countries requires open dialogue at multiple points in the health and policy system between countries. For example, while the initial New Zealand introduction of NP and PP roles involved evaluation of international models of advanced practitioner roles, there is room to continue these dialogues. In so doing, we can create a wider understanding of how the development of these roles differs between countries.

## **7.4 CHALLENGES AND LIMITATIONS**

Section 7.4 reflects on challenges and limitations in this research.

### **7.4.1 Research challenges**

Several challenges arose when conducting this research; I documented these in the field log. They relate to two issues: data collection, and conducting realist investigations.

#### *Data collection*

Data gathering involved scheduling interviews across New Zealand to fit within the study's financial constraints. The second round of interviews involved health providers, patients, and carers. There would have been added benefit in creating further interview rounds involving firstly advanced practitioners, then GPs, and then patients. Limits to time, intercity travel budgets, and availability of health practitioners meant that patient and health

provider interviews occurred as one round. Despite this, knowledge gained from previous interviews, and preliminary analysis allowed informal theory refinement to occur in subsequent interviews. This meant that where interviewees proposed refinements to posited theories, I continued to explore these issues with subsequent interviewees.

#### *Realist research*

Successful control of the realist research process requires careful resource management. Salter and Kothari (2014) discuss potential challenges from conducting realist research in their review of 'knowledge translation' realist studies. From 14 studies, they found that challenges of realist approaches related to time and resource requirements, lack of explicit existing theories to inform CMO configuration elaboration, and difficulty in defining context, mechanism, and outcome. In this research, similar limitations were ameliorated through appropriate time management, identification of CMO configuration in literature, and the iterative analysis of data. From the outset, this research analysed literature to identify middle-range theories (Chapter 2). Each research step built on and refined the initial theories proposed from this review. Furthermore, as the research progressed, it became necessary to adjudicate between competing theories. An example of this related to the mechanism of trust in the ability of advanced practitioners. One theory was that this mechanism triggered in response to collaborative integrated teams; a competing theory was that these teams were inherently more innovative and created change. The latter could hold true, but several participants commented that even where teams were not innovative, support and recognition of the value NPs and PPs add triggered trust in advanced practitioner abilities.

Another potential challenge inherent in realist research is that the use of CMO configurations may result in a misinterpretation of complex relationships as simple linear relationships (Astbury, 2013). This may then cause multi-mechanism interactions, where outcomes from one part of an intervention are the contexts for another to be overlooked (Astbury, 2013). This research attempted to minimise these misinterpretations through exploring participant views on interacting mechanisms and contexts. Interviewing different cohorts assisted in determining multi-mechanism links, thus preventing the appearance of simple linear relationships, and instead facilitating exploration of components inherent in these relationships. Yet, separating the development process into distinct mechanisms, while analytically clear, is artificial and does not reflect their interdependent make-up (Greenhalgh et al., 2009). Recognising this interdependence, this research used several

forms of data collection (interviews, document review, and field logs) to gain greater understanding of how these roles developed. In turn, iterative data collection and analysis strategies resulted in refined middle-range theories that reflected the inherent complexities of advanced practitioner development.

#### **7.4.2 Research limitations**

Research generalisability refers to the degree to which research results apply beyond their sample (F. J. Smith, 2010). In all studies of social reality, there are invariably restrictions on the extent to which definitive inferences can be made about a programme; that is, limits exist on result generalisability while maintaining validity. This is also the case for this research. This study painted an initial canvas of advanced practitioner expansion in New Zealand PHC. As changes occur in the health workforce and additional evidence emerges of these changes, the middle-range theories discussed in this dissertation may act as a framework on which others build. To enable further refinement of middle-range theories, I have reported this research in a transparent manner.

This research relied on interviewee recollections of past events, for example around initial intentions behind NP roles. Participants may face recall bias. To address this issue, when requested, I discussed background information and relevant milestones in the expansion of advanced practitioner roles. This provided interviewees with prompts and gave them time to recall information. This extended an additional layer to the teacher-learner cycle. Additionally, to mitigate the effect of poor recall, I corroborated interviewee statements against other responses, policy documents, and other grey literature.

Research participants do not necessarily represent all individuals involved with advanced practitioner development. For example, NPs and PPs selected GPs, patients, and carers for interview. This may introduce bias, as while these practitioners received a protocol to follow in selecting participants, they may have chosen not to follow it. They may have instead purposively selected participants who represent particular viewpoints. Additionally, this research did not involve representatives from all groups involved in the development process. For example, DHB nursing or pharmacy managers, and GPs choosing not to work with an advanced practitioner did not participate in interviews. Middle-range theories formed in this study resulted following stakeholder interviews. In this research, I interviewed individuals across the advanced practitioner development continuum; they represented key areas of policy and practice and have different perspectives on the



development process. As a result, it is likely that middle-range theories refined in this research are transferable across New Zealand. Relevant future research should involve other groups, such as those controlling funding and planning, to improve understanding of the development process further.

Realist studies have limited result reproducibility (section 3.1.5). This occurs because interviews capture people's views at one point in time, and because researcher judgement and the empirical evidence leading to these judgements direct realist interviews (Manzano, 2016). Such attributes are not reproducible, and are not limited to realist studies. In this research, throughout the realist semi-structured interview process, focus shifted from determining possible contexts, mechanisms, and outcomes, to constructing CMO configurations and refining theories. Pawson and Tilley (2004) argue that although realist inquiry does not explore all eventualities, it does allow for a better grasp of underlying theories than previously existed. Consequently, this research helps inform understanding of an important area of workforce development. This area was previously poorly understood. As such, this research acts as a base for health workforce research, and offers confidence in patterns of advanced practitioner change across the health system.

## 7.5 FUTURE RESEARCH

Insights gained from this research have opened up new potential study areas. The following are of particular interest:

1. A realist methodology proved useful in making sense of the multiple components simultaneously influencing advanced practitioner development. In line with the realist approach cycle (Figure 3.1, page 58), future research should use this methodology in assessing health workforce changes, highlighting what works, for whom, in what circumstances; building on theories refined in this research; and sharing lessons learnt between policy and practice. Additionally, when evaluating the development of advanced practitioner roles, future inquiry should test theories of health workforce change and management, diffusion of innovation, and process normalisation. Using this literature base in subsequent evaluations provides opportunities to consider more broadly how new workforce programmes can be embedded into a system.
2. One aspect of diffusion of innovation involves the use of programme champions. My research acknowledges the role of champions in facilitating advanced practitioner success. Further research to aid the early identification of champions within nursing,

pharmacy, and PHC practices would potentially offer the ability to support advanced practitioner role uptake, and better direct their future roles.

3. As this research focused on the New Zealand advanced practitioner workforce only, looking at multi-country variations across professions within different health systems deserves further examination. Middle-range theories formed in this research may be transferable to other programmes. Assessing future changes to advanced practitioner roles or the introduction of new roles, and conducting cross-country comparisons offer tools to refine these middle-range theories further. Future research should compare role advancement across health sectors and professions.
4. More specifically, future research should focus on continued changes in the active implementation of health professions. As this investigation unfolded, new dynamics emerged in the system, for example, the passing of the Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill. Insights gained through this research cover one point in the process of establishing NP and PP roles. However, interviewees have knowledge of past events and perspectives on potential occurrences. Future research offers a chance to see how advanced practitioner roles evolve because of policy and practice changes. More broadly, and considering the initial reasoning behind this study, this research contends that continuing to appraise these processes will reduce reactive construction of new health professions and ensure that existing roles are both fit for purpose and that the purpose is known.
5. Part of managing the establishment of new roles also requires the analysis of the economic viability of new and existing professions. This requires data that is currently neither easily available at the national level, nor available at all stages of advanced practitioner role creation, role realisation, and service delivery.
6. This research investigated only the central points on the advanced practitioner development framework illustrated in Figure 4.4. Future research should consider contexts and mechanisms influencing advanced practitioner long-term sustainability. Given the relatively short history these practitioners have in the New Zealand health system, and the lack of PP role uptake, investigating this is not currently possible. Examining the long-term sustainability of these roles, and conducting quantitative research of patient and provider outcomes can extend recommendations for the future use of these health professions and further refine proposed middle-range theories.

## 7.6 CONCLUDING REMARKS

New Zealand is facing the prospect of not being able to meet population demand for health services adequately while keeping health expenditure manageable. In response, New Zealand governments are seeking ways to close the gap between demand and service delivery. One possible tool is to create specialist roles, such as those of NPs and PPs. In New Zealand, there is limited knowledge about how these roles form and are subsequently implemented. Internationally, NPs and PPs have met with a mixture of enthusiasm and hegemony voiced as concerns for patient safety. The existing literature on advanced practitioners, and particularly NPs, demonstrates that they can deliver safe and effective patient care. These sources also imply that introducing practitioners into a pre-established health system is complex. Literature, however, often fails to explain policy and practice processes that may result in the effective introduction of these roles.

This dissertation proffers evidence regarding the development of NP and PP roles in PHC and discusses the methodology, methods, and research design used in reaching this evidence. Conducting realist research, allowed me to test and refine theories iteratively. These theories operate at a sufficient level of abstraction to explain this development process. This research involved stakeholders, including health professionals (NPs, PPs, and GPs), patients and carers, and those in the policy field. Additionally, using documents supplied by interviewees and field log observations, research data was further triangulated and theories refined.

Realist methodology was appropriate for answering the questions this research posed. The refined middle-range theories answer the ‘how?’, ‘for whom?’, and ‘why?’ questions regarding successful NP and PP formation in differing contexts. This may assist in the more appropriate use of advanced practitioners and refinement of relevant policy in light of moves to redesign the health workforce.

Each PHC practice presents different combinations of contexts owing to the complex interplay of policy, process, personalities, and population requirements. These contexts, in turn, influence the mechanisms that trigger to deliver outcomes. The extent to which successful future role development occurs is dependent on the collaboration of PHC practitioners, and the confidence and competence of those currently working in NP and PP roles to deliver patient-centred care. The true purpose of advanced practitioner roles may not be fully realised in roles that do not employ them to their full capability.

## *Discussion and Conclusions*

This research fundamentally suggests that if the health system proposes innovative changes to improve health service delivery, then these changes should ensue in such a manner as to give them a fair chance to succeed. Research findings are informative, transferable, and identify issues that when addressed should facilitate effective role creation, role realisation, and service delivery.

Perhaps the most pertinent question that remains is an ethical one: if we suspect new health professional roles will not form as expected, due to the burden of legacy in a non-responsive health system, why do we introduce these professions without at the same time taking significant steps to lessen this burden?

## APPENDICES

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## APPENDIX 1: INFORMATION SHEETS

### Nurse practitioners and pharmacist prescribers in primary health care *A realist evaluation of the New Zealand experience*

#### INFORMATION SHEET FOR THE POLICY SECTOR

Thank you for your interest in this research. Please read this information sheet prior to deciding whether to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Tara Officer and I am a doctoral candidate in public policy at Victoria University of Wellington's School of Government. I am also a community pharmacist.

#### What is the aim of the research?

This research is about nurse practitioners and pharmacist prescribers in primary health care. These health providers work at advanced levels of practice. Their roles allow them to provide a range of services within medical centres and hospitals. For example, they may run group clinics, or provide other health care services to individual patients.

This research will investigate how nurse practitioner and pharmacist prescriber roles influence patient and provider outcomes. You have been selected to participate in interviews as you are known to have been/ be involved in:

1. influencing policy related to the development of nurse practitioner/ pharmacist prescriber roles in New Zealand; and/or
2. the delivery of nurse practitioner/ pharmacist prescriber education.

Victoria University has approved my research area and has granted ethics approval to carry out this research. My research, under the supervision of two academics, and following university policies and procedures, has been approved by the Victoria University of Wellington Human Ethics Committee [Ethics Approval # 22388].

#### How can you help?

If you agree to take part, I will interview you in a public place, such as a library meeting room or other mutually agreed location. I will ask you questions about the creation and establishment of nurse practitioner or pharmacist prescriber roles. The interview will take approximately 30 minutes. I will record the interview and write it up later. If you would prefer, the interview can be conducted without recording it. You can stop the interview at any time, without giving a reason. You may withdraw from this research up to four working weeks after the interview. If you withdraw, information you provided will be destroyed or returned to you. Feel free to discuss this research with other people, including your family, friends, whānau, or healthcare provider.

### What will happen to the information you give?

This research is confidential. I will not name you in any reports, and I will not include any information that would identify you directly. If the information you provide is used in this research, you will be identified only as an individual from the policy sector. I may also describe characteristics of the organisation you belong to, however your organisation will not be named. Only my supervisors and I will read notes or transcripts of interviews. Your interview may be transcribed by a professional transcriber who has signed a confidentiality form. The interview transcripts, summaries, and any recordings will be kept securely and destroyed ten years after the research ends.

### What will the research produce?

The information provided by you and other participants will be a major data source in my doctoral dissertation. Results obtained from the information you provide may be used in my dissertation and in postdoctoral research. Upon completion and acceptance, my dissertation will be deposited in the University Library. Your information may also contribute to the production of articles submitted for publication in academic journals or reports and presented in academic or professional conferences. I will take care not to identify you in presentations or reports.

### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer questions;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the research up to four working weeks after your interview;
- ask any questions about the research at any time;
- receive a copy of your interview transcript (if it is recorded), make comments on the transcript and return the corrected transcript to the researcher within four working weeks of receiving it; and
- read reports of this research by emailing the researcher to request a copy or by providing your email address in the Consent to Interview form.

### If you have any questions or problems, who can you contact?

Over the next two weeks, I will contact you by telephone to confirm your consent to participate in this research. If you have any questions, either now or in the future, please feel free to contact either:

<b>Researcher</b>	<b>Supervisor</b>	<b>Supervisor</b>
Tara Officer	Professor Jackie Cumming	Dr Karen McBride-Henry
PhD Candidate	Primary Supervisor	
School of Government	School of Government	Secondary Supervisor
Victoria University	Victoria University	

Thank you for your consideration.

## Human Ethics Committee Information

If you have any concerns about the ethical conduct of the research you may contact the Victoria University Human Ethics Committee Convener: Associate Professor Susan Corbett. Email [REDACTED] or telephone (04) [REDACTED].



# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INFORMATION SHEET FOR NURSE PRACTITIONERS AND PHARMACIST PRESCRIBERS

Thank you for your interest in this research. Please read this information sheet prior to deciding whether to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Tara Officer and I am a doctoral candidate in public policy at Victoria University of Wellington's School of Government. I am also a community pharmacist.

