

The work, education and career pathways of nurses in Australian general practice

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Abstract. There is little understanding about the educational levels and career pathways of the primary care nursing workforce in Australia. This article reports on survey research conducted to examine the qualifications and educational preparation of primary care nurses in general practice, their current enrolments in education programs, and their perspectives about post-registration education. Fifty-eight practice nurses from across Australia completed the survey. Over 94% reported that they had access to educational opportunities but identified a range of barriers to undertaking further education. Although 41% of nurses said they were practising at a speciality advanced level, this correlated with the number of years they had worked in general practice rather than to any other factor, including level of education. Respondents felt a strong sense of being regarded as less important than nurses working in the acute care sector. Almost 85% of respondents reported that they did not have a career pathway in their organisation. They also felt that while the public had confidence in them, there was some way to go regarding role recognition.

Additional keywords: primary care, training, workforce.

Introduction

Australian general practice is employing an increasing number of practice nurses, with 8914 nurses employed in 2009 (Australian General Practice Network 2010). This is an increase of 15 per cent in the practice nurse workforce since 2007 (Australian General Practice Network 2010). Numbers of nurses in general practice are expected to rise significantly as the incentives to employ a practice nurse announced in the Federal Budget 2010 are rolled out in 2012 (Australian Government 2010). This initiative provides \$390 million to support around 4600 more full-time equivalent practice nurses. Under the initiative, funding for most task-specific roles will be replaced by an incentive payment for general practitioners to employ nurses for the adoption of broader roles. With the pressures on primary care brought about by workforce shortages and an increasing prevalence of chronic and complex conditions, practice nurses will continue to play an important role in the delivery of primary care. We have previously argued that careers in primary care settings, such as general practice, are not seen as attractive by nurses, yet nurses are increasingly involved in a range of roles from basic to advanced responsibilities within general practice, including the management of complex health problems (Keleher *et al.* 2009; Parker *et al.* 2009, 2010).

Practice nursing is a relatively new professional track in Australian nursing and as such nursing education and training has not been well developed for this branch of the nursing

workforce. Nurses practise in diverse settings, yet the effectiveness of pre-service education programs in preparing nurses for roles in settings such as community, home and general practices is limited (Bryan *et al.* 1997; Brookes *et al.* 2004). In addition, post-registration education for nurses in general practice has been developed in an ad hoc manner and is not underpinned by quality assurance mechanisms. Over one-third of practice nurses in a 2004 study had no post-registration qualifications (Watts *et al.* 2004). Of concern is that there is no overt link between education and competency standards for practice nurses (Australian Nursing Federation 2005). This is not surprising given that a comprehensive policy framework to support the career development of nurses in a range of primary care settings is yet to be adopted in Australia. Furthermore, there has been little provision for mandatory training of practice nurses, which Baird (2003) argues is necessary to support role and career development.

The diverse roles undertaken by practice nurses in Australia was explored by Phillips *et al.* (Phillips *et al.* 2008, 2009). The findings from this study suggest that practice nurses have six key operating roles: patient carer; quality controller; organiser; problem solver; educator; and agent of connectivity (Phillips *et al.* 2008). Joyce and Piterman (2011) confirm the generalist nature of the practice nurse role and note that change in the practice nurse role ‘...will require consideration of the implications for qualifications, to ensure that tasks and

responsibilities are commensurate with competence levels' (Joyce and Piterman 2011).

For practice nurses to continue expanding their roles in primary care, data are needed about their current educational preparation for this work (Parker et al. 2009) in order to inform the development of appropriate education and training (Halcomb et al. 2009). More data are also required to understand how nurses describe their roles in general practice and about their scope of practise. To that end, the study reported here aimed to ascertain the qualifications of nurses working in general practice, their postgraduate education, the nature of the work these nurses undertook in their practice and how this influences the level at which they perceive they practise. The survey was adapted from the New Zealand Primary Health Care and Community Nursing Workforce Survey 2001 (Ministry of Health New Zealand 2003), which was conducted to ascertain the situation of primary health care and community nurses, and to identify obstacles to their fuller contributions to policies and strategies in New Zealand. The New Zealand survey identified an ageing primary care nursing workforce, lack of a clinical career pathway for over half the respondents to the survey and difficulty in accessing educational opportunities due to lack of time, lack of funding and lack of relief staff to cover absences. The survey found that there were few management structures and/or leadership roles for nurses working in the primary and community health sectors, and that nurses felt a strong need for communication and collaboration with a wider range of health professionals beyond the practice in which they worked.

