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# THE PLACE OF KNOWLEDGE AND EVIDENCE IN THE CONTEXT OF AUSTRALIAN GENERAL PRACTICE NURSING

## Abstract

**Background:** The purpose of the study is to ascertain the place of knowledge and evidence in the context of Australian general practice nursing. General practice nursing is a rapidly developing area of specialized nursing in Australia. The provision of primary care services in Australia rests largely with medical general practitioners who employ nurses in a small business model.

**Methods:** A statistical research design was used that included a validated instrument the Developing Evidence-based Practice Questionnaire (Gerrish et al. 2007). A total of 1800 Victorian practice nurses were surveyed with a return of 590 completed questionnaires equalling a response rate of 33%.

**Findings:** Lack of time to access knowledge for practice was a barrier for participants in this study. In-service education and training opportunities were ranked as the number one source of knowledge for general practice nurses. Experiential learning and interactions with clients, peers, medical practitioners and specialist nurses were also considered very important sources of knowledge. Research journals were ranked much lower than experiential learning and personal interactions. Participants' assessed their own skills at sourcing and translating evidence into practice knowledge as low. Younger general practice nurses were more likely to assess themselves as competent at using the library and Internet to locate evidence than were older nurses.

**Discussion:** The predominantly oral culture of nursing needs to be identified and incorporated into methods for disseminating evidence from research findings in order to increase the knowledge base of Australian general practice nurses.

**Conclusions:** Findings from this study will be significant for policy makers and funders of Australian nursing in general practice. The establishment of a career structure for general practice nurses that includes salaried positions for clinical nurse

specialists would assist in the translation of evidence into knowledge for utilisation at the point of care.

**Key Words:** Family practice; general practice; nurse; evidence-based healthcare; clinical nursing research

## **Introduction**

Evidence-based practice has become the aspirational standard for the delivery of healthcare by all health professions and nursing is no exception. It is defined as a 'form of clinical decision making that focuses on achieving global health through applying the best available evidence' (Pearson et al. 2007, p. 17). However, there is a good deal of evidence that research findings are slow to find their way into practice. The emergence of the Knowledge Translation industry is indicative of this (see for example, Wallin 2009). There have been many studies in nursing that have investigated sources of information, perceptions of evidence, research utilisation and barriers to the implementation of evidence. Such studies in Australia, however, have largely been confined to nurses who work in metropolitan acute care rather than those who work in community based primary care (Nagy et al. 2001, Leach 2006, Comino & Kemp 2008, Retas 2000, Hutchinson & Johnston 2004, Bonner & Sando 2008).

This paper describes the findings of a study that examined the extent to which practice knowledge is informed by evidence among nurses working in general practice settings in Victoria, Australia. These nurses are variously, and interchangeably, titled 'practice nurse' or 'general practice nurse' irrespective of whether they are registered nurses or enrolled nurses, so long as they work in the medical general practice setting. Recommendations aim to promote the translation of research evidence for use by Australian general practice nurses in their work.

## **Background**

Primary care services in Australia are for the most part delivered by medical practitioners who are accredited as general practitioners and who are in private practice. The delivery of high quality primary care services is supported by a hierarchy of divisions of general practice that aligns with the federation of States and Territories.

Payment is provided for individual tasks performed by these general practitioners (GP) and general practice nurses through the Australian Government's national health insurance scheme known as Medicare. Many practices charge a fee over and above that covered by Medicare. These practices are small businesses that need to generate sufficient income to meet operating costs (including salaries and wages) and generate a profit. General practice nurses are employed to undertake a range of functions, some of which are allocated specific practice nurse item numbers for the purposes of Medicare reimbursement; for example, immunisations, wound care, cervical screening and some health checks (Mills & Fitzgerald 2008). GPs also rely on the general practice nurse to assist with procedures that have associated general practitioner Medicare item numbers such as health care assessments, care planning and the management of recall systems (Keleher et al. 2007). The Australian Government invests heavily in professional development programs for general practice nurses directed at skill development for procedures that have specific Medicare item numbers (Porritt 2007). They have also funded the development of specific practice nurse competency standards (Australian Nursing Federation 2005) that focus on the use of evidence to develop and maintain currency of practice knowledge.