#### What is the aim of the research?

This research is about nurse practitioners and pharmacist prescribers in primary health care. These health providers work at advanced levels of practice. Their roles allow them to provide a range of services within medical centres and hospitals. For example, they may run group clinics, or provide other health care services to individual patients.

This research will investigate how nurse practitioner and pharmacist prescriber roles influence patient and provider outcomes. You have been selected to participate due to your current role as a nurse practitioner/ pharmacist prescriber in primary health care.

Victoria University has approved my research area and has granted ethics approval to carry out this research. My research, under the supervision of two academics, and following university policies and procedures, has been approved by the Victoria University of Wellington Human Ethics Committee [Ethics Approval # 22388].

#### How can you help?

If you agree to take part, I will interview you in your place of work. I will ask you questions about your journey as a nurse practitioner/ pharmacist prescriber. The interview will take approximately 30-40 minutes. I will record the interview and write it up later. If you would prefer, the interview can be conducted without recording it. You can stop the interview at any time, without giving a reason. You may withdraw from this research up to four working weeks after the interview. If you withdraw, information you provided will be destroyed or returned to you. Feel free to discuss this research with other people, including your family, friends, whānau, or healthcare provider.

During the interview I may ask you for documents specific to your role, including about: (1) role description, (2) clinic charter (where you run a clinic), (3) professional practice areas/ practice plans, (4) de-identified changes in your patient enrolments, and (5) documents discussing changes in patient demographic characteristics or general changes in patient outcomes. You may choose whether to provide these. Feel free to remove any confidential information.

As a nurse practitioner/ pharmacist prescriber, I will also ask you to provide patients I have randomly selected (up to four patients) with a letter of invitation to this research and an information sheet. Patients may then contact me directly. I will also ask for your assistance in selecting and contacting a general practitioner with whom you have a professional working relationship.

### What will happen to the information you give?

This research is confidential. I will not name you in any reports, and I will not include any information that would identify you directly. If the information you provide is used in this research, you will be identified only as a nurse practitioner or pharmacist prescriber. I may also describe characteristics of the medical centre you belong to, however your organisation will not be named. Only my supervisors and I will read notes or transcripts of interviews. Your interview may be transcribed by a professional transcriber who has signed a confidentiality form. The interview transcripts, summaries, and any recordings will be kept securely and destroyed ten years after the research ends.

### What will the research produce?

The information provided by you and other participants will be a major data source in my doctoral dissertation. Results obtained from the information you provide may be used in my dissertation and in postdoctoral research. Upon completion and acceptance, my dissertation will be deposited in the University Library. Your information may also contribute to the production of articles submitted for publication in academic journals or reports and presented in academic or professional conferences. I will take care not to identify you in presentations or reports.

### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer questions;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the research up to four working weeks after your interview;
- ask any questions about the research at any time;
- receive a copy of your interview transcript (if it is recorded), make comments on the transcript and return the corrected transcript to the researcher within four working weeks of receiving it; and
- read reports of this research by emailing the researcher to request a copy or by providing your email address in the Consent to Interview form.

### If you have any questions or problems, who can you contact?

Over the next two weeks, I will contact you by telephone to confirm your consent to participate in this research. If you have any questions, either now or in the future, please feel free to contact either:

<b>Researcher</b>	<b>Supervisor</b>	<b>Supervisor</b>
Tara Officer	Professor Jackie Cumming	Dr Karen McBride-Henry
PhD Candidate	Primary Supervisor	
School of Government	School of Government	Secondary Supervisor
Victoria University	Victoria University	

Thank you for your consideration.

## Human Ethics Committee Information

If you have any concerns about the ethical conduct of the research you may contact the Victoria University Human Ethics Committee Convener: Associate Professor Susan Corbett. Email [REDACTED] or telephone (04) [REDACTED].

# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INFORMATION SHEET FOR GENERAL PRACTITIONERS

Thank you for your interest in this research. Please read this information sheet prior to deciding whether to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Tara Officer and I am a doctoral candidate in public policy at Victoria University of Wellington's School of Government. I am also a community pharmacist.

#### What is the aim of the research?

This research is about nurse practitioners and pharmacist prescribers in primary health care. These health providers work at advanced levels of practice. Their roles allow them to provide a range of services within medical centres and hospitals. For example, they may run group clinics, or provide other health care services to individual patients.

This research will investigate how nurse practitioner and pharmacist prescriber roles influence patient and provider outcomes. You have been selected to participate in interviews due to your current role as a general practitioner. A nurse practitioner/ pharmacist prescriber close to you has approached you on my behalf to request your participation.

Victoria University has approved my research area and has granted ethics approval to carry out this research. My research, under the supervision of two academics, and following university policies and procedures, has been approved by the Victoria University of Wellington Human Ethics Committee [Ethics Approval # 22388].

#### How can you help?

If you agree to take part, I will interview you in a public place, such as a library meeting room or other mutually agreed location. I will ask you questions about your understanding of how nurse practitioner/ pharmacist prescriber roles operate. The interview will take approximately 30 minutes. I will record the interview and write it up later. If you would prefer, the interview can be conducted without recording it. You can stop the interview at any time, without giving a reason. You may withdraw from this research up to four working weeks after the interview. If you withdraw, the information you provided will be destroyed or returned to you. Feel free to discuss this research with other people, including your family, friends, whānau, or healthcare provider.

### What will happen to the information you give?

This research is confidential. I will not name you in any reports, and I will not include any information that would identify you directly. If the information you provide is used in this research, you will be identified only as a general practitioner. I may also describe characteristics of the medical centre you belong to, however your organisation will not be named. Only my supervisors and I will read notes or transcripts of interviews. Your interview may be transcribed by a professional transcriber who has signed a confidentiality form. The interview transcripts, summaries, and any recordings will be kept securely and destroyed ten years after the research ends.

### What will the research produce?

The information provided by you and other participants will be a major data source in my doctoral dissertation. Results obtained from the information you provide may be used in my dissertation and in postdoctoral research. Upon completion and acceptance, my dissertation will be deposited in the University Library. Your information may also contribute to the production of articles submitted for publication in academic journals or reports and presented in academic or professional conferences. I will take care not to identify you in presentations or reports.

### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer questions;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the research up to four working weeks after your interview;
- ask any questions about the research at any time;
- receive a copy of your interview transcript (if it is recorded), make comments on the transcript and return the corrected transcript to the researcher within four working weeks of receiving it; and
- read reports of this research by emailing the researcher to request a copy or by providing your email address in the Consent to Interview form.

### If you have any questions or problems, who can you contact?

Over the next two weeks, I will contact you by telephone to confirm your consent to participate in this research. If you have any questions, either now or in the future, please feel free to contact either:

<b>Researcher</b>	<b>Supervisor</b>	<b>Supervisor</b>
Tara Officer	Professor Jackie Cumming	Dr Karen McBride-Henry
PhD Candidate	Primary Supervisor	
School of Government	School of Government	Secondary Supervisor
Victoria University	Victoria University	

Thank you for your consideration.

## Human Ethics Committee Information

If you have any concerns about the ethical conduct of the research you may contact the Victoria University Human Ethics Committee Convener: Associate Professor Susan Corbett. Email [REDACTED] or telephone (04) [REDACTED].

# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INFORMATION SHEET FOR PATIENTS

Thank you for your interest in this research. Please read this information sheet prior to deciding whether to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Tara Officer and I am a doctoral candidate in public policy at Victoria University of Wellington's School of Government. I am also a community pharmacist.

#### What is the aim of the research?

This research is about nurse practitioners and pharmacist prescribers in primary health care. These health providers work at advanced levels of practice. Their roles allow them to provide a range of services within medical centres and hospitals. For example, they may run group clinics, or provide other health care services to individual patients.

This research will investigate how nurse practitioner and pharmacist prescriber roles influence patient and provider outcomes. You have been randomly selected to participate due to your current role as a patient of a nurse practitioner or pharmacist prescriber. I have asked your nurse practitioner/ pharmacist prescriber to approach you because you are known to:

1. be over the age of 18 years (or be the parent/ guardian of an individual under 18 years); and
2. have had nurse practitioner/ pharmacist prescriber treatment at least once in the past year;  
or
3. belong to an organisation such as a rest home who employs the services of a nurse practitioner/ pharmacist prescriber.

Victoria University has approved my research area and has granted ethics approval to carry out this research. My research, under the supervision of two academics, and following university policies and procedures, has been approved by the Victoria University of Wellington Human Ethics Committee [Ethics Approval # 22388].

#### How can you help?

If you agree to take part, I will interview you in a public place, such as a library meeting room or other mutually agreed location. I will ask you questions about your story as a recipient of nurse practitioner or pharmacist prescriber care. The interview will take approximately 30 minutes. I will record the interview and write it up later. If you would prefer, the interview can be conducted without recording it. You can stop the interview at any time, without giving a reason.

Your involvement in this research will not affect the health care services you receive. You may withdraw from this research up to four working weeks after the interview. If you withdraw, information you provided will be destroyed or returned to you. Feel free to discuss this research with other people, including your family, friends, whānau, or healthcare provider.

### What will happen to the information you give?

This research is confidential. I will not name you in any reports, and I will not include any information that would identify you directly. If the information you provide is used in this research, you will be identified only as a patient of a nurse practitioner or pharmacist prescriber. I may also describe characteristics of the medical centre you belong to. Only my supervisors and I will read notes or transcripts of interviews. Your interview may be transcribed by a professional transcriber who has signed a confidentiality form. The interview transcripts, summaries, and any recordings will be kept securely and destroyed ten years after the research ends.

Should concerns about your health care arise during interviews, I will discuss these with my supervisors and decide on the appropriate course of action with your consent.

### What will the research produce?

The information provided by you and other participants will be a major data source in my doctoral dissertation. Results obtained from the information you provide may be used in my dissertation and in postdoctoral research. Upon completion and acceptance, my dissertation will be deposited in the University Library. Your information may also contribute to the production of articles submitted for publication in academic journals or reports and presented in academic or professional conferences. I will take care not to identify you in presentations or reports.

### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer questions;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the research up to four working weeks after your interview;
- ask any questions about the research at any time;
- receive a copy of your interview transcript (if it is recorded), make comments on the transcript and return the corrected transcript to the researcher within four working weeks of receiving it; and
- read reports of this research by emailing the researcher to request a copy or by providing your email address in the Consent to Interview form.

### If you have any questions or problems, who can you contact?

Following receiving your consent to participate, I will contact you by telephone or email to confirm a good time for interview and to answer additional questions you may have. If you have any questions, either now or in the future, please feel free to contact either:

<b>Researcher</b>	<b>Supervisor</b>	<b>Supervisor</b>
Tara Officer	Professor Jackie Cumming	Dr Karen McBride-Henry
PhD Candidate	Primary Supervisor	
School of Government	School of Government	Secondary Supervisor
Victoria University	Victoria University	



If you have any concerns about the treatment you receive from your nurse practitioner or pharmacist prescriber, in the first instance consult the Health and Disability Commissioner Code of Health and Disability Services Consumers' Rights.

Thank you for your consideration.

#### Human Ethics Committee Information

If you have any concerns about the ethical conduct of the research you may contact the Victoria University Human Ethics Committee Convener: Associate Professor Susan Corbett. Email [REDACTED] or telephone (04) [REDACTED].

# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INFORMATION SHEET FOR CARERS

Thank you for your interest in this research. Please read this information sheet prior to deciding whether to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Tara Officer and I am a doctoral candidate in public policy at Victoria University of Wellington's School of Government. I am also a community pharmacist.

#### What is the aim of the research?

This research is about nurse practitioners and pharmacist prescribers in primary health care. These health providers work at advanced levels of practice. Their roles allow them to provide a range of services within medical centres and hospitals. For example, they may run group clinics, or provide other health care services to individual patients.

This research will investigate how nurse practitioner and pharmacist prescriber roles influence patient and provider outcomes. You have been selected to participate due to your role as a carer of a patient of a nurse practitioner/ pharmacist prescriber. I have asked your nurse practitioner/ pharmacist prescriber to approach you because you are known to:

1. be the parent/ guardian of an individual under 18 years who has had nurse practitioner/ pharmacist prescriber treatment at least once in the past year; or
2. manage relations with a nurse practitioner/ pharmacist prescriber who delivers services to institutions where you work (such as a rest home).

Victoria University has approved my research area and has granted ethics approval to carry out this research. My research, under the supervision of two academics, and following university policies and procedures, has been approved by the Victoria University of Wellington Human Ethics Committee [Ethics Approval # 22388].

#### How can you help?

If you agree to take part, I will interview you in a public place, such as a library meeting room or other mutually agreed location. I will ask you questions about your experience and perceptions of nurse practitioner or pharmacist prescriber care. The interview will take approximately 30 minutes. I will record the interview and write it up later. If you would prefer, the interview can be conducted without recording it. You can stop the interview at any time, without giving a reason.

Your involvement in this research will not affect the health care services individuals under your care receive. You may withdraw from this research up to four working weeks after the interview. If you withdraw, information you provided will be destroyed or returned to you. Feel free to discuss this research with other people, including your family, friends, whānau, or healthcare provider.

### What will happen to the information you give?

This research is confidential. I will not name you in any reports, and I will not include any information that would identify you directly. If the information you provide is used in this research, you will be identified only as a carer of a patient of a nurse practitioner/ pharmacist prescriber. I may also describe characteristics of the medical centre you belong to. Only my supervisors and I will read notes or transcripts of interviews. Your interview may be transcribed by a professional transcriber who has signed a confidentiality form. The interview transcripts, summaries, and any recordings will be kept securely and destroyed ten years after the research ends.

Should concerns about the health care of patients arise during interviews, I will discuss these with my supervisors and decide on the appropriate course of action with your consent.

### What will the research produce?

The information provided by you and other participants will be a major data source in my doctoral dissertation. Results obtained from the information you provide may be used in my dissertation and in postdoctoral research. Upon completion and acceptance, my dissertation will be deposited in the University Library. Your information may also contribute to the production of articles submitted for publication in academic journals or reports and presented in academic or professional conferences. I will take care not to identify you in presentations or reports.

### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you do not want to. If you do decide to participate, you have the right to:

- choose not to answer questions;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the research up to four working weeks after your interview;
- ask any questions about the research at any time;
- receive a copy of your interview transcript (if it is recorded), make comments on the transcript and return the corrected transcript to the researcher within four working weeks of receiving it; and
- read reports of this research by emailing the researcher to request a copy or by providing your email address in the Consent to Interview form.