Methods

Ethics approval was gained from Monash University's Human Research Ethics Committee. The survey was adapted for an Australian context. It comprised 26 questions beginning with demographic and personal details about qualifications, education and training including educational opportunities and barriers to accessing education, nurses' perceptions of the relationship between their level of training and their current practice, the tasks they undertake, professional structures and supervision available to practice nurses, and opportunities to work collaboratively.

The study was undertaken during August and September 2008. Participants were recruited through advertisements in Australian General Practice Network (AGPN) newsletters, which are sent out to practice nurses in the Network. The advertisement invited practice nurses to contact the Chief Investigator by email if they wanted to participate and be sent a copy of the survey. This contact was voluntary and initiated by participants. This might account for the small response rate. Surveys ($n=78$) were emailed in a Word file to those who responded and 58 were returned via email or post depending on the preference of the participants.

Data were entered and analysed using IBM SPSS Statistics 19 (St Leonards, NSW, Australia) to derive descriptive statistics; however, the perceived level of practice was further analysed using logistic regression (State IC, Version 10). A P -value of <0.05 was considered statistically significant. Responses to open-ended questions, which asked for any comments respondents wanted to make, are included here to illustrate

nurses' perspectives on the issues explored and to give them a voice in this research. Initial content analysis was conducted and then a thematic analysis of the qualitative responses was developed to provide key themes.

Results

Demographics

Fifty-eight practice nurses completed the survey (74% response rate). The majority of the participants were women (96.5%) and were aged between 22 and 60 years of age with a mean age of 46 years (Table 1). On average, the respondents had worked in general practice for 4.6 years with 50% working for 3.5 years. All States and Territories were represented in the survey responses except the Northern Territory, and the practice nurses worked in urban, rural and mixed urban and rural locations (Table 2).

Qualifications, education and training

The majority of participants originally gained Division 1 nursing registration through the hospital-based training system 55.2% ($n=32$) or by completing a tertiary nursing degree 29.3% ($n=17$). The remainder of the participants (15.5%, $n=9$) were enrolled nurses (Division 2) who had completed hospital-based training. Several respondents had undertaken further tertiary study in addition to their original nursing qualifications. One (1.7%) enrolled nurse had subsequently completed a bachelor degree to qualify as a Division 1 registered nurse (RN). In addition, six (10.3%) hospital-trained registered nurses had subsequently completed bachelor degrees in nursing. Of all participants, 10 (17.2%) practice nurses had completed postgraduate qualifications relating to primary care.

A further 14 (24.1%) practice nurse participants were completing further qualifications at the time of survey completion. Only 10 of 14 indicated their course of study, which included: a bachelor degree being completed by another enrolled nurse participant ($n=1$, 7.1%); graduate certificates being completed by hospital-trained RNs ($n=5$, 35.7%) and tertiary-qualified RNs ($n=1$, 7.1%); a postgraduate diploma being completed by a hospital-trained RN ($n=1$, 7.1%); and a masters

Table 1. Demographics of practice nurses who participated in the work, education and career pathways survey

Demographic	Practice nurse participants	Practice nurses nationally according to the Australian General Practice Network 2009 survey ^A
Sex (n)		
Female	56 (96.5%)	1567 (98.2%)
Male	2 (3.5%)	29 (1.8%)
Years of age (mean)	46.0 (range 22–60)	
Years practising (mean)	4.6 (range 0.3–21.5) (percentiles: 25%, 1.9; 50%, 3.5; 75%, 6.4)	
Hours worked per week (mean)	28.2 (range 8–66)	

^ASource: Australian General Practice Network (2010).

