Nurse Practitioners in New Zealand

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Foreword

Nurses in New Zealand are already providing high-quality care, but the development of the nurse practitioner role offers the potential for more nurses to contribute to health gains, offering a responsive, innovative, effective, efficient and collaborative health care service.

The role also offers, for the first time, a clear clinical career pathway for nurses in clinical practice, and should encourage more highly skilled nurses to stay and work in New Zealand.

The development of the nurse practitioner role has been based on international standards and best practice. Research has clearly shown the positive contribution of nurse practitioners, and there is every reason to believe this will apply in New Zealand.

The vision for the Primary Health Care Strategy includes the development of a high-quality workforce, a focus on better health for the whole population, and a reduction in health inequalities between different groups. As already acknowledged in the strategy document, primary health care nursing will be critical to the implementation of the strategy, and nurse practitioners are ideally placed to provide many of the programmes and services needed to achieve these objectives.

Nurse practitioners advocate health promotion and disease prevention, looking beyond treating the ailment to consider non-medical intervention and encourage self-care. They will also be able to diagnose health problems and, if they choose, prescribe medication. Nurse practitioners will have the opportunity to practise as part of a primary health care team, to lead specialty-focused clinics in community settings, or to establish independent primary health care nursing practices that offer a range of assessment, diagnostic, treatment and support services and clinically manage caseloads in acute settings.

International research shows that nurse practitioners and other health professionals need each other – the current health environment means there are many patients who require a complex array of services, which in turn depend on the knowledge and skills of nurse practitioners and other health professionals. The development of the nurse practitioner should be perceived not as a threat to existing health professionals, but more as an indication of flexibility and the need for complementary health services.

Nurse practitioners provide an innovative way of reaching communities through District Health Boards, and meeting health needs across all sectors in a cost-effective way. I am confident the development of nurse practitioners, with their population focus, will have a positive effect on the quality and effectiveness of health care in New Zealand.

I support the introduction and development of the nurse practitioner role in New Zealand's health sector, and I expect the health sector to embrace the role of the nurse practitioner. The challenge for providers is to ensure that nurse practitioners become a valuable and substantive part of the health workforce.

Hon Annette King
Minister of Health

Preface

Tomorrow is closer than you think (Drucker 2001).

We are all aware that knowledge is playing a greater part in our society than previously. The key source of this knowledge will be the knowledge worker. Just as society has evolved from manual workers and factory workers to the knowledge worker, so too has nursing. The foundations of this are education and innovation. The nurse practitioner is one of the nursing professions key knowledge workers of the future. Nurse practitioners are part of the nursing leadership pipeline, which must be kept open and flowing so that effective utilisation is made of the nursing resource as knowledge workers in health. This pipeline begins with the registered nurse upon graduation with a bachelor's degree and continues through to master's and doctorate-prepared nurses in nurse practitioner roles, nursing academics, nurse researchers, directors of nursing in health services and nursing policy advisors.

The development of the nurse practitioner role in New Zealand is a reflection of several years of planning based on extensive consultation with the nursing sector and the evidence available both in New Zealand and overseas.

Nurse practitioners are the highest level of clinical expert within nursing. They will be prepared at master's level and, over time, many of them will go on to doctoral and post-doctoral studies. This is in response to the rapid changes that are occurring in health care, which need to be reflected in the art and science of nursing as a discipline.

Nurse practitioners will appear in multiple roles in service delivery. Some will take on conventional roles; others will bridge the gap between providers by building new provider team models and practices for safe and effective consumer health care.

The aim – as always – is to provide the highest level of nursing care in order to improve health outcomes, but also to deliver health care to improve access to services, and to provide a new career pathway for nurses in New Zealand. Nurses with extensive clinical experience and education have been leaving the profession or choosing to work overseas, and this new role will contribute significantly to the retention of this clinical expertise.

New Zealand nurse practitioners will improve health outcomes for consumers by complementing the role of other health professionals. Advocating health promotion and disease prevention, nurse practitioners will look beyond treating the ailment and consider non-medical interventions and encourage self-care. They will also be able to diagnose, evaluate and manage health problems, including prescribing and monitoring medication.

Nurse practitioners are not new. They are already practising in the United States, Canada and Europe. In the US they have been providing health care to consumers for several decades. International research shows that nurse practitioner services provide benefits to consumers and to the health sector, including lower costs of care, improved access to care, better management of chronic conditions and reduced secondary illnesses and hospital

admissions. Overseas nurse practitioners have also demonstrated their ability to conduct original research and translate findings into practice and policy.Our health care environment is changing and the opportunity now exists to utilise our nursing workforce more effectively. Nurse practitioners provide an innovative way of reaching communities and meeting health needs across all sectors, as well as building on and complementing existing services. The aim of *Nurse Practitioners in New Zealand* is to assist District Health Boards and other providers and funders of health services to have up-to-date information on the nurse practitioner role so that they can harness it to deliver more effective health services.

Frances Hughes
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Introduction

The nurse practitioner is an innovative role for registered nurses working at an advanced level of practice. They will be an essential and increasing proportion of the future health workforce in New Zealand.

The New Zealand Government's recognition that opportunities exist to improve the effectiveness of the 'experienced' nursing workforce parallels the shift in emphasis to population health needs and primary health care. Using nurse practitioners will be an important part of delivering the Government's priorities for health, as outlined in the New Zealand Health Strategy, Primary Health Care Strategy, He Korowai Oranga – Māori Health Strategy, Pacific Health and Disability Action Plan and other government strategies.

This new role is attractive to both individual health consumers and to employers because the advanced level of nursing practice:

- prevents unnecessary hospital admissions
- targets specific populations or client groups, emphasising health promotion and maintenance, and disease prevention
- builds on existing personal health services, and provides a way of working with consumers preventively
- assists District Health Boards (DHBs) to achieve their objectives
- uses different models of nursing care to lead or collaborate in health care
- allows for the prescription of interventions and authorised medicines within a defined scope of practice.

The nurse practitioner role provides a new career option for nurses, and will contribute significantly to the retention of expert clinical nurses in New Zealand.

Rationale

The development and implementation of the nurse practitioner role in New Zealand's health and disability sector follows a key recommendation in the report of the Ministerial Taskforce on Nursing (1998). Subsequently, in 1999 a consensus conference of wide-ranging nursing organisations (the College of Nurses Advanced Practice Workshop in Palmerston North) agreed to progress the issue of advanced clinical nursing practice.

This document aims to give New Zealand's health and disability sector an understanding of the role of the nurse practitioner, and to provide guidance on the development and implementation of the role in New Zealand. It builds on information presented at a two-day forum, 'Innovation in Health' facilitated by the Ministry of Health together with the Nursing Council in August 2001 to introduce the role of the nurse practitioner, and addresses issues raised by DHBs.

Method

An extensive review of literature was done to develop this document, which was widely consulted on within the nursing profession. It has incorporated the research of Frances Hughes, 2001-2002 Harkness Fellow in health care policy, study of advanced nursing practice in the US and lessons for New Zealand.

International peer review was sought from Dr Julie Fairman and Dr Eileen Sullivan-Marx at the University of Pennsylvania's School of Nursing and Center for Health Services and Policy Research respectively, to ensure that the document is an accurate and appropriate reflection of available international research and evidence.

Key principles

The development of the nurse practitioner role in New Zealand is based on the following guiding principles.

- Nurse practitioners work towards health gain to address and reduce inequalities and inequities in health. In the New Zealand context, this includes addressing the health needs of Māori and Pacific peoples.
- The nurse practitioner is the most advanced level of clinical nursing practice.
- The role of the nurse practitioner is centred on patient and population needs and improving health outcomes.
- Nurse practitioners should continue to evolve in response to changing societal and health care needs.
- Population health status will drive the provision of nurse practitioner services.
- It is acknowledged that development of the role of the nurse practitioner challenges the traditional boundaries of nursing practice.
- The role of the nurse practitioner will mostly complement the role of other health professionals but will inevitably overlap in some areas. This will enable substitution between groups to occur and thus promote efficiency and flexibility in the use of valuable resources.
- Nurse practitioners, like registered nurses, are autonomous practitioners like other expert health professionals and do not require supervision of their practice by other disciplines. Nurse practitioners have a defined scope of practice and substantial clinical expertise in their chosen scope, and are certified to practise as nurse practitioners by the Nursing Council of New Zealand.
- The practice of nurse practitioners, like other registered nurses is based on collaboration and colleagueship, which has been defined as 'interprofessional relationships between the nurse practitioner and other health team members based on:
    - concern for mutual goals
    - equality in such dimensions as status, power, prestige, and access to information
    - diversity in expertise, skills, knowledge and practice.