### If you have any questions or problems, who can you contact?

Following receiving your consent to participate, I will contact you by telephone or email to confirm a good time for interview and to answer additional questions you may have. If you have any questions, either now or in the future, please feel free to contact either:

<b>Researcher</b>	<b>Supervisor</b>	<b>Supervisor</b>
Tara Officer	Professor Jackie Cumming	Dr Karen McBride-Henry
PhD Candidate	Primary Supervisor	
School of Government	School of Government	Secondary Supervisor
Victoria University	Victoria University	

If you have any concerns about treatment provided by your nurse practitioner or pharmacist prescriber, in the first instance consult the Health and Disability Commissioner Code of Health and Disability Services Consumers' Rights.

Thank you for your consideration.

#### **Human Ethics Committee Information**

If you have any concerns about the ethical conduct of the research you may contact the Victoria University Human Ethics Committee Convener: Associate Professor Susan Corbett. Email [REDACTED] or telephone (04) [REDACTED].

## APPENDIX 2: CONSENT FORM

Nurse practitioners and pharmacist prescribers in primary health care

*A realist evaluation of the New Zealand experience*

### CONSENT TO PARTICIPATE IN INTERVIEWS

Please read the following statements together with the Information Sheet provided. Indicate your consent by ticking () the relevant boxes, and signing below. Please keep a copy of this form for your own records. This consent form will be held for ten years.

I have read the Information Sheet, the research has been explained to me, and my questions have been answered to my satisfaction. I understand that I can ask further questions at any time. YES NO

I agree to take part in a recorded interview and have provided contact details below.

I understand that:

- I may withdraw from this research up to four working weeks after the interview without providing reasons, and any information I have provided will be returned to me or destroyed.
- Information I provide will be stored securely on password-protected computers and in locked drawers. This information will be destroyed ten years following research completion.
- Information I provide will be kept confidential to the researcher, her supervisors, and the person transcribing recordings.
- Information I provide will not be used for purposes other than those mentioned in the Information Sheet. Any further use will require my written consent.
- Published results will not use my name or personal details, and no opinion will be attributed to me in any way that identifies me.
- While every attempt will be made to maintain confidentiality with respect to my identity, this may not always be possible in situations where my position is well known.
- Where necessary, I may be contacted for further clarification on information I provide.

I would like a copy of my interview transcript (changes made to the transcript will be returned to the researcher within four weeks) YES NO

I would like a summary of my interview

I would like a copy of the final report(s) and have provided my email address below

I would like to have a support person present at my interview

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Name \_\_\_\_\_ Email/ Phone \_\_\_\_\_

With thanks,

Tara Officer (Researcher) | PhD Candidate, Victoria University | [REDACTED]

## APPENDIX 3: INTERVIEW GUIDES

### Nurse practitioners and pharmacist prescribers in primary health care *A realist evaluation of the New Zealand experience*

#### INTERVIEW QUESTIONS FOR THE POLICY SECTOR

The following schedule acts as a guide, to maintain and prompt interview flow in the qualitative stage of this research. Question order may be changed.

Date (Start time – End time):	Place:
Interviewee:	Title/ Role:
Thank you for agreeing to participate in this interview. As discussed via email/ telephone, this research is about nurse practitioners (NPs) and pharmacist prescribers (PPs) in primary health care (PHC). Specifically, it is about how their roles form and lead to changes in patient and provider outcomes. These health providers work at advanced levels of practice. They provide a range of services within medical centres and hospitals including running group clinics, or providing health care services to individual patients.	
Your views on NPs/ PPs as a <b>policy stakeholder</b> are unique. I will be recording this interview. If at any time you would like to stop, or for me to turn off the recording device, please let me know. The interview will take no longer than 30 minutes. Do you have any questions at this point?	
Can you describe your role in forming/ creating / training NPs/ PPs?	
Keeping this in mind, can you please describe how the development of NP/ PP roles differed from initial plans? Why do you think this is?	
<u>Prompts:</u>	
For example: Training, funding, career pathways, political views at the time	
At the time of creating NP/ PP roles (the policy) what factors affected their establishment?	
What factors currently affect their establishment? How do they do this?	
How do the outcomes of developing NP/ PP roles differ from initial policy expectations? Are these due to the factors you mentioned previously?	
<u>Prompts:</u>	
Access, quality of care, retention	
<u>Wrap up:</u>	
Is there anyone else you would recommend I talk to in this area?	
Is there anything else that you would like to add?	
Thank you very much for the time you have spent talking to me today, I appreciated hearing your views on this workforce.	

# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INTERVIEW QUESTIONS FOR NURSE PRACTITIONERS AND PHARMACIST PRESCRIBERS

The following schedule acts as a guide, to maintain and prompt interview flow in the qualitative stage of this research. Question order may be changed.

Date (Start time – End time):	Place:
Interviewee:	Title/ Role:

Thank you for agreeing to participate in this interview. As discussed via email/ telephone, this research is about nurse practitioners (NPs) and pharmacist prescribers (PPs) in primary health care (PHC). Specifically, it is about how their roles form and lead to changes in patient and provider outcomes. These health providers work at advanced levels of practice. They provide a range of services within medical centres and hospitals including running group clinics, or providing health care services to individual patients.

Your views on NPs/ PPs as a **NP/ PP** are unique. I will be recording this interview. If at any time you would like to stop, or for me to turn off the recording device, please let me know. The interview will take no longer than 30 minutes. Do you have any questions at this point?

Can you please tell me about your journey to become a NP/ PP including your role within your current workplace?

Prompts:

Positive factors affecting the NP/ PP role

Negative factors affecting the NP/ PP role

How have these aspects changed over time?

How did these positive and negative factors affect your role?

---

Can you describe other roles you have undertaken as a NP/PP?

Prompts:

What work environment did you operate in?

Did you experience similar positive and negative factors in these other NP/ PP roles you have had?

Examples?

---

What effect does your role have on outcomes for patients and health care providers?

Prompts:

Access, quality of care, retention

---

Wrap up:

Is there anyone else you would recommend I talk to in this area?

Are there any public documents or documents specific to your role that you think could help me understand this development process? If so, how and where can I access these documents?

Is there anything else that you would like to add?

---

Thank you very much for the time you have spent talking to me today, I appreciated hearing your views on this workforce.

# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INTERVIEW QUESTIONS FOR GENERAL PRACTITIONERS WITH ALTERNATE PRESCRIBER EXPERIENCE

The following schedule acts as a guide, to maintain and prompt interview flow in the qualitative stage of this research. Question order may be changed.

Date (Start time – End time):	Place:
Interviewee:	Title/ Role:
Thank you for agreeing to participate in this interview. As discussed via email/ telephone, this research is about nurse practitioners (NPs) and pharmacist prescribers (PPs) in primary health care (PHC). Specifically, it is about how their roles form and lead to changes in patient and provider outcomes. These health providers work at advanced levels of practice. They provide a range of services within medical centres and hospitals including running group clinics, or providing health care services to individual patients.	
Your views on NPs/ PPs as a <b>GP</b> are unique. I will be recording this interview. If at any time you would like to stop, or for me to turn off the recording device, please let me know. The interview will take no longer than 30 minutes. Do you have any questions at this point?	
Can you please describe the nature of your involvement/ experience with NPs/ PPs?	
Can you describe how the NP/ PP role came to operate in your workplace?	
<u>Prompts:</u>	
Positive factors affecting the NP/ PP role	
Negative factors affecting the NP/ PP role	
How has the role changed over time, and why?	
How did the practice respond to these positive and negative factors?	
How did the practice respond to the NP/ PP role?	
What is the effect of NPs/ PPs in your practice on patient and health care provider outcomes?	
<u>Prompts:</u>	
Access, quality of care, retention	
<u>Wrap up:</u>	
Is there anyone else you would recommend I talk to in this area?	
Is there anything else that you would like to add?	
Thank you very much for the time you have spent talking to me today, I appreciated hearing your views on this workforce.	



# Nurse practitioners and pharmacist prescribers in primary health care

## *A realist evaluation of the New Zealand experience*

### INTERVIEW QUESTIONS FOR PATIENTS

The following schedule acts as a guide, to maintain and prompt interview flow in the qualitative stage of this research. Question order may be changed.

Date (Start time – End time):	Place:
Interviewee:	Title/ Role:

Thank you for agreeing to participate in this interview. As discussed via email/ telephone, this research is about nurse practitioners (NPs) and pharmacist prescribers (PPs) in primary health care (PHC). Specifically, it is about how their roles form and lead to changes in patient and provider outcomes. These health providers work at advanced levels of practice. They provide a range of services within medical centres and hospitals including running group clinics, or providing health care services to individual patients.

Your views on NPs/ PPs as a **patient** are unique. I will be recording this interview. If at any time you would like to stop, or for me to turn off the recording device, please let me know. The interview will take no longer than 30 minutes. Do you have any questions at this point?

What is the role of NPs/ PPs in your PHC practice?

Prompts:

Can you please provide some examples of their role in your care?

What reasons do you have for using NP/ PP services over other available care providers?

How does their role differ from what you expected?

Prompts:

Positive factors affecting the consultation process

Negative factors affecting the consultation process

How do these factors affect consultations?

What impact does your NP/ PP have on your treatment?

Prompts:

What do you most value about NP/ PP consultations?

How does this differ from other consultations you have had?

How does the NP/ PP change your access to care?

Wrap up:

Is there anything else that you would like to add?

Thank you very much for the time you have spent talking to me today, I appreciated hearing your views on this workforce.

## APPENDIX 4: TRANSCRIBER CONFIDENTIALITY FORM



Nurse practitioners and pharmacist prescribers in primary health care  
*A realist evaluation of the New Zealand experience*

### TRANSCRIBING CONFIDENTIALITY AGREEMENT

I, \_\_\_\_\_, have read the information sheet sent to participants of this research and understand the nature of the research. I agree to transcribe the audio recordings for this research. I agree to ensure that recordings I transcribe remain confidential to \_\_\_\_\_, her supervisors, and myself.

I agree to take the following precautions:

1. ensure that no person, other than \_\_\_\_\_, hears the recording.
2. ensure that I use a password-protected computer and that no other person has access to my account.
3. ensure that all hand-written material is stored in a locked drawer.
4. delete files relevant to this research from my computer and from any back-up devices once the transcription has been completed.
5. not discuss any aspect of the recording with anyone except \_\_\_\_\_.
6. maintain confidentiality of the identities of all participants and the information they provide.

Transcriber Signature \_\_\_\_\_  
Transcriber Name \_\_\_\_\_  
Date \_\_\_\_\_  
Contact Details \_\_\_\_\_

With thanks,

Tara Officer (Researcher) | PhD Candidate, Victoria University | \_\_\_\_\_

## APPENDIX 5: ETHICS APPROVAL

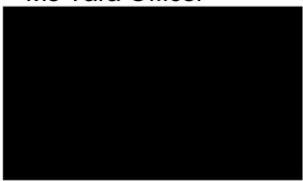


Health and Disability Ethics Committees



Monday, 2 November 2015

Ms Tara Officer



Dear Ms Officer,

Study title:	Nurse practitioners and pharmacist prescribers in primary health care: A realist evaluation of the New Zealand experience
--------------	---

Thank you for emailing HDEC a completed scope of review form on 02 November 2015. The Secretariat has assessed the information provided in your form and supporting documents against the Standard Operating Procedures.

Your study will not require submission to HDEC, as on the basis of the information you have submitted, it does not appear to be within the scope of HDEC review. This scope is described in section three of the Standard Operating Procedures for Health and Disability Ethics Committees.

Your project is a minimal-risk observational study that will involve policy professionals, patients, and health providers having an interview regarding their views on nurse practitioners and pharmacist prescribers. Your study does not require accessing health information without consent, including for recruitment of participants, participants who will not give informed consent, vulnerable participants, or the use of human tissue.

Minimal-risk observational studies: An observational study requires HDEC review only if the study involves more than minimal risk (that is, potential participants could reasonably be expected to regard the probability and magnitude of possible harms resulting from their participation in the study to be greater than those encountered in those aspects of their everyday life that relate to the study).

For the avoidance of doubt, an observational study always involves more than minimal risk if it involves one or more of the following:

- one or more participants who will not have given informed consent to participate, or
- one or more participants who are vulnerable (that is, who have restricted capability to make independent decisions about their participation in the study),
- standard treatment being withheld from one or more participants, or
- the storage, preservation or use of human tissue without consent, or
- the disclosure of health information without authorisation.

If you consider that our advice on your project being out of scope is incorrect please contact us as soon as possible giving reasons for this.

This letter does not constitute ethical approval or endorsement for the activity described in your application, but may be used as evidence that HDEC review is not required for it.

Please note, your locality may have additional ethical review policies, please check with your locality. If your study involves a DHB, you must contact the DHB's research office before you begin. If your study involves a university or polytechnic, you must contact its institutional ethics committee before you begin.

Please don't hesitate to contact us for further information.

Yours sincerely,

A solid black rectangular box redacting the signature of the sender.

Fox Swindells  
Advisor  
Health and Disability Ethics Committees

A solid black rectangular box redacting the contact information of the sender.

Phone  
Email



## MEMORANDUM

TO	Tara Officer
COPY TO	Jackie Cumming
FROM	AProf Susan Corbett, Convener, Human Ethics Committee
DATE	2 December 2015
PAGES	1
SUBJECT	<b>Ethics Approval: 22388</b> Nurse practitioners and pharmacist prescribers in primary health care: A realist evaluation of the New Zealand experience

Thank you for your application for ethical approval, which has now been considered by the Standing Committee of the Human Ethics Committee.

Your application has been approved from the above date and this approval continues until 16 June 2017. If your data collection is not completed by this date you should apply to the Human Ethics Committee for an extension to this approval.

Best wishes with the research.

Kind regards



Susan Corbett  
Convener, Victoria University Human Ethics Committee

Phone

Email

## MEMORANDUM

TO	Tara Officer
COPY TO	
FROM	AProf Susan Corbett, Convener, Human Ethics Committee
DATE	29 April 2016
PAGES	1
SUBJECT	<b>Ethics Approval: 22388</b> Nurse practitioners and pharmacist prescribers in primary health care: A realist evaluation of the New Zealand experience

Thank you for your request to amend your ethics approval. This has now been considered and the request granted.

Your application has approval until 16 June 2017. If your data collection is not completed by this date you should apply to the Human Ethics Committee for an extension to this approval.

Best wishes with the research.