This study examines general practice nurses' sources of practice knowledge, the barriers and facilitators of evidence utilisation, and skills in obtaining the evidence. For clarity, it is important to distinguish between knowledge and evidence. Knowledge is information for which we have evidence. Practice knowledge is knowledge that is applied in the practice of nursing in this case. Evidence is information bearing positively or negatively on the truth or falsity of a proposition, and it is the strength or weakness of this evidence that can raise the status of a rational belief to knowledge. In philosophical terms, it is possible to have a rational belief for which there is some evidence without there being sufficient evidence to give that rational belief the status of knowledge (Audi 1999). Practice knowledge informed by the best available evidence is the objective.

There is a widely acknowledged debate as to what constitutes evidence for practice and the debate is more heated when it comes to what constitutes the best evidence for practice (Forbes 2003, Gerrish 2003, Mantzoukas 2007, Rolfe et al. 2008, Walker 2003). Purists contend that only evidence drawn from statistical research should

qualify. Contemporary accounts of evidence based practice in health care acknowledge that evidence comes in different forms and rank those various forms of evidence in order of the relative weight that should be accorded each of them (Pearson et al. 2007). Whilst this debate is a central issue for practice, it was not necessary for the purposes of this study for the authors to take a position because the research seeks to identify all of the sources of knowledge that the practice nurses utilise.

### **Significance**

Until now, no research has identified the place of knowledge and evidence for practice in the context of Australian general practice nursing. Outcomes from this study are significant in that they will inform the translation of evidence into practice knowledge for Australian general practice nurses. With practice nurses poised to further develop their roles in the general practice team and take up work that realises the full extent of their scope of practice, a baseline understanding of their current capacity to access and use best available evidence is prudent. In addition, results constitute a data set that can be compared to the findings of a study conducted by Gerrish et al. (2004, p.17) with hospital and community nurses in the United Kingdom thus locating Australian general practice nursing in an international context.

### **Purpose**

The purpose of the study is to ascertain the place of evidence and knowledge for practice in the context of Australian general practice nursing.

### **Research Design and Methods**

The study used a validated instrument known as the *Developing Evidence-based Practice Questionnaire* (DEPQ) (Gerrish et al. 2007) in a postal survey. The DEPQ was designed to investigate the influence of a range of previously identified factors on the development of evidence-based practice knowledge among clinical nurses, with a particular emphasis on those working in general practice/primary health care settings. This instrument was an appropriate choice because it could capture data about the experiences of a comparable population of clinicians while accounting for the influence of context.

The questionnaire consists of five subscales. These are: Bases of practice knowledge, Barriers to finding and reviewing evidence, Barriers to changing practice on the basis of evidence, Facilitation and support in changing practice, and Self assessment of skills. Additional questions about participants' age, years working as a general practice nurse, educational qualifications and geographical location by postcode were also included in this survey.

### *Analysis*

Data were analysed using Statistical Package for the Social Sciences (SPSS Incorporated 2007). The required sample size was calculated as 286 for a 95% confidence level with a 5% margin of error (Raosoft Incorporated 2004). The study exceeds the required power for the tests conducted as the final sample was more than twice this number. Data were collected between April and June 2008.

According to Gerrish et al. (2007), each section of the DEPQ has good internal consistency, with an overall Cronbach alpha coefficient of .874. In the current study, each of the subscales was found reliable with a Cronbach Alpha of more than .783 (range .783 to .914) and for 49 items the coefficient was 0.914.

### *Ethics*

The University Standing Committee on Ethics in Research Involving Humans granted ethics approval for this study in March 2008. The original author provided written permission for the primary researcher to use the instrument in this study.

