THE FUTURE ROLE OF PRACTICE NURSES

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature:

Date: 8th of July 2013

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I dedicate this thesis to Linda Cavanagh who became bored with waiting.

PUBLICATIONS FROM THIS RESEARCH

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ABSTRACT

Background: Practice nurses in Australia could collaborate more with general practitioners to complement the services provided. However, for this to occur it is important to determine whether practice nurses have the opportunity and support they need to increase their decision-making about the organisation and delivery of patient care.

Aim: The aim of this research is to determine if there are actual and/or potential opportunities for practice nurses to participate in collaborative care and increase their decision-making about patients' care.

Methods: A sequential mixed-methodology was used. The first quantitative study was designed to determine relationships between opportunities for decision-making by practice nurses in their work place, support from colleagues and supervisors, and opportunities for the development of skills and abilities. An opportunistic sample of practice nurses (n= 160) employed in the State of New South Wales was asked to complete a 60-item self-administered online questionnaire, the 'Job Content Questionnaire'. Internal reliability and consistency was determined by α coefficients and confirmatory factor analysis. Sequential regression models tested hypothesised relationships between independent and dependent variables. The second qualitative study was designed to develop an in-depth and contextual understanding of the results presented by the questionnaire. A purposive sample of practice nurses (n= 15) employed in New South Wales, who had not participated in Study 1, was recruited. These practice nurses were asked to participate in an interview guided by the

findings of the first study. The interview data were thematically analysed. The results of each study were triangulated.

Results: Results from Study 1 and Study 2 indicated that practice nurses have the opportunity to make decisions about the organisation and delivery of care to patients, and are making a distinct contribution to the care of patients in general practice. While they are collaborating with general practitioners within the structural limitations on their role, their ability to contribute to care is dependent on their capacity to build relationships and demonstrate the financial viability of their role.

Discussion and conclusions: Workforce shortages and increased demands for care, particularly for people with chronic disease, will challenge the primary care sector. Practice nurses are well placed to expand their practice to lead the management of patients with chronic disease and to pursue more independent and perhaps, autonomous clinical practice. However, there is a need for a clear articulation of a professional frame of reference for this role, which will require alterations to the funding and the traditional structure of general practice. It must also be demonstrated that practice nurse-led care is both safe and effective.

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CHAPTER 1- INTRODUCTION

INTRODUCTION

This research seeks to determine what opportunities exist for practice nurses working in Australian primary health care to make decisions about the organisation, management, and delivery of patient care, and whether this can be increased. In recent decades there has been a significant increase in the number of nurses working in the primary health care sector. This is part of a slow and unavoidable change in the structure of Australian health care. Traditional ways of delivering health care are being challenged by an older population, more long-term illness, and shortages in appropriately trained medical, nursing and allied health care staff. The rapidly changing health care environment and the need to ensure that health care needs are met in a cost-effective manner, are leading to changes in the ways in which care is delivered, how health professionals are organised, and how governments support the delivery of care.

Changes are based on a consensus that to improve health care outcomes and achieve cost-effectiveness there must be a focus on the provision of primary health care (Friedberg, Hussey and Schneider 2010). Primary health care is the first point of contact with health care systems for most communities. The World Health Organization stated in the Declaration of Alma-Ata that primary health care addresses the major health problems of the community by providing ‘preventive,

curative, and rehabilitative services', 'bring[ing] health care services as close as possible to where people live and work', and 'constitut[ing] the first element of a continuing health care process' (World Health Organization 1978). Primary health care focuses on the provision of comprehensive health care for a broad range of health problems, is long-term and patient focused and coordinates care across multiple providers (Starfield, Shi and Macinko 2005).

In Australia, the majority of primary health care services are delivered in general practice (Duckett and Wilcox 2011). Here generalist physicians both provide care and lead the health care team. In Australia this physician is referred to as a 'general practitioner'.

The Australian general practitioner is a medical professional who holds Fellowship of the Royal Australian College of General Practitioners (RACGP), and demonstrates compliance with the RACGP continuing education program (Department of Health and Ageing 2009). The general practitioner is responsible for first contact prevention, advisory, diagnostic, and treatment services; long term coordination of patient care; and to act as the first point of referral for patients to enter hospitals (for acute conditions) and to receive specialist acute services (Duckett and Wilcox 2011). As such they act as the gatekeeper to the Australian health care system.

Traditionally the general practitioner has worked as an independent professional. However, increasingly the general practitioner is required to collaborate with each other, and non-medical health care professionals. In recent years, the general practice workplace has become more multi-disciplinary encompassing a wide range health

professionals, including practice nurses (nurses who are employed by, or otherwise retained by, a general practice), and allied health professionals. The leadership role of this increasingly more diverse primary health care team remains with the general practitioner. For instance, practice nurses collaborate with, but are supervised by general practitioners (Australian Practice Nurses Association 2010; Capolingua 2007). Yet as practice nursing is a relatively new addition to the general practice team it is not clear to what degree practice nurses are collaborating with, or are being directed by, general practitioners.

Australian practice nurses have traditionally been directed by general practitioners to undertake delegated tasks as appropriate or necessary (Royal Australian College of General Practitioners and Royal College of Nursing Australia 2004). It is unknown if practice nurses are beginning to, or have been participating in collaborative care, defined as an equal sharing of care planning, goal setting, decision-making, problem solving, cooperation, responsibility and accountability (Patterson and McMurray 2003). It is also possible that contemporary practice nursing may be characterised by elements of independent practice, which involves identifying patient needs, organising resources, managing problem(s) him/herself, and referring to others (Forbes and While 2009). Understanding if there is collaboration between practice nurses and general practitioners has implications for how care is delivered and organised, for instance, if practice nurses are or should be engaged in undertaking delegated care, collaborative care, or independently delivering care. It is timely to analyse and understand the potential for collaboration more fully as the Australian federal government increases support for the expansion of practice nursing in its policy and fiscal decisions (Commonwealth of Australia 2009b).

Increased federal government support for practice nursing is designed to improve the accessibility of general practice services to the public by increasing the number of practice nurses, thereby allowing more patients to be seen by health professionals in general practice than would otherwise be the case. Strengthening the primary health care sector in this manner should improve health care outcomes and cost-effectiveness (Carne et al. 2011; Commonwealth of Australia 2009b). The federal government has also sought to encourage increased care for older people and people with long-term conditions within the primary care sector with the objective of containing health care costs. However, this has required frequent changes at the federal level to the structural and financial systems that affect general practice. The first notable example was when the former Department of Health, Housing and Community Services published the 'National Health Strategy: the Future of General Practice' (1992). The aims of this early strategy were to promote an holistic model of care, reduce the financial barriers to access, and improve service integration across primary and acute health care providers. At the time, consumers and state governments were demanding better quality and coordination of care. This led to the introduction of the Divisions of General Practice (Divisions) in 1992.

The Divisions were meso-level organisations that were the key element of the federal government structural reform of general practice. Divisions were to be funded by the federal government and controlled by general practitioners. The Divisions aimed to reduce the fragmentation of the primary health care sector, improve access to services, and to provide a collective voice for general practice (Hutton 2005). It was on the advice of the Divisions in 1995, that the federal government provided, for the

first time, funding to specifically support the employment of practice nurses. The reason for funding the employment of practice nurses was two-fold: 1) to allow general practitioners to increase the number of patients seen (thereby increasing revenue); and 2) to encourage a focus on the integrated and long-term care of patients with chronic disease (thereby improving achieving cost-containment by reducing re-presentations) (Offredy and Townsend 2000; Rafferty et al. 2005; Ritz et al. 2000; Venning et al. 2000). This early attempt at structural and financial change was not substantively revisited by governments until 2008.

In 2008, the Prime Minister and the Minister for Health and Ageing championed the ongoing need for primary health care reform. As a result the National Health and Hospitals Reform Commission (NHHRC) was established (Nicholson et al. 2012). The NHHRC was tasked with developing a long-term plan for Australian health care reform. The recommendations of the NHHRC were published in a report titled 'A Healthier Future for all Australians' (2009a). The Report 'argued strongly' (pp. 6, 148) that primary health care should be the focus of Australia's health care system(s). The findings of the NHHRC report resulted in a number of federal government policy initiatives. The initiatives aimed to encourage health professionals to specialise in primary health care, enhance the existing functions of primary health care providers, and focus the health care system towards the provision of primary health care and away from acute care services (Friedberg, Hussey and Schneider 2010). Within the Australian context this meant a renewed focus on general practice as a key primary health care provider (Commonwealth of Australia 2009a).

To improve access to GP services the federal government renewed the commitment

made in 1995 to support the employment of practice nurses. This support led to subsidies for activities undertaken by practice nurses, and grants to support their employment.

As a result of the financial support provided by the federal government the raw count of nurses reporting that they were employed in Australian general practice increased from 1,179 in 2001 to 11,547 in 2010 (Australian Institute of Health and Welfare 2009; Carne et al. 2011; Cheong, Armour and Bosnic-Anticevich 2012; Gilbert et al. 2011; Merrick et al. 2012). In 2001, there was approximately one practice nurse for every 21 general practitioners; in 2010 there was approximately one practice nurse for every 1.4 general practitioners (Primary Health Care Research and Information Service 2011). The increase in the number of practice nurses has led, for the first time in Australia, to practice nursing identifying as a distinct sub-specialty of the nursing profession. The professional interests of practice nurses are now represented by their own professional association, the Australian Practice Nurses Association (APNA). Yet the evolution of practice nursing as a specialty has not been without difficulty.

Practice nurses are a diverse group, with a remit that is poorly defined (Watts et al. 2004). To date, the most consistent statement about what constitutes practice nursing was provided by the Australian Nursing Federation in 2005, which, in the publication of competency standards for nurses in general practice, stated that practice nurses are expected to provide direct clinical care and manage care systems in environments that are often isolated (Australian Nursing Federation 2005). Emerging evidence suggests that this broad remit for practice nurses is accurate but not sufficient to meet

the changing health care needs of Australians. Contemporary practice nurses have been shown to engage in a range of activities including undertaking technical tasks, for example, immunisations, wound care, and cervical smears, as well as beginning to engage in care coordination and management (Godden et al. 2010; Phillips et al. 2008; Senior 2008). Recent research suggests that while the role of practice nurses remains flexible it may be becoming more clinically and patient focussed (Pearce, Hall and Phillips 2010; Rashid 2010; Walters et al. 2012).

The breadth of the practice nurse role results in a scope of practice/role that is constantly negotiated on an individual basis between the practice nurse and the supervising general practitioner (Royal Australian College of General Practitioners and Royal College of Nursing Australia 2004). This negotiation occurs within regulatory frameworks, such as whether a nurse is registered or enrolled. A Registered Nurse (RN) is distinguished from his/her Enrolled Nurse (EN) colleagues by the level of education, training, independence, and accountability. More precisely, an RN is required to undertake a three year educational program, or an 18 month post-graduate program, with a higher educational provider and complete a minimum of 800 clinical training hours. By contrast, an EN is required to undertake a 12-18 month educational program at a vocational education provider, and complete 400 clinical training hours (Australian Nursing and Midwifery Council 2002, 2006). Both RNs and ENs must be registered with the Australian Health Practitioners Regulation Authority and licensed to practice under the Health Practitioner Regulation Act (2009/2010). Due to these different levels of education and experience, an RN is differentiated from an EN by a number of criteria, including autonomy; the expectation of critical clinical decision-making; and the responsibility to supervise

others (including ENs). It is important to note that depending on the area of practice, the clinical tasks undertaken by an RN may, or may not, be more complex than those undertaken by an EN (Jacob, Sellick and McKenna 2012). Nonetheless, whilst an EN may undertake many of the same tasks as an RN, they are expected to do so under the direction and supervision of an RN (Australian Nursing and Midwifery Council 2002, 2006).

In addition to the regulatory framework, the context of the practice and characteristics of the individuals involved influence the outcome of negotiations between the practice nurse and supervising general practitioner regarding the scope of his/her role. These context specific influences may include: the geographic location of the practice (that is, urban or rural); the type and nature of health complaints encountered[1]; the relationship between the individual practice nurse and general practitioner; the experience of the practice nurse; the competence and confidence of the practice nurse; and educational preparation (Watts et al. 2004). The extent to which these factors influence the practice nurses' remit remains difficult to determine (Cant et al. 2011; Mills, Field and Cant 2011; Mills and Fitzgerald 2008b; Mills and Hallinan 2009; Parker et al. 2009). Some Australian authors argue that the influence of professional relationships on the scope of practice remains unclear due to a lack of empirical evidence (Mills and Hallinan, 2009). Furthermore, whilst there is strong empirical evidence to suggest that the types of health complaint encountered in general practice determine the activities undertaken by practice

[1] 'Health complaints' refers to a single condition treated by a health practitioner, an individual may have multiple health complaints.

nurses and general practitioners, to date, studies have not examined the nature of this relationship (for instance, if it is causal or correlational or associated with the Reason For Encounter (RFE)) (Britt et al. 2011). Additionally, attempting to study the influences of each of these factors in an environment where practice nurses have diverse roles may lead to a failure to contextualise and give meaning to research findings.

THE HEALTH CARE NEEDS OF AUSTRALIANS

One factor associated with the changing role of practice nurses is the changing health care needs of Australians. In 2010 the Australian Institute of Health and Welfare (AIHW), using disability adjusted life years, found that the contemporary burden of disease is heavily weighted towards chronic disease. The AIHW reported that the leading causes of disease were cancers (19%), followed by cardio-vascular disease (16%), and mental health disorders (13%). Type 2 diabetes mellitus, a long-term or chronic condition, is expected to surpass cancer as the leading cause of burden of disease by 2023. The leading cause of 'lost-years' for those under the age of 75 is cardio-vascular disease. For those over 65 years the leading causes of death are heart disease, stroke, and cancer (Australian Bureau of Statistics 2011a, 2011b). Importantly, many of the factors that contribute to these lost years are preventable life-style conditions or chronic conditions that can be successfully managed in general practice. For example, the population adjusted prevalence of the causes of burden of disease has been decreasing, while the prevalence of the most common chronic diseases, such as obesity, hypertension, depression, and type 2 diabetes

mellitus continue to increase. Each of these chronic diseases are precursors to the current leading causes of death and disease burden (Australian Institute of Health and Welfare 2010). The increased prevalence of chronic disease is reflected in the types of problems dealt with in general practice. Hypertension (16.3%), depressive disorder (7.8%), non-gestational diabetes (7.5%), chronic arthritis (7%), lipid disorders (5.8%), oesophageal disease (4.3%), and asthma (4.1%) were among the most common problems managed by general practice in 2008-09 (Australian Institute of Health and Welfare 2010; Britt et al. 2011).

The increased prevalence of chronic disease has, in part, resulted from a fundamental change in the Australian demographics. In 2010 there was a net population increase of 317,200 resulting from 289,500 births, 171,100 overseas migrants, and 143,400 deaths (Australian Bureau of Statistics 2011a). Meanwhile a sustained low-birth rate and a declining mortality rate have led to an increase in the median age of Australians. Between 1991 and 2011 the median age in this country increased by 4.7 years to 37.1 years in 2011 (Commonwealth of Australia 2010). The ageing of Australia is reflected in the age of patients seeking general practice services. In the decade from 1999 to 2009 the proportion of general practice patients aged 45-64 years marginally increased from 24.5% to 29.1%, and the proportion of general practice patients over the age of 75 years increased from 12.1% to 16.2% (Britt et al. 2011).

Importantly, the health care workforce is also ageing, and, as a result, there are less health providers available to meet demands for an increase in services from an older and more chronically ill population. Although national demographic data are

unavailable for practice nurses, the nursing workforce in general is older. For example, the proportion of nurses in employment over the age of 50 years increased from 35.8% to 36.3% between 2005 to 2009, despite the average age of nurses marginally decreasing from 45.1 to 44.3 years during the same period (Australian Institute of Health and Welfare 2009). The proportional increase, and resultant shifts towards part-time work or retirement, contributes to the ongoing and projected nursing and medical workforce shortages. Modelling undertaken by Health Workforce Australia (2012) suggests that if the current supply of graduate nurses, and nurses immigrating to Australia, is maintained, the demand for nurses will surpass supply in 2014. The situation becomes more urgent when the increasing demand for health care services is factored into the equation; in this case there will be a shortfall of 109,490 nurses by 2025 (Health Workforce Australia 2012).

Modelling by Health Workforce Australia indicates that with the current medical training and immigration levels demand for doctors will also surpass supply in 2025. When population ageing and increasing use of health care services were added to the model there will be a shortfall of 26,124 doctors by 2025 (Health Workforce Australia 2012). The potential for workforce shortages is much more pronounced for primary health care professionals. For example, the average general practitioner is ten years older than both the average nurse and average physician. In 2011, 24% of general practitioners were over 55 years of age, an 8.3% increase between 1998 and 2008 (Primary Health Care Research and Information Service 2011). It is becoming increasingly apparent that responding to workforce shortages requires more than improving the recruitment and retention rates within the health professions. The ageing of the health care workforce has led Health Workforce Australia (2013) to

identify that there is a pressing need for innovation in the way that the health workforce delivers services. Such innovation may involve changing the established roles of health professionals, the development of new health professional roles, developing policy and funding mechanisms to support workforce reform, and promoting the role of the generalist health professional in primary health care. Such innovation may have particular relevance for practice nurses who, in general practice, continue to operate within a traditional and hierarchical organisational structure.

Traditionally, the delivery of services in Australian general practices involves the episodic diagnosis (by the general practitioner) of acute illness, treatment, and where necessary, referral to hospitals and/or other facilities and specialists. This model has limited efficacy, however, when managing patients with chronic disease (Institute of Medicine 2001). Providing primary health care for people with chronic diseases requires a substantially different approach. People with chronic disease require more extensive organisation and coordination of services which potentially must be sustained for the life-time of the patient (Beaglehole et al. 2008). Such long-term care is characterised as systematic and cyclical; with the objective of enhancing the access to, and the organisation of health care (Evans, Drennan and Roberts 2005b). Any shift towards long-term care in Australia during a period of workforce insufficiency may also require an increase in the responsibilities and workload of those practice nurses and general practitioners who are employed. Predicted increase in workload has led some authors to advocate for the development of a physician assistant role, or for further utilisation of the nurse practitioner role (Duckett et al. 2013). However, in Australia there is currently little evidence evaluating the safety or

effectiveness of this role, indicating that it may be some time before physician assistants can offer a viable way of meeting workforce shortages (Duckett et al. 2013). In the interim, it is likely that practice nurses will see an expansion of their role (Fulton et al. 2011) which, in Australia, will necessitate a shift in the way that practice nurses and general practitioners work together. More emphasis will need to be placed on an equal inter-professional collaboration, while maintaining and improving patient outcomes (Ehrlich, Kendall and St. John 2012; Reay et al. 2012). There is no evidence to suggest that nurses in expanded roles function less effectively, or worse than physicians if they are supported and function in a climate of inter-professional collaboration (Beaglehole et al. 2008; Rhode et al. 2008).

Collaborative and long-term management of chronic disease by practice nurses and general practitioners has been suggested as beneficial for patients, as well as being cost-effective (Mitchell, Tieman and Shelby-James 2008; Proudfoot et al. 2007). During the previous decade Australian evidence has begun to emerge that examines the outcomes of long-term management for patients with chronic conditions. The results of this research are providing an early indication that this approach to care can be clinically effective (Bunker et al. 2009; Eley et al. 2013; Pilotto et al. 2004; Woollard, Burke and Beilin 2003). However, some authors have suggested that a causal link between long-term management and collaborative care of patients between general practitioners and practice nurses with chronic disease and outcomes cannot be definitively shown. It is argued that the structural and financial barriers that are embedded within the Australian primary health care system prevent effective inter-professional collaboration, and therefore preclude a demonstration of the effectiveness of inter-professional care (Halcomb, Davidson, Salamonson, et al.

2008; Walters et al. 2012). Both Waters et al. (2012) and Halcomb et al. (2008) have argued that existing professional regulation fails to promote collaborative working relationships between, physicians, nurses, and patients, while financing mechanisms encourage episodic services without long-term follow-up. This argument persists despite primary health care reform that has been instituted by the federal government seeking to alter the divisions of labour within general practice.

SUPPORTING ACCESS TO GENERAL PRACTICE

During the past two decades the Australian federal government has sought to alter the macro structures that support access to general practice, and provided financial incentives to alter the division of labour within general practice. The objectives of these changes have been to increase the accessibility of general practice services and to encourage continuity of care for an older community with an increased prevalence of chronic illness. These efforts were most clearly expressed in the recommendations 'A Healthier Future for all Australians' report (2009a). At a macro-level the response of the federal government to the NHHRC report led to the consolidation of the aforementioned Divisions of General Practice (Divisions) into larger organisations called 'Medicare Locals'. At the time of writing the consolidation of the Divisions into Medicare Locals is ongoing. Like the former Divisions, Medicare Locals remain meso-level organisations intended to link the micro (general practice) and macro (federal funders and policy makers) levels of the health system (Nicholson et al. 2012). As with the Divisions, Medicare Locals represent general practitioners, but are also tasked with engaging local patient and community groups.

Medicare Locals are intended to act to promote general practice and assist in the development of larger and centralised general practice clinics, or 'super-clinics'. Super-clinics are intended to co-locate general practitioners, practice nurses, visiting medical specialists (a medical practitioner appointed by a hospital board to provide tertiary level services) (Duckett, 2011), and allied health professionals such as physiotherapists and occupational therapists. As a structural change, the co-location of different health professionals is intended to encourage the provision of multi-disciplinary care for people with, or at risk of, chronic disease (Commonwealth of Australia 2012b).

On the micro-level the federal government responded to the recommendations of National Health and Hospitals Reform Commission (NHHRC) by making a greater financial commitment to general practice. These financial commitments included increasing the number of training places for general practitioners, reaffirming financial support for the employment of practice nurses, and altering financial incentives to promote the long-term management of patients with chronic disease (Commonwealth of Australia 2012a).

Medicare

The financial commitments of the federal government, particularly the funding provided for practice nurses, built on funding structures introduced in 1995. These funding structures include rebates, incentives, and grants that are regulated and

administered by Australia's universal health insurance scheme - Medicare. As the main funding source of general practice services it is important to understand how Medicare functions and is administered as it impacts directly on the accessibility of general practice services, and the continuity of patient care.

The objective of Medicare as a health insurer is to maximise collective social benefit by providing an equitable base for health care for all Australians (Butler 2002; Catchlove 2001; Fiebig, Savage and Viney 2006; Medicare Australia 2006a, 2006b). Medicare has its origins in Medibank introduced on the 1st of July 1975 after the passing of the Medibank legislation by a joint sitting of Parliament on the 7th of August 1974. At the time the Hon. Bill Hayden (Commonwealth Minister for Social Security) stated that the purpose of Medibank was to provide the most equitable and efficient means of providing health insurance coverage for all Australians (Biggs 2004). Medibank was re-launched as Medicare on the 1st of February 1984 following the passage of the *Health Legislation Insurance Act* (1983), and amendments to the *Health Insurance Act* (1973a), the *National Health Act* (1953), and the *Health Insurance Commission Act* (1973b). Medicare subsidises health care services for all Australian citizens, permanent residents, and citizens of countries with reciprocal health care agreements (excluding foreign diplomats and their families) (Connelly and Doessel 2000; Duckett and Wilcox 2011; Medicare Australia 2010). The scheme is funded by non-hypothecated taxation with the objective of addressing issues of vertical equity by guaranteeing a broad risk pool and equalising risk overtime by providing cross-subsidies between patients at different levels of risk of ill-health (Duckett and Wilcox 2011).

The majority of services delivered in general practice are paid for by blended payments, or a mix between a fee paid by the patient and a rebate paid by Medicare (Duckett and Wilcox 2011). For example, all Australian general practices set a fee for the service provided. This fee may be either the same as the fee recommended by Medicare, or general practices may choose to set a higher fee. When the fee is set by general practices at the same level as recommended by Medicare, the patient has no out-of-pocket expenses. A general practice can bill Medicare for the service provided directly at the point of consultation, or the patient may claim a rebate from Medicare at a later date. Medicare provides a rebate for the recommended cost to either the general practice or the patient depending on the general practice business model.

In contrast, when the general practice sets a fee higher than that recommended by Medicare the difference, or gap, is met by an additional (out-of-pocket) payment by the patient. This is an important concept because the wide-spread expectation of access to Medicare subsidies allows Medicare to signal the 'reasonable' cost of service. Therefore, if the federal government wishes to prioritise a service it can act to increase the recommended rebate paid to providers for providing said service. The significance of such price signalling is reflected by the amount of financing provided by Medicare to support health services. From 2010-11, 319.1 million health services and activities were subsidised by Medicare resulting in rebates totalling more than 16.3 billion Australian dollars (almost 13% of total health care expenditure), an increase of 12% from 2007-08. Of the $16.3 billion, 43% ($6,149 billion) was paid to providers of primary health care; 37% ($2,275 billion) of this financing was for professional services; and 92% was paid to general practitioners ($2,093 billion) (Medicare Australia 2011).

As Medicare funding and subsidies drive the Australian health care sector it can be instrumental to the federal government for the application of policy. The presence of Medicare allows for the monitoring of general practice activity and for the federal government to incentivise structural and financial reform in general practice. However, both the monitoring and price signalling functions of Medicare have at times been controversial. Some authors have suggested that the price signalling function of Medicare interferes with professional and clinical autonomy (Greb, Delnoij and Groenewegan 2006; Groenewegan and Calnan 1995), while others contend that price signalling constrains over-consumption of services (Gosden et al. 2001; Gosdena et al. 2003; Le Fevre 1997; Weiss et al. 2009). Despite these arguments, the fact remains that by price-signalling, Medicare can either incentivise or remove financial incentives for activities in general practice. However, this is not the only way in which the federal government can utilise Medicare for the promotion of its policy objectives. The influence of Medicare financing on the behaviour of general practitioners is examined in more detail in Chapter 2.

Medicare can also influence health providers through the administration of federal government grants. These grants are tied to government policy and are designed to support policy objectives. In general practice an example of this is the Practice Nurse Incentive Program (PNIP) which provides grants to general practices that employ practice nurses of up to $25,000 per-annum per Registered Nurse per practice (Commonwealth of Australia 2012c). The underlying rationale for this is that the employment of practice nurses will free the general practitioner from technical and procedural tasks therefore enabling a greater number of patients to be seen, and

thereby facilitating increased access to general practice. Under the PNIP, grants are paid directly to eligible general practices. At this time it is unclear whether this policy is freeing general practitioners from technical activity or enabling a greater number of patients to be seen. However there has been a significant increase in the number of recorded services provided by practice nurses. In the financial year, between 2010- 11, there were 6.1 million activities undertaken by practice nurses (independent of general practitioners) that resulted in a subsidy paid by Medicare. An additional 6.5 million activities were undertaken by practice nurses in association with general practitioners that were not eligible for a Medicare subsidy (Britt et al. 2011). Furthermore, it is possible that these estimates understate practice nursing activity; if no Medicare rebate exists or a claim is not lodged, then the activity of the practice nurse will not be recorded by Medicare. While it is not yet possible to assess the effectiveness of the PNIP, the program clearly illustrates how the federal government can use Medicare to pursue policy objectives. For practice nurses the policy of the federal government to increase the accessibility of general practice has led to improved employment prospects and increased the range of activities in which they can be legitimately involved.

In December 2011 Medicare rationalised the rebates for practice nurse activity, resulting in the removal of rebates for specific tasks such as immunisations, wound management, and cervical screening. Rebates were retained, however, for practice nurses to undertake adult and child health assessments, antenatal care, chronic disease management, spirometry, and electrocardiograms (Commonwealth of Australia 2012c). This rationalisation represents the cumulative outcome of over 20 years of macro and micro level structural reform. This process of structural reform is

explored in greater depth in Chapter 2 'Responding to changing health care need'. The introduction and continuation of grants and financing to support practice nursing may raise questions regarding the financial viability of nursing in general practice. However it is apparent that the federal government is committed to supporting practice nursing and that this support is likely to have implications for the nature and character of practice nursing roles (Joyce and Piterman 2011).

IMPLICATIONS FOR PRACTICE NURSING

The nature and character of the Australian practice nursing role remains poorly defined. One possible reason for this relates to the diversity of activities in which practice nurses may be involved and a subsequent inability to clearly articulate the role of the practice nurse (Halcomb, Patterson and Davidson 2006; Merrick et al. 2012). While a body of evidence has begun to emerge that describes what practice nurses do, much of this evidence has been derived from an analysis of Medicare financing data (Britt et al. 2011; Carne et al. 2011; Halcomb, Davidson and Brown 2010; Joyce and Piterman 2011; Parker, Walker and Hegarty 2010; Pearce, Hall and Phillips 2010; Pearce et al. 2011a). As such the evidence tends to focus on the technical activities undertaken by practice nurses such as immunisations or cervical screening. For example, Joyce and Piterman (2011) found that practice nurses were involved in 21 of 100 medical examinations (less than 25% of patient encounters), providing 22.5 immunisations per 100 encounters, diagnostic testing (10.6 per 100 encounters), and performing dressings (15.8 per 100 encounters). However the generalisability of these findings was limited by a small sample (n= 108) that was

over-representative of practice nurses employed in metropolitan areas. Furthermore, there was the potential for selection-bias; it has previously been demonstrated that practice nurses in advanced roles are more likely to self-select for research participation (Joyce and Piterman, 2009). The findings were also likely provide a incomplete picture of practice nursing activity as the surveys only collected information on activity involving a patient encounter. Previous research had demonstrated that practice nurses undertake a number of activities, such as practice management, that does not involve patient encounters (Phillips et al., 2009).

Others have suggested that there is more to the role of the practice nurse than the performance of technical activities. In a qualitative study, Phillips et al. (2009) described practice nurses as, at any one time, fulfilling the role of: carer, organiser, quality controller, problem solver, educator, and 'agent of connectivity' (p. 93). Despite these findings regarding the diversity of practice nurse roles (Phillips et al. 2009), *how* practice nurses contribute to service delivery remains uncertain. This gap in our understanding of practice nursing may be a reason why the growing body of evidence on Australian practice nursing is yet to inform federal government policy, the structural or financial reform of general practice, or to substantively impact on the scope and role of the practice nurse. This argument was advanced by Pearce et al. (2011b) who hypothesised that the context and organisational environment in which practice nurses work is unknown. The continuing use of Medicare rebates to incentivise practice nursing activity may fail to take into consideration the traditional hierarchy of Australian general practice, whereby the general practitioner is the team leader. If this is the case then there may be important gaps in our understanding of the role of the Australian practice nurse. The general practitioner controls and directs

the activities of the rest of the primary health care team. Therefore, while Medicare financing may aim to promote collaborative service delivery, it may create a situation where practice nurses feel constrained by general practitioner supervision (Pearce et al. 2011b).

It remains unclear if Medicare financing, delivered within the traditional structure of general practice, has had the desired impact on how general practice services are delivered. It is also unclear whether the promotion of collaborative models of care is creating tension between practice nurses and general practitioners. For example, the success of promoting collaborative care for people with chronic disease may depend on re-negotiating traditional roles within general practice between the general practitioner and the rest of the team, particularly practice nurses. Opportunities for practice nurses to participate in collaborative service delivery are likely to be influenced by the quality of their relationship with the supervising general practitioner. The negotiation of long-standing traditional roles may lead to either conflict, change, or both. Given the objective of the federal government to enhance the accessibility of general practice, the ageing of the Australian population and health workforce, and the increased prevalence of chronic disease it is timely to examine how practice nurses and general practitioners collaborate, delegate, make decisions, and negotiate their work activities. These understandings are vital to addressing the critical need identified by Health Workforce Australia (2011) for innovation in the way that the health care professionals deliver services. This knowledge is also essential for informing the future role of the Australian practice nurse and the understanding the potential for collaborative approaches in Australian general practice. The research presented in this thesis aims to generate new

knowledge and understanding of how practice nurses undertake their everyday work.

AIM OF THE STUDY

The aims of this research are i) to determine if there are opportunities, or if there is the potential for practice nurses, to make decisions about the organisation and delivery of patient care; and ii) to ascertain whether, if practice nurses have the opportunity to make decisions about patient care, this care is characterised by collaboration.

RESEARCH QUESTIONS

For this study the following research questions are asked:

1. Do practice nurses have opportunities to make decisions about the organisation and delivery of care to patients who attend a general practice?

2. Do practice nurses have the opportunity to collaborate with general practitioners in care?

3. Does the structure and organisation of general practice encourage practice nursing participation in care delivery?

Chapter 2 will provide a background to the structure of general practice in Australia,

describing how general practice is funded and supported by the federal government, the challenges facing general practice, how the activities undertaken by general practice are changing, and what opportunities these changes may present for practice nurses. In Chapter 3 a review of the literature is presented, providing a critical analysis of how the role and work of practice nurses are described, how this role may expand, and outcomes from practice nurses' involvement in patient care. Chapter 4 describes the theoretical approach, methodology, and research design used to answer the research questions. In Chapter 5 the results of Study 1 and Study 2 are presented. In Chapter 6 a synthesis of the results from Study 1 and Study 2 are presented in relation to the research questions. The Thesis concludes in Chapter 7 with a discussion of the research findings and conclusions are drawn about the implications of this research for the future role of practice nurses in Australia.

CHAPTER 2- GENERAL PRACTICE IN AUSTRALIA

INTRODUCTION

In this Chapter, the reader will be introduced to Australian general practice, the growth of the practice nursing workforce, and how this growth has been supported by the federal government. The relationship between general practice, Australia's universal health insurer (Medicare), and the federal government, will be discussed, and evidence will be presented as to how the use of general practice has changed over the past decade. The response of the federal government to the changing use of general practice will also be critically examined. Finally it will be argued that an adequate response to the changes in general practice use will require a shift in how Australian general practice is structured. More precisely, it will be suggested that the structure of general practice will need to either facilitate greater delegation from the medical to the nursing professions, or alternatively promote greater collaboration between the two professions. Fundamentally reshaping the relative contributions of the nursing and medical professions in Australian general practice is necessary to meet demand for primary health care services, ensure equitable access, deliver effective care, and adapt to the changing characteristics of the health care workforce.

AUSTRALIAN GENERAL PRACTICE

To understand the potential for greater delegation or collaboration in the delivery of services in general practice, it is important to understand the existing organisational

structure of Australian general practice settings. The current structure involves nurses, physicians, and allied health professionals working to provide first contact prevention, advisory, diagnostic, and treatment services. The physician, referred to as a general practitioner, is positioned as the leader of the multi-disciplinary team. The general practitioner acts as a gatekeeper to the Australian health care system, responsible for the long term coordination of patient care, referring patients to hospitals (for acute conditions), and/or to specialist medical services (Duckett and Wilcox 2011). As explained in Chapter 1 nurses who work with, or for, general practitioners are referred to as practice nurses. Clinically the general practitioner is considered to be the supervisor of the practice nurse whose role then is to undertake tasks as delegated by the general practitioner when appropriate or necessary (Royal Australian College of General Practitioners and Royal College of Nursing Australia 2004). However, at the same time, practice nurses must also find ways to contribute to care on their own terms (Willis, Condon and Litt 2000). In clinical practice, this need to complete delegated tasks whilst also finding ways to contribute to care on their own terms, may result in a situation where the relative contribution of practice nurses to patient care is negotiated on an ongoing basis with the general practitioner.

At an organisational level, the outcomes of these negotiations are determined by the context of the general practice and characteristics such as the patient cohort and the demands on the general practice. These negotiations are also contingent on the demonstration of competence by the practice nurse, according to externally determined professional standards and relevant legislation (Australian Practice Nurses Association 2010). It is the position of the Australian Practice Nurses Association (2010) that nursing care should be patient-centred, respectful of the

diversity of individuals across the life span, and determined by the educational preparation of the nurse. Therefore the role of the practice nurse in Australia is subject to relationships with medical colleagues, the priorities of the general practice, and the needs of patients. For these reasons to better understand practice nursing there is a need to consider the environment in which they participate and practice.

In the hierarchy of general practice in this country, the general practitioner is the ultimate custodian of patient care. However, within this model practice nurses may progressively take on more tasks as delegated from the general practitioner. In some cases they may take on technical tasks that were previously the domain of the medical profession. The results of an early 'Cochrane Collaboration' meta-analysis by Laurent et al. (2004) indicated that delegating more tasks from the general practitioner to the practice nurse may offer no worse outcomes than medically-led care. In this meta-analysis the authors identified 4253 potential relevant articles, of which 25 publications relating to 16 studies met the inclusion criteria. The studies included were conducted in Canada, the United States of America, and the United Kingdom. The authors used a fixed effects model to provide a reliable estimates of the average effect (and confidence intervals) on four outcome measures in including: patient outcomes, process outcomes, resource utilisation, and cost of care. Although the authors concluded that there appeared to be an equivalence between nurse substitution for medical care a number of limitations were noted, which included many of the studies drawing on small samples and very few accounting for the potential for outcome variation by practitioner. The meta-analysis however built on the earlier findings of Buchan and dal Poz (2002), who identified that when the roles of nurses and doctors overlap in primary health care, substitution of the former for

the latter can be no less effective in terms of patient outcomes, with some evidence suggesting that patients' experience of care is improved (Del Mar et al. 2008; Eley et al. 2013; Griffiths, Maben and Murrells 2011; Rafferty et al. 2005). However, arguments in favour of the substitution and delegation of tasks from medical to nursing professionals are often based more on the perceived opportunities to contain costs and increase the profitability of the practice than on a consideration of patient outcomes (Buchan and dal Poz 2002). This line of argument suggests that delegation from the medical to the nursing profession has the potential to increase the profitability of general practices by allowing more patients to be seen within the same amount of time (Australian Nursing Federation 2004; Calpin-Davies and Akehurst 1999; Lattimer et al. 2000; Offredy and Townsend 2000; Rafferty et al. 2005; Ritz et al. 2000; Venning et al. 2000).

