

Overcoming barriers to guideline implementation: the case of cardiac rehabilitation

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ABSTRACT

Aims This study explored the strategies used by cardiac rehabilitation (CR) coordinators to overcome the obstacles to implementation of the evidence-based Reducing Risk in Heart Disease guidelines.

Methods The study design used qualitative, semistructured in-depth interviews with 20 CR coordinators from New South Wales, Australia, to explore the strategies used to facilitate guideline implementation. Non-probability sampling was used to recruit CR coordinators to obtain a broad understanding of the issues. Interviews were transcribed and thematic content analysis was undertaken to identify common themes.

Results Coordinators addressed the barriers to implementing guidelines through their commitment to best practice and striving to overcome the odds through providing opportunistic health education, alternate methods of secondary prevention, and partnering and engaging with local communities.

Conclusions Although CR coordinators face multiple barriers to implementing evidence-based guidelines for patients with coronary heart disease, they use strategies such as harnessing community capacity and using available resources creatively. The development of a more integrated, multifactorial and coordinated approach to improving use of guidelines in clinical practice to improve the treatment and secondary prevention of coronary heart disease is urgently needed.

INTRODUCTION

Despite improved clinical care, increased public awareness and extensive use of health innovations, coronary heart disease (CHD) remains the leading cause of mortality globally.^{1,2} Following treatment for an acute coronary event, cardiac rehabilitation (CR) is a secondary prevention strategy that has been demonstrated in randomised controlled trials to reduce mortality and morbidity^{3,4} (including recurrent myocardial infarction⁵), increase the quality of life^{6,7} and decrease the cardiac risk factor burden.^{6,7}

Guidelines for CR

International evidence-based guidelines^{8–10} recommend participation in CR programmes following an acute cardiac event. In Australia, the national guidelines for managing patients with CHD, “Reducing Risk in Heart Disease 2007 guidelines”,¹¹ have been published and widely disseminated. The development of these guidelines involved contributions from nurses, doctors, general practitioners (GPs), allied health professionals and consumers. Details and updates are placed on the heart foundation website (<http://www.heartfoundation.com.au>). The recommendations of the guideline are

consistent with international guidelines, with some minor adaptations to the Australian healthcare system, in which the GP is a key stakeholder.¹² These guidelines provide clinicians involved in managing patients with CHD with evidence-based information for optimal targets for coronary risk factor modification to reduce the incidence of further CHD events and strategies to improve this goal. A key recommendation of the guidelines is referral to CR services.¹¹ Although these guidelines exist, several national and international studies consistently suggest that there is suboptimal utilisation of CR services.^{13–15}

CR within the Australian context

Australia supports a system of universal healthcare coverage, and CR is endorsed by policy at federal and state levels. Consequently, the majority of CR programmes in Australia are offered at no cost to participants¹⁶ and are available across a range of settings from acute hospital to community based.¹⁶ Despite this enabling policy framework, participation rates parallel international trends.¹⁷

Barriers to guideline adherence

A study recently published on the quality of care for patients with acute coronary syndromes demonstrated less than 7% concordance with guidelines for phase II CR.¹⁸ Irrespective of the topic of the guideline, various barriers to its uptake have been reported. These include the (1) health system environment that is not conducive to encouraging the use of the best practice evidence and effective mechanisms for promoting knowledge uptake^{19,20}; (2) professional and provider issues that involve lack of access to guidelines and the time available to read them²¹; and (3) consumer-related issues that include lack of knowledge, resistance to change and financial difficulties.²⁰

In addition to these factors, Australians face unique challenges. The small population in Australia is distributed over a vast geographical expanse, resulting in a wide variation in the distribution of programmes and levels of service provision.²² Guideline implementation in Australia is further complicated in some healthcare systems in which patients do not have direct access to CR services and require referral from a GP. Therefore, CR services compete directly with GPs for the care of patients with CHD.

Guideline adherence is an important strategy in ensuring quality health outcomes; therefore, strategies to promote the uptake of guidelines should be based on the experiences of the CR coordinators to overcome barriers to guideline implementation. Better uptake of existing evidence has the potential

to significantly improve healthcare quality and safety in Australia and abroad.

We have previously described the coordinators' perceptions of patient-related barriers to guideline implementation.²³ This study sought to examine the strategies used by CR coordinators to overcome the barriers to CR guideline implementation. Therefore, the question under investigation was: 'What are the experiences and strategies used by CR coordinators to overcome obstacles to implementation of the evidence-based Reducing Risk in Heart Disease guidelines?'

