ORIGINAL SCIENTIFIC PAPER

QUALITATIVE RESEARCH

Nursing roles and responsibilities in general practice: three case studies

Léonie Walker BSc, PhD;[1,2] **Jill Clendon** RN, PhD;[1,2] **Katherine Nelson** RN, PhD[2]

[1] New Zealand Nurses Organisation, Wellington, New Zealand

[2] Graduate School of Nursing, Midwifery and Health, Victoria University of Wellington, Wellington

ABSTRACT

INTRODUCTION: Primary care nursing teams may now comprise registered nurses (usually termed practice nurses), nurse practitioners, physician assistants, enrolled nurses, and primary care practice assistants, clinical assistants, or nursing assistants. There is a need to understand how practitioners in the different roles work with patients in the changed environment. The aim of this study was to describe the different configurations of health professionals' skill-mix in three dissimilar primary care practices, their inter- and intra-professional collaboration and communication, and to explore the potential of expanded nursing scopes and roles to improve patient access.

METHODS: Document review, observation and interviews with key stakeholders were used to explore how health practitioners in three practice settings work together, including their delegation, substitution, enhancement and innovation in roles and interdisciplinary interactions in providing patient care. A multi-phase integrative, qualitative and skill-mix framework analysis was used to compare findings related to nursing skill-mix across case studies.

FINDINGS: Three models of primary care provision, utilising different nursing skill-mix and innovations were apparent. These illustrate considerable flexibility and responsiveness to local need and circumstances.

CONCLUSION: Enabling nurses to work to the full extent of their scope, along with some adjustments to the models of care, greater multidisciplinary cooperation and coordination could mitigate future workforce shortages and improve patient access to care.

KEYWORDS: Advanced practice nursing; primary care nursing; primary health care; New Zealand

Introduction

Expanded scopes of practice and increased nurse-led primary care practice improve population health in a way that is cost-effective, while also reducing health inequalities.[1] Research in New Zealand on innovative services and roles found changes in skill-mix involving nurses can make significant contributions to the health and experiences of patients and communities.[2] Skill-mix refers to skills or competencies possessed by different staff within multidisciplinary teams. New Zealand primary care services have undergone considerable change in skill-mix.[1] Understanding how this change impacts on patient continuity of care is important. Also important is understanding the extent to which roles have developed that complement each other and that support a patient-centred approach to care. Primary care teams in New Zealand may now comprise general practitioners (GPs), registered nurses (RNs, usually termed practice nurses [PNs]), nurse practitioners (NPs), enrolled nurses (ENs), and primary care practice assistants (PCPAs; sometimes called clinical assistants or nursing assistants [CAs or NAs]. Another new role, that of physician assistants, has been trialled and is being introduced.[3] There is a gap in understanding how different nursing scopes and roles relates to patient care and how nurses navigate delegation and interface their care with each other and with other health professionals to inform the development and

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CORRESPONDENCE TO:
Léonie Walker
New Zealand Nurses Organisation, 57 Willis Street, Wellington 6021, New Zealand
leoniew@nzno.org.nz

best utilisation of the primary care workforce.[4] This project aimed to describe how the different configurations of health professionals in three dissimilar primary care practices navigated inter- and intra-professional collaboration and communication, and also explored the potential of expanded nursing scopes and roles to improve patient care and access.

Methods

The project employed comparative case study review using multiple mixed methods.[5] Methods included observation, document review and interviews with key stakeholders. Job descriptions, practice policies relating to direction and delegation, and the operation of standing orders were received for all three case studies, compared, and reviewed by all authors. Semi-structured interviews, each lasting between 30 and 60 minutes, using a topic guide informed by review by the project advisory group, were conducted on-site by the principal author. In one practice, these interviews occurred over four visits; at the others, interviews were undertaken on one visit. Practice systems reviews and interviews were analysed separately within each case. Interviews were reviewed by two of the researchers. Participants from each case reviewed and provided their perspectives on the data and conclusions from their own case. Minor amendments were made following this reflection.