This translates into a practice environment where joint decision-making occurs, with the overriding goal of better health care uniting the professions, rather than controlling each other's practice' (Hughes 2002).

Historical context

The report of the Ministerial Taskforce on Nursing (1998) focused on the untapped potential of the nursing workforce. It concluded that, to release this potential, nurses[1] needed to:

- use their knowledge and skills more effectively
- pioneer innovative service provision
- enhance the access to, and quality of, primary health care
- contribute positively to health gain.

The taskforce highlighted the existence of increasing numbers of highly educated and skilled nurses in practice, with advanced clinical and leadership competencies. In the public health system the most visible of these nurses work in multidisciplinary teams and/or in acute care settings, such as neonatal units and emergency departments. An example of advanced practice in the private sector would be primary health care nurse practitioners working in occupational health who tailor their practice to the specific context of the workplace.

The taskforce considered that diverse factors worked against the best utilisation of nurses, including poor access to postgraduate education, legislative and funding barriers, and the conditions under which many nurses practise.

These and other factors were identified as inhibiting the effective development and utilisation of nurses with advanced competencies, and the ongoing development of clinical career options. The taskforce recommended the development of a 'nurse practitioner' role in New Zealand to provide highly skilled care, co-ordination of particular patient groups across the hospital/community interface, and a high level of family health care service.

Overseas, nurse practitioners have become a significant part of the health sector workforce, where they are often seen as 'boundary spanners' – experts who interface between service providers. This trans-boundary model and style of working differentiates their service, and ultimately demonstrates differences in health outcomes for their client population or client group.

The nurse practitioner role is attractive to consumers, the health care team, and service managers because it offers an approach that not only builds on existing personal health services, but also provides a way of working with consumers in many different models to deliver the highest level of clinical nursing care.

[1] For the purposes of this document 'nurses' means 'registered nurses'.

Defining nurse practitioners

The Nursing Council will recognise registered nurses as nurse practitioners when they have:

- a clinically focused master's degree or equivalent
- met Nursing Council assessment criteria and competencies
- have four to five years' experience at an advanced level in a specific scope of practice.

What is a scope of practice?

A scope of practice is how a nurse practitioner describes his or her practice. It includes reference to the population service group (eg, mental health, primary health care) in which the nurse practitioner is certified to practise. Within this scope, the nurse practitioner provides services targeted at a specific population or client group – such as children, youth, adults, older persons or an immigrant community.

Nurse practitioners are qualified to make independent and/or collaborative decisions in partnership with individuals, families/whānau or communities. They may act as the regular health care provider for their client group. Their practice will emphasise health promotion and maintenance and disease prevention as core activities.

Other nurse practitioners may be qualified in acute care (eg, intensive care, anaesthetics, neonatal). Their care, professional practice and critical thinking will emphasise advanced assessment, treatment skills and clinical management skills consistent with best practice for patients in specialised tertiary-level services.

Nurse practitioners are competent to:

- obtain health histories and perform physical examinations
- diagnose and treat acute health problems such as infections and injuries
- case manage clients with highly complex chronic conditions, assisting them to access services to keep them in their homes and family environment
- diagnose, treat and monitor chronic diseases such as diabetes and hypertension
- undertake clinical management and monitoring of treatment regimes
- order, perform and interpret diagnostic studies such as laboratory test results and X-rays
- prescribe medications and other treatments within their scope of practice
- provide family planning and women's health services
- provide wellchild care, including screening and immunisations
- provide health maintenance care for adults, including annual physical checks
- provide care that is culturally appropriate and specific for Māori

- promote positive health behaviours and self-care skills through education and counselling
- collaborate with other health professionals as needed
- refer to other health professionals as necessary
- accept referrals from other health professionals.

Where do they practise?

The scopes of practice and client focus will determine the choice of work settings. Nurse practitioners will work between provider groups in both rural and urban settings, including:

- community health centres
- Māori health providers
- marae
- public health services
- hospitals and hospital clinics
- school and university/polytechnic student health clinics, including kohanga reo
- Pacific providers
- workplaces (occupational health)
- general practices or any specialist clinics
- nurse practitioner centres/offices
- rest homes and hospices
- home health care agencies.

How effective is their practice?

International studies provide the opportunity to analyse the clinical and financial effectiveness of nurse practitioners. This research consistently demonstrates that the performance of nurse practitioners is at least comparable with that of medical practitioners in quality, access to care and cost. The literature highlights the limitations of constantly comparing nurse practitioners with medical practitioners. Even though some competencies are shared, this constrains nurse practitioners and also reinforces the ideology that nursing is a part of medicine (Bates 1982). Nurse practitioners offer a different approach derived from the art and science of nursing, which focuses on patient and family response to health and illness in the context of daily life.

There is no evidence to show that nurse practitioner services are detrimental to consumer care. Numerous peer-reviewed journal articles and studies on nurse practitioners have been published over the last 50 years, including government reports. We have chosen a selection of literature for this document and suggest wider reading if further evidence or information is required. Many researchers suggest that it is time to move beyond comparative safety-oriented nurse practitioner research, as there is no longer any need for this. Instead, the focus of nurse practitioner practice should be on health outcome research (Hughes et al 2002).

Lewis and Resnick (1967) analysed the patient care outcomes from a nurse-led clinic primary health care service for adults with chronic illness. The results showed a significant reduction in the frequency of complaints, a marked reduction in the number of patients seeking out doctors for minor complaints, and a shift in the preference of patients towards nurses performing certain functions. The researchers concluded that the nurses provided to patients with uncomplicated chronic illness competent and effective care comparable with that of physicians in outpatient clinics, and that this care was based on patient need rather than physician prerogative.

Fall et al (1997) evaluated the benefits and costs of a nurse-led ear care service in Rotherham and Barnsley in Britain. They concluded: 'Nurses trained in ear care reduce costs, general practitioner workload and the use of systemic antibiotics, while increasing patient satisfaction with care. Such care provided by nurses is an example of how expanded nursing roles bring benefits to general practice.'

A large trial to compare outcomes for 1316 patients randomly assigned to nurse practitioners or physicians for primary health care follow-up and ongoing care after an emergency department or urgent visit was undertaken at the Columbia Presbyterian Centre of New York's Presbyterian Hospital between August 1995 and October 1997 (Mundinger, et al 2000). This large study concluded that 'where nurse practitioners had the same authority, responsibilities, productivity and administrative requirements and patient population as primary care physicians, patients' outcomes were comparable.'

In 1986 the US Federal Office of Technology Assessment released a case study in response to a request by the Senate Committee on Appropriations (Office of Technology Assessment 1986). The study assessed the contributions of nurse practitioners, certified midwives and physician assistants in meeting the nation's health care needs. It relied on the analysis of a large number of studies that had independently assessed the quality of care by process and outcome measures, plus patient satisfaction indicators and physician acceptance. It concluded that, within their areas of competence, nurse practitioners provide care of equivalent quality to that provided by physicians. (Even though nurse practitioners are here compared with physicians, it is important that this comparison is not overemphasised, for the reasons given earlier).

A 1998 study analysed the competencies of accident and emergency (A & E) nurse practitioners assessing X-rays (Meek et al 1998). Researchers studied A & E units at 12 hospitals, involving 58 nurse practitioners, 43 experienced senior house officers (SHOs) and 41 inexperienced SHOs. They concluded that nurse practitioners in A & E are as good as experienced SHOs at assessing X-rays, and better than less experienced SHOs.

A 1997 US report on primary health care workforce by the Council of Graduate Medical Education and National Advisory Council on Nurse Education and Practice found that there were differences in the care that nurse practitioners offer compared with primary care physicians. 'Nurse practitioners excel in providing preventive care, counselling, patient education, management of chronic illness, and follow up care.' Primary health care physician services were found to be better at treating complex medical cases (Department of Health and Human Services 1997).

Research on the cost effectiveness of nurse practitioners

The research clearly supports the positive and cost-effective contribution of the nurse practitioner model for clients, employers and purchasers of health care services.

For example, Appleby (1995) concluded that 'nurse practitioners (NPs) are a proven response to the evolving trend towards wellness and preventative healthcare driven by consumer demand, WHO strategy *"Health For All"*, and the rising costs of health care, particularly secondary and tertiary care. Health promotion services increase the effectiveness of recovery and reduce the number of repeat episodes of illness. NPs cost 40% less than physicians and are particularly cost-effective in preventative care with their expertise in counselling, patient/client education and case management.'

