Heart, Lung and Circulation (2017) xx, 1-7 1443-9506/04/\$36.00 http://dx.doi.org/10.1016/j.hlc.2017.08.016

### Getting to the Heart of the Matter: What Is $\frac{1}{2}$ the Landscape of Exercise Rehabilitation 3 for People With Heart Failure in Australia?

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Received 22 March 2017; received in revised form 26 July 2017; accepted 10 August 2017; online published-ahead-of-print xxx

Background	The benefits of exercise rehabilitation for people with heart failure (HF) are well established. In Australia, little is known about how the guidelines around exercise rehabilitation for people with HF are being implemented in clinical practice. Furthermore, it is unknown what organisational barriers are faced in providing exercise rehabilitation programs for this population. The aim of this study is to provide an updated review of exercise rehabilitation services for people with HF in Australia and to identify perceived organisational barriers to providing these services.
Methods	A cross-sectional survey of cardiac rehabilitation centres in Australia, investigating the number and char- acteristics of services providing exercise rehabilitation for people with HF.
Results	A total of 334 of 457 identified services responded to the survey. Of these, 251 reported providing a supervised group-based exercise rehabilitation program for people with HF. These services were mapped, showing their distribution across Australia. Services which were unable to provide group-based exercise training for HF patients reported organisational barriers including insufficient funding (60%), staffing (56%) and clinical resources (53%). Of the 78 services that reported patients in their local area were unable to access appropriate exercise guidance, 81% were located in regional or remote areas. We found that reported exercise practices align with current best-practice guidelines with 99% of group based exercise programs reportedly including endurance training and 89% including resistance training.
Conclusions	In Australia, exercise practices for people with HF align with current best-practice guidelines for this condition. Limited resources, funding and geographic isolation are reported as the major organisational barriers to providing these programs. Future endeavours should include the development of alternative and flexible delivery models such as telerehabilitation and other home-based therapies to improve access for these individuals to such services.
Keywords	Heart failure • Exercise therapy • Cardiac rehabilitation • Surveys and questionnaires

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Please cite this article in press as: Miller S, et al. Getting to the Heart of the Matter: What Is the Landscape of Exercise Rehabilitation for People With Heart Failure in Australia? Heart, Lung and Circulation (2017), http://dx.doi.org/10.1016/j. hlc.2017.08.016

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#### 14 Introduction

15 06 Heart failure (HF) is a debilitating condition associated with 16 a high morbidity and mortality rate and a five-year survival 17 rate that is similar to common forms of cancer [1]. Approxi-18 mately 2% of the Australian population live with this condi-19 tion, and 67,000 new cases are diagnosed per year, resulting Q7 in an estimated annual cost of almost AUD\$3.1 billion for 20 21 inpatient and community-based treatment [2]. The benefits of exercise rehabilitation for people with HF are well estab-22 23 lished, and include improved exercise capacity [3,4] and quality of life [3–5], decreased hospital re-admissions [5] 24 25 and a likely mortality benefit [6]. Typically, exercise rehabilitation for people with HF is delivered in a hospital gymna-26 27 sium or community centre for the duration of 6 to 12 weeks 28 [7,8]. These exercise services may be delivered as a HF specific model, or may be incorporated into a broader cardiac 29 rehabilitation or generic chronic disease program [9,10]. 30 Guidelines exist for conducting exercise rehabilitation pro-31 grams for this population [11,12] but little is known about 32 33 how these guidelines are implemented in clinical practice. A focus of this study is to review the current exercise rehabili-34 35 tation practices available for people with HF in Australia, 36 and as part of this review, to consider practices with relation 37 **Q8** to current best-practice guidelines.

38 Despite the evidence for exercise rehabilitation in this population, recent studies in Europe and the United King-39 40 dom suggest that uptake is poor [9,13–18], with only a fraction of eligible patients participating in exercise rehabilitation 41 42 programs [13,14]. In these international studies, barriers to 43 providing such programs included a lack of resources (staffing, equipment or finances) or a perceived lack of evidence to 44 support exercise rehabilitation. In Australia, studies have 45 investigated the barriers that individuals face to accessing 46 47 these programs such as indifferent perceptions toward programs, a lack of flexibility in programs and failure to 48 be referred [19,20]. However, it is less clear regarding the 49 barriers that the services themselves face to providing pro-50 grams. The vast geography and dispersed population distri-51 bution of Australia may present unique organisational 52 53 challenges that warrant investigating.

The aim of this study was three-fold: 1. To perform a 54 55 detailed review of HF exercise rehabilitation programs across 56 Australia including aspects such as service location, setting 57 and model; 2. To explore perceived organisational barriers to 58 providing exercise rehabilitation programs; and 3. To consider the reported exercise practices offered, in line with 59 60 current best-practice recommendations. This information may help guide future services by highlighting organisa-61 62 tional barriers and gaps in service delivery.

### 63 Methods

#### 64 Included Services/Participants

This cross-sectional survey involved public, private and com-munity health services from across Australia. It was

completed by a Registered Nurse, Physiotherapist, Exercise Physiologist or another health professional directly involved in provision of the service. We identified services that were likely to provide exercise rehabilitation for people with HF using the Cardiac Rehabilitation Program Directory, a regularly updated, publicly available online directory for all cardiac rehabilitation services in Australia [21]. Clinicians were asked whether they were aware of other services in their locality providing exercise rehabilitation for people with HF. A small number of services were consequently identified and included in the contact list. It was unknown how many of these services provided exercise training for people with HF and the nature of these services. After removing duplications (i.e. where multiple programs were conducted in the same facility) we identified 457 services to be contacted.

#### Survey

The survey was developed by the research team and trialled on a small number of clinicians prior to distribution. Feedback on content, clarity and item structure was sought and minor changes were made. The online program SurveyMonkey<sup>®</sup> was used to generate the survey and collect responses. **Q9** 

The survey included the following sections:

- i. Service descriptors (seven questions e.g. geographical service location, setting, health service)
- ii. Perceived barriers to providing a structured groupbased exercise program (two questions)
- iii. Program characteristics (10 questions e.g. participant inclusion and exclusion criteria, staffing resources, additional services provided such as written literature or a home-based program)
- iv. Exercise training characteristics (five questions e.g. exercise mode and intensity, session frequency and duration, outcome measures)

Of the 24 questions, 19 included check-box responses (e.g. Does your facility have a dedicated HF service? Yes/No) and five were text-box responses (e.g. What is the name of the facility in which you work). Free text comments were available for 16 out of 19 check-box questions to enable clarification and further explanation. Services that did not provide exercise rehabilitation for people with HF were encouraged to complete only the first two sections of the survey. The survey required approximately 10 to 12 minutes to complete.





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