METHOD

Selection of CR programmes and CR coordinators

Twenty-five per cent of CR programmes from each of the five geographical areas²⁴ in New South Wales (NSW), Australia, were randomly selected from the directory maintained by the National Heart Foundation of Australia (NSW branch)²⁵ by a researcher not associated with the study. CR programme coordinators were sent a personally addressed letter, inviting them to participate in the study. A date and time for the interview was organised for those who responded, and this was considered as a form of consent. On the day of the interview, before commencing, verbal consent was obtained,²⁶ permission to voice record was confirmed and this agreement was also voice recorded. Approval to undertake the study was obtained from the University of Western Sydney and the Sydney South West Area Health Service.

Data collection

This study adopted an interview-guided approach,²⁷ which consisted of closed and open-ended questions that were informed by the Reducing Risk in Heart Disease guidelines¹¹ and the NSW Policy Standards for Cardiac Rehabilitation.²⁸ The interview schedule was pilot tested using three CR coordinators randomly selected from the CR directory, to ensure comprehension and accuracy of the technical terms used. Data obtained from the pilot participants were not included in the final analysis. All participants were sent an electronic copy of the interview guide when the appointment for the interview was scheduled. Interviews were conducted in a closed, quiet office by the researcher who was skilled and experienced in conducting telephone interviews.²⁹ Interviews lasted from 60 to 90 min and were digitally audio recorded.³⁰ For the purpose of this study, content transcription of all recordings³¹ was undertaken by the researcher and a research assistant. The length of the transcriptions varied from 15 to 25 pages.

Data analysis

All notes were reviewed within 72 h after the interview. Cross-case analysis was used to identify and code commonalities, which were then used to generate themes that occurred across each of the CR programmes.³² Analysis was undertaken using a qualitative (NVivo) programme to determine emerging themes.³³ A second member of the research team, who was not involved with the data collection, reviewed the preliminary content analysis against the transcripts and the audio tapes.

FINDINGS

A total of 126 CR centres were identified across the five geographical categories, and 37 CR coordinators were invited to participate in the study. Of these CR coordinators, 25 agreed to participate in the study; however, only 20 were available for the interviews: highly accessible ($n=4$ of 7), accessible ($n=8$ of 8), moderately accessible ($n=7$ of 14), remote ($n=1$ of 7) areas. The CR coordinator from the very remote area was new to the service

and therefore declined to participate. Reasons for non-participation included lack of time, recent update of policies and lack of funding.

Profile of CR coordinators

Seventeen of the 20 CR programme coordinators were registered nurses, and the remaining three programmes were individually coordinated by a physiotherapist, occupational therapist or a speech pathologist. The number of years of experience as a CR coordinator ranged from 1 to 15 years.

Description of the programmes

Fifteen of the 20 CR programmes were located in the hospital setting. The remaining programmes were located in the community setting or were home based. Five CR coordinators indicated that they provided hospital and community-based CR services. The length of the programmes varied between 3 days and 12 weeks, with the majority ($n=13$) conducted over 6 weeks. Only three coordinators, all from highly accessible areas, reported that they provided CR services 5 days of the week. The remaining coordinators stated that they were funded to offer services ranging from 1 to 4 days each week. One coordinator indicated that they provided services on a needs basis, and another stated that they conducted four programmes per year. All programmes were conducted during normal working hours, although three coordinators indicated that they also offered programmes in the evenings ($n=2$) and on weekends ($n=1$).

Approaches to overcome obstacles to CR guideline implementation

Two major themes were identified under approaches to overcome obstacles. These included commitment to best practice and striving to overcome the odds.

Commitment to best practice

A major theme that emerged from the interviews with coordinators was their commitment to best practice despite the various barriers to implementing the guidelines. Incorporated within this major theme are the following subthemes: doing the best we can, championing to provide evidence-based care and providing practical knowledge.

Doing the best we can

Although most of the coordinators expressed frustration with the lack of staff, they all indicated that providing CR services on the best available evidence was vital and it was important for them to keep up to date with the recent developments in CR:

'I try to keep my practice up to speed with most things that is within my ability or within the budget and the service can provide.'

Participants discussed how, despite the lack of resources, they provided innovative ways to deliver patient education and other services. While some developed their own information packages, others used the limited available resources sparingly.

