Enhancing care, improving quality: the six roles of the general practice nurse

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ABSTRACT

Objective: To describe the evolving roles of practice nurses in Australia and the impact of nurses on general practice function.

Design, setting and participants: Multimethod research in two substudies: (a) a rapid appraisal based on observation, photographs of workspaces, and interviews with nurses, doctors and managers in 25 practices in Victoria and New South Wales, conducted between September 2005 and March 2006; and (b) naturalistic longitudinal case studies of introduced change in seven practices in Victoria, NSW, South Australia, Queensland and Western Australia, conducted between January 2007 and March 2008.

Results: We identified six roles of nurses in general practice: patient carer, organiser, quality controller, problem solver, educator and agent of connectivity. Although the first three roles are appreciated as nursing strengths by both nurses and doctors, doctors tended not to recognise nurses' educator and problem solver roles within the practice. Only 21% of the clinical activities undertaken by nurses were directly funded through Medicare. The role of the nurse as an agent of connectivity, uniting the different workers within the practice organisation, is particularly notable in small and medium-sized practices, and may be a key determinant of organisational resilience.

Conclusion: Nurseing roles may be enhanced through progressive broadening of the scope of the patient care role, fostering the nurse educator role, and addressing barriers to role enhancement, such as organisational inexperience with interprofessional work and lack of a career structure. In adjusting the funding structure for nurses, care should be taken not to create perverse incentives to limit nurses' clinical capacity or undermine the flexibility that gives practice nursing much of its value for nurses and practices.

MJA 2009; 191: 92–97

Practice nursing is one of the few growth areas in the Australian general practice workforce. Between 2003 and 2007, the number of practice nurses nearly doubled, to 7824.[1,2] By contrast, in the 5 years to 2005, the Australian nursing workforce increased overall by only 6.6%.[3,4] The growth of general practice nursing has been facilitated by a number of Medicare-rebatable items for nurses, incentives in rural areas to hire nurses, support from the Divisions of General Practice,[5] and the federal government's Nursing in General Practice program. Employing practice nurses has been touted as a way of solving health workforce shortages[6] and improving quality of health care.[7,8] Despite the largely positive rhetoric about practice nurses in the medical and mainstream media,[9,10] there has been little detailed research on their roles or the ways in which they may be changing the general practice workplace.[11]

Australian general practices are small-scale, geographically dispersed businesses with considerable structural diversity. Australian studies on practice nursing have for the most part been small studies using interviews (which may have poor generalisability)[12,13] or larger surveys of reported activities by nurses (which may overlook contextual issues).[14,15] Our study aimed to describe the evolving roles of practice nurses in Australia and the impact of nurses on general practice function.

METHODS

Tracing practice nurse activities is methodologically complex, particularly during a time of rapid change. Our study had two components:

- A cross-sectional study exploring the scope and contextual determinants of nurse roles (Substudy 1); and
- A 12-month longitudinal study exploring change in nurse roles and their impact on general practices as organisations (Substudy 2).

For Substudy 1, multiple data were collected during day-long visits (one per practice) to 25 practices in New South Wales and Victoria between September 2005 and March 2006 (Box 1). The diverse datasets gathered (using interviews, observations, photographs, field notes and practice maps) were designed to illuminate the relationships between nurse roles and the practice's physical and managerial structure, as well as the perspectives of nurses, managers and general practitioners on nurse roles (Box 2).

For Substudy 2, action research (a process of collective problem-solving)[17] was used to engage nurses, GPs and practice managers in identifying and introducing a change to the role of the practice nurse. The sampling frame included seven practices nominated by their Divisions of General Practice as "cutting edge" or "mainstream" general practices (one urban, three regional and three rural practices located in Victoria, NSW, Western Australia, South Australia and Queensland). The impact on the practice was followed with collection of baseline, process and outcome data over a 1-year period (between January 2007 and March 2008) and interviews with practice and Division staff (Box 2). Practices received minimal external support from the research team.

