The Royal New Zealand College of General Practitioners
Te Whare Tohu Rata o Aotearoa

CASE REPORT

Employing nurse practitioners in general practice: an exploratory survey of the perspectives of managers

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ABSTRACT

INTRODUCTION: Establishing the nurse practitioner (NP) workforce in New Zealand is a viable solution to health and workforce challenges in primary health care. General practices have been slow to implement NP services. Managers of general practices are central to the employment and development of NP roles.

AIM: To explore the perspectives of managers on employing NPs in general practice.

METHODS: An electronic survey was used to collect demographic and numerical data, which were analysed descriptively and analytically using SPSS (version 26). Written answers to open-ended questions were analysed qualitatively.

RESULTS: In total, 143 managers participated in the survey (response rate 39.7%); 54 (37.8%) worked in practices employing at least one NP. Of respondents, 88.9% ($n = 127$) agreed or strongly agreed that NPs could enhance continuity of care (89/143, 62.2%), improved access to services and medications (89/143, 62.2%) and filled a gap that added value to health care (97/143, 67.8%). Practices employing NPs had statistically significant higher levels of agreement about the advantages of NPs than practices not employing NPs. Challenges and enablers to employing NPs were themed under organisational environment, NP scope of practice and role, and NP workforce development.

DISCUSSION: This exploratory study revealed that there is little knowledge about the NP workforce in surveyed general practices. Ongoing work is required to improve knowledge for employing general practices, including dissemination of information about NP education and training, scope and models of care, and ability to generate business income.

KEYWORDS: Primary health care; workforce; health research; health services; models of care; nursing roles; health management.

Introduction

The health sector in New Zealand is facing a shortage of general practitioners (GPs), with 31% intending to retire within the next 5 years.[1] The nurse practitioner (NP) workforce offers a viable cost-effective solution to increasing access to primary care services, alleviating pressure on both GPs and secondary care.[2] Although there is little robust research internationally, systematic reviews suggest that nurses can deliver primary care services that are safe, with some comparable outcomes to doctors and improved patient satisfaction.[3,4] NPs work within a paradigm that bridges biomedicine and nursing, delivering a broad range of services with a focus on reducing health inequalities.[5–7]

WHAT GAP THIS FILLS

What is already known: Nurse practitioners (NPs) are a health workforce solution for delivering primary care services, including in underserved, rural, and high-needs communities. They access the same funding mechanisms as general practitioners through enrolment with primary health organisations.

What this study adds: Although most general practice managers participating in this research acknowledge the potential of the NP workforce, it is those who already work with and manage NPs who recognise their positive impact in practice. Managers need more information about the scope of practice and role of NPs and support to establish NP positions in general practice.

The number of NPs in New Zealand is growing steadily, reaching 530 registered NPs by March 2021.[8] Approximately 60% of NPs work in areas broadly defined as primary health care, including general practices, aged care, community nursing, mental health services, and public health.[9] A survey conducted in 2019 showed that of 151 NPs working in these primary care settings, 58% worked at least some of their time in general practices.[10] Of these, 43% worked in Very Low Cost Access practices, compared to 24% of GPs in 2017;[11] and 34% in integrated family health centres.[10] Nearly one-half of all primary care NPs worked in more than one clinical setting.[10]

The introduction of the NP role has required general practices to rethink models of care delivery, new functions and relationships between health practitioners and organisational policies and processes.[10,12,13] Internationally, barriers to integrating NPs into general practices have included isolation in mainly medically led environments, lack of team preparation, confusion in role definitions, availability of resources and equipment, and inadequate colleague interaction and support.[12,14,15] Adams and Carryer reported that in New Zealand, commitment from employing organisation, collegial and peer support, and knowledge of the role and scope of NPs, were central to successfully establishing a NP role.[16]