The US Department of Health and Human Services reported that the cost of an office visit to see a nurse practitioner ranged from about 10 to 40 percent less than the cost for comparable primary care services provided by a physician (Fitzgerald et al 1995).

In Tennessee's state-run managed care organisation, TennCare, nurse practitioners delivered health care at a cost 23 percent below the average cost of other primary providers, with a 21 percent reduction in hospital inpatient rates and a laboratory utilisation rate 24 percent lower than that of physicians. They wrote 42 percent fewer prescriptions than other providers. The data suggests that nurse practitioners demonstrated above-average performance in cost-efficiency while delivering top quality health care (Spitzer 1997).

Hummel and Pirzada (1994) showed that, when compared with the cost of teams made up solely of doctors of medicine (MDs), the overall costs of using an MD/NP team in a long-term care facility were 42 percent lower for immediate and skilled-care residents and 26 percent lower for long-term residents. The study also showed significantly lower rates of emergency room transfers, hospital length of stays and specialty visits for patients covered by MD/NP teams.

A year-long US study compared a physicians-managed family practice and a nurse practitioner-managed practice within the same managed care organisation. It found that the nurse practitioner-managed practice had 43 percent of the total emergency room visits and 38 percent of the inpatient days of the physician-managed practice. Similarly, the nurse practitioner's total annualised per-member monthly cost was approximately half that of the physician-managed practice (Jenkins and Torrisi 1995).

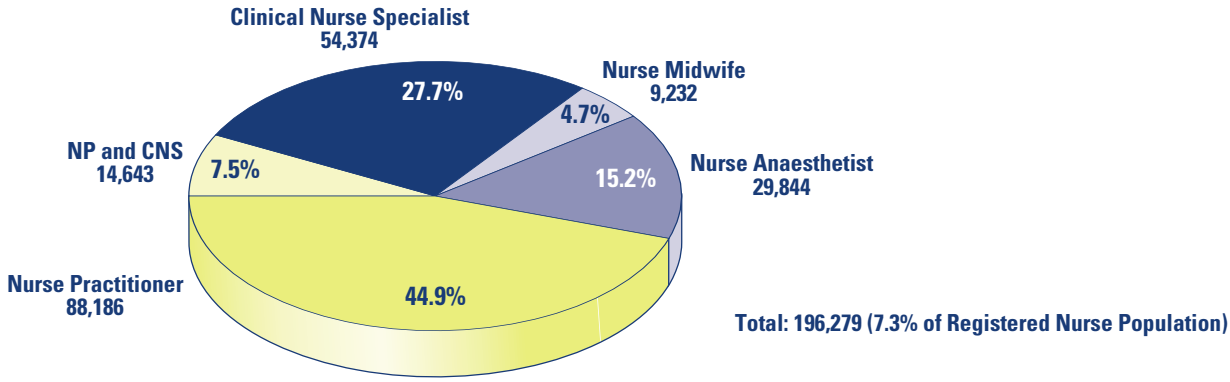
US insurance companies are now moving into team-based and independent practitioner approaches as pilot studies show financial benefits. At the federal level, the Balanced Budget Act 1997 allows for Medicare to directly reimburse nurse practitioners in all parts of the country. The Consolidated Health Association for Military Personnel, United States (CHAMPUS) and the Federal Employee Health Benefit Program also allow for federal reimbursement of nurse practitioners. At the state level, nurse practitioners may currently be independently reimbursed, prescribe medicine and admit patients to a hospital when working in collaboration with – or, in many cases, independently of – physicians (Safreit 1992).

With a changing health care system, nurse practitioners are in a prime position to deliver appropriate, acceptable and cost-effective health care as independent providers. A cost analysis by the State University of New York compared the provision of services at a nurse practitioner-managed centre for homeless clients with other community alternatives. The study showed earlier and less costly intervention by the nurse practitioner-managed centre (Hunter et al 1999).

In March 2000, there were an estimated 102,829 nurse practitioners, including certified registered nurse anaesthetists, clinical nurse specialists, nurse practitioners and nurse midwives in the US (Spratley et al 2000). Figure 2.1 shows the proportion of nurses prepared for each level of advanced nursing practice in the US.

Nurse practitioners are recognised in all US states and have legislated authority to prescribe in 47 of them. US nurse practitioners have separate malpractice insurance, are recognised as independent providers by many insurance funds, and in 1997 were granted independent primary health care funding rights by Medicare. The report by the US Federal Office of Technology Assessment (1986) estimated that 60 to 80 percent of primary health care services could be performed by nurse practitioners with similar results and at a lower cost.

Figure 2.1: Registered nurses prepared for advanced practice in the United States, March 2000



Source: Spratley et al 2000

Research on patient satisfaction

Venning et al (2000) reported that patient satisfaction is an important component of nearly all studies looking at the role of nurse practitioners, and that patients generally report high levels of satisfaction with nurse practitioner care (South Thames Regional Health Authority 1994; University of Newcastle upon Tyne Centre for Health Services Research 1998; NHS Executive 1996; Reveley 1998; Office of Technology Assessment 1986).

Reports on two nurse-led primary health care practice projects in the United Kingdom found high levels of patient satisfaction. Patients had the choice to see a general practitioner or a nurse practitioner, and up to 60 percent of patients chose to see a nurse practitioner (Dobson 1999).

Kinnersley et al (2000) sought to ascertain any differences between care from nurse practitioners and that from general practitioners for patients seeking 'same day' consultations in primary health care. The study concluded that, in general, patients consulting nurse practitioners were significantly more satisfied with their care, and patients managed by nurse practitioners reported receiving significantly more information about their illnesses.

What are the new models of care delivery?

The advanced practice and theoretical education of the nurse practitioner will enable independent or collaborative models of care to be developed in hospitals and the community, and between both environments. Nurse practitioners will provide a wide range of assessment, treatment interventions, health promotion and disease management including differential diagnoses, ordering, conducting and interpreting diagnostic and laboratory tests, and administering therapies in response to the actual and potential needs of the individual, group or family/whānau.

The development of the nurse practitioner workforce is a pivotal opportunity for DHBs to develop new models of care delivery that will improve the health status of their local populations. The nurse practitioner has an important role to play in improving health outcomes for Māori consumers.

The role of the nurse practitioner will support the Pacific model of health care because:

- the Pacific model of health is community focused (Ministry of Health 2002)
- nurse practitioners will allow and encourage ease of access to primary health care and contribute significantly to improving health outcomes for Pacific peoples.

Many possible models of care exist, some of which include nurses with prescribing rights. A summary of the four generic models is given below (full details appear in Appendix 2).

Model 1: Integrated nursing teams

A team of nurses and nurse practitioners provides, co-ordinates and manages health promotion and disease prevention across the continuum of care.

For example, integrated primary health care nursing teams working out of primary health organisations and providing risk assessments, first-contact care, case management of clients with chronic conditions, and services for whānau, hapū, iwi and Māori communities.

Model 2: Nurse consultancy

The nurse practitioner works independently and refers clients to other health professionals, where required. Collaborative practice arrangements and care decisions may also dominate.

For example, within hospital settings, between primary and secondary, and secondary and tertiary, health care services, or between non-government organisations. Provides leadership to nurses and referral to other disciplines.

Model 3: Independent practice

Nurse practitioners are self-employed and establish their own independent practices offering care and services direct to the public.

For example, nurse practitioners contract themselves to provide services to other agencies, hospitals, primary health organisations, non-government organisations, direct to clients.

Model 4: Nurse practitioner speciality services/clinics

The nurse practitioner is the recognised lead health professional within the health care team for establishing and managing specialty clinics/services for a particular health specialty and/or population group.

For example, pain management, anaesthetists, wound management, rehabilitation, disease management.

What is the difference between a nurse practitioner and a clinical nurse specialist?

It is envisaged that clinical nurse specialists will be senior nurses who are developing their specialty practice and undertaking advanced preparation. Some nurses will choose to remain as clinical nurse specialists, and this provides a specialist support for nurse practitioners.

Examples of the clinical nurse specialist in New Zealand include diabetes nurse specialists, respiratory nurse specialists and pain nurse specialists.