Between 1995 and 2010 the objectives of cost containment and profitability have been adopted by successive federal governments to inform and structure incentives for the employment of practice nurses. It was reasoned that in addition to containing costs and improving the profitability of general practices, the employment of practice nurses would also facilitate an increase in access to services. However, seven years later, Buchan and dal Poz (2002) found that evidence for cost-containment was not conclusive. Sibbald, Shen and McBride (2004), in a systematic review of 9064 articles, found no evidence to support cost containment or improved profitability as a result of substituting medical professionals with hospital or primary health care nurses. Other authors also found that this approach resulted in no significant differences in the ratio of cost, benefit, or effectiveness (Buchan and dal Poz 2002; Laurant et al. 2004; Laurent et al. 2004). Coinciding with these findings the

Commonwealth Department of Health and Ageing (in response to lobbying from professional medical organisations) asked the Productivity Commission[2] to review the funding that supported the employment of practice nurses. Despite evidence to the contrary and no submissions from nursing representatives, the Productivity Commission concluded that the rationale for funding was sound, so long as financial support for practice nursing does not incur on the professional autonomy of the general practitioner (Productivity Commission 2003). The consequent continuation of financial support for the employment of practice nurses contributed to a dramatic growth in the size of the practice nursing workforce. Between 2003 and 2010 the number of nurses employed in general practice has increased by 68% from 3,255 to 10,085 (Carne et al. 2011). The growth of the practice nursing workforce is summarised in Table 1.

[2] The federal government's independent research and advisory body.

Table 1 Number of practice nurses employed in Australia, 2003-10*

Year	Number of Practice Nurses
2003-04	3,255
2004-05	3,987
2005-06	6,151
2006-07	7,493
2007-08	8,575
2008-09	9,221
2009-10	10,085
2010-11	11,547

*Estimates of the size of the practice nursing workforce for 2003-10 are drawn from Carne et al (2011), who drew on survey data and reported a 100% response rate. For 2011 data is drawn from the Australian Institute of Health and Welfare (2012) which also used a survey method reporting a 92% response rate, and defined general practice as 'private practice'. Discrepancies in the sample sizes between the two studies could lead to inaccuracies in the data presented here.

Whilst Table 1 illustrates the dramatic growth in size of the Australian practice nursing, it is unclear what proportion of the workforce is employed on a Full-Time-Equivalent (FTE) basis. Carne et al. (2011) reported that the majority of Australian practice nurses work part-time, on average 28 hours per week. In regards to the location of practice, it was found that 54% of practice nurses were employed in metropolitan areas, 24% in rural areas, and in areas defined as transitioning between metropolitan areas and rural areas (14%) (Carne et al. 2011). It is unclear if the tendency for practice nurses to be employed in metropolitan areas is consistent when

considered in relation to the density of the general population. As for nursing generally, geographic areas classified as very remote have the highest number of employed nurses *per capita* (1,240 FTE), while metropolitan areas have the lowest. In addition, the supply of Registered Nurses, as opposed to enrolled nurses, decreases with population density; whether this applies to the practice nursing workforce is (at this time) uncertain (Australian Institute of Health & Welfare 2012).

As previously mentioned, the growth of the practice nursing workforce has been supported and perhaps driven by the continuation of federal government grants. When these grants were reviewed in 2003, the Productivity Commission recommended that support for practice nursing should not intrude on the professional autonomy of the general practitioner (Productivity Commission 2003). Yet as the Productivity Commission was making this recommendation, significant changes were occurring that would alter the structure of general practice in Australia. Increasingly, the concept of the Australian general practitioner as a sole professional operating alone and independently of government influence was being challenged as a result of a trend towards larger and more centralised practices. Many of these are now corporate practices. Larger and more centralised practices are, in part, a result of an increase in the number of general practitioners, a decrease in the number of practices, and remaining practices being more likely to be located in metropolitan areas (Primary Health Care Research and Information Service 2012).

The trend towards more general practices being located in metropolitan areas combined with a highly urbanised workforce has led to concerns being raised regarding the accessibility to general practice services for people who live in regional

and remote areas (Beilby and Furler 2005; Cameron and Thompson 2005; Doorslaer, Masseria and OECD Health Equity Research Group Members 2004; Lannin and Longland 2003; Wilkinson et al. 2003). To facilitate access to services for this population the federal government provides grants to support general practice and practitioners to employ practice nurses. These grants are referred to as the Practice Incentives Program (PIP). Although associated with the PNIP grants mentioned earlier, the PIP grants differ in that they target specific general practice providers who meet a range of criteria, including being located in a rural or remote area, and the number of patients a general practice looks after. Additional weighting is given for the provision of after-hours care, the employment of practice nurses, geographic location of the practice, screening and preventive services, early intervention, and the delivery of care to people in residential and aged care facilities.

As demonstrated in the preceding review of the Practice Incentives Program (which was expanded in 2012) the sustainability of such programs is subject to the acceptance of providers. Yet during an early review and adjustment of the PIP program in 2003/04, practice nurses were not represented in the submissions, despite the PIP program having significant implications for the viability of practice nursing in Australia. At the time (as with the PNIP grants) the rationale for supporting the employment of practice nurses is to allow general practitioners to delegate technical activity, thereby increasing the volume of patients seen and providing an opportunity to achieve the optimal balance of cost, benefit, and effectiveness. Some of the technical activities that practice nurses have been supported to undertake on behalf of a general practitioner include: providing immunisations, multidisciplinary care management, care for the older person, asthma management, and the management of

chronic disease (Department of Health and Ageing 2013).

The PNIP and PIP grants support the practice nursing workforce with the objective of facilitating access to services consistent with the WHO statement that 'primary health care brings services as close to where people live as possible' (World Health Organization 1978). When these grants are coupled with financing for clinical activities undertaken by practice nurses it becomes clear that the federal government is committed to increasing the contribution of the practice nursing workforce to care (Merrick et al. 2012). Whether or not the rationale underpinning the commitment of the federal government is supported in evidence, it is clear that there is an intention to support the general practitioner as the leader in, and custodian of, patient care. This premise becomes more apparent when the role of Medicare as the regulator of the administration of federal government grants and incentives is examined.

MEDICARE

Australia's universal health insurer, Medicare, is funded from general taxation and subsidises health care services provided by both hospitals and doctors. The majority of the services provided by general practitioners are subsidised by Medicare. All Australian citizens, permanent residents, and citizens of countries with reciprocal health care agreements (excluding foreign diplomats and their families) are eligible for Medicare subsidies (Connelly and Doessel 2000; Department of Health and Ageing 2013; Duckett and Wilcox 2011). A close examination of the functions of Medicare suggests that the federal government can manipulate the financing

administered by Medicare to influence the behaviour of general practice providers and general practitioners, and that the government has done so to increase the employment of practice nurses.

As noted in Chapter 1 if a provider engages with Medicare they may opt to charge a fee for a service that matches the fee recommended by Medicare. Where this is the case the provider may bill Medicare directly, resulting in no out-of-pocket costs for the patient. This practice is known as 'bulk-billing'. This is the preferred billing option of the federal government, as doing so removes the financial barriers that may impede access to primary health care services. Recently the practice of bulk-billing has become more common, increasing from 74% of practices in 2008/09 to 82% in August of 2012 (Duckett 2004; Hon Tanya Pilbersek 2012; Roxon 2009). Yet providers also have the option of charging an additional (or gap) payment over and above the Medicare recommended fee and this financial gap must be met by the patient. This situation is commonly referred to as a 'blended payment' model. Where a provider chooses to not engage with Medicare the onus is on the patient to claim the relevant subsidy themselves. However, the patient may pay the full fee-for-service charged by the provider. In this situation the income of providers is determined by the units of service provided multiplied by the cost of each service. The most significant price-determining factor in this situation is the demand and supply curve. The relationship between demand and supply is arguably of limited utility for understanding the behaviour in Australian general practice because the presence of Medicare acts to distort the fee-for-service model (Gosdan et al. 2002). By setting a price for service Medicare removes financial incentives for 'discretionary' or non-essential treatment. In addition general practitioners should be

less likely to be able to charge rates above that of competing practitioners who bill only to Medicare, resulting in market pressure to constrain price inflation (Johar 2012).

Medicare plays a significant role in the financing of general practice, evidenced by 94.7 million occasions of service subsidized by Medicare in 2010 (Australian Bureau of Statistics 2010). However, the presence of Medicare in the financing environment is not without its detractors. For example, the previously discussed review of practice nurse funding by the Productivity Commission in 2003 recommended that no grants or financing should impact on the professional autonomy of the general practitioner. Arguably, there is a tension between the promotion of policy priorities with financing (administered by Medicare) and a perception that tying funding to activity constrains professional autonomy (Greb, Delnoij and Groenewegan 2006; Groenewegan and Calnan 1995). Further, there is an argument that an unmediated fee-for-service relationship provides incentives for general practitioners to under-delegate while providing more services, potentially exceeding what would be determined as in the patients' best interests (Le Fevre 1997). Some authors argue that this situation would result in patients consuming more services and that the presence of Medicare, through either bulk-billing or a blended payment arrangement, acts to constrain over-consumption as the provision of services are perceived as limited to those that receive Medicare subsidies (Gosden et al. 2001; Gosdena et al. 2003; Weiss et al. 2009). Nonetheless, the setting and publication of recommended fees for services act to constrain inflation of prices; assuming that providers operate in competition and the consumer is adequately informed (Catchlove 2001).

Medicare provides a powerful mechanism for the federal government to intervene in the primary health care market. This funding scheme acts as a centralised mechanism for coordination, promotion, monitoring, and evaluation of the provision of health care services (Greb, Delnoij and Groenewegan 2006). These functions become most apparent with the annual publication of the Medicare Benefits Schedule (MBS), which is a guide to services provided by health care providers that are eligible for an insurance subsidy from Medicare. Each type of service is described in the MBS. Although a number of eligible services in the MBS are technical (i.e. surgical procedures, pathological testing, and diagnostic imaging procedures), the majority of services are referred to as professional attendances, an interaction between a health professional and a patient.

One way that the federal government uses the MBS to influence interactions between health professionals and patients is the provision of progressive subsidies. For example, many professional attendances are divided into four levels of complexity which correspond to the amount of subsidy provided by Medicare. If the professional/patient encounter is seen to address a policy priority such as providing care patients with chronic conditions or meeting the needs of an 'at risk' population, then the amount of subsidy is increased (Department of Health and Ageing 2005; Greb, Delnoij and Groenewegan 2006), providing a financial incentive for providers to engage with those patients. The provision of progressive subsidies for the development of a long-term care plan for a patient with non-gestational diabetes (by practice nurses and general practitioners) provides a good example of how financial incentives may alter provider behaviour. Three levels of subsidy are offered for this activity with the 'most simple' attracting the lowest financial reward. The reward

progressively increases as more time is invested in the development of the management plan. An analysis of Medicare data undertaken by the author indicates that between 2001 and 2011 there was an 82% increase in the number of the 'most complex' and time consuming management plans provided (with a reward of A$95.95 per plan provided), as compared to a 69% increase in the 'most simple' (with a reward of A$34 per plan provided). A comprehensive analysis is provided in the section entitled 'Changes in the use of general practice: MBS claim analysis below. The progressive structuring of subsidies therefore seeks to address the issue of vertical equity and attempts to achieve the social objective of Medicare to 'remove financial barriers impeding the access of Australians to health care services' (Medicare Australia 2006a). This is achieved by encouraging providers to concentrate on those patients with the most complex care needs.

Progressive subsidies also seek to align the priorities of primary health care providers with the policy priorities of the government. Conversely, the reduction of a subsidy may also be used to discourage the provision of a particular type of service. In this way, the federal government can systematically pursue goals or values in response to policy objectives (Colebatch 2002; Davies 2000; Gibb 1998), and does so by using financial incentives to influence provider behaviour (Calnan and Sanford 2004; Gosden et al. 2001; Gosdena et al. 2003; Greb, Delnoij and Groenewegan 2006). The success of the pursuit of policy objectives is subject to the ongoing negotiation of economic utility, ethical constraints, professional standards, and social imperatives. Nonetheless, for the federal government, the ability to incentivise general practice behaviour (through Medicare) has become an increasingly important strategy to achieve general practice change.

CHANGES IN USE OF GENERAL PRACTICE: MBS CLAIM ANALYSIS

Over the past 20 years, Australians have been using general practice more often and for a wider range of complaints. Historically, a typical person would be likely to access general practice once or twice a year for one health care complaint. In 2010-11, 81% of Australians utilised general practice services, resulting in 94.7 million occasions of service (Australian Bureau of Statistics 2010). Of the 18,322,686 Australians who went to a general practice in 2010-11, 58% did so because of one health complaint. But for every person who went with one health complaint there were 1.45 health complaints managed. Meanwhile, 28% of people went to a general practice with two health complaints, 12% went with three health complaints, and 2% went with four health complaints (Britt et al. 2011). Between 2005 and 2010 the number of people who went to a general practice with more than one health complaint has increased by 43%. Therefore, the average Australian who uses a general practice is more likely to do so for more than one health complaint and is more likely to go a general practice more than once per year. Consequently, there has been a significant increase in the volume of demand for general practice services in the past ten years.

The increase in volume of demand has corresponded with a change in the nature of health care complaints dealt with in general practice. More often Australians use general practice services for the management of a long-term or 'chronic' complaint. Since 2001, there has been a 4% increase in the number of people with a chronic health complaint going to a general practice. In 2010, 53.1% people went to a general practice with a long-term or 'chronic' health complaint; more than one-third of the

health care problems managed in general practice (O'Halloran in Britt 2011).

An examination of 2010 data presented in Britt et al. (2011) suggests that the changing health care needs of Australians are resulting in two increasingly distinct cohorts of people who use general practice. The first patient cohort is those patients with an acute or episodic health care complaint and the most common reason is for a 'general or unspecified' reason (41%). Respiratory health complaints were the next most common (22%), followed by musculoskeletal health complaints (15%), health complaints related to skin conditions (15%), cardiovascular health complaints (7%), digestive problems (7%), and psychological concerns (9%).

The second patient cohort, patients with chronic or long-term conditions, represents the majority of general practice activity (53.1%). For this cohort the most common health care complaint under management is non-gestational hypertension (18%), followed by depressive disorders (8%), non-gestational diabetes (7%), lipid disorders (7%), and chronic arthritis (7%) (Britt et al. 2011). For both of these cohorts the procedures and interventions used during management are similar. During an average 100 general practitioner and patient encounters there are likely to be 106 medications prescribed, 34 clinical treatments, 17 procedures, 9 referrals to specialist medical services, 4 referrals to allied health services, and 56 diagnostic tests ordered. More often a combination of these interventions will be used, and this is more likely for patients with long-term or multiple problems (Britt et al. 2011).

Changes in the use of general practice, such as those described above, provide a clear indication that there is a shift within the Australian community, towards a greater

prevalence of chronic and complex conditions requiring multiple and prolonged intervention. This is supported by patterns of Medicare subsidy use for activity to the care of patients with chronic and complex conditions.

Analysing Medicare claim data provides a proxy indication of the frequency and complexity of general practice activities related to chronic and complex morbidity in New South Wales (NSW). The description which follows is based on an analysis of Medicare data between 1994 and 2011. This has been made possible because of the publication and description of services in the MBS. When a general practitioner or patient lodges a claim, a number is cited that corresponds to the service listed in the MBS (Department of Health and Ageing 2013). The resulting claim data for the activities detailed in MBS have been cross-referenced and analysed for the frequency of claims by the author. These data can be used to estimate utilisation, demand, and activity (Barer et al. 1987; Britt et al. 2011; Britt et al. 2005; Martens, Sanderson and Jebamani 2005; Williams et al. 1990).

The description of claim data presented here focuses on: (a) the different levels of complexity of interaction between the general practitioner and patient; (b) the use of care planning for people of the age of 75 years; (c) chronic disease management services; and (d) activities that can be undertaken by a practice nurse on behalf of a general practitioner. Focusing on these activities provides insight into changes in the frequency and complexity of NSW general practice activity over the previous decade. Insights are gained into how patients with co-morbidities, or requiring long-term management, are changing the activity that is undertaken in general practice. In addition, by describing the activities involving practice nurses, insight is gained into

how nursing contributes to service delivery.

A number of the services examined here are divided by ascending orders of complexity, the basis of which is detailed in the preceding section. For professional and patient encounters there are four levels of increasing complexity defined by the length of consultation time and the depth of patient engagement. A description of each level is provided in Table 2.

Table 2 Medicare items for professional attendances by complexity of service provision

Simple	
Level A:	Professional attendance for an obvious problem characterised by a straightforward nature of task, requiring a short patient history, and if required limited examination and management, subsidy provided $16.60 (100% of schedule fee).
Level B:	Professional attendance involving the taking of a selective history, and examination of the patient with the implementation of a management plan for one or more problem, subsidy provided $36.30 (100% of schedule fee).
Increasingly complex	
Level C:	Professional attendance involving the acquisition of a detailed history, an examination of multiple systems, the arranging of any necessary investigations, and the implementation of a management plan involving one or more problems, taking at least twenty minutes, subsidy provided $70.30 (100% of schedule fee).
Complex	
Level D:	Professional attendance involving the taking of an exhaustive history, a comprehensive examination of multiple systems, arranging any necessary investigations, and the implementation of a management plan in relation to one or more complex problems, lasting at least forty minutes, or a professional attendance lasting at least forty minutes for the implementation of a management plan, subsidy provided $103.50 (100% of the schedule fee).

Department of Health and Ageing 2013, *Medicare Benefits Schedule*, Commonwealth of Australia, Canberra.

Health professional and patient encounters characterised as level A and B are short (<20 minutes) interactions, involving the assessment and treatment of one problem. Level C and D encounters are of a longer (>20 minutes) duration and are characterised by assessment, planning, coordination, and /or treatment. The following section presents an analysis of Medicare claims as a proxy for general practice activity. It should be noted at the outset that using Medicare claim data as a proxy for service utilisation requires the acknowledgement of a number of limitations that will affect the interpretation of the analysis. Inferring service utilisation from aggregated claim data involves two implicit assumptions. First, that general practitioners will operate as rational agents and will attempt (within ethical and professional limits) to minimise the quantity of work while maximising financial reward, thereby maximising economic utility (Allingham 2002; Kiser and Hechter 1998; Wenbo and Davis 1999). The resulting assumption is that general practitioners will favour the MBS subsidy that provides the greatest financial incentive. Second, those patients will also operate as rational agents, favouring utility over immediate satisfaction with service. This implies that patients will favour the use of general practice providers who provide the greatest ease of access and provide continuity of care, and this may result in patients from other states close to the border using general practice providers in New South Wales. This effect, known as 'cross-border utilisation', limits the utility of using claim data to infer demand for services (Connelly and Doessel 2000). However an analysis of MBS claim offers the opportunity for insights into activity in general practice as there are no other publicly available data sets as comprehensive or detailed.

The first activities to be described are professional attendances called 'surgery consultations', the most common activity in general practice. Every patient who attends a general practice will, at some point, have a consultation with a general practitioner (a surgery consultation). Therefore, the number of claims for surgery consultations represents the volume of services delivered. Furthermore, because surgery consultations are divided by the four levels of complexity (Table 2) insights can be gained into the complexity of health complaints encountered in general practice, the response of the general practitioner, and the time commitment required by each patient.

The volume and complexity of general practice activity

Between the first quarter of 1994 and the fourth quarter of 2010 there was a 29% increase in the volume and frequency of claims for surgery consultations. For the shortest and most simple general practitioner and patient encounter (level A), there was an increase of 61,352 claims. For the more involved general practitioner patient encounter (level B) there was a 17% increase in the number of claims processed, or an increase of 1,217,539 claims between 1994 and 2010. For an encounter lasting at least 20 minutes involving the acquisition of a detailed history (level C) there was a 46% increase in the number of claims processed, or an increase of 407,596 claims between 1994 and 2010. For the most complex encounter lasting at least 40 minutes (level D) the number of claims has remained relatively static, with a small increase of 68 claims between 1994 and 2010.

The Medicare analysis indicates that between 1994 and 2010 the type of general practitioner and patient encounter (surgery consultation) that has increased the most is where a general practitioner undertakes a detailed history, examines multiple systems, arranges necessary investigations, and implements a management plan for one or more health care complaints (level C). The increase in the volume of level C encounters between 1994 and 2010 has been six and half times greater than the increase in the volume of the shortest and most simple encounter (level A). It may be inferred from this analysis that the trend towards longer and more complex encounters is consistent with managing the increased number of health complaints of an older or more chronically ill patient group.

Between 1999 and 2010 the volume of claims processed for health assessment for an older person (over the age of 75) has increased by 90% (14,440). As a claim for this activity can only be made once per year per patient, these data exclude the possibility of multiple claims per patient. Therefore, it can be said that an increase in the number of claims is a direct indication of an increase in the volume of services provided to older people. Yet these same patients may also receive services for management of one or more chronic diseases. An example helps to make this clearer. It is possible that an older person may have a once yearly health assessment by a general practitioner and also have a management plan developed for pre-existing diabetes mellitus.

In 2011, Britt et al. reported that non-gestational diabetes (7%) was the third most common chronic disease encountered in general practice representing 7% of patient encounters, where that person has a pre-existing chronic condition. The development

of a long-term management plan for a patient with non-gestational diabetes (detailed as a specific MBS activity) could be thought to represent a significant portion of general practice activity. The development of such a management plan involves taking a patient history, performing a clinical examination, arranging necessary investigations, implementing management plans, and providing appropriate preventive services (Department of Health and Ageing 2013; Medicare Australia 2011). During the past decade Medicare claim data indicated that the volume of this activity has increased and become more complex. For example, between 2001- 2011 the number of times a simple assessment was undertaken and a management plan developed for a patient with non-gestational diabetes increased by 69% (5,561). The volume of activity which involved taking a detailed patient history increased by 73% (4,284). During the same period the volume of activity that involved the taking of an extensive history increased by 82% (681). The analysis of Medicare data indicates that the increase in the number of claims for the development of a complex management plan for a patient with non-gestational diabetes had been small. However, when compared to the increase in the development of a simple plan, the increase has been proportionally more significant. Evidence indicates a trend towards more complex activity related to the assessment and management of patients with non-gestational diabetes. This trend is reflected in the data related to the involvement of multi-disciplinary care teams for patients with chronic conditions.

For patients with chronic conditions requiring a multi-disciplinary team (potentially involving a practice nurse) to plan and make care arrangements, there has been a trend towards a greater volume of activity. Since this activity was listed on the MBS there has been a 57% increase (83,524) in the number of claims made. During the

same period there was a 75% increase in the number of claims processed for the coordination and arrangement of team-care. This is further reflected in the volume of activity for patients that require monitoring and support by a practice nurse; for this activity the number of claims has increased by 80% (22,479) between 2003- 2010. Practice nursing involvement in technical or procedural care has also increased. Until 2012 practice nurses could undertake technical tasks on behalf of general practitioner including the administration of an immunisation, wound management, and performing a cervical smear. The Medicare analysis presented here indicates that the volume of immunisations administered and the number of wounds managed by practice nurses has increased in the preceding decade. The only activity to have declined in volume was the performance of cervical smears by practice nurses. However, this decline coincides with the 2006 introduction of two other Medicare subsidies for the provision of cervical smear services, suggesting that rather than a decline in activity there was a dispersion of claims across multiple MBS activities.

This Medicare analysis also indicates that over the last decade there has been an increasing volume, frequency, and complexity of activity undertaken in general practices in NSW. It can be inferred by this Medicare analysis that patients are increasingly accessing general practice for more than one problem at a time. These problems are more likely to be long-term in nature, requiring comprehensive health assessments and potentially long-term management plans. Practice nurses are likely to be involved in the delivery of these services but the analysis of Medicare data does not provide any insight into how they do so. While it is clear that there is an increasing number of patients with chronic and complex conditions utilising general practice services, and that the contribution of practice nurses to those service has

increased, how practice nurses contribute remains uncertain. Medicare data does not illuminate how services are functionally arranged, organised or delivered within the general practice environment. Understanding how services are organised and delivered will become increasingly important as policy makers look to the nursing profession to support capacity building within the general practice sector and particularly as the health care needs of Australians are changing.

RESPONDING TO CHANGING HEALTH CARE NEED

Responding to the changing health care needs of Australians has been a policy priority of successive federal governments since the early 1990s. In 1992 the former Department of Health, Housing and Community Services published a report entitled the 'National Health Strategy: the Future of General Practice' (1992). A goal of this early strategy was to pre-empt the changing health care needs of Australians. This involved promoting a holistic model of care, reducing the financial barriers to access, and improving service integration across primary and acute health care providers.

One of the outcomes of this strategy was the introduction of financial support for the provision of multi-disciplinary services in general practice for older people. Introduced in 1999 and referred to as the Practice Incentives Program (PIP) this was the first time that federal government had *explicitly* provided for the involvement of practice nurses. As indicated earlier the rationale for this program was based on the idea that the employment of practice nurses would contain costs, and increase the profitability of general practices by increasing the volume of patients seen. It was

thought that this would simultaneously facilitate access to general practice.

Under PIP much of practice nursing involvement was to be related to health assessments for older people, care planning, case conferencing, and for services related to chronic illness and conditions. Collectively these activities were referred to as Enhanced Primary Care (EPC), and later as Chronic Disease Management (CDM) (Marjoribanks and Lewis 2003; White 2000). These early federal financing strategy attempts at changing how, and what, services were delivered in general practice were not substantially revisited until 2008 with the establishment of the National Health and Hospitals Reform Commission (NHHRC).

The federal government called for the establishment of the NHHRC and tasked the commission with developing a long-term plan for Australian health care reform (Nicholson et al. 2012). It was argued by the NHHRC, in 'A Healthier Future for all Australians' (2009a), that primary health care should be the focus of reform (pp. 6, 148). The NHHRC recommended that investments should be made in developing the primary health care workforce, developing primary health care infrastructure, and enhancing the coordination of services. These developments were consistent with the academic consensus that strengthening primary health care involved encouraging health professionals to specialise in primary health care, enhancing the existing functions of primary health care providers, and orientating health care systems towards the provision primary health care and away from acute care services (Friedberg, Hussey and Schneider 2010).

In response to the recommendations of the NHHRC the Department of Health and

Ageing (2010) published a report titled “Building a 21st Century Primary Health Care System”. In this Report they outlined a strategy for investing in and reforming Australia's primary health care sector. As general practice is the primary health care provider with whom most Australians have first contact, it was seen as the cornerstone of reform (Commonwealth of Australia 2009a; Friedberg, Hussey and Schneider 2010).The investments and reforms advocated by the Department of Health and Ageing involved amalgamating the existing Divisions of General Practice into Medicare Locals, the establishment of super-clinics, and investing in the development of the primary health care workforce.

At the time of writing the amalgamation of the existing Divisions of General Practice into Medicare Locals is ongoing. The objectives of amalgamation are to improve communication between general practice, federal funding bodies, and policy makers. Medicare Locals are to support general practitioners with the integration of disparate services, the management of chronic illness, engage the local community and patient groups, and to act as a resource for addressing workforce and patient concerns (Australian General Practice Network 2009a; Duckett and Wilcox 2011; Nicholson et al. 2012). The newly formed Medicare Locals would also act as a key resource during the establishment of super-clinics.

In 2008, the federal government committed to building 36 general practice ‘super clinics’. The amount of funding for the development of the super clinics was announced to be $275.2 million over five years, with an additional $355.2 million investment announced in 2010 (Commonwealth of Australia 2012a). The federal government also committed to providing infrastructure grants for 425 existing

primary health care providers. In 2012, the federal government committed an additional 650.4 million dollars of funding for the establishment of 64 super-clinics and expanding the infrastructure of 425 existing general practices (Commonwealth of Australia 2012b).

The objective of the super-clinics is to co-locate health care providers in geographic areas characterised by poor access, high emergency department demand, and high proportions of the population that are elderly, young, or have high rates of chronic disease (Commonwealth of Australia 2012b). The federal government and Department of Health and Ageing believe that by creating clusters of general practice services, the ability of the community to access broader health care services would be improved. This is despite questions as to whether increasing the supply of primary health care services will reduce the demand for tertiary care services for a population that is already characterised as older and 'sicker' (Lowthian et al. 2013).

The ambitions invested in the super-clinic do not stop at improving access to services. It was thought that co-locating general practitioners, practice nurses, and other health professionals (radiologists, medical specialists, and nurse practitioners) would achieve economies of scale. Increased efficiency will increase the capacity of the primary care sector, and reduce utilisation of tertiary care services. In part, these ambitions have been based on the assumption that co-location of different health professionals will act as a catalyst for the development of new ways of delivering services. This implies that shifts in the mix of staff working in general practice will improve and create efficiencies, particularly for the elderly, young, and people with chronic disease. Yet the Department of Health and Ageing stopped short of

specifying how different health professionals should work together, rather indicating that how services are to be delivered will be decided locally (Department of Health and Ageing 2010). At the time of writing it remains to be seen if the super-clinic initiative has been successful in facilitating access to general practice services, or has led to increased experimentation in the organisation and delivery of services.

The success of the super-clinic is dependent on an adequate workforce supply. Supplying super-clinics and the wider health care sector with a trained workforce was identified by the NHHRC as a 'building block' or a policy priority. To this end the federal government announced investments of $103 million to support and retain aged care nurses, and over $450 million for the training of general and specialist medical practitioners. In 2011, a review by the Department of Health and Ageing indicated that 100 rural training scholarships were planned or are being undertaken by nursing and allied health professionals; 518 FTE medical specialist training posts prioritising rural placements had been funded, with a plan for 82 additional training posts to be implemented by the end of 2012. These investments have been coupled with funding initiatives targeting areas of potential workforce shortages as well as addressing issues of workforce distribution. In addition, to increasing the supply of health professionals, these investments seek to address an uneven distribution of general practitioners and 'other' primary health care professionals between metropolitan and rural areas. The aim of these investments is to promote access to primary care services, a lack of which is seen as contributing to higher rates of hospitalisation than is found in other advanced countries (Department of Health and Ageing 2010, p. 18).

In addition to facilitating workforce supply and access to services, contemporary reforms (2008-11) have sought to build on the existing PNIP and PIP programs. The rationale for doing so continues to be founded on the premise that the employment of practice nurses enables a greater volume of patients to be seen. However, there is a consensus that achieving this goal requires a focus on the long-term care needs of patients with chronic conditions, in particular the provision of care planning and coordination services (Commonwealth of Australia 2012a). In July 2011, the federal government committed $390.3 million dollars to expand and enhance the role of practice nurses through an expansion of the PIP. The resulting expansion reduced the number of technical activities that could be undertaken by practices (on behalf of the general practitioner) but expanded the potential for practice nurses to be involved in provision of multidisciplinary care arrangements for people with chronic illness. The stated objectives of this shift are to enable general practices to improve the continuity of patient care for people with chronic conditions by encouraging long-term care planning.

The responses of successive federal governments to the changing health care needs of Australians have been based on a perceived need to encourage the employment of practice nurses in order to increase the volume of patients seen, facilitate access to general practice, and promote the management of patients with chronic conditions over the longer term. Workforce data indicate that the government has succeeded in encouraging the employment of practice nurses. Success in facilitating access and promoting the long-term management of patients is yet to be determined. Furthermore, there is no evidence to suggest that the co-location of different health professionals (in super-clinics or elsewhere) will act as a catalyst for the

development of new ways of working. The federal government has yet to seek to alter the hierarchical structure of general practice. This is possibly due to the limitations of the financing structures of Medicare, which allow for federal government influence but not direction. Yet, as the number of practice nurses increase and priority is given to the long-term management of patients, it is important to ask if the existing structure of Australian general practice is the most effective in achieving the desired patient health care outcomes.

OPPORTUNITIES FOR PRACTICE NURSING

More practice nurses, changing health care needs, and shift in focus towards the long-term management of patients are creating opportunities for practice nurses to expand their contribution to patient care and management. In Australia, support for practice nursing has been based on the premise that the practice nurse will facilitate access to services by undertaking tasks delegated by the general practitioner, thereby increasing the volume of patients seen. This has led to the suggestion that the practice nurse was becoming a replacement for the 'time poor and overworked' general practitioner (Watts et al. 2004). However, as we have seen, changes in health care demand has led to the majority of patients (53%) who use general practice doing so for chronic conditions (Britt et al. 2011). This, in turn, has led to an increase in the number of patients requiring long-term management. These changes have been encouraged by the federal government, which has provided financial incentives for longer-term management under Medicare and reformed the funding of practice nursing. Arguably, however, these opportunities are constrained by the existing

structure of general practice in Australia.

General practice in this country is structured hierarchically, with the general practitioner at the apex of the health care team. For practice nurses this means that their role involves undertaking delegated tasks and negotiating their contributions to patient care and management. This structure has largely remained unchanged since 1999 with the introduction of federal funding for the employment of practice nurses. It is the position of the medical lobby that the practice nurse should remain as a 'complement' to the general practitioner, assisting but not becoming a substitute for medical-led care (Capolingua 2007), and that practice nurses should not have a wider scope of practice in which they can independently diagnose, prescribe and/or refer patients (The Royal Australian College of General Practitioners 2011). Yet the wisdom of maintaining the role of the practice nurse as an assistant is being drawn into question by the demand to meet the changing health care needs of Australians (Duckett and Wilcox 2011). Internationally, there is a growing body of evidence to suggest that altering the relative contributions of primary health care professionals is necessary to meet demand for primary health care services, ensure equitable access, deliver effective care, and adapt to the changing characteristics of the health care workforce (Choong-Siew 2006; Collins, Hillis and Stitz 2006; Currie et al. 2005; Garden, Moore and Jorm 2005; Hollander et al. 2009; Sewell 2006; Tso-Ying et al. 2005).

Discussion about the contemporary role of the practice nurse in Australia echoes discussions held in the United Kingdom (UK) in the early 1990s (Midy 2003), where significant changes occurred in the funding and organisation of general practice

services (Broadbent 1998; Bury 1991). Two of the most significant driving forces for these changes were insufficient workforce supply and a concomitant increase in the demand for general practice services. In the UK, general practice (as with Australia) is structured with the general practitioner at the apex of the health care team. At the time nursing was viewed as a client partner of medicine (Atkin and Lunt 1996b; Bonawit and Watson 1996), or characterised as a failed profession - a 'stunted occupational subspecies' (Salvage 1988). For these reasons independence of practice nursing was not seen to be a viable option (Adamson and Harris 1996; Adamson, Kenny and Wilson-Barnett 1995). To facilitate access to services provided in general practice, there was an incremental extension of the number of tasks that could be delegated from the general practitioner to the practice nurse (Kernick 1999). This extension was seen to allow for the better management of the general practitioners' time without significantly altering patient outcomes or process of care (Buchan and dal Poz 2002; Laurent et al. 2004).

Increasing efficiency in the use of general practitioners' time would allow them to spend more productive time with patients, while shifting workload and responsibility was seen to assist in meeting the challenges posed by insufficient workforce supply and reduced service accessibility (Buchan and Calman 2004a; Cooper 2001; Gallagher, Huddart and Henderson 1998; Hooker 2003; Horrocks, Anderson and Sailsbury 2002; Marsh and Dawes 1995; Myers, Lenci and Sheldon 1997; Pritchard and Kendrick 2001; Richardson et al. 1998). Meanwhile, a body of evidence emerged that demonstrated extending the number of tasks available to practice nurses did not compromise patient safety (Butler et al. 2004; Edwards, Oppewal and Logan 2003; Leaman 1996; Shum et al. 2000; Wiles et al. 2003). One comparative study

indicated that practice nurses operating within an expanded scope of practice diagnosed and effectively managed minor illness and injury to a standard comparable to medical colleagues (Pritchard and Kendrick 2001).

These benefits of broadening the role of the practice nurse, combined with the lack of evidence suggesting negative or poor patient outcomes, underpinned the recommendation of the former Australian Commonwealth Department of Health and Human Services that practice nursing activity be incrementally advanced (Milne 1994a, 1994b, 1994c). Since this time in the UK, it has been argued that practice nursing has developed an independent frame of professional reference (Evans, Drennan and Roberts 2005a; Ford, Schofield and Hope 2006; Hunter 1996; Iliffe and Drennan 2000; Iliffe, Gould and Wallace 1997). It has also been suggested, however, that the increasing use of clinical protocols has created an illusion of greater independence while reinforcing the client-partner status of nursing by leaving little room to exercise autonomy or initiative (Harrison, Dowswell and Wright 2002; Macdonald et al. 2008).

In contemporary Australia, there is now an alternative to the model that was previously advanced in the UK. Rather than the practice nurse complementing or assisting the general practitioner, both professionals could collaborate and share in care-planning, goal-setting, decision-making, problem-solving, communication, cooperation, coordination, and consequently responsibility and accountability (Patterson and McMurray 2003). Evans, Drennan and Roberts (2005a) described collaboration within the general practice context as involving a systematic, cyclical approach to the organisation and provision of health care to people with chronic

conditions. In Australia, collaboration between general practitioners and practice nurses has been primarily associated with the care of people who have chronic conditions. For these patients, equal collaboration brings different disciplinary perspectives to bear on their health care needs. There are some authors who suggest that collaborative practice is a viable and even preferred alternative to the substitution of general practitioners with practice nurses in Australia (Ehrlich, Kendall and St. John 2012; Walters et al. 2012). It has been suggested that where there are positive inter-professional relationships, collaborative service delivery intrinsically occurs (Gibson and Heartfield 2005; Jenkins-Clarke and Carr-Hill 2001; Jenkins-Clarke, Carr-Hill and Dixon 1998; Robinson, Beaton and White 1993). There has also been evidence of instances where a collaborative approach has being adopted in Australian general practice (Blue and Fitzgerald 2002; Eley et al. 2013).