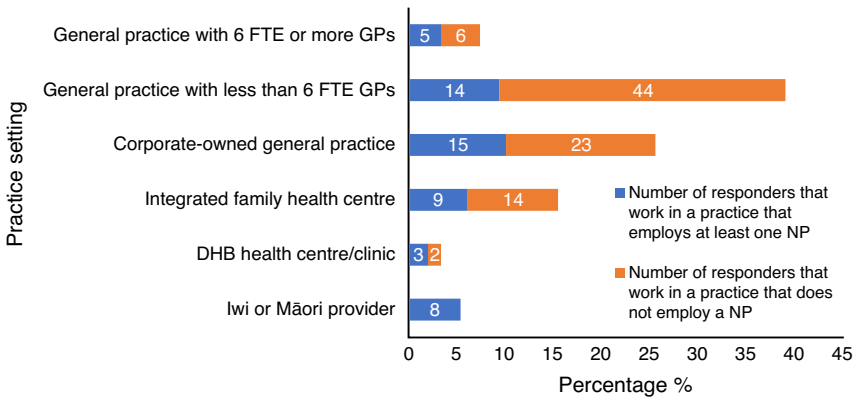
Although New Zealand has a robust legislative, educational, and registration framework, comparable to the United States, Canada, and Australia, the growth of the NP workforce in general practices has been relatively slow.[16] In New Zealand, NPs are advanced nurses with at least 4 years of experience in their area of clinical practice and a clinical Master's degree in Nursing (or equivalent).[17] They are authorised prescribers and able to work autonomously to assess, order diagnostic tests, diagnose, treat or prescribe, manage, and refer.[17] They access capitation and General Medical Service payments in the same way as GPs, provide insurance and medical certificates, certify death, and issue standing orders.[18] NPs are not legally required to have supervision or practice within constraining protocols, as is the case in some countries.

Most primary care in New Zealand is delivered by GP-owned general practices run as private businesses, with increasing numbers of for-profit corporate models.[1,19] In the minority are third-sector organisations (non-government, non-profit), including Māori health providers, Pacific health providers, and community- or iwi-owned Trusts. A very low, but growing, number of NPs own or joint-own general practices. NPs are mainly employees or contracted to deliver primary care services.[10] This study aimed to explore general practice managers' perspectives of employing NPs using an exploratory descriptive survey. The study provides direction for the ongoing establishment of NPs in primary care.

Methods

An 18-question electronic survey was developed, piloted with NP experts, and administered using SurveyMonkey® to collect demographic data, numerical data, and written answers to open-ended questions from managers working in primary care. The survey drew on international and local workforce research on NPs,[13,14,16] and collected information on practice location and type of practice; respondent information (including role, experience, and education); perceived advantages of NPs; barriers to employing NPs; and overcoming challenges to employing NPs. Data were collected using multi-choice and multi-select items using five-point Likert scales ranging from 'strongly agree' to 'strongly disagree'. Open-ended questions prompted free-text entry. The study was approved by Massey University Human Ethics Committee as low-risk (No.: 4000020878).

Figure 1. Percentage (n = 143) of responders from each practice setting; and within each setting, the percentage of those practices who do and do not employ at least one nurse practitioner (NP). Numbers on the bars represent frequencies.



Respondents were recruited from mail-outs distributed by the College of Nurses Aotearoa (NZ) Inc. and the Practice Managers and Administrators Association of New Zealand (PMAANZ). Approximately 800 emails were sent, reaching an estimated 360 general practices. The invitation requested responses from a management perspective on the employment of NPs and addressed practice managers, business owners, or team leaders. Participants self-selected. A follow-up email was sent 2 weeks later. The anonymised survey took on average 10–15 min to complete. Data were collected between 1 June and 18 July 2019.

Quantitative data were analysed by MM and CB using the Statistical Package for Social Sciences (SPSS) software version 26 (SPSS Inc.). After coding and cleaning the data, proportions and frequencies were calculated. Categories that 'agree' and 'strongly agree' on five-point Likert scales were combined for analysis. Z-tests were conducted to test differences between respondents from practices that employ at least one NP and respondents from practices that do not employ NPs. The null hypothesis for a Z-test was that there is no difference between the two groups and $P < 0.05$ was interpreted as indicating a statistically significant difference.

