Cardiovascular disease management: time to advance the practice nurse role?

Elizabeth J Halcomb, Patricia M Davidson, Rhonda Griffiths and John Daly

Abstract

Objective: More than two-thirds of health expenditure is attributable to chronic conditions, of which a significant proportion are related to cardiovascular disease. This paper identifies and explores the factors cited by practice nurses as impacting on the development of their role in cardiovascular disease management.

Methods: Sequential mixed methods design combining postal survey ($n = 284$) and telephone interviews ($n = 10$) with general practice nurses.

Results: The most commonly cited barriers to role extension were legal implications (51.6%), lack of space (30.8%), a belief that the current role is appropriate (29.7%), and general practitioner attitudes (28.7%). The most commonly cited facilitators of role extension were collaboration with the general practitioner (87.6%), access to education and training (65.6%), the opportunity to deliver primary health care (61.0%), a high level of job satisfaction (56.0%) and positive consumer feedback (54.6%).

Conclusions: Australian government policy demonstrates a growing commitment to an extended role for general practice in primary health care and cardiovascular disease management. In spite of these promising initiatives, practice nurses face a range of professional and system barriers to extending their role. By addressing the barriers and enabling features identified in this investigation, there is potential to further develop the Australian practice nurse role in cardiovascular disease management.

Aust Health Rev 2008: 32(1): 44–55

What is known about the topic?

Primary care evidence-based solutions to the burden of cardiovascular disease involve an interdisciplinary, disease management approach. Practice nursing is an integral component of primary care in the United Kingdom and New Zealand, but in Australia it is an emerging specialty and there is little information on the barriers and facilitators to the development of this role.

What does this paper add?

This study demonstrates that while practice nurses have the potential to contribute to cardiovascular disease management in general practice, significant barriers exist to advancing their role. Despite the identified barriers, enabling facilitators, including policy initiatives and the enthusiasm and commitment of practice nurses, can be used to guide strategic role development.

What are the implications for practitioners?

To promote the role of the practice nurse, policy makers need to consider workforce issues and broader health system factors, such as medicolegal issues and funding models.

THE INCREASING AGEING population and improved survival from previously fatal conditions has increased the number of people with chronic conditions within our community.[1] In particular, cardiovascular disease remains the

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leading cause of death for Australian adults.[1] Of significance, a considerable proportion of the burden of cardiovascular disease is attributable to modifiable risk factors that require tailored behaviour-change strategies.[2] Cardiovascular disease management is a system of coordinated care where patient self-management is promoted, with an emphasis on promotion of evidence-based practice within a collaborative, interdisciplinary context. In addition, within this model, there is an emphasis on evaluation, addressing both process and outcome measures. It is evident that acute models of care are unable to meet the increasing burden of chronic illness.[3,4] Alternate models need to be explored in terms of cost to the health system, workforce implications and added value to consumers.[5,6] In particular, issues related to self-management are a key focus of both state and federal government policy and funding initiatives.[7] It is likely that the practice nurse can play a critical role in programs relating to cardiovascular risk factor modification, such as anti-smoking and weight control, as well as medication titration, screening and health assessment.[8]

Evidence for interdisciplinary disease management programs

Interdisciplinary disease management programs improve processes of care, reduce hospital admissions, enhance quality of life and improve functional status in those with cardiovascular disease.[9] Although multidisciplinary input is essential to the success of these programs, many are coordinated by specialist nurses in the acute hospital or outpatient setting.[9] The focus of this model of disease management is generally on those who have experienced an exacerbation of symptoms or onset of disease that has prompted hospitalisation or specialist medical intervention. This is significant in that, at this time, individuals may either experience denial in relation to the consequences of not engaging in self-management strategies or not be receptive to changes to lifestyle factors that are essential to the success of these programs.[10,11] There are also significant challenges in funding these and other cardiovascular risk reduction programs as a consequence of the delineation of funding responsibilities between state and federal governments. Further, these programs largely target people in the advanced stages of chronic illness, rather than those in the early phases of the illness trajectory who may benefit most from risk reduction and symptom management programs.