Kind regards

Susan Corbett

Convener, Victoria University Human Ethics Committee

Phone

Email

## MEMORANDUM

TO	Tara Officer
COPY TO	Prof Jackie Cumming
FROM	AProf Susan Corbett, Convener, Human Ethics Committee
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## APPENDIX 6: ADVANCED PRACTITIONER TIMELINE

The legislative and policy context behind advanced practitioner creation provide useful background to this dissertation. The following timeline illustrates NP and PP policy creation and legislative changes. The left-hand column shows NP development, and the right, PP development. The centre column documents changes in health system strategic direction, and common legislative changes. Chapter 4 (section 4.2) more fully explores the chronology of advanced practitioner expansion in New Zealand.

NURSE PRACTITIONERS		PHARMACIST PRESCRIBERS
	<b>1986</b>	
First discussions of NP roles in New Zealand		
	<b>1994</b>	
<i>Prescribing rights in New Zealand: A public discussion paper published</i>		
	<b>1996</b>	
Working group established by MOH to consider issues relevant to instituting restricted prescribing rights for nurses		
	<b>1997</b>	
Draft discussion document published on extending limited prescribing rights to registered nurses		
	<b>1998</b>	
Minister of Health announced establishment of a Ministerial Taskforce on Nursing Report of the Ministerial Taskforce on Nursing: 'Releasing the Potential of Nursing' published. NZNO withdrew from Taskforce prior to publication MOH established working group for aged-care and child-family health scopes of practice. Followed by consultation document Minister of Health announced intention to introduce an amendment to the Medicines Act (1981) enabling nurse prescribing Nurse Executives of New Zealand published 'Developing and supporting advanced practice roles: Clinical nurse specialist, nurse practitioner'		Pharmacy profession signalled desires for advanced practitioners
	<b>1999</b>	
NCNZ published nurse prescribing framework		
<i>Medicines Amendment Act (1999) introduced designated prescribers</i>		
	<b>2000</b>	
<i>New Zealand Health Strategy came into effect</i>		



NURSE PRACTITIONERS		PHARMACIST PRESCRIBERS
	<b>2001</b>	
Medicines (Designated Prescriber: Nurses Practising in Aged Care and Child Family Health) Regulations 2001 introduced The first NP is registered		
<i>New Prescribers Advisory Committee established New Zealand Primary Health Care Strategy came into effect</i>		
	<b>2002</b>	
Nurse Practitioner Advisory Committee of New Zealand (NPAC-NZ) established		
	<b>2003</b>	
Rural NP scholarships offered		Feedback from pharmacy profession confirmed desire for future advanced pharmacist scope
	<b>2004</b>	
		Pharmacy Sector Action Group ten year vision for pharmacist practice made special mention of introducing pharmacist prescribing roles
	<b>2005</b>	
Regulations allowing 'child family' and 'aged care' prescribing revoked and replaced with regulations granting NP designated prescriber status NP Employment and Development Working Party established leading to DHB New Zealand NP Facilitation programme NCNZ statistics showed only 17 out of 35 NP applications successful		MOH anticipated pharmacist prescribing application as designated prescribers
	<b>2006</b>	
<i>New Prescribers Advisory Committee disbanded</i>		
	<b>2007</b>	
Work began to identify and remove legislative barriers to NP practice		PCNZ released consultation documents for two scopes of advanced pharmacist practice
	<b>2009</b>	
<i>HWNZ assumed role of New Prescribers Advisory Committee</i>		
	<b>2010</b>	
NPAC-NZ started advocating for NP "registrar" or "intern" training programme		PCNZ submitted applications to HWNZ to allow designated prescriptive authority (independent prescribing) for suitably qualified pharmacist HWNZ board agreed in principle to run PP demonstration sites
	<b>2012</b>	
		HWNZ provided informal approval of the PP demonstration project
	<b>2013</b>	
		Medicines (Designated Pharmacist Prescriber) Regulations 2013 introduced

NURSE PRACTITIONERS	PHARMACIST PRESCRIBERS
NPs became authorised prescribers	<b>2014</b> PP working party created to discuss issues of PP role sustainability, employment streams, and access to sites of employment No new PP candidates took up training in 2014
	<b>2015</b> ‘Implementing Medicines New Zealand 2015 to 2020’ action plan mentioned the PP role in enabling shared care, optimal medicines use in older populations or those with long-term conditions, and removing barriers to access
Medicines (Designated Prescriber—Registered Nurses) Regulations 2016 commence (trials of types of prescribers underway in 2017) \$846,000 NP training programme pilot funded by HWNZ and provided at two schools of nursing – training programme to align clinical education and employer support The Health Practitioners (Replacement of Statutory References to Medical Practitioners) Bill passed, reducing legislative barriers for NPs	<b>2016</b> ‘Pharmacy Action Plan 2016-2020’ published, emphasised the PP role as part of medicines management and highlighted key actions by DHBs, the MOH, and the wider sector to facilitate role uptake
<i>2016 New Zealand Health Strategy comes into effect</i>	
NP scope of practice broadened, removing requirement that NPs register in a specific area of practice NCNZ developed new education programme standards for NP training	<b>2017</b> University of Otago School of Pharmacy chose not to run PP training in 2018

## REFERENCES

- Adams, S., Carryer, J., & Wilkinson, J. (2017). *Establishing nurse practitioners (NPs) in rural health in New Zealand: An institutional ethnography*. Paper presented at the Second Critical Perspectives in Nursing and Health Care International Conference, Sydney. <http://sydney.edu.au/nursing/pdfs/critical-perspectives/adams-sue-establishing.pdf>
- Aronson, J. K. (2006). A prescription for better prescribing. *British Journal of Clinical Pharmacology*, *61*(5), 487-491. doi: 10.1111/j.1365-2125.2006.02649.x
- Ashton, T. (2010). Strategies to overcome workforce shortages. *Health Policy Monitor*. Retrieved 10 April, 2014, from [http://hpm.org/en/Surveys/The\\_University\\_of\\_Auckland\\_-\\_New\\_Zealand/15/Strategies\\_to\\_overcome\\_workforce\\_shortages.html](http://hpm.org/en/Surveys/The_University_of_Auckland_-_New_Zealand/15/Strategies_to_overcome_workforce_shortages.html)
- Asselin, M. E. (2003). Insider research: Issues to consider when doing qualitative research in your own setting. *Journal for Nurses in Staff Development*, *19*(2), 99-103.
- Astbury, B. (2013). Some reflections on Pawson's Science of Evaluation: A Realist Manifesto. *Evaluation*, *19*(4), 383-401. doi: 10.1177/1356389013505039
- Astbury, B., & Leeuw, F. L. (2010). Unpacking black boxes: Mechanisms and theory building in evaluation. *American Journal of Evaluation*, *31*(3), 363-381. doi: 10.1177/1098214010371972
- Ball, J. (2005). Maxi nurses. Advanced and specialist nursing roles: Results from a survey of RCN members in advanced and specialist nursing roles. London, United Kingdom: Royal College of Nursing.
- Bascand, G. (2012). National population projections: 2011 (base)–2061. Retrieved 15 April, 2014, from [http://www.stats.govt.nz/browse\\_for\\_stats/population/estimates\\_and\\_projections/NationalPopulationProjections\\_HOTP2011.aspx](http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationProjections_HOTP2011.aspx)
- Bazeley, P. (2013). *Qualitative data analysis: Practical strategies* (J. Seaman Ed.). London, United Kingdom: SAGE Publications.
- Befani, B., Ledermann, S., & Sager, F. (2007). Realistic evaluation and QCA: Conceptual parallels and an empirical application. *Evaluation*, *13*(2), 171-192. doi: 10.1177/1356389007075222
- Bhanbhro, S., Drennan, V., Grant, R., & Harris, R. (2011). Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: A systematic review of literature. *BMC Health Services Research*, *11*(1), 330-339. doi: 10.1186/1472-6963-11-330
- Bhaskar, R. (2013). *A realist theory of science*. London, United Kingdom: Taylor & Francis.
- Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., James, V., Lynn, J., Marsden, E., Murphy, E., Ratcliffe, J., Ward, P., & Woolsey, I. (2008). An evaluation of supplementary prescribing in nursing and pharmacy. London, United Kingdom: Department of Health.
- Blamey, A., & Mackenzie, M. (2007). Theories of change and realistic evaluation: Peas in a pod or apples and oranges? *Evaluation*, *13*(4), 439-455. doi: 10.1177/1356389007082129
- Blenkinsopp, A., Tann, J., Evans, A., & Grime, J. (2008). Opportunity or threat? General practitioner perceptions of pharmacist prescribing. *International Journal of Pharmacy Practice*, *16*(1), 29-34.
- Bonner, A., & Tolhurst, G. (2002). Insider-outsider perspectives of participant observation. *Nurse Researcher*, *9*(4), 7-19.

- Bonsall, K., & Cheater, F. M. (2008). What is the impact of advanced primary care nursing roles on patients, nurses and their colleagues? A literature review. *International Journal of Nursing Studies*, 45(7), 1090-1102. doi: 10.1016/j.ijnurstu.2007.07.013
- Bourgeault, I., Kuhlmann, E., Neiterman, E., & Wrede, S. (2008). How can optimal skill mix be effectively implemented and why? Tallinn, Estonia: World Health Organization.
- Bourne, R. S., Baqir, W., & Onatade, R. (2016). Pharmacist independent prescribing in secondary care: Opportunities and challenges. *International Journal of Clinical Pharmacy*, 38(1), 1-6. doi: 10.1007/s11096-015-0226-9
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40.
- Bowskill, D., Timmons, S., & James, V. (2013). How do nurse prescribers integrate prescribing in practice: Case studies in primary and secondary care. *Journal of Clinical Nursing*, 22(13-14), 2077-2086.
- Bradley, E., Hynam, B., & Nolan, P. (2007). Nurse prescribing: Reflections on safety in practice. *Social Science and Medicine*, 65(3), 599-609. doi: 10.1016/j.socscimed.2007.03.051
- Brady, J. R. (2013). *A study of nurse practitioner job satisfaction in Alaska* (master's thesis). University of Alaska Anchorage.
- Brash, J. (1986). The independent nurse practitioner in New Zealand: A discussion paper. Wellington, New Zealand: Department of Health, Nursing Section, Workforce Development.
- Bryant-Lukosius, D., & DiCenso, A. (2004). A framework for the introduction and evaluation of advanced practice nursing roles. *Journal of Advanced Nursing*, 48(5), 530-540.
- Bryant-Lukosius, D., DiCenso, A., Browne, G., & Pinelli, J. (2004). Advanced practice nursing roles: Development, implementation and evaluation. *Journal of Advanced Nursing*, 48(5), 519-529. doi: 10.1111/j.1365-2648.2004.03234.x
- Bryant-Lukosius, D., Spichiger, E., Martin, J., Stoll, H., Kellerhals, S. D., Fliedner, M., Grossmann, F., Henry, M., Herrmann, L., Koller, A., Schwendimann, R., Ulrich, A., Weibel, L., Callens, B., & De Geest, S. (2016). Framework for evaluating the impact of advanced practice nursing roles. *Journal of Nursing Scholarship*, 48(2), 201-209. doi: 10.1111/jnu.12199
- Buchan, J., & Calman, L. (2005). Skill-mix and policy change in the health workforce: Nurses in advanced roles. *OECD Health Working Papers* (Vol. 17). Paris, France: Organisation for Economic Co-operation and Development, Directorate For Employment, Labour And Social Affairs.
- Byng, R., Norman, I., & Redfern, S. (2005). Using realistic evaluation to evaluate a practice-level intervention to improve primary healthcare for patients with long-term mental illness. *Evaluation*, 11(1), 69-93. doi: 10.1177/1356389005053198
- Callister, P., Badkar, J., & Didham, R. (2008). Who are New Zealand's doctors? Gender, migration and changing living arrangements. *Institute of Policy Studies working paper 08/06*. Wellington, New Zealand: Institute of Policy Studies, Victoria University.
- CareersNZ. (2017a). Master of Nursing Science from Victoria University of Wellington. Retrieved 1 December, 2017, from [https://www.careers.govt.nz/qualifications/view/VI00X5/7004#tab\\_key\\_information\\_for\\_students](https://www.careers.govt.nz/qualifications/view/VI00X5/7004#tab_key_information_for_students)
- CareersNZ. (2017b). Postgraduate Certificate in Clinical Pharmacy from University of Auckland. Retrieved 1 December, 2017, from [https://www.careers.govt.nz/qualifications/view/AU5522/7001#tab\\_key\\_information\\_for\\_students](https://www.careers.govt.nz/qualifications/view/AU5522/7001#tab_key_information_for_students)

- CareersNZ. (2017c). Postgraduate Diploma in Clinical Pharmacy from University of Auckland. Retrieved 1 December, 2017, from <https://www.careers.govt.nz/qualifications/view/AU5521/7001>
- Carey, N., & Courtenay, M. (2010). An exploration of the continuing professional development needs of nurse independent prescribers and nurse supplementary prescribers who prescribe medicines for patients with diabetes. *Journal of Clinical Nursing, 19*(1-2), 208-216. doi: 10.1111/j.1365-2702.2009.02943.x
- Carey, N., Stenner, K., & Courtenay, M. (2014). An exploration of how nurse prescribing is being used for patients with respiratory conditions across the east of England. *BMC Health Service Research, 14*(27).
- Carryer, J., & Adams, S. (2017). Nurse practitioners as a solution to transformative and sustainable health services in primary health care: A qualitative exploratory study. *Collegian, 24*(6), 525-531. doi: 10.1016/j.colegn.2016.12.001
- Carryer, J., Boddy, J., & Budge, C. (2011). Rural nurse to nurse practitioner: An ad hoc process. *Journal of Primary Health Care, 3*(1), 23-28.
- Carryer, J., Gardner, G., Dunn, S., & Gardner, A. (2007). The core role of the nurse practitioner: Practice, professionalism and clinical leadership. *Journal of Clinical Nursing, 16*(10), 1818-1825. doi: 10.1111/j.1365-2702.2007.01823.x
- Carter, N., Martin-Misener, R., Kilpatrick, K., Kaasalainen, S., Donald, F., Bryant-Lukosius, D., Harbman, P., Bourgeault, I., & DiCenso, A. (2010). The role of nursing leadership in integrating clinical nurse specialists and nurse practitioners in healthcare delivery in Canada. *Nursing Leadership, 23*, 167-185.
- Cassie, F. (2013). NPs delighted to gain same prescribing status as midwives and GPs. *Nursing Review, December 2013/ January 2014*, 21.
- CHSRP, & University of Auckland. (2006). Development of nurse practitioners. *Health Policy Monitor*. Retrieved 2 December, 2017, from [http://hpm.org/en/Surveys/The\\_University\\_of\\_Auckland\\_-\\_New\\_Zealand/08/Development\\_of\\_nurse\\_practitioners.html](http://hpm.org/en/Surveys/The_University_of_Auckland_-_New_Zealand/08/Development_of_nurse_practitioners.html)
- Clinical Advisory Pharmacists Association. (2015, 21 November). *Pharmacist prescribers' workshop – notes*. Paper presented at the Pharmacist prescribers' workshop, Wellington, New Zealand.
- Clinical Advisory Pharmacists Association. (n.d.). Mission statement. Retrieved 15 August, 2017, from <http://capanz.org/mission-statement/>
- College of Nurses Aotearoa New Zealand. (2013). Nurse Practitioners New Zealand. Retrieved 21 February, 2015, from <http://www.nurse.org.nz/npnz-nurse-practitioners-nz.html>
- College of Nurses Aotearoa New Zealand. (2017). Frequently asked Q & As for new & not so new NPs ... updated 23 Feb 2017. Retrieved 7 March, 2017, from <http://www.nurse.org.nz/user/inline/1700/FAQs%20%20NPNZ%20%20March%2023%202017.pdf>
- Collins, K., Jones, M. L., McDonnell, A., Read, S., Jones, R., & Cameron, A. (2000). Do new roles contribute to job satisfaction and retention of staff in nursing and professions allied to medicine? *Journal of Nursing Management, 8*, 3-12.
- Contandriopoulos, D., Brousselle, A., Dubois, C.-A., Perroux, M., Beaulieu, M.-D., Brault, I., Kilpatrick, K., D'Amour, D., & Sansgter-Gormley, E. (2015). A process-based framework to guide nurse practitioners integration into primary healthcare teams: Results from a logic analysis. *BMC Health Services Research, 15*(1). doi: 10.1186/s12913-015-0731-5