Settings

Three general practice services were chosen to provide diversity of location (urban/rural), practice rolls (size, ethnicity, socioeconomic deprivation), nursing roles, and ownership/governance models.

Sample

Each case involved up to eight key informants. These included health professionals (RNs, NPs, ENs, PCPAs, GPs), other staff such as administration staff, and practice managers. In all but the largest practice (where diverse staff were selected by the practice manager as available), all members of the practice team were interviewed.

WHAT GAP THIS FILLS

What we already know: New Zealand primary care services have undergone considerable changes in nursing skill-mix, with the introduction of new roles such as nurse practitioners, physician's assistants, primary care enrolled nurses, and primary care practice assistants.

What this study adds: This study describes three dissimilar case studies where nurses with different scopes work with patients, providing insights into how the nurses navigate delegation and interface with each other and with other health professionals to provide patient care.

Data collection tools

Practice systems review

A structured observation tool, developed in collaboration with an advisory group comprising experienced primary care nursing researchers, was used to systematically document practice processes and a documentation review examined standing orders, job descriptions and policies for each case. The review covered patient roll and demographics; clinical staffing (positions, numbers of full-time equivalent personnel, hours of work, key roles); patient journey (acute, arranged appointment, patient allocation, patient flow); usual responsibilities; inter-professional working arrangements (substitution, enhancements, duplication, innovation); routine and intermittent clinical services; and physical layout of the practices.

Interviews

Interviews were held with health professionals and practice administration staff. Interviewees were asked about their experiences and perspectives of patient engagement and continuity of care, including what worked well and what could be improved. Health professional interviews involved describing their roles in detail (e.g. triage, assessment, diagnosis, therapy), including what they do that is unique, duplicates or overlaps with others; how patients are allocated; and their interdisciplinary interactions. Administration and practice management staff interviews covered patient allocation, health professionals' roles, consultation patterns of acute and returning patients, length of consultations, and strengths and challenges for the practice.

Analysis

Analysis was undertaken using three steps:

1. Integrated pictures of each case were developed and reviewed by each participant;
2. Each dataset by method (review, interview, or participant type) was combined and compared to capture specific similarities, differences and perspectives;
3. A framework was used to systematically compare findings related to nursing skill-mix across cases.

Comparisons for all three steps were independently reviewed by all authors, with supporting or contradictory data discussed as a team. Utilisation of the framework that describes seven organisational processes (factors) underpinning changes to skill-mix is fully described in the paper by Sibbald et al.[6] Five of these factors were used to categorise the differing types of skill-mix found in each of the three cases. These are described in Table 1. Two additional factors were considered outside the scope of this project: *transfer*—moving the provision of a service from one health care sector to another (e.g. substituting community for hospital care); and *relocation*—shifting the venue from which a service is provided from one health care sector to another without changing the people who deliver the service (e.g. providing hospital clinics in a general practice setting).

Ethics

Ethics approval was obtained from the Victoria University Wellington Human Ethics Committee (Ref. VUWHEC 21066). As per the ethics approval, confidentiality of participant and practice involvement and an open and collaborative research model was maintained.

Table 1. Sibbald et al.'s skill-mix analysis framework[6]

Factor*	Description
Enhancement	Extending the role or skills of a particular group of workers
Substitution	Expanding the breadth of a job, in particular by working across professional divides or exchanging one type of worker for another
Delegation	Moving a task up or down an existing hierarchical ladder
Innovation	Creating new jobs by introducing a new type of worker
Liaison	Using specialists in one health care sector to educate and support staff working in another sector*

* Two additional factors (transfer and relocation) described by Sibbald et al. are not included in this table as they were outside the scope of this project's focus.

Findings

The findings are reported in two sections. Firstly, each case is introduced separately, and secondly, an integrative analysis of the specific skill-mix features of each case is provided. Only indicative quotes supporting conclusions are included for brevity. All examples given were either reported as happening, described in policies, or observed by the researcher.