### *Recruitment*

In collaboration with General Practice Victoria (GPV), survey packs for potential participants were distributed via thirty Divisional Program Officers. Each pack contained a copy of the questionnaire, an explanatory statement including the benefits and potential risks of participation, and a reply paid envelope. Consent was implied in the return of the anonymous questionnaire. GPV records showed that the total population of general practice nurses in Victoria was at that time approximately 1800. A total of 590 completed questionnaires were returned resulting in a response rate of approximately 33%.

## Results

### *Sample characteristics*

Of 590 nurses who responded to the survey, 99.5% were female. The median year of first nursing qualification was 1984 and the mean age was  $45.3 \pm 9.189$  years (see Table 1). Three of every four nurses worked part-time and 58% had five years or less experience as a practice nurse (mean  $3.19 \pm 1.322$ ). Their employment location included: urban areas (categorized as region 1-2 by the Regional and Remote Metropolitan Area (RRMA) index); regional areas; and rural/remote areas. The sample broadly represented the national workforce reported in the *National Practice Nurse Survey Report 2007* (Australian General Practice Network 2008). Data from this survey is included for comparison in the following table (Table 1).

Nurses' age was associated with their level of qualifications. Older nurses had significantly less university qualifications and had qualified for registration earlier, while younger nurses held significantly more recent university qualifications for registration (all:  $p < .01$ , CI 95%). Older nurses had more years of experience working as general practice nurses ( $p < .01$ , CI 95%). There was no difference in age of those working part-time or fulltime.

**Table 1: Characteristics of general practice nurses (n=579-588)**

		Percent	National PN Workforce %
Sex	Female	99.5	
	Male	0.5	
Age range	20-29 years	6	5
	30-39 years	18	17
	40-49 years	41	40
	50-59 years	30	35
	60+ years	5	4
Work hours	Full-time	21	24.5
	Part-time	79	75.5
Level of nursing qualification	Nursing qualification	50.5	
	Nursing diploma	14.1	
	Baccalaureate degree	34.1	
	Masters degree	1.0	
	Doctoral degree	0.2	
RRMA Classification	Urban 1-2	51	40.51
	Regional 3	11	16.14

	Rural/Remote 4-7	38	53.35
Years as practice nurse	2 years or less	32.2	20.13
	2 to 5 years	25.4	40.15
	6 to 10 years	24.6	19.56
	More than 10 years	15.9	20.13

## **Barriers to Evidence Based Practice**

### *Barriers to changing practice on the basis of 'best' evidence*

The primary barrier to changing practice was insufficient time at work (Table 2). There was limited agreement between nurses that resources, their level of authority or the team culture was a barrier to changing practice as only one of every four agreed or agreed strongly. Further, most nurses (72%) felt confident about beginning to change practice although less qualified nurses were less confident about this ( $p < .01$ ; CI 95%).

**Table 2: Barriers to changing practice on the basis of 'best' evidence (n=587=588)**

Rank Order	Barrier to changing practice	Agree strongly /agree (Sum) %	Neither agree nor disagree %	Disagree/ disagree strongly (Sum) %	Mean/SD
1.	There is insufficient time at work to implement changes in practice	41.8	20.9	37.2	2.96±1.106
2.	I lack the authority in the work place to change practice	27.7	16.3	56.0	3.32±1.127
3.	There are insufficient resources (e.g. equipment) to change practice	25.0	24.0	51.0	3.30±1.000
4.	The culture of my team is not receptive to changing practice	24.1	15.5	60.5	3.45±1.142
5.	I do not feel confident about beginning to change my practice	10.7	17.3	71.9	3.73±0.879

### *Barriers to finding and reviewing evidence*

Nurses were ambivalent about barriers to finding and reviewing research reports and information; around one-quarter were undecided if the barriers asked about in the questionnaire were an issue for them (Table 3). The primary barrier to finding research reports for almost two of every three nurses was again, limited time at work. Ease of finding research reports and confidence in judging their quality were barriers for two out of every five nurses.