In the US, the clinical nurse specialist may also provide clinical practice support and systems to support nursing in the wider nurse practice environment. The nurse practitioner is the primary patient manager and has total responsibility for admission and discharge of patients. There has been a significant reduction in education programmes for clinical nurse specialists in the US, while education programmes for nurse practitioners have increased (Hughes 2002).

Collaboration with other health professionals

The practice of nurse practitioners is based on collaboration and colleagueship, which has been defined as 'interprofessional relationships between the nurse practitioner and other health team members based on:

- concern for mutual goals
- equality in such dimensions as status, power, prestige, and access to information
- diversity in expertise, skills, knowledge and practice.

This translates into a practice environment where joint decision-making occurs with the overriding goal of better health care uniting the professions, not controlling each other's practice' (Hughes 2002).

As nursing and other professional disciplines have evolved over time, boundary issues have developed. Birenbaum (1990) describes how 'any role expansion will inevitably involve conflict if it is perceived as threatening to another profession's traditional tasks and prerogatives'. All health professionals should discuss and clarify what they define as collaborative practice within their teams and between themselves as autonomous practitioners. This is important not only to achieve the desired health care goals of the consumers in their care, but also to avoid conflict and disputes over accountability, sharing of revenue and scope of practice.

A public battle over these issues is not in the patient's best interest (Krieger 1994). Conflict does not always have to occur; autonomy and collaborative teamwork can go together. Research by Rafferty et al (2001) into teamwork and professional autonomy among 10,022 staff nurses in 32 hospitals in England found that nursing autonomy was positively correlated with better perceptions of the quality of care, and delivered higher teamwork.

Nurses with higher teamwork scores also exhibited higher levels of autonomy and were more involved with decision-making. The researchers concluded that organisations should therefore be encouraged to promote nurse autonomy without fears that it might undermine teamwork (Rafferty et al 2001).

The evolution of scopes of practice thus requires reorganisation of traditional systems of work. Collaboration is about different professionals articulating their work as they put their talents together in pursuit of a common goal. While nurse practitioners or other health professionals may work independently at times, collaboration can still occur when client issues and needs demand it. Collaboration is therefore borne out of the need to produce concerted, synchronised effort in a mutual concern for consumers and family/whānau (Hughes 2002).

The nature and structure of this collaboration will vary. In the least complex arrangement, a nurse and another health professional may share responsibility for all or part of the care of a particular population group. In a more complex arrangement, nurse practitioners and other health professionals may have formal clinical meetings and together are acknowledged as the 'team'. Whatever the collaboration arrangements responsibility for client care is ongoing and may be shared or sit with one practitioner. If shared this means equality in making decisions about the needs and problems of patients, and equity in distribution of rewards.

The American Medical Association believes nurse-physician relationships should be founded on 'mutual respect, collaboration and co-operation' (Formica 1994). Supervision requirements in the US historically occurred as a result of a cost containment strategy, and power issues of medicine over nursing. In New Zealand, we do not support this supervision model and will not require nurse practitioners who meet the Nursing Council's requirements to function under supervision.

Regulation of nurse practitioners

The role of the Nursing Council of New Zealand

The Nursing Council of New Zealand has developed a framework for the regulation of the nurse practitioner (Nursing Council 2001a). This framework includes the competencies, education requirements and process the Nursing Council applies to assess applicants seeking 'nurse practitioner' status.

The Nursing Council is the statutory body under the Nurses Act 1977 responsible for registering all nurses, including nurse practitioners. This Act ensures that the New Zealand public receives safe and competent care from nurses and midwives. Employers also have statutory obligations to ensure that services are delivered by appropriately qualified staff competent to deliver safe care.

The following sections summarise the key aspects of the nurse practitioner regulatory framework (the complete document is available on the Nursing Council's website: www.nursingcouncil.org.nz).

Broad scopes of practice

Seven broad scopes of practice have been developed by the Nursing Council:

- mental health
- disease management
- perioperative
- palliative care
- emergency and trauma
- primary health care
- high dependency.

Within these broad scopes, candidates will identify their area of practice by delineating their specialty, or their sub-specialty, population or client group. The resulting matrix of potential scopes for New Zealand nurse practitioners is shown in Table 3.1.

Table 3.1: Areas of specialisation within scopes of practice

Practice scope	Infant	Child	Adolescent	Adult	Aged	Māori	Pacific peoples	Immigrant communities
Mental health								
Disease management								
Perioperative								
Palliative care								
Emergency and trauma								
Primary health care								
High dependency								

Source: Nursing Council of New Zealand (2001)

This matrix is derived by combining life span, population focus or specialty nursing practice areas into a flexible system which is consistent with the complexities of health service delivery and the future direction of the health sector.

Competencies for practice

The generic categories are that the nurse practitioner:

1. articulates the scope of nursing practice and its advancement
2. shows expert practice working collaboratively across settings and within interdisciplinary environments
3. shows effective nursing leadership and consultancy
4. develops and influences health/socioeconomic policies and nursing practice at a local and national level
5. shows scholarly research inquiry into nursing practice
6. prescribes interventions, appliances, treatments and authorised medicines within the scope of practice.[2]

The specific criteria for each of these categories are detailed in Appendix 1.

[2] Competency 6 is specific to nurse practitioners seeking prescribing rights.

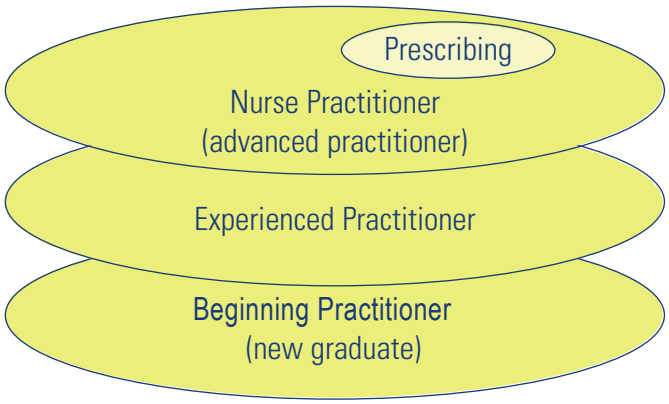
Education requirements for practice

The Nursing Council's minimum requirements for approval as a nurse practitioner are:

- a clinically focused master's degree or equivalent
- four to five years' experience in the relevant scope of practice.

In addition, satisfactory completion of an approved pharmacology course will be mandatory for nurse practitioners seeking prescribing rights (see 'Policy framework for the nurse practitioner role' page 25). The advanced status of the nurse practitioner in relation to other categories of nurses is illustrated in Figure 3.1.

Figure 3.1: The nurse practitioner framework



Source: Nursing Council 2001a (modified version)

A clinically focused master's degree and the minimum experience threshold of four to five years will enable nurse practitioners to incorporate the appropriate theoretical knowledge and practice knowledge in their clinical decision-making. It is this sophisticated level of integrating and applying implicit and explicit knowledge to a clinical decision that differentiates the *'nurse practitioner'* from the experienced practitioner.

Accountability

Nurse practitioners will be able to function as autonomous practitioners, and accordingly are accountable to the public for health care outcomes.[3] The Nursing Council has indicated (Nursing Council 2001a) that ensuring the highest quality of care requires:

- certification
- periodic peer review
- clinical outcome evaluations
- a code of ethical practice
- evidence of continuing professional development
- maintenance of clinical skills.

[3] Health care outcomes include cost-effectiveness, functional outcomes, clinical outcomes and patient satisfaction.

Transition

The Nursing Council estimates that it will take over a decade to see the full implementation of the nurse practitioner model in New Zealand (Nursing Council of New Zealand 2001a). During this transition phase, the Nursing Council will consider all qualifications and experience of registered nurses applying to it for approval to practise as nurse practitioners. From 2010, a full master's degree will be required before the Nursing Council will certify a registered nurse to practise as a nurse practitioner.

Currently, some practising registered nurses with significant clinical expertise and master's-level education could meet the Nursing Council's requirements for registration as a nurse practitioner.

In addition, it is envisaged that overseas nurse practitioners coming to New Zealand will meet these requirements.

Implementation of the nurse practitioner role

The Nursing Council's approval process for nurse practitioners is in place.

The Ministry of Health expects that the nurse practitioner workforce will increase incrementally as DHBs focus increasingly on population health, primary health care and community care, and when the necessary education programmes and regulatory processes become established. The Ministry is beginning this process by encouraging DHBs to develop a plan for progressing the development of the nurse practitioner role.