Collaboration in Australian general practice generally refers to practice nurse-led coordination of medical and allied health services for people with chronic conditions (Ehrlich, Kendall and St. John 2012). There is evidence to suggest that for these patients collaborative care improves the quality and continuity of patient care (Gulliford, Naithani and Morgan 2006; Pronk 2005), leading to a decreased number of acute health care crises and improvements in health professional and patient relationships (Coulter 1997; Ford, Schofield and Hope 2006; Greenfield, Kaplan and Ware 1985). Collaborative care appears to offer an efficient, effective, and satisfying service for patients, without compromising clinical safety (Belanger and Rodriguez 2008; Buchan and Calman 2004b; Chopra et al. 2008; Horrocks, Anderson and Sailsbury 2002; Kidd et al. 2006; Laurant et al. 2004; McKenna and Keeney 2004; Mitchell et al. 2011; Redsell et al. 2007; Shum et al. 2000).

Importantly, the rationale underpinning collaborative approaches to care differs from those that have been advanced for the promotion of practice nursing in Australia. Current support for practice nursing here is based on the premise that increasing the number of patients seen will facilitate access. Yet the rationale that supports collaborative approaches to care is based on reducing the number of acute patient health care crises. Theoretically, improvements in the continuity of patient care, resulting from collaboration, will reduce the number of visits to a general practitioner or hospital, and thereby contain long-term cost (Hallett and Pateman 2000; Iliffe and Drennan 2000; Radzwill 2002). The argument has been advanced that this occurs through improvements in relationships between health professionals and patients (Offredy and Townsend 2000; Rafferty et al. 2005; Ritz et al. 2000; Venning et al. 2000). This improves the odds of identifying physiological and psychological changes which may indicate worsening of disease processes. Although collaborative approaches to care are suspected of reducing the frequency of patients' access to general practice services, it is not clear if the opposite effect is more likely. For example, it has been demonstrated that patient regret about not returning to the same health professional overpowers satisfaction with past or current use of that professional (MacStavic 2005; Naithani, Gulliford and Morgan 2006; The Commonwealth Fund 2004).

If Australian practice nurses are engaging in collaborative care, or can demonstrate that they have the capacity to do so, it is plausible that practice nurses could replace general practitioners as the coordinators and custodians of patient care (Ehrlich, Kendall and Muenchberger 2011; Ehrlich, Kendall and St. John 2012). It is therefore

important and timely to explore whether the existing structure of general practice is conducive to collaboration between practice nurses and general practitioners.

Practice nursing and the structure of general practice

The existing structure of general practice, with the general practitioner leading the health care team, may not lend itself to collaborative approaches to care as these require an equal partnership between practice nurses and general practitioners, with each party assuming responsibility and accountability for patient care. However, the current leadership role of the general practitioner may limit the opportunities for practice nurses to collaborate in decision-making regarding patient care. Within the context of Australian general practice there are a number of prerequisites for true collaboration to occur, including opportunities for the practice nurse to make decisions about patient care and management, and be supported by supervisors and colleagues.

Participation in decision-making requires an individual to identify and evaluate alternative actions and potential consequences. The capacity for decision-making can vary with each individual (Arafa et al. 2003; Jansen et al. 1996; Kash and Brietbart 1993; Redinbaugh et al. 2003). The ability to control (decision-making latitude) a clinical situation is seen as a defining characteristic of nursing expertise (Azzarello 2003). The ability of nurses to decide what ought to be done, rather than be directed towards the most expedient action impacts on patient care (Medland, Howard-Ruben and Whitaker 2004). There is significant evidence that independent decision-making

by nurses has been correlated with improvements in job satisfaction, the quality of professional relationships, efficacy of service delivery, improved workforce retention, the ability and willingness to engage in professional development, and adaptability to changing work environments (Armstrong-Stassen and Cameron 2005; Cooper 1993, 2001; Ernst et al. 2004; Goodman, Devadas and Hughson 1988; Guzzo and Dickson 1996; Hackman 1987; Iliopoulou and While 2010; Kirby and Pollack 1995; Kotzer, Koepping and LeDuc 2006; Laschinger et al. 2003). Conversely, lack of independence within a nursing role for decision-making about patient care and management has been correlated with negative professional outcomes, including emotional exhaustion, negative job attitudes and perceptions, poor professional self-concept, loss of empathic concern for the patient, a failure of professional or personal adaptive strategies, and increased organisational turnover (Arafa et al. 2003; Dallender et al. 1999; Heim 1991; Maslach 1976; Maslach and Jackson 1982; Maslach, Schaufeli and Leiter 2001; Medland, Howard-Ruben and Whitaker 2004; Penson et al. 2000; Stacciarini and Traccoli 2004; Tourangeau and Cranley 2006).

It is unwise, however, to attribute the capacity for independent clinical decision-making only to the individual. Rather there must also be contextual opportunities available for that individual to make decisions. For practice nurses the availability of these opportunities will be influenced by the quality of their support and their relationship with supervisors and colleagues (Baillon, Scothern and Vickery 1999; Cooper and Mitchell 1990; Kirkcaldy and Martin 2000; Numerof and Abrams 1984; Sharkey and Sharples 2003).

Support, the level of trust, cohesion, social and emotional assistance from co-

workers, and the involvement, interest, and assistance from one's supervisor (Way 2008) is critical if nurses are to take an active independent role in patient care and management. However, as previously highlighted, within the contemporary general practice environment the role of the practice nurses is ultimately determined in a negotiation with the supervising general practitioner. This may raise challenges for practice nurses who are trying to find ways of contributing to service delivery on their own terms (Australian Practice Nurses Association 2010).

There is no framework that indicates who within the work environment could provide practice nurses with the support they require if their role was to broaden, given the existing structure of general practice. It is unknown whether the supervising general practitioner would be one source of support. In practice, as each professional develops an understanding of each others' capabilities a level of mutual confidence may develop. This confidence may be associated with the level of support extended and consequently the amount of independent patient management decision-making extended to the practice nurse (Fulton et al. 2011; James 2004; Schmalenberg et al. 2005a, 2005b).

There is some evidence that Australian general practitioners are supportive of their nursing colleagues (Britt et al. 2011; Britt et al. 2005), yet there is a dearth of evidence as to what this support looks like or the effect it has structurally their role development. Understanding support in the general practice environment is important as it has a bearing on the ability of individuals to collaborate in the delivery of health care services (Leiba 1994; McGrath 1991; Wiles et al. 2003; Wiles and Robison 1994). A better understanding of this may prove to be a key to

unlocking the potential of practice nursing. Ultimately the potential for collaboration in the delivery of general practice services will depend both on individual professionals and the limitations of the existing structure of general practice.

SUMMARY

There is an increasing number of practice nurses employed in Australia. This is a result of the support provided by the federal government to improve access to services by enabling a greater number of patients to be seen in general practice. This support is provided because of the changing health care needs of Australians. Australians are becoming older and are more often experiencing one or more chronic diseases. This is impacting on the delivery of services in general practice. The analysis of Medicare data undertaken in this thesis has demonstrated that over the past ten years, people are more often using general practice for long-term and complex health conditions. International evidence suggests that for these people the best outcomes occur when different health professionals collaborate. Due to the structure of Medicare financing it is unclear if this is occurring, or even if this is possible in Australia. For practice nurses their formal role remains undertaking tasks as delegated by the general practitioner, yet there may be opportunities for this to change. Chapter 3 presents a comprehensive literature review that examines contemporary evidence about the role of nurses in general practice.

CHAPTER 3- LITERATURE REVIEW

INTRODUCTION

This Chapter presents a review of the literature that examines contemporary evidence about the role of nurses in general practice; how practice nursing is performed; practice nurses and the collaborative delivery of care; and the potential for, and outcomes of, expanded practice nursing roles. The Chapter begins by describing the selected databases and search strategy that was used to identify relevant research evidence. This is followed by a review of the literature concluding with a critical appraisal of the evidence. Synthesis of the evidence presented enables the limitations of existing research evidence regarding Australian practice nursing to be explored, and will contextualise the research presented in this thesis.

DATABASE AND SEARCH STRATEGY

Literature was accessed utilising the databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), 'EBESCO' databases, 'Informit' databases, 'Ovid Medline' databases, and 'PubMed Central' (United States Library of Medicine/ National Institutes of Health)'. The timeframe selected for the review covered the years from 2001-2012. Inclusion criteria included: original research published in a peer-reviewed journal, focusing on practice nursing. Excluded from the review were opinion pieces, editorials, discussions, research protocols, and validation of instruments. Research that identified advanced nursing roles, or nurse

practitioner roles were excluded from the analysis. Each article was assessed using a critical appraisal tool based on the 'PICO' acronym (Population, Intervention, Comparison, and Outcome) (Centre for Evidenced Based Medicine, 2010). Although 78% (54) of the research articles included in the literature review were descriptive and did not include a comparison group. In addition the research that met inclusion criteria used variety of methodologies, for this reason a standardised approach to evaluating the quality of the research was not appropriate (Glasziou, Vandenbroucke, et al. 2004). Rather each article was assessed on its own relative merits and usefulness for providing insights into practice nursing in Australia. For example, research that used a quantitative methodology was assessed for the reported representativeness of sampling, reliability of measures, and generalisability of the findings to Australian practice nursing (Bryman, 2012). Research that used a qualitative methodology was assessed for the reported methods for ensuring reliability and rigour in data collection and analysis, and the transferability of the research findings to Australian practice nursing (Silverman, 2013). Table 3 presents the search terms used, the number of articles identified, and the number of articles that met with the inclusion criteria.

Table 3 Literature review search terms, number of articles identified, and the number of articles meeting inclusion criteria

Search Terms	Number of Articles Identified	Meeting Inclusion Criteria
"nursing" and "general practice"	74	39
"nurse" and "general practice"	19	17
"nurse" and "family practice"	0	0
"nursing" and "family practice"	0	0
"practice nurse(s)"	7	6
"practice nurse" and "decision-making"	12	3
"practice nurse" and "teamwork"	5	1
"practice nurse" and "collaboration"	1	0
Total	111	69

The above search terms were used in the identified databases and yielded 111 articles published between 2001 and 2012 reporting original research. On applying the inclusion and exclusion criteria 69 articles were examined. Forty-one articles were identified as opinion pieces, non-systematic reviews of literature, research protocols, or focusing on advanced practice/ nurse practitioners. Of the 69 articles meeting the inclusion criteria 26 described the role of the practice nurse in Australia, nine described the role of practice nurse in the UK and New Zealand, 16 described perceptions of the practice nursing role, 14 evaluated an outcome of practice nursing involvement in care delivery, three explored practice nurse decision-making, and one article exploring teamwork involving practice nurses. Table 4 illustrates the number of articles that met the inclusion and exclusion criteria:

Table 4 Articles meeting inclusion criteria

Excluded		**Included**		**Description of included articles.**	
42	Original articles identified as opinion pieces, non-systematic reviews of literature, research protocols, or focussing on advanced practice/ nurse practitioners	**69**	Original articles meeting the inclusion criteria.	**26**	Original articles describing the role of the practice nurse in Australia.
				9	Original articles describing the role of the practice nurse in the UK or New Zealand.
				16	Original articles describing perceptions of the practice nursing role.
				14	Original articles evaluating an outcome of practice nursing involvement in care delivery.
				3	Original articles describing or exploring decision-making by practice nurses.
				1	Original article describing teamwork involving practice nurses.
	Total		**111**		

DESCRIPTIONS OF PRACTICE NURSING

Six articles used survey-based methods to describe an aspect of Australian practice nursing roles. The articles were published between 2008 and 2011. Four of the studies drew on samples of nurses employed in general practice throughout Australia, while five limited sampling to specific Australian States including Victoria, Tasmania, and New South Wales. The median sample size for the six survey studies was 167.5, with a range of 22 to 284. Six peer-reviewed studies reported on research that used qualitative methods to describe an aspect of Australian practice nursing roles. These studies were undertaken between 2004 and 2009 and used a range of approaches to inquiry, including: semi-structured interviews, content analysis of conference proceedings, action research, reflexive focus groups, and constructivist evaluation. Nine peer-reviewed studies reported on research that used mixed methods to describe an aspect of Australian practice nursing roles. The mixed method studies used a combination of survey data and focus group data. Of the nine studies that used a mixed-method approach the median sample was 150, with a range of 54 to 294.

The earliest research studies to describe practice nursing in Australia and New Zealand were undertaken in 2004. These three studies found that the role of a practice nurse was dependent on the attitudes of general practitioners and patients towards the nursing role, expertise of the nurse, and demographics of the population served (Halcomb, Davidson, Salamonson, et al. 2008; Tolhurst et al. 2004; Wilson, Averis and Walsh 2004). Halcomb, Davidson, Salamonson, et al. (2008) aimed to describe the demographic and employment characteristics of nurses employed in

Australian general practice and to explore the relationships between these characteristics and the nurses' roles. The study utilised a national postal survey and of the 284 participants 99% were female, Registered Nurses (86%), with a median age of 49 years. Confirmatory factor analysis indicated that tasks undertaken by the respondents were congruent with those that the study authors deemed appropriate for nurses in general practice. However, one key weakness of the study is that the authors did not provide an explanation as to how they decided what tasks were appropriate for practice nurses.

Also published in 2004 was a qualitative description of practice nursing released in two parts. The first reported on the demographic characteristics of study participants in Schultz et al. (2004); the second was an analysis of the influences on the role of the practice nurse in (Tolhurst et al. 2004). These two publications reported on semi-structured interviews undertaken with 27 general practitioners and 15 practice nurses in New South Wales, Australia. The objective of the study was to describe the role, and influences on the role, of practice nurses. The findings presented across the two papers indicated that practice nurse roles varied in relation to the professional expertise of the nurse, the demographic characteristics of the population served and the attitudes of general practitioners who employed the practice nurses. In this study the geographic location of the practice (rural as opposed to urban) was not found to influence the scope of practice for the practice nurse.

Wilson, Averis and Walsh (2004) published the earliest mixed-method study exploring practice nursing in Australia. The authors sought to describe the role of nurses in the private practice setting. Interview data were collected from participants

about their scope of practice, their business consultancy activities, education, and whether they undertook research. Study participants (*n*=54) had a mean of 21 years of nursing experience, and more than half (57.4%) had specialist post-graduate qualifications. Participants reported that clinical practice, business consultancy, and/or education were core activities. Interestingly the authors described the private practice nurses as an independent professional, referring to the study participants as entrepreneurs. However, participants identified difficulties in establishing a client base in private clinical practice, due to public perceptions of nursing capabilities and difficulties in receiving an adequate fee for service. The study's conclusions stand in contrast to every other Australian descriptive study of practice nursing by involving nurses who operated independently of employment contracts. No research has since been published that involves private nurses independent of employment contracts. Rather, subsequent research has focused on the roles of practice nurses in the public health care system in which they were either employed by a general practice or by a general practitioner.

Pascoe et al. (2005) used a mixed-method approach to describe the workforce characteristics and responsibilities of practice nurses employed within the traditional model of practice nurses supervised by general practitioners. Data were drawn from surveys and telephone interviews with practice nurses employed in rural and urban areas of Victoria (*n*=222). The authors described their sample as Registered Nurses (85%), employed on part-time basis (75%), with less than 5 FTE years of experience (52%), likely to work with at least one other nursing colleague (64%), and have completed post-basic education (66%). Evidence was not provided on the representativeness of the sample or an estimate of the size of the Victorian practice-

nursing workforce at that time. Analysis was limited to a descriptive level. The authors reported that there were no significant differences in the characteristics of urban and rural practice nurses. These findings support the earlier study by Tolhurst et al. (2004) that the geographic location of the practice was not a significant factor influencing the scope of nursing practice.

In addition, participants in the study by Pascoe et al. (2005) went on to describe their roles as involving a range of clinical, administrative, and organisational activities. The conclusion drawn was that practice nurses were no longer 'handmaidens' to the medical profession. Unlike Wilson et al. (2004), however, it was not explicitly stated that nurses were independent professionals. Given the limitations of the descriptive analysis presented by Pascoe et al. (2005) it is difficult to see how they could support their assertion that practice nurses were not 'handmaidens', as no analysis of the relationships between practice nurses and general practitioners was presented. Additionally no analysis of practice nurse decision-making was undertaken.

However, in 2005, McCaughan et al. characterised the role of the practice nurse in the UK as involving patient assessment, planning, and implementation of care decision-making. This qualitative study focused on the clinical decision-making and information seeking behaviours of 29 practice nurses. The authors mapped the clinical decision-making of study participants to a typology that included: assessment, diagnosis, intervention, referral, communication, service delivery, and organisational activities. The study identified that if a participant required information during the performance of these activities, they were likely to refer to the general practitioner or a nursing colleagues rather than access evidence-based

resources. Most of the episodes of information seeking were concerned with undifferentiated diagnoses, suggesting that for the participating practice nurses, professional support was an important enabling factor of decision-making (McCaughan et al. 2005). Contemporary evidence from Australia suggested that while practice nurses in the UK were undertaking more clinically autonomous activity, Australian practice nurses were more involved in procedural activity.

Evidence for this may be derived from Joyce and Piterman (2009; 2011) who reported on a national cross-sectional survey of nurses employed in general practice (*n*=104). All of the study participants were female; over 90% were Registered Nurses and had been employed in general practice for an average of 6.2 years. Survey respondents cited direct patient care, coordination of care, and management of the clinical environment as aspects of their professional role. The survey identified that 57% of the practice nurse respondents undertook secretarial activities. This finding was consistent regardless of the educational level of the respondent. As a result of these findings Joyce and Piterman (2009) suggested that there was a need for career pathways for nurses in general practice. The authors indicate their view that secretarial work was an inappropriate function for practice nurses. Building on their earlier findings Joyce and Piterman (2011) later published a descriptive analysis of patient consultations involving practice nurses. Although not explicitly indicated, it appears that the data for this publication were derived from the same data as their 2009 publication. As in 2009, the 2011 publication utilised a cross-sectional national survey with an identical sample size of 104 participants; data was collected between 2007 and 2008. In the 2011 publication it was reported that study participants were asked to collect information about 50 patient consultations. A descriptive analysis

indicated that practice nurses were involved in 21 of 100 medical examinations, provided 22.5 immunisations per 100 encounters, provided diagnostic testing (10.6 per 100 encounters), and performed dressings (15.8 per 100 encounters), practice nurses in this study were involved in less than 25% of patient encounters. The authors concluded that the provision of funding for specific activities, such as immunisations and wound care, was affecting the potential role of the Australian practice nurse as funded activities were most often reported.

The conclusions drawn by Joyce and Piterman (2011) support the work of others. Porritt et al. (2007) stated that the provision of funding for specific nursing services had increased the amount of independent clinical work for practice nurses. The authors examined the structural divisions of labour between nursing and medical professionals by collecting observational (50 hours) and interview data (83 interviews) within 25 general practices. The authors observed that nursing time was considerably more 'fluid' than that of their medical colleagues. Practice nurses perceived themselves as, and were seen to be, more available to the patient. Study participants reported that this perceived availability underpinned the view that nurses valued deep and personal contact with patients. The availability of practice nurses was reinforced by the publicly accessible location of the practice (e.g. areas of high traffic, treatment rooms, or reception areas). In contrast, medical time was more structured, and general practitioners were perceived by practice nurses as being less available to the patient. The researchers hypothesised that the introduction of funding for practice nursing activity may lead to practice nurses undertaking more structured encounters with patients. The authors suggested that this may result in practice nurses becoming less accessible to patients, ultimately undermining the deep and

personal contact that practice nurses valued.

Subsequently, this hypothesis was challenged by Phillips et al. (2009) who found that practice nurses remained accessible to the patient and maintained the ability to work outside of structured encounters or consultations. Phillips et al. (2009) reported on a study that combined observational data of nurses, general practitioners, and practice managers (in 25 practices in NSW and Victoria) with longitudinal case studies of altered nursing practice (in seven general practices NSW, Victoria, South Australia, Queensland, and Western Australia). A thematic analysis of data was undertaken. They identified six roles that practice nurses fulfilled in daily practice. These roles were patient carer, organiser, quality controller, problem solver, educator, and 'agent of connectivity' (p. 93). The authors noted that both nursing and medical professionals recognised the role of the nurse as a patient carer, organiser, and quality controller, but general practitioners did not recognise the role that practice nurses played in providing patient education or in solving clinical/ organisational problems. The finding of Phillips et al. (2009) that practice nurses operate as agents of connectivity within the general practice environment, connecting medical, administrative, and patient services, is a first within the Australian literature. In their conclusion Phillips et al. (2009) echo the concerns initially voiced by Porritt et al. (2007) that in enhancing the scope of practice for practice nurses and encouraging clinical independent patient management, care should be taken not to create incentives that limit the fluidity/ flexibility of nursing roles. However, the authors do not provide a reason why it may be beneficial to maintain the reported flexibility of practice nursing roles, or how this characteristic is beneficial for the nurse, the patient, or the practice. Nonetheless, the idea that flexibility and accessibility are

beneficial characteristics of the practice nursing role has proved pervasive. A study undertaken by Pearce, Hall and Phillips (2010) supports the idea that role flexibility and accessibility is beneficial characteristic for practice nurses. Of interest was that the authors drew on the same data that were presented in Phillips et al. (2009). The data were utilised for the secondary purpose of identifying the impact of funding initiatives for nursing activity in general practice. Phillips et al. (2009) identified that funding specific nursing activities encouraged episodic encounters with patients and a focus on the performance of specific tasks. The authors argued that this approach did not fit with the previous identification of practice nurses as agents of connectivity and that funding should account for teamwork in general practice, rather than focussing on episodic encounters.

EXPANDING THE PRACTICE NURSING ROLE

Since Halcomb et al. (2008) first described the role of the Australian practice nurse there have been significant structural and financial changes that have expanded the contribution of practice nurses to service delivery. It is likely that the rapidity of these changes has made it difficult for researchers to provide a coherent narrative on Australian practice nursing. There is some limited evidence on how practice nurses have negotiated their changing role and potential challenges. For example McDonald, Campbell and Lester (2009) published a report on how the role of practice nurse was changing in response to government funding for health promotion activities. These researchers conducted 20 interviews with practice nurses and asked about the types of activities they undertook, and how they perceived their roles had

changed. Participants reported that they were increasingly taking on work that was previously the exclusive domain of medical practitioners. Based on the thematic analysis of interview data the authors concluded that practice nursing was becoming more technical, complex and skill driven. It was suggested that this change could be seen as both detaching nursing from the caring narrative and driving professionalisation. The important concern raised was about the potential for funding to focus on technical skill development over a caring narrative. This concern, about the impact of changes to practice nursing roles in the United Kingdom was echoed by Porritt et al. (2007), Phillips et al. (2009), and Joyce and Piterman (2011).

Other researchers have shown practice nurses to be adapting to changing roles, and altering the ways in which they work. Interestingly, adaption to new roles has been fraught with difficulty. Regardless of nationality the capacity of practice nurses to adapt is constrained by limited resources, and by being asked to practice beyond their own professional experience. This, in turn, limits the nurses' capacity to promote and facilitate patients' self-management of their conditions. In Australia, difficulties in adapting to new roles can result from contextual concerns. For example, Halcomb, Davidson, Daly, et al. (2008) reported that 31% of practice nurses perceived that a lack of dedicated office space limited their involvement in the care and management of patients with cardio-vascular disease (CVD). The finding was later supported in an exploratory study of the perceived barriers and enablers of role expansion for practice nurses working in general practice. In this study Senior (2008), surveyed 22 registered and enrolled practice nurses employed in the Australian State of Victoria. The objective of the survey was to ascertain attitudes to role expansion, the number of nurses moving into expanded roles, and the adoption of government incentives for

nursing practice, as well as factors perceived to be hindering or enabling expanded nursing roles in general practice. A descriptive analysis indicated that a lack of availability of dedicated office space for nurses within the general practice environment was the most significant factor affecting their role. It was also reported that participating practice nurses perceived that role expansion improved the quality of care that patients received. No conclusion was drawn by the author regarding the potential for survey respondents to have a vested interest in reporting improved quality care as a result of their involvement in service delivery. The finding by Senior (2008) that availability of dedicated office space affected the practice nursing role may be explained by the earlier finding of Porritt (2007). This author argued that practice nurses see themselves, and are seen to be, available to the patient, and that the availability of nurses was reinforced by the publicly accessible location of their practice within the clinical environment (Porritt, 2007). It would appear from the literature that physical space contributes towards the capacity for a practice nurse to be involved independently with patient management and care.

Mills and Fitzgerald (2008a) elaborated on the barriers to the development of the practice nurse role. The authors reported that the aim of their action research was altered to focus on how practice nurses addressed and overcame barriers to their participation in the provision of 'well women' clinics. The study involved holding six reflective group meetings with practice nurses. Study participants identified themselves as agents of change. The authors identified six questions arising as a result of the changing nursing role that they felt should be considered by general practice teams: Is the introduction of expanded nursing roles motivated by economic or patient concerns? How will multi-disciplinary planning be undertaken? Who will

be most affected by changes to the nursing role and how will they feel about the change? What resources are required? Will there be specific outcomes measured to determine success? And, how will continuing education and competence be ensured?

Similarly, also in 2008, Perry and Thurston reported on a study aimed at identifying factors that facilitated or hindered the implementation of the new primary care role for nurses involved in the care of patients with cancer in the UK. Perry and Thurston (2008) found that an ability to negotiate professional relationships became more important as roles changed. Although this study has not been replicated in Australia, it is worth noting given that the structure of general practice in the UK is the same as in Australia. Expansion of the practice nurse role appears to be related to the opportunity for activity and task negotiation with general practitioners. The findings broadly supported those reported by Mills and Fitzgerald (2008b) who conducted semi-structured interviews with Australian practice nurses who discussed how they had to manage a changing role, and that this contributed to their workload. Participants reported that there was a need to integrate primary health systems with role expectations. This would involve complex negotiation of professional relationships.

Perry and Thurston's (2008) finding that an ability to negotiate professional relationships became more important as roles changed was reiterated and supported by Jasiak and Passmore in 2010. These researchers published an account of the effects of an education and training program for Australian practice nurses involved in providing women's health services. Their study coincided with the national introduction of a Medicare subsidy for practice nurses to undertake cervical smears.

Jasiak and Passmore (2010) used an anonymous postal survey of practice nurses who undertook training in the performance of cervical smears between 2003 and 2007. Survey respondents reported that their role had expanded during the period of data collection, and that the most significant barrier to further role expansion was the perception of general practitioners and the community regarding the role and function of general practice nurses. The findings of Jasiak and Passmore (2010) contrast with the conclusion of Halcomb, Davidson, Salamonson, et al. (2008) that funding and regulatory structures were the most influential determinants of the practice nursing role. Jasiak and Passmore (2010) did, however, report that practice nurses felt it was important to change how general practitioners perceived their role, further supporting the assertion by Halcomb, Davidson, Salamonson, et al. (2008) that inter-professional relationships are negotiated and influence the role and potential expansion of the practice nursing.

Supporting this conclusion were the findings of Halcomb, Meadley and Streeter (2009) and Smith and Heartfield (2009) who identified that professional isolation was a barrier to professional development for Australian practice nurses. In a survey of 231 practice nurses Halcomb, Meadley and Streeter (2009) found that practice nurses desired continuing education on wound care, care of patients with diabetes, immunisation, legal and professional issues, cardiopulmonary resuscitation, triage, and first aid. These researchers suggested that the availability of these educational opportunities would counter-act the professional isolation reported by practice nurses. Smith and Heartfield (2009) in an evaluation of a continuing education program for practice nurses concurred. Smith and Heartfield (2009) used a constructivist evaluation methodology to assess how practice nurses viewed a

scholarship program that was designed to support access to immunisation training and change nursing practice. Twenty-seven practice nurses participated in an online survey, and 64 staff employed by Medicare Locals participated in focus groups. The authors reported that their primary outcomes, satisfaction and effectiveness of the scholarship program, were positive, with study participants reporting that the program allowed for the improvement of skills, which led to changes in immunisation practice. Participants also reported that the scholarship program assisted in overcoming the professional isolation associated with working in geographically remote areas. The indication that practice nurses felt that they were professionally isolated before the scholarship program builds on the earlier report by Tolhurst and Madjer (2004) that geographical isolation did not influence the scope of nursing practice. These three findings may suggest that isolation related to geography is not a predictor of the scope of nursing practice, but does influence the ability of practice nurses to access professional support.

There was evidence in the literature that professional support could influence the role of the practice nurse, particularly role expansion. The effects of professional isolation on practice nurses were elaborated on by O'Donnell, Jabareen and Watt (2010), who published the results of a cross-sectional survey that was concerned with describing both the role of the practice nurse and the relationship between feelings of teamwork and professional isolation. The study population was 200 practice nurses employed within a geographically urban Scottish Health Board. Survey respondents reported a median of ten years of practice nursing experience. The most common clinical activities that they provided included: cardio-vascular disease management, cervical cytology, diabetes and chronic obstructive pulmonary disease management. The

majority of survey respondents reported feeling professionally isolated (52%) and 16% intended to leave practice nursing within five years. Respondents who reported feeling professionally isolated worked with fewer nursing colleagues, were less likely to have a professional support person, and were less likely to use their training and qualifications. O'Donnell, Jabareen and Watt (2010) concluded that practice nurses should have access to professional support. Professional support was hypothesised to alleviate feelings of professional isolation and may reduce the intention of nurses to leave the profession.

Factors such as professional isolation were further explored in relation to the management of Cardio-Vascular Disease (CVD) by Halcomb, Davidson, Daly, et al. (2008). The authors report on a sequential mixed-method study which undertook a postal survey (n= 284) and telephone interviews (n= 10) practice nurses. Based on the findings, the authors reported that the most commonly cited barriers to extending practice nursing involvement in CVD management are concerns regarding legal liability for practice (52%); a lack of office space (31%); that there was no need for an expansion of nursing roles (30%); and the attitudes of medical practitioners to nursing roles (29%). Participants also reported that the facilitation of expanded nursing roles in the CVD management required: collaboration with general practitioners (88%), access to continuing education (66%), opportunities for involvement (61%), job satisfaction (56%), and positive patient feedback (55%) (Halcomb, Davidson, Daly, et al. 2008).

These findings diverge from the findings of Daly et al. (2007) who reported on the outcomes of a consensus development conference regarding practice nursing

involvement in the management of CVD. In this study, the authors reported that five key issues had a bearing on practice nursing involvement in CVD management. These were: practice nurses should be involved; cultural change is required to promote nursing involvement; research evaluating the outcomes of practice nursing involvement is required; there are difficulties in undertaking nurse-led research in general practice; and, funding should be provided for nursing involvement. The authors did not acknowledge the potential for selection and response bias resulting from only involving nurses in the process of consensus development. This is a methodological issue that may limit the interpretation and application of the study findings. The potential for this bias may have led to the inclusion of a premise being reported as a finding that "practice nurses should be involved in CVD management". At the time that Daly et al. (2007) was published it was also reported that the educational opportunities available to practice nurses were *ad hoc* and varied in quality.

In the UK, unlike Australia, there was evidence that practice nurses may be resistant to role expansion. Macdonald et al. (2008) undertook 25 interviews with practice nurses in 2005 and reported that practice nurses have reservations about the expansion of their role. A thematic analysis of the interview data indicated that practice nurses categorised patients according to condition, undertook diagnosis of existing and new health care complaints, and provided patient education. Practice nurses reported discomfort with some of these tasks, particularly diagnosis, as they were concerned they were being asked to practice outside of their own professional expertise. Macdonald et al. (2008) reported that this was a barrier to practice nurses undertaking direct responsibility for the management of patients with chronic

conditions.

The differences between the concerns of practice nurses undertaking expanded roles in Australia and the concerns expressed by their counterparts in the UK is perhaps indicative of the gap between the development of role between the two countries. However, a common factor uniting the UK and Australian studies was the observation that the availability of professional support, and the organisational environment are linked to indicators of the quality of patient care and role expansion (Halcomb, Davidson, Daly, et al. 2008; O'Donnell, Jabareen and Watt 2010).

The importance of the link between contextual factors and quality of care indicators was reiterated in two studies by Griffiths et al. (2010) and Griffiths, Maben and Murrells (2011). In the first paper, published in 2010, the authors reported on a multi-level regression analysis of routinely collected data relating to general practice characteristics (*n*= 7456 general practices). The data collected related to nurse staffing and census population measures, along with data from the National Health Service 'Quality and Outcomes Framework'[3] The multi-level analysis indicated significant associations between the levels of nurse staffing and chronic obstructive pulmonary disease, coronary heart disease, diabetes, and hypertension outcomes. In the second paper, Griffiths, Maben and Murrells (2011) reported an expansion of the 2010 analysis of routinely collected data from 8409 general practices in England. The aim of the second analysis was to ascertain if the quality of care and nurse staffing are attenuated or enhanced by organizational factors. The authors reported

[3]The National Health Service Quality and Outcomes Framework is a pay for performance scheme targeted at general practices in the UK (National Health Service, 2011).

that higher levels of nurse staffing, clinical record keeping, the provision of education, and organizational examination of patient surveys were associated with improved quality of care for chronic obstructive pulmonary disease, coronary heart disease, diabetes, and hypothyroidism. Indicators within the National Health Service 'Quality and Outcomes Framework' were used to determine the quality of patient care. Griffiths, Maben and Murrells (2011) concluded that while levels of nurse staffing had an independent association with quality of care outcomes, organisational factors demonstrated a stronger association in mediating the effects of nurse staffing levels on quality and outcome indicators.

International research that examines expanded practice nursing roles has traditionally been associated with a case management approach to care. Yet the only Australian example of such research was conducted by Evans, Drennan and Roberts (2005a). In this study, the authors built on the earlier descriptions of practice nurses' involvement in patient care. They reported on the findings of a survey (n= 200) that aimed to explain the extent to which practice nurses applied a case management approach to the care of people over 75 years of age, and what factors influenced the application of case management. Survey respondents indicated that they were more likely to use a case management approach to care for patients who had, or were likely to have, repeated encounters with the general practice. Practice nurses reported patient assessment, planning, and implementation of care as functions of their role. Survey respondents with post-graduate education were significantly more likely to involve social support services during the care of their patients (p= 0.016). The most significant factor that influenced the application of case management by practice nurses was the perceived position of the general practitioner as the custodian of

patient care.

The importance of the role of the relationship between the practice nurse and general practitioner was examined by Tolhurst et al. (2004), who found that the attitudes of general practitioners influenced the role of the practice nurse. Again this finding was supported by (Mills and Fitzgerald 2008a), who concluded that inter-professional relationships between nurses and general practitioners were a central aspect of re-negotiating practice nursing roles. The authors highlighted that for the study participants the relationships they shared with other professionals were likely to be perceived as hindering or enabling role expansion. While there is a consensus that organisational structure and professional relationships are important in determining the potential for expanding practice nurse roles, there is little evidence of findings as to how or why they influence the potential for role expansion. The review of the literature has identified that a positive perception of the practice nursing role by other professionals is a significant enabler of role expansion.

A more recent study of an expanded practice nursing role was undertaken by Voogdt-Pruis et al. (2011), where the authors reported on the experiences of general practitioners and nurses when implementing a nurse-delivered cardiovascular disease prevention program in the Netherlands. They undertook a qualitative analysis of interviews with 25 general practitioners and 6 practice nurses and the study was nested within a randomized control trial with data collected between 2006 and 2008. Results indicated that practice nurses were initially reluctant to participate in the program as they felt they lacked knowledge and were fearful of losing control over other nursing tasks. Despite this both general practitioners and practice nurses were

positive about the expanded role of nurse-delivered cardiovascular disease prevention management.

Yet a positive perception by general practitioners towards expanding practice nursing roles is inconsistent throughout the literature. A study by Rosemann et al. (2006) concluded that general practitioners were concerned about the adequacy of nursing education and questioned whether nurses could adequately manage patients with a chronic disease. Their findings were based on the analysis of semi-structured interviews with 20 general practitioners, 20 practice nurses, and 20 patients in Germany (Rosemann et al. 2006). Roseman and colleagues (2006) reported that the general practitioners had concerns that expanded nursing roles would result in a greater need for supervision and had the potential to decrease their private revenue. This finding does not appear to be applicable to the Australian context. An earlier study by McKernon and Jackson (2001) suggested that Australian general practitioners were more supportive of expanded practice nursing roles. General Practitioners in Queensland and New South Wales who were surveyed perceived that there was a role for the practice nurse in providing services that were complementary to medical care. General practitioners viewed that practice nurses spent most of their time performing electrocardiograms, applying dressings, and triaging patients. A barrier to expanding the role of the practice nurse further was the lack of appropriate financing for nursing roles.

The importance of the availability of financing to assist in role expansion for practice nurses was supported by a New Zealand study conducted in 2009, and another study undertaken in Australia in 2011. The New Zealand research by Pullon, McKinlay

and Dew (2009) reported on how organisational factors affect teamwork in New Zealand general practices. The qualitative study was based on 18 interviews with nurses and general practitioners, and using content analysis, the authors concluded that a 'fee-for-service' model of financing practice discouraged collaborative service delivery. Both the nurses and general practitioners reported that teamwork was more likely to occur where health professionals received predetermined salaries. Similarly, the Australian study by Ehrlich, Kendall and Muenchberger (2011) explored perspectives on the role of practice nurses as providers of care coordination, described the specific tasks that nurses were perceived as being able to undertake, and examined the support that practice nurses required to undertake their roles. The authors conducted focus groups with practice nurses and general practitioners and used a thematic analysis to draw conclusions. They found that addressing cultural change, fostering inter-professional trust, and re-examining models of financing were reported as steps required to enhance the role of the nurse in Australian general practice. General practitioners and nurses were found to have divergent views about what care coordination meant. However, the authors did not clarify what they meant. Both general practitioners and nurses reported that cultural change involved increasing inter-professional trust. To achieve this, the practice nursing role needs to be clearly defined. Both general practitioners and nurses reported that there was a need for new models of financing that would support inter-professional collaboration. Addressing cultural change, fostering inter-professional trust, and re-examining models of financing were reported as steps required if the expansion of the practice nurse role was to occur in Australian general practices.

