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Research paper

## Structures, processes and outcomes of the Aussie Heart Guide Program: A nurse mentor supported, home based cardiac rehabilitation program for rural patients with acute coronary syndrome

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### ABSTRACT

**Background:** Cardiac rehabilitation has a number of benefits for patients, yet participation in it is sub-optimal, especially in regional Australia. Innovative models of cardiac rehabilitation are needed to improve participation. Providing nurse mentors to support patients transitioning from hospital to home represents a new model of service delivery in Australia.

**Objectives:** To explore the impact of a home based cardiac rehabilitation program in assisting patients to recover from Acute Coronary Syndrome and meeting the expectations of nurse mentors delivering the program.

**Methods:** This case study was underpinned by the structure, process and outcomes model and occurred in three Australian hospitals 2008–2011. Thirteen patients recovering from acute coronary syndrome were interviewed by telephone and seven nurse mentors completed a survey after completing the program.

**Findings:** Mentor perceptions concerning the structures of the home based CR program included the timely recruitment of patients, mentor training to operationalise the program, commitment to development of the mentor role, and the acquisition of knowledge and skills about cognitive behavioural therapy and patient centred care. Processes included the therapeutic relationship between mentors and patients, suitability of the program and the promotion of healthier lifestyle behaviours. Outcomes identified that patients were satisfied with the program's audiovisual resources, and the level of support and guidance provided by their nurse mentors. Mentors believed that the program was easy to use in terms of its delivery.

**Discussion and conclusion:** Patients believed the program assisted their recovery and were satisfied with the information, guidance and support received from mentors. There were positive signs that the program influenced patients' decisions to change unhealthy lifestyle behaviours. Outcomes highlighted both rewards and barriers associated with mentoring patients in their homes by telephone. Experience gained from developing a therapeutic relationship with patients during their recovery, assisted nurses in developing the mentor role.

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## 1. Introduction

Coronary heart disease (CHD) remains the leading cause of death in people over 45 years in Australia, representing 14% of all deaths.<sup>1</sup> Alarming, death rates for <64 year olds with CHD are 15–40% higher for persons residing in regional or remote loca-

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tions, those who come from diverse cultural backgrounds or are Aboriginal or Torres Strait Islander people when compared with city dwellers.<sup>2</sup> This suggests that living in rural locations might be considered a risk factor<sup>3</sup> for people with CHD. While primary prevention is important, secondary prevention is also a priority to lessen this health disparity. Cardiac rehabilitation (CR) is associated with patient recovery from acute coronary syndrome (ACS).<sup>4</sup> However, only about a third of CHD patients in Australia actually attend CR programs.<sup>5</sup> Reasons attributed to non attendance have been researched extensively<sup>6,7</sup> and include non-referral, location of CR programs, work or family commitments, distance and travel time<sup>8</sup> and negative beliefs pertaining to the value of CR programs.<sup>9</sup> While most people living in metropolitan areas have a choice to attend hospital or outpatient CR,<sup>10</sup> patients who reside in rural areas often have difficulty in accessing CR services. Research highlights the importance of improving CR accessibility to rural patients<sup>5</sup> as they are more likely to die from cardiovascular disease.<sup>11</sup> They also rate their health poorer, are less active, overweight/obese or unable to follow a heart friendly diet.<sup>12</sup> Rural patients also have limited access to care or medical facilities<sup>13</sup> and possess low levels of health literacy concerning the risks associated with CHD.<sup>14,15</sup>