Table 2. Number and percentage of practice nurses who participated in the work, education and career pathways survey according to the State or Territory in which they practice

State	Urban <i>n</i> (%)	Rural <i>n</i> (%)	Mixed urban and rural <i>n</i> (%)	Total <i>n</i> (%)	National headcount estimate ^A <i>n</i> (%)
Australian Capital Territory	0 (0)	0 (0)	1 (8.3)	1 (1.7)	107 (1)
New South Wales	1 (3.5)	2 (11.8)	1 (8.3)	4 (6.9)	2441 (27)
Northern Territory	0 (0)	0 (0)	0 (0)	0 (0)	197 (2)
Queensland	2 (6.9)	0 (0)	1 (8.3)	3 (5.2)	2061 (23)
South Australia	12 (41.4)	4 (23.5)	1 (8.3)	17 (29.3)	764 (9)
Tasmania	0 (0)	1 (5.9)	0 (0)	1 (1.7)	332 (4)
Victoria	10 (34.5)	8 (47.1)	6 (50.0)	24 (41.4)	2026 (23)
Western Australia	2 (6.9)	1 (5.9)	1 (8.3)	4 (6.9)	986 (11)
Unknown	2 (6.9)	1 (5.9)	1 (8.3)	4 (6.9)	0 (0)
Total	29 (100)	17 (100)	12 (100)	58 (100)	8914 (100)

^ASource: Australian General Practice Network (2010).

degree being completed by a hospital-trained RN ($n = 1$, 7.1%) and a tertiary-qualified RN ($n = 1$, 7.1%).

When asked about their access to educational opportunities, over 94% reported that they had access to such opportunities but the barriers to access were reported as financial (almost 71%), lack of relief staff to cover absence when studying (almost 64%) and the time required for study (over 58%). Almost 40% of respondents mentioned geographical issues as a barrier.

In response to the question, 'Within your organisation, is there a clinical career pathway for nurses working in primary care or community roles outside the practice?' nurses saw education in terms of career development and identity. Education for them would mean:

Professionalism, better pay, change GP perceptions. Recognising us for our true worth!

Some nurses saw general practice nursing as a route to other roles and as a 'structured career pathway with appropriate financial remuneration'. And they wanted 'Support for further education and a stronger voice when decisions are made regarding practice'. There was also concern raised by nurses that there needs to be '... recognition that general practice nurses have different needs to their hospital colleagues and that university courses need to be appropriate and geared towards primary care.'

The types of courses that practice nurses were seeking included:

A short course outlining Medicare and how it works.

Records/Documentation/Legal requirements. Role of practice nurse & how to develop it.

Yes more emphasis on primary health care. More general counselling skills. More computer programming skills, marketing skills and media skills to utilise opportunities for health promotion.

More focus on public health, primary health care and 'leadership' skills, computer skills. These surgeries have been operating in a particular way for a long period of time & the P.N. is sometimes an unwelcome change agent particularly amongst receptionists.

Computer skills, working in an office environment and administration skills would also be useful.

Others saw that education would support an '... expanding role in areas of need, i.e. where there is a lack of GPs'.

I think there has been a great change in career opportunities in past 5–7 years. Unfortunately many practice nurses are happy to remain in the 'hand-maiden' role – others are now replacing these with broader view of independent role nurses can provide as part of General Practice Team.

However, barriers included a lack of financial support and lack of incentive to undertake further study and several nurses made comments about the need to link education to pay rates:

Currently have had no support from my employer to upgrade my skills. I have spent over \$3000 this year in professional development. GP employers need to support and recognise the professional development. I believe pay should be comparative to knowledge. Unfortunately GP's get the bonuses and the nurses continue to miss which doesn't give much incentive to continue to expand on professional development except to maintain your practising certificate.