Analysis

In both substudies, intra-case and inter-case analyses were performed for each practice by a multidisciplinary team (sociologist, nurse, GP, policy analyst). The team probed for emergent themes, using the constant comparison method,[18] and cross-checked with practices. Emergent themes included structural elements (health care policy, environment, gender, nursing culture); practice-level elements (interprofessional relationships, time-use patterns, spatial structures); and individual factors. All data, including photographs and floorplans, were coded into a database using NVivo qualitative data analysis software, version 7 (QSR International, Melbourne, Vic), enabling triangulated data interpretation.

Ethics approval

Our study was approved by the human research ethics committees of the Australian National University and the Royal Australian College of General Practitioners.

1 Characteristics of participating practices, Substudy 1

Practice number (location)	Number of GPs	Number of nurses	Business structure
1 (rural)	2	3	Private
2 (rural)	5	2	Private
3 (rural)	13 (mainly male)	6	Private
4 (rural)	7	4	Private
5 (rural)	6	7	Public/state community health centre
6 (rural)	8	6	Private
7 (rural)	1	2	Solo GP
8 (rural)	4	2	Private
9 (rural)	3	5	Private + experimental collaborative model with state partners
10 (rural)	1	1	Solo GP
11 (rural)	6	6	Private
12 (remote)	2	2	Private
13 (regional)	4	1	University medical centre
14 (regional)	4	2	Private
15 (regional)	8	3	Private
16 (regional)	4	5	Private
17 (metropolitan)	12	2	Private
18 (metropolitan)	12 (mainly female)	3	Private
19 (metropolitan)	3	1	Private
20 (metropolitan)	17	5	Corporate
21 (metropolitan)	8	1	Private
22 (metropolitan)	7	2	Private
23 (metropolitan)	8	3	Private
24 (metropolitan)	9	4	Private
25 (metropolitan)	5	5	Private

GP = general practitioner. ◆

RESULTS

We identified six roles for nurses in general practice: patient carer, organiser, quality controller, problem solver, educator and agent of connectivity. We illustrate these with reference to Substudy 1, and discuss enhancement of these roles with reference to Substudy 2.

Substudy 1

Patient carer

For nurses, "patient care" incorporates both clinical activities and relationships with patients. Nearly half (43.5%) of the observed nurse time was spent in clinical activities: vaccinations; patient education; wound management; chronic disease monitoring and support; Pap smears; tests such as spirometry and electrocardiograms; assisting with procedures; health assessments; and triage. Only 21% of the clinical activities undertaken by nurses were directly funded through Medicare.

In practices with many part-time doctors or busy full-time doctors, continuity of care or outreach was often vested in the nurse.

> [B]ecause I do health assessments I know a lot of them and they do ring me too for problems they have. I'm expecting someone to come over — I've just organised a new blood sugar monitor for her. She's a diabetic and she rang me and said she wanted to know how to use it. So I'm going to go through that with her . . . she doesn't have to see the doctor, it's just a service, just an extra thing to fit into the day. [Practice nurse 2, Practice 5]

The scope of patient care undertaken by nurses often reflected the nature of interprofessional collaboration within a practice. A rural GP in a single-doctor practice who felt swamped by "the bottomless demands of the public" restructured his practice so that the nurse could work as a parallel clinician. In another practice with a hierarchical structure, in which all clinical work undertaken by nurses was supervised by GPs, the nurses expressed frustration that they performed a fraction of the clinical work they had undertaken in hospitals.

Many GPs commented that patients talked more freely to nurses and often raised important issues that they did not raise with the doctor. This was attributed to patients' reluctance to "bother the busy doctor", or to the responsive, nurturing orientation of nursing professional culture. Nurses highlighted the personal importance of positive patient interactions and the satisfaction they gained from fulfilling patient needs.