In contrast to acute care, general practice offers greater efficiency, flexibility and more client-focused care.[12] Given that 85% of Australians present to general practices each year,[13-16] this setting is important for implementing comprehensive screening, disease prevention and disease management programs.[17-20] The World Health Organization[21] has long recognised the central role of nurses in advancing primary care. Practice nurses in the United Kingdom and New Zealand have a clearly defined role in cardiovascular disease management, providing structured assessment and follow-up of those with known disease or significant risk factors.[22,23] While the Australian practice nurse role is less developed,[24] significant advancement has been achieved in the last 5 years. Specific achievements have included debate in the peer-reviewed literature relating to the practice nurse role and the management of chronic disease;[20,25-36] changes to general practice funding, including the introduction of item numbers for specific services delivered by practice nurses;[37-39] and federal funding for the recruitment of additional practice nurses.[39] Despite these advancements, there is little information on the barriers and facilitators to extending the practice nurse role in cardiovascular disease management. These data are necessary to derive suitable interventions and formulate educational and policy initiatives to facilitate the development of the practice nurse role.

This study was conducted to identify the barriers and facilitators to role development and provide an evidence base to inform future strategic development of the practice nurse role in cardiovascular disease management.

Methods

This study used a sequential mixed method design, incorporating a national postal survey

followed by telephone interviews. Mixed method techniques are increasingly being used in health services research to combine quantitative and qualitative data to provide greater depth and scope of understanding of the research problem.[40,41] As there is no central registry of practice nurses to allow random sampling, survey participants were recruited using convenience sampling, through Divisions of General Practice, the Australian Practice Nurses Association, and advertisements in the publications of state/territory nursing organisations. Participants in the telephone interviews were randomly selected from survey participants who identified willingness to participate in the interviews on their survey form.

The research team designed a survey tool based on a literature review and key informant consultations to explore the role, function and expectations of the Australian practice nurse.[42-44] This paper reports on three items from the survey addressing barriers and facilitators to role expansion in cardiovascular disease management and the associated qualitative interview data. An additional item asked participants to rate their level of optimism regarding future practice nurse role development on a five-point Likert scale. Participant demographics and current clinical roles of practice nurses are reported in detail elsewhere.[45] A semi-structured schedule was used in the telephone interviews to guide the participants to explore findings generated from the survey data. Interview data reported in this paper relate to those questions that sought to provide a greater depth and understanding of the barriers and facilitators to role development in cardiovascular disease management identified in the survey data. The Human Research Ethics Committee of the University of Western Sydney granted approval for the conduct of this study before the commencement of participant recruitment (Approval No. HEC 03/166).

Quantitative survey data were entered into the Statistical Package for the Social Sciences (SPSS) version 15.0 (SPSS Inc, Chicago, Ill, USA) and analysed using descriptive statistics. Textual survey data were exported from SPSS into Microsoft Word for Windows 2003 (Microsoft Corporation, Redmond, Wash, USA) and analysed using thematic analysis. Interview data were analysed using a reflexive, iterative process of data analysis that has been previously described.[46]

Results

Two hundred and eighty-four practice nurses responded to the survey. It was not possible to determine the precise response rate to this survey due to the convenience sampling method used and the subsequent inability to calculate a response denominator. The sample size was similar to that of another national practice nurse investigation undertaken concurrently to this study.[27,47] Most participants were female (99%), registered nurses (86%) and middle-aged (mean age 45.8 years). These demographics are similar to the wider Australian nursing workforce.[48] In spite of the inability to use formal sampling methods, variables such as age and postcode were normally distributed.[45] Participants had initially qualified as a nurse a mean of 24.9 years previously, with participants employed a mean of 7.7 years as a practice nurse. For over half of participants (63%), their highest nursing qualification was a hospital nursing certificate. This provided evidence that these nurses had last engaged in formal education in the mid 1980s. Such a finding has significant implications in the planning of role development with this group.

