Original Scientific Paper

Implementation of a nursing initiative in primary care:

A case report, cardiovascular disease risk reduction

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ABSTRACT

Aim

To report on implementation of a nursing initiative of cardiovascular disease (CVD) screening risk assessment at the Mornington Health Centre with initial outcomes after six months. The practice aim was 80% of their eligible population assessed within three to four years, particularly targeting high-risk groups.

Method

Prior to screening implementation, the practice accessed funding streams; upgraded their information technology; established multi-disciplinary teams with general practitioner supervision and support for nurses; engaged external trainer/facilitators and provided additional staffing. Targeted patients were invited for free nurse assessments by letter, followed up with reminder letters, phone calls and computer alerts. Monthly audits were conducted.

Results

By six months, 1429 (42%) of eligible 3415 patients had been screened: 32% scored absolute CV risk ≥30%.

Discussion

Where the practice nurse role in the multidisciplinary team is clear, organisational change can facilitate a practice to meet a population-based goal (CVD risk assessment) while providing quality care to individual patients.

Keywords

Primary nursing care; risk assessment; case reports

(NZFP 2008; 35: 183–186)

Introduction

Between 2005 and 2007 the Ministry of Health (MOH) funded a project to implement models of nurse service delivery, with care pathways for risk reduction of CVD and diabetes based on national guidelines, including quality assurance, audit and nurse leadership.[1] 'Pilot' general practice settings and other primary care sites representing rural, urban, low decile and high needs populations were identified in Auckland and Northland as exemplar models. Support from the School of Nursing included training of 'lead' nurses with ongoing mentoring; advice on quality issues and clinical audit; assistance with development of a clinical model of care and assistance to source patient education resources. This project underwent evaluation.[2]

In mid-2006 the Mornington Health Centre (MHC), a suburban practice in Dunedin, began development of a CVD risk assessment implementation plan with nurse leadership. MHC was established more than 20 years ago and is now one of the largest health centres in New Zealand. The Mornington Primary Health Organisation Trust (MPHO) is single practice interim funded Primary Health Organisation (PHO) providing primary health care services to almost 16 000 enrolled patients through its MHC practice.[3] The practice has over 40 staff including 17 GPs (13.6 FTEs). The health centre also maintains a fully equipped nursing station and employs 11 nurses (10.7 Nursing FTEs/8.5 Practice Nurse FTEs) This nursing department offers a number of services directly to the public by means of an appointment.

The Mornington plan involved update of their practice register coding to enable generation of target lists to select patients for risk assessment; use of the electronic tool *Bold Promise* practice management system adaptation to measure CVD risk,[4] and assistance from Merck Sharp & Dohme NZ (MSD NZ) in up-skilling the project leader in information technology (IT) skills, particularly use of the tool and audit of the register. MSD NZ had made the tool *Bold Promise* available to several practices across New Zealand and provided support in the use of the tool as part of customer support. This influenced Mornington's decision to use the *Bold Promise* tool as it was provided at no cost to the practice.

The practice identified their target population of patients estimated to have absolute CVD ≥15% risk based on the national guidelines.[5] They estimated that if a nurse-run clinic assessed 15 patients per week at 30 minutes per appointment (7.5 hours/nurse time per week) they could manage this within their existing capacity with no charge to the patient. This rate would allow for 80% of the estimated eligible population to be assessed within three to four years.

They further estimated that if 20% of the patients screened were found to have an absolute CVD risk ≥15% requiring a general practitioner (GP) follow-up for medication review, this GP visit could be provided with no charge to the patients. Furthermore, to improve access leading to equitable utilisation of the programme extended hours and evening appointments were in place and a courtesy coach available on request.

The existing Maori and Pacific outreach nursing service was able to improve opportunities for this population to be screened. Referral mechanisms for patients with a absolute CVD risk >25% included an opportunity to attend an eight week education programme run by an in-house specialist diabetes nurse and/or dietitian, motivational and exercise consultations.

The practice then approached the MOH-funded nursing initiative project with a request for assistance. In May 2007 the project provided a joint GP and nurse training day with subsequent regular follow-ups with a nurse leader.

On 1 July 2007 the MHC commenced a CVD screening risk assessment with nurse clinics. The aim of this paper is to present a progress report and audit of this initiative.

Methods

The practice goal was to have a CVD risk assessment recorded for 80% of their eligible population within three to four years. The initial target group was Maori and Pacific males in the 35–45 year age group, then males 45–50 years, and then Maori and Pacific females with all diabetic patients having a CVD assessment at the time of their annual diabetes check.