There was a significant but weak association between older age of nurses and difficulty in understanding research reports ( $p = .101$ ; CI 95%), not feeling confident in judging the quality of research reports ( $p = .094$ ; CI 95%) and finding difficulty in identifying the implications of research findings for their own practice ( $p = .103$ ; CI 95%).

This difference was also seen in less qualified nurses, who perceived greater barriers. They were significantly more likely to find it difficult to understand research reports ( $p = .097$ ; CI 95%), to not feel confident in judging the quality of research reports ( $p = .152$ ; CI 95%), to find it difficult to identify implications of research findings for their own practice ( $p = .152$ ; CI 95%) and to find it difficult to identify the implications of organisational information for their own practice ( $p = .152$ ; CI 95%). There was no difference in responses about accessing research reports and organizational information by work location, length of practice or time since qualification.

**Table 3: Ranked barriers to finding and reviewing evidence**

Rank Order	Barrier to finding & reviewing research reports and information	Agree Strongly or Agree (Sum) %	Neither Agree nor Disagree %	Disagree or Disagree Strongly (Sum) %	Mean SD
1	I do not have sufficient time to find research reports	60.7	23.1	16.3	2.41±.977
2	I do not feel confident in judging the quality of research reports	41.1	34.2	24.7	2.81±.935
3	Research reports are not easy to find	39.5	36.7	23.9	2.82±.917
4	I do not have sufficient time to find organisational information (guidelines/protocols etc.)	35.9	30.5	33.6	2.96±1.016
5	I find it difficult to understand research reports	30.2	37.4	32.4	3.30±.935
6	I find it difficult to identify the implications of research findings for my own practice	29.1	38.9	32.1	3.04±.903
7	I find it difficult to identify the implications of organisational information for my own practice	19.9	37.4	42.7	3.27±.897
8	Organisational information (protocols, guidelines etc.) is not easy to find	20.5	27.7	51.7	3.36±.956
9	I do not know how to find appropriate research reports	24.6	20.6	54.8	3.39±1.026

### **Bases of practice knowledge**

Information gained from attending in-service training and conferences was the most frequently accessed source of practice knowledge (See Table 4). Other key suppliers of knowledge were clients and their families. Colleagues were also common sources of informal knowledge for practice with four out of five nurses accessing medical practitioners, fellow practitioners and senior clinical nurses frequently or always. The formal knowledge base of research articles were rarely used with only one in four nurses accessing them regularly. National policy documents were accessed by half of the nurses frequently or always, while local policy documents were sourced more often. Information from the media (magazines, TV) was not a common source of knowledge for the large majority (70%) of nurses.

There was a significant association between the older age of nurses and their use of medical and also research journals ( $p < .05$ , CI 95%), and nursing journals ( $p < .01$ , CI 95%) for the acquisition of knowledge. However, younger nurses were significantly more likely to use the Internet ( $p < .01$ , CI 95%) for accessing information. Furthermore, there was a significant association between use of informal sources of knowledge and less qualified nurses. Less qualified nurses (and by implication, older nurses) were significantly more likely to use personal experience, or what has worked for them for years, information from fellow practitioners or what medical practitioners discuss as sources of knowledge (all:  $p < .05$ ; CI 95%). Nurses with a higher level of qualification were significantly more likely to use information from national policy initiatives or guidelines and from the Internet, or articles published in research journals (all:  $p < .05$ ; CI 95%).