- Coombes, I., Wheeler, A., & Hale, A. (2011). Evaluation of effectiveness and relevance of safe medication practice tutorials as a course for pharmacist prescribers in New Zealand. *Pharmacy Education*, *11*(1), 95-98.
- Cooper, R. J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., & Ward, P. (2008). Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature. *Health Policy*, *85*(3), 277-292.
- Cope, L. C., Abuzour, A. S., & Tully, M. P. (2016). Nonmedical prescribing: Where are we now? *Therapeutic Advances in Drug Safety*, *7*(4), 165-172. doi: 10.1177/2042098616646726
- Corbin Dwyer, S., & Buckle, J. L. (2009). The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, *8*(1), 54-63.
- Coryn, C. L., Noakes, L. A., Westine, C. D., & Schröter, D. C. (2011). A systematic review of theory-driven evaluation practice from 1990 to 2009. *American Journal of Evaluation*, *32*(2), 199-226.
- Coull, A., Murray, I., Turner-Halliday, F., & Watterson, A. (2013). The expansion of nurse prescribing in Scotland: An evaluation. *British Journal of Community Nursing*, *18*(5), 234-242.
- Courtenay, M., Carey, N., & Burke, J. (2007). Independent extended and supplementary nurse prescribing practice in the UK: A national questionnaire survey. *International Journal of Nursing Studies*, *44*(7), 1093-1101.
- Courtenay, M., Carey, N., & Stenner, K. (2009). Nurse prescriber-patient consultations: A case study in dermatology. *Journal of Advanced Nursing*, *65*(6), 1207-1217.
- Courtenay, M., Carey, N., & Stenner, K. (2011). Non medical prescribing leads views on their role and the implementation of non medical prescribing from a multi-organisational perspective. *BMC Health Services Research*, *11*(1).
- Courtenay, M., Carey, N., & Stenner, K. (2012). An overview of non medical prescribing across one strategic health authority: A questionnaire survey. *BMC Health Services Research*, *12*. doi: 10.1186/1472-6963-12-138
- Creech, W. (1999). New prescribing committee will help with safeguards on new prescribing. Retrieved 27 September, 2017, from <https://www.beehive.govt.nz/release/new-prescribing-committee-will-help-safeguards-new-prescribing>
- Cullen, A. (2013). The New Zealand medical workforce in 2013 and 2014. Retrieved 18 September, 2017, from <https://www.mcnz.org.nz/assets/News-and-Publications/Workforce-Surveys/2013-2014.pdf>
- Cumming, J., Raymont, A., Gribben, B., Horsburgh, M., Kent, B., McDonald, J., Mays, N., & Smith, J. (2005). Evaluation of the implementation and intermediate outcomes of the Primary Health Care Strategy: First report. Wellington, New Zealand: Health Services Research Centre.
- Currie, J., Chiarella, M., & Buckley, T. (2017). Collaborative arrangements and privately practising nurse practitioners in Australia: results from a national survey. *Australian Health Review*, *41*(5), 533-540. doi: 10.1071/AH16051
- Currie, J., Chiarella, M., & Buckley, T. (2018). Realist evaluation of privately practising nurse practitioners in Australia: Development and refinement of theories. *Collegian*. doi: 10.1016/j.colegn.2018.01.006
- Dalkin, S., Greenhalgh, J., Jones, D., Cunningham, B., & Lhussier, M. (2015). What's in a mechanism? Development of a key concept in realist evaluation. *Implementation Science*, *10*(49). doi: 10.1186/s13012-015-0237-x



- De Geest, S., Moons, P., Callens, B., Gut, C., Lindpaintner, L., & Spirig, R. (2008). Introducing advanced practice nurses/ nurse practitioners in health care systems: A framework for reflection and analysis. *Swiss Medical Weekly*, 138(43-44), 621-628.
- Delamaire, M.-L., & Lafortune, G. (2010). Nurses in advanced roles: A description and evaluation of experiences in 12 developed countries. *OECD Health Working Papers* (Vol. 54).
- DiCenso, A., Auffrey, L., Bryant-Lukosius, D., Donald, F., Martin-Misener, R., Matthews, S., & Opsteen, J. (2007). Primary health care nurse practitioners in Canada. *Contemporary Nurse*, 26(1), 104-115.
- DiCenso, A., & Bryant-Lukosius, D. (2010). Clinical nurse specialists and nurse practitioners in Canada: A decision support synthesis. Ottawa, Canada: Canadian Health Services Research Foundation.
- DiCenso, A., Bryant-Lukosius, D., Martin-Misener, R., Donald, F., Abelson, J., Bourgeault, I., Kilpatrick, K., Carter, N., Kaasalainen, S., & Patricia, H. (2010). Factors enabling advanced practice nursing role integration in Canada. *Nursing Leadership*, 23(Special Issue), 211-238.
- DiCenso, A., & Matthews, S. (2005). Report on the integration of primary health care nurse practitioners into the province of Ontario. Ontario, Canada: Ministry of Health and Long-Term Care.
- Donald, F., Bryant-Lukosius, D., Martin-Misener, R., Kaasalainen, S., Kilpatrick, K., Carter, N., Harbman, P., Bourgeault, I., & DiCenso, A. (2010). Clinical nurse specialists and nurse practitioners: Title confusion and lack of role clarity. *Nursing Leadership*, 23(Special Issue), 189-210. doi: 10.12927/cjnl.2010.22276
- East, L., Knowles, K., Pettman, M., & Fisher, L. (2015). Advanced level nursing in England: Organisational challenges and opportunities. *Journal of Nursing Management*, 23(8), 1011-1019.
- Edwards, N., Rowan, M., Marck, P., & Grinspun, D. (2011). Understanding whole systems change in health care: The case of nurse practitioners in Canada. *Policy, Politics & Nursing Practice*, 12(1), 4-17. doi: 10.1177/1527154411403816
- Emmerton, L., Marriott, J., Bessell, T., Nissen, L., & Dean, L. (2005). Pharmacists and prescribing rights: Review of international developments. *Journal of Pharmacy & Pharmaceutical Sciences*, 8(2), 217-225.
- Expert Advisory Group on Primary Health Care Nursing. (2003). Investing in health: Whakatohutia te Oranga Tangata – A framework for activating primary health care nursing in New Zealand. Wellington, New Zealand: Ministry of Health.
- Faris, J. A., Douglas, M. K., Maples, D. C., Berg, L. R., & Thrailkill, A. (2010). Job satisfaction of advanced practice nurses in the Veterans Health Administration. *Journal of the American Academy of Nurse Practitioners*, 22(1), 35-44. doi: 10.1111/j.1745-7599.2009.00468.x
- Finlayson, M. P., Sheridan, N., & Cumming, J. (2009). Evaluation of the implementation and intermediate outcomes of the Primary Health Care Strategy second report: Nursing developments in primary health care 2001-2007. Wellington, New Zealand: Health Services Research Centre.
- Finlayson, M. P., Sheridan, N., Cumming, J., & Fowler, S. (2012). The impact of funding changes on the implementation of primary health care policy. *Primary Health Care Research & Development*, 13(2), 120-129. doi: 10.1017/S1463423611000363
- Flick, U. (2009). *An introduction to qualitative research* (4th ed.). London, United Kingdom: SAGE Publications.

- Gagan, M. J., Boyd, M., Wysocki, K., & Williams, D. J. (2014). The first decade of nurse practitioners in New Zealand: A survey of an evolving practice. *Journal of the American Association of Nurse Practitioners*, 26(11), 612-619. doi: 10.1002/2327-6924.12166
- Gagan, M. J., & Maybee, P. (2011). Patient satisfaction with nurse practitioner care in primary care settings. *Australian Journal of Advanced Nursing*, 28(4), 12-19.
- Gardner, G., Carryer, J., Gardner, A., & Dunn, S. (2006). Nurse practitioner competency standards: Findings from collaborative Australian and New Zealand research. *International Journal of Nursing Studies*, 43(5), 601-610. doi: 10.1016/j.ijnurstu.2005.09.002
- Giddings, L. S., & Grant, B. M. (2014). Mixed methods research for the novice researcher. *Contemporary Nurse*, 23(1), 3-11. doi: 10.5172/conu.2006.23.1.3
- Gould, O. N., Johnstone, D., & Wasylkiw, L. (2007). Nurse practitioners in Canada: Beginnings, benefits, and barriers. *Journal of the American Academy of Nurse Practitioners*, 19(4), 165-171. doi: 10.1111/j.1745-7599.2007.00210.x
- Greenhalgh, T., Humphrey, C., Hughes, J., Macfarlane, F., Butler, C., & Pawson, R. (2009). How do you modernize a health service? A realist evaluation of whole-scale transformation in London. *Milbank Quarterly*, 87(2), 391-416. doi: 10.1111/j.1468-0009.2009.00562.x
- Guirguis, L. M., Makowsky, M. J., Hughes, C. A., Sadowski, C. A., Schindel, T. J., & Yuksel, N. (2014). How have pharmacists in different practice settings integrated prescribing privileges into practice in Alberta? A qualitative exploration. *Journal of Clinical Pharmacy and Therapeutics*, 39(4), 390-398. doi: 10.1111/jcpt.12165
- Hacking, S., & Taylor, J. (2010). An evaluation of the scope and practice of non medical prescribing in the North West For NHS North West. Lancashire, United Kingdom: University of Central Lancashire.
- Hansen-Turton, T., & Hughes, F. (2010). The evolution and future of nurse practitioners in New Zealand. In E. Sullivan-Marx, D. McGivern, J. Fairman, & S. Greenberg (Eds.), *Nurse practitioners: The evolution and future of advanced practice* (5th ed., pp. 345-361). New York: Springer Publishing Company.
- Harvey, C., Papps, E., & Roberts, J. (2015a). Nurse practitioners and their impact on primary health care delivery. Napier, New Zealand: School of Nursing, Eastern Institute of Technology.
- Harvey, C., Papps, E., & Roberts, J. (2015b). Obstacles that prevent nurse practitioners in New Zealand fulfilling their roles. *Primary Health Care*, 25(5), 24-29.
- Heale, R. (2012). Overcoming barriers to practice: A nurse practitioner-led model. *Journal of the American Academy of Nurse Practitioners*, 24(6), 358-363. doi: 10.1111/j.1745-7599.2012.00737.x
- Health Education North West. (2015). Non-medical prescribing (NMP): An economic evaluation. Retrieved 9 October, 2017, from <https://www.hee.nhs.uk/sites/default/files/documents/Agenda%20Item%207%20-%20i5%20Health%20-%20NMP%20Economic%20Evaluation.pdf>
- Health Practitioners Competence Assurance Act 2003. Retrieved from <http://www.legislation.govt.nz/act/public/2003/0048/latest/DLM203312.html>
- Health Workforce New Zealand. (2010). *Minutes of board meeting: Application for pharmacist prescriber (new scope of practice) to become designated prescribers*, Auckland, New Zealand.
- Hedström, P., & Swedberg, R. (1998). Social mechanisms: An introductory essay. In P. Hedström & R. Swedberg (Eds.), *Social mechanisms: An analytical approach to social theory* (pp. 1-31). Cambridge, United Kingdom: Cambridge University Press.



- Hewitt, G., Sims, S., & Harris, R. (2012). The realist approach to evaluation research: An introduction. *International Journal of Therapy and Rehabilitation, 19*(5), 250-259.
- Hoare, K. J., Mills, J., & Francis, K. (2012). The role of government policy in supporting nurse-led care in general practice in the United Kingdom, New Zealand and Australia: An adapted realist review. *Journal of Advanced Nursing, 68*(5), 963-980. doi: 10.1111/j.1365-2648.2011.05870.x
- Hobson, R. J. (2008). *Investigation into early implementation of non medical prescribing in the UK* (doctoral thesis). University of Bath, Bath, United Kingdom.
- Hobson, R. J., Scott, J., & Sutton, J. (2010). Pharmacists and nurses as independent prescribers: Exploring the patient's perspective. *Family Practice, 27*(1), 110-120. doi: 10.1093/fampra/cmp070
- Hodgson, P. (2005, 7 December). Nurse practitioner prescribing rights take effect. Retrieved 27 January, 2017, from <https://www.beehive.govt.nz/release/nurse-practitioner-prescribing-rights-take-effect>
- Hollinghurst, S., Horrocks, S., Anderson, E., & Salisbury, C. (2006). Comparing the cost of nurse practitioners and GPs in primary care: Modelling economic data from randomised trials. *British Journal of General Practice, 56*(528), 530-535.
- Horrocks, S., Anderson, E., & Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *British Medical Journal, 324*, 819-823.
- Hoti, K., Hughes, J., & Sunderland, B. (2011). Pharmacy clients' attitudes to expanded pharmacist prescribing and the role of agency theory on involved stakeholders. *International Journal of Pharmacy Practice, 19*(1), 5-12. doi: 10.1111/j.2042-7174.2010.00077.x
- Hughes, F., & Carryer, J. (2002). Nurse practitioners in New Zealand. Wellington, New Zealand: Ministry of Health.
- Hughes, F., & Lockyer, H. (2004). Evidence and engagement in the introduction of nurse prescribing in New Zealand. *Nurse Prescribing, 2*(3), 131-136.
- Ineson, S. (2011). Update and short version of the report on retention of doctors in their "third age" for Health Workforce New Zealand. Wellington, New Zealand: Health Workforce New Zealand.
- Jacobs, S. H. (2005). *Advanced nursing practice and the nurse practitioner: New Zealand nursing's professional project in the late 20th century* (doctoral thesis). Massey University, Palmerston North, New Zealand.
- Jacobs, S. H., & Boddy, J. M. (2008). The genesis of advanced nursing practice in New Zealand: Policy, politics and education. *Nursing Praxis in New Zealand, 24*(1), 11-22.
- Jagosh, J., Macaulay, A. C., Pluye, P., Salsberg, J., Bush, P. L., Henderson, J., Sirett, E., Wong, G., Cargo, M., Herbert, C. P., Seifer, S. D., Green, L. W., & Greenhalgh, T. (2012). Uncovering the benefits of participatory research: Implications of a realist review for health research and practice. *Milbank Quarterly, 90*(2), 311-346.
- Kacel, B., Miller, M., & Norris, D. (2005). Measurement of nurse practitioner job satisfaction in a midwestern state. *Journal of the American Academy of Nurse Practitioners, 17*(1), 27-32. doi: 10.1111/j.1041-2972.2005.00007.x
- Kazi, M. A. F. (2003). *Realist evaluation in practice*. London, United Kingdom: SAGE Publications.
- King, A. (2000). *The New Zealand Health Strategy*. Wellington, New Zealand: Ministry of Health.