Soon after the training day and before the systems were fully in place, all the GPs and nurses undertook CVD risk assessments with eligible patients on an opportunistic basis to ensure new skills were practised and reinforced. Subsequently the GPs continued to undertake CVD risk assessments opportunistically, while the nurses under the leadership of the nurse development manager began the programme to systematically screen the eligible population. Readily accessible GP supervision and support for the nurses was available in order for the nurses to maintain skills and confidence.

An additional specialist nursing time of 36 hours/week was allocated to the programme. Supplementary administration support was provided to generate personalised invitation letters, make recall telephone calls and arrange nurse clinic appointments. A budget for the programme was developed with income derived via the PHO performance management programme, capitation and health promotion funding, allowing for the initial nurse screening consultation and the first GP visit to arrange treatment (medications) where required, to be provided free of charge. Also two fully funded dietitian visits and green prescription appointments were available on site.

All the practice nurses undertook CVD risk assessments with 30 minute appointments.

The number of patients eligible for screening in terms of the CVD guidelines was estimated to be 3138. Over 50% of this cohort were sent invitation letters in the first four months of the programme. At six to eight weeks reminder letters were sent and followed by a telephone call. Alerts in the practice management system (PMS) for patients not responding notified practice staff to follow-up patients opportunistically when they next telephoned or attended for another reason.

Monthly audits were conducted, recording the number of eligible patients and numbers screened – including age, gender and ethnicity.

Results

By four months 1026 (33%) of all eligible patients had been screened, with some returning for three monthly follow-up. The nurses had screened 805 (79%) and the GPs 221 (21%).

At six months (January 2008) the enrolled population numbered 15 642, of whom 3415 (22%) were identified as eligible. Of these 1429 had been screened, representing 42% of the target population (Table 1).

Table 1. CV assessment progress report for six months July 2007 to January 2008

Age	Screened
<35 years	11
35–44 years	87
45–54 years	449
55–64 years	468
>65 years	414
Total	**1429**

Table 2. % CVD risk of screened patients

CVD risk	n	%
≤15%	772	54%
16–20%	86	6%
21–30%	57	4%
≥30%	457	32%
Missing score	57	4%
Total	**1429**	**100%**

There were 1326 Maori and Pacific Island enrolled patients (8.5% of the enrolled population): 358 were eligible for screening and 94 (26%) were screened. One thousand and one (70%) of all screened patients were male.

The largest numbers were screened in the four months August to November 2007 (Figure 1).

The nurses conducted 1149 (80%) of the screenings, and there were 149 (12% of patients screened) GP consults and 45 nurse follow-up visits (at three to six months), as well as 129 dietitian visits recorded.

While just over a half of the patients had CVD risk of ≤15%, nearly one third scored CVD risk of ≥30% (Table 2). Table 3 presents the number of patients screened by risk factor.

Table 3. Numbers of patients screened by risk factor

Known risk factor	Eligible	n screened	%
Type 2 diabetic	384	280	73%
Type 1 diabetic	55	7	13%
Ischaemic heart disease	447	315	70%
Cerebral vascular disease	200	92	46%
Hypertension	1120	427	38%
Myocardial infarct	150	147	98%
Smoker	1032	219	21%

Note that some patients have multiple classifications (more than one risk factor).

Discussion

The audit indicates that in their first six months, MHC had screened 42% of their eligible patients. This is very successful progress towards their goal of assessments recorded for 80% of eligible patients within three to four years. While MHC are on target for achieving their goal in three years, any variation is dependent on continued patient response to the programme.

There may also be diminishing returns as the practice tries to engage its remaining hard to access patients (who may also be disproportionately high risk). There is greater operational efficiency in picking the 'low hanging fruit' and it can become increasingly resource-expensive to target the 'non-responders'.[6] MHC plans an outreach community screening on a marae in April to improve uptake for Maori and Pacific patients.