Employing nurse practitioners

Professional and employment relationships between nurse practitioners and DHBs will vary. Nurse practitioners could be:

- direct employees of the DHB, employed to develop new services in acute hospital outpatient[4] and community settings owned and provided by the DHB
- employees of primary health organisations (PHOs) or private providers contracted to provide services to a specific population encompassed by the PHO
- professionally independent, and have no employment relationship with either a DHB or a PHO
- employed in locum positions between services in the DHB provider arm or within the private sector.

It is important that no artificial barriers are placed around the ability of the nurse practitioner to practise.

Irrespective of the nurse practitioner–employer relationship, the DHB is the sole planner and funder of most of the public and private services required by the populations in their geographical catchment area. In this capacity, DHBs have the responsibility to ensure that they contract for services, and/or fund services, from providers who have the appropriate capability to provide quality, safe and cost-effective services.

The Ministry of Health therefore believes that the funding to develop and support the nurse practitioner role will come from a number of direct and indirect sources.

Direct sources of funding include DHBs, which individually or collectively can develop funding proposals and budgets to support the development of the nurse practitioner workforce in their DHB or region.

[4] Ministry of Health, Nationwide Service Framework Data Dictionary V.8: National Hospital Specific and Public Health Purchase Units for Services Provided by DHBs (4/7/01).

Indirect sources could include the following.

- Cost savings generated from initiatives to strengthen the current nursing workforce. Turnover of nurses in DHBs is high – currently about 19 percent.[5] One area of savings could be collaboration on recruitment and retention strategies.
- An improved nursing skill mix within DHBs. This is consistent with the development of a nationally accepted clinical career path for nurses in clinical practice. Reward and remuneration structures will have to be aligned with the new competency and credentialling processes. Improvements in career options and pathways should lead to a reduction in the number and use of casual or agency nurses, improved job satisfaction, and role enhancement opportunities for experienced staff.
- Improved access to primary health care. Improvement in the long-term management of chronic disease and a focus on prevention of long-term complications will enable cost savings.
- Savings in medical staff costs in some areas. As seen on page 6, 'How effective is their practice?' nurse practitioners provide safe and cost-effective assessment, treatment and care within their scope of practice. A core competency includes referral to medical specialists when necessary. Many options exist to increase the number of nurse practitioner-led clinics in a range of medical specialties and/or population groups. The DHB Nationwide Service Framework includes recognition for future nurse practitioners to conduct outpatient first specialist assessments in a ward, outpatient clinic and perioperative services including anaesthetics. In addition, a specific purchase unit defines the price payable for nurse-led outpatient (specialty) clinics.

Nurse practitioners will also have a significant role in other environments, such as non-government organisations, private hospitals, rest homes and aged care.

Nurse practitioners and DHBs

Legislation and the associated regulatory and policy frameworks necessary to establish the nurse practitioner role in New Zealand are being developed by the appropriate central agencies.

DHBs will benefit from developing the structures, processes and policies necessary to create the working environment in which a sustainable nurse practitioner workforce can grow. In doing so, DHBs may have to manage some significant challenges. As highly skilled and well-educated professionals, nurse practitioners will expect to be appropriately rewarded and resourced to undertake their advanced scope of practice.

DHBs will want to be assured that nurse practitioners are offering effective services. A method to monitor and evaluate health gain against cost is likely to be required before (or alongside) the establishment of such services.

[5] Ministry of Health estimate at June 2001 based on information provided by DHBs.

An increasing volume of literature, tools and frameworks is available to help this, including measurements of:

- nursing workloads
- the relationship between nurse staffing and patient outcomes (eg, Needleman et al 2001; Aiken, Clarke and Sloane 2001; Aiken et al 1994)
- acuity assessment
- cost-effectiveness of nurse practitioners (see 'How effective is their practice?' on page 6).

These measures could provide a sound base of evidence for a balanced scorecard model.

Increasingly, DHB service agreements will reflect advances in the utilisation of experienced nurses. This will enable providers to broaden the range of services and models of care delivery that appropriately qualified nurse practitioners can support. Consequently, DHBs will utilise their current nursing resources more effectively, and establish a solid foundation for a strong nurse practitioner workforce in New Zealand.

Organisational coding mechanisms

Nurse practitioners in New Zealand will need to have their own coding lines in all organisations in which they work and DHBs will need to develop appropriate mechanisms. This will be reflected in the DHBs' Crown Funding Agreement with the Ministry of Health.

In the US, Public Law 105-33, which is part of the Balanced Budget Act 1997, enhanced the recognition of nurse practitioners as key providers of health care services (Richmond et al 2000). They are now directly reimbursed by Medicare for provision of services regardless of the geographical location or site.

Richmond et al (2000) consider that acute care nurse practitioners must take advantage of this opportunity to secure direct reimbursement, because:

- evidence demonstrates the high quality of care and patient satisfaction with nurse practitioners (Safriet 1992; Office of Technology Assessment 1986) and direct reimbursement will promote direct access of patients to the services of acute care nurse practitioners
- income produced for professional practice is a classic manifestation of professional worth
- direct compensation provides tangible recognition of a nurse practitioner's professional standing, which contributes to professional satisfaction and peer recognition
- organisations and individual professional practice plans gain when acute nurse practitioners can independently and interdependently manage patients and be reimbursed for those services, often increasing the number of patients that can be managed within a practice.

There is a persistent view that nursing is a labour cost rather than a significant human resource pivotal to the quality and cost-effectiveness of health care. Coding mechanisms for nurse practitioners in all areas of practice will:

- provide tangible recognition of their professional standing
- ensure that their effect on patient outcomes can be evaluated
- allow for work that is undertaken by nurse practitioners which can also be done by another health practitioner (commonly known as substitution) to be shown where it occurs, meaning that cost-effectiveness can be clearly demonstrated (Hughes and Sullivan-Marx 2002).

Lessons from abroad – development of the nurse practitioner role in the US

The US is recognised as the birthplace of the nurse practitioner. The role was established there in the early 20th century, first with registered certified nurse anaesthetists and later with clinical nurse specialists, nurse midwives and primary care nurse practitioners. In the last few years, the number of tertiary hospital nurse practitioners has increased. There is not only substantial literature and research on the practice of nurse practitioners, but also a large growth in demand for their services.

The arrival of the nurse practitioner has been timely for minority groups. In the US, nurse practitioners first served minority groups, and today in some areas they are served only by nurse practitioners. There is hence a tremendous potential for nurse practitioners in New Zealand to meet the health care needs of population groups such as Māori and Pacific peoples.

New Zealand can learn from the development of nurse practitioners, especially in areas where currently barriers impede their effective utilisation. These barriers can be grouped as cultural beliefs in health care; professional; legislation; and funding/reimbursement (Hughes and Sullivan-Marx 2002; Hughes et al 2002).

Cultural beliefs in health care

This barrier stems from the overwhelming ideology that the physician is the centre of all health care and the only authority in the health care team. This is reinforced by direct consumer advertising throughout the US, whereby consumers are advised that they should go to their physician for prescriptions, services and so on even though many other health professionals are well trained and eminently capable of delivering an enormous array of health care services (Christensen 2000; Starfield 1991).

Professional

This barrier results from a lack of understanding in other health care professions of the nurse practitioner role. It can be attributed partly to the fact that most other professional groups (medicine in particular) have not trained or practised with a nurse practitioner: 'If they do not know they will seldom be supportive' (Office of Technology Assessment 1986). Over the last decade, as the number of nurse practitioners has grown, more physicians have been exposed to them and support has been increasing. It is important that other groups are encouraged to understand the role of the nurse practitioner and also that meaningful discussion occurs about the complementary and substitutive nature of each other's roles.

In the process of developing clinical guidelines and accreditation standards in health services, often the full range of providers is not considered. It is therefore important that, as a more evidenced-based approach is developed, all evidence from all providers is included (Gosfield 1994).

Legislation

In the US there are both federal and state jurisdiction issues for nursing. This can translate into nurse practitioners practising quite differently state by state. Treating a child with an ear infection, for example, will differ accordingly. Although an ear is an ear is an ear, some states demand supervision by MDs while others do not; some allow nurse practitioners to treat consumers in rural but not in urban areas. This variation in practice settings goes further in some instances. Scope of practice and prescriptive authority may vary according to the provider; that is, nurse practitioners working in not-for-profit agencies can do more than for-profit agencies. This has a great deal to do with the power of the medical lobby groups (Group and Roberts 2001) and is the subject of ongoing debate (Pearson 2002).