Content analysis[20] was applied to qualitative data collected from open-ended questions in the survey. Two researchers (MM and SA) independently inductively coded the free-text responses, identifying patterns, similarities, and differences. Each researcher created a coding structure with emergent themes and sub-themes, which was then compared, consensus reached, and then re-coded and counted. Quotes have been used to substantiate the findings.

Results

Participants were 143 eligible contacts who completed the survey; response rate was 39.7% (143/360). Responses were received from practices in every District Health Board region and 85.3% of respondents (122/143) were female. The sample had diverse backgrounds. Just over half ($n = 81$, 56.6%) had a business or health management background, 28 (19.6%) nursing, 8 (5.6%) medicine; and 21 (14.7%) had no formal preparation. Eighty-six (60.1%) had worked in their current position for >5 years.

Most respondents 90.3% ($n = 129$) were from clinical settings described as general practice, corporate-owned general practice, or integrated family health centres. Eight respondents (5.6%) were from an iwi or Māori health provider (all employing at least one NP). Of the total responses, 89 (62.2%) worked in a practice that did not employ any NPs and 54 (37.8%) worked in a practice employing ≥1 NP (Figure 1).

More than half ($n = 78$, 54.5%) of the respondents worked in practices located within 30 min of a

*Figure 2. Advantages of nurse practitioners (NPs). Responses from respondents that do **not** employ an NP (n = 77), showing percentages and frequency.*

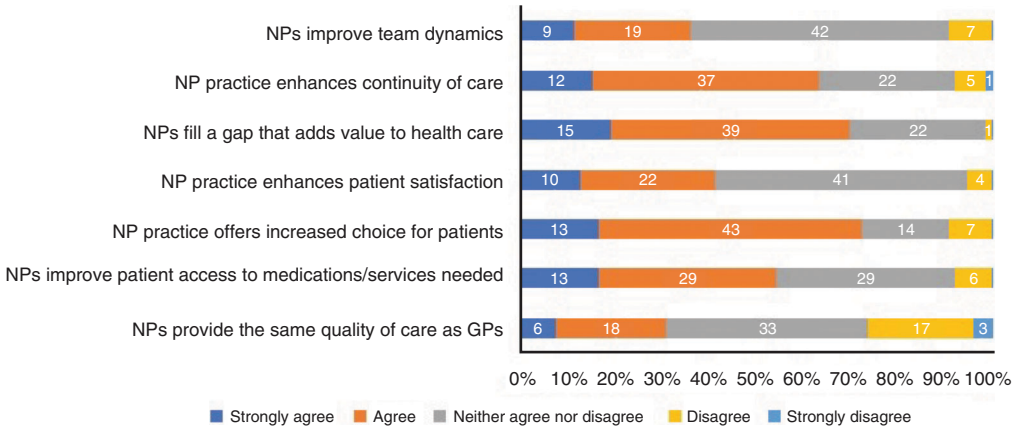
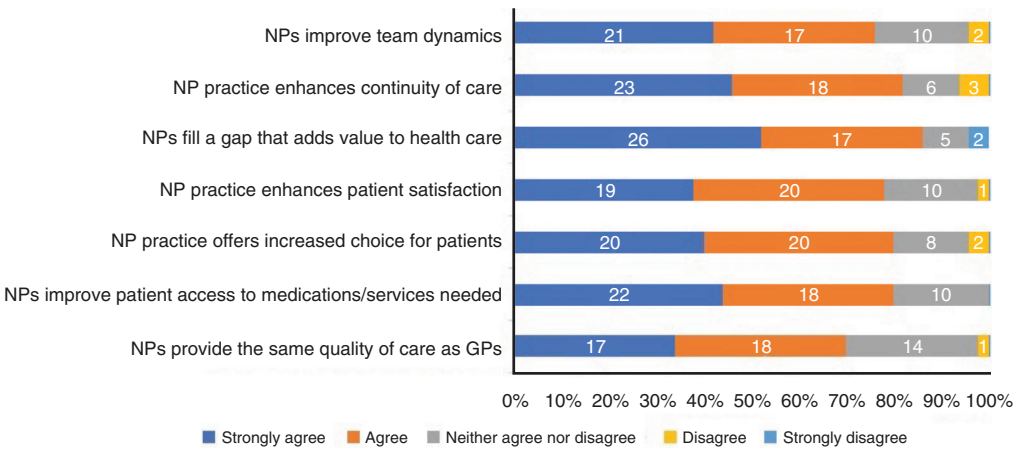