Developing innovative secondary prevention programs to provide information support and guidance to all patients, despite their geographical location, remains a challenge. Improving accessibility has the potential to provide more patients with the benefits of CR. While it has been reported that the majority of Australians live within 60 min of CR services,<sup>10</sup> others propose that telehealth services may improve cardiac health outcomes for persons unable to access metropolitan based CR services due to their remoteness.<sup>16</sup> The Aussie Heart Guide Program (AHGP) represents a new model of CR service delivery in Australia<sup>17,18</sup> The aim of the AHGP is to offer patients with CHD who cannot attend hospital based services access to CR. This comprehensive program provides patients with education, lifestyle advice, stress management strategies, a physical exercise program and one to one support and guidance from trained nurse mentors by telephone in their own homes after discharge from hospital. Home based CR programs have been extensively researched in countries other than Australia and found to be as effective as hospital based CR programs, with improved participation and patient compliance in CR.<sup>19</sup> Although there is good evidence to suggest home based CR is highly valued by patients,<sup>20</sup> little is known about nurses mentoring patients by telephone or how the mentoring role might impact on the work culture of nurses. Mentoring has been used extensively in business, sport and academia to assist learning. Outcomes from this study may provide insights about how mentoring might be used not only in nursing but more widely in other chronic disease management programs. Perceptions from patients and their nurse mentors participating in this study will inform CR stakeholders about the future viability of providing a mentoring service to support patients soon after hospital discharge and during their recovery. Outcomes from this study should confirm the programs suitability in terms of meeting patients CR expectations and its ease of use by mentors.

## 2. Aims of the study

There has been limited evaluation of the AHGP and its suitability in the Australian cultural setting. The aim of this study was to explore the patient and mentor perceptions of the impact of the AHGP in assisting patient recovery from ACS and meeting the expectations of nurse mentors delivering the program.

## 3. Study design

We used a case study research<sup>22</sup> methodology underpinned by Donabedian's<sup>21</sup> structure, process and outcome (SPO) framework

for health care quality in this study. The SPO framework has been widely used to improve patient care by others.<sup>23–26</sup> Patient and mentor experiences were explored using the SPO framework consisting of 3 elements; the setting for the service, health personnel and resources (structure), services provided by mentors and patient interactions (process) and the effect of this mentoring service on patients (outcome). This SPO framework suggests improvements in care structures can lead to improvements in clinical processes which in turn may impact positively on patient outcomes.<sup>27</sup>

### 3.1. Setting

We recruited participants from 3 metropolitan coronary care units in Tasmania, Australia between 2008 and 2011. The AHGP was delivered by nurse mentors by telephone to rural patients recovering from ACS.

### 3.2. Participants

A total of 13 patient participants who had a confirmed ACS, resided in non-metropolitan areas of Tasmania and were not cognitively impaired participated in the study. Cognitive impairment of patients was subjectively assessed by mentors to ensure patients could read and write English, understand and remember the program resources. Patients were approached face-to-face in hospital to determine their interest in the AHGP. Thirteen patients were approached by mail and consent was confirmed prior to the telephone interviews taking place. Seven nurse mentors who had attended a training workshop specific to the AHGP and had mentored at least one patient during the study were invited to participate. No relationships between the research team, mentors and patients were established prior to study commencement. All patients and mentors participated in the study with no drop-outs.

### 3.3. Intervention—the AHGP

The AHGP was adapted from the United Kingdom's 'Heart Manual'<sup>28</sup> for the Australian cultural setting by the Australian Cardiovascular Health and Rehabilitation Association<sup>17</sup> in 2008. It is a six-week home based CR program supported by nurse mentors and delivered by telephone. The AHGP is based on the patient centred care (PCC) approach and uses both cognitive behavioural therapy (CBT) and collaborative decision making to promote self efficacy and individual responsibility for self management and the adoption of healthy lifestyle choices. After meeting with patients in hospital, mentors introduced patients to various audiovisual and printed educational materials including heart health workbooks and a diary to record their rehabilitative progress. Mentors routinely contacted their patients by telephone a few days after discharge and then weekly for approximately six weeks. A major function of the mentor role was to support patients in developing the self-help strategies needed to empower informed decision making about their futures.

Nurse mentors were experienced CR nurses with a minimum of five years' clinical experience working with cardiac patients in coronary care or CR. Nurses volunteered to be trained as mentors for the AHGP. Mentors attended a workshop facilitated by a clinical psychologist and developer of a cognitive behavioural self management programs in the UK prior to the study.<sup>28</sup> The workshop aimed to introduce nurses to concepts which included PCC, CBT, motivational interviewing, how to reframe commonly held patient misconceptions about their health and care, lifestyle behaviour change, goal setting, problem solving strategies and operationalisation of the AHGP.

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