Organiser

Nurses undertook the organisational aspects of patient care (recall systems, reminders, feedback of patient results, follow-up of specialist appointments) and systems supporting patient care (stocking drugs, cleaning and sterilising instruments, managing contaminated waste). A range of nurses' desks, demonstrating the way they configure their workstations as places that communicate organisational and clinical activity, is shown in Box 3. The organisational features, such as crowded pin-up boards, "post-it" notes and flyers, are typical of nurses' rather than doctors' desks.

In their photographs of key working sites, nurses identified utility rooms containing medications, sterilising or other supplies as second only in importance to treatment rooms. Nevertheless, components of the organising role could be delegated — for example, two practices with longstanding nurses had trained assistants to undertake stocking and sterilising.

Quality controller

All respondents raised practice accreditation as an activity that called on nursing strengths in procedures and systematised practice.

> I was involved in the first accreditation process and I really needed her expertise. Nurses, they understand a lot of — because of their hospital background — a lot of this bureaucracy-speak which is foreign to general practice. [GP, Practice 16]

Although GPs almost universally expressed frustration with the accreditation process, nurses described it as a good benchmarking activity and the basis for ongoing reflection.

2 Description of datasets for each substudy

Data collected	Participants	Comments
Substudy 1: Cross-sectional study using rapid appraisal (25 practices)		
Interviews with nurses	36	Mean length, 41 min (range, 16–69 min)
Interviews with doctors	24	Mean length, 27 min (range, 12–49 min)
Interviews with practice managers	22	Mean length, 27 min (range, 14–60 min)
Observation of nurse activity	34	Total of 51 hours in 25 practices*
Photographs of nurse-identified important working sites	35	Total of 205 photographs (mean of 9 per practice)
Maps of practice layout		Seven hand-drawn, 18 printed floor plans
Field notes		Field notes were taken at each practice
Substudy 2: Longitudinal study of change in the practice nurse role (7 practices)		
Baseline practice descriptions, including genograms,[16] service use patterns and context descriptions	7	Baseline data on nurse roles in general practice, and practice attitudes to teamwork. Collected during two workshops attended by a GP, manager and nurse from participating practices
Project planning and evaluation documents, with output data	7	Data were used to explore whether goals for change were successfully met
Monitoring interviews with practice staff during implementation and follow-up (at least 6 months after change implementation)	Nurses: 7 during, 6 after change;† managers: 5 after change; doctors: 2 after change	Data on impact of change process on nurse role(s) from the perspective of nurses (during and after change) and managers and doctors (after change). Practices identified whether doctor or manager would provide 12-month interview
Monitoring interviews with Divisional support staff during implementation and at follow-up (at least 6 months after change implementation)	7 during change; 7 after change	Data explored impact of change process on nurse role(s) from the perspective of external support worker

GP = general practitioner. * Nurses in one practice were observed for 3 hours. † Due to staff turnover, the practice nurse involved in one change project had left by the time of follow-up. ◆

3 A range of nursing stations in general practice, illustrating the organiser role of nurses

This workstation, reminiscent of a hospital nurses' station, overlooks a multibed treatment room.

The organisational function of this workstation is indicated by the profusion of "post-it" notes on the noticeboard, although patients also consult the nurse in this space.

This workstation is in a transitional space where the nurse cannot consult with patients. It is a site of purely organisational activity. The sign above the station reads "Good practice nurses are worth their weight in gold". ◆

> Accreditation is good. It makes you pull up your socks and just go back and just look at yes, am I doing it right [even if] it is very difficult for us because of our lack of space. [Practice nurse 2, Practice 6]

In relation to infection control and safe disposal of sharps, GPs and nurses often described the nurse's role as monitoring the behaviour of other staff.

Problem solver

In contrast to the organiser role, the problem solver role was characterised by more proactive and strategic behaviour. This role involved complex thinking, incorporating contextual scanning, assessment and rapid response.

> [She's] the one who will pick up on when … in those rare circumstances with follow-ups, she will think of all the things that could go wrong before they go wrong. [Practice manager, Practice 24]

Examples of problem solving included circumventing patient emergencies, alleviating triage stress for receptionists, and brokering between staff to prevent disputes. During the observations, one nurse fixed the waiting room radio, another solved a problem with the practice software, and a third (in 40 minutes and five phone calls) cajoled an urgent cheque from the shire council for a sick patient.

