

Nursing initiatives in primary care:

An approach to risk reduction for cardiovascular disease and diabetes

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ABSTRACT

Background

Between 2005 and 2007 the Ministry of Health funded a project to implement models of nurse service delivery, with care pathways for risk reduction of CVD and diabetes based on national guidelines, with quality assurance, audit and nurse leadership.

Aim

To evaluate nurse-led CVD management.

Method

Pilot primary care sites representing rural, urban, low decile and high needs populations demonstrated CVD risk assessment and management with nurse leadership. An action research approach including formal interviews, documentation of the team experience of implementing nurse clinics, and ongoing project meetings in the pilot sites clarified and documented the requirements for a nurse service. Evaluation included review of quantitative data in terms of numbers of individuals screened with consideration of demographic variables and clinical parameters where available.

Results

A framework for implementation and sustainability for a nurse CVD risk assessment service in primary care is documented.

Discussion

The need for strong leadership, commitment, and collaboration through teamwork was recognised and the competencies required by primary health care nurses working in CVD risk assessment and management are clarified.

Key words

Primary nursing care; risk assessment; health services research

(NZJP 2008; 35: 176–182)

Introduction

Evidence from population studies and clinical trials have shown that risk factor management is effective in reducing mortality and morbidity from cardiovascular disease (CVD) and type 2 diabetes (diabetes).¹⁻⁴ Although guidelines have been generated, current practices often fall short of attaining the recommended goals.⁵ Attention to physical activity, dietary management, weight loss, smoking and blood pressure, plasma lipoproteins, anti-thrombosis and beta blockade are fundamental to the care of patients at high risk of CVD. Nurse clinics have been identified as a potential key factor in successful implementation of risk reduction for CVD and diabetes.

There is increasing evidence that nurse-led services are an effective way to improve management across the disease continuum; in primary CVD prevention,⁶ secondary prevention for people with coronary heart disease,⁷ in hypertension⁸ and diabetes.⁹ Nurses are effective in chronic disease management with key elements being service organisation, teamwork and structured care.¹⁰ Well-structured nurse clinics with patient registers, recall systems and clinical care in accord with evidence-based guidelines have demonstrated positive health outcomes.

Aspects of care associated with success of nurse CVD secondary prevention clinics include a focus on health and wellness rather than illness, diagnosis and intervention.¹¹ In New Zealand there is evidence that primary prevention CVD risk assessment for potential high risk individuals and reduction of their risk can be achieved with appropriate lifestyle and therapeutic interventions in a multi-disciplinary team setting.¹²

The New Zealand Primary Health Care Strategy (PHCS)¹³ envisages

health care delivered by a range of health professionals. In this context it is important to understand how nurse clinics can be developed and sustained within the multidisciplinary primary care environment and appreciate potential barriers to successful implementation.^{14,15}

This paper reports an action research project with the primary objective to implement and evaluate models of nurse-led service delivery to reduce risk of CVD and diabetes in primary health and community settings. Key factors needed to sustain and implement a nurse CVD risk service were identified as the project progressed and these are outlined, together with discussion of key issues that emerged for resolution during the project.

The project's major focus was on the 'healthy' population end of the 'Leading for Outcomes' life-course continuum¹⁶ with nurses aiming to establish systematic screening programmes and linkages with other population health activities.

Method

Over a two-year period (September 2005 to August 2007) the School of Nursing, University of Auckland provided leadership for a project aiming to link health promotion, support of early detection and early intervention for CVD and diabetes according to best practice guidelines with nurse leadership.

Pilot general practices and other primary care settings (e.g. Maori providers) representing rural, urban, low decile and high needs populations were identified in Auckland and Northland as exemplar models. All sites volunteered to work with the project. An action research approach was adopted. Within this framework the School of Nursing

provided training for 'lead' nurses with ongoing mentoring and support to develop a nurse service, advice on quality issues and clinical audit, assistance with development of a clinical model of care and assistance to source patient education resources.

The action research approach¹⁷ allowed the researchers and practitioners to work together using the cyclical process of planning, acting, observing and reflecting, to determine solutions to problems and issues arising in practice. This ensured that changes were appropriate to the given situation; change was planned and implemented by the practitioners in order to increase sustainability and give ownership to the team. The implementation process was considered likely to increase the capacities and resources of the team through a collaborative problem-solving process, and the process provided practical solutions to problems that could then guide implementation in other practices.