Description of each case

Case 1

Key features of the case 1 practice are summarised in Table 2. The co-ownership (GP and RN) business model, combined with an entrepreneurial and philosophical approach to resolving issues for patients regarding access to medical care (cost to patients, and difficulty recruiting specific types of staff), has led to the development of ways of working that allow family specialist RNs with additional education to work to the full extent of their regulated scopes of practice. Both GP and RN consultations are 15 minutes, and there is a relatively flat fee structure (NZ$10 difference between the cost of GP and RN consultations). The streamlining of appropriate tasks to the PCPA impacts positively on patient flow, which, combined with the use of standing orders, contributes significantly to the productivity of the practice and to holistic, proactive and preventive health care being delivered at decreased cost to patients.

> I'm sure our model means less is missed and we have fewer, more manageable acute consultations. We have 100% immunisation rates because we know people and can follow them up. (RN #1)

The small size of the practice, commitment to frequent and regular clinical practice team communication and review meetings, and a positive, enabling approach to continuing education and the development of new initiatives in response

to community needs has led to the evolution of a model of care. Such models, if scalable, could have an important role in addressing predicted workforce shortages and rising costs of health care—particularly in rural settings.

> Our clinical assistant does so much to prepare patients before they see us [RN, GP], so we have a better picture and can spend the time we need with patients more productively. (RN #2)

All the practitioners had an understanding of their roles and the ways in which they contribute to the patient journey. There was evidence of effective delegation and supervision (GP to RN; RN to PCPA), facilitated by robust policies, procedures, documentation, record keeping and sign-off systems. A culture of mutual respect, openness and collaboration between all employees was evident.

> Our RN has considerable experience, confidence and is continually learning... I [GP] trust she [RN] will bring me in if needed. The team clinical discussions and systems around standing orders and documentation of medication reviews has sharpened up all our practice. (GP #1)

Case 2

Key features of case 2 practice are summarised in Table 3. This is a more traditional general practice, owned by GPs, with practice nurses providing GP support and leading specialist clinics. Care delivery, including nurse-led clinics (wound care, warfarin management, blood pressure, ear care), proactive and preventive services provided by mobile outreach nurses, and physical co-location with specialist consultants and a pharmacy have evolved to meet the needs of a large, frail, elderly, but relatively affluent patient population. Additionally, local employers benefit from access to occupational health nurse input, and liaison between service providers eases the patient journey.

> Our outreach service complements the district nursing service.... I know the patients have built up the trust and can get care coordination team and social work involved.... Patients trust my judgement and will let us in to help. (RN #1)

Table 2. Case 1: Summary of key practice features

Broad description of practice setting	Small, semi-rural practice, situated in a small town. Privately owned and run by a GP and an RN as equal partners
Patient roll and demographics	Around 2000 enrolled patients, aged 0–90+, of all ethnicities, and all socioeconomic groups. High proportion of patients over 65 years, and high proportion of Care Plus–funded* patients
Description of staffing (clinical team)	2 GPs (1.8 FTE) 2 RNs (1.2 FTE) referred to as family nurse specialists 1 PCPA (0.8 FTE) *All including the practice manager were interviewed*
Broad description of services	Full range of general medical services: acute care, management and monitoring of long-term conditions, women's health, immunisations, smoking cessation, after-hours on call, patient education, home visits, falls prevention classes, occupational health and palliative care
Unique features/model of interest	Model of care is interdisciplinary in nature; work collaboratively both within the practice and with clinicians in other organisations. RNs use standing orders extensively. PCPA is used to improve patient flow and the regular measurement and recording of relevant clinical and social data to enhance continuity. Onsite dispensary with limited medicines related to standing orders available

GPs General practitioners
RNs Registered nurses, usually termed practice nurses
PCPA Primary care practice assistants, sometimes called clinical assistants or nursing assistants

* Care Plus funding is provided to general practices by the Ministry of Health to improve chronic care management, reduce inequalities, improve primary health care teamwork and reduce the cost of services for high-need patients.

There is clear indication of appropriate delegation and supervision: GP to RN, and RN to EN, facilitated by robust policies, procedures, record keeping and sign-off systems. Both nursing practitioners (RN/EN) were familiar with each other's scopes of practice and responsibilities, and both were valued for their particular experience and contribution to patient care.