... wages are an issue in general practice – you need to negotiate your own wage and everyone is on different money. Needs to be a structure as in public hospitals etc. More experience you have more you are paid.

Other nurses linked education to professionalism:

More autonomy, better training.

Professionalise us! Make the Drs see us as 'equals' and not the handmaidens.

I think the greatest problem is that nurses in GP are underpaid. I [am paid] the same amount as my sister who works as a Div 2 nurse in the public hospital system. I hate to think how much more Div 1 nurses in the hospital system are earning. We are often referred to as advanced nurses, and definitely require more skills and have to commit to

more professional development than hospital nurses, but our pay does not reflect this.

Practice nurses' perception of their level of practice

Over 40% of respondents said there were three or more nurses working in their practice. Practice nurses were asked to indicate at which level they believed they practised in their position. This was based on their subjective judgement rather than on any objective measure provided in the survey. Three practice nurses believed they practised at a beginner level (5.2%), 27 believed they practised at an intermediate level (46.6%) and 24 believed they practised at a speciality advanced level (41.4%) (Table 3). Two practice nurses responded that they were unsure (3.5%) while another two did not respond to this question (3.5%).

Demographic details were examined to determine whether any factors influenced the participants' beliefs about their level of practice. After controlling for gender, age, qualifications and the number of hours the practice nurses work each week, nurses who had been employed for a greater number of years in primary care were significantly more likely ($P < 0.001$) to perceive that they worked at a higher level (Coeff. = 1.2, 95% confidence interval 0.3 to 2.1, $P < 0.01$).

Tasks undertaken by practice nurses

Much of the work practice nurses reported doing was linked to tasks that either attracted a rebate through the Medical Benefits Scheme (MBS) or that would bring in funding to the practice from incentive payments or linked to quality accreditation (Table 4). Despite the fact that practice nurses are eligible to

Table 3. Current level of practice achieved by the practice nurses who participated in the work, education and career pathways survey

Level	Enrolled nurse n (%)	Registered nurse n (%)	Total n (%)
Beginner	1 (12.5)	2 (4.0)	3 (5.2)
Intermediate	6 (75.0)	21 (42.0)	27 (46.6)
Speciality advanced	1 (12.5)	23 (46.0)	24 (41.4)
Unsure	0 (0)	2 (4.0)	2 (3.4)
Missing	0 (0)	2 (4.0)	2 (3.4)
Total	8 (100.0)	50 (100.0)	58 (100.0)

claim MBS item numbers for Pap smears, only 21% carried out Pap smears and 16% did breast checks (Table 4). It should be noted that these are tasks that require specific educational preparation and training beyond Division 1 qualifications.

Professional issues

Almost 85% of respondents reported that they did not have a career pathway in their organisation. When asked about their desire for, and importance of, a career pathway, the participants responded about recognition and respect, public confidence and reassurance, and role recognition by GPs.

The respondents felt that a career structure would be desirable 'because there would be more recognition of the nurses' knowledge and skill base, and hopefully more professional respect.' In addition, respondents also associated a career structure with better support for their role development:

...and would give some formality and consistency to practice nursing training, which at the moment is a bit haphazard as we all come from different working backgrounds and experiences, and each surgery works in its own way.

The participants also perceived that while the general public usually has confidence in practice nurses, defined levels of experience and qualifications contribute to patients' reassurance and confidence of safety and roles:

A set level of experience/qualification reassures clients that nurses as health professionals are capable of tending to their needs in wellness and illness.

Public confidence would be improved by the knowledge that the nurses are continuing with professional development. They would also feel safer if there was a standardised role description with extensions that apply to clinics, e.g. Women's Health.

The public would have some assurance that the nurse they are seeing is highly trained and qualified. At the moment, the term Practice Nurse could mean an Enrolled Nurse, a Registered Nurse or an Advanced Practice Nurse.

Finally, the participants strongly perceived that their role in primary care needs to be better recognised and valued by GPs.