Initially, formal Memoranda of Understanding were signed with six sites and oversight for the project was provided by a Steering Group comprising nurse and general practitioner (GP) primary care leaders together with the Ministry of Health and the National Heart Foundation. As the project progressed, a number of initiatives evolved that allowed the project leaders to provide support through education and mentoring for nurses working with CVD risk reduction in a broader range of sites. This enhanced the opportunity to clarify the components required to implement and sustain a nurse-led CVD risk assessment service within a multi-disciplinary team.

Data collection included documentation of the ongoing project meetings and team experience of implementing nurse clinics in the pilot sites, and formal interviews with the nurses and GPs.

Evaluation included review of quantitative data in terms of numbers of individuals screened, including their demographic variables and

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clinical parameters where available. Thematic analysis was conducted of the data from project meetings and other notes and interview responses of the nurses from the pilot sites. The results of this analysis form the points of discussion in the paper.

Ethics approval was obtained from the University of Auckland, Human Subjects Ethics Committee.

Results

The components required to implement and sustain a nurse CVD risk assessment and management service (Figure 1) were identified and clarified through the action research process. They are as follows:

Planning and practice issues

Action-oriented planning was required with the practices responding to issues as they arose and working as a team to resolve them. Existing team meeting arrangements, case conferences or clinical governance structures did not always allow for dedicated time to review implementation of the planned approach, including quality improvement or revision as necessary.

Leadership and vision are important to the success of any new initiatives. The practice and the practitioners needed to be committed to taking a population health approach to CVD risk assessment and management. Having 'champions' – a 'lead' nurse and a 'lead' GP who could lead discussion on clinical issues – was found essential.

Understanding the communication channels available in the primary care setting was also essential before developing or enhancing a nurse service, as was clarification of the members of the multidisciplinary team and their specific roles. This included understanding the roles of the nurse and GP and determining who would undertake the administration, and whether additional professionals such as a pharmacist, dietitian or community health worker would have a role in the team. With nurses establishing or enhancing their role,

nurse leadership for clinical and professional support was vital.

Where clinical decisions were required (such as the need to request fasting blood tests), it needed to be clear what these decisions were and how they would be made. Where screening was to be undertaken in an out-reach setting there were decisions about how blood samples should be collected and which tests would be used. For example, when using point of care testing it was decided that an individual's non-fasting lipid profile could be used for CVD risk calculation.

Quality assurance, improvement and audit needed to be incorporated as ways to demonstrate the effectiveness of nurse clinics. Processes for monitoring nurse clinical skills and assessing nurse clinical competence were also needed.

Nurse competency

The knowledge and skill areas addressed by the nurses during the project included:

- Understanding the CVD guidelines/evidence-based practice
- Consultation processes (time management)
- Motivational interviewing/goal setting
- Use of information technology
- Audit/quality improvement
- Medications
- Cultural considerations
- Population health approaches
- Health promotion.

Resources and technology

Additional resources needed to be in place to ensure successful and sustainable CVD nurse services. These included:

- Appropriate nurse's job description
- Nurse appointment system including administrative assistance
- Dedicated nurse time and consultation room
- Available patient information and education resources.

In addition, access to referred community resources was required with

referrals linked where appropriate within the PHO or to other teams (such as health promotion). Useful community referrals recipients included dietitians, Green Prescription or other physical activity programmes, smoking cessation and patient self-management programmes.

In the pilot sites, approaches to risk assessment incorporated both planned and opportunistic screening. Information technology with a practice management system (PMS) and an accurate and complete classification coding was essential for understanding the practice population, prioritising patients for risk assessment, establishing patient alerts and recalls and for practice audit. Efficiency of computer and PMS is consistently identified in the literature as critical to enable systematic population health approaches and to facilitate structured care.¹⁸

Effective sharing of records among health professionals in the practice was a further issue for a sustainable service.