Telephone interviews were conducted with 10 survey participants. At this point data saturation was achieved. Interviews achieved a representation of employment locations across rural/remote, regional and urban areas and survey demographics.

Barriers to extension of the practice nurse role

The most commonly cited barriers to role extension in cardiovascular disease management were legal implications ($n = 144$, 51.6%), lack of space/equipment ($n = 86$, 30.8%), a belief by participants that their current role is appropriate ($n = 83$, 29.7%) and general practitioner attitudes ($n = 80$, 28.7%). Barriers identified by participants in the

1 Barriers to practice nurse role expansion

Barriers	*n* (%)
Legal implications	147 (51.6%)
Lack of space	87 (30.8%)
Current role is appropriate	84 (29.7%)
General practitioner attitudes	82 (28.7%)
Lack of opportunity	67 (23.7%)
Lack of training	61 (21.5%)
Inability to prescribe	51 (17.9%)
Patients' perceptions	46 (16.1%)
Underdeveloped clinical skills	38 (13.3%)
Lack of job description	32 (11.1%)
Other	24 (8.6%)
Lack of clinical confidence	22 (7.9%)
Lack of confidence to approach GP	16 (5.8%)
Lack of desire	15 (5.4%)

"other" category included a lack of time to undertake additional tasks ($n = 46$, 16.2%), inadequate remuneration to encourage role extension ($n = 4$, 1.4%) and deficient funding models that impede the provision of additional services ($n = 15$, 5.3%) (Box 1).

Legal implications

One hundred and forty-four (51.6%) survey participants identified two aspects of legal issues as a barrier. Firstly, many participants identified that general practitioners (GPs) were reluctant to allow practice nurses to undertake tasks without direct clinical supervision for fear of litigation. Further exploration of this concept in the telephone interviews elucidated that this issue was compounded by some GPs' limited understanding of the nurses' clinical skills and scope of practice. Several participants identified that this understanding was largely dependent upon the degree of trust developed between the individual GP and practice nurse. Additionally, some interview participants indicated that the limitations placed on their practice by potential legal implications made nurses appear to consumers as less competent or uninterested, citing examples such as referring the patient to the GP for explanation of abnormal test results or procedures that the GP was unwilling to delegate.

Secondly, participants reported that restrictions inherent in the nurses' scope of professional practice prevented them from extending their role. These restrictions included registered nurses not being able to prescribe simple medications or order diagnostic tests and enrolled nurses not being able to practice without registered nurse supervision. For those participants who embraced some level of autonomous practice, the legal requirement of having the GP write prescriptions for what were considered routine medications and order simple diagnostic tests, such as x-rays or blood tests, negated the time savings that autonomous practice provided. However, care must be taken here to differentiate between the extension of the practice nurse role within a model of collaborative care and the development of the protocol driven, autonomous role of the nurse practitioner.[49]

In an increasingly litigious society, practice nurses and GPs are entitled to be concerned about their legal responsibilities.[50] The paucity of clear job descriptions, lack of nursing competencies (at the time of the investigation) and various requirements of state/territory regulatory bodies leave both practice nurses and GPs vulnerable. As one interview participant identified, until the liability of the practice nurse is tested in the legal system there is limited precedent to guide practice. Assessment of risk for the practice nurse is required urgently at both national (federal) and local (state) levels. The development of generic job descriptions and nursing competencies specific to general practice nursing are essential to provide clearly defined evidence-based best practice.

Lack of space and equipment

Many general practices had been established without provision for nursing services, particularly those established practices located in older premises, such as converted houses. The addition of nursing services in these locations required negotiation of space allocation. Despite 266 (93.7%) survey participants reporting a dedicated

treatment area, lack of space was reported by many participants as limiting their ability to consult privately with patients. The availability of a private area is important in providing self-management support, risk factor modification and counselling integral to an expanded practice nurse role in cardiovascular disease management. The reported lack of space underscores the dependent nature of nursing in general practice.