Evidence in the Australian practice nurse literature suggests that general practitioners

are supportive of expanding the practice nursing role. In contrast, Australian consumers have been reported as being concerned about the implications of expanded nursing roles. The first report, in 2004, was by Hegney et al. and drew on an expert panel. The authors concluded that consumers were concerned about the potential for practice nurses to impede access to general practitioners. Similarly, Pascoe et al. (2007) reported on the results of cross-sectional survey of a convenience sample of patients and practice nurses. The aim was to identify how nurse-controlled appointment scheduling was perceived by patients. The survey results contradict the conclusions of Hegney et al. (2004), with the authors reporting that patients were highly satisfied with nurses scheduling their appointments. However, it remained unclear whether patients were asked about satisfaction with practice nurse service, or whether patients perceived the practice nurse as acting as a gatekeeper to general practice services.

The findings of Pascoe et al. (2007) were supported in a study by Gerard et al. (2008) who conducted a discrete choice experiment. The experiment was embedded within a survey of general practice patients (*n*= 1052) and their findings identified that nursing involvement in scheduling of appointments did not influence consumer choice of general practice service provider. In support of this, Gerard et al. (2008) stated that patients valued seeing a doctor of choice, booking at a convenient time of day, seeing any available doctor, and having an appointment sooner rather than later. The results indicated that patients were willing to wait up to an extra five extra days to ensure continuity of service provider. The finding of a strong preference for continuity of care suggests that expanding practice nursing roles should seek to enhance continuity.

A study by Godden et al. (2010) contradicts the findings of Gerard and colleagues, instead suggesting that patients will only accept practice nurses undertaking a limited range of activities. Godden et al. (2010) reported on a survey conducted in the Australian Capital Territory of consumers between the ages of 65 and 75 who were caring for someone under the age of five (n=55). The aim of the study was to ascertain the activities that practice nurses undertake, and what consumers would be willing to let them undertake should practice nurses assume a broader role remit. The study concluded that patients were willing for practice nurses to undertake limited procedural activities, interpretation of pathology results, and to provide health care advice. Patients did not see administrative tasks within the remit of practice nurses in general practice.

Four studies have described how patients perceive the practice nursing role as a clinician. The first of these studies was undertaken by Wright, Wiles and Moher (2001) who described nursing involvement in clinical assessments for the secondary prevention of ischemic heart disease. The authors found that practice nurses reported that they lacked confidence in discussing the patients' understanding of heart disease and medications, this finding would be later supported by Voodgt-Pruis, Beusmans and Gorgels (2010). In the second study patients reported a different perspective on the efficacy of nursing care. Lloyd-Williams et al. (2005) reported that patients perceived practice nurses as effective in promoting self-care and encouraging compliance with medication regimes. The conclusion reached by Lloyd-Williams et al. (2005) was based on qualitative exploratory semi-structured interviews with nurses and patients about their experiences of heart failure clinics in England. Such

findings have received equivocal support within the Australian literature. For instance Del Mar et al. (2008) provided an interim report on a prospective randomised control trial focused on the acceptability and cost effectiveness of a nurse-led model of chronic disease management. Based on a qualitative analysis of general practice staff interview data in Victoria and Queensland, the authors concluded that a nurse-led model of chronic disease management was perceived to enhance self-managed care and promote patient responsibility.

The fourth study assessed opinion about the provision of nurse-led treatment compared to doctor-led treatment of minor illness. Caldow et al. (2007) included a discrete choice experiment within a survey of a national random population sample in Scotland (*n*= 1343) and follow up telephone interviews were conducted with participant volunteers (*n*= 48). Caldow and colleagues reported that female survey respondents with higher educational attainment and personal income expressed a more positive attitude to practice nurse-led services. Telephone interview data indicated that the older the respondent the greater the respondent's preference for doctor-led care. The results suggested that patients viewed doctors as having higher levels of academic ability as a consequence of possessing higher formal qualifications. For minor illnesses this had no bearing on the patients' choice of health provider. The authors did not report on the outcomes that resulted from the expansion of the practice nursing role.

The literature provides evidence of a number of factors that may constrain the role of the practice nurse in Australia. The review has identified that the practice nursing role may be constrained by limited resources, including a lack of financial support

for the role and a lack of office space within the practice. When financial resources were tied to specific activities, some authors expressed concern that this would promote a focus on technical activity and detract from the caring narrative of nursing. Professional isolation was found to be perceived by practice nurses as limiting the opportunities for continuing professional development. In contrast, geographic isolation was not seen as limiting these same opportunities.

A strong theme within the literature is the importance of practice nurses having a positive relationship with general practitioners. Positive relationships with general practitioners were perceived as being important when considering an expansion of the practice nursing role. However, for patients' concern about an expanded practice nursing role was more closely linked to the impact this may have on the convenience of and access to the service, than about the clinical outcomes of an expanded practice nursing role.

IDENTIFIED OUTCOMES OF THE PRACTICE NURSING ROLE

Fourteen studies were identified that evaluated an outcome of nursing involvement in general practice service delivery. Three Australian studies reported on the evaluation of a clinical outcome of practice nursing involvement in patient care, and four reported on an organisational outcome of nursing involvement in service delivery. Five studies reported on the evaluation of a clinical outcome of nursing involvement in patient care in the UK. The median sample of the fourteen identified studies was 234 with a range of 16 to 4685.

The earliest Australian study (published in 2003), evaluating a clinical outcome resulting from nursing involvement in service delivery, examined the effects of the provision of nurse counselling for general practice patients at increased risk of cardiovascular disease (*n*= 212) (Woollard, Burke and Beilin 2003). The authors reported that patients were randomised to three cohorts; the first received one 'face to face' counselling session followed by monthly telephone contacts (*n*= 69); the second received 'face to face' counselling for up to one hour a month (*n*= 74); and the third, a control group, received usual general practice care (*n*= 69). Evaluation of ambulatory blood pressures and the rate of prescription of anti-hypertensive drugs occurred at initiation, 12 months, and 18 months. No statistically significant change was detected in the ambulatory blood pressures between the three cohorts. The rate of anti-hypertensive prescriptions decreased across all of the three cohorts. The decrease in the rate of prescriptions for anti-hypertensives for the intervention cohort as compared to the control group was statistically significant, indicating a decreased treatment rate for the groups that had nurse counselling, with p levels at 12 months equalling 0.008 and at 18 months equalling 0.018. The authors concluded that nurse counselling may influence longer-term anti-hypertensive drug prescription and that this may be suggestive of improved patient compliance. The authors did not however, explain the variance between the cohorts who received practice nurse telephone contact or normal general practice care. The results suggested that the 'face to face' counselling had a greater reduction in prescribed anti-hypertensives, while the group that received monthly telephone counselling had higher a higher rate of prescriptions than the cohort receiving usual care. Taken together, this may suggest that there were other variables contributing to the reduction in the rate of

prescriptions that were unaccounted for. Nonetheless, this is the only Australian study that suggests that independent practice nurse involvement in patient care could have positive clinical effect (Woollard, Burke and Beilin 2003).

In contrast, two Australian studies reported non-significant clinical effects from nursing involvement in patient care. The first of these compared nursing involvement in care compared to usual medical care. The aim of study was to assess the effect of nurse-led asthma clinics in producing an improvement in patient quality of life indicators. Published in 2004, this study by Pilotto et al. used a randomised control design involving 80 asthma clinic participants and 90 medical care participants (n=170). One hundred and fifty patients (88% completion rate) completed care. Health Related Quality of Life indicators were measured with a non-validated survey. The Health Related Quality of Life survey, along with lung-function measurements, and rates of health service utilisation constituted the primary outcome measures. The authors reported that there were no significant changes in quality of life measures, force expiratory volumes (both pre- and post-bronchodilator), or health service utilisation between the nurse-led intervention and non-intervention groups (Pilotto et al. 2004).

The second Australian study to evaluate a clinical outcome examined the efficacy of nursing diagnosis of Chronic Obstructive Pulmonary Disease (COPD). It was nested within a randomised control trial that aimed to identify the number of patients with undiagnosed COPD. In this study Bunker et al. (2009) looked at 16 episodes of nursing involvement in patient care. The primary finding of this study was that practice nurses could identify 60% of patients with undiagnosed COPD by

performing spirometry. As a result the researchers suggested that Australian practice nurses require further training in performance of spirometry. However, the low number of patients and the non-specific study design raised questions about the validity and generalisablity of findings.

Only one Australian study was identified in the review that explored organisational process associated with Australian practice nursing outcomes. Carr, Byles and Durrheim (2010) aimed to assess the integrity of vaccine cold chains (a temperature controlled supply chain) and the local factors affecting cold chain integrity in general practice. The authors undertook an audit of vaccine cold chains in the Hunter region of New South Wales (*n*= 256). General practice staff involved in the management of vaccines were also asked to complete a survey assessing their knowledge and practices (*n*= 924). The results of the audits and surveys indicated that 98% of general practices where a practice nurse was employed maintained cold chain integrity. In contrast 42% of general practices that did not employ a practice nurse maintained the integrity of the cold chain. The conclusions drawn were that practice nurses were able to manage and maintain cold chain integrity. While cold chain management is not considered a clinical or expanded role, the study provides an insight in the seldom discussed organisational role that practice nurses fulfil. If the clinical responsibilities of practice nurses are to expand, the findings reported by Carr, Byles and Durrheim (2010) may provide a warning not to overlook the non-clinical functions of practice nursing. Indeed, all of the other identified research evaluated clinical outcomes from practice nursing. This includes international evidence evaluating expanded practice nursing roles.

Five studies evaluated clinical outcomes from nursing involvement in care in countries other than Australia. The outcomes evaluated in these studies were for: acute minor injuries (Pritchard and Kendrick 2001), psychological disturbances (Armstrong and Earnshaw 2005), risk factors for cardiac disease (McManus et al. 2002), the review of care for patients with epilepsy (Duncan, Barlow and Smith 2005), and the use of non-steroidal anti-inflammatory medications (Jones et al. 2002). Four of the five articles indicated that nursing involvement in care had a positive effect on the outcomes measured.

The earliest of these studies was published in 2001 by Pritchard and Kendrick who evaluated practice nurse and health visitor management of acute minor injuries and the effects on general practitioner workload in Nottingham, England. The outcome measures included: patient satisfaction, consultation rates, prescriptions, investigations, referrals, and repeat consultations within two weeks. The authors recorded 2056 consultations, of which practice nurses were involved in 16.1%. The authors reported no difference in patient satisfaction with the practice nurse consultation as compared to the general practitioner consultation. There was also no significant difference between prescription rates, repeat consultation rates, or referrals for further care. General practitioners were more likely to initiate further investigations. The authors concluded that practice nurses could adequately provide services for acute minor injuries and that this would assist in reducing general practitioner workloads. A limitation of this study was the ability of patients to self-select whether they had a consultation with the practice nurse or general practitioner. In summary, patients may have been able to self-assess the severity of their illness before indicating their preference for nurse or medical-led consultations. This

potential bias was not acknowledged within the article. Yet McManus et al. (2002) found no clinically significant difference in the ability of practice nurses to assess the risk for coronary heart disease compared to general practitioners. This comparative study used four different risk estimation methods to assess the risk of coronary heart disease. Data were sourced from a random selection of patient records from a sample of at risk patients. Eighteen general practitioners and 18 practice nurses assessed patient records and estimated the patient's risk of coronary heart disease. The outcome measures were agreement of risk calculation with reference calculations; agreement between the general practitioners and practice nurses; and the sensitivity and specificity of the different calculation methods used for the detection of patients at risk. In comparison both practice nurses and general practitioners tended to underestimate the risk of coronary heart disease, although practice nurses were more likely to do so (Kappa= 0.33) than the general practitioner cohort (Kappa= 0.65). The ability of practice nurses to estimate the risk of coronary heart disease was not significantly different from the ability of general practitioners (Kappa= 0.47/ 0.58). The conclusion was that both general practitioners and practice nurses were able to assess the risk for coronary heart disease with moderate accuracy.

A similar methodological approach was used by Duncan, Barlow and Smith (2005) who evaluated whether practice nurses in Glasgow could undertake an annual review of the care of patients with epilepsy. The researchers also sought to estimate the resource implications of such a review. During the study the researchers evaluated a nursing checklist against a patient review undertaken by a neurologist in 62 patients with epilepsy, and audited the case records of 1259 patients with epilepsy. The authors did not differentiate between the use of a checklist by nurses and the use of

clinical judgment by the nurses undertaking the assessment. The audit (*n*= 62) revealed eight discrepancies between the nursing checklist assessment and the neurologist assessment. The case record audit indicated that a majority of patients had either not received adequate monitoring or follow up care, or that this care was not documented. The authors concluded that with further education practice nurses could undertake annual review of patients with epilepsy without compromising clinical safety. The provision of this nurse-led service was hypothesised to improve care for epileptic patients, although may result in an increased resource demands.

The selection bias presented in the evaluation of practice nurse management of acute minor injuries (Pritchard and Kendrick 2001) was overcome by Jones et al. (2002). In Jones et al.'s study the authors used a randomised control design to assess whether nurse delivered advice could reduce Non-Steroidal Anti-Inflammatory Drug (NSAID) use in general practice. Two hundred and twenty patients were randomised to control and intervention groups. The control group received advice about the use of NSAIDs from general practitioners while the intervention group received nurse delivered advice to discontinue the use of NSAIDs and employ alternative pharmacological and non-pharmacological treatments. Outcome measures included the changes in use of NSAIDs, and health related Quality of Life indicators after six months. Twenty eight percent of patients in the intervention group either stopped taking or reduced their use of NSAIDs at six months; no significant changes were reported in the health related Quality of Life indictors. The findings suggested that nurse delivered advice regarding NSAIDs could reduce usage and costs without detrimental quality of life effects.

In a similar study, Armstrong and Earnshaw (2005) reported on the use of a survey methodology for the evaluation of the approaches of nurses and general practitioners in London to the treatment of psychological disturbance in general practice. At the completion of a consultation, the treating nurse or general practitioner completed a survey regarding the severity of the patients' psychological morbidity and how long the consultation took (*n*= 1646). The data obtained from the questionnaires was then compared to a health self-assessment undertaken by the patient. Practice nurses saw fewer patients than general practitioners but spent more time undertaking the consultation. The authors did not report on a comparison of agreement between the opinions of the practice nurses and general practitioners on diagnosis and treatment, but did note that the findings raised questions about the efficiency of using practice nurses to undertake psychological counselling. No mention was made in the study regarding the need for an assessment of the quality of care. This conclusion is in contrast to Duncan, Barlow and Smith (2005) who identified that practice nurse reviews of patient care for patients with epilepsy were comparable to reviews undertaken by specialist medical staff and could improve quality of care. The concern voiced by Armstrong and Earnshaw (2005) regarding the efficiency of service provision and the resource implications echoed the conclusions drawn by Duncan and colleagues (2005). The resource implications of expanding the practice nursing role have been the focus of a number of studies from the UK and Australia. It is likely that this interest stems from both countries having a system of universal health insurance funded by the taxpayer.

Richards et al. (2002) were also interested in the resource implications of nursing involvement in the delivery of services in general practice. In their study of a nurse-

provided telephone triage service, they found that triage did not reduce overall costs per patient for same day appointments. Using a multiple interrupted time series analysis of the introduction of a nurse triage system, the authors sought to evaluate the effect on the workloads of doctors and nurses. The study recruited 4685 patients in primary care sites in York, England; 1233 patients did not receive telephone triage, while 3452 participated in the triage process. Although the provision of nurse telephone triage did not decrease costs per patient, it did reduce appointments with general practitioners and increased the chances of patients receiving a home visit (relative risk 0.85, CI= 0.72 to 1.00), telephone consultation (2.41, CI= 2.08 to 2.80), or nurse-led care (3.79, CI= 3.21 to 4.48). The authors concluded that nurse-led telephone triage does not have a significant effect on per patient cost. However, the number of general practitioner consultations did reduce while increasing nursing workload. The authors did not suggest, or provide an analysis that would suggest, there might be potential cost savings associated with this shift in labour.

The resource implications of increasing nursing involvement in care, and the associated potential for increasing the volume of services, are further highlighted by four Australian studies reported between 2007 and 2011. The first Australian study to examine nursing involvement in care, utilisation of services, and resource implications looked at the provision of cervical screening services. The authors explored the effects of recruitment strategies to encourage women to undertake cervical screening in general practice (Byrnes et al. 2007). One of the recruitment strategies utilised was to offer patients a Pap test undertaken by a nurse. The other strategies included: identification of patients in electronic medical records; recruitment by letter; follow up telephone calls; or offering the choice of Pap smear

only services or Pap smear in addition to other health services. The cumulative effect of the recruitment strategies was a 27% increase in the biannual screening rate. During the study period 49% of those who responded to the recruitment strategies opted for the Pap smear to be undertaken by a nurse, suggesting that nurse provision of cervical screening was acceptable to this patient cohort.

While the Byrnes et al. (2007) study focused specifically on nurse provided services, Williams et al. (2007) indicated that collaboration between nursing and medical professionals is an effective method of identifying patients with unmet medical needs. This study was undertaken to evaluate the effectiveness of general practitioner- nurse teams to assess unmet needs within a cohort of patients who met the criteria for the Enhanced Primary Care (EPC) program (*n*= 564). Analysis of data identified the medical and social characteristics of patients recruited into the EPC program. The authors concluded that general practitioner-nurse collaboration was an effective means of identifying unmet patient health needs. A later study by Harris et al. (2010) involving interviews with practice nurses and general practitioners in 26 urban practices concluded that the role the practice nurse was essential to coordinating EPC care arrangements. Furthermore, Eley et al. (2008) who focused on nurse-led model of care for chronic disease found that the program was positively perceived by the nurses involved, and did not report if there were any disadvantages of the nurse-led model. Study participants perceived that there were outcome improvements in practice efficiency, improved communication between staff and patients, and that patients took greater responsibility for the self-management of their own chronic condition. However, these findings need to be viewed with caution due to the small sample size (of three practices) and the potential for bias. The findings

by Eley et al. (2008) were later supported by Pearce et al. (2011b), who highlighted that the ways in which practice-nursing activity is financed is not a major determinant of the nursing role in Australia. This multi-method study appraised 25 general practices and conducted year-long studies in seven general practices where the role of the nurse was expanded to include technical tasks not previously subsidised by Medicare. The researchers collected interview data from 36 nurses, 24 doctors, and 22 practice managers. Observational data of practice nurses was also collected (51 hours). For the cohort where the role of nurse was altered, case studies of the change process were developed. Qualitative analysis indicated that although fee-for-service financing was available for nursing activity, the nurses undertaking these activities did not feel they were a core component of the practice nursing role. The authors reported that nursing activities that generated fee-for-service payments accounted for six percent of nursing time. Pearce et al. (2011b) concluded that the relationships between nursing and medical staff influenced nursing roles, and it was these relationships that affected the ability of the practice to capitalise on fee-for-service financing for nursing practice. The authors suggest that the future planning of financing policy should seek to encourage inter-professional teamwork.

Australian evidence about the clinical outcomes of practice nursing involvement in service delivery is limited. Three studies were identified, only one of which indicated a positive clinical result. Woollard, Burke and Beilin (2003) provided evidence that practice-nursing involvement in the care of patients at risk of cardiovascular disease could reduce the prescription rates of anti-hypertensives. The two other studies to evaluate clinical outcomes focused on respiratory conditions. In both of these studies practice nursing involvement in service delivery resulted in non-significant clinical

results (Bunker et al. 2009; Pilotto et al. 2004). Universally, nursing involvement in service delivery was found to result in an increased volume of patient consultations (Byrnes et al. 2007; Richards et al. 2002). Collaboration between nurses and general practitioners was more likely to result in meeting the health and social care needs of patients which otherwise might have remained unaddressed (Richards et al. 2002; Williams et al. 2007).

The absence of a robust evaluation of the outcomes of practice nurse care in Australia is surprising given the amount of research undertaken in the United Kingdom during the past decade. Evidence from the UK suggests practice nurse involvement in service delivery can result in improved clinical outcomes. In the UK, four of the five studies that evaluated clinical outcomes showed positive outcomes as a result of practice nursing involvement. Positive clinical outcomes were shown for practice nursing involvement in acute minor injuries (Pritchard and Kendrick 2001), assessment of the risk for coronary heart disease (McManus et al. 2002), review of the care for patients with epilepsy (Duncan, Barlow and Smith 2005), and nurse delivered advice on the use of NSAIDs (Jones et al. 2002). Armstrong and Earnshaw (2005) was the only study undertaken in the UK that indicated ambivalent clinical results from nursing involvement in service delivery. This ambivalence was based on the assertion that practice nurse provision of psychological counselling services may not improve the efficiency of clinical service delivery.

SUMMARY

In summary, the literature review has identified that practice nurses are involved in direct patient care, coordination of care, and management of the clinical environment. Existing literature provides an effective description of practice nursing tasks and activities and a role required to adapt to patient and organisational demands. Australian practice nurses assist in medical consultations, provide immunizations, diagnostic testing, and perform dressings. Practice nurses also undertake administrative functions and, at any one time, were operating as a patient carer, organiser, quality controller, problem solver, educator and 'agent of connectivity'. The flexibility or 'fluidity' of the practice nursing role was repeatedly identified as an important and valuable characteristic. However, no rationale was provided as to why this flexibility should be considered a valuable characteristic. The evidence provided suggests that future workplace redesign should seek to optimise the flexible way that practice nurses go about their tasks and activities. There is very limited discussion in Australian literature as to whether practice nurses are capable of, want to, or are adequately prepared to undertake an expanded role. Furthermore there is no Australian evidence to indicate if practice nursing should remain within a delegated care model, move towards to a more collaborative model of care, or even become independent in the delivery of care, as has been demonstrated internationally. To address these questions it is important to explore if there are the opportunities for Australian practice nurses to make decisions about the organisation and delivery of patient care, and how contextually practice nurses are making these decisions, or how they may make these decisions if given the opportunity.

CHAPTER 4- THEORETICAL APPROACH, METHODOLOGY AND RESEARCH DESIGN

INTRODUCTION

Chapter 4 presents the theoretical underpinning of the study and the methodological approach chosen for exploring and understanding the opportunities for practice nurses to contribute to care delivery in general practice. For ease of comprehension, the Chapter is structured in the order that the study was undertaken. The Chapter begins with a description of the theoretical underpinnings of the research, the mixed methodology design, before proceeding to a description of the methodology of Study 1, and the methodology of Study 2. Additionally it will be argued that understanding the opportunities for practice nurses to contribute to decision-making requires a pragmatic investigation of the context of practice nursing roles and how the existing role of the practice nurse fits with the organisational structure of general practice. This is critical for establishing if the existing role of practice nurses is conducive to collaborative care delivery.

THEORETICAL UNDERPINNING OF ROLE CONTROL AND SUPPORT THEORY

The theoretical approach that underpinned this research was 'role control and support' theory. Role control and support are theoretical constructs that predict the interaction of psychosocial demands and responses within the occupational context

(Hallqvist et al. 1998; Hallqvist et al. 2000; Karasek 1979; Karasek and Theorell 1990). The theory postulates that the psychosocial demands of a role can be counteracted by the individual's ability to respond by taking control of their own situation (Boyd, Lewin and Sager 2009; Karasek et al. 1998). The ability to make decisions about the order, priority, and methods of undertaking tasks allows the individual to control, and therefore counteract the demands placed upon him or her.

Role control and support theory recognises that in everyday work psychosocial demands do not derive from a single event or cause. The level of psychosocial demand placed on an individual is determined by the joint effects of the demands of the work situation and the freedom or perceived ability to respond to these demands (Karasek 1979). If the individual is unable to respond to the psychosocial demands placed on him or her (Zeigarnik 1927), or if the individual must forego other desires because of limited potential responses, a dissonance is created between the desired situation and the reality of the situation (Henry and Cassel 1969). Furthermore, if a person in this position does not exercise initiative, or does not develop the skills to reconcile this dissonance a learned helplessness or passivity will result (Billeter-Koponen and Freden 2005). Where an individual has the freedom or ability to respond to psychosocial demand they have the opportunity to control their situation.

Role control and support are theoretical constructs that describe how individuals behave. The theory combines a number of interacting dimensions to describe the characteristics of a role which allows for a conceptualisation of the complex interplay between intrinsic and extrinsic factors that can influence, and can be influenced by an individual. For this reason the consideration of role control and

support theory is useful for the development of a contextual understanding of the opportunities for Australian practice nurses to contribute to decision-making about the organisation and delivery of care within the current hierarchical structure of general practice. Understanding the opportunities for practice nurses to exercise discretion in the use of skills, and the opportunities for authority in decision-making will provide insight into how the role of the practice nurse fits within the organisational structure of general practice, and if the role of practice nurse can be reconciled with collaborative approaches to care. The theory is based on the implicit assumption that the highest level of knowledge legitimises the exercise of the highest level of authority in decision-making. Therefore, the theory eliminates considerations of institutional power and instead focuses on the capacity of individuals to create opportunities, or use opportunities to achieve objectives (Bosma et al. 2004; Marmot et al. 1997; Matthews et al. 1998; Toivanen 2006). By eliminating considerations of institutional power and focusing on the capacity of individuals the theory is useful for understanding the capacity of Australian practice nurses, whilst minimising the influence of potentially confounding factors such as the existing regulatory, institutional, and organisational hierarchies.

Role control and support theory predicts that for an individual to meet the demands of a situation they must be able to exercise discretion in the methods and means of performance within a role. Discretion in the exercise of one's skills refers to the ability to decide how to use skills in the performance of a role to achieve an occupational objective. Control over psychosocial demands also requires the individual to have the socially agreed opportunity to exercise authority in every day work decision-making (Karasek 1979; Karasek and Theorell 1990, 2000).

Understanding the opportunities for practice nurses to exercise discretion in the performance of their role, and make decisions, will be critical for this research. Freedom of performance within a role has implications for counteracting the psychosocial demands of a role or control exerted by others (Vegchel, de Jonge and Landsbergis 2005), job satisfaction (Kramer 2003), role clarity or ambiguity (Chang and Hancock 2003), the potential for emotional exhaustion and de-personalisation (Mikkelsen, Ogaard and Landsbergis 2005), and is predicative of professional development and self-efficacy (Taris et al. 2003). An individual may also be supported by others to develop the ability to control their situation. If this occurs opportunities are created for occupational learning and development (Karasek et al. 2007).

Role and control support theory allows for individuals to be socially supported by others to develop control over the psychosocial demands of their situation. Within an occupational context social support may be provided by supervisors and/ or colleagues (Boyd, Lewin and Sager 2009). This research uses the definition of social support advanced by Way (2008) who suggested that support is a measure of the level of trust, cohesion, social and emotional assistance from co-workers (co-worker support); and the involvement, interest, and assistance from one's supervisor (supervisory support) (Way 2008). The theory predicts that when individuals receive moderate levels of support from supervisors and/or colleagues the individual demonstrates greater autonomy (Mierlo, Rutte and Vermunt 2006). Conversely, when the individual receives low or high levels of support lower levels of autonomy and/or independence will be observed. Using this lens to understand the Australian practice nursing workforce may expose implications for the organisation of the

general practice workplace. It is important to explore these characteristics as it is possible that increasingly practice nurses will be called upon to demonstrate greater levels of autonomy in making decisions about patient management. The theory predicts that individuals who receive greater support are more likely to have a clearer understanding of their role within an organization, as well as improved perceptions of patient outcomes and satisfaction (Kroposki and Alexander 2004). An absence of social support has been correlated with nurses experiencing higher levels of stress, decreased job satisfaction, and consequently depression, hostility, and fear of negative job evaluations (Mikkelsen, Ogaard and Landsbergis 2005; Rafferty, Friend and Landsbergis 2001).

Social support of itself is insufficient for an individual to develop control over the psychosocial demands of a role. Instead, the function of social support is to create opportunities for occupational learning and development. The theory refers to this learning and development as created skill - a construct that is used to describe the opportunities available to an individual to learn new things, be creative on the job, and to have the chance to develop what the individual considers to be their own special abilities (Huda et al. 2004). For Australian practice nursing it is pertinent to describe the opportunities available for learning and professional development because the literature review established that the role of the practice nurse is changing. The theory predicts that the success, or otherwise, of individuals who are attempting to adapt to change will depend on the availability of resources and opportunities. If these opportunities are available, and if practice nurses are socially supported to take advantage of these opportunities, it is predicted that learning and development will occur (Weststar 2009). In addition, this learning will be applicable

and relevant as individuals will elect to develop the skills and abilities that they perceive as being critical for success within a role (Rusli, Edimansyah and Naing 2008). Individuals who perceive opportunities to contribute to decision-making, experience support, and feel able to actively participate in learning and development are likely to feel valued by others.

Feeling valued in a role is tied to the ability to identify one's contribution to a product or service (de Lange et al. 2003). The theory measures this valuing with the construct of self-identity through work, a construct that has not been measured within an Australian context. It is timely to do so, as understanding if and how practice nurses can identify their contribution to care is important for informing any future developments which may impact on how practice nurses function. If practice nurses cannot identify their contribution, or if the role was to change so as to obscure this contribution, then evidence suggests that the professional outcomes will be negative. For example, decreased self-identity through work has been correlated with decreased job satisfaction, (Healthcare Commission 2008; Rickard et al. 2007), fewer opportunities to exercise authority in decision-making, and less support from supervisors and colleagues (Lin et al. 2009; McNamara et al. 2008). The ability to identify a contribution to service is of particular importance in health care settings where self-identity through work has been linked to the ability to affect the quality of patient outcomes (Adams 1996; Morrison, Jones and Fullers 1997; Song et al. 1997). It is timely to apply role control and support in the Australian practice nursing context as it appears their roles are changing and adjustments are being made to how care is delivered. These changes may require practice nurses to participate in a proactive manner which necessitates them having a greater degree of authority in

decision-making in order to counteract any increase in the psychosocial demands of the role (Ford, Schofield and Hope 2006; MacStavic 2005). As suggested in Chapter 3 existing research neglects decision-making by practice nurses about patients' care, instead emphasis has been on the type of physical or technical task undertaken (Ford, Schofield and Hope 2006; Jolly 2007; Merrick et al. 2012; Phillips et al. 2007). Therefore, the application of the theoretical approach within the Australian context will yield insights that are of both theoretical and practical use.

Applying this theory to Australian practice nursing will also yield insight into the autonomy of the role, the extent to which the role allows the individual freedom, independence and discretion to schedule work, make decisions, and select the methods used to perform tasks (Karasek et al. 1998; Merrick et al. 2011). Furthermore, this theoretical approach makes a number of predictions that are useful for understanding how conducive practice nursing roles are to collaborative approaches to care. For example, previous research has identified that more control within a role is correlated with cognitive ability, job-related skill, and job performance (Morgeson, Delaney-Klinger and Hemingway 2005), and is predictive of flexibility in responding to job demands (Troyer, Mueller and Osinsky 2000). This is important for practice nursing, as a number of authors have previously suggested the ability of practice nurses to respond to demands in a flexible manner is a defining and desirable characteristic of the role (Pearce, Hall and Phillips 2010; Phillips et al. 2009; Porritt et al. 2007). In addition, individuals who demonstrate the ability to adapt to the psychosocial demands of a role (by exercising discretion and developing skills) have been shown to be expected to fulfil a greater remit, a useful insight if the role of practice nurses is to expand.

Role control and support theory has been used to enrich the study as it allowed for a deeper understanding of the practice nursing role. This theory was selected because of its utility in understanding practice nursing without being confounded by regulatory, institutional, or organisational hierarchies. However, as this research was also concerned with issues that relate to organisational, professional and policy concerns it was important to develop a contextual understanding of the phenomena of interest. It was for this reason that while the role control and support theory augment understanding of practice nursing in Australia, a Mixed Methods inquiry approach was used that aligned conceptually with Pragmatic theory.

MIXED METHODS

This research addresses questions that stem from applied organisational, professional, and policy concerns. Mixed Methods research seeks to develop understandings that are problem centred, pluralistic, and consequence orientated. For this reason the researcher adopted methods that are fit for purpose and avoided epistemological preference (Miles and Huberman 1994; Teddlie and Tashakkori 2009). Pragmatic theory supports a Mixed Methods approach to inquiry and formed the basis of the research design. Pragmatic theory allows for a single 'real world' while acknowledging that all individuals have their own interpretations of the world (Feilzer 2009). Pragmatism has its origins in social inquiry especially in the work of Pierre Bourdieu who suggested that there is a need to reconstruct subjective meanings while also being able to 'externally' question meaning (Bourdieu 1993;

Harrits 2011; Meisenhelder 2006). Over the past twenty years pragmatism has become accepted as an appropriate way to balance epistemological preference in a diverse range of fields. It has developed as an alternative approach to inquiry with its own sets of ontological and epistemological assumptions and shared beliefs about the world (Harrits 2011); fulfilling Kuhn's (1962/1970) definition of a paradigm as an "accepted model or pattern" (Kuhn 1962).

Pragmatism, as adopted here, draws on the writings of Morgan (2007), who describes a process where inductive and deductive inquiries serve to inform each other. Achieving this 'abductive' process requires the adoption of two methodologies which in this study will be used in a sequential order: This is called a sequential explanatory design. In the first methodology a questionnaire is used to measure constructs that are derived from role control and support. The questionnaire will obtain data that can used to apply and test role control and support. However, as previously discussed a strength and limitation of this theory is that it eliminates considerations of the occupational context and focuses on the individual. In addition, this research also seeks to address questions that stem from organisational, professional, and policy concerns. For this reason there is a need to explore, explain, and re-contextualise findings gained from the use of the first methodology. A qualitative methodology, using interviews, will be employed to provide this richer detail. The use of these two methodologies in sequence allows inductive inquiry to inform the deductive inquiry, qualitative findings will used to inform measurements (quantitative) allowing for an abductive process (Morgan 2007).

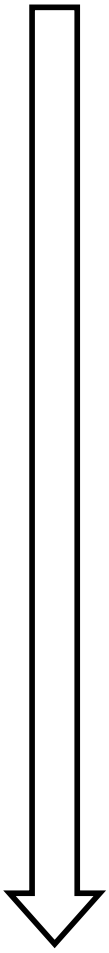
Sequential explanatory design requires the combination of methodologies that have

different epistemological approaches to knowledge. It is a criticism of mixed methodologies that analyses are nested and seek a causal understanding which implies an acceptance of the critical realist ontological model (Harrits 2011). In respect of this criticism it should be acknowledged that a pragmatic approach to inquiry straddles the continuum of post-positivist and constructivist paradigms. As such Pragmatism is an approach to inquiry that is well suited to understanding nursing phenomena and for answering the practice nursing research questions posed in this study (Feilzer 2009). The mixed method design framed by pragmatic theory (quantitative and qualitative methodologies) allows for the development of rich insights into practice nurses as individuals and as individuals within an organisation. As such this research design was framed by pragmatic theory and focused on a nested understanding of causal mechanisms (Creswell and Tashakkori 2007).

Morgan (2007) suggests that the sequential explanatory design is useful for elaborating, enhancing, illustrating, and clarifying results to yield overlapping and differing explanations of phenomenon. The sequential explanatory research design first uses a quantitative methodology to seek and establish the existence and strength of relationships between the main constructs of role control and support. The second qualitative study is informed by and explains the relationships between main constructs. Development of this understanding will allow for both a description of practice nursing and for recommendations to be made as to effects of changes to the practice nursing role within the structure of general practice. The second, qualitative methodology also situates the findings of the quantitative study within the cultural and situational context.

Combining methods in the sequential mixed methods design allows for a richer, broader, and deeper insight than may not otherwise have been uncovered with the adoption of a single methodological paradigm. Each methodological paradigm offers a unique perspective, but when combined findings are strengthened. Another strength of the sequential explanatory design is that the second study benefits from the insights of the first study, thereby focussing analysis on the topics of interest. However, one weakness is that undertaking a sequential explanatory design can be a lengthy process, and there is a need to decide whether to sample the same population in both studies. Despite the potential for this research to be time consuming, it is necessary to adopt a sequential explanatory design as the research questions seek to understand individuals both apart from, and within, their context. Table 5 outlines the process of the sequential explanatory design.

Table 5 Sequential explanatory design and research process



	Research Process
Deductive inquiry	Quantitative data collection
	Quantitative analysis
	Interpretation of Quantitative results
Inductive inquiry	Development of the interview schedule (informed by quantitative results)
	Qualitative data collection (interviews)
	Thematic analysis of qualitative data
	Interpretation of qualitative results
Abductive inquiry	Synthesis of results (triangulation of quantitative and qualitative results)

In this research the first study makes theoretically grounded observations which inform the development of the interview schedule and qualitative explanation (Creswell and Tashakkori 2007). The integration of findings within the sequential design is an abductive process involving the construction of categories of attributes and themes identified by the quantitative study to inform the qualitative inquiry. The abductive process will result in inferences drawn from the findings from both studies. To do so the researcher will generate a list of findings from each study and identify where these findings converge, complement, or contradict each other (O'Cathain,

Murphy, et al, 2010), explicitly seeking to identify where research findings disagree with each other. This will allow for exploration of discrepancies and may lead to a better understanding of the research question (Farmer, Robinson, et al, 2006). During this triangulation process inferences will be drawn that form a coherent conceptual framework to explain how individual practice nurses go about their role, and how this is affected the regulatory, institutional, and organisational context. Distinct from descriptive results, the process of abductive inference will integrate the interpretation of results within a framework determined by existing research, policy, and socio-political literature. The triangulation of the findings of the two studies in this way attempts to develop a 'thick' description, or a description that accounts for the complex specificity and circumstances of the data. Tracy (2010) argued that if, in the process of triangulation, the two sets of research findings converge on the same conclusion then conclusion may be judged to be more credible.