**Table 4: Ranked Bases of Knowledge for Australian Practice Nurses (n=565-590)**

Rank Order	Bases of Knowledge	Frequently Always (Sum) %	Sometimes %	Seldom Never (Sum) %	Mean SD
1	Information I get from attending in-service training/conferences	87.8	11.2	1.1	4.16±.657
2	Information that I learn about each patient/client as an individual	87.4	11.4	1.2	4.30±.715
3	My personal experience of caring for patients/clients over time	85.8	13.9	0.3	4.15±.656
4	Information I learned in my	82.4	15.8	1.9	4.05±.695

	training				
5	What doctors discuss with me	80.4	18.2	1.4	3.99±.664
6	Information my fellow practitioners share	73.6	25.6	0.8	3.85±.624
7	Information senior clinical nurses share, e.g. clinical nurse specialists, nurse practitioners	70.3	19.6	10.0	3.72±.943
8	Information I get from local policy and protocols	60.1	31.2	8.6	3.69±.910
9	New treatments and medications that I learn about when doctors prescribe them for patients	58.1	35.0	6.9	3.63±.813
10	My intuitions about what seems to be 'right' for the patient/client	50.4	40.0	9.7	3.49±.828
11	Information I get from national policy initiatives/guidelines	50.1	33.2	16.7	3.46±1.005
12	Information I get from product literature	40.5	48.3	11.2	3.37±.777
13	What has worked for me for years	40.5	48.5	11.1	3.35±.791
14	Articles published in nursing journals	39.4	44.1	16.5	3.26±.829
15	Information in textbooks	39.2	43.7	17.1	3.25±.878
16	Information I get from the internet	33.6	44.3	22.2	3.11±.936
17	Medications and treatments I gain from pharmaceutical or equipment company representatives	30.1	46.3	23.5	3.19±.875
18	Articles published in medical journals	32.0	42.1	25.8	3.05±.924
20	Articles published in research journals	24.8	35.4	39.8	2.80±.993
21	Information I get from local audit reports	22.6	34.4	43.0	2.70±1.041
19	The ways that I have always done it	18.6	53.2	28.2	2.89±.803
22	Information I get from the media (e.g. magazines, TV)	5.5	24.5	70.1	2.15±.847

Scale: Never (1) Seldom (2) Sometimes (3) Frequently (4) Always (5)

### ***Facilitation and support in changing practice***

When asked about colleagues' facilitation of nurses initiating evidence-based change (Table 5), there was a positive response. Around 90% of nurses found all four groups supportive (always/frequently/sometimes). While half or more of the respondents perceived that colleagues were generally (always/frequently) supportive of changes to practice, less than one in five of all nurses reported this was 'always' so

(range 12-18%). There was no difference in responses by nurses' age or year of qualification or length of experience. However, nurses who were less qualified perceived medical practitioners as more supportive of their changing practice ( $p < .05$ ; CI 95%).

**Table 5: Facilitation and support in changing practice (n= 510-584)**

Rank Order	Facilitators to changing practice	Always or Frequently (Sum) %	Sometimes %	Seldom or Never (Sum) %	Mean SD
1	Nursing colleagues are supportive of my changing practice	61.3	31.7	5.0	3.74±.837
2	Nurse managers are supportive of my changing practice	57.4	34.5	8.1	3.65±.917
3	Practice managers are supportive of my changing practice	55.8	33.9	10.4	3.59±.894
4	Doctors with whom I work are supportive of my changing practice	50.0	40.4	9.6	3.52±.845

### **Self assessment of skills**

Nurses' levels of perceived competence or expertise in finding and reviewing evidence for their practice were low. Half of the nurses considered themselves complete beginners or novices at translating research evidence into practice. Nurses felt slightly more confident at sourcing and applying organizational informational information, with one third of the sample rating themselves as complete beginners or novices.

There was a significant association between younger age of nurses and perceptions of skills in use of the library to locate information ( $p = -.140$ ; CI 95%) and skills in use of the Internet ( $p = -.243$ ; CI 95%) [both significant at .01]. Further, level of nursing qualification was significantly associated with nurses' perceptions of skillfulness for all eight items about retrieving evidence for practice (Table 6). Nurses who were more highly qualified in nursing with a university degree or a postgraduate degree held more positive perceptions of their own skill in gathering evidence. However, these correlations were small (.143 to .242), indicating that higher qualifications may

not be highly important nor the primary factor in nurses being skilled in the translation of evidence to practice.