Figure 3. Advantages of nurse practitioners (NPs). Responses from respondents that do employ an NP (n = 50), showing percentages and frequency.



major hospital and 24 (16.8%) were located >60 min from a major hospital. Of the 54 practices employing ≥1 NP, 30 (55.5%) were located within 30 min of a major hospital and nine (16.7%) in practices located >60 min from a major hospital.

Perceived advantages of the NP role

Managers were asked to record their level of agreement on advantages of the NP role. Only 127 (88.8%) respondents answered this set of questions; 77 in practices that did not employ a NP (Figure 2), and 50 from practices employing ≥1 NP (Figure 3). When compared statistically, in all except one item, respondents who managed ≥1 NP were more likely to agree or strongly agree with perspectives relating to the positive impact of NPs (Table 1). The only non-significant result was where both groups of respondents agreed that NP practice offered increased choice for patients (Table 1).

Barriers to employing a NP

All respondents multi-selected items as barriers to employing a NP from a list derived from the literature.[13,14] Table 2 shows the number of responses counted for each barrier, together with responses by participants employing and not employing a NP.

Table 1. Comparison of perspectives of participants who do and do not employ nurse practitioners (NPs), by proportion who agreed or strongly agreed with the survey item

Survey item	Do NOT employ NPs ($n = 77$) Agree (%)	Employ NP(s) ($n = 50$) Agree (%)	*P*
NPs improve team dynamics	36.4	76.0	<0.001
NP practice enhances continuity of care	63.6	82.0	0.026
NPs fill a gap that adds value to health care	70.1	86.0	0.039
NP practice enhances patient satisfaction	41.6	78.0	<0.001
NP practice offers increased choice for patients	72.7	80.0	0.349
NPs improve patient access to medications and services	54.6	80.0	0.003
NPs provide the same quality of care as GPs	31.2	70.0	<0.001

Table 2. Frequency (n) and percentage (%) of total respondents (143); and sub-groups of respondents who employ (n = 54) and do not employ nurse practitioners (NPs; n = 89) in their practice

Barrier	All		Do NOT employ NPs ($n = 89$)		Employ NPs ($n = 54$)		*P*
	n	%	*n*	%	*n*	%	
Confusion of GP and NP roles	40	28.0	26	29.2	14	25.9	0.70
Limitation of space and/or facilities	38	26.6	30	33.7	8	14.8	0.01
Attitudes of patients and other providers to NPs functioning in an expanded role	30	21.0	21	23.6	9	16.7	0.30
The reluctance or inability of GPs to delegate	29	20.3	23	25.8	6	11.1	0.03
Lack of appropriate job classification within the organisation	21	14.7	13	14.6	8	14.8	0.97
Inadequate experience or qualifications	18	12.6	14	15.7	4	7.4	0.13
NPs prefer more allocated time with patients	17	11.9	11	12.4	6	11.1	0.81
The hesitation of NPs to seek increased responsibility and accountability	19	13.3	11	12.4	8	14.8	0.67
Resistance from the medical model of health care	15	10.5	10	11.2	5	9.3	0.74
Patient needs are too complex for NPs to practice effectively	11	7.7	7	7.9	4	7.4	0.91
Patient workload is too challenging for a NP to practice safely	10	7.0	6	6.7	4	7.4	0.87
Fragmentation of service provision	8	5.6	7	7.9	1	1.9	0.13
Interpersonal or team conflicts	7	4.9	4	4.5	3	5.6	0.77
Total	**263**		**80**		**183**		

GP (general practitioners).

Generally, there were no significant differences between groups in reported barriers. The most frequently cited barrier for both groups was persisting confusion about the roles of GPs and NPs ($n = 40$, 28%). Respondents not employing NPs were more likely to cite the limitation of space ($P = 0.01$) and the reluctance of GPs to delegate ($P = 0.03$) as barriers.