- King, A. (2001a, 11 September). Health Minister delighted nurse prescribing is underway. Retrieved 27 January, 2017, from <https://www.beehive.govt.nz/release/health-minister-delighted-nurse-prescribing-underway>
- King, A. (2001b). *The Primary Health Care Strategy*. Wellington, New Zealand: Ministry of Health.
- Kinnersley, P., Anderson, E., Parry, K., Clement, J., Archard, L., Turton, P., Stainthorpe, A., Fraser, A., Butler, C. C., & Rogers, C. (2000). Randomised controlled trial of nurse practitioner versus general practitioner care for patients requesting “same day” consultations in primary care. *British Medical Journal*, *320*(7241), 1043-1048. doi: 10.1136/bmj.320.7241.1043
- Kumar, R. (2009, December). Prescribing – Let’s do it now! *Pharmacy Today*.
- Latter, S., Blenkinsopp, A., Smith, A., Chapman, S., Tinelli, M., Gerard, K., Little, P., Celino, N., Granby, T., Nicholls, P., & Dorer, G. (2011). Evaluation of nurse and pharmacist independent prescribing. Southampton, United Kingdom: University of Southampton Keele University on behalf of Department of Health.
- Latter, S., & Courtenay, M. (2004). Effectiveness of nurse prescribing: A review of the literature. *Journal of Clinical Nursing*, *13*(1), 26-32. doi: 10.1046/j.1365-2702.2003.00839.x
- Latter, S., Maben, J., Myall, M., Courtenay, M., Young, A., & Dunn, N. (2004). An evaluation of extended formulary independent nurse prescribing: Final report. Southampton, United Kingdom: Policy Research Programme, Department of Health & University of Southampton.
- Latter, S., Maben, J., Myall, M., & Young, A. (2007). Evaluating nurse prescribers’ education and continuing professional development for independent prescribing practice: Findings from a national survey in England. *Nurse Education Today*, *27*(7), 685-696. doi: 10.1016/j.nedt.2006.10.002
- Laurant, M., Harmsen, M., Wollersheim, H., Grol, R., Faber, M., & Sibbald, B. (2009). The impact of nonphysician clinicians: Do they improve the quality and cost-effectiveness of health care services? *Medical Care Research and Review*, *66*(6 Suppl), 36S-89S. doi: 10.1177/1077558709346277
- Le, P. P., Braunack-Mayer, A., & Laurence, C. (2017). Collaborative pharmacist prescribing within the opioid substitution treatment program in South Australia: Patient and pharmacist views. *Research in Social & Administrative Pharmacy*. doi: 10.1016/j.sapharm.2017.02.017
- Leal, S., Glover, J. J., Herrier, R. N., & Felix, A. (2004). Improving quality of care in diabetes through a comprehensive pharmacist-based disease management program. *Diabetes Care*, *27*(12), 2983-2984.
- Lenz, E. R., Mundinger, M. O., Kane, R. L., Hopkins, S. C., & Lin, S. X. (2004). Primary care outcomes in patients treated by nurse practitioners or physicians: Two-year follow-up. *Medical Care Research and Review*, *61*(3), 332-351. doi: 10.1177/1077558704266821
- Macfarlane, F., Greenhalgh, T., Humphrey, C., Hughes, J., Butler, C., & Pawson, R. (2009). A new workforce in the making? A case study of strategic human resource management in a whole-system change effort in healthcare. *Journal of Health Organization and Management*, *25*(1), 55-72. doi: 10.1108/14777261111116824
- Mackay, B. (2003). General practitioners’ perceptions of the nurse practitioner role: An exploratory study. *New Zealand Medical Journal*, *116*(1170).
- MacLeod-Glover, N. (2011). An explanatory policy analysis of legislative change permitting pharmacists in Alberta, Canada, to prescribe. *International Journal of Pharmacy Practice*, *19*(1), 70-78. doi: 10.1111/j.2042-7174.2010.00074.x

- Main, R., Dunn, N., & Kendall, K. (2007). 'Crossing professional boundaries': Barriers to the integration of nurse practitioners in primary care. *Education for Primary Care, 18*, 480-487.
- Manzano, A. (2014). *The craft of interviewing in realist evaluation (Presentation)*. Paper presented at the European Evaluation Society, Dublin, Ireland.
- Manzano, A. (2016). The craft of interviewing in realist evaluation. *Evaluation, 22*(3), 342-360. doi: 10.1177/1356389016638615
- Marchal, B., Dedzo, M., & Kegels, G. (2010). A realist evaluation of the management of a well-performing regional hospital in Ghana. *BMC Health Service Research, 10*(24). doi: 10.1186/1472-6963-10-24
- Marchal, B., van Belle, S., van Olmen, J., Hoerée, T., & Kegels, G. (2012). Is realist evaluation keeping its promise? A review of published empirical studies in the field of health systems research. *Evaluation, 18*(2), 192-212. doi: 10.1177/1356389012442444
- Marsden, J., Dolan, B., & Holt, L. (2003). Nurse practitioner practice and deployment: Electronic mail Delphi study. *Journal of Advanced Nursing, 43*(6), 595-605.
- Martin-Misener, R., Downe-Wamboldt, B., Cain, E., & Girouard, M. (2009). Cost effectiveness and outcomes of a nurse practitioner-paramedic-family physician model of care: The Long and Brier Islands study. *Primary Health Care Research & Development, 10*(1), 14-25. doi: 10.1017/s1463423608000959
- Martin-Misener, R., Harbman, P., Donald, F., Reid, K., Kilpatrick, K., Carter, N., Bryant-Lukosius, D., Kaasalainen, S., Marshall, D. A., Charbonneau-Smith, R., & DiCenso, A. (2015). Cost-effectiveness of nurse practitioners in primary and specialised ambulatory care: Systematic review. *BMJ Open, 5*(6). doi: 10.1136/bmjopen-2014-007167
- Matthews, B., & Ross, L. (2010). *Research methods: A practical guide for the social sciences*. Essex, United Kingdom: Pearson Longman.
- Matthews, N. (2009). Māori research ethics [presentation]. Retrieved 2 July, 2015, from <http://webcast.massey.ac.nz/Mediasite/Play/2e8681eeaf3c415099fb17062bd2e833>
- Mays, N., & Pope, C. (1995). Qualitative research: Rigour and qualitative research. *British Medical Journal, 311*(6997), 109-112.
- Mays, N., & Pope, C. (2000). Qualitative research in health care: Assessing quality in qualitative research. *British Medical Journal, 320*, 50-52.
- McCann, L., Haughey, S., Parsons, C., Lloyd, F., Crealey, G., Gormley, G., & Hughes, C. (2015). A patient perspective of pharmacist prescribing: 'Crossing the specialisms-crossing the illnesses'. *Health Expectations, 18*(1), 58-68. doi: 10.1111/hex.12008
- McCann, L., Lloyd, F., Parsons, C., Gormley, G., Haughey, S., Crealey, G., & Hughes, C. M. (2012). "They come with multiple morbidities": A qualitative assessment of pharmacist prescribing. *Journal of Interprofessional Care, 26*(2), 127-133. doi: 10.3109/13561820.2011.642425
- McMillan, V. (2014, 17 December). Better sooner more care from your community pharmacist? *New Zealand Doctor*.
- McMurray, A., & Clendon, J. (2015). *Community health and wellness: Primary health care in practice* (5th ed.). New South Wales, Australia: Elsevier.
- Merton, R. K. (2007). On sociological theories of the middle range [1949]. In C. Calhoun, J. Gerteis, J. Moody, S. Pfaff, & I. Virk (Eds.), *Classical sociological theory* (2nd ed., pp. 448-459). Malden, Massachusetts: Blackwell Publishing.
- Minister of Health. (2016a). *New Zealand Health Strategy: Future direction*. Wellington, New Zealand: Ministry of Health.

- Minister of Health. (2016b). *New Zealand Health Strategy: Roadmap of actions 2016*. Wellington, New Zealand: Ministry of Health.
- Ministerial Taskforce on Nursing. (1998). *Report of the Ministerial Taskforce on Nursing: Releasing the potential of nursing*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (1996). *Extension of prescribing rights: The establishment of a working group to advise on the safety & quality issues associated with nurse prescribing (memorandum for the Minister of Health)*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (1997). *Extending limited prescribing rights to registered nurses: Draft discussion document*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (1998). *Release of nurse prescribing consultation document. Health Report*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2006). *Health workforce development: An overview*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2007). *Pros and cons of the two pathways to nurse practitioners becoming authorised prescribers. Health Report*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2012a). *Regulatory impact statement: Overview of required information. Medicines (Designated Prescriber: Pharmacists) Regulations: Agency disclosure statement*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2012b). *Social Policy Committee cabinet paper on designated prescribing rights for pharmacist prescribers. Health Report*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2012c). *Standing order guidelines*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2014a). *Annual report for the year ended 30 June 2014 including the Director-General of Health's annual report on the state of public health*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2014b). *Briefing to the Incoming Minister 2014*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2015a). *About primary health organisations*. Retrieved 15 March, 2015, from <http://www.health.govt.nz/our-work/primary-health-care/about-primary-health-organisations>
- Ministry of Health. (2015b). *Advice concerning the development and deployment of nurse practitioners and physician associates. Health Report*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2015c). *Implementing Medicines New Zealand 2015 to 2020*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2015d). *Meeting with chair, Health Workforce New Zealand and director. Ministry of Health Aide Memoire*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2015e, 21 August). *Phase II of the physician assistant demonstrations evaluation report*. Retrieved 15 October, 2016, from <http://www.health.govt.nz/publication/phase-ii-physician-assistant-demonstrations-evaluation-report>
- Ministry of Health. (2016a). *Health of the health workforce 2015*. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2016b). *Pharmacy action plan 2016–2020: Analysis of submissions*. Wellington, New Zealand: Ministry of Health.



- Ministry of Health. (2016c, 09 August). Registered nurse prescribing. Retrieved 15 October, 2016, from <http://www.health.govt.nz/our-work/nursing/developments-nursing/registered-nurse-prescribing>
- Ministry of Health. (2017a, 7 August). Changes to health practitioner status. Retrieved 24 August, 2017, from <http://www.health.govt.nz/about-ministry/legislation-and-regulation/changes-health-practitioner-status>
- Ministry of Health. (2017b). Pharmacist prescriber. Retrieved 28 September, 2017, from <http://www.health.govt.nz/our-work/health-workforce/new-roles-and-initiatives/established-initiatives/pharmacist-prescriber>
- Ministry of Health. (2017c, 27 July). Post-entry funding model: Submissions and updates. Retrieved 15 September, 2017, from <http://www.health.govt.nz/our-work/health-workforce/investment-and-purchasing/investing-new-zealands-future-health-workforce/post-entry-funding-model-submissions-and-updates>
- Ministry of Health, Nursing Council of New Zealand, DHBNZ, & NPAC-NZ. (2009). Nurse practitioners: A healthy future for New Zealand. Wellington, New Zealand: Ministry of Health.
- Moller, P., & Begg, E. (2005). Independent nurse prescribing in New Zealand. *Journal of the New Zealand Medical Association*, 118(1225), 10-13.
- Muller, K. (2013). Pharmacist prescriber practice plan considerations. Retrieved 22 June, 2015, from [http://www.pharmacycouncil.org.nz/cms\\_show\\_download.php?id=382](http://www.pharmacycouncil.org.nz/cms_show_download.php?id=382)
- Munding, M. O., Kane, R. L., Lenz, E. R., Totten, A. M., Tsai, W.-Y., Cleary, P. D., Friedewald, W. T., Siu, A. L., & Shelanski, M. L. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: A randomized trial. *Journal of the American Medical Association*, 283(1), 59-68. doi: 10.1001/jama.283.1.59
- Nancarrow, S. A., & Borthwick, A. M. (2005). Dynamic professional boundaries in the healthcare workforce. *Sociology of Health and Illness*, 27(7), 897-919. doi: 10.1111/j.1467-9566.2005.00463.x
- National Nursing Organisations. (2014). Report from the National Nursing Organisations to Health Workforce New Zealand.
- New Zealand Medical Association. (2013a). Non medical prescribing: Position statement. Wellington, New Zealand: New Zealand Medical Association.
- New Zealand Medical Association. (2013b). Principles of health workforce redesign. Retrieved 10 December, 2017, from [https://www.nzma.org.nz/\\_data/assets/pdf\\_file/0018/1458/Principles-of-Health-Workforce-Redesign-2013.pdf](https://www.nzma.org.nz/_data/assets/pdf_file/0018/1458/Principles-of-Health-Workforce-Redesign-2013.pdf)
- New Zealand Treasury. (2014). Briefing to Incoming Minister: Health. Wellington, New Zealand: New Zealand Treasury.
- Nissen, L., Kyle, G., Stowasser, D., Lum, E., Jones, A., McLean, C., & Gear, C. (2010). Non-medical prescribing: An exploration of likely nature of, and contingencies for, developing a nationally consistent approach to prescribing by non-medical health professionals. Queensland, Australia: National Health Workforce Planning and Research Collaboration.
- Norton, M. (2015a, 9 September). Pharmacist prescribers' course in jeopardy due to lack of support. *Pharmacy Today*.
- Norton, M. (2015b, June). PHO fast-tracks clinical pharmacist pilot. *Pharmacy Today*.
- Norton, M. (2016, 18 April). Health Minister launches health strategy, leaves out pharmacy prescribing. *Pharmacy Today*. Retrieved from <https://www.pharmacytoday.co.nz/news/2016/april-2016/18/health-minister-launches-health-strategy,-leaves-out-pharmacy-prescribing.aspx>