Privileging and credentialling by employers in the US have proved disadvantageous for nursing. Although legislation in some states enables nurse practitioners to prescribe without supervision, medical review boards in individual hospitals, for example, have restricted their practice. Therefore privileging them has occurred sporadically and the supervision requirements have been a mechanism to satisfy MDs and insurers. This means that the client's access to nurse practitioners is restricted by artificial barriers.

Reimbursement and funding

There has been a long battle to ensure that nurse practitioners receive payment for the services they deliver. This occurs through various mechanisms and the Balanced Budget Act 1997 enabled them to be paid directly and equally. However, still more movement is required so that nurse practitioners can be acknowledged as equal service providers with other health professionals.

In the US, payment is made to health care providers through Medicare, Medicaid or third-party insurers for each person according to different service codes. Payment covers the cost of a defined package. Nursing historically was not costed, as it has always been viewed as either an overhead or part of someone else's services. Some health maintenance organisations, which are capitated, have limited the number of providers and therefore do not offer nurse practitioner services. This in turn restricts patient choice. Consequently, if governance structures do not understand nurse practitioners and their services, or if they are very medically dominated, then nurse practitioner services will not be offered (Hughes 2001).

Nurse practitioners are realising the importance of ensuring that the work they do is captured in information systems – not only for payment, but so no other practitioner can claim recognition for the work and outcomes they achieve.

Learning the lessons

New Zealand can learn a great deal from these barriers in the US, and not repeat them. In New Zealand, nurse practitioner scopes are deliberately broad and are based on population groups and on best practice within their scope of practice rather than on settings. This prevents the mental health or primary health care nurse practitioner, for example, from experiencing large variations in practice as a result of whom they work for and where they are located. The New Zealand consumer in Kaitaia will get the same quality of nurse practitioner service as in Wellington. The continued evolution of nurse practitioner practice must be based on consumer needs reflected in the scope of practice and not on other practitioner's beliefs.

The legislation and regulations for the nurse practitioner are enabling. They require evidence of safety to practise from the Nursing Council, inherent in which are best practice and advanced knowledge and skills. Supervision of nurse practitioners by another discipline is not required. It is important that employers of nurse practitioners ensure that artificial barriers do not restrict the ability of nurse practitioners to provide direct consumer care as they have been educated to do (Hughes and Sullivan-Marx 2002; Hughes et al 2002). In addition, nursing leadership should be part of the policy and decision-making process regarding nurse practitioner policies in organisations, coding mechanisms, and resource allocation (see 'Nurse practitioners and DHBs', page 20).

Policy framework for the nurse practitioner role

Prescribing

Prescribing will be a very important tool for nurse practitioners in treating their clients. Even though they can choose whether or not to prescribe, it is envisaged that most scopes will require them to be educated and approved to prescribe. Over time as regulations are made for different scopes and the role is established, it is envisaged that in future all nurse practitioners will need to meet prescriptive competencies. Without the ability to prescribe, nurse practitioners may be placing barriers for consumers and also affecting the quality of care. For example, nurse practitioners working in perioperative anaesthetics must prescribe prescriptive medicines to fulfill the role and nurse practitioners in rural areas will need prescribing rights to ensure patient safety and adequate consumer access to services. Nurse practitioner prescribers will provide an important vehicle for nurses to advance practice and care to the public. The introduction of nurse practitioner prescribing will improve access to services and patient education, and reduce secondary illnesses and hospital admissions.

Regulations

The Medicines Act 1981 was amended in 1999 to enable the making of regulations to allow nurses and other registered health professionals (eg, optometrists, pharmacists) to prescribe a specified list of medicines.

Cabinet has approved the first set of regulations allowing nurse practitioners in aged care and child family health to prescribe a specified list of prescription and controlled medicines if they have met the Nursing Council's nurse practitioner competency requirements.

The regulations:

- define the scopes of practice
- specify the competency and training requirements nurses must satisfy to be authorised to prescribe
- prohibit nurses who fail to comply with those requirements from prescribing.

In addition to the medicines listed in the regulations, nurse practitioners who are approved to prescribe will be able to prescribe a specified list of general sale, pharmacy-only and restricted medicines which receive a patient subsidy.

A complete list of all the subsidised medicines nurses in aged care and child family health will be able to prescribe will be listed in the Pharmaceutical Schedule. The Ministry of Health and PHARMAC will be responsible for working together to ensure that the list remains up to date. It will also specify any restrictions on prescribing, such as the dose or means of administration of a particular medicine.

Education

Course content for education programmes in prescribing will include advanced nursing practice skills, best practice evidence, clinical assessment, differential diagnosis, infectious diseases, microbiology, pharmacology, physiology, prescribing practice, vaccination and virology.

Nurse prescribing education programmes will be at master's level and subject to Nursing Council approval, and lead to a tertiary qualification approved by the New Zealand University Vice Chancellors' Committee, New Zealand Qualifications Authority and the Council of University Academic Programmes.

Approval of nurse practitioners who wish to prescribe

After successfully completing a recognised prescribing qualification, individual nurses will need to present their portfolios to a multidisciplinary panel established by the Nursing Council. This panel will assess each portfolio against the necessary competencies to become a registered nurse prescriber.

The Nursing Council will consider applications for prescribing rights on a case-by-case basis. Some overseas-trained nurses may meet the competencies required without the need for further education.

The Nursing Council will certify nurse practitioners using processes under the Medicines Act 1981.

Post-implementation review

A review of the costs and benefits of nurse practitioner prescribing will be undertaken over a three-year period once the first prescribers start practising. PHARMAC will monitor the impact of nurse practitioner prescribing on the pharmaceuticals budget, in accordance with its Operating Policies and Procedures.

New Prescribers Advisory Committee and other proposals

A New Prescribers Advisory Committee has been established to advise the Minister of Health on further prescribing proposals. Proposals have been developed for nurse prescribing in sexual and reproductive health and are being developed for nurse prescribing in mental health, occupational health and palliative care. (Proposals are also in train for pharmacists, optometrists and podiatrists.) The committee will scrutinise all future prescribing proposals and advise the Minister on whether these should proceed to Cabinet for making further regulations.

Health Practitioners Competence Assurance Bill

The proposed Health Practitioners Competence Assurance Bill (HPCA) will provide a single overarching framework for the governance and functions of the registering authorities for health professionals. Its main aim is to protect the health and safety of the public by establishing processes to ensure that regulated health professionals are competent to practise.

This new legislation will replace the current 11 health occupational regulatory statutes. The Nurses Act 1977, like nine[6] of the other Acts, is old, prescriptive and unable to accommodate changes in technology and nursing roles in a changing health and disability sector. The HPCA will give the Nursing Council more flexibility in its registration processes while providing adequate controls to ensure it cannot operate restrictive practices.

Under the proposed Act, the Nursing Council will be empowered to:

- assess the qualifications and experience of nurses and register them in an appropriate scope of practice
- review the ongoing competence of nurses and require them to participate in competence programmes if necessary
- provide mechanisms for disciplining nurses.

Competency assurance framework for nursing

The Nursing Council has developed a competency-based framework for the professional regulation of nursing in New Zealand (Nursing Council 2001b). This provides:

- the mechanism for linking all activities to ensure the competency of nurses
- an umbrella covering regulatory, health sector and professional standards
- a way for professional organisations to seek accreditation by the Nursing Council for specific processes that contribute to competency-based practising certificates.

The competency assurance framework has three components:

- initial registration – including the Nursing Council's activities in overseeing nursing education programmes and registration of nurses
- ongoing competence monitoring – including activity focused on developing competence-based practising certificates, and recognition of practice settings
- regulation of post-registration education and advanced practice.

The framework also includes a strategy to facilitate employer credentialling of nurses, whereby the Nursing Council manages and co-ordinates the regulation of nursing practice by setting national standards which 'approved' employers then implement.

[6] The exception is the Medical Practitioners Act 1995, which details the responsibility of the Medical Council to ensure the ongoing competency of medical practitioners.

Approval of 'employer credentialling status' will be particularly important for DHBs because of their dual role as employers and funders of other private and/or non-government services, such as primary health organisations or independent nurse practitioner services.

The Nursing Council is currently working on the detail for implementing this framework.

The Primary Health Care Strategy

The Primary Health Care Strategy provides a clear direction for the future development of primary health care. The strategy outlines six key directions to:

- work with local communities and enrolled populations
- identify and remove health inequalities
- offer access to comprehensive services to improve, maintain and restore people's health
- co-ordinate care across service areas
- develop the primary health care workforce
- continuously improve quality using good information.