Table 4. Tasks undertaken in practice according to level of practice

Task	Level of practice					Total n (%)	Fisher's exact P-value
	Beginner n (%)	Intermediate n (%)	Speciality advanced n (%)	Unsure n (%)	Unknown n (%)		
Cervical screening	0 (0)	5 (19)	7 (29)	0 (0)	0 (0)	12 (21)	0.80
Breast checks	0 (0)	4 (15)	5 (21)	0 (0)	0 (0)	9 (16)	0.92
Immunisation	3 (100)	26 (96)	21 (88)	2 (100)	2 (100)	54 (93)	0.61
Wound management	3 (100)	26 (96)	21 (88)	2 (100)	2 (100)	54 (93)	0.61
Diabetes education and management	1 (33)	19 (70)	17 (71)	2 (100)	2 (100)	41 (71)	0.53
Chronic disease assessment and management	2 (67)	20 (74)	20 (83)	2 (100)	2 (100)	46 (79)	0.83
Recall and reminder systems	3 (100)	24 (89)	21 (88)	2 (100)	2 (100)	52 (90)	1.00
Quality assurance	2 (67)	20 (74)	17 (71)	2 (100)	2 (100)	43 (74)	1.00

Several participants contributed comments about their perceived role as a 'GPs' hand maiden':

To be seen and recognised as an integral part of primary care not just the GP's hand maiden.

I think we would be seen as independent practitioners, not just 'hand maidens' to the doctors.

Doctors need to recognise nursing achievements and not hold on to all aspects of primary health care. If nursing were given respect by doctors and given an appropriate pay rate then the public may start to see them as more than just doctors' hand maidens.

Almost 75% of respondents reported that they were not supervised by a senior nurse, while over 72% reported that they did not have a nursing management structure in their organisation. Most respondents (84.5%) reported that they had a job description but 15% did not have a job description. Most nurses (93%) had access to the internet at work while 62% had access to journals at work.

Nurses noted that there was some way to go for practice nursing to be accepted as a profession:

Practice nurses are an integral part of primary health care. We need to raise their profile as professional well-educated clinicians and pay them accordingly!

I love practice nursing but feel we are a long way from being accepted as a 'stream' of nursing accepted as equals by the acute 'stream' of nursing.

Discussion

This survey provides useful data about the educational and career issues for, and aspirations of, practice nurses. Most of these practice nurses were women, aged in their mid-40s, hospital trained and worked part-time in general practice, on average, for approximately 4 years. These demographic findings are consistent with the findings of the National Practice Nurse Workforce Survey (Australian General Practice Network 2010). In common with the findings of some other studies (Joyce and Piterman 2011), most of the work these practice nurses do is related to MBS item numbers (immunisation, wound management, chronic disease management) and diabetes, or to recall systems and quality assurance.

The majority of nurses in the present study had not obtained post-registration qualifications but they certainly expressed a desire for a career pathway, to be challenged by their work and to increase their scope of practise. Over 41% of nurses in this survey believe they are practicing at an intermediate or advanced level. The Royal College of Nursing Australia (RCNA) defines an advanced practice nurse in this way:

Advanced practice nursing defines a level of nursing practice that utilises extended and expanded skills, experience and knowledge in assessment, planning, implementation, diagnosis and evaluation of the care required. Nurses practising at this level are educationally prepared at post-graduate level and may work in a

specialist or generalist capacity. (Royal College of Nursing Australia 2006)