- Nurse Practitioner Employment and Development Working Party. (2006). Funding nurse practitioner training: A discussion paper. Wellington, New Zealand: Ministry of Health.
- Nursing Council of New Zealand. (2015). The New Zealand nursing workforce: A profile of nurse practitioners, registered nurses and enrolled nurses 2014-2015. Wellington, New Zealand: Nursing Council of New Zealand.
- Nursing Council of New Zealand. (2017a). Fees. Retrieved 1 December, 2017, from <http://www.nursingcouncil.org.nz/Fees>
- Nursing Council of New Zealand. (2017b). Nurse practitioner scope of practice: Guidelines for applicants. Wellington, New Zealand: Nursing Council of New Zealand.
- Nursing Council of New Zealand. (2017c). Nurse practitioner: Scope of practice for nurse practitioners. Retrieved 16 October, 2017, from <http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Nurse-practitioner>
- Nursing Council of New Zealand. (2017d). Nurse prescribing: Registered nurse prescribing. Retrieved 28 September, 2017, from <http://www.nursingcouncil.org.nz/Nurses/Nurse-Prescribing>
- Nursing Council of New Zealand. (n.d.). Consultations on nurse practitioner scope of practice 2014-2016. Retrieved 26 September, 2017, from <http://www.nursingcouncil.org.nz/Publications/Consultation-documents/Consultations-on-nurse-practitioner-scope-of-practice-2014-2016>
- Nursing Review. (2012, 1 July). NP champions to replace NPAC. Retrieved 16 December, 2017, from <http://archive.nursingreview.co.nz/issue/july-2012/np-champions-to-replace-npac/#.WjO1wTdx200>
- Nursing Review. (2016a, 20 October). New NP leader as NP numbers top 200. Retrieved 26 January, 2017, from <http://archive.nursingreview.co.nz/news-feed/2016/new-np-leader-as-np-numbers-top-200/#.WjO2Nzdx200>
- Nursing Review. (2016b, 2 November). Passing of long-awaited 'barriers' bill celebrated. Retrieved 1 December, 2017, from <http://archive.nursingreview.co.nz/news-feed/2016/passing-of-long-awaited-barriers-bill-celebrated/#.WYf2i-lLe00>
- Nursing Review. (2017, 18 May). Training of most NPs still being done 'on a shoestring'. *Nursing Review*. Retrieved 1 December, 2017, from <http://archive.nursingreview.co.nz/news-feed/2017/training-of-most-nps-still-being-done-on-a-shoestring/#.WYf2B-lLe00>
- Offredy, M., & Townsend, J. (2000). Nurse practitioners in primary care. *Family Practice*, 17(6), 564-569. doi: 10.1093/fampra/17.6.564
- Ogrinc, G., & Batalden, P. (2009). Realist evaluation as a framework for the assessment of teaching about the improvement of care. *Journal of Nursing Education*, 48(12), 661-667. doi: 10.3928/01484834-20091113-08
- Organisation for Economic Co-operation and Development. (2008). *The looming crisis in the health workforce: How can OECD countries respond?* Paris, France: OECD Publishing.
- Organisation for Economic Co-operation and Development. (2013). OECD health data 2013. Retrieved 14 April, 2014, from [http://stats.oecd.org/index.aspx?DataSetCode=health\\_stat#](http://stats.oecd.org/index.aspx?DataSetCode=health_stat#)
- Paget-Hay, C. (2013, 13 June). Notice of scope of practice: Pharmacist prescriber and related qualifications prescribed by the Pharmacy Council of New Zealand. *New Zealand Gazette*. Retrieved from [https://www.dia.govt.nz/pubforms.nsf/NZGZT/NZGazette74Jun13.pdf/\\$file/NZGazette74Jun13.pdf](https://www.dia.govt.nz/pubforms.nsf/NZGZT/NZGazette74Jun13.pdf/$file/NZGazette74Jun13.pdf)
- Patton, M. Q. (2002). *Qualitative Evaluation and Research Methods* (3rd ed.). Thousand Oaks, California: SAGE Publications.

- Patton, M. Q. (2003). Qualitative evaluation checklist. *Evaluation Checklists Project*. Retrieved 16 September, 2017, from [http://fhs.mcmaster.ca/ceb/community\\_medicine\\_page/docs/Dec%2014%20-%204.pdf](http://fhs.mcmaster.ca/ceb/community_medicine_page/docs/Dec%2014%20-%204.pdf)
- Pawson, R. (1996). Theorizing the interview. *The British Journal of Sociology*, 47(2), 295-314. doi: 10.2307/591728
- Pawson, R. (2002). Evidence-based policy: The promise of 'realist synthesis'. *Evaluation*, 8(3), 340-358. doi: 10.1177/135638902401462448
- Pawson, R. (2006). *Evidence-based Policy: A Realist Perspective*. London, United Kingdom: SAGE Publications.
- Pawson, R. (2013). *The Science of Evaluation: A Realist Manifesto*. London, United Kingdom: SAGE Publications.
- Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2004). Realist synthesis: An introduction. *Research methods: An ESRC research programme*: University of Manchester.
- Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2005). Realist review – A new method of systematic review designed for complex policy interventions. *Journal of Health Services Research & Policy*, 10(1), S1:21-S21:34.
- Pawson, R., & Tilley, N. (1997). *Realistic Evaluation*. London, United Kingdom: SAGE Publications.
- Pawson, R., & Tilley, N. (2001). Realistic evaluation bloodlines. *American Journal of Evaluation*, 22(3), 317-324. doi: 10.1177/109821400102200305
- Pawson, R., & Tilley, N. (2004). Realist evaluation. Retrieved 1 December, 2017, from [http://www.communitymatters.com.au/RE\\_chapter.pdf](http://www.communitymatters.com.au/RE_chapter.pdf)
- Pawson, R., & Tilley, N. (2005). Realistic evaluation. In S. Mathison (Ed.), *Encyclopedia of Evaluation* (pp. 363-368). Thousand Oaks, California: SAGE Publications.
- Perry, C., Thurston, M., Killey, M., & Miller, J. (2005). The nurse practitioner in primary care: Alleviating problems of access? *British Journal of Nursing*, 14(5), 255-259. doi: 10.12968/bjon.2005.14.5.17659
- Pharmaceutical Management Agency. (2001). Memorandum for board meeting of 25 January 2001: Nurse prescribing.
- Pharmaceutical Management Agency. (2013). New Zealand Pharmaceutical Schedule: Update: Effective 1 August 2013. Wellington, New Zealand: Pharmaceutical Management Agency.
- Pharmaceutical Management Agency. (2014, 18 August). Pharmaceutical Schedule. Retrieved 27 August, 2014, from <http://www.pharmac.health.nz/tools-resources/pharmaceutical-schedule>
- Pharmaceutical Management Agency. (2017). *The New Zealand Pharmaceutical Schedule* (Vol. 24). Wellington, New Zealand: Pharmaceutical Management Agency.
- Pharmacy Council of New Zealand. (2007a). Consultation on proposed advanced scope of practice and qualifications for pharmacists. Wellington, New Zealand: Pharmacy Council of New Zealand.
- Pharmacy Council of New Zealand. (2007b). Feedback on the consultation on the proposed advanced scope of practice and qualifications for pharmacist: The journey of the advanced practitioner pharmacist. Retrieved 16 April, 2014, from [http://www.pharmacycouncil.org.nz/cms\\_show\\_download.php?id=15](http://www.pharmacycouncil.org.nz/cms_show_download.php?id=15)
- Pharmacy Council of New Zealand. (2010a). Application for consideration of independent prescribing rights: Pharmacist prescriber scope of practice. Wellington, New Zealand: Pharmacy Council of New Zealand.

- Pharmacy Council of New Zealand. (2010b). Consultation document: Proposed pharmacist prescriber scope of practice. Wellington, New Zealand: Pharmacy Council of New Zealand.
- Pharmacy Council of New Zealand. (2011a). Code of Ethics 2011. Wellington, New Zealand: Pharmacy Council of New Zealand.
- Pharmacy Council of New Zealand. (2011b). Key components of a collaborative health team environment. Retrieved 20 July, 2014, from [http://www.pharmacycouncil.org.nz/cms\\_show\\_download.php?id=377](http://www.pharmacycouncil.org.nz/cms_show_download.php?id=377)
- Pharmacy Council of New Zealand. (2012). Guidance statement: Pre-requisite qualification requirements for the pharmacist prescriber course. Wellington, New Zealand: Pharmacy Council of New Zealand.
- Pharmacy Council of New Zealand. (2013). Pharmacy Council of New Zealand March 2013 newsletter. Retrieved 10 April, 2014, from [http://www.pharmacycouncil.org.nz/March\\_2013](http://www.pharmacycouncil.org.nz/March_2013)
- Pharmacy Council of New Zealand. (2014). Pharmacist prescribers. Retrieved 10 April, 2014, from <http://www.pharmacycouncil.org.nz/prescriber>
- Pharmacy Council of New Zealand. (2015). Application for registration in the pharmacist prescriber scope of practice. Retrieved 21 January, 2015, from [http://www.pharmacycouncil.org.nz/cms\\_show\\_download.php?id=537](http://www.pharmacycouncil.org.nz/cms_show_download.php?id=537)
- Pharmacy Sector Action Group. (2004). Focus on the future: Ten-year vision for pharmacists in New Zealand 2004-2014. Retrieved 17 April, 2014, from [http://psnz.org.nz/public/home/documents/10\\_yea\\_plan.pdf](http://psnz.org.nz/public/home/documents/10_yea_plan.pdf)
- Pharmacy Today. (2008, February). Setback for prescribing rights. *Pharmacy Today*.
- Piper, D. (2014a, November). Renewed enthusiasm for pharmacist prescribing. *Pharmacy Today*. Retrieved from <http://www.pharmacytoday.co.nz/in-print/2014/november-2014/november-2014/renewed-enthusiasm-for-pharmacist-prescribing.aspx>
- Piper, D. (2014b, May). Viability of pharmacist prescribers in doubt. *Pharmacy Today*. Retrieved from <http://www.pharmacytoday.co.nz/in-print/2014/may-2014/may-2014/viability-of-pharmacist-prescribers-in-doubt.aspx>
- Poghosyan, L., Boyd, D., & Knutson, A. R. (2014). Nurse practitioner role, independent practice, and teamwork in primary care. *The Journal for Nurse Practitioners*, 10(7), 472-479. doi: 10.1016/j.nurpra.2014.05.009
- Poghosyan, L., Nannini, A., & Clarke, S. (2013). Organizational climate in primary care settings: Implications for nurse practitioner practice. *Journal of the American Academy of Nurse Practitioners*, 25(3), 134-140. doi: 10.1111/j.1745-7599.2012.00765.x
- Pojskic, N., MacKeigan, L., Boon, H., & Austin, Z. (2014). Initial perceptions of key stakeholders in Ontario regarding independent prescriptive authority for pharmacists. *Research in Social & Administrative Pharmacy*, 10, 341-354.
- Prosser, B., Clark, S., Davey, R., & Parker, R. (2013). Developing a public health policy-research nexus: An evaluation of nurse practitioner models in aged care. *Evaluation and Program Planning*, 40, 55-63. doi: 10.1016/j.evalprogplan.2013.05.003
- Pulcini, J., Jelic, M., Gul, R., & Loke, A. Y. (2010). An international survey on advanced practice nursing education, practice, and regulation. *Journal of Nursing Scholarship*, 42(1), 31-39. doi: 10.1111/j.1547-5069.2009.01322.x
- Reay, T., Patterson, E. M., Halma, L., & Steed, W. (2006). Introducing a nurse practitioner: Experiences in a rural Alberta family practice clinic. *Canadian Journal of Rural Medicine*, 11(2), 101-107.
- Reed, C. (2017, 2 March). Notice of replacement and revocation of notice for nurse practitioners. *New Zealand Gazette*.