The implementation of the strategy will have significant implications for the number, mix, distribution and education of the primary health care workforce. Primary health care nursing will be critical to the effective implementation of the strategy and the Ministry of Health, together with an expert advisory group, has developed a framework for primary health care nursing as part of this (Ministry of Health 2002).

Nurses currently working in primary health care and community settings include public health nurses, Plunket nurses, practice nurses, district nurses, rural nurses, nurses providing care to specific groups (eg, respiratory and diabetic patients) and nurses working in Māori and Pacific health provider organisations.

Recently, many nurses have been employed using new titles that more appropriately represent their work in the new health service environment (Litchfield 2001). Many work within relatively narrow scopes of practice, and some clients may be receiving care from more than one practitioner at a time. Others, such as rural nurses, are working with a comprehensive scope of practice that is holistically responsive to health needs in a community to achieve integrated health care (Litchfield 2001).

The Primary Health Care Strategy provides opportunities for nurse practitioners to practise as part of a primary health care team, to lead 'specialty-focused' clinics in community settings, or to establish independent primary health care nursing practices offering a range of assessment, diagnostic, treatment and support services.

The Minister of Health has approved funding to support the development of innovative models of primary health care nursing practice to achieve the objectives of the Primary Health Care Strategy and to align nursing with emerging PHOs. Part of this funding will be used to support nurses currently practising in primary health care settings to undertake postgraduate nursing programmes in primary health care. This support will assist the development of primary health care nurse practitioners.

Research (Department of Health and Human Services 1997; Mundinger 1994; Office of Technology Assessment 1986) clearly supports the provision of nurse practitioner services in low-income urban and rural communities, particularly as they have been found competent to undertake 80 to 90 percent of what primary health care physicians do, without the need for consultation or referral.

Conclusion

The impetus for developing the role of the nurse practitioner in New Zealand is derived from a strong evidence base, which demonstrates cost-effective health gains. This document has presented the background and guiding principles, and outlined the work that has already been done to support the development of the role.

The nurse practitioners' role focuses on patient and population need and improving health outcomes. While health professionals internationally have debated the nurse practitioner role, evidence shows that discord among them about the introduction of the nurse practitioner is not in the best interests of the patient. Collaboration between health professionals is critical to ensuring that a concerted, synchronised effort in a mutual concern for patients and families is achieved.

Much responsibility now rests with the DHBs, who will implement the role. They are encouraged to use existing resources to develop the structures, processes and policies necessary to create a working environment that will ensure a sustainable and well-utilised nurse practitioner workforce.

The DHB provider arms are advised to use their clinical boards, take advice from their Director of Nursing and nursing advisors, and engage with the Nursing Council to consider how the nurse practitioner can fit into, for example, acute services, primary health care settings and secondary services.

Contact details for organisations with which DHBs are encouraged to liaise to implement the nurse practitioner role are provided on page vii.

Appendix 1: Nursing Council of New Zealand competencies for nurse practitioners

The Nursing Council has developed six generic competencies required by registered nurses applying to the council for approval as nurse practitioners (Nursing Council 2001a).

1. Articulates scope of nursing practice and its advancement

The nurse practitioner is able to:

- define the scope of independent/collaborative nursing practice in health promotion, maintenance and restoration of health, preventive care, rehabilitation and/or palliative care
- describe diagnostic inquiry processes in response to actual and potential health needs and characteristics of the particular population group
- explain the application/adaptation of advanced nursing knowledge, expertise and evidence-based care to improve the health outcomes for clients across the care continuum within the scope of practice
- generate new approaches to the extension of nursing knowledge and delivery of expert care with the client groups in different settings.

2. Show expert practice working collaboratively across settings and within interdisciplinary environments

The nurse practitioner:

- demonstrates culturally safe practice
- uses professional judgement to:
- assess the client's health status
  - make the differential diagnoses
  - implement nursing interventions/treatments
  - refer the client to other health professionals
- develops a creative, innovative approach to client care and nursing practice
- manages complex situations
- rapidly anticipates situations
- models expert skills within the clinical practice area

- applies critical reasoning to nursing practice issues/decisions
- recognises limits to own practice and consults appropriately, facilitating the client's access to appropriate interventions or therapies
- uses and interprets laboratory and diagnostic tests
- operates within a framework of current best practice, and applies knowledge of pathophysiology, pharmacology, pharmacokinetics and pharmacodynamics to nursing practice assessment/decisions and interventions
- accurately documents and administers assessments, diagnosis, intervention, treatments and follow-up within legislation, codes and scope of practice
- evaluates the effectiveness of the client's response to prescribed interventions, appliances, treatments, and medications, and monitors decisions, taking remedial action and/or referring accordingly
- collaborates and consults with the client, family and other health professionals providing accurate information about relevant interventions, appliances and treatments.

3. Shows effective nursing leadership and consultancy

The nurse practitioner:

- takes a leadership role in complex situations across settings and disciplines
- demonstrates skilled mentoring/coaching and teaching
- leads case review and debriefing activities
- initiates change and responds proactively to changing systems
- is an effective nursing resource
- participates in professional supervision.

4. Develops and influences health/socioeconomic policies and nursing practice at a local and national level

The nurse practitioner:

- contributes and participates in national and local health/socioeconomic policy
- demonstrates commitment to quality, risk management and resource utilisation
- challenges and develops clinical standards
- plans and facilitates audit processes
- evaluates health outcomes and in response helps to shape policy.

5. Shows scholarly research inquiry into nursing practice

The nurse practitioner:

- evaluates health outcomes, and in response helps to shape nursing practice
- determines evidence-based practice through scholarship and practice
- reflects and critiques the practice of self and others
- influences purchasing and allocation through utilising evidence-based research findings.

6. Prescribes interventions, appliances, treatments and authorised medicines within the scope of practice

The nurse practitioner seeking prescribing rights:

- uses professional judgement to prescribe
- collaborates and consults with, and provides accurate information to, the client, the client's family and other health professionals about prescribing relevant interventions, appliances, treatments or medications
- prescribes and administers medications within legislation, codes, scope of practice and according to the established prescribing process and guidelines
- understands the use, implications, contra-indications, and interactions of prescription medications with each other and with alternative/traditional/complementary medicine and over-the-counter medications/appliances
- understands the age-related implications of prescriptive practice on clients within the particular scope
- evaluates the effectiveness of the client's response to prescribed medications and monitors decisions about prescribing, taking remedial action and/or referring accordingly
- demonstrates an ability to limit and manage adverse reactions/emergencies/crisis
- recognises situations of drug misuse and acts appropriately
- understands the regulatory framework associated with prescribing, including the legislation, contractual environment, subsidies, professional ethics and roles of key government agencies.

Appendix 2: Examples of models of nurse practitioner practice

Model 1: Integrated nursing teams

A team of nurse practitioners provides, co-ordinates and manages health promotion and disease prevention across the care continuum.

The setting is secondary to the identity of the lead clinician and/or the continuous focus on health promotion and protection specific to the needs of patients, whānau, families and communities.

The nurse practitioner is the clinician responsible for ensuring that the client receives the correct intervention, from the appropriate clinician, at the right time. They ensure collaboration with and referral to other professionals as appropriate. This model has been developed within a pilot service project to have relevance to New Zealand's health system reforms (Litchfield et al 1994). Subsequently, the advanced practice has been further researched and shown to have relevance in the changing health environment (Connor 1995; Litchfield 1998a, 1998b).

A current New Zealand example: adult community mental health

Experienced mental health nurses make up the core of this multidisciplinary team providing comprehensive community mental health services to a rural population across a large area. The nurses are the mobile part of the team.

Rurality, the irregular availability of other professional and support staff, and the fact that most of these nurses live in the communities in which they work enables a commitment to proactive care which emphasises prevention and consistency of care and treatment.

The generic assessment, treatment, health promotion, case management and co-ordination competencies inherent in the nurse practitioner role are integral to this model of care. Currently nurses commonly liaise with complementary primary health care services (eg, general practitioners), and refer clients in response to referrals from inpatient services at the distant hospital (secondary care).

Model 1a: Integrated teams – Māori health

The nurse practitioner who provides services for whānau, hapū, iwi and Māori communities must work collaboratively with other team members, including community health workers, general practitioners, kaumatua and kuia. This collaborative approach ensures that the nurse practitioner works with the team to provide broad-based services that take into account the unique and specific needs of Māori. The nurse practitioner who functions in the Māori health team will be clinically and culturally competent to advise, treat and refer consumers as required.