> Our EN runs the wound clinic... She came to us with such great experience we [RNs] will often get her in to help as soon as possible [with a tricky wound]. Apart from not doing sole charge, she is the same as every other nurse. (RN #3)

A nurse-led repeat prescription service had evolved to manage the large prescription usage, contributing to practice efficiency and patient convenience.

Table 3. Case 2: Summary of key practice features

Broad description of practice setting	Large multidisciplinary practice in a small town. Privately owned and run by 6 GPs
Patient roll and demographics	Patient roll is around 10 000; relatively affluent population, but also a much higher than average number of over 65-year-olds, so many with long-term conditions and complex multiple comorbidities
Description of staffing (clinical team)	11 GPs (5 employed, 6 partners) 12 RNs (1 mobile, 1 occupational health nurse, 1 NEtP nurse) 2 EN (1 mobile) 1 health care assistant *1GP, 3 RNs, 1 EN, the nurse manager and the practice manager were interviewed*
Broad description of services	General medical services, wound clinic, ear suction clinic, plastering, on-site radiology, immunisations, patient education, warfarin management, blood pressure clinic, women's health, podiatry, optometrist. About to launch an insulin initiation service
Unique features/model of interest	EN-led wound clinic Mobile RN/EN pairing Occupational health service Nurse-led phone line for prescription repeats

GPs General practitioners
RNs Registered nurses, usually termed practice nurses
NEtP Supported Nurse Entry to Practice scheme
ENs Enrolled nurses

Table 4. Case 3: Summary of key practice features

Broad description of practice setting	Busy mid-sized urban NGO-managed practice with salaried GPs and nurses (this practice is part of a more complex three-practice organisation)
Patient roll and demographics	10 200 patient roll. High Māori population, low socioeconomic patient population, with subsequently high needs
Description of staffing (clinical team)	1 NP 4 GPs 9 RNs (community RN, Disease State Management (DSM) RN and outreach practice nurse, 6 practice nurses) Kaimahi PCPA (called a nursing assistant (NA) in this setting) Social worker*/Low cost dentistry* *The CEO, NP, DSM, NA, clinic coordinator, practice manager and 2 RNs were interviewed*
Broad description of services	General medical services Mobile DSM service
Unique features/model of interest	NP, NA, DSM RN and broader liaison with Whānau Ora/ non-health services

NP Nurse practitioner
GPs General practitioners
RNs Registered nurses, usually termed practice nurses
PCPA Primary care practice assistants, sometimes called clinical assistants or nursing assistants (NA)

* Not in scope of project

Case 3

Key features of the case 3 practice are summarised in Table 4. This practice, with its high-needs population in a socioeconomically deprived area, had evolved under a salaried model. The employment of an NP and DSM nurse enabled staff to respond to the needs of the community, while facilitating very low cost access to services.

> We are lucky to have retained two GPs so long... many can't take the level of need our practice population exhibit. Without the nurse practitioner, we'd struggle to service our roll appropriately. (GP #1)

Clear direction and delegation to a PCPA released clinician time for patient care, and the NP scope enabled holistic, timely care, including prescribing. Liaison with other services, especially social work, housing, justice and education under the Whānau Ora (funding supporting a whānau/ family rather than individual model of care) umbrella, along with commitment to tikanga Māori (Māori culture and custom) and a higher proportion of Māori RNs was also evident.

> You have to be creative, deal with what's on top for the patients, to be trusted, or you don't get the chance to really work with the complexity and the problems... (DSM RN)

Staff appeared highly committed and to have a good understanding of the respective roles of all the practitioners within the organisation.

> Initially they used me (NP) as a substitute doctor, but now they understand the nursing role... know more of what I can do. It's not just the prescribing, it's the whole package.... the time to really communicate with the patients and their families. (NP)

Role comparisons across the three cases

There were clear differences between the ways GPs, RNs and PCPA worked across the three cases.