Belief that the current role is appropriate

Almost a third of survey participants (29.7%) reported that they felt their current role in cardiovascular disease management was appropriate. Interview data explicated this finding in a number of ways. Firstly, a number of participants reported that they were so busy in their current role that they felt unable to take on an additional workload. They expressed the opinion that an extended role for the practice nurse would not be possible without increases in either practice nurse numbers or working hours. Secondly, some participants perceived that they were not "mini-doctors" and that their role as a nurse extended only to carrying out the doctors' direct instructions regarding patient management. This perception potentially relates to the notion that Australian practice nurses are predominantly hospital trained.[45] There is a strong correlation between level of education and a sense of professionalism and potential for autonomous practice.[51] It is likely that nursing education undertaken in the hospital setting does not sufficiently prepare nurses to work in advanced practice roles and promotes dependent rather than independent and collaborative practice.[49]

The final aspect identified related to individual practice nurse remuneration and funding of service delivery. Currently, practice nurses generally receive lower remuneration than their acute care colleagues, as many are not covered under an industrial Award and wages are negotiated between the individual nurse and their employer.[52] Interview participants identified limited incentive, other than personal gratification or job satisfaction, to undertaking the post-basic education and training required to fulfil an extended role. Additionally, the individual nurse would need to pay for this education and training. Concern was raised that an increased nursing role in cardiovascular and chronic disease management would not necessarily increase practice income or even cover the cost of employing the practice nurse.

General practitioner attitudes

GP attitudes and the nature of collaborative practice was a common theme in the participants' responses. Eighty (28.7%) survey participants reported feeling that the attitude of the GP with whom they worked prevented extension of their role into cardiovascular disease management. Issues discussed above, such as medicolegal issues, poorly defined scope of practice and restrictions to funding models, contributed to this reluctance. Participants indicated that they could contribute positively to cardiovascular care, improving standards of care, implementing innovative models, promoting self-care, creating efficiencies or by increasing the cost-effectiveness of care provision. However, many participants identified feelings of "frustration" at what they described as "general practitioners under-utilising practice nurses' skills and regarding practice nurses as subservient". Participants described what they perceived as a "reluctance by the general practitioner" to "let go" of a portion of patient care. GPs' reported perceptions of practice nurses were, in many cases, not reflective of professional collegiality. Participants described some GPs perceiving practice nurses as "handmaidens", "glorified toilet roll changers", where "your skills end at removing the wrapper from a bandaid". Hierarchical structures, professional status, gender and socioeconomic factors were some of the factors identified as hindering interprofessional collaboration.[53]

Participants reported that it was challenging for practice nurses to gain the confidence of GPs, particularly in relation to the potential applications of their skills and competencies to best serve the practice and patient outcomes. However, the underlying issue emerging from the data appeared to be one of limited collaboration between GP and practice nurse, stemming from

unclear professional role boundaries and difficulties in communication about work practices.

There was widespread variation in GP attitudes between practices and limited consistency in role expectations. Even within practices, there was little consistency between individual GPs and their perceptions of the practice nurse role. Interview data identified that while younger GPs were more likely to be receptive to the practice nurse role; older, more experienced GPs were considered to be socialised into the historical model of independent practice and resistant to changes towards more collaborative practice models. One interview participant identified that, "I get the impression that they [GPs] feel a bit threatened. That they're going to lose control of the practice". This finding indicates a need for significant cultural change to innovative models of care involving a collaborative, multidisciplinary approach.