The recent success of 42 Māori registered nurses in obtaining the postgraduate nursing diploma in health science, Māori Mobile Disease State Management Service, has led to individuals and whānau receiving advanced nursing care 'by Māori for Māori'. Also of significance is that these Māori registered nurses are well placed to achieve a clinically focused master's degree and progress to the nurse practitioner role.

Model 2: Nurse consultancy

The nurse practitioner works independently and refers clients to other health professionals when required. Collaborative practice arrangements and care decisions may also dominate.

A current New Zealand example

A good example of this model is the advanced practice competencies of nurses working in specialist high-dependency units such as neonatal units. Neonatal nurses manage a caseload of patients with consultation, collaboration and support from the neonatologist. Each health professional and individual family contributes to making the decisions about the care of a sick newborn. The nurse is also able to make a comprehensive contribution to outcomes for neonates because they combine both nursing and medical expertise.

Specific competencies of this scope of practice may include:

- assessing the health status of neonates (including attending high-risk deliveries, resuscitation, and emergency management)
- making decisions about admitting infants to newborn intensive care based on clinical assessment
- assessing the health status of infants on admission, and initiation of case management through differential diagnoses, clinical judgement and diagnostic skills
- assessing the need for admission from community phone referrals
- conducting preventive screening assessments
- initiating effective clinical management of rapidly changing crisis situations and establishing priorities for medical and nursing care
- performing, requesting, monitoring and interpreting diagnostic tests and imaging
- case management

- acting as consultant on all aspects of neonatal care within community and hospital settings (lead maternity carers, midwives, general practitioners, paediatric nursing and medical staff, allied health staff)
- acting as a specialty consultant nationally and internationally on the ventilation of neonates (application and management of continuous positive airway pressure)
- contributing to health/socioeconomic policies and nursing practice locally, nationally and internationally
- being active in academic scholarly inquiry, teaching and research on neonates.

Model 3: Independent practice

Nurse practitioners are self-employed and establish their own independent practices offering care and services direct to the public.

As with other self-employed health practitioners, the success of this model of care will depend on the expertise of the independent nurse practitioners and the extent to which clients perceive that this care meets their needs and expectations. The care also needs to be provided within an appropriate organisational structure with legal form, and supported by quality, financial, management and marketing systems and processes.

A current New Zealand example

A small number of private and independent nursing practices operate in New Zealand. One is a 13-year-old company owned and managed by a nurse with advanced practice competencies and business/management expertise. This practice employs a staff of eight (equivalent to five fulltime staff) to provide a mix of sexual health, women's health, and health promotion services to a client base of about 11,000 people.

The skill mix includes nursing, medicine, education and counselling, complemented by business management, marketing, communications and financial management expertise. The model of care emphasises wellness, prevention and early intervention and the development of self-responsibility and healthy lifestyles. A wide range of sexual health, women's health education, screening, assessment and treatment services is available.

Practice income is derived from Ministry of Health contract funding and subsidies or client fees paid for care and treatment provided.

This company is also a core part of a separate private occupational health company that provides comprehensive occupational health services to a client base of 200.

Model 4: Nurse practitioner speciality services/clinics

The nurse practitioner is the recognised lead health professional in the establishment and management of specialty clinics/services for a particular health specialty and/or population group.

These 'specialty' nurse practitioners become experts in the prevention, management or rehabilitation of particular health issues. They may work in acute or community settings, and their ability to function competently across the myriad of interfaces in the health system means they are the health workforce's most flexible practitioners.

A current US example

Today certified registered nurse anaesthetists (CRNAs) working with anaesthesiologists, physicians such as surgeons and, where authorised, podiatrists, dentists and other health care providers, administer approximately 65 percent of all anaesthetics given each year in the United States (American Association of Nurse Anesthetists (AANA) 2002a). They work across all settings in which anaesthesia is administered – in tertiary care centres, community hospitals, ambulatory surgical centres, diagnostic suites, doctors' offices and are the sole anaesthesia providers in more than 70 percent of rural hospitals (AANA 2002a). More than 28,000 CRNAs practising in all 50 states provide anaesthetics to every type and age of patient, including substantial numbers of Medicare, Medicaid, public employee, veteran and indigenous populations. They use the full scope of techniques, drugs and technology that characterises contemporary anaesthesia practice.

The CRNAs record of patient safety is excellent (AANA 2002b) and several studies have shown that the outcomes for patients receiving anaesthesia services are no different whether delivered by a nurse anaesthetist or a physician anaesthetist (AANA 2002b). A 1995 study established that the median salary of an American CRNA was $US84,000 compared with $US244,600 for a physician anaesthetist, making CRNAs much more cost-effective.

'CRNAs have traditionally made high quality anaesthesia services accessible to under-served populations despite the cost constraints and/or isolation of many geographic locations. For any service location, CRNAs are highly cost-effective, quality anaesthesia providers on the basis of educational costs, cost of service, productivity, and substitutability for more expensive providers. Whether working with or without anaesthesiologists, they serve as the key to cost savings in the provision of anaesthesia related services, whether within operating rooms or in expanded service areas such as pain management clinics, post-operative suites and critical care units' (AANA 2002a).

Educational preparation for American CRNA's includes completion of a master's programme of advanced academic and clinical study.

A current New Zealand example

A large DHB intends developing nurse practitioner roles to provide a range of 'disease management' programmes. The DHB has developed a suitable framework with a needs-based approach to creating new nurse practitioner roles associated with chronic conditions, where new models of care offer opportunities to improve health outcomes, DHB resource utilisation and care cost-effectiveness.

As an employer accountable for the provision of safe, quality services, the DHB recognises that the nurse practitioners will be competent to assess, diagnose, treat and monitor acute and chronic health problems. This includes requesting diagnostic tests, treatments and medications, and holding admission and referral rights.

The DHB has identified individuals living with chronic heart failure and renal disease as two distinct populations where evidence supports the need for and benefits of the new approaches to care. It intends to establish two specific nurse practitioner roles to manage the care required by these individuals and their family/whānau.

These two roles are described below.

1. The disease management nurse practitioner will be accountable to cardiac services, but will practise predominantly in an ambulatory/community setting. The role will involve episodic disease management and encompass:

- case management of 'at risk' patients following discharge until stabilised on effective long-term treatment (average approximately 90 days)
- monitoring, reviewing and prescribing treatments for heart failure and associated conditions until the patient's condition is settled and/or treatment stabilises
- collaboration and co-operation with the interdisciplinary health care team
- education of patients and families in order to support patient self-care
- management of multiple drug regimes as required, particularly for older patients
- providing a heart-failure resource service based on current recommended evidence-based treatments in order to co-ordinate the medical management of patients from primary health care and hospital-based physicians.

The effectiveness of this nurse practitioner role will be measured by:

- optimisation of individual therapeutic management
- improvements to patient quality of life
- increase in patient function
- reduced hospital admissions in this group
- reduced health costs for heart-failure treatment.

2. The renal-focused role is a combined disease management and Māori health role with some primary health care aspects included. This nurse practitioner will be based in the renal service, but will work predominantly in the dialysis units and the community (ie, the patient's home and Māori communities).

Patients will access the service through renal dialysis services, or will be referred by health professionals in the wider renal service.

The nurse practitioner role will:

- maximise the patient's time on dialysis to assess, diagnose, monitor and treat symptoms and manage diseases
- prescribe and adjust medications and treatments on a regular ongoing basis
- order diagnostic and monitoring tests and refer to other specialist services
- collaborate with other health specialists and co-ordinate patient care across all specialist services
- educate the patient and whānau in self-care, disease management and prevention
- anticipate and prevent disease progression and complications in the patient and their whānau
- liaise with, co-ordinate and support the other health professionals involved with the patient (eg, general practitioner, dialysis and diabetic staff, specialists and the health care team)
- facilitate the development of nurses and other health professionals in the care of patients with both diabetes and renal disease.

Health outcome evaluation

The effectiveness of this nurse practitioner role will be measured by:

- increased patient satisfaction and quality of life
- reduced complication rates (eg, amputation, infection rates, visual problems and cardiac disease)
- reduced readmission rates
- longer maintained vascular access
- stabilised blood sugar levels
- improved patient and whānau knowledge, self-care and lifestyle practices, thereby reducing the occurrence of these diseases and their complications
- prevention of the need for dialysis in future generations of these families
- improved health service co-ordination of all specialist services.

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