Overcoming challenges to employing NPs in general practices

Respondents were asked to state in a free-text field the three most important factors to overcome the challenges to employing or retaining NPs; 109 respondents made a total of 276 statements that were coded and themed (Table 3). Three main

Table 3. Recommendations to overcome challenges to employing or retaining nurse practitioners (NPs), with the frequency (n) and percentage (% out of 276) responses for each item

Theme	*n*	%
Organisational environment	**113**	**40.9**
Sustainability of business model for NP employment, including salary (and locum rates); funding to support employment of NP; conditions of employment	37	13.4
Support for NP model of care; change management and supportive environment for teamwork and collaborative practice	37	13.4
Availability of space and resources for NPs to work effectively	15	5.4
GP attitudes, acceptance, trust of NPs, role understanding, and buy-in	17	6.2
Balancing NP workloads	7	2.5
NP scope of practice and role	**66**	**23.9**
Awareness, knowledge, and promotion of NP scope of practice, for governance structures and managers/leaders in practice settings	29	10.1
Patient/public awareness & acceptance of NP role, including paying for NP services	15	5.4
Responsibility and accountability of NP and GP roles clearly defined	12	4.4
Knowledge of NP role within wider health-care team, including hospital staff and secondary specialists; system recognition of NP role in contracts	10	3.6
NP workforce development	**97**	**35.1**
Availability of NPs to work in PHC practice settings	27	9.8
Training and education of NPs and development of RNs to become NPs	14	5.1
Peer support, mentoring and clinical supervision; professional development	13	4.7
Salary clarity and consistency	12	4.4
Ability to work after-hours in rural areas	10	3.6
Readiness and demonstrating confidence to work independently	10	3.6
Knowledge of NP to work within business model of practice	7	2.5
National leadership and advocacy of NP role in PHC	4	1.5
Total	**276**	**100%**

PHC (primary health care); RN (registered nurses).

themes emerged; organisational environment (113 statements, 41%); NP scope of practice and role (66 statements, 24%); and NP workforce development (97 statements, 35%), with various sub-themes under each main theme.

Organisational environment

It was evident that cost, funding, and NP salary were issues requiring attention. Concerns included:

> 'They are expensive and [I'm] not sure how independently they can work.'
> 'They want the same amount of money as [the] manager, and not much less than a doctor.'
> 'The Boards, employers, are shocked at the cost of employing the nurse as an NP, and seem unprepared for that next step of [the] employment process.'

There were mixed responses in relation to GPs' readiness to work with NPs, and the need to overcome any existing resistance and reduce the 'so called threat' was mentioned. Some respondents commented that they were unsure how NPs generated income and how they would fit into the current practice and business model:

> 'GP is … concern[ed] over [the] ability [of NP] to generate sufficient income to meet cost.'
> '[A NP] does not suit our business model.'
> '[We] don't see any need for any [NPs] and don't need to change what we're doing because it's working fine.'

> 'We have been unable to integrate the NP into our model of care.'

Others saw that the NP role offered the opportunity to change the medical model, by:

> 'Altering the current model of care that is currently very GP centric.'

One manager described:

> '[NPs] are more of an asset to a practice than most regular GPs.'

Gaining 'buy-in' across the practice was important, along with information and training to implement NP roles. One respondent stated:

> 'I am a business manager and would love to hire a NP. There needs to be more visibility and education to medical businesses around the skills of a NP.'

Nurse practitioner scope of practice and role

The need for knowledge of the NP scope of practice and role were described. One employer stated:

> 'While there are expanding care teams, little or no support has been put in place to ensure we capitalise on the potential of each expanded team member…. What is often missing is the actual operational aspects of how.'

Frequent comments were made in relation to GPs and nurses needing to better understand the role of the NP; for example:

> 'GPs find it hard to define what NPs can and can't do.'
> '[There is a need] for education for GPs and practice nurses regarding the role of a NP and the value they can bring to general practice.'