- Richards, L. (2005). *Handling qualitative data: A practical guide*. London: SAGE Publications.
- Russell, G. M., Dahrouge, S., Hogg, W., Geneau, R., Muldoon, L., & Tuna, M. (2009). Managing chronic disease in Ontario primary care: The impact of organizational factors. *The Annals of Family Medicine*, 7(4), 309-318. doi: 10.1370/afm.982
- Rycroft-Malone, J., McCormack, B., Hutchinson, A. M., DeCorby, K., Bucknall, T. K., Kent, B., Schultz, A., Snelgrove-Clarke, E., Stetler, C. B., Titler, M., Wallin, L., & Wilson, V. (2012). Realist synthesis: Illustrating the method for implementation research. *Implementation Science*, 7(33).
- Salter, K. L., & Kothari, A. (2014). Using realist evaluation to open the black box of knowledge translation: A state-of-the-art review. *Implementation Science*, 9(115).
- Sangster-Gormley, E., Martin-Misener, R., & Burge, F. (2013). A case study of nurse practitioner role implementation in primary care: What happens when new roles are introduced? *BMC Nursing*, 12(1).
- Sangster-Gormley, E., Martin-Misener, R., Downe-Wamboldt, B., & Dicenso, A. (2011). Factors affecting nurse practitioner role implementation in Canadian practice settings: An integrative review. *Journal of Advanced Nursing*, 67(6), 1178-1190. doi: 10.1111/j.1365-2648.2010.05571.x
- Schiestel, C. (2007). Job satisfaction among Arizona adult nurse practitioners. *Journal of the American Academy of Nurse Practitioners*, 19(1), 30-34. doi: 10.1111/j.1745-7599.2006.00187.x
- Schindel, T. J., Yuksel, N., Breault, R., Daniels, J., Varnhagen, S., & Hughes, C. A. (2017). Perceptions of pharmacists' roles in the era of expanding scopes of practice. *Research in Social & Administrative Pharmacy*, 13(1), 148-161. doi: 10.1016/j.sapharm.2016.02.007
- Schober, M. M. (2013). *Factors influencing the development of advanced practice nursing in Singapore* (doctoral thesis). Sheffield Hallam University, Sheffield, England.
- Schober, M. M., Gerrish, K., & McDonnell, A. (2016). Development of a conceptual policy framework for advanced practice nursing: An ethnographic study. *Journal of Advanced Nursing*, 72(6), 1313-1324. doi: 10.1111/jan.12915
- Sekscenski, E. S., Sansom, S., Bazell, C., Salmon, M. E., & Mullan, F. (1994). State practice environments and the supply of physician assistants, nurse practitioners, and certified nurse-midwives. *New England Journal of Medicine*, 331(19), 1266-1271.
- Shaw, J. (1994). Prescribing rights in New Zealand: A public discussion paper. Dunedin, New Zealand: University of Otago.
- Shaw, J., Duffull, S., & Print, A. (2013). Pharmacist prescriber demonstration project final report. New Zealand: University of Otago, University of Auckland.
- Shaw, J., Print, A., & Duffull, S. (2013). Development of a postgraduate educational program for pharmacist prescribers in New Zealand. *Journal of Pharmacy Practice and Research*, 43(2), 122-127.
- Shepperd, S., Lewin, S., Straus, S., Clarke, M., Eccles, M. P., Fitzpatrick, R., Wong, G., & Sheikh, A. (2009). Can we systematically review studies that evaluate complex interventions? *PLoS Medicine*, 6(8), e1000086. doi: 10.1371/journal.pmed.1000086
- Shiell, A., Hawe, P., & Gold, L. (2008). Complex interventions or complex systems? Implications for health economic evaluation. *British Medical Journal*, 336(7656), 1281-1283. doi: 10.1136/bmj.39569.510521.AD
- Sibbald, B., Shen, J., & McBride, A. (2004). Changing the skill-mix of the health care workforce. *Journal of Health Services Research & Policy*, 9(suppl 1), 28-38. doi: 10.1258/135581904322724112

- Smith, A., Latter, S., & Blenkinsopp, A. (2014). Safety and quality of nurse independent prescribing: A national study of experiences of education, continuing professional development clinical governance. *Journal of Advanced Nursing*, 70(11), 2506-2517. doi: 10.1111/jan.12392
- Smith, F. J. (2010). *Conducting your pharmacy practice research project: A step-by-step approach* (2nd ed.). London, United Kingdom: Pharmaceutical Press.
- South Island Workforce Development Hub. (2015). New Zealand nurse practitioners survey: Towards a consistent approach to a nurse practitioner pathway. New Zealand: South Island Alliance.
- Spence, D., & Anderson, M. (2007). Implementing a prescribing practicum within a master's degree in advanced nursing practice. *Nursing Praxis in New Zealand*, 23(2), 27-42.
- Spooner, R. (2017, 11 January). Pharmacists get power to alter prescriptions under controversial trial. *The Age*. Retrieved from <http://www.theage.com.au/victoria/pharmacists-get-power-to-alter-prescriptions-under-controversial-trial-20170111-gtpjb5.html>
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, California: SAGE Publications.
- Stange, K. (2014). How does provider supply and regulation influence health care markets? Evidence from nurse practitioners and physician assistants. *Journal of Health Economics*, 33, 1-27. doi: 10.1016/j.jhealeco.2013.10.009
- Stanik-Hutt, J., Newhouse, R. P., White, K. M., Johantgen, M., Bass, E. B., Zangaro, G., Wilson, R., Fountain, L., Steinwachs, D. M., Heindel, L., & Weiner, J. P. (2013). The quality and effectiveness of care provided by nurse practitioners. *The Journal for Nurse Practitioners*, 9(8), 492-500. doi: 10.1016/j.nurpra.2013.07.004
- Stenner, K., Carey, N., & Courtenay, M. (2010). Implementing nurse prescribing: A case study in diabetes. *Journal of Advanced Nursing*, 66(3), 522-531. doi: 10.1111/j.1365-2648.2009.05212.x
- Stenner, K., & Courtenay, M. (2008a). Benefits of nurse prescribing for patients in pain: Nurses' views. *Journal of Advanced Nursing*, 63(1), 27-35.
- Stenner, K., & Courtenay, M. (2008b). The role of inter-professional relationships and support for nurse prescribing in acute and chronic pain. *Journal of Advanced Nursing*, 63(3), 276-283. doi: 10.1111/j.1365-2648.2008.04707.x
- Stephenson, K. (2013). Pharmacist prescribers gain Pharmac subsidy. Retrieved 14 April, 2014, from <http://www.pharmacytoday.co.nz/news/2013/july-2013/17/pharmacist-prescribers-gain-pharmac-subsidy.aspx>
- Stewart, D., Anthony, B., Morrison, C., MacRae, Y., Dixon, L., Friel, E., Yoong, E., Cunningham, S., & MacLure, K. (2017). Evaluating pharmacist input into the pharmaceutical care of patients in dispensing medical practices in remote and rural areas of Scotland. *Family Practice*, 34(4), 491-499. doi: 10.1093/fampra/cmz014
- Stewart, D., Cunningham, S., Diack, L., McCaig, D., MacLure, K., Bond, C., & George, J. (2010). Exploring and evaluating pharmacist prescribing. Aberdeen, Scotland: Robert Gordon University.
- Stewart, D., George, J., Bond, C. M., Diack, H. L., McCaig, D. J., & Cunningham, S. (2009). Views of pharmacist prescribers, doctors and patients on pharmacist prescribing implementation. *International Journal of Pharmacy Practice*, 17(2), 89-94. doi: 10.1211/ijpp/17.02.0003
- Swan, M., Ferguson, S., Chang, A., Larson, E., & Smaldone, A. (2015). Quality of primary care by advanced practice nurses: A systematic review. *International Journal for Quality in Health Care*, 27(5), 396-404. doi: 10.1093/intqhc/mzv054

- Tann, J., Blenkinsopp, A., Evans, A., & Grime, J. (2008). Beating the bounds? The introduction of pharmacist supplementary prescribing in the UK National Health Service. *Prometheus*, 26(2), 125-139. doi: 10.1080/08109020802056524
- Tann, J., Blenkinsopp, A., Grime, J., & Evans, A. (2010). The great boundary crossing: Perceptions on training pharmacists as supplementary prescribers in the UK. *Health Education Journal*, 69(2), 183-191. doi: 10.1177/0017896910363300
- The Editors. (2000). Nurse prescribing. *New Zealand Medical Journal*, 113(1119).
- The University of Auckland, & Massey University of New Zealand. (2015). Nurse practitioner training programme: The facts. Retrieved 26 September, 2017, from [https://www.fmhs.auckland.ac.nz/assets/fmhs/son/docs/Nurse%20Practitioner%20Training%20Programme\\_The%20Facts%204page.pdf](https://www.fmhs.auckland.ac.nz/assets/fmhs/son/docs/Nurse%20Practitioner%20Training%20Programme_The%20Facts%204page.pdf)
- Thomas, F. (2017, 13 June). Nurse practitioners going to waste in culture of confusion and mistrust. *New Zealand Doctor*. Retrieved from <https://www.nzdoctor.co.nz/news/2017/june-2017/13/nurse-practitioners-going-to-waste-in-culture-of-confusion-and-mistrust.aspx>
- Tinelli, M., Blenkinsopp, A., Latter, S., Smith, A., & Chapman, S. R. (2013). Survey of patients' experiences and perceptions of care provided by nurse and pharmacist independent prescribers in primary care. *Health Expectations*, 18(5), 1241-1255. doi: 10.1111/hex.12099
- Tomblin Murphy Consulting Incorporated. (2006). Health human resource component: Literature review report. Ottawa, Canada: Canadian Nurse Practitioner Initiative.
- Tonna, A. P., Stewart, D., West, B., & McCaig, D. (2007). Pharmacist prescribing in the UK – A literature review of current practice and research. *Journal of Clinical Pharmacy and Therapeutics*, 32(6), 545-556. doi: 10.1111/j.1365-2710.2007.00867.x
- Topham-Kindley, L. (2001, 9 May). King keen on pharmacy. *New Zealand Doctor*.
- Travers, J. (2005). Professional issues for the future of nurse prescribing: A qualitative study. *Nurse Prescribing*, 3(4), 164-167.
- Trim, S. (2004). Research on nurse practitioner role underway. *Kai Tiaki Nursing New Zealand*, 10(2).
- Unac, F., Marshall, B., & Crawford, R. (2010). Nurse practitioner access to radiology and laboratory services. *Nursing Praxis in New Zealand*, 26(1), 27-37.
- University of Otago. (2017). Postgraduate Certificate in Pharmacist Prescribing (PGCertPharmPres). Retrieved 1 December, 2017, from <http://www.otago.ac.nz/pharmacy/postgraduate/professional-programmes/pgcertpharmpres/index.html>
- Vaessen, J., & Leeuw, F. L. (2011). *Mind the Gap: Perspectives on Policy Evaluation and the Social Sciences*. New Brunswick, NJ: Transaction Publishers.
- Van Soeren, M. H., Hurlock-Chorostecki, C., Goodwin, S., & Baker, E. (2009). The primary healthcare nurse practitioner in Ontario: A workforce study. *Nursing Leadership*, 22(2), 58-72.
- Venning, P., Durie, A., Roland, M., Roberts, C., & Leese, B. (2000). Randomised controlled trial comparing cost effectiveness of general practitioners and nurse practitioners in primary care. *British Medical Journal*, 320(7241), 1048-1053. doi: 10.1136/bmj.320.7241.1048
- Walsh, K., Duke, J., Foureur, M., & Macdonald, L. (2007). Designing an effective evaluation plan: A tool for understanding and planning evaluations for complex nursing contexts. *Contemporary Nurse*, 25, 136-145.
- Walshe, K. (2007). Understanding what works—and why—in quality improvement: The need for theory-driven evaluation. *International Journal for Quality in Health Care*, 19(2), 57-59.

- Wand, T. (2011). *Implementation and pilot evaluation of an emergency department based mental health nurse practitioner outpatient service* (doctoral thesis). University of Sydney, Sydney, Australia.
- Watterson, A., Turner, F., Coull, A., & Murray, I. (2009). An evaluation of the expansion of nurse prescribing in Scotland. *Health and Community Care, Scottish Government Social Research*. Edinburgh, United Kingdom: Scottish Government Social Research.
- Weeks, G., George, J., Maclure, K., & Stewart, D. (2016). Non-medical prescribing versus medical prescribing for acute and chronic disease management in primary and secondary care. *Cochrane Database of Systematic Reviews*, 2016(11). doi: 10.1002/14651858.CD011227.pub2
- Weiss, M. C., & Sutton, J. (2009). The changing nature of prescribing: Pharmacists as prescribers and challenges to medical dominance. *Sociology of Health and Illness*, 31(3), 406-421. doi: 10.1111/j.1467-9566.2008.01142.x
- Weiss, M. C., Sutton, J., & Adams, C. (2006). Exploring innovation in pharmacy practice: A qualitative evaluation of supplementary prescribing by pharmacists. London, United Kingdom: Royal Pharmaceutical Society of Great Britain.
- Westhorp, G. (2014). Realist impact evaluation: An introduction. *A Methods Lab Publication*. London, United Kingdom: Overseas Development Institute.
- Wheeler, A., Crump, K., Lee, M., Li, L., Patel, A., Yang, R., Zhao, J., & Jensen, M. (2012). Collaborative prescribing: A qualitative exploration of a role for pharmacists in mental health. *Research in Social and Administrative Pharmacy*, 8(3), 179-192. doi: 10.1016/j.sapharm.2011.04.003
- Wheeler, A., Hale, A., Jensen, M., Coombes, I., Stokes, J., Stowasser, D., & Nissen, L. (2010). Pharmacist prescribers. *Journal of Primary Health Care*, 1(1), 72-73.
- Whelan, E.-M. (2000). *The relationship between state regulations and nurse practitioner practice* (doctoral dissertation). University of Pennsylvania.
- Wilkinson, J. (2008). The Ministerial Taskforce on Nursing: A struggle for control. *Nursing Praxis in New Zealand*, 24(3), 5-16.
- Wilkinson, J. (2011). Extending the prescribing framework to nurses: Lessons from the past. *Collegian*, 18(4), 157-163. doi: 10.1016/j.colegn.2011.07.001
- Wilkinson, J. (2012). Places for nurse practitioners to flourish: Examining third sector primary care. *Australian Journal of Advanced Nursing*, 29(4), 36-42.
- Wilson, A., Pearson, D., & Hassey, A. (2002). Barriers to developing the nurse practitioner role in primary care—The GP perspective. *Family Practice*, 19(6), 641-646. doi: 10.1093/fampra/19.6.641
- Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: Realist syntheses. *BMC Medicine*, 11(1). doi: 10.1186/1741-7015-11-21
- Wong, G., Greenhalgh, T., Westhorp, G., & Pawson, R. (2012). Realist methods in medical education research: What are they and what can they contribute? *Medical Education*, 46(1), 89-96. doi: 10.1111/j.1365-2923.2011.04045.x
- Wong, G., Greenhalgh, T., Westhorp, G., & Pawson, R. (2014). Development of methodological guidance, publication standards and training materials for realist and meta-narrative reviews: The RAMESES (Realist And Meta-narrative Evidence Syntheses – Evolving Standards) project. *Health Services and Delivery Research*, 2(30). doi: 10.3310/hsdr02300
- Wong, G., Pawson, R., & Owen, L. (2011). Policy guidance on threats to legislative interventions in public health: A realist synthesis. *BMC Public Health*, 11.

- Wong, G., Westhorp, G., Manzano, A., Greenhalgh, J., Jagosh, J., & Greenhalgh, T. (2016). RAMESES II reporting standards for realist evaluations. *BMC Medicine*, *14*(1). doi: 10.1186/s12916-016-0643-1
- World Health Organization. (1978). Declaration of Alma-Ata. Alma Ata, USSR: World Health Organization.
- World Health Organization. (1986). Ottawa charter for health promotion. Geneva, Switzerland: World Health Organization.
- World Health Organization. (2006). The world health report 2006: Working together for health. Geneva, Switzerland: World Health Organization.
- Zand, M. B. (2011). Nursing the primary care shortage back to health: How expanding nurse practitioner autonomy can safely and economically meet the growing demand for basic health care. *Journal of Law and Health*, *24*(261), 261-284.
- Zurn, P., & Dumont, J.-C. (2008). Health workforce and international migration: Can New Zealand compete? *OECD Health Working Papers*. Paris, France: Organisation for Economic Co-operation and Development.