While over 41% of respondents described their practice as advanced, only 10 (17.2%) had completed postgraduate qualifications and another nine (15.5%) said they were studying towards a postgraduate degree. When controlling for other factors, it was the number of years that the nurse had worked in general practice that predicted what level they thought they worked. Thus, their perception of the level at which they are practising is not in line with RCNA definitions of advanced practice. Under a quarter of the respondents were studying for any qualification, even though 94% reported that they did have access to educational opportunities and almost all were satisfied with the educational opportunities available to them. Finances, release from work and lack of time were mentioned as the greatest barriers to accessing these educational opportunities. There is currently no mandatory training for practice nurses (Parker *et al.* 2009) and while there is some support for the development of a training and support strategy for these nurses (Halcomb *et al.* 2005; Parker *et al.* 2009) there is no national framework that supports the development of the practice nurse role. Similarly, there has been no move towards developing a career pathway for these nurses. Given that 85% of respondents said they did not have a career pathway in their place of work, this should be an area for priority attention if Australia is to have a more professional primary care nursing workforce, as we have previously argued (Keleher *et al.* 2007, 2009; Parker *et al.* 2009, 2010). The Working in Partnership Program (National Health Service 2008) developed for general practice nursing in the UK provides a sound basis on which an Australian career path could be developed. Certainly, the practice nurse workforce is an ageing workforce but the lack of a career pathway could act as a disincentive to attracting younger nurses into primary care. The lack of a career pathway might also be a disincentive to undertake postgraduate training if no advancement in level or pay is linked to training and competency.

The National Health and Hospital reform Commission (National Health and Hospital Reform Commission 2009) recommended a new framework for educating and training health professionals. Such a framework should include up-skilling current professionals, such as nurses, to be fully prepared for extended roles. Given that nearly all respondents reported having access to the internet at work, and 62% reported having access to journals, such infrastructure could provide access for nurses to undertake further training if the barriers of time and financial cost were addressed. Furthermore, while almost all the respondents said that they had access to educational opportunities, these opportunities might be at a time and place that is difficult for them to access given work and family commitments. This is consistent with findings by Halcomb *et al.* (2009). Learning that comes electronically to their workplace or home could be one way to address such barriers.

This survey was limited by the small sample size. When compared with the recently conducted National Practice Nurse Workforce survey by the AGPN, Victorian and South Australian practice nurses were overrepresented compared with New South Wales and Queensland-based practice nurses who were underrepresented in the sample. Although other studies have

gathered data about the educational preparation of practice nurses (Pascoe *et al.* 2006; Pascoe *et al.* 2007; Halcomb *et al.* 2009), this remains the first national survey to gather data of practice nurses' educational and career pathways and their perceptions of barriers and facilitators to their career and roles in primary care.

Conclusion

The findings of this survey are consistent with data available on the demographic profile of practice nurses and, as such, can be seen as representative of the practice nurse workforce. This study contributes to knowledge about nurses' educational preparation, their perceptions of their roles and the barriers to the completion of further education and training. Respondents felt a strong sense of being regarded as less important than nurses working in the acute care sector, but have a sound understanding about autonomy and its relationship to their professionalism. However, the findings showed that nurses' educational preparation did not correlate with their own perception that they practise at an advanced level. Most of the tasks they reported as comprising their practise do not appear to require advanced training and could not be regarded as core roles for advanced practice nurses, if the RCNA definition is taken literally. Of course, there could be a looseness of the language that practice nurses use, only seeing their work in relation to enrolled nurses and receptionists in their respective practices. Overall the results suggest that practice nurses would benefit from greater contact with professional bodies and efforts to develop and support a career structure for Australia's practice nurses would be welcomed by nurses, including clear definitions of the scope of different levels of practice.

Although there is a steady growth in studies that build a picture of the work of practice nurses in Australia (Halcomb *et al.* 2005, 2006, 2009; Keleher *et al.* 2007; Phillips *et al.* 2009; Australian General Practice Network 2010; Parker *et al.* 2010; Joyce and Piterman 2011), there remains scope for further research. In particular, studies are needed to clarify how the scope of practice and assigned roles of both Division 1 and Division 2 nurses relate to their educational preparation and competency standards. Redesign of competency standards in relation to educational preparation would also strengthen the professional foundations of nursing in general practice.

Conflicts of interest

None declared.