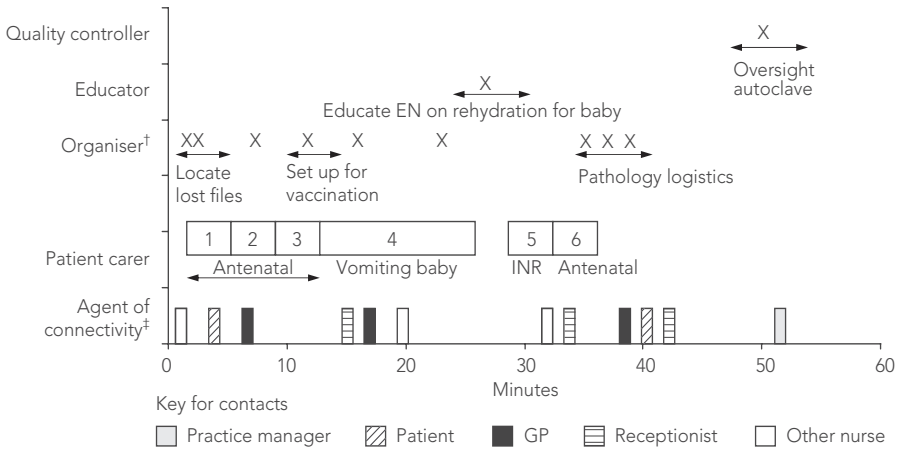
The relatively flexible time-use patterns of nurses enabled the responsiveness that underlies this role. While doctors are occupied with back-to-back patient appointments, nurses can move, in the words of a practice manager, "from looking after things with the practice and then to the patient and then to the practice". Although nurses, and to a lesser extent GPs, were aware of this role, it was practice managers who described most clearly how the problem-solving role of nurses enhanced organisational function.

Educator

In addition to the patient education included in the patient carer role, nurses were educational resources for practice staff. Nurses, who are used to training and professional development in the hospital system, speak of education as a resource for others and describe an explicit responsibility to distribute new knowledge to peers.

Nurses were observed educating other nurses, receptionists, junior doctors and — often in a non-directive way — senior doc-

4 Example of rotation between practice nurse roles in a rural practice (Practice 4), 12:00–13:00*



EN = enrolled nurse. GP = general practitioner. INR = international normalised ratio. * Each "X" represents a discrete task. Numbers beside "Patient carer" represent patient 1, patient 2, etc. † Unannotated organiser activities: sending two faxes, arranging a patient recall. ‡ Legend indicates different general practice members and patients with whom the nurse had contact. All contacts were less than 2 minutes in duration. ◆

tors. The educational content was usually around clinical issues (eg, wound management, women's health, diabetes) or organisational protocols. Many nurses had also become the "go to" person for solving problems with practice software systems. Although the educator role was observable and discussed by managers and nurses, very few doctors recognised this role. Even fewer practices formally supported education by nurses in the practice (eg, through presentations at meetings).

Agent of connectivity

Nurses operated as agents of connectivity between different disciplines within the practice and between patients and the practice. Observations revealed that nurses spent 45% of their time in contact with patients and 16% of their time in contact with other general practice staff. Triaging is a signal nursing activity, and nurses often undertook informal surveillance of the waiting room. This allowed them to have intercurrent conversations with patients, which (in the accounts of administration staff) helped to mollify dissatisfied patients and to ensure that sick patients were given priority.

Nurses helped to "bridge the gap" between clinical and administrative staff. Administrative staff generally saw nurses as flexible and responsive, with clinical expertise, while GPs described them as being "able to do" administrative as well as clinical work. This suggests that nurses are uniquely positioned in having a working knowledge of other staff roles within the practice.