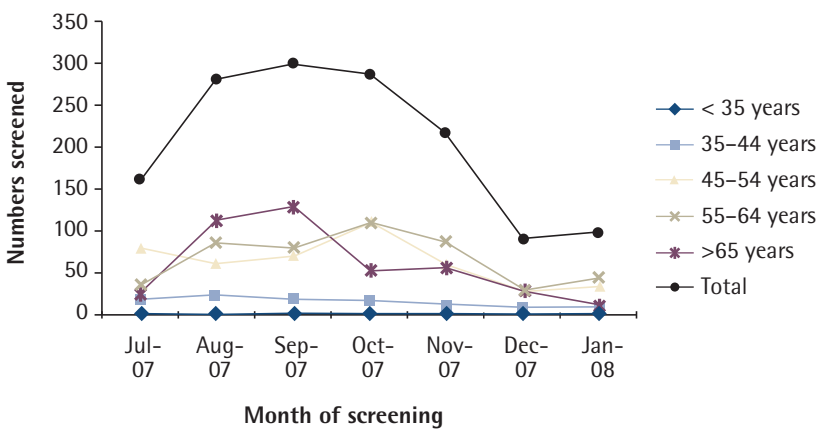
Experience has shown that in the long-term it is likely to be more resource-efficient (staff and funding) if a broader approach to chronic disease management is taken, rather than take a specific disease focus. In addition, there is a belief that more considered targeting of the CVD screening cohort is likely to realise more unmet need.

Significant features of Mornington's strategy to enable a systematic approach to CVD risk assessment for their patients include:

- A multidisciplinary team with clear project plan
- A GP and nurse educational programme prior to implementation of the screening
- Follow-up invitation letter and phone call to non-responding patients
- Expansion of their outreach nursing service to include CVD risk assessment in the community setting for Maori and Pacific people and 'high risk' individuals who required support in gaining access to primary health care services
- Nurse assessment and first GP follow-up appointments free to the patient.

Training and facilitation provided externally (in this case both by the MSD

Figure 1. Numbers screened by age in the 1st six months



NZ partnership and by the MOH project which had already set up exemplar pilot sites) are likely to have contributed to the success. Research indicates that use of a practice visitor as facilitator to enable teams to plan practice-led organisational development with quality improvement instruments may be as important as the need to engender ownership of the quality improvement process by practices.[7]

A number of key organisational factors can be identified that are likely to have contributed to the development and success of the nurse CVD risk assessment programme at MHC.

Firstly, because this is a single practice interim-funded PHO, there is an underlying population approach philosophy. Being a sole practice PHO reduces bureaucratic processes such as management accountabilities and reporting. Furthermore a core group was committed to provide personal and financial support for the new service.

Secondly, in-house management expertise had previously identified a need to improve nursing outputs (several years prior to the implementation of the CVD programme) through the management and supervision of practice nurses and identification of funding streams to support these roles. The employment of a registered nurse with both clinical and management expertise to lead the nurse team has facilitated the nurses' professional development. A nurse development manager (SO) is responsible for developing the nurse-initiative health improvement programmes such as the CVD risk assessment nurse clinics.

Thirdly, the need to generate a practice population cohort eligible for CVD risk-assessment was recognised. As a PHO was mandated by the MOH to measure and report against performance indicators, to receive payment necessitated the patient register to be overhauled. This also required procedures and policy to be established and practice staff to be educated in the uniform patient data capture including Read coding of disease status.[8]

The practice was initially unable to generate accurate and complete lists of eligible patients because Read codes were either incorrectly assigned or absent. While it was possible to identify patients through risk factor measurements such as blood pressure, body mass index or smoking, many of these data were either not captured or were inappropriately recorded in the clinical notes. Before commencing the implementation of CVD risk assessment, the practice spent considerable time and resource updating the practice register to enable the generation of accurate target lists and to facilitate measurement and reporting.

To achieve this, the pharmaceutical company MSD NZ worked with MHC to help get the patient register in order. MSD provided expertise in data management; IT expertise, human resource and necessary staff training and provision of the electronic CVD risk calculation tool *Bold Promise* which sits alongside the PMS.

Fourthly, the practice had the capacity to implement the initiative. The practice had recently undergone redevelopment and had established dedicated clinic space for nursing. There was also a critical mass of clinical staff. The practice has a significant multidisciplinary team which enables a group of nurses to work together with colleagues.

Lastly, a quality improvement committee was established with regular meetings (initially weekly) to ensure that issues were resolved quickly and strategies to improve the programme were implemented.

Conclusion

This case study demonstrates how organisational change where the practice nurse role in the multidisciplinary team is clear, can facilitate a practice to meet a population-based goal (CVD risk assessment screening) while providing quality care to individual patients. The plan gives nurses the opportunity to spend time with their patients through 30 minute appointments and to be able to focus on wellness rather than illness.

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Competing Interests

None declared.

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