References

- Australian General Practice Network (2010) 'National practice nurse workforce survey.' (Canberra)
- Australian Government (2010) 'Budget: a national health and hospitals network for Australia's future.'
- Australian Nursing Federation (2005) 'National competency standards for the registered nurse.' (Australian Nursing Federation and Department of Health and Ageing: Canberra)
- Baird A (2003) What being a practice nurse really means: part 4: clinical skills and future learning. *Practice Nurse* 26, 15–16.
- Brookes K, Davidson P, Daly J, Hancock K (2004) Community health nursing in Australia: a critical literature review and implications for professional development. *Contemporary Nurse* 16, 195–207.
- Bryan YE, Bayley EW, Grindel C, Kingston MB, Tuck MB, Wood LJ (1997) Preparing to change from acute to community-based care. Learning needs of hospital-based nurses. *The Journal of Nursing Administration* 27, 35–44. doi:10.1097/00005110-199705000-00008
- Halcomb EJ, Davidson PM, Daly JP, Griffiths R, Yallop J, Tofler G (2005) Nursing in Australian general practice: directions and perspectives. *Australian Health Review* 29, 156–166. doi:10.1071/AH050156
- Halcomb EJ, Patterson E, Davidson PM (2006) Evolution of practice nursing in Australia. *Journal of Advanced Nursing* 55, 376–388. doi:10.1111/j.1365-2648.2006.03908.1.x
- Halcomb E, Meadley E, Streeter S (2009) Professional development needs of general practice nurses. *Contemporary Nurse* 32, 201–210.
- Joyce C, Piterman L (2011) The work of nurses in Australian general practice: a national survey. *International Journal of Nursing Studies* 48, 70–80. doi:10.1016/j.ijnurstu.2010.05.018
- Keleher H, Joyce C, Parker R, Piterman L (2007) Practice nurses in Australia: current issues and future directions. *The Medical Journal of Australia* 187, 108–110.
- Keleher H, Parker R, Abdulwadud O, Francis K (2009) The effectiveness of primary and community care nursing in primary care settings. A systematic literature review. *International Journal of Nursing Practice* 15, 16–24. doi:10.1111/j.1440-172X.2008.01726.x
- Ministry of Health New Zealand (2003) Primary health care and community nursing workforce survey – 2001. (Wellington)
- National Health and Hospital Reform Commission (2009) 'A healthier future for all Australians: final report of the National Health and Hospital Reform Commission.' (Commonwealth of Australia: Canberra)
- National Health Service (2008) 'Working in Partnership Programme (WiPP).' (National Health Service UK: London)
- Parker R, Keleher H, Abdulwadud O, Francis K (2009) Practice nursing in Australia: a review of education and career pathways. *BMC Nursing* 8, 5. doi:10.1186/1472-6955-8-5
- Parker R, Walker L, Hegarty K (2010) Primary care nursing workforce in Australia: a vision for the future. *Australian Family Physician* 39, 159–160.
- Pascoe T, Hutchinson R, Foley E, Watts I, Whitecross L, Snowdon T (2006) General practice nursing education in Australia. *Collegian (Royal College of Nursing, Australia)* 13, 22–25. doi:10.1016/S1322-7696(08)60520-X
- Pascoe T, Hutchinson R, Foley E, Watts I, Whitecross L, Snowdon T (2007) The education needs of nurses working in Australian general practices. *The Australian Journal of Advanced Nursing* 24, 33–37.
- Phillips C, Pearce C, Dwan K, Hall S, Porritt J, Yates R, Kljakovic M, Sibbald B (2008) 'Charting new roles for Australian general practice nurses.' (Australian Primary Health Care Research Institute (APHCRI): Canberra)
- Phillips C, Pearce CM, Hall S, Kljakovic M, Sibbald B, Dwan K, Porritt J, Yates R (2009) Enhancing care, improving quality: the six roles of the general practice nurse. *The Medical Journal of Australia* 191, 92–97.
- Royal College of Nursing Australia (2006) Position statement: advanced practice nurse. Royal College of Nursing Australia, Canberra.
- Watts I, Foley E, Hutchinson R, Pascoe T, Whitecross L, Snowdon T (2004) 'General practice nursing in Australia.' (Royal Australian College of General Practitioners and Royal College of Nursing Australia: Melbourne)

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