There were issues identified relating to the GPs' attitude to chronic disease management programs. "Doctors don't want to be involved in incentive programs — [they are] too time consuming and complicated, need too much training to understand the specifics, [and create] too much paperwork". New or innovative models of care were seen to disturb traditional care models, with many GPs described as being reluctant to change established work practices. Many GPs did not appear to recognise the value of the practice nurse role in patient education, risk factor screening, symptom monitoring and health assessments. Many participants spoke of being excluded from discussions regarding chronically ill patients, with most communication occurring between the specialist/acute facility and the GP. Participants described chronic illness as "managed by doctor and hospital unless the patient incidentally discusses the problem with the practice nurse". Interestingly, several participants acknowledged the impact on the nurse–doctor relationship of practice nurse personal and professional characteristics, their ability to demonstrate their clinical skills and willingness to educate themselves. One participant commented:

> A lot of general practitioners don't want to talk [about the nurses' role]. But if you don't talk and communicate on a professional level, they're not going to know anything about you and if you don't talk, and you don't communicate there is no learning on either side.

While these findings cannot be generalised to all practices, they identify the potential importance of undergraduate preparation and education in building the capacity for collaborative multidisciplinary practice in primary care. Currently, some areas of rural Australia have programs to conduct interprofessional education, and trials are underway in the UK to explore the effect of multidisciplinary undergraduate education on subsequent clinical practice.[54,55] It will, however, be some time until such programs can be evaluated.

Facilitators for extension of the practice nurse role

The most commonly cited facilitators for role extension in cardiovascular disease management were collaboration with the GP ($n = 247$; 87.6%), access to education and training ($n = 185$; 65.6%), the opportunity to deliver primary health care ($n = 172$; 61.0%), a high level of job satisfaction ($n = 158$; 56.0%) and positive consumer feedback ($n = 154$; 54.6%) (Box 2).

Collaboration with the GP

Despite the attitudes of GPs being identified as a barrier to role extension, the converse was also true: collaboration with GPs was seen by participants as a facilitator of the practice nurses' role. Many participants described the process of achieving collaboration as being fraught with difficulty while they established a relationship of mutual professional trust and respect with their GP colleagues. However, once a positive professional relationship with the GP was established, this was often perceived as a positive motivator. One interview participant identified that "once confidence is built up [in the skills of the practice nurse] the general practitioner's attitude changes". Not all participants were able to achieve such positive outcomes or professional relationships with all the GPs within their practice. In these

2 Facilitators of extending the practice nurse role

Facilitators	*n* (%)
Collaboration with general practitioner	249 (87.6%)
Education and training	186 (65.6%)
Opportunity to deliver primary health care	173 (61.0%)
High job satisfaction	159 (56.0%)
Positive consumer feedback	155 (54.6%)
Autonomy of practice	139 (48.9%)
Active contribution to management	138 (48.6%)
Potential to shape role	138 (48.6%)
New and exciting role	111 (39.0%)
Less restrictive management	106 (37.2%)
Improved hours	90 (31.6%)
Better employment conditions	83 (29.1%)
Other	21 (7.5%)

cases, interview participants reported that they worked more closely and spent more time interacting with those GPs by whom they felt valued and supported.

One interview participant summarised the situation, stating "We [practice nurses and GPs] don't have to be in competition, we can complement each other and that is the way our practice works. I'm very lucky that I have GPs who have the foresightedness to see that". Collaboration, rather than substitution was described by another participant who articulated that she wanted "to be a maxi-nurse not a mini-doctor". While GPs were identified as being excellent at providing acute, episodic care, the practice nurse was identified as being better able to provide health promotion and disease-specific health education. This added a dimension of general practice management that was often previously not available.

Access to education and training

The isolated nature of practice nursing has long been recognised as a major barrier to education and training.[27] However, 185 (65.6%) survey participants identified that the availability of education and training facilitated their role in cardiovascular disease management. This finding may appear ambiguous, given the difficulties identified in accessing ongoing education/training identified both by participants in this investigation and other studies.[27] Participants perceived that through further professional development, education and training they would be able to undertake a more proactive role in collaborative cardiovascular disease management.