Similarly, an educational need was identified for other health-care workers, including hospital specialists and patients:

> '[We] need to promote the benefits of having a NP to staff, management, [and] patients.'

Although some respondents perceived resistance from patients to seeing a NP, others stated that NPs 'improve access' and 'enhance patient satisfaction'.

Nurse practitioner workforce development

The availability of NPs to work in general practice was most frequently described as requiring change. Nine respondents implied that they had attempted to recruit a NP in the past without success. Although practices of 11 participants were in the process of training one or more NPs, others identified the need for more information on the educational pathway, costs, and supervision required for NP training. However, one respondent stated:

> 'We put a NP through training, but did not have a position for her when she graduated because we were overstaffed by doctors at the time.'

Once registered, the importance of peer support and ongoing mentoring was stated. One practice manager described:

> 'In our practice there has been no barrier to employing our NP. She is fantastic and highly experienced. A recent experience with a locum NP has shown that the workload is challenging for new NPs. If we were employing a new NP with less experience, we would provide teaching, as we would with a registrar, and an ongoing support programme.'

There was a range of areas where improved clarity was required, including national information on salaries and the need for NPs to know about the practice's business model.

Discussion

This exploratory survey has described barriers and enablers to employing NPs in primary care general practice from the perspective of 143 managers, adding to a growing body of knowledge about establishing primary care NP roles in New Zealand.[5,10,16,21–23] Although most managers in this study affirmed international research that NPs offer positive outcomes for patients,[2–4] there were significant differences between the perspectives of participants with experience of working with and managing NPs and those without this experience. This affirms anecdotal reports in New Zealand that once a practice team has worked with a NP, their acknowledgment and understanding of the value of the NP role is realised. There is a need for more available and transparent information on the nature

and role of NPs, including how to develop and implement models of care within the existing structures of primary care organisation and funding. Establishing collaborative practice teams, organisational processes to support service delivery models, and business models with cost-benefit analyses are important enablers to implementing NP roles.[13–16]

The survey revealed mixed levels of knowledge about NPs, which act as barriers to effective utilisation. Key areas of incorrect or inadequate knowledge related to NPs' scope of practice and their potential contribution including the degree of autonomy and independence in NP practice, whether ongoing supervision is required, appropriate remuneration and the income-generating potential of NPs for the employing business. Confusion is further exacerbated when NPs are new to the role and, as for any novice, finding their way and seeking support. Perceived confusion around the scope of NP practice requires reframing professional roles and activities within practices.[24,25] Yet, where NPs and GPs do work together, there is a willingness to overcome system-level barriers and develop collegial relationships and collaborative practice models.[26,27] Mutual respect and trust, effective communication, and a shared philosophy of care are crucial to the development of these interprofessional relationships,[25,27] with these attributes supported in policy and funding arrangements.[26,28]

A degree of frustration was evident that potential employers in this study found it difficult to locate NPs for vacancies, including in rural areas. Registered nurses remain the only workforce evenly distributed across rural areas and small towns in New Zealand.[23] Managers wanted more information about how registered nurses become NPs and the requirements for clinical practice, supervision, and education. Although Ministry of Health initiatives promote the NP workforce in rural and primary care settings,[29,30] a process of local investment and support is required to develop the NP workforce.[10] The NP workforce offers potential for highly cost-effective and accessible primary care for a sector under considerable workforce stress.[5]

Legislative, policy, and funding impediments to allow NPs to be fully viable members of general practice teams have steadily been removed since the NP role inception in 2001. NPs are a vital factor in maintaining sustainability of service delivery, but this survey reveals often poorly embedded knowledge at a practice level about the NP workforce. Exemplars, case studies, and further research is needed to share information from practices that have successfully established the role.

Limitations to this study include the small sample size recruited using a non-probability approach through distribution of a survey via two organisations. The denominator and response rate is estimated on this membership. Respondents self-selected to offer a management perspective from primary care practices. Caution needs to be applied when interpreting the results. Qualitative data were limited to open-text responses.

Competing interests

The authors declare no competing interests.

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