General practitioners

More GP time per consultation available for clinical interaction was reported in the practice where the PCPAs prepared patients, making prescribed

observations and initial assessments prior to the patient seeing the GP (or nurse). The GPs who worked with RNs using standing orders, or with an NP, reported that a higher proportion of their time was available for more complex patient care.

Registered nurses

RNs clearly understood their scopes of practice. All articulated the differences they perceived between a nursing primary health care focus, and a medical model. Recurring words and phrases included care being patient-centred, holistic, educational, empowering, health-promoting, and family/whānau focused. Additional education (postgraduate papers on assessment and diagnosis) was reported to have contributed to increased confidence, competence, and working at higher levels of autonomy. Where innovations (standing orders, nurse-led continuity of care, or outreach care) were described, these appeared to contribute to pride and job satisfaction. Nurses from each scope (EN, RN, NP) considered their education was sufficient and necessary for the way they worked. RNs who utilised standing orders felt that they were working safely, to the full extent of their scope. RNs who did not utilise standing orders felt that they too were working to the full extent of their scope, in the absence of further education.

Primary care practice assistants

This grouping showed the greatest variation between cases. Only two of the three PCPAs contributed directly to the patient journey. Practice efficiencies were reportedly achieved as a result of these staff carrying out basic initial tasks. While other roles (cleaning, stock-control, administration) were valued, it was clear that, where enabled, the preparatory clinical work freed-up considerable GP and RN consultation time. Upon questioning, RNs who had not worked with PCPAs working in enhanced roles were apprehensive about 'nursing' tasks being undertaken by non-regulated staff.

Skill-mix framework

Using the framework[6] shown in Table 1, five organisational processes underpinned by changes to skill-mix in each case are described. All five processes were evident in all three cases; however, there were notable differences concerning roles and structures in each case.

Enhancement

In Case 1, the RN who had done postgraduate papers on patient assessment and diagnosis ran her own clinic lists and displayed considerable autonomy. The PCPA, who had paramedic training, carried out 'nursing tasks' under supervision. In Case 2, an EN with extensive wound care experience ran a specialist wound clinic. In Case 3, the NP had extensive roles in case management, prescribing, and wider nurse mentorship, and the PCPA undertook an advanced role.

Substitution

In Case 1, the model of care enabled the RN, a family nurse specialist, to provide care for the patient roll, which would otherwise have required the employment of a third GP. The patient flow, management and preparatory tasks undertaken by the PCPA were normally undertaken by an EN or RN in other practices. In Case 2, the manager initially advertised the post for an RN, but found that the extensive wound care experience of an EN who applied made her the best person for the job. In Case 3, while initially it had been assumed that the case management and prescribing offered by an NP substituted for a GP, over time it had become clear that other outcomes, such as RN mentorship, and a greater emphasis on health promotion and self-care followed.

Delegation/referral

In Case 1, GPs delegated prescribing to RNs via standing orders and two-way referrals between the GPs and the RNs were reported. The use of algorithms guided referral by the PCPA to both RN and GP. In Case 2, the GPs and RNs referred patients with complex wounds to the EN and the EN reported consulting the RN and GP for any issues that emerged during the wound clinics. In Case 3, the NP reported mentorship and supervision of RNs and a Supported Nurse Entry to Practice scheme (NEtP) nurse. The RNs talked of the benefits of having the NP as a resource, and mutually appreciated consultations and discus-

sions relating to patient care were reported to occur in both directions, between the NP and GPs.

Innovation

In Case 1, nurse-led clinics, proactive outreach, nurse-led community-based falls prevention classes, the enhanced PCPA role and the use of an on-site dispensary were all innovations that had evolved to improve patient service or practice efficiency. In Case 2, the specialised wound care clinic, a mobile RN/EN outreach service, and a proactive RN-led occupational health service were all innovations developed in response to specific local need. In Case 3, the emerging NP/nurse educator role, a DSM nurse and use of Kaimahi (non-regulated caregivers) and funding models had evolved to increase patient access in a particularly challenged practice setting.