STUDY 1- QUANTITATIVE METHODOLOGY

Study 1 adopted a quantitative methodology to explore practice nursing within New South Wales. The objective of the first study was to describe the opportunities for practice nurses to make and contribute to decision-making, and to identify if the relationships predicted by the role control and support theory apply in a cohort of practice nurses employed in the State of NSW, Australia.

Sample and recruitment

A purposeful sample of practice nurses was obtained for the study. In the first study participants were recruited opportunistically. This recruitment method was selected as, as there was limited information regarding the composition, geographic location, or numbers of practice nurses in employment.

Distribution method for questionnaire and study information

In order to optimise recruitment and the return rate of the questionnaire the researcher was required to actively seek support of industry and professional associations. Permission was obtained to advertise the study in the different industry and professional association newsletters and journals. The advertisements were placed in the trade publication 'Nursing Matters' three times over a period of six months. In addition, the researcher advertised the study at industry conferences (Primary Health Care Ageing Conference 2010 and General Practice Conference 2010) and with educational providers (The University of Technology, Sydney, Faculty of Nursing, Midwifery and Health). With the assistance of the Australian Practice Nurses Association (APNA) and former New South Wales Division of General Practice, advertisements were also emailed to general practice providers throughout the State. These emails were handled by the professional organisations to protect the anonymity of participants.

Advertising the questionnaire widely was a strategy to minimise the potential for

recruitment bias by increasing the likelihood that more practice nurses from diverse backgrounds would participate, although it should be noted that this did not reduce the potential for selection bias. Potential participants were asked to log onto a purpose built and secured website hosted on the University of Technology, Sydney's' servers. This website was constructed by the researcher and designed to encrypt and securely store participant information. On entering the website a single participant (the internet protocol address of the computer on which the questionnaire was completed was recorded resulting in only one questionnaire being completed per computer per day) was provided with information describing the study and their potential involvement. Participants were then prompted to select the item that confirmed they were providing informed consent. After the participant had indicated informed consent they were redirected to the questionnaire. A 69 item questionnaire was selected for the study to measure constructs that related to the opportunities for decision-making by practice nurse, support for practice nurses from supervisors and colleagues, opportunities for practice nurses to develop skills. The practice nurse questionnaire was adapted from the 'Job Content Questionnaire' (JCQ) (Karasek 1997).

The Job Content Questionnaire (JCQ)

The 'Job Content Questionnaire' (JCQ) was adapted to explore practice nursing in NSW. The adaptations were minimal and involved removing three scales that had not been tested for internal reliability or consistency, making the questionnaire more concise and targeted. In addition, one demographic item that asked the respondent if

they were married was removed at the request of the University Human Research Ethics Committee. Three demographic items specific to practice nurses were added: if the respondent was a registered or enrolled nurse, the number years employed as a nurse and practice nurse, and the postcode of the general practice where they were employed. No other changes were made to the structure of the validated questionnaire or the order or wording of the questions (a copy of this questionnaire is provided in the Appendix A).

The JCQ is the most commonly used tool to assess the constructs associated with role control and support (van der Doef and Maes 1999). The original questionnaire was developed in 1979 by Professor Karasek, who sought to investigate the health effects of workload and conflicting job demands in professions where there was the opportunity to exercise control. At the time that the questionnaire was developed the prevailing intellectual approach to understanding individuals and organisations was the Michigan tradition (Jones, Smith and Johnston 2005; van der Doef and Maes 1999). The Michigan tradition sought to combine two distinct but related lines of inquiry dealing with psychosocial wellbeing and epidemiology (Jones, Smith and Johnston 2005). It was postulated that it would be possible to design jobs that supported professional development, thereby counteracting psychological demands and improving job satisfaction (Eskildsen and Dahlgaard 2000; Hackman 1990; Koeck 1999).

Since development, the JCQ has been subject to continuing refinement and adjustment and has gone on to become one of the most widely used research tools for understanding the characteristics of professional roles. The questionnaire was

designed to measure the constructs predicted by role control and support. These constructs are concerned with perceived opportunities for decision-making, social support, professional and skill development, and the ability of individuals to identify a contribution to service delivery. Each of the constructs measured by the JCQ can be influenced by the organisational environment, although the structure of the survey and the wording of the questions are specifically designed to exclude the influence of organisational hierarchies (Bojtor 2003; Kotzer, Koepping and LeDuc 2006).

JCQ demographics

For demographic data collection consideration was given to the utility of data for describing the constructs of interest. As previously mentioned four demographic items were added to the JCQ. These items were added as the review of the literature suggested that a Registered Nurse may have greater opportunities to contribute to decision-making than an Enrolled Nurse and more years of experience of an individual has been previously correlated with more opportunities to contribute to decision-making (Bojtor 2003; Ernst et al. 2004). The following provides a description of the constructs measured by the JCQ.

Decision latitude items

Eight items (question numbers 1, 2, 3, 4, 5, 7, 8, 9) explore decision latitude, this construct being concerned with measuring the opportunities for an individual to make, or contribute to decision-making. Decision latitude is the primary dependent

variable in this research and is a composite construct of two contributing sub-scales. The sub-scales are decision authority and skill discretion. The scale of decision authority measures the organisational possibilities for individuals to make decisions about their work and have a degree for influence within their organisation (Karasek et al. 2007; Karasek et al. 1998). The second contributing scale to the construct of decision latitude is skill discretion which measures the variety of skills and the level of creativity required in the performance of a job (Karasek et al. 1998). Some researchers have opted to only use the subscales of decision latitude without creating a composite measure. Alternatively one subscale has been used but not the other. However, as this questionnaire has not previously been used in Australian nursing the decision was made to use both sub-scales as the specificity of the scale for measuring the phenomenon of interest was yet to be determined, and it is not possible to determine the most relevant scale for practice nurses in advance (Elovainio et al. 2005; Elovainio et al. 2004; Rodriguez et al. 2001). The use of both scales is an accepted approach and considered a means of measuring the distinct sub-dimensions of decision latitude (Carayon and Zijlstra 1999).

Social support items

Eight items explore social support (question numbers 38, 39, 41, 42, 43, 44, 46, 48). Social support is the construct concerned with measuring the opportunities available for an individual to be supported within the workplace. The theory predicts that more social support will correlate with greater decision latitude. Social support is a composite construct of two contributing sub-scales. The sub-scales are co-worker support and supervisory support. Unlike decision latitude, previous research (de

Jonge et al. 2000; de Lange et al. 2003) has not made the distinction between the independent effects of co-worker and supervisory support; rather, it is accepted practice to combine both sub-scales in the measurement of social support. The four items relating to the scale of co-worker support considers the amount of support that a respondent receives from those whom they work with. The second contributing scale to social support is supervisory support, which considers the amount of support an individual receives from their immediate supervisor.

Created skill

Three items in the questionnaire related to created skill (question numbers 1, 3, 9). Created skill is the construct concerned with measuring opportunities for professional and skill development. It is predicted that more social support will lead to higher reported levels of created skill. The theory predicts that created skill will also act as mediating variable between social support and decision latitude.

Self-identity through work items

Six questionnaire items related to self-identify through work (question numbers 53, 55, 56, 58, 59, 60). Self-identity through work is the construct concerned with measuring the importance that someone attaches to their own work being recognised by 'customers' [sic], the company, and society at large (Eum et al. 2007). Self-identity through work reflects the individual's perception that their contribution to service delivery is recognised both by themselves and others. The theory of role

control and support predicts that self-identity through work will positively correlated with decision latitude, social support and created skill.

JCQ validity and reliability

Construct and replication validity has been repeatedly demonstrated for the JCQ when used for researching the occupational characteristics of a previously unstudied population (de Lange et al. 2003; van der Doef and Maes 1999). The JCQ has been comparatively assessed across international populations of differing occupational groups, including nursing, and has been reported as reliable and valid for measuring constructs related to role control and support (Barzideh, Choobineh and Tabatabaee 2013; Lavoie-Tremblay et al. 2005; Mierlo, Rutte and Vermunt 2006; Sanne et al. 2005; Santavirta 2003). The constructs measured by the JCQ have high internal consistency and adequate psychometric properties (de Jonge et al. 2000). In addition, the wide spread use of the JCQ in heterogeneous populations has established the reliability of its constituent scales (Niedhammer et al. 2008; Pelfrene et al. 2001). Nonetheless, statistical analysis was used to ensure that all scales and constructs display acceptable levels of validity and reliability.

There is evidence to suggest that validity and reliability may be compromised by respondent bias, resulting from how research participants process available information. The researcher has taken a number of steps to minimise the potential for this to occur. In the presentation of the questionnaire a minimalist word design was adopted to reduce the potential for confounding or confusing information to be

presented to the participant. Consideration was given to the wording of the demographic items to avoid the use of complex syntax, embedded clauses, vague and ambiguous terms or quantifiers (Tourangeau and Cranley 2006). Questionnaire items with a self-reflexive structure were avoided and words that required an interpretative judgment (such as 'hard' or 'fast') have been removed. Instead, questionnaire items sought to elicit summary judgments with the objective of reporting on, rather than evaluating, the scale or construct being measured.

Another source of bias that may threaten the validity of responses results from social desirability. However, in this research the potential for social desirability was reduced as the design ensured that participants did not have personal contact with the researcher. Additionally, the strategy to use an online medium for delivery of the questionnaire resulted in only one participant completing a questionnaire at a time, reducing the risk that responses may be influenced by individuals other than the person completing the questionnaire. These measures aimed to enhance the rigor of responses by ensuring that respondents are dependent on their own environment and experiences when answering questions.

Data analyses

Statistical analyses of questionnaire data began with preparation and cleaning of data prior to analyses. Raw scale responses were transferred from Microsoft Access to SPSS v.16. Analysis of the data included confirmation of construct validity and scale reliability, and the determination of the existence and strength of correlations

between independent and dependent variables. The preparation of data for analyses was undertaken using the methodology recommended by Fernandez (2003). This entailed the pre-processing of data, data integration, and the splitting of the database. Variables were prepared in SPSS v.16 using numerical codes for each response category, string variables were standardised and categorised, and sub-scale scores were calculated for each case. Cases with more than ten percent of responses missing were excluded from analysis as these would confound findings (Pelfrene et al. 2001). The calculation of individual scores for JCQ scale was based on the formulae recommended by the questionnaire's author, and described in the 'Job Content Questionnaire and Users Guide' (Karasek 1997). Due to the volume of data the calculation of scales was performed once the researcher had programmed the appropriate syntax. The accuracy of this syntax was subsequently checked by analysing the distribution of response scores.

Descriptive statistics were produced including the distribution of variables, including the mean values, standard error of means, minimum/ maximum values, and variance. Both demographic and construct responses were used to assess if the data met with assumptions of normality. The assumption of normality was considered met if the absolute value of skewness was not greater than five and the absolute value of kurtosis was not greater than two. Where the distribution of data significantly departs from the accepted definition of normality the data were transformed as per the recommendations of Tabachnick and Fidell (2007). Data were screened for singularity and multi-colinearity during regression and confirmatory factor analysis using the semi-partial correlations (sri^2). This process is described later in this section.

Scale reliability was determined by the measure of Cronbach's α, otherwise known as coefficient α (Anastasi 1986; Anastasi 1990). Cronbach's α tests for reliability using a single administration of a questionnaire, and is based on the consistency of responses to all items. Inter-item consistency is influenced by two sources of error variance: content sampling (an alternative form of split half); and the heterogeneity of the behaviour domain sampled. The more homogenous the behaviour domain, the higher the inter-item consistency (Anastasi 1986). For the JCQ each consecutive question is heterogeneous; however, the questions measuring a construct embedded within the JCQ are homogenous. Cronbach's α identifies the variance of all individual scores for each item, or question, and then adds these variances across all items (Anastasi 1990). Based on previous research the scale is considered to be consistent if α falls between 0.65 and 0.90 (Den Boer et al. 1999; Nunnally and Bernstein 1994). In addition, co-relational reliability was determined by comparing the measures of Cronbach's α to those reported in Bonnterre et al. (2008) systematic review of the reliability of the JCQ.

The validity of the constructs, and the reliability of scales, was further determined by confirmatory factor analysis. The combination of measures of Cronbach's α, co-relational reliability, and confirmatory factor analysis is based in the approach of previous research (Chang and Hancock 2003; Rowe 2008; Santavirta 2003). Confirmatory factor analysis was used to assess the extent to which an hypothesised organisation of identified factors fits the data (Nunnally and Bernstein 1994). More precisely, factors (a cluster of observed related variables) were assessed for their relative contribution to a construct (a hypothetical concept such as 'decision

authority' or 'social support') (Pett, Lackey and Sullivan 2003). Confirmatory factor analysis allowed for an assessment of the validity of items as contributing to a construct. As this research uses an internationally validated instrument the model by which factors contribute to constructs has already been established. Therefore the results of confirmatory factor analysis allowed the researcher to establish relative contribution of factors (questionnaire items) to the *a priori* model (Rowe 2008).

Prior to performing confirmatory factor analysis the suitability of data for factor analysis was assessed. Data were considered suitable if Kaiser-Meyer-Olkin values exceeded the 0.5 level (Kaiser 1974), or a 0.6 level (Pelfrene et al. 2001). The factorability of scales was further assessed by determinant values, and Bartlett's Test of Sphericity. If scales demonstrated statistical significance then they were appropriate for factor analysis by maximum likelihood extraction (Tabachnick and Fidell 2007). Maximum likelihood extraction was used to estimate the factor loadings that maximise the likelihood of sampling the observed correlation matrix. Maximum likelihood extraction with varimax rotation is recommended by Tabachnick and Fidell (2007). Maximum likelihood extraction contains a significance test for factors and varimax rotation maximises the variance of the squared elements in the columns of a factor matrix. Factor loadings greater than 0.40 should be considered meaningful (Bongkyoo et al. 2008; Brisson et al. 1998).

The analyses concluded with sequential regression analyses to determine the existence and strength of relationships between independent and dependent variables. The order of entry into the regression equation was decided in relation to the substantive theoretical grounds of role control and support (Rowe 2008). For this

study the objective of regression analysis was to identify the fewest independent variables required to predict a dependent variable.

However the demonstration of causation cannot be achieved through statistical analysis (Rowe 2008; Tabachnick and Fidell 2007); rather it should also be based in the logical and experiential evidence from research literature and the explanations offered by the qualitative investigation as applied in the second methodology.

STUDY 2- QUALITATIVE METHODOLOGY

Qualitative investigation, by means of purposive interview and thematic analysis, can be used to provide insights into the meaning and context of quantitative findings, and serves to validate and expand any identified relationships (Patton 1990). Hence, the second study was conducted using semi-structured interviews to develop a rich, deep, and credible understanding of the 'real-world context' of practice nursing (Miles and Huberman 1994). This was achieved by means of qualitative investigation of the findings resulting from the analysis of questionnaire data. The following describes the recruitment of participants, the development of the interview guide, and how interview data were analysed.

Sample and recruitment

The second methodology sought to recruit participants who belonged to a comparable cohort to the participants in the first study, but who had not completed

the Study 1 questionnaire. As such purposive sampling was used to recruit practice nurses who had not completed Study 1 questionnaire to undertake interviews. The goal of excluding individuals who had completed the JCQ was to minimise the risk that participants would be aware of the topics of interest, thereby reducing bias and the risk of contamination of data (Creswell and Tashakkori 2007). The interview data would then enable greater in-depth exploration of views.

The recruitment criteria for Study 2 required participants to be employed as a practice nurse in NSW and who had not completed the Study 1 questionnaire. The goal of purposively recruiting participants was to ensure that the interview data were useful for explaining the findings from the questionnaire (Creswell and Tashakkori 2007). As with Study 1 participants were recruited with the support and assistance of the APNA and the New South Wales Division of General Practice. The research study was again promoted in industry publications and newsletters, and conferences. In addition, the APNA and the New South Wales Division of General Practice sent emails to general practice providers throughout the State promoting the research.

Within the advertisements and emails participants were asked to contact the researcher by telephone or email if they wished to take part in the interviews. Once consent was obtained verbally (a recording of which was retained), the researcher enrolled the participant in the study. Enrolment involved the researcher explaining the purpose and process of the interviews without disclosing the findings of the questionnaire study. Participants also provided verbal informed consent to have the interviews audio recorded. At the end of the consent process, participants were provided with the opportunity to ask any questions they may have about the study.

The enrolment process also involved confirming with the participant that they met with the recruitment criteria. By ensuring participants were drawn from a homogenous group similar to that of the participants in Study 1 it was expected that the Study 2 data would provide for a comparable, detailed and richer explanation of the questionnaire findings (Teddlie and Tashakkori 2009).

The size of the sample was determined by data saturation. Data saturation is determined to have been reached when range of themes or information consistently emerges from the data (Krieger and Casey 2000). While some authors have asserted that there are "no rules for [determining] sample size in qualitative inquiry" (Patton 1990), the present research study allowed sampling to be guided by the phenomena of interest and the emergence of new themes (Teddlie and Tashakkori 2009). Allowing saturation of data to determine sample size has been identified as a valid method for determining the number of participants in qualitative inquiry and specifically when using a sequential explanatory design (Teddlie and Tashakkori 2009).

Interviews and the semi-structured interview guide

A semi-structured interview guide was developed based on Study 1 findings. A set of open-ended interview questions were developed, the complete interview guide is presented in the Appendix C. The tool comprised all open-ended questions, allowing for the identification of relevant topics and issues of interest and for these to be explored more deeply with practice nurses.

In Study 2 the researcher attempted to strike a balance between seeking explanations for the findings of Study 1 while also reducing the influence of researcher preconceptions. Hence the development of an interview guide assists researchers to reflexively acknowledge their own preconceptions (Miles and Huberman 1994).

The interview tool collected demographic data to compare sample groups within Study. The demographic data included: whether the practice nurse was Registered or Enrolled, the number of years the participant had been employed as a practice nurse, the number of years the participant had been employed as a nurse, the participants' highest educational attainment, if the participant worked with other nurses and if so how many, the postcode of employment, the age of the participant, and if the participant was employed on a full-time, part-time, or casual basis.

Semi-structured interviews were determined as the most appropriate method to explore the relevant phenomena. The interviews allowed the researcher to explore the attitudes and beliefs of practice nurses and presented an opportunity for participants to provide further in-depth information about their role (Teddlie and Tashakkori 2009). The use of an interview guide allowed for a more focused interview, which assisted to direct nurses' thoughts towards their role and the context in which they work. Semi-structured interviews also assist in producing a more positive dialogue between researcher and participants. In this way, it was hoped that greater clarity of the questionnaire findings from Study 1 would be achieved (Miles and Huberman 1994).

During the interview, the researcher sought to convey interest and enthusiasm and used communication strategies to demonstrate sincerity and interest. In this way, semi-structured interviews are reported to be less intimidating, and can empower participants to provide their own interpretation and meaning (de Laine 2000). During Study 2 the researcher sought with the use of a semi-structured interview guide to achieve a conceptual consistency between interviews and thereby enhance the rigour of the study.

The semi-structured interviews followed the application of a coherent theoretical model addressing what Silverman (2011) refers to the as the historical, cultural, political, and contextual grounding of informant discourse. By exploring the experiences of practice nurses employed within NSW, the researcher takes account of the occupational context of participant's stories. The interview guide, conceptually informed by the findings of Study 1, also assisted the researcher to keep the phenomena of interest in mind during the interview. However, this did not mean that if a new concept emerged it was disregarded, rather, the researcher was free to pursue avenues of inquiry as they emerged.

A copy of the interview guide was available to the researcher during the interviews which allowed him to annotate the interview guide as ideas, concepts, and potential themes emerged. This process of ongoing annotation also served to remind the researcher during analysis and coding of pertinent issues that occurred at the time of the interview, as well as maintaining a record of the researcher's own thoughts and preconceptions. As a general guide to annotation during each interview, the researcher started by recording: the people, events, and situations discussed; the main

themes or issues identified during the interview; the variables from Study 1 that the interview mostly focused on; and what new hypotheses, speculations, or hunches emerged from the interview or were suggested by the participant (Miles and Huberman, 1994).

The process of reflective annotation occurred both during the interview and transcription process. Reflective annotation led to the suggestion of new interpretations, leads, and connections with other parts of data (Miles and Huberman, 1994). The recording of reflective annotation provided an opportunity for the researcher to identify preconceptions of the data. Reflective annotation also allowed the researcher to identify any tacit knowledge that may have influenced the interview process (Tracy, 2010). The process of ongoing annotation assisted the researcher during analysis and coding of issues that occurred at the time of the interview.

In addition, a journal was maintained by the researcher which captured thoughts, notions and preconceptions. The process of reflective annotation and the maintenance of a research journal enabled the researcher to develop a audit trail, or a journal documenting research decisions and activities (Creswell and Miller, 2000). The development of the audit trail was based on the discussion by Cutcliffe and McKenna (2003) of expertise in qualitative research and the use of audit trails. The audit trail consisted of a record of the raw data, the reduction of the data and the products of analysis, how the data were reconstructed and synthesised, and any notes relating to this process. The development of the audit trail assisted the researcher to determine if there were enough data to support the claims and themes being developed, if enough time was spent time was spent gathering significant data, if the

context and sample was appropriate to the objectives of the study, and if appropriate procedures were being used during the interview process and in the analysis (Tracy, 2010). The systematic maintenance of the audit trail assisted in ensuring rigor, validity, and reliability.

The interview guide, and process of reflective annotation, assisted the researcher to ensure the reliability of data by ensuring conceptual consistency between informants and an awareness of researcher preconceptions (Saks and Allsop, 2013). During the interview the researcher and the participant jointly constructed the narrative. In the resulting 'process and product' of the interaction the researcher sought to maximise validity by minimising the influence of his/her own potential bias and preconceptions (Banister et al. 2011). The researcher attempted to strike a balance between seeking explanations for the findings of the questionnaire study while also reducing the influence of preconceptions.

Data analysis

Data collection, analysis and interpretation were an iterative process. Data obtained by interview were thematically analysed. The thematic analysis was 'problem driven'. In other words the analysis of the interviews was concerned with 'epistemic problems' (problems concerned with not knowing something that is deemed significant) (Banister et al. 2011). Thematic analysis involved the recording of reflective annotation, transcription, coding and recoding, pattern mapping, and drawing inferential conclusions. During coding a graduated schema adopted from (Bogdan and Biklen 1998) was applied and is presented in Table 6.

Table 6 Coding schema adopted from Bogden and Biklen (1998)

The participants setting and context.
The participants' perception of the context.
The participants' perspective on the context, as shared by multiple participants.
The way that participants think about relationships between the phenomena of interest.
The work processes that participants engage in on a daily basis.
The activities that participants engage in on daily basis, including examples of specific events or activities.
The strategies used by participants to accomplish things; the tactics, methods, and techniques for meeting objectives within the working environment.
The relationships and social structures that participants engage in.

Transcripts of interviews were analysed by the researcher and recurrent topics, meanings, or themes that emerged were codified. The coding process involved recognising an important moment and capturing prior to interpretation (Boyatzis 1998). While the codification of topics, meanings, or themes was focussed on the conceptual model role control and support theory utilised in Study 1 the researcher also provided space and opportunity for the exploration of 'emergent coding' (Fereday and Muir-Cochrane 2006). Emergent coding allowed for qualitative inferences to be drawn during the process of coding. Coding in this manner amounts to a 'rigorous and systematic analysis of data' with the aim of developing emergent concepts and categories from the words of informants and culminating in the development of explanatory models (Saks and Allsop 2013, p. 81). During analysis of data the researcher paid specific attention to divergent themes, or 'deviant cases'

(Silverman 2011), as by doing so, the conceptual richness and validity of the participants' meanings would be captured (Banister et al. 2011).

Coding iteratively occurred on four levels including: description, interpretation, pattern recognition, and pattern mapping (Miles and Huberman 1994). Descriptive coding seeks to allocate data to codes representative of phenomena. For example, an informant may discuss making a decision about the clinical priority of patients; this could be coded as an element of decision latitude (maintaining consistency with the theoretical underpinning and the conceptual framework of Study 1). Interpretatively the informant may suggest that they have consciously changed his or her professional behaviour to be able to participate more in decision-making. For example, this may have been coded as an element of decision latitude. Pattern coding by contrast, was concerned with meta-themes. For example, one or more of the participants may report behaviour that seeks to achieve common ends, such as seeking greater support from supervisors to inform decision-making (this may be pattern coded as factor influencing decision latitude as well as an emergent theme about the availability of supervisory support). The final stage of data analysis involved a systematic process of pattern mapping. This involved grouping coded data into themes. This enabled the researcher to map patterns and move data from simple description to interpretation.

Data management and storage

Audio recordings of the interview data were transcribed within one week of data collection. To maximise understanding and readability, some editorial changes were

made to grammar and syntax. These strategies maximised transcription quality, reading and trustworthiness and maintained the intention of participants (Poland 1995). The process of transcription provided the researcher with the opportunity to become immersed within the data and thereby enable him to develop a richer understanding of how practice nurses perceive their everyday role. Both the audio and transcriptions were stored on a password protected computer in a locked office. Only the researcher and his supervisors had access to the data. Each participant interview was imported separately into NVivo[tm], each transcript was then coded and explored to identify codes and patterns within NVivo[tm] and on index cards. As with the audio and transcriptions the coded data were stored in a locked filing cabinet or hard drive in a secure office.

Ethical approval

Approval for this research was sought and obtained from the University of Technology, Sydney Human Research Ethics Committee (HREC# 2007-81a), copies of the letters indicating ethical approval are provided in Appendix B. All participants in this research provided informed consent. All data were de-identified prior to analysis and stored on a secured hard drive within a locked facility. For the first study assistance with the development of the questionnaire was sought from the University of Lowell (Massachusetts). In discussion with the University of Technology, Sydney Research Office and the University of Lowell Massachusetts it was agreed that any data or results associated with this research would be for post-graduate study, and that contributing author(s) will be acknowledged.

SUMMARY

This mixed method sequential explanatory research study is based on the theoretical constructs of role control and support theory. To answer the research questions there was a need to understand the opportunities for practice nurses to make or contribute to decisions, the opportunities for practice nurses to be supported to make decisions, and the opportunities for practice nurses to learn and develop. These understandings can be developed by measuring the constructs embedded within role control and support and by testing the theoretical predictions. However, these measurements alone would not provide a contextual understanding of Australian practice nursing as the theory intentionally excludes contextual considerations. Australian practice nurses work within an environment that is defined by traditional hierarchies which are institutionalised in regulatory frameworks. Therefore, the development of evidence requires further explanation of the measurements taken of the theoretical constructs. This can only be achieved by adopting a sequential mixed methods design. A qualitative explanation of quantitative findings will allow for deeper insights into the key characteristics of practice nursing as well as how the role fits within the organisational structure of general practice. This mixed methods approach and synthesis of construct measurements and qualitative explanation, is critical for answering the research questions. The following Chapter presents the findings of both the quantitative and qualitative studies.

CHAPTER 5- RESULTS

INTRODUCTION

This Chapter presents the findings in the order that the studies were undertaken, beginning with Study 1. The demographics of the sample, descriptive statistics, the results of confirmatory factor analysis, and results of three regression models are presented in turn. The results from Study 2 follow, consisting of a description the demographics of study participants, a description of the activities undertaken by practice nurses, and the four themes that emerged from analysis of the semi-structured interview data.

STUDY 1

DEMOGRAPHICS

The JCQ survey was returned by 165 nurses employed in general practice in New South Wales (NSW). Five responses were excluded from analysis, two were excluded as the respondents reported a postcode of employment outside of NSW, and three were excluded as the surveys returned had more than ten percent of responses missing. A final sample of 160 surveys was obtained. Table 2 contains the demographic characteristics of the sample. Of *n*=160 retained surveys, 154 were completed by Registered Nurses (96.3%) and 6 by Enrolled Nurses (3.8%). Of the

respondents 154 were female (98.1%) and 3 were male (1.9%). The three largest age groups of respondents were 50-54 years of age (32.1%), 45-49 years (28.3%), and 40-44 years (11.3%). The most commonly reported 'highest formal educational attainment' was 'hospital certificate' (45.5%), followed by 'degree' level (26.3%), and 'graduate diploma' (14.1%). The median number of years that respondents had been employed as a nurse was 25 (std. err = 0.797), the median number of years that respondents had been employed as a nurse in general practice was 4 (std. err = 0.493).

Eighty-three respondents indicated that they were employed on a part-time basis (52.2%), 42 on a full-time basis (26.4%), and 34 on a casual basis (21.4%). The geographic location of the general practices where respondents were employed were coded according to the Australian Bureau of Statistics classifications (Accessibility/ Remoteness Index of Australia: ARIA). ARIA measures relative remoteness of location from major population centres (Australian Bureau of Statistics 2003). The majority of respondents reported that their place of current employment was in an area classified as 'highly accessible' (69.6%); with 25.3% employed in areas classified as 'accessible', 3.8% in areas classified as 'moderately accessible', and 1.3% in areas classified as 'remote' or 'very remote'.

The majority of respondents did not 'work with other nurses in daily practice' (52%); 45.6% of respondents indicated that they worked with from 1 to 4 other nurses in their daily practice, and 2.4% indicated that they worked with five or more other nurses in their daily practice. Forty percent of respondents indicated that prior to being employed in general practice they were employed in a hospital setting, in a

diverse range of clinical areas including: cardio-thoracic nursing, emergency department, agency nursing, neurological nursing, and operating theatres. Respondents also indicated that prior to working in general practice they were employed in aged care (10.6%), community health care (7.5%), midwifery (6.9%), and roles outside of nursing (4.4%). Table 7 presents the demographic characteristics of the sample.

Table 7 Demographic characteristics of the sample (*n*=160)

		Count	Percent
Registered/Enrolled Nurse	**RN**	154	96.3%
	EN	6	3.8%
Gender	**Male**	3	1.9%
	Female	154	98.1%
Age (in years)	**25-29**	5	3.1%
	30-34	5	3.1%
	35-39	13	8.2%
	40-44	18	11.3%
	45-49	45	28.3%
	50-54	51	32.1%
	55-59	17	10.7%
	60-64	5	3.1%
Highest Formal Qualification	**Hospital Certificate**	71	45.5%
	TAFE qualification	8	5.1%
	Undergraduate Certificate	7	4.5%
	Degree	41	26.3%
	Graduate Diploma	22	14.1%
	Master Degree	7	4.5%
Full time, part-time, or casual employment	**Full time**	42	26.4%
	Part-time	83	52.2%
	Casual	34	21.4%
Years employed as a nurse[†]	**Median**		25
Years have you been employed as a practice nurse[†]	**Median**		4

[†] Both Registered and Enrolled including broken service

JCQ DESCRIPTIVE STATISTICS

Prior to analysis the normality of each observed variable was evaluated graphically, and by assessment of values of skewness and kurtosis. Assumptions of normality were considered to be met if the absolute value of skewness was not greater than five

and the absolute value of kurtosis was not greater than two. All variables excluding 'created skill' satisfied assumptions of normality. Following logarithmic transformation of the created skill scale assumptions of normality were satisfied.

Table 8 displays the α reliabilities and all the correlation coefficients for the observed variables. For the observed variables α ranged from 0.66 to 0.86 indicating acceptable levels of internal consistency. The values were also consistent with Bonneterre's et al (2008) systematic review of the reliability of the JCQ. Where a variable was observed on an ordinal scale Spearman rank order correlation coefficients were produced, where the variable was observed on a continuous scale Pearson's correlation co-efficients were produced.

The number of years a nurse had been employed was negatively correlated with whether the respondent was a registered or enrolled nurse (-0.172, pp ≥ .05), and with the highest formal educational attainment of the respondent (-0.279, p≥ .01). The relationship between the number of years a respondent had been working as nurse and educational attainment remained consistent for the number of years that the respondent had been employed as a practice nurse (-0.220, p≥ .01). There was a negative correlation between the age of the respondent and highest formal educational attainment, and the age of the respondent was positively correlated with the number of years that the respondent had been employed as a nurse (0.643, p≥ .01).

There was a positive correlation between the number of years a respondent had been employed as a nurse and the number of years that they had been employed as a

practice nurse (0.376, p≥ .01). There was a negative correlation between employment status (whether the respondent was employed on a full-time, part-time, or casual basis) and whether the respondent worked with other nurses in their daily practice (-0.219, p≥ .01). The observed correlation coefficients suggest that: the older the respondent and longer they had been employed as nurse and as a practice nurse, the lower their reported educational attainment and the more likely they were to be enrolled nurses. Practice nurses employed on a casual basis were more likely to work with other nurses daily compared to their full-time counterparts.

The status of respondents as Registered Nurses was positively correlated with the variety of skills and level of creativity required during the performance of a job (skill discretion, 0.183, p≥ 0.05), the level of trust, cohesion, social and emotional assistance from co-workers (co-worker support, 0.170, p≥ 0.05), and the involvement, interest, and assistance from ones supervisor (supervisory support, 0.221, p≥ 0.01). However, registered nursing status was negatively correlated with the opportunity to learn new things, use creativity, and develop personal abilities (created skill, -.171, p≥ 0.05). Respondents who were employed on a full-time basis reported higher levels of created skill than their part-time or casual counterparts (0.175, p≥ 0.05). Respondents employed on a full-time basis were also reported lower levels of decision latitude (-0.208, p≥ 0.01), the composite measure of skill discretion and decision authority. Table 8 presents the α reliabilities and correlation coefficients for the primary constructs.

Table 8 α reliabilities and correlation coefficients

		Highest formal qualification	Years employed as a Nurse	Years employed as a practice nurse	Employed on a full time, part-time, or casual basis	Work with other practice nurses	Gender	Age (in years)	Skill Discretion	Created Skill	Decision Authority	Decision Latitude	Co-worker support	Supervisor Support	Social Support	Self-Identity through work
Registered or Enrolled Nurse	**α**								**0.76**	**0.66**	**0.71**		**0.86**	**0.83**		**0.78**
	Correlation Coefficient	-.045	-.172*	-.062	-.129	-.061	.028	.036	.183*	-.171*	-.075	.090	.170*	.221**	.186	.126
Highest formal qualification	Sig. (2-tailed)	.575	.029	.440	.105	.443	.729	.656	.021	.030	.346	.255	.032	.005	.019	.114
	Correlation Coefficient		-.279**	-.220**	-.007	-.068	.060	-.263**	-.042	-.040	-.001	-.096	.118	.045	.106	.056
Years employed as a Nurse	Sig. (2-tailed)		.000	.006	.934	.399	.459	.001	.606	.622	.988	.235	.143	.573	.189	.486
	Correlation Coefficient			.376**	.034	-.031	-.083	.643**	.035	-.078	-.117	.140	-.137	-.097	-.144	.032
Years employed as a practice nurse	Sig. (2-tailed)			.000	.667	.700	.300	.000	.658	.324	.139	.078	.085	.223	.069	.684
	Correlation Coefficient				-.064	.071	.064	.148	.022	-.021	-.143	.152	-.046	-.045	-.039	.055
Full time, part-time, or casual basis	Sig. (2-tailed)				.424	.373	.428	.064	.787	.792	.073	.056	.563	.573	.621	.492
	Correlation Coefficient					-.219**	.054	.117	-.125	.175*	.094	-.208**	.026	-.036	.014	.016
with other practice	Sig. (2-tailed)					.006	.506	.142	.115	.027	.240	.008	.744	.649	.859	.842

	Correlation Coefficient						.135	-.110	.020	-.070	-.066	.154	.045	.014	.050	.113
Gender	Sig. (2-tailed)						.091	.167	.798	.376	.409	.053	.571	.863	.527	.155
	Correlation Coefficient							-.073	.030	.013	-.078	.037	.159	.093	.166	-.041
Age (in years)	Sig. (2-tailed)							.364	.706	.870	.333	.646	.046	.248	.038	.613
	Correlation Coefficient								.086	-.006	-.067	.065	-.026	-.029	-.053	.017

*** Correlation is significant at the 0.05 level**
**** Correlation is significant at the 0.01 level**

JCQ CONFIRMATORY FACTOR ANALYSIS

Prior to performing confirmatory factor analysis the suitability of data for factor analysis was assessed. To determine data suitability the Kaiser-Meyer Olkin tests were undertaken. Values ranged from 0.62 to 0.8, exceeding the 0.5 level recommended by Kaiser (1974) and the 0.6 level recommended by Pelfrene (2001). Determinant values ranged from 0.155 to 2.14. Bartlett's Test of Sphericity indicated that all scales reached levels of statistical significance, supporting the factorability of scales (Hutchenson and Sofriniou 1999, pp.224-225). Single factor solutions were identified for all scales except for skill discretion and self-identity through work, which were identified as having two factor solutions accounting for 46.5% and 50.2% of variance respectively. For the scale decision latitude the lowest factor loading was for repetitive work (-0.001). Both skill discretion and created skill were identified as having a single factor solution accounting for less than 50% of total variance. As both of these variables have contributing items with high commonality values it may be that this is a function of a small sample size, or that there are other factors that are not adequately captured by the JCQ within the practice nurse population. Table 9, displays Kaiser-Myer-Olkin measure of sampling adequacy, common factors, commonalities, percentage of variance explained, and percentage of total variance explained.