Most nurses had desks in treatment rooms or similar spaces. Those who did not often had workstations in makeshift areas that were practice thoroughfares — for example, in a corridor or a corner off the reception desk. Although locating desks in central or common areas could be challenging for nurses, it also meant that they were the staff member that everyone communicated with. Nurses were highly mobile in their work, and in most practices a cultural norm was observed that enabled nurses to access all practice spaces, including doctors' rooms.

The location of nurses in public space, the nursing professional behaviour of being responsive to the needs of others, and their centrality in staff communication meant that nurses became pivotal links in practice functioning and organisational cohesion.

Rotation between roles

Nursing work is generally very busy, with nurses rapidly cycling between many roles or undertaking them concurrently. An example of cycling between five roles in one rural general practice is presented in Box 4. While undertaking several clinical tasks, the nurse also left the room to locate lost files, oversee the transfer of pathology specimens to the courier, and have a conversation with a patient in the waiting room. She then educated her nursing colleague about oral

5 Changes introduced to nurse roles, Substudy 2

Practice number (location)	Change sought	Change reached	Change sustained at 6 months	Nurse role(s) to be enhanced	Role change reached	Role change sustained
26 (rural)	Nurse-led clinics	Yes	Yes	Patient carer; organiser	Yes	Yes
27 (regional)	Workplace education for nurses	Yes	No	Educator	No	na
	Nurse health assessments	No	na	Patient carer	No	na
28 (regional)	Nurse health assessments	Yes	Yes	Patient carer	Yes	Yes
29 (regional)	Evening clinic	Yes	Yes	Patient carer	No	na
	Integrated nurse health assessments	No	na			
30 (metropolitan)	Rapid assessment clinic run by nurse and GP	Yes	Yes	Organiser; patient carer	Yes	Yes
31 (rural)	Nurse-led collaboration for better mental health care communication	Yes	Yes	Agent of connectivity; problem solver	Yes	Yes
32 (rural)	Nurse appointment books	Yes	Yes	Organiser; patient carer	Yes	Yes

GP = general practitioner. na = not applicable. ◆

rehydration. The layout of the practice, with a central treatment room affording ready access from the GP consultation rooms and reception desk, reinforced her connectivity role.

Substudy 2

The nurse roles addressed in Substudy 2 are listed in Box 5. The patient carer role was addressed most frequently, reflecting its primacy in the eyes of all clinicians in general practice. Enhancing the nurse role in one area often had the complementary effect of advancing other roles (Box 6). Open communication between GPs, managers and nurses was an important determinant of successful enhancement of nurse roles. In Practice 29, which failed to enhance the patient carer role through one project, the collaborative planning process resulted in identification of another project to (successfully) enhance this role. The inability of Practice 27 to introduce a change in the educator role was because of the lack of priority given to education and connectivity by doctors in a practice that lacked systems for formal interdisciplinary communication.

Changing nurse roles can be daunting, especially where new ways of working are outside a nurse's organisational experience. This can be compounded by differences in medical and nursing professional cultures and by the employer–employee relationship operating in most general practices. In Practice 31, the nurse expanded her connectivity role by making functional links for the practice with mental health professionals in preparation for the practice's employment of a mental health nurse. As the nurse had little experience in administration or management, skilful support by the practice manager was needed to ensure that the role expansion did not overwhelm her. In Practice 26, the proposed model called for nurses to generate patient lists for their own clinics, a challenging process for nurses who had never self-generated a population of patients. This project needed external support from the Division of General Practice to overcome the psychological challenges raised by a large-scale change.

DISCUSSION

Our study showed that practice nurses perform at least six roles, often alternating rapidly between them. The six roles elaborate on, and are consonant with, the four domains of practice articulated in a 2004 Australian report on practice nurse roles: administration, clinical care, integration and practice management.[14] The connectivity role represents a fundamental nursing strength that has also been described in Australian hospital studies.[19] The function of nurses as agents of connectivity has been implicitly taken up in the interim report of the National Health and Hospitals Reform Commission[20] in its calls for nurses to be in schools, provide aged-care outreach, support disabled patients, and foster connections between hospital and community. Complexity theory suggests that interconnecting, complex relationships and linkages within an organisation help it to be resilient and adaptive.[21-23] Our study suggested that the connectivity role of nurses may help drive organisational resilience in general practice.