Some participants discussed how they used the 'scare tactic' to encourage attendance at CR programmes; that is, by suggesting that failure to attend would lead to the patients having extensive complications resulting from heart disease. They also mentioned that 'most cardiologists and some of the GPs do the same'.

To overcome the lack of referral, some coordinators discussed how they identified patients suitable for CR.

'I look at the emergency department presentations, follow them up with a phone call.'

They indicated that this was possible because of hospital guidelines that permitted them to contact patients for CR following discharge. Others, particularly those in moderately and less accessible areas, reported that they asked the family to contact them and felt that it was possible as it was a small community. They reported promoting the service by contacting the GPs and informing them of the CR programmes.

Championing to provide evidence-based care

Providing feedback to members of the healthcare team has been reported to increase communication and enhance patient care. Most of the participants provided feedback to the GPs about the patients' progress through the CR programme. They also contacted the patients' GP or cardiologist if they felt that the patients were not receiving optimal care. One CR coordinator said that:

‘If we find someone without statin, we follow that through with the GP or cardiologist.’

Three participants stated that they also worked as practice nurses in the GP's surgery. They took the opportunity in that role to discuss the patients' problems with the GP and to personally organise the referral and appointments for patients to appropriate services.

Providing practical strategies to adhere to recommendations

CR coordinators discussed the strategies they used to provide practical knowledge to promote a healthy lifestyle. Maintaining contact with patients following completion of the programme to monitor their progress was one strategy reported. They reported conducting activities that provided opportunities for coordinators to monitor patient progress and revise the content learnt during the group programme. They also described the various activities that they conducted within a social environment to maintain the motivation and empower patients to continue their healthy lifestyle. One coordinator stated,

‘We have morning tea and cooking sessions and people love it.’

Striving to overcome the odds

Education on the go, providing alternate methods of CR services and community engagement were strategies used by CR coordinators to overcome the odds.

Education on the go

Lack of time and staff did not prevent some coordinators from giving advice and education in other locations.

‘We provided education when we see them [the patient] in the hospital for something else.’

Others mentioned that living and working in a small community meant that they frequently saw patients at the supermarket, and they took the opportunity if the patient consented to provide education and shopping skills.

Providing alternate methods of secondary prevention

To overcome travel difficulties to services, coordinators provided home-based CR services to some patients, particularly older persons. They felt that offering this service in the person's own home could cut down on some of the travel costs as well as empower the patient to modify risk-related behaviour. Others scheduled the patient to consult more than one service during a visit to the centre to reduce travel.

To facilitate the referral process, some coordinators reported that they had discussions with the GP about the benefits of patients participating in the CR programme.

Partnering and engaging with local communities

The success of health-related programmes is largely dependent on partnership with, and leadership provided by, the local community. Participants described how they involved the local community in reducing risk factors for heart disease. This involvement ranged from providing education and spending time with other cardiac patients. They used community support and donations to organise activities such as walking groups that are mainly led by a former programme participant. Support obtained from local restaurants regarding healthy cooking was also reported:

‘Our local restaurant runs a heart healthy day where all the food cooked is low fat.’

Engaging the ambulance service was another community engagement strategy frequently mentioned. The coordinators indicated that their programmes were supplemented by guest visits by ambulance officers who reinforced the warning signs of heart attack and the importance of early treatment. The use of the media to promote healthy behaviour was also discussed by the coordinators.

‘I write short articles on heart disease for our community paper.’

Some indicated that they had personally visited local gyms to see what they could offer for heart patients. Another indicated that to facilitate implementation of the recommendations, they encouraged patients to use the local sports centre.

DISCUSSION

This qualitative study was undertaken to identify the experiences and strategies used by CR coordinators to overcome obstacles to implementation of the evidence-based Reducing Risk in Heart Disease guidelines. The major strength of this study was the random selection of coordinators from all geographical regions of NSW. This method provided a broad view of the strategies utilised by coordinators in all areas for the implementation of the guidelines.

The results from this study extend the work of previous studies by identifying strategies to overcome the barriers to CR guideline implementation. The findings relating to CR coordinators striving to overcome the odds despite the lack of resources demonstrate their enthusiasm, dedication and commitment to provide evidence-based care. Lack of access to guidelines as well as lack of support from health services has often been cited as a barrier to guideline implementation.²¹ In this study, CR coordinators indicated that they made extensive efforts to maintain their professional development, which demonstrates their commitment to evidence-based care. It is therefore imperative that collaborative efforts are made to promote knowledge transfer between guideline developers and the health professionals. Such formalisation will be important for those providing and referring to CR services. This finding relating to coordinators striving to maintain their professional development is important because guidelines are unlikely to be adopted in the absence of a strategy. Therefore, effective educational programmes to update providers' knowledge need to be incorporated.