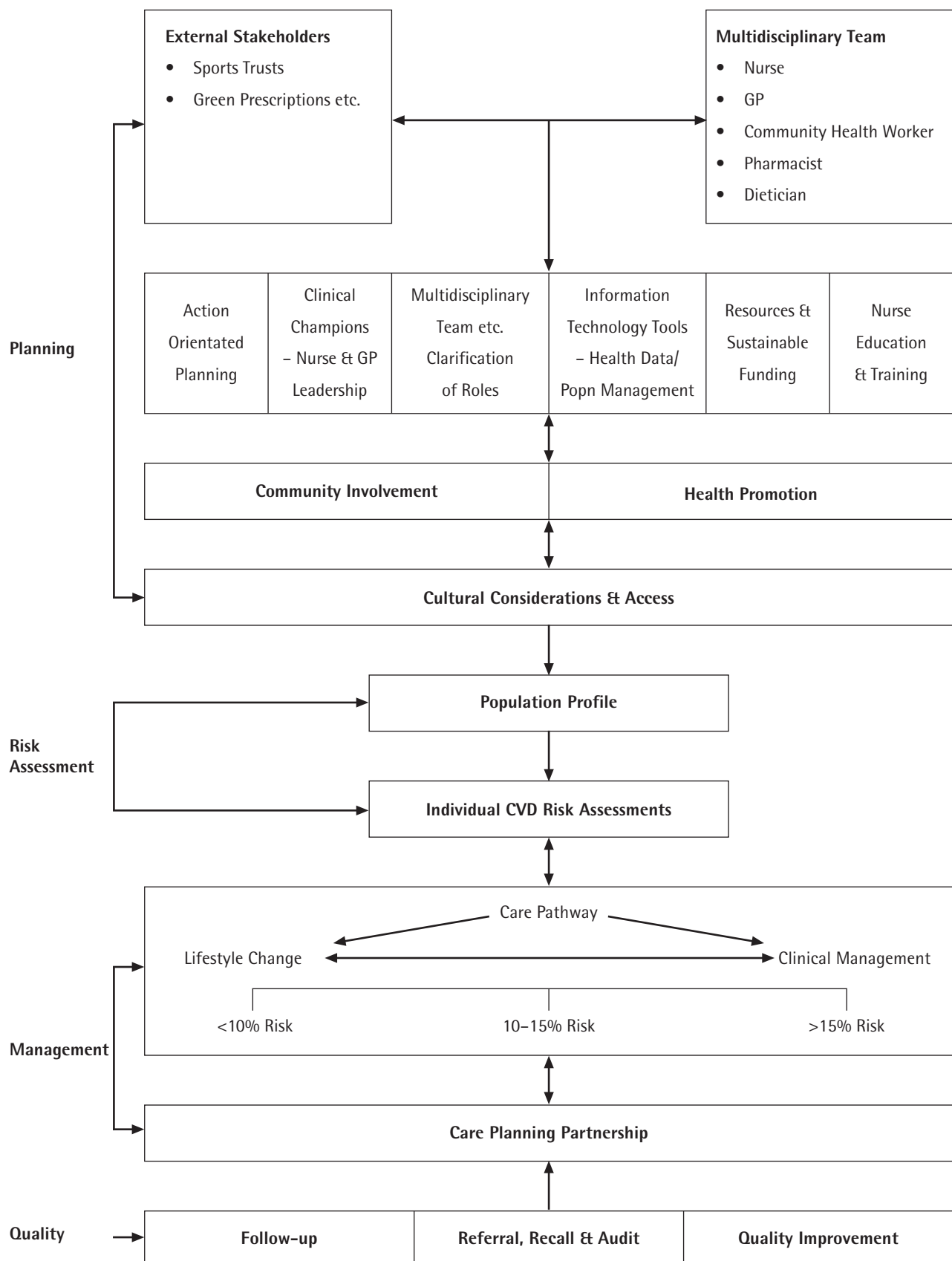
Funding

How primary care funding can support a population-focussed approach remained an area for ongoing discussion and was beyond the scope of the project to resolve. Ashton discusses the existing general practice co-payments as inhibiting population-focused and prevention-oriented programmes.¹⁹ While a portion of practice income comes from a fee-for-service basis via patient fees, the incentive remains to keep people walking through the door rather than developing prevention-oriented programmes.

Patient issues

The care pathway or flow for the patient was aligned with the CVD guidelines and contextualised for the practice. This meant that the lines of communication and referral to GPs and other services were clear and that led to the development of written protocols and 'Standing Orders'.

Figure 1. Cardiovascular risk reduction in primary care with nurse leadership



Patient care planning, including ensuring that patient, nurse and GP all are aware of the care plan and that it has been developed in partnership with the patient, were all important. Principles of self-management underpinned the nurses' approach to care planning.