Opportunity to deliver primary health care

Primary health care was the "frontline" management for those who presented to general practice for both acute health issues and chronic illness management and participants valued their contribution to the health and wellbeing of these individuals. This theme emerged particularly from those working in smaller or rural communities where they had established close relationships with the practice population.

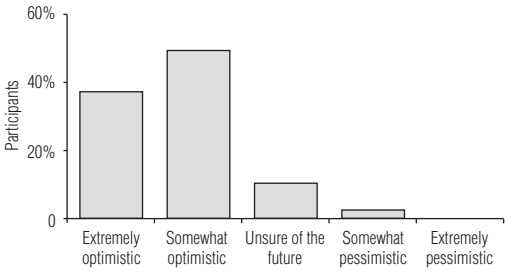
High level of job satisfaction

Despite the identification of workforce issues such as remuneration, interdisciplinary relationships and teamwork, many positive aspects of the practice nurse role were identified. These included flexible working hours, part-time employment that considered individuals' family commitments, lack of shift work and the development of close relationships with consumers over prolonged periods. One interview participant, who had been a practice nurse for over 30 years and was nearing retirement, captured the essence, stating that "I really enjoy the job that I am doing and hate to think that one day I'm not going to do this anymore!!" This job satisfaction and commitment to the practice population provided motivation for several participants to seek to extend their role and improve the range and quality of services available within their practice.

Positive consumer feedback

Several Australian investigations have identified positive consumer perceptions of the practice nurse.[34,35,44,56-58] This study identified that this generally positive feedback was perceived as a facilitator of extending the nurses' role. Interview

3 Level of optimism for practice nurse role development



participants acknowledged that the personal gratification gained from positive consumer feedback was a powerful motivator to provide high quality nursing care that met community needs. One interview participant remarked, "being appreciated ... makes you try harder and work more". Participants also reported that consumers often responded positively to the additional time spent with them by the practice nurse to provide clinical care and health education. Additionally, it was reported by participants that consumers felt that, given the perceived status of the GP, the practice nurse was often more approachable and accessible. The idea that consumers were seeking an extension of general practice services or additional services from the practice nurse was, to some extent, driving the development of the role.

Perceptions of future role development

Survey participants were asked to rate, on a five-point Likert scale, their level of optimism concerning the development of the practice nurse role. As can be seen from Box 3, 247 (87%) survey participants responded with optimism.

This is a significant finding when considered in terms of participant demographics. Patterson and McMurray[59] reported that the readiness of practice nurses to accept the move to autonomous nursing functions was strongly associated with distinct generations of the nursing workforce and their established values and beliefs. However, participants in this study represented a broad cross-section of the Australian practice nurse workforce. If anything, there was predominance towards the older, "hospital-trained" registered nurse. Despite these personal and professional demographics, a high level of optimism about future role development was reported. This finding, therefore, represents a positive attitude on the part of Australian practice nurses towards developing their specialty. Such an attitude and motivation are essential in providing capacity to develop and evaluate new and innovative models of care.

Discussion

Management of cardiovascular disease requires a suite of interventions in term of primary, secondary and tertiary rehabilitation. Saliently, many of the factors contributing to the onset of cardiovascular disease and progression relate to modifiable risk factors, such as obesity, smoking and hypertension.[2,60] Successfully addressing these factors is dependent upon consumer engagement and the establishment of collaborative patient-centred models to promote self-management. Important nursing skills for cardiovascular disease management include knowledge of pathophysiology, cardiovascular assessment, pharmacology, quality improvement initiatives and the complex biological, social and psychological factors that impact on cardiovascular risk management.[61] The primary care setting is optimal for opportunistic and tailored lifestyle interventions for a range of factors including accessibility, consumer preferences and funding models.[62] Promotion of these community-based and primary care initiatives is not only more likely to meet the needs of consumers but also decrease the burden on a highly pressured acute care system. Successful interventions are likely to be collaborative, interdisciplinary and focussed on the promotion of both pharmacological and non-pharmacological evidence-based interventions.[8,9]