**Table 6: Practice Nurses Self-Assessed Level of Skill in Retrieving Evidence for Practice (n=559-586)**

Rank Order	Skills	Competent or Expert (Sum) %	Quite skilled %	Complete Beginner or Novice (Sum) %	Association with Level of Nursing Qualification‡
1	Using the internet to search for information	47.7	32.1	20.2	.209**
2	Using the library to locate information	34.0	35.5	30.5	.215**
3	Using organisational information (policies/guidelines etc.) to change practice	27.1	35.6	37.3	.177**
4	Reviewing organisational information	23.5	38.6	37.8	.203**
5	Finding organisational information	24.5	34.5	41.0	.180**
6	Using research evidence to change practice	20.9	30.9	48.2	.143**
7	Finding research 'evidence'	20.1	30.7	49.1	.201**
8	Reviewing research 'evidence'	18.6	30.6	49.9	.242**

‡Level of qualification based on scale of: nursing qualification (scored as 1), nursing diploma, baccalaureate degree, masters degree, doctoral degree (scored as 5)

\*\* Pearson correlation coefficient: significant association  $p < .01$

### **Study Limitations**

A limitation of the current study is selection of a non-probability workforce sample, which was imposed through use of a snowball sampling technique (Taylor et al. 2006). Thus, respondents may have an interest in translating contemporary evidence to practice or in developing their skills, introducing a potential for bias. The characteristics of the non-responders are thus unknown and the response rate is approximated. However, the size of the sample and the parallel with the national general practice nurse workforce given in Table 1 lends weight to the notion that these results may be applicable to general practice nurses in Australia.

### **Discussion**

Participants in this study relied heavily on interactions with patients and their colleagues as a source knowledge for their professional practice. Such a finding is congruent with previous studies that illustrate nurses' conceptualisations of evidence

bases as being much broader than research findings (Spenceley *et al.* 2008, Bonner & Sando 2008). A reliance on experiential sources of knowledge was also demonstrated in Gerrish *et al.*'s findings from the United Kingdom (2008).

Estabrooks *et al.* classify the interactions that nurses use in order to source knowledge for their practice as either informal or formal (2005). Informal interactions account for information gained from peers such as other nurses, professionals such as medical practitioners and allied health professionals, patients and their families. In this study, informal interactions accounted for the majority of the first seven ranked sources of knowledge for practice, with interactions with patients as the top ranked source.

Formal interactions between nurses and others for the purpose of sourcing knowledge for practice occur during conferences, seminars, workshops and short courses that usually adopt the principles of adult learning (Knowles 1975). Ranked 1st in this study, nurses surveyed considered formal adult learning experiences the most important way to source knowledge for practice. This finding differed substantially from nurses surveyed in the United Kingdom (Gerrish *et al.* 2008).

Continuing professional development programs offered by the Australian divisional hierarchy and the growing number of conferences for nurses in general practice are examples of environments where formal interactions occur. The recent proliferation of opportunities for Australian practice nurses to undertake continuing professional development (Halcomb *et al.* 2005, Halcomb *et al.* 2006) may go some way to explaining the difference between the two countries (Gerrish *et al.* 2008).

Unlike participants in the original study undertaken by Gerrish *et al.* (2008) participants in this study ranked the Internet as an important source of knowledge for practice. Younger nurses with higher qualifications also considered themselves more skilled at using the Internet. These results are supported by a recent Australian study by Eley *et al.* (2008) which found that levels of confidence in using information technology decreased in relation to age.

General practice in Australia is reliant on information technology as a mechanism of communication between what is essentially a network of small businesses providing individualized primary health care in local communities. The various divisions all have comprehensive and user friendly websites that facilitate ease of

access to organizational guidelines and policy. Findings from this study showed that Australian general practice nurses used organizational and policy documents on a regular basis, however their level of qualification influenced this. Those who were more highly qualified used organizational information as a source of knowledge more often.