Table 9 Confirmatory factor analysis of scales using maximum likelihood extraction of common factors, varimax rotation, and Kaiser normalisation (*n*=160)

	KMO measure of sampling adequacy	Common Factor†		Commonalities†	
		I	II		
Scales and Items *					
Decision Latitude					
-Skill Discretion	0.73				
Develops own abilities		1.05	-0.34	0.98	
Requires Creativity		-0.03	0.23	0.43	
Variety		-0.007	0.097	0.25	
High skill level		-0.05	0.38	0.48	
Learn new things		-0.11	0.68	0.61	
Repetitive work ‡		-0.001	-0.01	0.04	
Percent of variance explained after rotation/ factor		25.2%	21.24%		
Total percent of variance explained					46.5%
-Decision Authority	0.68				
Allows own decisions		0.33		0.47	
A lot of say		0.59		0.65	
Little decision freedom ‡		-0.28		0.41	
Total percent of variance explained					50.7%
Created Skill	0.62				
Learn new things		0.05		0.18	
Requires Creativity		0.94		0.90	
Develops own abilities		0.08		0.31	
Total percent of variance explained					46.7%
Social Support					
-Co-worker Support	0.78				
Friendly co-		0.22		0.52	

workers					
Co-workers helpful		0.35		0.66	
Co-workers interested in me		0.24		0.56	
Co-workers competent		0.38		0.68	
Total percent of variance explained					80.4%
- *Supervisory Support*	0.77				
Supervisor pay attention		0.2		0.48	
Supervisor concerned		0.1		0.29	
Helpful Supervisor		0.4		0.71	
Supervisor good organiser		0.46		0.74	
Total percent of variance explained					55.31
Self-Identity through Work	0.78				
Customer satisfaction is a source of feeling valued		0.14	-0.05	0.16	
Important contribution to society		0.23	0.1	0.51	
Respected and rewarded for work		-0.1	0.48	0.55	
My skills and abilities are vital		0.43	-0.1	0.56	
Feedback on performance		-0.23	0.67	0.62	
Point out contribution to service		0.55	-0.17	0.62	
Percent of variance explained after rotation/ factor		**27.8**	**22.5**		
Total percent of variance explained					**50.2%**

*Abbreviated wordings with question numbers in brackets, refer to Job Content Questionnaire (JCQ) version 1.7 (Karasek, 1998)

† Loadings on factors and commonalities are rounded to two decimal places. Highest loadings .40 in bold

Items formulated in negative direction, item reversed before analysis

Confirmatory factor analysis identified that the question 'my job requires repetitive work' had the lowest factor loading for the scale decision latitude (-0.01 after rotation), may indicate a requirement to re-evaluate the relative contribution of this question to the scale.

High commonality values were observed for the question 'develops own abilities' (0.98) for the scale skill discretion. A high commonality value was also observed for 'requires creativity' (0.90) for the scale created skill. Both Cronbach α and confirmatory factor analysis indicated that for this study there was no reason to reject the constructs on grounds of internal reliability or consistency.

REGRESSION ANALYSIS

Sequential regression analysis was used to determine the direction and strength of relationships between observed variables. Three regression models were used. In the first model decision latitude was treated as dependent, in the second model created skill was treated as dependent, and in the third model self-identity through work was treated as dependent. Table 10, displays the means, standard deviations, and regression coefficients, for each model 95% confidence intervals were used.

The first regression model sought to determine whether decision latitude was predicted by social support and self-identity through work. The adjusted R^2 of 0.069 (F=12.75) indicated that social support was not a strong predictor of variability in decision latitude. When self-identity through work was added the predictive ability

of the model improved (adjusted R^2= 0.159, F= 16), and confidence limits ranged from lower (bound 0.47 to 1.2). However, the low adjusted R^2 suggests that other variables are required to explain variance in decision latitude. The direction of the relationships indicates that both social support and self-identity through work positively influence decision latitude.

The second model sought to determine whether created skill was predicted by social support and self-identity through work. The adjusted R^2 of 0.176 (F= 34.93) indicated that under a fifth of the variability in created skill could be explained by social support. When self-identity through work was added the model became considerably more robust with over a third of the variability of created skill accounted for (adjusted R^2 = 0.347, F= 43.29), and confidence limits ranged from lower bound of 3.3 to 4.2. Both social support and self-identity through had a negative influence on created skill.

The third model sought to identify whether self-identity through work was significantly predicted by social support and created skill. The adjusted R2 of .148 (F= 28.63) indicates that social support was not a good predictor of self-identity through work. When created skill was added to the model over one third of the variance was accounted for (F= 39.32, adjusted R2= 0.32), confidence intervals ranged from a lower bound of 5.17 to an upper bound of 7.32. Social support had a weak positive influence on self-identity through work, while created skill had a strong negative effect. Whether or not the respondent worked with other nurses in daily practice positively influenced self-identity through work (R2= 0.124). Table 10 presents the means, standard deviations, R, R^2, adjusted R^2, Beta (B), Standard Error

of B (SE B), Standardised Beta (ß), and p values for each the three regression models.

Table 10 Sequential regression models: means, standard deviations, R, R^2, Adjusted R^2, Beta (B), Standard Error of Beta (SE B), Standardised Beta (ß), and p values

Variables*	**Means**	**Std. Deviations**	***R***	***R^2***	***Adjusted R^2***	***B***	***SE B***	***ß***	***P***
1) Decision latitude	*15.5*	*2.26*							
-social support	*15.1*	*2.30*	0.273	0.075	0.069	0.27	0.075	0.273	P<0.0005
-social support, self-identity through work	*5.90*	*0.85*	0.412	0.169	0.159	0.881	0.208	0.334	P<0.0005
2) Created skill	*1.64*	*0.45*							
-social support			0.426	0.181	0.176	0.061	0.014	-0.426	P<0.0005
-social support, self-identity through work			0.596	0.347	0.347	0.041	0.037	-0.454	P<0.0005
3) Self-identity through work									
-social support			0.392	0.153	0.148	0.147	0.03	0.392	P<0.0005
-created skill			0.58	0.33	0.32	-0.89	0.14	-0.47	P<0.0005

*Results are rounded to two decimal places.

SUMMARY

Analysis of questionnaire data from Study 1 indicated that all of the constructs were internally valid and consistent. Confirmatory factor analysis identified single factor solutions for all scales except for skill discretion and self-identity through work, which were identified as having two factor solutions. As both of these variables have contributing items with high commonality values it may be that this is a function of a small sample size, or that there are other factors that are not adequately captured by the JCQ within this population. Factor analysis indicated that the structural composition of the decision latitude scale was valid, however low R^2 values in the first regression model may indicate that there may be other factors that are not accounted for within the tool.

Correlation coefficients suggest that older practice nurses with more years of nursing experience had lower educational attainment and were more likely to be enrolled nurses. Practice nurses employed on a full-time basis were less likely to work with other nurses in their daily practice. Additionally, practice nurses employed on a full time basis reported more opportunities to develop their own skills but had fewer opportunities to participate or influence decision-making within the workplace than practice nurses employed on a part-time or casual basis. Registered Nurses reported greater discretion in the use of skills, received more support from colleagues and supervisors, and reported fewer opportunities for the development of their own skills and abilities than their enrolled nurse counterparts. Sequential regression modelling identified that both social support and self-identity through work exerted a weak but

positive influence on decision latitude. Over a third of the variability in created skill could be explained by social support and self-identity through work, with both of these variables exerting a negative influence. Social support and created skill positively influenced self-identity through work.

This section has presented the demographics of the participants in the first study, descriptive statistics of study variables, inter-item correlations, the results of confirmatory factor analysis, and the results of three sequential regression models. In the section that follows the results of Study 2 are presented.

STUDY 2

The second study sought to explain and clarify the significant findings of the first study. This section begins with a description of the demographic characteristics of the practice nurses interviewed. This is followed by a description of the activities in which practice nurses participated during a working day and the results of a thematic analysis of the interview data.

DEMOGRAPHICS

Fifteen interviews were undertaken with practice nurses employed in NSW. All of the practice nurses interviewed were female. Data saturation was reached at interview 12, although a further three interviews were conducted to confirm no new themes would emerge.

Sixty percent (*n*= 9) of the practice nurses interviewed were employed on a full-time basis, and fifty-three percent (*n*= 8) were employed in an area defined as metropolitan. The median number of years a nurse had been employed in general practice (5 years) was less than a fifth of the median number of years that they had been employed as a nurse (24 years). Fourteen practice nurses (94%) reported being employed in other areas of nursing before undertaking employment in general practice, with ten practice nurses (67%) reporting that they were previously employed in aged care. Thirteen practice nurses (87%) held graduate or post-graduate qualifications. Table 11 displays the median number of years employed as a nurse, the median number of years employed as a practice nurse, highest formal educational attainment, and area of previous employment.

Table 11 Demographics of the practice nurse sample

Years Employed	**Years (Median)**
Years employed as a nurse	24
Years employed as a practice nurse	5
Highest Formal Educational Attainment	**Number of Practice Nurses**
Hospital certificate	2
Under-graduate degree	10
Post-graduate certificate	2
Masters	1
Total	15
Area of Previous Employment	
General practice	3
Hospital/ acute care	1
Aged care	10
Outside of nursing	1
Total	15
Current Employment Status	
Full-time (employment contract)	9
Part-time (contractor)	6
Total	15
Location of Employment*	
Metropolitan	8
Regional	3
Remote	4
Total	15
*Accessibility and Remoteness Index of Australia (Australian Bureau of Statistics, 2010)	

THEMES

The analysis of interview data revealed five significant themes, presented under the following headings: ‘activities undertaken in the general practice setting’; ‘financing and legitimacy’, ‘supervision of practice’, ‘building relationships and trust’, and ‘the

changing role of practice nursing'. The first theme details the typical activities undertaken by practice nurses in the general practice setting. In the second theme practice nurses reported on how the financing of general practice enabled and constrained their contributions to service delivery. The third theme presents data about how practice nurses experienced the supervision of their role. In the fourth theme practice nurses discussed how their role was undertaken in relationship to doctors and patients, how they positioned themselves in these relationships, and how positive relationships were seen to result in positive outcomes. The fifth theme explored how practice nurses were experiencing change to their role, why they thought their role was changing, and how they were seeking to adapt.

THEME 1- ACTIVITIES UNDERTAKEN IN THE GENERAL PRACTICE SETTING

Practice nurses reported being involved in a diverse range of activities associated with clinical care, care planning and coordination, and management of the general practice. The activities reported by practice nurses indicated that the role is characterised by a wide breadth of activities. On a typical day practice nurses described that they could be involved in the planning and provision of patient care, performing or participating in management activities, providing education, participating in clinics, and providing chronic disease management.

One of the first activities to emerge concerned the practice nurse's involvement in procedure within the general practice. For example, 'planning and providing care' was described as undertaking and assisting in technical procedures, as well as

engaging in relationships intended to have a therapeutic outcome. Practice Nurses 6 and 4 described the provision of patient care as assisting or performing procedures,

> *"If we have an excision come in, if someone were to come in to have a mole cut off, or something like that, I go in, I prepare the patient, I do the anaesthetics, I set up all the equipment. The doctor comes in, sits down, cuts it out, puts it in a pot and walks out, I suture it up." (PN, 6)*

Practice Nurse 4 described performing wound care procedures, *"Wound care is one of them, and initiating the wound care, as far as even suturing a wound"* (PN, 4), whereas Practice Nurse 10 described being involved in the planning of care, and facilitating therapeutic relationships.

> *"What we've been doing is I've been doing counselling for everybody but I do a lot of the mental health plan and the doctors will often see somebody and if they think they might need a mental health plan, they say, well make and appointment with [the practice nurse]… I do that for most patients. I am seeing a few patients for more short term work – like loss and grief, or a bit of anxiety, panic attacks, that kind of thing. You can do a fair bit in a half hour spot with people if you've got four or five or six of them in a row." (PN, 10).*

A second activity to emerge concerned the practice nurses' involvement in management activities within the general practice. For example, 'practice management' was an activity that was described by four practice nurses as being undertaken on a daily basis. Practice Nurse 1 had the most extensive involvement in practice management, yet she still undertook a clinical role,

> *"I've been a manager for the last couple of years, still do a lot of the hands-on work in the treatment room, so we have our treatment room nurses, which I work down there everyday, as in doing dressings, doing ECG's [electrocardiogram's], doing immunisations, all the normal things, treatment room type things. But as a manager I do things like rosters, performance reviews. I liaise with the upper management. Because we are such a large practice, it's easier, we have our management meetings and the information gets sent down through the system that way. So I go to management meetings, I contribute to ideas about how we can do things differently, you know, because we are expanding, things are changing all the time, it's really quite exciting. So I do the hands on work as well as the administration work." (PN, 14)*

For other practice nurses their involvement in practice management was peripheral to their role as a clinician, citing involvement in practice management meetings (PN, 3, 4), and general practice accreditation (PN, 14).

Seven practice nurses described providing 'patient education' as an activity that they undertook on a daily basis. The following two extracts exemplify the role of practice nurses in providing patient education,

> *I "do a lot of education with the patients and they love that rather than sending them off to independent bodies such as diabetic education clinics or whatever. They have education with us first and then go off with the educator and that way, they've got some background knowledge and they come back and they're quite thankful for that." (PN, 15)*

And

> *"For example, going over [inaudible] plans, or smoke cessation, or explaining about the contraceptive pill" (PN, 1)*

Another activity to emerge concerned the practice nurses' involvement in providing clinic services within the general practice. Five practice nurses indicated that they participated in providing clinic services. Practice nurses referred to leading, participating in, or coordinating clinic services related to a specific chronic conditions or target demographic. The groups and target demographics were described as the following: "diabetes", "cancer" (PN, 1), "swine flu" (PN, 12), "renal" (PN, 14), "metabolic", "weight management" (PN, 1, 5) clinics; or clinics for "women's health" (PN, 1). The provision of clinic services was closely associated with practice nursing involvement in chronic disease management and involved the provision of "medication review[s]" (PN, 14), and "immunisation[s]" (PN, 13). Practice nurses five and one referred to their involvement in clinic services in the following extracts,

> *"We have nurse-led clinics, so we have a Registered Nurse that does diabetes clinics, that's all she does full-time, that's all she does. We have another nurse that does chronic disease management full-time, that's all she does, the care plans and things like that." (PN, 1)*

And

> *"Put me in a hospital, I'd be hopeless. But in the general practice, there's a lot of organising with home help assistance and clinics and immunisations*

and making sure the doctors do the right thing by popping in…" (PN, 5)

The activities reported by practice nurses indicated that the role is characterised by a breadth of activities with many participating in more than one type of activity on a daily basis. For example, Practice Nurse 1 described her daily activities as involving: 'care planning', 'time management', undertaking 'continuing education', participating in clinics, and providing 'chronic disease' management. Reflecting this Practice Nurse 13 described herself as,

> *"…a jack-of-all-trades though being the only one which is again good and bad. It means I have to be across a lot of different aspects of the general practice environment. I manage the accreditation process, I supervise the sterilisation, I do cold-chain monitoring, I do the immunisation clinic, I am facilitating change towards chronic disease management according to the chronic care model because that's my interest. I also have to do stock surveillance, equipment maintenance, ordering of stores." (PN, 13)*

The following section explores how practice nurses experienced their roles, exploring influences on the role, how practice nurses went about their role in relation to doctors and patients, and how practice nurses experienced change. In the following theme data are presented that describes how practice nurses perceived that Medicare policy, and the resulting methods of financing for activity, influenced their roles.

THEME 2- FINANCING OF PRACTICE

The financing decisions of Medicare directly influenced the scope of nursing

practice, and limited opportunities for independent nursing practice by requiring that activities be supervised by a medical professional. Practice nurses identified the need for general practices to generate revenue to ensure the continued operation of the practice. As a result, practice nurses were left with the feeling that their contribution to service was linked with their ability to generate income.

Although practice nurses articulated that their role was concerned with patient care, they spoke of this care being provided within a framework of a fee-for-service method of payment. As such they regularly perceived a need to financially justify their involvement in service delivery. The ability of the practice nurse to do so was linked to the availability of Medicare Benefit Schedule (MBS) items for activities that they could undertake, or an ability to increase the number of services provided by a general practitioner. Of the ten nurses who specifically referred to a need to financially justify their involvement in service delivery Practice Nurse 2 and 6 commented...*"there's no point paying for someone that's not generating any money." (PN, 2)* and *"If the practice could get more money for me being there and the things I do, it'd be beneficial for the practice to keep me there." (PN, 6).*

In the quotations above Practice Nurse 2 and 6 identify the need for the nursing role to generate income for the practice. The perceived link between income generation and continued employment was supported by others participants, for example,

> *"Now things like, care plans, that's where your money comes from, they generate income, and it's all to do with preventative care for your patients." (PN, 1)*

The specific reference to care plans made by Practice Nurse 1 was reiterated by eight of the practice nurses who discussed the relationship between revenue generation and their involvement in the delivery of services. Practice Nurse 2 elaborates this relationship by identifying that general practice is a business, and that Medicare financing plays a central role shaping service delivery,

> *... "really it's all to do with the bottom line. You know, this is a business, we need to run this as a business, to keep everybody employed and to do the right thing by our staff. But as far as Medicare is concerned, it's all to do with Medicare." (PN, 2)*

Practice Nurse 8 further illustrates the need for general practice to generate revenue, the importance of Medicare subsidies, and the need to financially justify nursing involvement in service delivery. Here Practice Nurse 8 recounts her attempt to increase nursing involvement in service delivery. Her attempt involved an initial discussion of how the practice would stand to benefit financially, followed by the potential benefit for the care of patients.

> *"I said, look, I think it would really be of value financially to the practice, and practically for the oldies, to have someone start up these home visits again, do health assessments." (PN, 8)*

The same respondent added,

> *"But they can see the financial gain. You know, they'll always pick up if I can make a point of saying, 'You can make this much money, and it's only going to cost you this much money'. I think that's always a swinging point." (PN, 8)*

Practice Nurse 4 comments on how her role allows the practice to increase the number of patients seen, supporting the perceived link between financing and employment. She states [practice] *"nurses are very good value for money… When you are looking at general practice as a business, it can free… you can accomplish a lot in a day"* (PN, 4). Practice Nurse 4 qualified the above statement by also identifying that the ability of nurses to provide cost-effective services does not account for professional practice and the accountability this entails. Through the eyes of Practice Nurse 4, a Registered Nurse was bound by professional standards,

> *"I think as a nursing professional, you have to take responsibility about what you do. So for example, you were instructed to give, I don't know, a medication, for example, like anywhere, you need to make sure that the patient doesn't have any allergies, that you're giving the right stuff to the right patient at the right dose, and to go through all those other usual checks. And the same with vaccinations, and the same with advice, so you need to work within the scope of practice, and you need to take responsibility for the things that you're doing, and not just do it because a doctor said to do it…" (PN, 4)*

Yet it was implied that, ...*"a lot of generally, practitioners who prefer to employ, for example, say, an enrolled nurse, because they pay them less." (PN, 4)* However, the previous examples suggest that the role of the practice nurse in generating revenue did not account for how practice nurses saw the highest priority of their role as providing health care services.

The perceived need to generate revenue for the practice and how this may conflict

with the role of the nurse as a service provider was supported by others. In the example provided below, Practice Nurse 13 describes a conflict that arose from a general practice manager pressuring her to claim an inappropriate level of subsidy from Medicare for the management of a patient's chronic condition.

> *"She [practice manager] has said to me 'why is this only a 10997 [MBS Schedule number]?' for example which is eleven dollars which is a chronic disease management item, 'why is this only eleven dollars? Why didn't you get [the general practitioner] to see the patient first? Why are you doing this by yourself? Why isn't there some other charge?'" (PN, 13)*

Practice Nurse 13 continues to recount the dialogue between herself and the practice manager,

> *"I just say 'because'... I've had to be quite assertive on occasion 'because this person has a care plan they don't need to see [the general practitioner] they can just see me, that's the way we do it', then she should would say, 'but it's only eleven dollars'." (PN, 13)*

Practice nurses indicated that tension resulted from the dual roles of health service provider and source of income. For Practice Nurse 13 the need to generate revenue for the practice challenged her perception of the nursing role, *"That's stressful and the other stress is because she's the practice manager there is a pressure on me to work of course in the MBS." (PN, 13)*

Here Practice Nurse 5 talks about how different understandings of the nursing role can affect practice,

> *"If the practice manager is an RN, you're pretty much covered, everything fits into place. If they have no medical background whatsoever, they've got no nursing background, then it becomes very grey because if you look on a nurses registration board, your role and your job description – they're both the same." (PN, 5)*

The opinions expressed by Practice Nurse 5 are supported by Practice Nurse 15, *"The negotiation with the practice manager about my own clinical practice that I have to do. She doesn't understand what I do – I don't believe she does." (PN, 15)*

When Practice Nurse 5 felt she was being asked to operate outside of what she perceived to be the nursing role she responded,

> *"When you look on your job description of a practice manger there are a couple that you go 'oh, gosh, there's no way she's going to do that to me, that's just against everything that I believe as a nurse'. Like there's no way that I'm going to let a non-medical practice manager give me my scope of duty." (PN, 5)*

The response of Practice Nurse 5 is similar to Practice Nurse 15, who commented *"They think because we're employed we're just like a receptionist. So because you're employed, you have to answer to me [practice manager]. (PN, 15)*

First and foremost, practice nurses saw themselves as a health care provider. Yet practice nurses had to justify their involvement in the delivery of general practice services by generating revenue for the practice. For practice nurses there was tension

between the realities of practice, and the desired state of practice.

The provision of Medicare financing for service delivery and the allocation of pre-determined fees for specified activities was also seen to influence how practice nurses could contribute to patient care. Practice nurses clarified the relationship between methods of financing service delivery and their scope of practice; explaining that the financing of general practice could enable and constrain practice nurse roles, with Practice Nurse 13 suggesting, *"...we have to contort our practice to fit within the MBS"*. Nine of the 15 practice nurses interviewed spoke directly about how Medicare financing either enabled or constrained their contributions to service delivery. For example, for Practice Nurse 9 the provision of Medicare subsidies that specifically allowed for nursing involvement had enabled an expansion of her role,

> *"Well, exponentially it's just gone whoosh, of course, over the last five years, and, you know, from doing just very minimal injections and dressings and things like that, baby advice, immunisations, to a lot more involvement in chronic disease management." (PN, 9)*

The activities cited above, 'dressings', 'immunisations', and 'chronic disease management' attract MBS subsidies. Practice Nurse 15 expressed enthusiasm about the potential for her role to be expanded in line with MBS items for chronic disease management:

> *"I love my work but I want to do more – I'd love to see my role broaden by doing care plans and asthma care and chronic management care and things like that." (PN, 15)*

Reinforcing this sentiment Practice Nurses 6 and 4 felt that they also could contribute more to service delivery than existing Medicare subsidies provided for:

> *"I can do more. But the hold-up is that there's not enough item numbers for me to claim." (PN, 6)*

And

> *"Although recently practice nurses have been able to do a little bit more, there's still a lot of things that could be nurse initiated, that haven't happened yet… I think I can see practice nursing become very much a part of how a general practice is run. I would like to see it so that the practice nurse has got a much bigger role than just the treatment room, or taking a blood sample, but contributing to ongoing education and able to follow up." (PN, 4)*

The view that undertaking a role in 'just the treatment room' as not reflecting the potential or capacity of practice nursing was reiterated by Practice Nurse 3,

> *So what I've done over the past year is, sort of upskilled, and continued to upskill, and right now I'm doing more advanced nursing stuff, rather then the treatment room stuff. (PN, 3)*

Practice nurses felt that they could not justify their involvement in general practice if Medicare did not support the role. Medicare financing for activities that include practice nurses both enabled and constrained practice nurse contributions to service delivery. To move beyond the treatment room and expand their role, practice nurses felt they would need greater access Medicare subsidies. Practice nurses did not

specify whether they should be able to access subsidies for practice independently, or as is now the case, with their practice supervised by a general practitioner.

The theme 'financing of practice' has presented how practice nurses perceived methods of financing as influencing their role. The key findings from this theme were: practice nurses identified their need to financially justify contributions to service delivery; the provision Medicare financing had facilitated an expansion of the practice nursing role, yet there was a desire to make a greater contribution to service delivery beyond that currently financed by Medicare. The role of Medicare in determining how a practice nurse could contribute was seen to limit independence and autonomy, but it remained unclear to what extent practice nurses saw themselves as able to practice autonomously.

THEME 3- SUPERVISION OF PRACTICE

In this theme, practice nurses identified general practitioners as the supervisors of their practice. How this supervision was undertaken and the effects that this supervision had on the practice nurses were discussed by participants. All fifteen of the participants identified that medical practitioners supervised their practice. Nine practice nurses indicated that the nature and extent of this supervision was formal and direct, and six practice nurses indicated that supervision of their role was ad-hoc and collaborative. Those who indicated that supervision was formal and direct described their role as involving more delegated and procedural activities, while the six practice nurses who described supervision as occurring on an *ad-hoc* basis had

greater involvement in the delivery of clinic services. All of the participants linked the medical supervision of their practice to the regulatory structure of Medicare. Medicare regulates that for practice nursing activity to be eligible for a subsidy the activity must be undertaken on behalf of the general practitioner. Practice Nurse 13, who was extensively involved in the delivery of clinic services, recounted the process by which her role was supervised,

> *"If I do a care plan for a GP who is not there on that particular day the patient comes to see me I do the care plan and then we bill them, they sign the little piece of paper but then that little billing episode is not sent through to Medicare until the day that the GP has sighted that care plan and signed it or whatever." (PN, 13)*

Divisions of labour enforced by Medicare regulatory requirements were felt to impact on the independence of nursing practice, Practice Nurse 1 comments,

> *"I mean, we're not practitioners in our own right, we know that, we know our limitations, put it that way." (PN, 1)*

She continues,

> *..."a bit more independence in that sort of thing would be good, because we're the ones that are doing the dressings, we know whether they're progressing or not. We know what products to use on them, that sort of thing, so it's a bit frustrating sometimes, but that's just the way it is at the moment," (PN, 1)*

The frustration expressed by Practice Nurse 1 resulted as a consequence of a division

of labour, which in turn resulted from Medicare regulatory requirements. The resulting lack of an independent role could lead to conflict. For example, when Practice Nurse 15 talked about how a manager (without a nursing background) attempted to supervise her activities she indicated that this was unacceptable. She recalls *"But no, I'm sorry, I don't answer to you, because you're not medical." (PN, 15).*

For all 15 of the participants the medical supervision of nursing practice was an accepted, but negative, aspect of the role. For example, Practice Nurse 13 indicated that medical supervision of her practice led her to feel demoralised.

> *"It's [the requirement for medical supervision] demoralising because I feel like the work that I do is hidden and I don't like that." (PN, 13)*

Supporting the negative effects of the requirement for a medically supervised role, Practice Nurse 1 and 2 also expressed feeling unappreciated. They felt that general practitioners were receiving credit for work that they had undertaken. Others reiterate the feeling.

> *"It says they've seen a doctor, not a nurse, so I don't think we're appreciated enough that way." (PN, 1)*

And another,

> *"The doctor will see them first, and say, 'go see the nurse, get your GP management plan done'. (laughs)" (PN, 2)*

Feelings of being unappreciated and demoralised were seen to result from the medical supervision of nursing practice. However, there was an acceptance that doctors supervised nursing practice because of the regulatory requirements of Medicare, rather than because of a lack of trust or confidence.

The theme 'supervision of practice' has identified that practice nurses operate in an environment of conflicting supervisory relationships. The supervisory relationship between the general practitioner and the nurse led to many practice nurses feeling demoralised and unappreciated. Yet all 15 of the practice nurses interviewed expressed positivity about their relationships with their medical colleagues. These relationships are further explored in the theme that follows.

THEME 4- BUILDING RELATIONSHIPS AND TRUST

This theme presents data indicating how practice nurses perceived their position in general practice, their relationships with general practitioners, and their relationships with patients. The quality of relationships, and the skills that practice nurses demonstrated in negotiating these relationships, defined the parameters of practice.

Practice nurses saw themselves as having a significant role in interceding between the patient and the doctor. The ability of a practice nurse to do so was seen to be as important dimension of the role. Practice nurses would go about this by seeking to communicate patient needs to a medical professional. All 15 of the practice nurses

described a component of their role as involving a process of establishing rapport with the patient, identifying patient needs and objectives of care, and communicating patient needs and objectives of care to medical professionals. The ability of a practice nurse to negotiate these relationships was seen as a defined area of nursing expertise. Seven practice nurses provided examples which articulated how they would communicate patient needs to general practitioner. This process is illustrated in the following extracts:

> *"The doctor brought her into me, she was fine, and then all of sudden when she found out that I had five daughters, she burst out crying. So then all of a sudden I was able to get down to the bottom of it and find out what was really going on and I was able to go back to the doctor." (PN, 5)*

And

> *"Quite good [the practice nurse doctor relationship]. He's got quite a large ego, as most GPs do. And he's very short-tempered, very impatient. But over the years he's got to realise that I don't put up with any of his crap, to be honest. So usually pretty good. He tends to use me as a bit of a feeding board when things get bad, and come in and swear, jump up and down and punch the wall, and then walk out again – and he's happy." (laughs) (PN, 8)*

Practice Nurse 11 provides further insight,

> *"It's a matter of going over it with the patient and being sure we're heading in the right direction and then putting that into words for the doctor so the patients' needs get met. It's really about that relationship with the doctor." (PN, 11)*

The extracts above illustrate how practice nurses saw their relationships with doctors and patients as central to their role. Practice Nurses 5 and 8, with 21 and 24 years of nursing respectively, cited experience as influencing their ability to negotiate relationships with general practitioners and patients. This was further supported by Practice Nurse 11, a nurse of 32 years, who here describes how her experience assisted her to negotiate relationships: *"...the most important thing for a nurse is to facilitate the patient/doctor relationship." (PN, 11)* and, *"You have to stroke the egos in the right places. You really and truly do… and after 32 years you can get pretty good at it." (PN, 11)*

If the practice nurse was successful at negotiating the relationship(s) with the general practitioner(s) a positive working dynamic was seen to result. In this sense, the quality of the nurse doctor relationship shaped and defined the role of these nurses. If a positive working relationship existed between the practice nurse and doctor the practice nurse could recommend a course of patient care, or the provision of services, to their medical colleague(s). Yet, as practice nurses reiterated, while they may recommend a course of care, or a particular service, the authority to make a decision remained with the general practitioner. This was illustrated in the following extracts,

> *"I try to encourage GPs and nurses to incorporate HMR [MBS item: Home Medication Review] as part of their delivery of their chronic disease management." (PN, 3)*

And

> *"The doctor will refer them on to us to get their management plan done, so we will then do it, and then show it to the relevant doctor, and say, 'are you happy with it? Is there anything you want to add?' etc, etc, and 99% of the time it's all fine. Occasionally we need to add a little bit more." (PN, 2)*

And

> *"You know, a woman could come in, absolutely fine, but I would still get a doctor in, because I'm doing it on their behalf. Not that I'm incapable or incompetent, but that's just the way in theory, we interpret Medicare [policy]." (PN, 4)*

In the last quotation we can see that even in those areas where a practice nurse feels competent, her decision-making is confined to making recommendations for the provision of specific services. For practice nurses the authority to make decisions resides in their capacity to influence medical decision-making.

Although all fifteen practice nurses reported positive working relationships with medical colleagues(s), they had to demonstrate competence to earn trust. Here Practice Nurse 4, 15, and 14 recount their experiences

> *"There was this sort of suspiciousness, 'does that nurse in fact know what she is doing?" (PN, 4)*

And

> *"They looked on me as being a burden to them. They've all come around now, needless to say, but initially, I would say for the first four to five years, they just didn't have any nurses there full stop, because they felt like we were a threat." (PN, 15)*

In response to a question about how the relationship between the practice nurse and general practitioner is negotiated the following was explained,

> *"I guess you've got a proving time. It's a slow process they get to know you and what you're capable of. Once that proving time is done then it's a fairly smooth kind of operation." (PN, 14)*

As illustrated by the extracts above, trust between practice nurses and general practitioners was earned, rather than given. Trust between the professionals was expressed as a positive working relationship, as revealed in the following comments: *"I'm really fortunate to have that trusting relationship." (PN, 1), "I can really lean on him* [General Practitioner]*." (PN, 6),* and *"We have a good relationship. We work together quite well." (PN, 14)*

The quality of the working relationships expressed above was a consequence of the skill set that practice nurses utilised throughout their work processes. Practice nurses worked within the formal limitations of their role, exercising influence, rather than exercising autonomy in decision-making. The practice nurses interviewed discussed the outcome of effectively negotiating relationships as a positive working dynamic, earned rather than assumed.

Eleven practice nurses spoke about how the provision of nursing care was embedded in, and inseparable from, the quality of the nurse patient relationship. This became evident within the described nursing process of establishing rapport with the patient, identifying patient needs and care objectives, and communicating patient needs and care objectives to medical professionals. Practice Nurse 1 described her role during this process as being a 'patient advocate',

> *"Nurses have always been patient advocates, always, and that hasn't changed at all." (PN, 1)*

Practice Nurse 12 felt that this role is 'extremely special',

> *"The relationship where I work we often have parents that come in with those people who've just had their babies and then their grandparents and you develop that relationship with people which is extremely special." (PN, 12)*

The quality of the nurse patient relationship was linked to repeated and ongoing interactions. Practice nurses talked about how a strong relationship with the patient enabled them to care for patients' social and psychological needs. For example, an ongoing relationship with patients enabled the nurse to work with individuals and families to identify how home life was impacting on health, or the health of family members. If health issues were identified, practice nurses were then able to exercise their influence to encourage GPs to provide services or to make appropriate referrals to further services. To clarify,

> *"They [patients] don't want to bother the doctor but they'll tell the nurse,*

you know what I mean? And that's part of that relationship that you build up with your clientele." (PN, 11)

And

"Patients will come to you and they'll tell you things that, 'oh, the doctor's too busy, I don't want to bother him with this sort of thing', you know, that sort of thing. Quite often you can pick up things that way, and a lot of nurses will tell you the same thing." (PN, 12)

The relationship between the practice nurses and the patient allowed for the identification of health and social issues that the patient may not have otherwise raised with the general practitioner. Patients *"would not want to bother"* (PN, 11) the general practitioner with what seemed to be a trivial matter. Practice nurses reported that during their interactions patients would discuss at length their concerns and worries. A patient's story would yield a clue to potential physical or social health issues. As the following quote illustrates,

"We end up talking to them as well about things that the doctors probably don't… I was able to get down to the bottom of it and find out what was really going on." (PN, 5)

Inter-personal expertise was claimed to be utilised to negotiate the nurse patient relationship, and was identified as a unique characteristic of the nursing profession,

"Generally nurses will have a smile on their face, they'll welcome people, and they're the sort of people that go into nursing I think are really good communicators." (PN, 4)

The successful development of a positive working relationship with a patient was important to practice nurses and occurred when the relationship was developed over time, as Practice Nurse 4, 11 and 12 point out,

> *"That's a really important part to many practice nurses, that you are developing an ongoing relationship." (PN, 4)*

And

> *"One of the main sources of satisfaction for me the fact of the relationships that you develop with your patients, the fact that I literally see [patients] from birth to death." (PN, 12)*

Here again,

> *"But the longer you are there, the more accepting they [patients] are of you. And once they become a patient in the clinic, for whatever reason, they see what you're all about and that you're confident in what you do, so they are more readily acceptive [SIC] now." (PN, 11)*

At the beginning of relationships patients were seen to hold more diverse views of practice nurses ranging from *"disrespect"* (PN, 1) to *"acceptance"* (PN, 11). How a patient perceived the role of the practice nurse was seen to be dependent on how familiar the patient was with the general practice environment, and whether or not the practice nurse had had the opportunity to develop a relationship with the patient. Ten practice nurses felt that people who regularly utilised their services saw the role

of the nurse as key to the coordination and quality of services.

> *The "practice nurse has got a much bigger role than just the treatment room, or taking a blood sample, but contributing to ongoing education and able to follow up. I really think you can keep people well and out of hospital in the community… As far as monitoring things like weight and children, they [Practice Nurses] help address the issues of childhood obesity, and Type 2 diabetes." (PN, 4)*

While practice nurses felt that patients saw their role as supporting the services provided by the doctor, practice nurses perceived themselves fulfilling a role that was defined by the relationship to the patient, Practice Nurse 1 remarked,

> *"They see us, then they're supported, guided, looked after by the GPs… and here comes the angels again – we just ring up and get them in as soon as possible which is normally a week or so." (PN, 1)*

The quality of the nurse patient relationship was dependent on the ability of the nurse to exercise inter-personal skill. In the following quotation, Practice Nurse 11 describes the reactions she encountered from patients unfamiliar with her role,

> *"It was hilarious when I started because the patients at the practice saw that you go to the nurse to have an immunisation, or a dressing, or a blood test and when I started I walked into the waiting room and called a patient in and they would look at me and say 'I don't need to see the nurse' and I'd say 'Oh, that's ok I'm just going to kinda get you set up and do your blood pressure and have a chat' and they were a little bit insecure or a bit suspicious." (PN, 11)*

Over time Practice Nurse 11 was able to earn the trust of her patients. She described the effect below,

> *"After a couple of months and they started to recognise me and I recognised them well it's more the other case now, it's 'How come I don't get to chat with [the practice nurse]'?" (PN, 11)*

As we have seen, the practice nursing role is embedded in relationships with patients and that these relationships are built over time. Practice nurses exercised inter-personal skill to develop and negotiate relationships with patients. The development of positive relationships gave the practice nurse greater leverage when influencing the decisions of medical colleagues. When this process was successful, positive outcomes were perceived to result.