This project... does document the contribution that nurses can and are making in primary health care, and provides evidence supporting enabling them to more fully utilise their education and experience

Liaison

In Case 1, liaison was evident between hospital discharge and specialists and the district nursing service in particular. In Case 2, the high elderly population required extensive liaison between the practice and hospital, rest homes and care coordination/district nursing services. On-site access to other services (radiology, plastering, podiatry, clinical specialists) also allowed easier coordination and liaison, saving frail patients additional travel. In Case 3, extensive liaison between the practice and Whānau Ora, justice system, education, social work and marae-based services was described as being more practically and culturally appropriate for the practice population's needs.

Discussion

This was a small, pragmatic project. Using purposive sampling, three cases were selected from volunteer practices that had a variety of nursing scopes and roles. Therefore, the project does not represent the diversity in general practice. Some nursing roles (diabetes specialist nurse prescriber, physician assistant) are not represented. This project, however, does document the contribution that nurses can and are making in primary health care, and provides evidence supporting enabling them to more fully utilise their education and experience.

Nursing innovations described by participants included nurses having a greater role in patient management; nurse-led clinics in long-term conditions management, outreach work and proactive care; nurse prescribing; patient management in specialty areas; use of NPs; nurses as business partners and owners; nurse-led discharge with community follow-up and care; and use of PCPAs freeing nurses to deliver advanced nursing care.

Evidence was seen across the case studies of the evolution of key nursing activities identified as desirable in the evaluation of the New Zealand Primary Health Care Strategy,[7] including 'an increased role for nurses and improved teamwork, outreach to the community via mobile clinics, nurse visiting and community health workers, and provision of a wide range of new services, with emphasis placed on improving access to services for higher needs populations.' p. 18

Enablers of changes to the models of primary health care nursing observed in these practices include postgraduate nurse education, nurse practice ownership and management, entrepreneurial responses to local needs, and shared multidisciplinary understanding of nursing scopes allowing nurses to work to the full extent of their scope. While RNs retain professional responsibility for oversight, direction and delegation of nursing tasks to ENs and PCPAs, and GPs retain legal responsibility for prescribing via standing orders, there was evidence of effective collaborative decision-making about the most appropriate member of the clinical team to provide care. Trust between professionals is vital to enable such effective direction and delegation.[8,9]

Acceptance of the appropriateness of direction and delegation by RNs to EN and PCPA

of tasks for which they had been adequately prepared by education and experience, appeared to benefit both patients (freeing up clinical time with a nurse or GP, free access to a blood pressure screening) and practices (enabling a greater patient roll to be serviced without the need for additional GP, NP or RN staffing). This confirms earlier New Zealand research into the role of PCPAs as freeing up RNs and GPs to provide effective care.[10]

Evaluation of the role of primary care physician assistants in New Zealand[11] concluded that these assistants might help alleviate GP shortages. However, realising the benefits of moving additional care into the community will require more than addressing GP shortages.[12] This study demonstrates that NPs, nurses working under standing orders, and nurses enabled to work to the full extent of their scope are also qualified to respond to health need. Allowing such an expansion would not require importing physician assistants for whom there is currently no training or regulatory framework in New Zealand.

While no specific barriers to skill-mix were observed, it was apparent that funding models do not easily or adequately financially reward the delivery of care in the home setting. Innovation had been driven by necessity in both the rural and low cost access cases reported in this study. In the more affluent area, where the ability to attract and retain GPs and RNs was greater, a more traditional nursing model operated. However, even there, where funding had been found to enable nurse home visits at less cost to patients than a GP home visit model, this was precarious.

Primary health care, health promotion, enabling better self-management, preventative care, health literacy, the prevention of avoidable hospital admissions and working strategically to address the social determinants of health is the cornerstone of an optimised and efficient health care system.[13] Nurses are a vital resource. Enabling RNs, ENs and NPs to work to the full extent of their scopes, along with adjustments to models of care, and with multidisciplinary cooperation and coordination, could contribute to improving access to health care. Further research to evaluate this approach is therefore warranted.

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COMPETING INTERESTS
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