Strengths of our study were its multimethod approach, the longitudinal nature of the case studies, and its incorporation of the perspectives of different disciplines within the practice. Limitations included the absence of the patient voice and the fact that observations underestimated nursing clinical activities, as some nurses limited appointments during the observation period because of concerns about patient confidentiality.

Although GPs recognised the nurse roles of patient carer, organiser and quality controller, they were less aware of the problem-solver, educator and connectivity roles. Representations from GPs on the potential scope of practice of nurses may, therefore, underplay some key nursing contributions to general practice. At present, these roles are supported by the more flexible working patterns of nurses. In adjusting the funding structure for nurses, care should be taken not to create perverse incentives to limit nurses' clinical capacity or undermine the flexibility that gives practice nursing much of its savour for nurses and value for practices.[24,25]

Nurse roles are not rigid, and some roles described here — particularly the organiser role — may be delegated to other workers. The educator role could be expanded to support education for patients and to formalise the education of medical and nursing students in clinical placements.

Many of the nurses in our study were highly accomplished clinicians who expressed frustration at the limited clinical care they were able to provide in general practice. To realise the full potential of nurses' skills, they need to be supported to expand their roles, not just because of workforce shortages, but because of the contribution they make to improving patient care. In our study, improvement in interprofessional working was rapidly facilitated through for-

6 Case study of multiple role enhancement (Practice 30)

This urban practice, consisting at baseline of seven doctors, one part-time nurse and a practice manager, had long waiting times and struggled to accommodate "walk-in" patients. The general practitioners spent a lot of unpaid time on the phone providing advice or following up patients.

At the beginning of the study, the practice nurse roles were primarily quality control and patient care, as directed by doctors. Because nurses had not previously been employed in the practice, many GPs were not attuned to working collaboratively with them.

The practice introduced a rapid assessment clinic for simple medical needs. The nurse assessed each patient and then advised the GP on care needs. Appointments were 10 minutes in length, were generally available within 24 hours, and were usually bulk-billed.

Six months after the change was introduced, the practice had doubled the number of people seen in the rapid assessment clinic, and telephone requests for scripts had halved. The practice now employed three nurses. Because GPs rotated through the rapid assessment clinic, all gained experience in collaborative working with practice nurses. As one practice manager commented:

> The most significant [unexpected outcome] would be the relationship between the GPs and the practice nurse … There is a much more collaborative feel about how they interact on a professional level now ... I know yesterday, for instance, one of the GPs actually went into Sandra's* room, closed the door and sat down and said, "I need to have a chat with you about this patient, this is where I'm going with it, what do you think?" Now if you had told me that was going to happen 18 months ago …

The change led to significant improvements in team culture, as well as meeting a direct patient need to make the service more responsive. The change was specifically intended to enhance the patient carer and organiser roles, but also enhanced the educator and agent of connectivity roles.

* Name has been changed. ◆

mal change management processes, including collaborative planning, review and external support. Enhancement of the practice nurse role also requires structural changes, including infrastructure support within the practice, a clear delineation of the scope of enhanced clinical practice for practice nurses, and the development of career pathways to enable nurses to craft a career, rather than a sojourn, in general practice.

ACKNOWLEDGEMENTS

Our research was funded by a grant from the Australian Government Department of Health and Ageing through the Australian Primary Health Care Research Institute (APHCRI). We are grateful to the staff of all participating general practices, the Divisions of General Practice who supported the research, and to Monika Thompson, Hannah Walker, Daniel Sybaczynskyj and Miriam Glennie for their research assistance. The opinions expressed in this article are not the opinions of APHCRI or the Department of Health and Ageing.

COMPETING INTERESTS

None identified.

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(Received 13 Apr 2009, accepted 1 Jun 2009) ❑