Positive relationships with medical colleagues were also seen to lead to beneficial financial outcomes. Practice nurses saw themselves working in a team with medical colleagues, although their role was described as ancillary. Nonetheless, positive working relationships were perceived to result in improved efficiency, allowing the practice to increase the number of patient services. Practice Nurses 4 and 6 remarked upon these gains in efficiency,

> *"So when you're looking as far as general practices as small business, it can free…if a team is working well together, and that would be the essence of it, working well together, you can accomplish a lot in a day." (PN, 4)*

And,

> *"It's a 45 minute procedure, it's taken the doctor 15 minutes, as opposed to 45 minutes, and for the other half an hour, he can see other patients while I'm doing what I'm doing. So I'm really valued there." (PN, 6)*

In addition to positive financial outcomes practice nurses reported that positive working relationships could provide patients with complimentary components of care, with nurses addressing social and interpersonal care needs and medical staff addressing the physical aspects of care. Practice Nurse 4 and 9 described complementary and supportive roles throughout the care process,

> *"You know, there's lots of different ways of getting a much better patient outcome with good teamwork… Practice nurses role in general practice in particular, as part of a team that can really improve the patient outcomes considerably by working together with the doctor." (PN, 4)*

And

> *"Getting them [General Practitioner] to reiterate things to patients, re: diet, and just general education to the patient, and caring for them, and just giving the time to them that he doesn't have." (PN, 9)*

Practice nurses also indicated that positive relationships with patients led to feelings of satisfaction. Practice nurses reported that the relationships they had built with patients allowed them to identify the difference they made in people's lives, and that there was a sense of pride associated with providing a 'amazing' service. These

sentiments are expressed clearly in the following quotations,

> *"That's the one thing that keeps me going back, because I know I'm making a difference there." (PN, 8)*

And

> *"I just love the close contact with the patients and the relationship that you form with them." (PN, 15)*

Further

> *"I guess... just seeing people's lives change. Seeing the light go on and people's lives change." (PN, 14)*

Here again

> *"I think there's a very unique and a very fine quality being established within general practice. The reason for being there now, is the fact I love what I do and you're providing an amazing service to people." (PN, 12)*

Echoing these statements, Practice Nurse 12 directly credits her relationships with patients as a primary reason for remaining in the workforce.

> *"When I'm sick of this job and the fact that the pay is not brilliant and all of those things you stop and think about your patients and you think where else can you get that relationship… do I really want to give that up?" (PN, 12)*

From the interview data it was clear that practice nurses felt connected to their patients. Where these relationships were repeated and positive, practice nurses were able to identify their contribution to service, and derive satisfaction from the impact that their role had on the lives on others.

Throughout the theme 'building relationships and trust', practice nurses have expressed how they saw their role as interdependent with general practitioners and patients. Positive relationships, and effective collaboration between practice nurses and general practitioners, were linked to the ability of the practice nurse to increase the number of patient encounters, to the coordination of clinical services, and for practice nurses to experience satisfaction in their role.

In this theme it was found that practice nurses negotiated their relationships with general practitioners on an ongoing basis. Inter-professional trust, earned over time, enabled practice nurses to influence medical decision-making. In doing so, the practice nurses interviewed felt they were able to circumvent limitations to their scope of practice. The ability of a practice nurse to negotiate relationships with both doctors and patients was reported as an area of nursing expertise. The use of this expertise was, however, only effective where the practice nurse had been able to earn the trust of her medical colleague(s) and patients. The trust that medical colleagues conveyed to practice nurses was felt to be earned, and could only accrue over time.

THEME 6- THE CHANGING ROLE OF PRACTICE NURSING

The final theme presents how all of the 15 practice nurses experienced their changing role and sought to adapt to changes. Practice nurses remarked on: how community demand for general practice services was affecting their role; difficulties in reconciling the perceived responsibilities of the practice nursing role; a lack of recognition for practice nursing; and how they saw the role changing in the future.

Practice nurses identified an increased volume of patients, increased numbers of people with multiple health complaints, and a diminished supply of medical professionals as driving changes to the role. In some instances, the increased volume of patients seeking general practice services was compared to the acute care sector, or "*just like a little emergency department*" (PN, 1). Practice Nurse 5 directly linked increased patient volume with insufficient capacity within the acute care sector, commenting that "*The elderly that's growing, the pressure that's put onto GPs to take up what's not being taken up in the hospitals.*" (PN, 5). The pressures associated with increased community demand were seen to be compounded by the type of services sought. Practice nurses reported a noticeable increase in the number of patients requiring assistance with multiple health complaints, consequently leading to longer consultation times. Practice Nurse 8 highlights,

> *"You know, patients come in, they have 12 minute appointments, and they'll come in and they'll have a list. You know the dreaded word, you see someone pull a piece of paper out of their pocket, you know they've got a list. And they take up the next half an hour. So the next person is…on average, we run about an hour and a half late for our appointments. And it's usually because*

it starts with people with a list." (PN, 8)

The increase in the number of patients requesting general practice services (remarked upon by Practice Nurse 1 and 5), and the increasing number of patients with multiple health needs (indicated by Practice Nurse 8), were seen to be exacerbated by a workforce shortage of general practitioners. Practice Nurse 8 felt that the lack of general practitioners was particularly pronounced in her non-metropolitan place of employment,

> *"we're so short on appointments, doctor shortages everywhere, no different to any other small town." (PN, 8)*

However, a lack of supply of general practitioners was not isolated to non-metropolitan areas with Practice Nurse 5 and 1 also identifying a shortage of doctors as a challenge to the capacity of general practice. In the quotes that follow, two practice nurses link a shortage of doctors to changes in the nursing role,

> *"what's happened is the GPs are relying on nursing staff to take up a lot of the tasks. For instance, people that have lost their pathology form – we can easily just print that up and give it to the doctor to sign, the patient can then be... you know, everyone's happy. The doctors don't need to sit there with all these tasks that don't need to... Do you know what I mean?" (PN, 5)*

And

> *"Because… we don't have enough doctors; we have too many patients for the number of doctors that are available, so the more pressure we can take off them [doctors], the more patients we can see." (PN, 1)*

Practice nurses saw themselves as supporting the capacity of the general practice sector, with Practice Nurse 14 directly linking the development of the practice nursing role to doctors 'relinquishing' areas of activity,

> *"Well depending on how much the GP wants to relinquish to you as areas I work in. Because of my training and what I've done I guess they're happy for me to work in collaboration with them." (PN, 14)*

While discussing how they augmented medical roles, practice nurses began to raise questions about the scope of their involvement in general practice. In the extract below Practice Nurse 9 recounts her reflections,

> *"I said to myself, why are these nurse practitioners in emergencies, and why are they in these sorts of places, when they really don't need them there, when they're already well-staffed with other health workers. And there's already a regimented system of supplying them, when really they're needed out in the community, or in general practice." (PN, 9)*

The interview participants perceived increasing and changing patient demand, and a shortage of doctors was altering their role. However, the participants reported that, these changes were not recognised by professional organisations or policy makers. As a consequence practice nurses felt that they were not appropriately supported. In contrast to experiencing a workload likened to '*little emergency department*' (PN, 1), practice nurses felt that there was a persistent view within professional and policy organisations that their role was an easy option for nurses seeking to go '*out to pasture*' (PN, 2). Practice Nurse 15 and 1 summarise,

"we don't work as hard as the other sectors. But it's untrue." (PN, 15),

And

"It's not necessarily a career choice, that you just do it when you've got a bad back or you've got nothing better to do." (PN, 1).

This view was attributed by Practice Nurses 3, 12, and 1 as relating to the rapidity of role change, and a failure to communicate these changes to the wider nursing community:

[At the] "moment it is a bit of a challenge for nurses. Most nurses who are in general practice don't realize that their role has changed significantly when they left nursing in hospital." (PN, 3)

and

"our own profession very much doesn't understand what we do in general practice… general practice has changed a lot so in the 12 years I've been it general practice I've certainly seen a huge change." (PN, 12)

Further,

"They've [nurses beginning employment] all expressed surprise, 'oh wow, I didn't know you did this here', and it gets so busy, and we've sort of laughed about that." (PN, 1).

The practice nurses interviewed reported that their role was undergoing a period of

change. In response six practice nurses felt the future of their role involved being defined as a speciality area of practice. In contrast the other nine participants felt that because of the diversity of the role it was not amenable to specialisation, and that this would not necessarily be desirable. As practice nurses experienced change they reported actively seeking to adapt to emerging roles,

> *"get nurses to be a bit more pro-active, and to be involved and to be a bit more creative, and you know, to lift the bar, to lift their game altogether, to be a major player in delivering health service. They [practice nurses] should, and they could." (PN, 3)*

To encourage practice nurses to be more 'pro-active' in contributing to service delivery, it was suggested that it would be beneficial to define the role as a specialty area of practice. Doing so, it was felt, would promote practice nursing as a legitimate career choice for other nurses. Practice Nurse 2 and 12 stated that if practice nursing achieved the status of a specialty, younger and skilled nurses would be encouraged to enter the role,

> *"There's no younger nurses coming through, none of the uni nurses come through here, it's not regarded as a specialty" (PN, 2)*

And

> *"to see that it is considered a specialisation that we do encourage younger people with great mix of skills to actually go into general practice and that it is something that becomes more recognised as a worthy profession." (PN, 12)*

Practice Nurse 12 clarified the type of individual suited to the role, indicating that in contrast to other areas of employment, practice nursing requires a diverse knowledge base drawn from experience,

> *We shouldn't advertise that to be as soon as they finish their degree they come and work in general practice because I think it is something that it would be good to have quite a diverse array of skills. That you've worked in medical, surgical, orthopaedic, you've worked in aged care and just actually having a bit of vast experience… rather than coming straight from uni[versity]." (PN, 12)*

Participants held conflicting views about whether or not practice nursing should seek to be defined a specialty area of practice. For Practice Nurse 1 the role was already becoming more specialised,

> *"Yeah, so that's the way we look at things. We try to get people in with different areas of interests, different qualifications, and specialize them that way." (PN, 1)*

Because Practice Nurse 1 worked in a larger practice, nurses were encouraged to focus on a specific set of activities. To illustrate,

> *"You speak to nurses in smaller practices, and they will do that, they'll do a bit of everything. But because we're so big, we're a bit more specialised, so as I said, we've got nurses that never work in the treatment room because they've got to do the care plans full-time." (PN, 1)*

Yet Practice Nurse 9, whose role was becoming more specialised, felt that it was the variety and breadth of activities that made her role desirable,

> *"But I don't really want to do that, because I don't want to be stuck seeing diabetics all day, or people with diabetes, sorry, being politically incorrect. I don't want to be stuck doing one thing." (PN, 9)*

Practice nurses reported adapting to emerging roles, and to do so they discussed seeking out or undertaking further education from professional organisations and the higher education sector. All of the continuing education that practice nurses undertook was related to the management of chronic disease. Participants reported seeking continuing education from professional organisations as well as the higher education sector. Practice Nurse 8 reported seeking out episodic educational opportunities that provided her with flexibility,

> *"I do lots of workshops, I do lots of online courses. I like to keep up to date with everything." (PN, 8)*

In contrast Practice Nurse 15 accessed education that addressed immediate clinical problems. This she felt was best provided by a public health organisation,

> *"we can call on the Hunter New England Patient Health and they get back to us with answers. But also, the doctors themselves. If I'm uncertain of something, I'll fall back onto them and we talk about it and we come up with the solution." (PN, 15)*

In contrast, Practice Nurse 14 accessed educational resources provided by a university,

> *"I've done some chronic health training with Flinders University and I've done diabetes management." (PN, 14)*

Practice Nurse 9 also sought to undertake university education courses. One specific course, in chronic disease management, was seen as relevant, as well as personally and professionally beneficial,

> *"I wanted to do something I would find really beneficial for my work arrangement, for my working life. I was going to do the Chronic Disease Management course at Flinders, which was a fairly substantial course. I did a week-long diabetes course at PA, and I was thinking about doing a Diabetic Educator. (PN, 9)*

Yet, the decision to undertake continuing education was not made lightly. The decision was made taking into consideration affordability and appropriateness of options. For Practice Nurse 6, employed in a regional (non-metropolitan) area, the costs and time associated with travelling were the most significant factor determining what education she could access,

> *"That is huge. For me, I've got to do diabetic education, and I've got to do 80 hours online, unless I was in the city, in Sydney or Melbourne or whatever, and I can do it as a 3 day course. So that's where the deficit lies as well. Because we have to pay for flights, travel, hours, accommodation, which really stands in the way of this continued professional education. I mean, I am a sponge, and I will learn anything and everything, but… Yeah, that's exactly right! That's exactly right. I mean, I've done, 4 things this year, so that's extreme… let's think about it, flights from [location of general practice] to Sydney and back, you can say $300, accommodation is $140 a night…" (PN, 6)*

And for Practice Nurse 9,

> *"I'm sure there are scholarships out there available that would help financially, but…And I'm sure, depending... The other problem would be leaving the work here, because I'm in demand here. I'm no longer super-nummerary, so to speak. Well I am, I am and I'm not. To replace myself here if I went away to study for a substantial amount of time." (PN, 9)*

Here again

> *"So for example, the courses that Family Planning are running, they're for doctors only, but women's health nurses are doing exactly the same thing. Shouldn't the nurses go as well? No, different course. And they're very expensive, and mostly nurses end up having to pay for it themselves." (PN, 4)*

In the extracts that follow one practice nurse recounts her personal feelings about undertaking continuing education,

> *"Doing the diabetes course, I mean… so what happened was, because I couldn't decide to bite the bullet and do which one, I missed the deadline and didn't commence any. Which was bad, but at the same time, because of my age demographic, I've got children leaving home, and I don't know, [I'm a] bit scared to take on a diffi… a substantial post-graduate course." (PN, 9)*

Practice Nurse 9 continues,

> *"I think a mentor would help me do it, because I haven't done any formal study, because, I'm an old school, I like face-to-face teaching and everything online these days. You know, I'd probably need that sort of a push to do it." (PN, 9)*

The theme of 'the changing role of the practice nurse' has identified that changes to the practice nursing role were attributed to changing community demand for general practice services. This had created a situation where practice nurses had difficulty in reconciling the perceived responsibilities of the role and the lack of recognition for their contribution.

In responding to the changing role, practice nurses reported seeking out continuing education, yet were experiencing barriers to achieving this. The educational opportunities being pursued were related to chronic disease management. The barriers to nurses' pursuing continuing education were financial as well as personal. As the role changed there were mixed feelings about whether practice nursing should seek out role specialisation, especially in light of the perceived need for practice nurses to have a broad base of expertise.

SUMMARY

The results of Study 2 revealed how practice nursing is financed within general practice impacts on the ability of practice nurses to justify their involvement in care. Practice nurses felt that Medicare funding both enabled and constrained their contributions to care. In one sense, Medicare funding made it possible for the practice nursing role to be financially viable, yet any expansion of the role would depend on greater access to Medicare subsidies. Furthermore, existing financing arrangements, which require general practitioner supervision of nursing practice, was perceived as de-legitimising the nursing role, potentially resulting in practice nurses

feeling demoralised and unappreciated. This is despite all of the participants expressing positivity about their relationships with their medical colleagues. It was these positive relationships, developed by the earning of trust, which enabled practice nurses to influence medical decision-making. This allowed practice nurses to circumvent the structural limitations on practice and made it possible to influence decisions about patient care and management. As roles change, practice nurses are seeking to adapt to new service models, although they feel conflicted about whether the profession should seek further specialisation or retain a broad base of expertise.

CHAPTER 6- SYNTHESIS OF RESULTS

INTRODUCTION

The sequential collection of data, first in Study 1 and then in Study 2, provided for a richer understanding of practice nursing than either of these studies alone would do so. In Study 1, a questionnaire was used to collect data on the opportunities for practice nurses to participate in decision-making, the availability of social support for practice nurses in the workplace, and the opportunities for practice nurses to develop their own skills. In Study 2, interviews were undertaken to explain the relationships between the opportunities for decision-making, social support, and skill development. In the following Chapter the results of the two studies are triangulated. The resulting meta-analysis provides insights into the social process of practice nursing, and allows for a deeper exploration of the statistical relationships found in Study 1 by confirming, explaining, and identifying complementary and contradictory data.

COMPARISON OF DEMOGRAPHICS

Before proceeding to the triangulation of the two studies the demographic characteristics of the two samples were compared. This comparison allowed for a review of the relative homogeneity of the two samples. The comparison demonstrated participants in the two studies shared similar demographic

characteristics suggesting that triangulated results of the two studies are internally valid. The two samples were comparable for: registered or enrolled nursing status, the number of years employed as a nurse and as a practice nurse, the area of employment prior to current employment, and the geographic location of employment. Table 12 displays the demographic characteristics of participants in both studies.

Table 12 Comparative demographics of participants

Comparative Demographics	Study One (percent of *n*=160)	Study Two (percent of *n*=15)
Registered/Enrolled		
Registered	96%	100%
Enrolled	4%	-
Highest formal educational attainment		
Hospital certificate	44%	13%
Degree	27%	67%
Post-graduate certificate	-	13%
Graduate diploma	13%	-
Master's degree	-	7%
Doctorate	-	-
Total years employed (mean)		
As a nurse	24	24
As a practice nurse	6.4	5
Area of employment prior to current		
General practice		20%
Hospital	39%	67%
Aged care	11%	7%
Midwifery	7%	-
Community health	8%	-
Outside of nursing	4%	7%
Location of Employment		
Metro	70%	53%
Regional	29%	20%
Remote	1%	27%

The samples were not homogenous for the level of highest formal education. A greater proportion of participants in Study 2 reported higher levels of formal education than the participants in Study 1. The difference in the level of formal educational attainment is a limitation of this research, potentially indicating a self-selecting sample. However, this may also help to explain contradicting results identified within the two studies. The proportional homogeneity of samples suggests that use of the qualitative data obtained in Study 2 was appropriate for explaining,

understanding and enriching the results of the quantitative Study 1. Hence, internal validity may be inferred for the triangulation and meta-analysis presented in this Chapter (Teddlie and Yu 2007).

RESEARCH QUESTION 1- DO PRACTICE NURSES HAVE OPPORTUNITIES TO MAKE DECISIONS ABOUT THE ORGANISATION AND DELIVERY OF CARE TO PATIENTS WHO ATTEND A GENERAL PRACTICE?

The results of the meta-analysis indicates that practice nurses have the opportunity to make decisions about the organisation and delivery of care to patients who attend general practice. However, practice nurses must create these opportunities for themselves. Study 1 examined the opportunities for practice nurses to make decisions by measuring the construct of decision latitude. This construct was concerned with measuring the formal possibilities for practice nurses to make decisions and have a degree of influence within the organisation. The construct also measured the freedom and level of creativity that practice nurses have in the performance of their role.

The results of Study 1 indicated that decision latitude was the only one of the four questionnaire constructs that was significantly correlated with the demographic characteristics of the respondents. Greater decision latitude was correlated with the number of years a respondent had been employed as a nurse and years employed as a practice nurse. The ß co-efficient indicated that for each extra year that a respondent had been employed as a nurse there was a 0.11 increase in reported decision latitude, meaning that as practice nurses gain experience they tend to have more formal

opportunities to make decisions, influence the organisation, and experience greater freedom in how they perform their role. There was insufficient evidence in Study 2 to support this finding. However, the finding in Study 1 that the amount of social support available to practice nurses increased the opportunities to contribute to decision-making may be explained by the finding in Study 2 that the longer a practice nurse had worked with a general practitioner, the greater the chance that that relationship would be trusting and cohesive and be an enabler for decision-making capacity.

Study 1 measured the level of trust, cohesion, social and emotional assistance that practice nurses received from co-workers (co-worker support) and the involvement, interest, and assistance from supervisors (supervisory support). Informed by role control and support theory it was expected that more social support would create more opportunities for practice nurses decision-making about the organisation and delivery of patient care. However, this was not unequivocally confirmed by findings of Study 1. Rather, the positive statistical relationship between social support and variability in decision latitude was weak (adjusted R^2 0.069, F=12.75), suggesting that either the theory of role control and support was in error, or that the questionnaire had not accurately measured social support in this population (despite statistical analysis indicating acceptable levels of internal validity and reliability). This unexpected result was explained by the findings from Study 2.

Study 2 confirmed that support from co-workers and supervisors increased the opportunities for practice nurses to make decisions about the organisation and delivery of patient care, thus supporting the weak statistical relationship found in

Study 1. However, the social support described by participants in Study 2 differed from the social support that was measured in Study 1. It is these differences that may explain the weaker than expected relationship between social support and decision latitude. In Study 2 interview data provided exemplars that greater opportunities to contribute to decision-making came about as a result of practice nurses earning the trust of general practitioners. When practice nurses perceived trust to be present, they described being able to inform and shape the patient care decisions made by the general practitioner.

The results of Study 2 also supported the finding that positive working relationships between nurses and doctors (social support) were conducive to creating possibilities for practice nurses to make decisions and exert influence within the work place (decision latitude). Importantly, the decision-making described by practice nurses in Study 2 was described as influencing, not formally making decisions (as measured by the JCQ). For example, one participant in Study 2 described decision-making as *"going over it with the patient and being sure we're heading in the right direction and then putting that into words for the doctor so the patients' needs get met"* (PN, 11). The discrepancy between the formal decision-making measured by the JCQ and process of influencing decisions that practice nurses described in Study 2 may further explain why the statistical relationship between social support and decision latitude was not as strong as might be expected.

Study 1 measured decision latitude utilising both the constituent sub-scales of decision authority and skill discretion. The scale of skill discretion is concerned with measuring freedom in the performance of the role and use of skills. In Study 2

practice nurses described the ability to foster positive working relationships with general practitioners as a unique skill. Therefore it is possible that the scale of skill discretion may have inadvertently measured an aspect of social support, introducing the possibility of undetected colinearity. If so, this would also contribute to explaining why the statistical relationship between social support and decision latitude was not as strong as expected.

Despite these statistical concerns, Study 2 confirmed that there was a link between the quality of working relationships and a belief by practice nurses that they were able to influence the clinical decision-making of general practitioners. In this way practice nurses do have the opportunity to make decisions about the organisation and delivery of care, however they must create these opportunities for themselves.

To better explain the opportunities for practice nurses to make decisions about the organisation and delivery of care, Study 1 also examined the statistical relationship between the importance that practice nurses attach to their work being recognised (self-identity through work) and decision latitude. Self-identify through work was found to be an important construct in strengthening practice nurses' perception that they had more opportunities to make or influence decisions. In combination with social support the predictive ability of the regression model was improved from an adjusted R^2 0.069, F=12.75 to an adjusted R^2= 0.159, F= 16.

In Study 2, the positive influence of self-identity through work on decision latitude was explained by the everyday actions and thoughts of practice nurses. The regular and repeated relationships that practice nurses shared with patients were perceived to

be central to the definition of the practice nursing role. This finding is helpful for explaining the relationship between self-identity through work and decision latitude in two ways.

First of all practice nurses articulated how their role involved a process of establishing a rapport with the patient, identifying patient needs and care objectives, and communicating patient needs and care objectives to general practitioners. The description of this process relates to practice nurses being able to identify their contribution to service delivery (a component of self-identity through work), and to influence decision-making within the workplace (decision latitude).

Secondly, practice nurses attached importance to the relationships shared with patients, indicating that these relationships were a central aspect of how they defined themselves and their role in service delivery. The findings from Study 2 provided a clear indication that practice nurses felt that it was important that their role was recognised by the patient (self-identity through work). Achieving this recognition involved the establishment of positive relationships between the practice nurse and patient and this, in turn, impacted on the perceived ability of the nurse to engage in a process that would influence the decisions of general practitioners and enhance patient care.

Throughout the interviews practice nurses would commonly indicate that trust secured a more positive working relationship with general practitioners. When secure working relationships were perceived to exist by practice nurses, the result was positive assessments of their work performance. Practice nurses perceived that this

was a positive cycle, over time, with more positive assessments of work performance more trust would be accumulated. It remains unclear which comes first, trust or positive assessments of work performance.

But, as demonstrated in the third regression model of Study 1, the more opportunities that a practice nurse had to develop their ability to manage relationships, the less importance they attached to having their contributions to care recognised (adjusted R^2= 0.32, F= 39.32). Therefore, while the accumulation of trust would in turn result in more positive assessments of performance, over time the importance of this effect diminishes. Nonetheless, sustaining and maintaining trust created greater opportunities for practice nurses to influence decisions about the organisation and delivery of patient care.

While Study 1 confirmed that social support and self-identity are important to create opportunities for decision-making, it was the interviews which provided the explanation as to why this is the case. For practice nurses, earning the trust of general practitioners is critical for creating the opportunities to make decisions about patient care. The interview data supported the statistical results of the first regression model and suggested explanations for the unexpectedly weak relationship between social support and decision latitude. Study 2 also highlighted that practice nurses perceive their relationships with medical colleagues and patients as central to how they perceived themselves and were valued for the contribution they make to care.

In relation to the first research question, the synthesis of results indicates that positive work place relationships expanded the possibilities for practice nurses to

make decisions; that practice nurses perceive a link between their relationships with patients and opportunities for influence within the workplace; and that practice nurses perceive the relationships that they share with patients as an important component of being recognised as a expert within their role.

RESEARCH QUESTION 2- DO PRACTICE NURSES HAVE THE OPPORTUNITY TO COLLABORATE WITH GENERAL PRACTITIONERS IN CARE?

Practice nurses can create opportunities to collaborate with general practitioners in patient management. In Study 2, practice nurses expressed the view that their role was constrained to undertaking activities that generated Medicare subsidies for the practice. The role of the practice nurse is dependent on the supervision of general practitioners to claim for Medicare subsidised activity and to recuperate the cost for the service. In this way, Study 2 highlighted that the Medicare Benefits Schedule exerts an influence on the activities and role of the practice nurse. Importantly, Medicare was perceived to both enable and constrain the role of the practice nurse. The provision of Medicare financing for activities undertaken by practice nurses had enabled the role to become financially viable for a general practice but also, at the same time, the practice nurses were constrained to undertaking those activities that generated income for the practice. As the majority of Medicare items available to practice nurses are tasks, this meant that practice nurses could not formally collaborate with general practitioners in decisions about the provision of care. However, these constraints on collaboration were circumvented by practice nurses using their perceived skills in relationship management, building trust to participate

in care delivery. Care delivery necessarily became collaborative as practice nurses influence the decisions made by general practitioners, despite not having the formal authority to do so.

Yet these findings were contradicted by the findings of Study 1. Sequential regression modelling in Study 1 indicated that created skill (the opportunity to learn new things, use creativity, and develop personal abilities) was negatively influenced by social support and self-identity through work. Social support and self-identity through work were identified as having a significant impact on self-reported created skill, with an adjusted R^2 of 0.347 and cumulative ß coefficient of -0.454, together accounting for over one third of the variability in created skill. As with the first regression model, it may be possible that the negative influence of social support on created skill can be attributed to the position of the nurse within the organisation and/ or by how practice nurses defined their 'unique skills and abilities' (a core component of created skill).

A closer examination of Study 2 provides insight into these findings. Practice nurses saw their 'unique skills and abilities' as residing in the management of relationships rather than procedural activity. The relationships that practice nurses saw themselves as managing were with and between patients and general practitioners. The conflict between the perception that the role of the practice nurse was constrained to undertaking technical activities, and the perception that the management of relationships was a unique skill and ability of practice nursing may therefore limit self-reported opportunities to learn new things, use creativity, and develop personal abilities (created skill). However, this explanation contradicts the rationale advanced

in the first regression model for the relationship between social support and decision latitude, which suggested that practice nurses saw their ability to influence the decision-making of their medical colleagues as an identifiable clinical skill. Hence, the findings of Study 1 suggested that a delegated care model of service delivery would not constrain the ability of practice nurses to develop their ability for inter-professional influence.

Furthermore, while Study 2 identified that practice nurses felt limited to undertaking activities eligible for Medicare subsidies, the results of this research did not indicate that Medicare financing structures would affect the ability of a nurse to develop their 'unique skills and abilities' in the negotiation of relationships. To the contrary, it was because of financing, and the resulting constraints on their role, that practice nurses had to develop the ability to negotiate relationships.

Sequential regression in Study 1 also identified that self-identity through work was a negative influence on created skill. In Study 2 it was identified that the practice nurses who placed more value on their contributions to care being recognised were also more likely to value the development of relationships with patients (a unique skill and ability). Therefore, the results of Study 2 contradicted the results of Study 1. The finding in Study 1 that social support and self-identity through work negatively influence created skill is counter-intuitive, difficult to explain, and has not been found previously, and it is unclear why this might be case. It might have been expected that greater social support, and self-identity through work, would have a positive influence on the ability of practice nurses to develop their skills and abilities; regardless of the limitations to practice imposed by financing structures.

This is particularly relevant, given that practice nurses saw their unique skill and ability as circumventing these limitations by managing relationships, as a demonstrated in Study 2. Nonetheless, Study 2 provided clear evidence that practice nurses do collaborate with general practitioners in care delivery, but that this collaboration is not formalised because of the Medicare requirement for general practitioners to supervise nursing practice; as well as the limited scope of financially viable nursing activities. Practice nurses instead collaborated to deliver care on an informal basis.

RESEARCH QUESTION 3- DOES THE STRUCTURE AND ORGANISATION OF GENERAL PRACTICE ENCOURAGE PRACTICE NURSING PARTICIPATION IN CARE DELIVERY?

The structure and organisation of general practice does encourage practice nurse participation in care delivery, but the extent of this participation is determined by their ability to build relationships and demonstrate the financial viability of their practice. This is demonstrated in the answers to the first and second research questions. It has been established that practice nurses felt constrained by the requirement for a general practitioner to supervise a Medicare related activity, yet practice nurses circumvent this constraint by influencing the decisions of general practitioners. Importantly, the findings of Study 2 demonstrated that practice nurses felt they could only build relationships and influence decision-making if their contribution to care delivery was based on the long-term development of trusting relationships with patients. These relationships enabled practice nurses to perceive that they provided complementary care with the general practitioner.

Furthermore, in Study 2 practice nurses reported that they place the greatest importance on the relationships they shared with patients. In the context of an organisational structure that reinforces technical activity and supervised practice this finding may help to explain the finding of the third regression model in Study 1, which identified that opportunities to develop skills and abilities (as related to developing the patient relationship) negatively influenced the importance attached to being recognised for contributions to care. If practice nurses feel that it is the patient whose recognition is the most important, then the development of these relationships fulfils the need for recognition.

SUMMARY

This Chapter has presented a synthesis of the results of Study 1 and Study 2. This synthesis has resulted in a richer and deeper exploration of the findings than could have been achieved by use of single methodology, and has enabled the research questions to be answered. Results indicate that practice nurses do have the opportunity to make decisions about the organisation and delivery of care to patients who attend general practice, but they must create these opportunities for themselves. Where these opportunities are created, care delivery necessarily becomes collaborative. Due to Medicare requirements, an informal collaborative relationship was necessary for the practice nurse to be able to influence decision-making. The synthesis of the findings indicate that the structure and organisation of general practice does encourage practice nurses to participate in care delivery, but the extent

of this participation is determined by the ability of the practice nurse to build relationships and demonstrate the financial viability of their role. The following Chapter discusses the implication of these findings.

CHAPTER 7- DISCUSSION AND CONCLUSIONS

INTRODUCTION

The final Chapter discusses how the results of this research may inform changes to, and the development, of the practice nursing role in NSW, Australia. In the discussion, it will be argued that practice nurses are capable, given the right environment and opportunities, to make a greater and more equal contribution to the management and organisation of patient care within general practice services. It is argued that ultimately practice nurses should be given the opportunity to contribute to health service delivery independently of other health professionals. The discussion is generated in relation to contemporary policy, evidence, and literature, and relates the results of this research to the changing health care needs of Australians, federal government policy, and funding.

SHAPING THE HEALTH CARE ENCOUNTER

This research has demonstrated that practice nurses see themselves as shaping the health care encounter by bringing nursing expertise to the fore. They perceive themselves as addressing the social and interpersonal care needs of patients, and providing a distinct but complementary service to the general practitioner, resulting in a collaborative nursing and medical solution. In the contemporary context where

fifty-three percent of patients present to general practice with one or more chronic conditions (Britt et al. 2011) and the complexity of these encounters is increasing (as demonstrated in 'Chapter 2: Changes in the use of general practice: MBS claim analysis'), practice nurses who are involved in decision-making and bring their unique nursing perspective to the patient encounter, may be contributing to positive outcomes for patients and the general practice. This is particularly pertinent, as the successful management of chronic disease requires addressing the emotional, environmental, and social needs of the patient, as well as their medical needs (Mackay and Mensah 2004).

A collaborative approach to patient care results from the involvement of the practice nurse in decision-making. For a number of reasons articulated earlier, the collaborative approach to care is not planned but results from policy and financing regulations, discussed later in this Chapter. Collaboration between the practice nurse and general practitioner has the potential to result in a more comprehensive approach to care, and one that may be well suited to the care of people with chronic disease. In Australia, as well as internationally, collaboration between the practice nurse(s) and the general practitioner(s) has been shown to be critical to nurse involvement or leadership of chronic disease management (Halcomb, Davidson, Daly, et al. 2008; Hegney et al. 2013; Wilson et al. 2012). The finding that there are collaborative relationships suggests that in the context of general practice professional power does not present a barrier to effective inter-professional relationships (Gardner 2010). This is important, as increasingly it is being argued that the Australian practice nurse is well suited to take a leading role in the management of chronic disease (Eley et al. 2013; Halcomb, Davidson, Salamonson, et al. 2008; Phillips et al. 2009). Federal

policy supports practice nursing in its stated objective of encouraging the integrated and long-term care of patients with chronic disease (Commonwealth of Australia 2009a).

In Australia, early research demonstrated that practice nurses are more likely to take the lead in assessment of patients with chronic disease, developing care plans, and implementing care (Evans, Drennan and Roberts 2005a). Three Australian studies were identified in the literature review that had evaluated clinical outcomes from practice nurse involvement in chronic care. The earliest and only Australian study to show a positive outcome concluded that nurse counselling for patients at increased risk of cardiovascular disease may reduce anti-hypertensive drug prescription and improve patient compliance (Woollard, Burke and Beilin 2003). The other two Australian studies which evaluated clinical outcomes from practice nurse involvement in chronic care did not show positive outcomes. For instance, Pilotto et al. (2004) found that practice nurse-led clinics for people with asthma had equivalent outcomes to medical-led care when evaluated in a range of Health Related Quality of Life indicators. Similarly, Bunker et al. (2009) found that practice nurses could identify 60% of patients with undiagnosed COPD, with the authors concluding that practice nurses required further training before performing this role. Taking the results of the three Australian studies together, it would seem that the findings regarding practice nurse involvement in chronic care are not conclusive, and further research is required.

In contrast, evidence from the UK would suggest that practice nurses have the potential to lead and coordinate care that is both safe and of an appropriate standard.

Examples of practice nurse-led care has been shown to improve the outcomes for people with, acute minor injuries (Pritchard and Kendrick 2001), psychological disturbances (Armstrong and Earnshaw 2005), risk factors for cardiac disease (McManus et al. 2002), epilepsy (Duncan, Barlow and Smith 2005), and people using of non-steroidal anti-inflammatory medications (Jones et al. 2002).

For the increasing number of Australians with chronic disease greater involvement of practice nurses in care is likely to result in greater continuity of patient care and improved satisfaction with service (Mahomed, St John and Patterson 2012). The results of this research indicate that by building relationships, often over time, practice nurses perceive that they were able to address medical and social concerns that the general practitioner may not have had time to investigate. The development of trusting relationships required repeated encounters with the practice nurse. It was these trusting relationships, and the continuity of these relationships, that enabled practice nurses to identify and address patient health care needs that may not otherwise been addressed. Practice nurses saw themselves as assisting patients to express values, preferences, opinions, and goals, and acting as a patient advocate. This finding suggests that practice nurses actively participate in a model of shared treatment decision-making (Montori, Gafni and Charles 2006). Practice nurses perceived that the establishment of mutual trust and respect during the first patient encounter, and reinforced in repeated encounters, resulted in patients actively seeking practice nurse services.

By advocating for patient values, preferences, opinions, and goals, the practice nurse ensures that needs are met and goals are appropriate. In this sense practice nurses are

adding value to general practice services, and potentially relieving demand on the practice without acknowledgement. The potential reduction in demand, and the continuity of the nurse-patient relationship that makes advocacy possible becomes increasingly important as the burden of chronic disease increases (Strech, Synofzik and Marckmann 2008). The practice nurse role appears to be amenable to managing the care of people with chronic disease and the long-term relationships with patients that this requires.

The continuity of care implied by the nurse-patient relationship has been shown to be perceived by patients as associated with the quality of care (Redsell et al. 2007). Yet despite this perception there is limited international, and no Australian evidence, to suggest that improved continuity or collaborative care results in improved clinical outcomes (Wilson et al. 2012). Even so, this research has identified that practice nurses value the continuity of the relationships they share with patients, and these relationships were central to how practice nurses identified their contribution to care. The finding builds on evidence that demonstrates a link between the practice nurse and patient relationship and reported patient satisfaction (Hegney et al. 2013; Mahomed, St John and Patterson 2012). Within the context of existing research, results suggest here that if there are changes to the practice nursing role, care should be taken not to damage opportunity for practice nurses to build and maintain relationships with patients, as doing so may affect the ability of practice nurses to identify how they contribute to care, and to bring nursing expertise to the fore.

In Chapter 2 it was suggested that the opportunities for practice nurses to participate in collaborative service delivery may be influenced by the quality of their

relationship with the general practitioner. The results of this research have strengthened our understanding of this dimension of practice nursing. While practice nurses saw their contribution as central in the patient- nurse relationship the ability to effectively participate, and collaborate in the delivery of care required practice nurses to also build relationships with general practitioners.