Currently, although there are political moves to increase the number of nurses in Australian general practice, it is vital to address the barriers identified in this study that are currently preventing development of their role in chronic conditions, including cardiovascular disease. Many of

these issues, however, require change at a health system level. In particular, a national approach to the clarification of legal issues, review of the current Medicare funding arrangements and development of standardised remuneration and employment conditions are required. Action at this level requires the engagement of a range of key stakeholders including professional groups, politicians and policy makers.

The complexity of the barriers identified in this study is increased by their multidisciplinary nature and the small business model of Australian general practice. The attitudes of GPs and collaborative relationships between the GP and practice nurse are dependent upon a complex interplay of factors and require a significant shift in the culture of Australian general practice. While multiprofessional education may assist in this shift, such cultural change requires significant commitment from both medical and nursing professional groups as well as individual clinicians. Strategies that promote interdisciplinary interaction and collaboration, such as shared professional conferences and professional development opportunities, may drive this shift.

Study limitations

The major limitation of this study was the convenience sampling method which may have led to response bias. However, the lack of a national practice nurse register or accurate lists of local practice nurses precluded more sophisticated sampling techniques. Given that the demographic profile of participants was similar to that of other Australian practice nurse investigations and national nursing workforce characteristics,[43,47,48,63] there is reasonable evidence for the generalisability of the sample.

Another potential limitation is that the telephone interviews were undertaken with ten practice nurses. In line with accepted qualitative research practice, data were collected until saturation was achieved.[64] Following eight interviews, a further two interviews were conducted and failed to reveal any new information, determined by two investigators on review of the audiotaped data. The synthesis of these qualitative data with the findings of specific items from the survey provides both confirmation and completeness of the data.[65]

Conclusion

Although the findings of this study pertain to Australian nurses, there are broader implications. The burden of cardiovascular disease is largely related to socioeconomic and lifestyle risk factors that are common throughout the developed world. The primary care setting is optimal for health care interventions, not only preventive but also therapeutic and palliative in focus. This is related to the ability of general practice to support community engagement and capacity development as well as the delivery of opportunistic and culturally appropriate health care interventions.[8] Policy initiatives, funding models, interprofessional relationships and community interface can either help or hinder chronic disease management.[66,67] Enhancements in collaborative relationships between the GP and practice nurse, clarification of the legal issues related to nursing in general practice and review of funding arrangements would all potentially enhance the ability of the practice nurse to extend their role in the management of cardiovascular and other chronic disease.

Additionally, consideration needs to be given to the development of sustainable, accredited education and training specifically designed to address issues related to cardiovascular disease management in general practice. By addressing the factors identified in this investigation, there is potential to develop the practice nurse role to improve the quality of care available for people with cardiovascular disease in the general practice setting. Based upon current policy initiatives and the findings of this study and others,[24,27,43] the time is ripe to advance the role of nurses in Australian general practice.

Acknowledgements

This study would not have been possible without the enthusiastic assistance of the general practice nurses who responded to the survey. We also wish to thank the

Australian Practice Nurses Association, Royal Australian College of Nursing and Divisions of General Practice, in particular Western Sydney, St George, Mid-North Coast, Wide Bay, North Shore and ACT Divisions, for their assistance with survey distribution.

Elizabeth Halcomb was a doctoral candidate supported by an Australian Postgraduate Award from the Australian Department of Education and Training and a Top-Up Grant from the University of Western Sydney at the time of the study. A Research Seed Grant from the University of Western Sydney funded the conduct of this survey. Neither the Department of Education and Training nor the University of Western Sydney had any input in the preparation of this manuscript.

Competing interests

The authors declare that they have no competing interests.

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(Received 29/11/06, revised 28/02/07, accepted 28/05/07) □