Limited access, and in some places the absence of a dedicated CR programme,²² has also been reported as a barrier to CR

guideline implementation. For example, many services are provided during standard business hours, which do not benefit patients who return to work following an acute event.³⁴ The lack of support could be attributed to the fact that the healthcare system focuses on acute illness rather than investing resources for the management of chronic illness. The CR coordinators in this study indicated that to overcome this barrier, they used other models such as home-based CR to reach patients who could not attend traditional programmes. This strategy enables the provision of evidence-based care and reduces the risk of a fragmented journey for patients in their struggle to obtain optimal healthcare.

Geographical location, resulting in lack of access to physical resources, GPs, allied health professionals, specialists and education,²² is another significant barrier to participation in CR programmes and therefore the implementation of the guidelines. Provision of education at every available opportunity as well as partnering and engaging with local community services was a strategy implemented by CR coordinators to overcome these barriers. This finding exemplifies that the inequalities in access to services among individuals in non-metropolitan areas are of particular concern for the state-funded healthcare systems that endeavour to provide equal access to all citizens.

To overcome the barriers relating to poor coordination and referral to CR services,³⁵ coordinators indicated that they attempted to identify and contact patients from the emergency department who would benefit from participating in CR programmes. This finding indicates that healthcare providers need to have a clearly defined role in the referral of eligible patients to CR programmes. The use of preprinted hospital discharge orders that specify CR referral, automatic inpatient consultation with a CR specialist and routine patient education could be strategies to enable referral. Although Australia has a universal system of access to CR, not all patients are aware and receive the services. The development of a centralised referral system for CR could overcome problems associated with referral and thus provide optimal care.

Communication difficulties across healthcare disciplines and facilities are also reported to mitigate the implementation of guidelines.²⁰ Coordinators reported that they were diligent in communicating health-related information to the patients' GPs. This finding underscores the importance of using a clear and formal system of communication to improve the consistency and flow of information.

Implementing evidence-based guidelines is challenging; therefore, identifying strategies to overcome barriers is fundamental in promoting the uptake of research findings. In particular, increasing the recognition of the importance among health professionals to make the shift from an illness-focused to a patient-focused model of care has an important role to play in promoting referral to CR.³⁶

LIMITATIONS OF THE STUDY

Although the study methods were undertaken rigorously and the findings have implications for practice, including guideline developers and health services, limitations associated with the study should be taken into consideration. First, although 68% of those invited to participate accepted, only 20 CR coordinators were available for the interview. This has been reported to be a common problem in research studies using the interview method.³⁷ What is encouraging, however, is that the majority of the CR coordinators scheduled the interviews outside normal working hours; that is, before 8:00 or after 17:00, which indicates that despite their busy schedules, they were keen to participate in

research. In contrast, it could be postulated that those who were interviewed during the working hours had good support and resources.

Second, interpretation of the results is also limited by the small sample of coordinators within each geographical area and the findings may not be generalisable to other CR coordinators, particularly those in metropolitan areas. In addition, the method for selection of CR coordinators resulted in an over-representation of the metropolitan CR programmes. Nevertheless, the information obtained from this study adds strength to the findings of previous research, and may inform the design and evaluation of interventions to develop strategies for implementing guidelines and addressing barriers to participation in CR programmes.

The persistent concern about the implementation of evidence-based guidelines requires further research, including evaluating: (1) the effectiveness of various models of CR delivery, such as brief interventions and outreach programmes in increasing participation rates in CR, and (2) the effectiveness of strategies for automatic referral to CR and patient education as part of inpatient or outpatient cardiac care.

CONCLUSION

Study findings indicate that despite limited service capacity because of a lack of investment and planning, CR coordinators strive to provide evidence-based care. Coordinators use numerous strategies to overcome the barriers to implementing evidence-based guidelines. There is, therefore, an urgent need to develop a more integrated, multifactorial and coordinated approach to improving use of guidelines in clinical practice to improve the treatment and secondary prevention of CHD.

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Competing interests None.

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