Both the setting and patients brought respective cultural backgrounds. Cultural differences can present barriers to care and ensuring the appropriateness of the setting for the population, including consultation with the community all needed attention.

Recognising the importance of whanau to Maori was found to be essential by the nurses and within the pilot sites. It has been suggested that incorporating whanau is possibly the most effective difference that health professionals can make to the health and well-being of Maori.²⁰ This ensures that the focus is on whanau potential, rather than individual problems with whanau ora and led to health providers offering services in partnership with families and communities.

Population health

Health promotion programmes (with targeted funding) aligned with community engagement can provide resources and educational materials in addition to specific programmes such as physical activity, smoking cessation and nutritional support, and may employ community health workers. Without health promotion aligned with initiatives at the practice level, health promotion programmes did not always meet the needs of patients and communities. For example, to be effective a Green Prescription or other physical activity programme needed to be culturally appropriate and available at a time and place to meet patient needs.

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Discussion

A number of issues emerged from the team experiences of implementing the project, the ongoing meetings at the sites and the formal interviews.

1. Information technology

Information technology proved a major challenge with difficulties evident around coding and extracting reports to identify health deficits, establishing approaches for monitoring health gain against targets and putting in place recalls and flags for opportunistic screening.

2. Funding

Funding is an important consideration in developing nurse clinics. The pilot sites in this study varied as to how people accessed the nurse service. Several charged a fee for a nurse visit although in general where people were identified as 'high risk' they were able to enrol on Care Plus or a PHO-funded CVD programme, hence resolving funding issues for ongoing management.

Patients will not attend if the cost is too high, so practices need to identify a funding source before developing a nurse service. National funding streams such as Care Plus, Diabetes 'Get Checked' and

Services to Improve Access (SIA) may assist. Some PHOs or practices have incentive initiatives and practices may set a patient charge for the nurse clinic. Practices may also decide that a population approach through a nurse clinic initiative can be undertaken within existing capitation funding.

3. Access

All the pilot sites focused on improving access to CVD risk assessment with consideration of the best strategies to target people for screening.

In general, letters of invitation alone were least effective, with phone calls and targeted follow-up increasing appointments. A mixture of opportunistic and targeted screening was important. People clearly appreciated the time the nurse took with explaining issues and helping them identify what they needed to do to improve their health.

4. Self-management

Assisting people to become good self-managers was a key strategy of the nurses' risk reduction management approach. The nurses used behaviour change approaches based on goal-setting and action planning. The principles of 'patient self-management' activities²¹ that promote and protect health (living a healthier lifestyle), enabling people to be actively involved in decision-making and managing the social environment together with considering the emotional and physical impact of ill health, align with health promotion principles. Feedback indicated that people valued the time (30–45 minutes) nurses spend with them, nurses' listening, and their ability to explain in simple terms, together with encouragement and motivation to help people make lifestyle changes.

5. Organisational change

The scope of general practice and the role of health professionals is changing.²² Embracing change was not, however, universal and no single model of a nurse service for CVD risk assessment emerged. The context was important and approaches needed to be adapted to the setting and context. The action-oriented approach required in the general practice settings a 'lead' GP and a 'lead' nurse and with the Maori providers, leadership from the PHO and community in addition to the health professionals. In settings where good communication and team meetings were in place, development of the nurse services was most progressive.

The nurses were busy, they felt their workloads had increased and many organisational changes were obvious within the practices. Nurse appointments require a practice receptionist to adapt their role: for example, if patients are required to have fasting blood tests before an appointment, the receptionist needs to understand this. The roles of other practice nurses may also change. In the project, the issue of change for other nurses was both positive and negative. It was positive in the obvious modelling of an enhanced role and level of practice for the 'CVD nurse' and encouraging for other nurses to develop their practice. Negative issues arose where practice nurses perceived an increased work load for 'general practice nurse' duties. These are again issues for planning. Several of the practices stated their intent to employ another practice nurse to allow the further development of nurse services.

The GPs interviewed also believed that their workload had increased, although this was not necessarily viewed negatively. Nurses referred patients for medications, either for new prescriptions or review of medications and for clinical assessment. These pressures were managed, for example, by a GP keeping several spare consultation times when the nurse clinic was operating.