THE OPPORTUNITY FOR A COLLABORATIVE MODEL OF CARE

The results have also demonstrated that practice nurses must create their own opportunities if they are to be perceived as delivering collaborative care. They do so by building trusting relationships with general practitioners. When the practice nurse–general practitioner relationship was founded on trust, it enabled practice nurses to have greater opportunities to contribute to decision-making about patient care. This research has confirmed the conclusion of other authors that the level of support extended by a general practitioner has consequences for the amount of decision-making that can be exercised by the practice nurse (Fulton et al. 2011; James 2004; Schmalenberg et al. 2005a, 2005b). This is the first time that this relationship has been demonstrated in the context of Australian general practice.

In this study, practice nurses actively sought to cultivate positive relationships as a means of gaining influence in patient care decisions. They were able to do so as, within the organisational process, they were situated between the patient and general practitioner. However, the need to build trusting relationships, and the resulting collaboration, results from the limitations placed on the practice nursing as a

consequence of federal government policy and Medicare regulations.

GOVERNMENT SUPPORT FOR PRACTICE NURSING

To date, federal government support for practice nurses has been driven by the objective of improving access to primary care services. The objective of this support is to improve health outcomes and achieve cost-effectiveness by focussing on the provision of primary health care (Friedberg, Hussey and Schneider 2010). Supporting the employment of practice nurses and providing Medicare rebates for technical tasks undertaken by practice nurses seeks to increase the number of services that can be provided and improve access to general practice (Offredy and Townsend 2000).

The federal government has sought to achieve these objectives without altering the traditional organisational structure of general practice. However, federal government reforms have encountered organisational boundaries between practice nurses and general practitioners. Holmes, Mills and Chamberlain-Salaun (2013) demonstrated that these structural barriers reduce the contributions of practice nurses to patient care, and the cost-effectiveness of their involvement in care. This research has demonstrated that practice nurses are well aware of these structural barriers, and consequently engage collaborative care as a way to getting around limitations to their practice.

Pearce et al. (2011b) hypothesised that using Medicare financing to promote

collaborative service delivery would create a situation where practice nurses felt more constrained by general practitioner supervision. This research, by uncovering *how* practice nurses contribute to care, has demonstrated that this is not the case. The requirement for general practitioner supervision of nursing practice has led to more collaborative care as practice nurses seek to build trusting relationships and gain influence in decision-making. This finding appears to support the conclusion of Hegney et al. (2013) that collaboration between practice nurses and general practitioners improves practice nurse perceptions of the opportunities for professional development and autonomy. This research has also confirmed the hypothesis of Pearce et al. (2011a) that the traditional structure of general practice and Medicare exerts a significant influence on the role of the practice nurse, and that this influence was perceived as both enabling and constraining the practice nursing role.

The traditional structure of general practice is based on the premise that the general practitioner is at the apex of and leads the primary health care team. This role is reinforced by Medicare regulations that stipulate that a general practitioner supervise activities that are subsidised by Medicare. The results of Study 2 indicate that this requirement was perceived as de-legitimising the nursing contribution to care. Furthermore, the dependence on Medicare subsidies could be interpreted as constraining the development of the practice nurse role. However, the present research has shown that practice nurses have a more nuanced view of this situation. In fact, practice nurses described their ability to generate revenue as critical to the viability of the role. In this sense, the provision of Medicare financing for practice nurses has made the role possible. Yet, this also means that the practice nurse role is

limited to those activities that are subsidised by Medicare. Therefore, if the practice nurse role is to develop there will be a need to reform Medicare subsidies and regulations to reflect how practice nurses are contributing to care, and the how the practice nursing role could expand. It is plausible to suggest that Medicare could subsidise a more independent role for practice nurses. However it is up to practice nurses themselves to demonstrate that their participation in care should be financially supported. In the final report of the NHHRC it was indicated that future access to Medicare subsidies would depend on health professionals providing evidence of an appropriate scope of practice (Commonwealth of Australia 2009a). Further, the federal government has indicated that collaborative multi-disciplinary approaches to the provision of primary care services are to be encouraged (Commonwealth of Australia, 2009), although it is unclear how this will be achieved without a systemic approach to developing services and altering traditional roles (Procter et al. 2013). It is possible that the number and variety of services that practice nurses provide will increase.

THE OPPORTUNITY FOR ROLE EXPANSION

Despite Medicare constraints practice nurses are creating their own opportunities to collaborate in and contribute to patient care. Building on the opportunities that practice nurses create will require reconciling the reality of the role with how it is articulated in policy. In doing so, it may be possible to align the role of the practice nurse with the health care needs of Australians. A consequence of this may be more clinical independence for Australian practice nurses.

To date, the role of the practice nurse has been defined in relation to supervision and direction by general practitioners (Royal Australian College of General Practitioners and Royal College of Nursing Australia 2004). For example the Australian Practice Nurses Association (2010) defined a practice nurse as 'a registered or enrolled nurse who is employed by, or who services are otherwise retained by, a general practice'. Capolingua (2007) is more specific indicating that practice nurses act 'under the supervision of the doctor to facilitate access to services'. This research has demonstrated that practice nurses fulfil a more sophisticated role than undertaking technical or delegated tasks, and that the relationship between the practice nurse and the general practitioner is more complex than either of these definitions imply. Rather it has been shown that the practice nurses act as a relationship builder, and facilitates the efforts to meet the care needs of patients.

In reconciling the reality of practice nursing roles and how they are defined in policy it is useful to consider the development of the practice nurse role in the UK where significant changes were made to the funding and organisation of general practice in the early 1990s. Driving these changes were insufficient medical workforce supply and an increase in demand for primary health care services. At the time, nursing was viewed as a client partner of medicine and because of this independent practice nursing was not seen as a viable option (Adamson and Harris 1996; Atkin and Lunt 1996a, 1996b). Over time, there was an incremental extension of the number of tasks that could be delegated from the general practitioner to the practice nurse (Kernick 1999), and ultimately this led to establishment of successful examples of independent practice nurse-led services (Campbell et al. 1998; Fitzmaurice, Hobbs and Murray

1998; Schroeder et al. 2005). In the UK nurse-led services are closely aligned with an increasing number of people with chronic disease, and nurse-led care for a person with chronic disease is now accepted as normal practice. This has allowed general practitioners to focus on people with more complex medical conditions, minimised general practitioner supervision of nurse provided care, and expanded the practice nursing role (Hoare, Mills and Francis 2012). While, it is important to note that the distinct difference between practice nursing in the UK and practice nursing in Australia is the absence of Australian research demonstrating the safety and effectiveness of practice nurse-led care, the results of this research and other contemporary Australian evidence would suggest that it may be time to consider further independent development of the practice nurse role (Walters et al. 2012). Further independent development will require practice nurses to be able to independently access Medicare financing. If this occurs, as in the UK, practice nurse-led care may become an accepted, supported, and promoted feature of the primary health care landscape (Hoare, Mills and Francis 2012).

The Australian federal government, acting on the recommendations of the NHHRC, is investing in the primary health care workforce, primary health care infrastructure, enhancing the coordination of services, and improving the management of chronic disease (Nicholson et al. 2012). This creates new opportunities particularly for practice nurses to expand their contribution to care. It has been argued that one new way of working may be for practice nurses to independently take the lead in the management of patients with chronic disease (Ehrlich, Kendall and St. John 2012). This is further supported by the super-clinic initiative which aims to act as a catalyst for the development of new ways of multi-disciplinary working and delivering

services (Department of Health and Ageing 2010). Aligning the expansion of the practice nursing role with chronic disease will enable more patients to be seen, address the goal of the federal government to address the long-term care needs of patients with chronic conditions, and assist in meeting the challenges of insufficient workforce supply and reduced service accessibility (Buchan and Calman 2004b). Additionally, the specialisation of practice nursing in the management of patients with chronic disease would address the perceived conflict, identified in this research, between practice nurses being able to retain a broad remit while achieving the recognition that specialised nursing roles were seen to attract. This would respond to the critical need identified by Health Workforce Australia (2011), for innovation in the ways that health professionals deliver services. Furthermore, expanding the role of the practice nurse to lead the management of chronic disease may legitimise their role in the eyes of the broader nursing community, a concern expressed by practice nurses in Study 2.

DEVELOPING A FRAME OF PROFESSIONAL REFERENCE

Future research into the safety and effectiveness of practice nurse-led care could also serve to inform the development of a frame of professional reference for practice nurses, and would set the boundary for independent practice. The development of a frame of professional reference will help to define the role of the practice nurse. As with the development of the nurse practitioner role, a frame of professional reference will define the limits of the practice nursing contribution to patient care, differentiate practice nursing from other nursing specialities, and promote leadership and

accountability (Currie et al. 2007). Existing Australian literature identifies that practice nurses fulfil a broad remit. Phillips et al. (2009) reported that practice nurses are at any one time patient carers, organisers, quality controllers, problem solvers, educators, and coordinators. The present research indicates that practice nurses are involved in a broad range of activities with some commonalities. For example, all the practice nurses in Study 2 described participating in; procedural activities, practice management, patient education, and coordinating and providing of care for people with chronic conditions. A major obstacle to nurse-led care for patients with chronic disease is identifying the core principles and key activities that form the nursing contribution to chronic disease management (Forbes and While 2009). The results of this research may assist in overcoming this obstacle. The common activities of providing education and care for patients with chronic conditions provide a starting point for an articulation of the practice nursing role. The role of the practice nurse in facilitating relationships and ensuring continuity of care indicates an ability to cross strong organisational and professional boundaries, a necessary skill for the management of complex patient journeys (Forbes and While 2009). However it is important to distinguish the practice nurse contribution to care from the contribution of other members of the multi-disciplinary team. Forbes and While (2009) argue that there are three ways to differentiate between the nursing contribution to chronic disease management and that from other health professionals. These can be expressed as nurse-led care, with an independent nurse identifying needs, organising resources, and referring to others. Nurse-led and delivered care where the nurse identifies needs and manages the problem(s) him/herself; or nurse delivered care where the nurse provides care under the direction of others. Currently, Australian practice nurses are said to be delivering care under the direction of general

practitioners, but as this research has shown practice nurses are beginning to lead care. They are identifying needs and organising resources, although they are not yet referring, which Forbes and While (2009) argue is a defining characteristic of nurse-led care. Furthermore the development of a professional frame of reference will assist to identify what constitutes advanced nursing practice in primary health care (Delamaire and Lafortune 2010). Development of a professional frame of reference will assist in ensuring that practice nurses have the necessary level of competency for safe practice, and in the future, this will form the basis of professional registration as advanced practitioners in this country (Howard and Barnes 2012). The development of a professional frame of reference may also assist in reconciling the discrepancy, identified in this study, between how practice nursing is perceived and the reality of the role (Duffield, Gardner, et al. 2011; Gardner et al. 2012).

The development of a professional frame of reference will provide practice nurses with legitimacy to contribute to care and decision-making processes without any impact on the flexibility of their role (Phillips et al. 2009). Several authors have argued for flexibility in the role (Pearce, Hall and Phillips 2010; Phillips et al. 2007). While these authors did not make it clear why role flexibility may be beneficial, the results of this research suggest that this may be associated with the position of the practice nurse between the patient and the general practitioner, and the resulting ability to contribute to care by circumventing current structural limitations. This association fits with the description by Phillips and Hall (2013) of practice nurses collaborating with general practitioners in the care of complex patients, making judgements about that care, and contributing a practical wisdom that defines the interaction between clinician and patient. The development of a clear frame of

professional reference for practice nurses would not diminish role flexibility as practice nurses would have legitimate stake in care and decision-making processes.

If the development of a professional frame of reference highlights independence it may also ensure that the role does not become defined by clinical guidelines and/ or protocols. It has previously been argued that clinical guidelines and/or protocols reinforce a client-partner relationship between nursing and medicine and limits professional autonomy and initiative (Macdonald et al. 2008). Hence, this will not be conducive to promoting the possibility for collaborative approaches to care, which require an equal sharing of care planning, goal setting, decision-making, problem solving, cooperation, responsibility and accountability (Patterson and McMurray 2003).

An evidence-based frame of reference for independent practice nursing may also assist in gaining the acceptance of professional medical organisations. This research has demonstrated that on a daily basis practice nurses feel supported by their general practitioner colleagues. However, extending the role of the practice nurse is not currently supported by professional medical organisations. For example, in 2011 the Royal Australian College of General Practitioners stated that practice nurses should not have a wider scope of practice in which they can independently diagnose, prescribe, and/ or refer patients. If there is evidence of safe and effective practice nurse-led care it would draw into question the appropriateness of this position, and may provide the impetus for further development towards nurse practitioner status which would allow for independent diagnosis, prescribing, and referral. Furthermore it is not clear that limiting the scope of practice nurses is in the best interests of the

employing general practice, or the general practitioner.

Between 2004 and 2007 Medicare financing was introduced for eight new activities that could be undertaken by practice nurses (Keleher et al. 2007). The introduction of financing for these activities within the Enhanced Primary Care program had the objective of increasing the number of services provided. Doing so would be in the financial interest of the employing general practice and/or the general practitioner. Despite this, Mills and Fitzgerald (2008b) indicated that general practitioners were reluctant to refer patients to the practice nurse. The reason for this remains unclear.

However, if the practice nursing role is extended, it will create the possibility for the practice to generate more revenue. It is in the financial interests of the employer to encourage practice nurses to undertake Medicare subsidised activities. In the case of corporatised practices this includes those activities where the practice nurse could operate independently of general practitioner supervision. For owner-operated general practice independent nursing roles may require the development of new employment models, and perhaps partnerships. A precedent for this has been established in the UK where practice nurses have entered into partnerships with general practitioners, or undertaken further training to become nurse practitioners with an independent and autonomous scope of practice (Hoare, Mills and Francis 2012).

One reason why practice nurses in the UK have pursued autonomy is concern about who is liable for practice (Phillips 2007). The employment structure for practice nurses in the UK is similar to Australia. When a practice nurse is employed by a

general practice the employer assumes vicarious liability for the actions of the nurse as an employee (Cashin et al. 2009). If the practice nurse is supervised by a general practitioner the risk for the employer is seen to be reduced. If practice nurses are independent of general practitioner supervision, and have autonomy, then it becomes less clear with whom liability resides (Phillips 2007). Concerns about whom is liable for practice have been identified as inhibiting the development of more advanced nursing roles in Canada, the United States, and New Zealand (Bonsall and Cheater 2008; Delamaire and Lafortune 2010; Fairman et al. 2011). This is particularly the case if there is uncertainty regarding the appropriate scope of practice. Therefore, the development of a professional frame of reference clearly identifying if practice nurses can be independent of general practitioner supervision has implications for employers as well as practice nurses.

PRACTICE NURSES OR NURSE PRACTITIONERS

Internationally, the development of the nurse practitioner role has been closely linked to extension of nursing roles in primary health care (Phillips 2007). There is now the potential for Australian practice nurses to develop autonomous practice through endorsement as nurse practitioners. In other countries nurse practitioners are leading health care services and contributing to services independently of medical colleagues. Unlike practice nurses there is currently little evidence about how Australians or general practitioners may view nurse practitioners in general practices. Nonetheless, the role of the nurse practitioner in UK and in the United States of America (USA) has been demonstrated to be sustainable, acceptable, efficient and

affordable in management of both acute and chronic primary health care services (Horrocks, Anderson and Sailsbury 2002; Phillips 2007; van Zuilen et al. 2012).

In the USA, primary health care nurse practitioners are monitoring and managing the care for a range of chronic diseases including hypertension, asthma, and diabetes (Donelan et al. 2013). For example, Scisney-Matlock et al. (2004) compared outcomes of hypertension care for physician only versus physician/nurse practitioner teams. Only adult women were enrolled and randomly assigned to groups. The outcome of physician/nurse practitioner care was lower systolic and diastolic blood pressure when compared with the physician-only group. The physician/ nurse practitioner team also had higher scores for medication education. Models such as this, involving an autonomous nurse practitioner working in collaboration with a medical practitioner, have been replicated internationally (Barkauskas et al. 2005; Benkert, Buchholz and Poole 2001; McClellan and Craxton 1985). These service arrangements also indicate that autonomous practice does not preclude collaboration but may enhance it. If practice nurses are to develop towards autonomous nurse practitioner roles there is evidence that this would lead to improvements in the outcomes of primary health care. To do so successfully they may need to target areas where care options are reduced, or where there is a high prevalence of chronic disease. A key strategy to increasing equity, access and participation in health service delivery in rural or remote areas may be to have endorsed nurse practitioners in primary health care services (Knox 1979; Knudtson 2000; Sibthorpe 2008).

THE WORKFORCE IMPLICATIONS OF A CHANGING ROLE

During the last decade the number of practice nurses has increased from 1,179 to 11,547; or from one practice nurse for every 21 general practitioners to one practice nurse for every 1.4 general practitioners (Carne et al. 2011; Merrick et al. 2012). Yet the practice nursing workforce is being drawn from a decreasing nursing workforce pool, Health Workforce Australia (2012) predicated a shortfall of 109,490 nurses by 2025. Part of the reason for this shortfall is the ageing of the nursing workforce with more nurses retiring or working part-time. This draws into question the long-term sustainability of continuing to increase the number of practice nurses. Nursing workforce shortages are more problematic when it is clear that the size of general practitioner workforce is also shrinking. As with nursing this is associated with the ageing of the medical workforce, the average general practitioner is ten years older than the average nurse or physician (Primary Health Care Research and Information Service 2011).

To date shifting the activities from general practitioners to practice nurses they supervise has offered the potential to contain costs, increase access to services, increase the profitability of the practice, and maintain standards of care (Buchan and Calman 2004a; Laurant et al. 2004). This rationale has underpinned support for increasing the number of practice nurses (Merrick et al. 2012). In light of workforce insufficiency this approach becomes increasingly unsustainable. For this reason there is an urgent need for innovation in how general practice works so that more can be achieved with a static or smaller workforce. The development of the practice nurse role into one that is more independent of the general practitioner is one way of

addressing the disparity between workforce insufficiency and the demand for services. This is especially the case if the development of the role is aligned with the need for more health professionals to be knowledgeable and to be able to manage patients with chronic disease.

Australia has a turbulent nursing labour market characterised by high turnover and staff shortages. Therefore to retain the workforce that has been recruited into practice nurse roles in recent years, and to make this field an attractive option for new nurses, requires attention to those issues which affect workforce retention and turnover. One of the most significant issues for organisations and policy makers is ensuring job satisfaction. Job satisfaction is complex and can be affected by a range of determinants experienced by individuals including: the work environment, workload, organisational management and support, and remuneration (Currie and Carr Hill 2012; Duffield, Roche, et al. 2011). The present research provides insight into what gives practice nurses job satisfaction and motivates them to remain working.

The ability of practice nurses to maintain relationships with patients was found to be a major source of job satisfaction which influenced their decision to remain in the workforce. In addition the ability of the practice nurse to act as a patient advocate and shape decision-making was identified as having a significant influence on how practice nurses identified their contribution to care. The ability of nurses to identify their contribution to care, and the professional identity that results, has previously been shown in Australia and elsewhere to have a significant effect on job satisfaction (Cowin et al. 2008; Johnson et al. 2012). As such, the development of a professional identity through specialisation may further impact on the recruitment and retention of

practice nurses. It has previously been found that for nurses the opportunities to specialise and undertake further education is positively associated with job satisfaction, over and above remuneration (Kankaanranta and Rissanen 2008). The development of the role of the practice nurse towards greater independence and specialisation will have a positive impact on the retention of the workforce. This is particularly relevant for nurses under 30 years of age as they show a strong preference for collaborative work, independent decision-making, and 'aggressively' pursuing education and career development (Wilson et al. 2008). Where the work environment does not promote these opportunities younger Australian nurses report lower job satisfaction and a intention to leave the workforce (Parry 2008). As the workforce ages it is increasingly important to recruit and retain this younger workforce.

The findings reported here support previous research which has identified that if nurses do not have the freedom to make decisions, or are not supported by colleagues and supervisors they are more likely to express the desire to leave the profession (Lavoie-Tremblay et al. 2008). Furthermore, the identification of an association between practice nurse-general practitioner relationships and the ability to make decisions, suggests that effects of poor inter-professional relationships on job satisfaction are amplified by a concomitant reduction in the opportunities to make or influence decisions. As the practice nurse role develops there is a clear need to ensure that the relationships they share with patients and general practitioners are not compromised. It is apparent that there is a need to create an environment that allows practice nurses to participate in governance, exercise autonomy in the organisation of work, and support collegial relationships within the primary health care team (Twigg

and McCullough 2013). Achieving this requires reorganising how care is delivered in general practice to maximise the contributions of practice nurses and to emphasise personal and inter-professional relationships, while facilitating the capacity of practice nurses to deliver high quality patient care (Currie and Carr Hill 2012). Like their hospital colleagues, practice nurses should be able to practice to the full extent of their education and training, and should be full partners in designing the future delivery of health care in general practice (Institute of Medicine 2010).

STUDY LIMITATIONS

The limitations of Study 1, 2 and the synthesis of results, pertain to the size of the samples obtained, the homogeneity of sample characteristics, and the construct and scale reliability of the questionnaire. In Study 1 a valid sample of 160 practice nurses employed in NSW was obtained. A smaller number of participants were involved in Study 2, these participants were also self-selecting. During the period of Study 1 there were no accurate measures of the size of the practice nursing workforce. However, in 2009 the Australian General Practice Network estimated that were 2300 nurses employed in NSW general practice (Australian General Practice Network 2009b). Based on this estimate, the sample for Study 1 represented 7% of the NSW practice nursing workforce at that time. The sample sizes and the fact that practice nurses were only recruited from NSW may limit the generalisablity to other States. However, as Medicare is a federal government program, the findings of this research may have resonance across Australia.

The participants in Study 1 and 2 were homogenous for a range of demographic characteristics, but differed in the level of educational attainment. This difference should be kept in mind when interpreting the synthesis of results.

In Study 1 two reliability issues were identified. The first reliability issue was that the question 'my job requires repetitive work' had the lowest factor loading for the scale self-identity through work, this is consistent with the findings of Pelfrene et al. (2001), and may indicate a requirement to re-evaluate the relative contribution of this question to the scale. The second reliability issue related to the high commonality values for the constructs of skill discretion and created skill. This may be an indication of a small sample size, or of latent factors not captured in the questionnaire. In regards to skill discretion it should be noted that Study 2 revealed how practice nurses saw their role as influencing medical decision-making, as opposed to making their own decisions, this may explain the high commonality values in terms a latent factor. Further exploratory factor analysis with a larger sample size would be needed to identify if this is the case. Despite these concerns the questionnaire constructs demonstrated acceptable Cronbach α coefficients, and the reliability analysis was consistent with the findings of the systematic review by Bonnterre et al. (2008) of the reliability of the JCQ. Statistically, there is no reason to reject the constructs on the grounds of internal reliability or validity, although future research should seek to explore the conceptual validity of the constructs.

IMPLICATIONS FOR FUTURE RESEARCH

This research has demonstrated that practice nurses have more influence over decision-making about patient care than previously thought and could be making greater contributions to the care of patients, either through expanded and collaborative practice or through greater independent practice. For either these options to be viable there is the pressing need to develop robust evidence about the cost-effectiveness, and clinical outcomes, of practice nursing involvement in care.

Cost-effectiveness

In this research practice nurses perceived that their role must be seen to be financially viable. In Australia that means that practice nurse activity must qualify for Medicare financing. For these reasons expanding the practice nurse role will not be achieved without first demonstrating that their involvement in patient care is cost-effective. There is no Australian evidence that nurse-led, or nurse involvement, in care is cost-effective when compared to general practitioner only care. Two international meta-analyses by Laurant et al. (2004), and Horrocks, Anderson and Sailsbury (2002) found no evidence of significant differences in resource use outcomes when comparing nurse practitioners to medical practitioners, and Sakr et al. (1999) suggested that any increase in cost from nurse-led services was likely to result from slower patient throughput when compared to doctors. Keleher et al. (2009) argued that, while there is a need for Australian research, previous evidence may suggest that nurse-led care can be cost-effective.

However, the generalisablity of this international evidence to Australian practice nurses is severely limited both by the comparability of nurse practitioners to practice nurses, and the national context in which previous research has been undertaken. Developing this evidence base is critical as the role of the practice nurse is vulnerable to concerns regarding the financial viability of their practice. In demonstrating cost-effectiveness to national funders, and insurers, it is important to measure cost-containment, as it has been previously identified that nurse provided patient education, and the promotion of patient autonomy serve to reduce the number of long-term exacerbations of chronic disease (Bonsall and Cheater 2008). For general practice it may be more important to emphasise the ability of the practice nurse to increase the number of patients receiving care, as within the Australian payment model, the number of patients is a strong determinant of revenue. It will also be important to consider the cost implications of an expanded practice nurse role on the workload of general practitioners (Bonsall and Cheater 2008), particularly if traditional supervisory model of working is maintained.

Clinical outcomes

There is limited Australian evidence regarding the clinical outcomes, or the safety and quality of practice nurse-led or coordinated care. It is critical to the development of the practice nurse role that this evidence base is built. International evidence comparing nurse-led and general practitioner-led care suggests that there are no significant differences in patient mortality (Jarman et al. 2002; Laurant et al. 2004;

Tomson, Romelsjo and Aberg 1998), and Raftery et al. (2005) reported improved long-term survival for patients with coronary heart disease who had participated in a nurse-led care program. Nonetheless, there remains no clear indication that Australian nurse-led care, or the involvement of practice nurses in care, is safe or effective. There are some signs that Australian researchers are developing investigations into the clinical outcomes of practice nurse care (Blackberry et al. 2009), but the results are not yet available. Until such evidence becomes available it will remain difficult to predict how the Australian practice nurse role may develop.

SUMMARY

This study has, for the first time, demonstrated that Australian practice nurses are participating in collaborative relationships with general practitioners to deliver patient care. However, the organisation and structure of general practice is not perceived by practice nurses to be conducive to an expansion of their role. Despite structural and regulatory obstacles practice nurses in NSW are using their expertise in relationship management to shape patient care. Yet, to meet increasing and changing health care demand, the contributions to care by practice nurses must be maximised. Achieving this will require aligning their role with health care needs and demonstrating the safety and effectiveness of nurse-led care. More importantly it will require a reorganisation of the traditional structure of the health care team, which is becoming less relevant with the increasing demands of managing more people with chronic disease and workforce shortages (medical and nursing). If these preconditions are met practice nurses are positioned to help reorientate health

services towards long-term and preventive primary care. It is timely to rethink how practice nurses contribute to care and to reflect their changing role in health care policy and financing. Existing funding for practice nurses is based on a conception of how general practice works that this research has shown to be inaccurate. Practice nurses should be recognised as full partners in the redesign, reorganisation, and delivery of Australian primary health care.

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APPENDIX A- THE PRACTICE NURSE JOB CONTENT QUESTIONNAIRE

Job Content Survey (Karasek, 1998)
NSW Practice Nurses

#1/001

UNIVERSITY OF TECHNOLOGY SYDNEY

Demographics

1. Are you a Registered or Enrolled Nurse? Registered ☐ Enrolled ☐

2. Please indicate your highest formal qualification? *(tick one)*

- Hospital Certificate ☐
- TAFE qualification ☐
- Undergraduate Certificate ☐
- Degree ☐
- Graduate Diploma ☐
- Master Degree ☐
- Doctoral qualification ☐

3. In total how many years have you been employed as a nurse (both Registered and/or Enrolled including broken service)?

_____ **years**

4. How many years have you worked as a practice nurse?

_____ **years**

5. Please indicate your previous job title or area of nursing, before your current employment as a practice nurse?

_____

6. Currently are you employed on a full time, part time, or casual basis? *(tick one)*

Full time ☐ Part time ☐ Casual ☐

7. Please indicate the post code where you are currently employed

☐☐☐☐

8. I work with other practice nurses during my daily work *(tick one)*

No ☐ Yes, 1-4 practice nurses ☐ Yes, 5-10 practice nurses ☐ Yes, more than ten ☐

9. Gender Male ☐ Female ☐

10. Age (in years)

20-24 ☐ 25-29 ☐ 30-34 ☐ 35-39 ☐ 40-44 ☐ 45-49 ☐ 50-54 ☐ 55-59 ☐ 60-64 ☐

Job Content Survey

For the questions that follow please check the box with the answer that comes the closest

1. My job requires that I learn new things

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

2. My job involves repetitive work

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

3. My job requires me to be creative

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

4. My job allows to me to make a lot of decisions on my own

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

5. My job requires a high level of skill

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

6. On my job, I have very little freedom to decide how I work

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

7. I get to do a variety of things on my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

8. I have a lot of say about what happens on my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

9. I have an opportunity to develop my own special abilities

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

10. How many people are in your work group or unit?

I work alone □ 2-5 people □ 6-10 people □ 10-20 people □ 20 or more people □

11. I have significant influence over decisions in my work group or unit

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

12. My work group or unit makes decisions democratically

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

13. I have at least some chance that my ideas will be considered about company policy (e.g., hiring, policy, practice decisions, patient care, equipment purchases, etc.)

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

14. I supervise other people as part of my job

No □ Yes, 1-4 people □ Yes, 5-10 people □ Yes, 11-20 people □ Yes, more than 20 people □

15. I am a member of a union or employee association

□ Yes □ No

16. My union or employee association in influential in affecting practice policy

I am not a member □ Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

17. I have influence over the policies of the union or employee association

I am not a member □ Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

18. My job requires working very fast

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

19. My job requires work very hard

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

20. My job requires a lot of physical effort

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

21. I am not asked to do an excessive amount of work

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

22. I have enough time to get the job done

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

23. I am often required to move or lift very heavy loads on my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

24. My job requires rapid and continuous activity

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

25. I am free from conflicting demands that others make

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

26. My job requires long periods of intense concentration on the task

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

27. My tasks are often interrupted before they can be completed, requiring attention at a later time

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

28. My job is very hectic

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

29. I am often required to work for long periods with my body in physically awkward positions

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

30. I am required to work for long periods with my head or arms in physically awkward positions

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

31. Waiting on work from other people or departments often slows me down on my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

32. How steady is your work? (check one)

□ Regular and steady
□ Seasonal
□ Frequent layoffs
□ Both seasonal and frequent layoffs
□ Other

33. My job security is good

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

34. During the past year, how often were you in a situation where you faced job loss or layoff?

Never □ Faced the possibility once □ Faced the possibility more than once □ Constantly □ Actually layed off □

35. Sometimes people permanently lose jobs they want to keep. How likely is it that during the next couple of years you will lose your present job with your employer?

□ Not at all likely □ Not to likely □ Somewhat likely □ Very Likely

36. My prospects for career development and promotions are good

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

37. In five years, my skills will still be valuable

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

38. My supervisor is concerned about the welfare of those under him/her

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □ I have no supervisor □

39. My supervisor pays attention to what I am saying

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □ I have no supervisor □

40. I am exposed to hostility or conflict from my supervisor

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □ I have no supervisor □

41. My supervisor is helpful in getting the job done

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □ I have no supervisor □

42. My supervisor is successful in getting people to work together

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □ I have no supervisor □

43. People I work with are competent in doing their job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

44. People I work with take a personal interest in me

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

45. I am exposed to hostility or conflict from the people I work with

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

46. People I work with are friendly

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

47. The people I work with encourage each other to work together

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

48. People I work with are helpful in getting the job done

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

49. I often get information/feedback one way or another about how the customers or clients feel about the product or service I produce

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

50. I often get to know customers or clients as individuals on my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

51. One way or another, customers or clients can influence the kind of product or service I produce

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

52. I can affect what the clients or customers want

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

53. Satisfying the customer or client provides me with an important source of challenges on the job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

54. I am subject to hostility or abuse from clients or customers

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

55. My knowledge about the customer's satisfaction is a major source of my feelings of being important and valuable on the job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

56. My work group or unit makes an important contribution to society

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

57. I am appropriately respected and rewarded by my company for my work

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

58. My skills and abilities are "vital" to my work group or unit

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

59. I get information/feedback from my supervisor about how well I do my job

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

60. I produce a whole or identifiable product or service in my job- that is, I can easily "point out" my contribution to the final product or service

Strongly Disagree □ Disagree □ Agree □ Strongly Agree □

If there are any questions you need to return to please do so now

Please return this survey to:
PN Study
Centre for Health Services Management, University of Technology Sydney
PO Box 123, Broadway NSW

This survey is also available online, at

http:/www.uts.edu.au

If you have practice nursing colleagues who would like to participate in this research please direct them to the website above.

Thank you for taking the time to participate in this research.

APPENDIX B- HUMAN RESEARCH ETHICS COMMITTEE

APPROVAL

UNIVERSITY OF TECHNOLOGY SYDNEY

Research and Innovation Office
City Campus
Building 1 Level 14 Room 14.31
PO Box 123 Broadway
NSW 2007 Australia
T +61 2 9514 9681
F +61 2 9514 1244
www.uts.edu.au
UTS CRICOS PROVIDER CODE 00099F

17 July 2007

Professor Christine Duffield
CB10.07.212
Faculty of Nursing, Midwifery and Health
UNIVERSITY OF TECHNOLOGY, SYDNEY

Dear Christine,

UTS HREC REF NO 2007-81 – DUFFIELD, Professor Christine, BALDWIN, Mr Richard (for MERRICK, Mr Eamon PhD student) - "The exercise of Decision Latitude by Practice Nurses in New South Wales General Practice Settings"

Thank you for your response to my email dated 19 June 2007. Your response satisfactorily addresses the concerns and questions raised by the Committee, and I am pleased to inform you that ethics clearance is now granted.

Your clearance number is UTS HREC REF NO. 2007-81A

Please note that the ethical conduct of research is an on-going process. The *National Statement on Ethical Conduct in Research Involving Humans* requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

If you have any queries about your ethics clearance, or require any amendments to your research in the future, please do not hesitate to contact the Ethics Secretariat at the Research and Innovation Office, on 02 9514 9615.

Yours sincerely,

Production Note:
Signature removed prior to publication.

Mr Peter Trebilco
Acting Chairperson
UTS Human Research Ethics Committee

THINK.CHANGE.DO

UNIVERSITY OF TECHNOLOGY SYDNEY

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22 July 2009

Professor Christine Duffield
Nursing, Midwifery and Health
CB10.07.204
UNIVERSITY OF TECHNOLOGY, SYDNEY

Dear Christine,

UTS HREC 2007-081 – DUFFIELD, Professor Christine, BALDWIN, Mr Richard, FRY, Professor Margaret (for MERRICK, Mr Eamon, PhD student) – "The exercise of Decision Latitude by Practice Nurses in New South Wales General Practice Settings"

At its meeting held on Tuesday 14 July 2009, the UTS Human Research Ethics Committee reviewed your application and approved your request to amend the research by including a second stage involving qualitative data collection.

If you wish to make any further changes to your research, please contact the Research Ethics Officer in the Research and Innovation Office, Ms Racheal Laugery on 02 9514 9772.

In the meantime I take this opportunity to wish you well with the remainder of your research.

Yours sincerely,

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Signature removed prior to publication.

Professor Jane Stein-Parbury
Chairperson,
UTS Human Research Ethics Committee

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APPENDIX C- THE INTERVIEW GUIDE

Interview Guide

Demographic Questions

1) Are you a registered or enrolled nurse?
2) How many years have you been employed as a practice nurse?
3) How many years have you been employed as a nurse?
4) What is your highest educational attainment?
5) Do you work with other practice nurses, if so how many?
6) In which postcode do you work?
7) In which age group do you belong?
8) Are you employed on a full-time, part-time, or casual basis?

Theme	Rationale	Interview Questions	Annotation
Demographic Relationships	Explore link between experience and employment.	b. Is your preference for full-time, part-time, or causal employment? c. Do you mind sharing why? d. Do (years) experience as a practice nurse have a bearing on the availability of full-time employment? *Expand*	
	Explore the role of education in the practice-nursing role.	b. What are the benefits of formal or vocational educational preparation to your role as a practice nurse? c. Would you like to pursue further educational opportunities? d. (If so) what would you be interested in pursuing and why? e. (If not) would you mind sharing why? f. Do you have access to continuing education in your role? g. (If so) what form does this take and how do you access it? h. (If not) are there any opportunities that you would like to see developed?	
Decision-making	Explore link between experience and decision authority supervisory responsibility.	**Decision Authority** a. Do you make decisions that effect patient care in your daily practice? b. (If so) could you please provide some examples? c. (If not) what decisions are you engaged in as part of your role? **Supervisory Responsibility** a. Do you supervise others as part of your role? b. (If yes) who do you supervise? c. (If no) identify question 5 and explore. d. (If yes) is your supervisory role formally recognised? *Explore*	
	Explore the relationship between decision authority and skill discretion.	**Skill Discretion** a. Please describe the clinical skills your use in your daily work b. Please describe the non-clinical skills your use in your daily work c. What skills do you consider are unique to practice nursing? d. Is the performance of these skills prescribed in protocols or procedural documents? e. (If so) do you have the opportunity to deviate from the protocol or procedure? f. (If so) describe g. (If not) what are the constraining factors? h. Would like greater freedom in the way that you practice skills? i. What factors (educational, professional) would you see as necessary for you to exercise greater freedom in undertaking skills?	
	Explore the function of social support in supporting self-identity through work- explore the potential for differential relationships between participants who do, and who do not supervise others.	**Social Support** a. Do you have a person to turn to if you require support performing your role? b. (If so) do mind sharing whom? c. Can you describe your relationship with this person? d. In what ways do they provide support? e. Do you provide support to others? f. (If so) repeat b, c, and d g. (If not) do you mind sharing why? **Self-identity through work** a. Is it important for you that your role as a practice nurse is recognised by colleagues, supervisors, or the community? b. Do you feel that your role is recognised by others? c. (If so) Who recognises your role? d. (If not) do you feel that is important for role to be recognised? *Expand*	