Similar to Gerrish et al's. findings (2008), nurses in this study ranked research articles from nursing, medical and research journals much lower than experiential learning and organizational information as sources of knowledge. In line with this, over half of the nurses surveyed considered themselves complete beginners or novices at translating research findings into practice. This level of skill at utilising published research findings is commonly identified in the literature as a barrier to evidence based nursing practice. Mentoring and continuing professional development programs that prepare nurses to translate research findings from the literature into practice knowledge have been proposed as a solution to this problem (Fink *et al.* 2005).

Nursing culture is predominantly oral (Walker 1995) with nurses historically learning many of the activities of nursing care through experiential learning (Estabrooks et al. 2005). Historically the reification of experiential learning achieved through 'doing' nursing, as opposed to theoretical learning through 'thinking' about nursing (Walker 1997), has led to a dichotomous split within the profession resulting in written research reports being sometimes considered largely irrelevant to the 'real world' of clinical practice (Rolfe *et al.* 2008). Compounding this historical position is the rhythm and pattern of nursing work, which does not include time for sourcing research based evidence for practice, an argument supported by nurses in this study who identified a lack of time as the number one barrier to sourcing knowledge for their practice. Accepting the reality that clinicians consult with peers as a source of practice knowledge is necessary in order to promote an evidence based practice ethic (Estabrooks et al. 2005). How to provide appropriate high quality research evidence, specific for general practice nurses, in an easily understood and accessible format then becomes the question that needs to be addressed by policy makers and educators.

### **Recommendations**

While an over reliance on informal experiential learning is a worrisome thought for a profession such as nursing, there are lessons to be learned in relation to general

practice nurses' preferred learning styles and modalities of teaching. Findings from other studies have found that senior clinicians who are engaged in using the evidence-base generated by research (Bonner & Sando 2008, Gerrish et al. 2008) can be important change agents in promoting knowledge translation in the clinical domain. Such knowledge translation can occur through both formal and informal interactions. The way in which this is achieved is through interpersonal contact, as opposed to the passive dissemination of information through the distribution of research papers (Thompson *et al.* 2006).

Currently in Australia there is no career structure for practice nurses that consistently and clearly identifies salaried senior clinicians for such a leadership role. It is apparent that there are some senior appointments in very large general practices, but given the small business structure that governs the employment of such nurses these are few and far between. Changing the current model of funding for nursing in general practice from function based to position based would assist in facilitating a career structure for this group of nurses. Employing clinical nurse specialists with postgraduate qualifications and a mandate to both promote change and to serve as a point of reference for general practice nurses would accelerate a change in the current culture to promote the translation of research evidence into knowledge for use at the point of care.

## **Conclusion**

Australian general practice nurses work in a small business environment with considerable professional development support from the Australian Government via the hierarchy of divisions of general practice. The rapid development of general practice nursing over recent years has included a set of competencies for practice that uses the language of evidence based practice based on research findings. This study found that sources of knowledge used by Australian general practice nurses are reflective of the general context in which they work. Continuing professional development opportunities are plentiful for these nurses and are considered by them to be the highest ranked source of knowledge for practice. However, experiential learning and interactions with clients, peers, medical practitioners and specialist nurses are also highly ranked, easily outstripping research findings as a preferred source of knowledge. The oral culture of nursing explains these findings, with other



studies indicating that nurses prefer face-to-face and informal learning opportunities as opposed to sourcing formal knowledge for practice through traditional means such as journal searches. Recommendations from this study propose the establishment of a career structure for Australian general practice nurses including the employment of clinical nurse specialists. The importance of clinical nurse specialists as change agents that can promote the translation of research evidence into practice knowledge is well documented in the literature. The primary care sector of the Australian health care workforce will only grow in the future. Strategies to strengthen the practice nurse workforce would contribute to improving the quality of health care provided and potential health care outcomes for clients.

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