An issue emerged where not all GPs in a practice were supportive of the nurse developing an enhanced role. Understanding the scope of nurse practice is an issue for ongoing discussion. The literature outlines the value of an approach to improving health outcomes where the focus is on health and wellness – a nursing approach rather than the medical model of diagnosis and treatment and in general this was understood.^{11,22} Recognising how lifestyle change and clinical care link with a nurse scope of practice was not, however, universal. This should develop with the support provided by electronic decision support tools that include

protocols and promote structured care. However a recent review of advanced primary care nursing roles indicates that the reasons nurses have difficulties in establishing new roles include role uncertainty, lack of role clarity and limited support from colleagues.²³

With nurses expanding their roles, multidisciplinary team meetings and case conferences became increasingly important and were viewed positively by nurses and GPs where these developed. Nurses valued the opportunity to develop their clinical knowledge and skills when they were included in case conferences. Nurse contributions were valued and improved teamwork started to be an outcome.

6. Management of patients and nurse accountability

Undertaking a screening programme, whether opportunistically or on a planned population basis, includes ensuring that people have access to follow-up for ongoing diagnosis and management. In this project the pilot sites were encouraged to do this through establishment of care pathways²⁴ which provide an overview of anticipated care through which a patient progressively moves in order to achieve positive outcomes and meet their needs. In some instances the issue of the nurse being accountable for his/her practice and ensuring follow-through of decisions (for example, further diagnostic tests) was still evolving. Understanding the autonomous practice of nurses and the nurses' accountability for their practice requires clarification within the nursing scope of practice.

7. Quality

A quality improvement approach was not developed in all sites. The intent had been to seek baseline health data and carry out audit against the CVD guideline targets. This proved a challenge, with significant difficulties related to information technology and how it was used in each setting.

In one site 650 patient records were hand-reviewed in order to address incomplete and inaccurate disease coding and enable an appropriate 'query' search to prioritise patients for screening. The impact of the CVD nurse clinics on health outcomes was therefore not demonstrated and this is an important area for further development and research.

8. Critical mass and nurse mentoring

Development of nurse services was positive where the size of the practice enabled a group of nurses with a nurse leader to work together. Critical mass was also achieved through the nurses from the different pilot sites meeting together to share learning and participate in clinical discussions. The small size of some general practice settings presents challenges in finding ways to achieve 'critical mass' to support development of nurse services: this cannot be assured through continuing education programmes alone.

External mentorship was valued by both the nurses and the GPs in terms of support that this provided for the nurses and the practice in general. Mentoring provided opportunity for reflection on progress and encouragement against the goals for the project, in addition to providing direct supervision and assistance where this was appropriate. This observation is in keeping with published studies on the effectiveness of nurse clinics where support is considered critical in the establishment and maintenance of nurse clinics.¹⁴

9. Professional development of practice / primary health care nurses

The project highlighted the lack of opportunity practice nurses in particular have had for ongoing relevant professional development. These nurses were not accustomed to reading professional journals nor accessing online learning. Until recently, comparatively few have had access to postgraduate study and continuing education. Organisation-wide PHO initiatives may

not adequately address individual learning needs. Seminars associated with the project highlighted the lack of experience practice nurses have with peer review of their practice such as in working with difficult patients or developing motivational interviewing skills. Mentoring and support at a practice level around clinical issues, assistance to access learning resources and peer review were all positive aspects of professional development for the nurses.

10. Population health

The emphasis for the nurses was clearly to focus on the population or 'healthy population' end of the life-

course continuum. This has enabled significant progress in understanding the prevalence of CVD risk in the enrolled practice populations where the nurses work. With the exception of the rural sites, health promotion programmes were not linked with the practices and community engagement with the practices in terms of health improvement was minimal.

Physical activity programmes such as Green Prescription, lifestyle coordinators, nutrition advice and community health workers all had key roles, however one site identified deficits in culturally appropriate programmes and programmes at times people could get to them.

The project highlighted the lack of opportunity practice nurses in particular have had for ongoing relevant professional development

Conclusion

The project was able to demonstrate that where systematic approaches were taken by the nurses, CVD risk assessment progressed with success targeting 'at risk' groups. In order to achieve this, the need for strong leadership, commitment and collaboration through teamwork was recognised together with the clarification of the competencies and support required by primary health care nurses working at various levels of CVD risk assessment and management.

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Competing interests

None declared.

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