



**The Rural Research Capacity Building Program 2011  
Final report for research project**

**Addressing the burden of disease: Is it possible to create and implement a structured Cardiac Rehabilitation program in a small rural village, which is effective and meets the expressed needs of clients.**

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## **Glossary of Terms**

RRCBP – Rural Research Capacity Building Program

CR – Cardiac Rehabilitation

FWLHD – Far West Local Health District

WLHD – Western Local Health District

UDRH – Sydney University Department of Rural Health – Broken Hill

ARIA –Accessibility/Remoteness Index of Australia

ASGC – Australian Standard Geographic Classification (Remoteness of areas classification)

## **Abstract**

**Background:** Circulatory disease is identified as the leading cause of death for the Far West Local Health District. Access to Cardiac Rehabilitation is severely reduced for people living outside the major town of Broken Hill.

**Aim:** This mixed methods study evaluated the implementation of a Cardiac Rehabilitation program in a small rural village in Far Western NSW.

**Study Design:** Participants undertook a 6 minute walk test and a Borg self-assessment pre and post program. Participants were interviewed about their experience of the program to determine if the health consumer preferences were met, and to collect details of changes in exercise and dietary habits. Health professionals involved in the program were surveyed to ascertain their views on the program acceptability, effectiveness and sustainability.

**Findings:** Participants improved in exercise capacity and diet and their families were supportive of the program. The program was acceptable in terms of program content, venue, accessibility and flexibility. Health professionals reported that the program was flexible to fit their visiting schedules and that the content was evidence based, and were supportive of its continuance.

**Conclusions:** This program is effective, acceptable, sustainable and transferrable.

**Recommendations:** That the FWLHD considers replicating this Cardiac Rehabilitation program across the remote sites.

## **EXECUTIVE SUMMARY**

### **Background:**

Circulatory disease is identified as the leading cause of death for the Far West Local Health District in 2005 – 2007 (Planning and Service Development report 2011). The only Cardiac Rehabilitation program is delivered in the largest town in the region, making it largely inaccessible for those who may live hundreds of kilometres away in small rural villages or remote locations.

Cardiac Rehabilitation programs have long been demonstrated to be “crucial to improving outcomes after myocardial infarct” (Taylor et al, 2004), and Goble AJ & Worcester MUC (1999), stated that “ambulatory cardiac rehabilitation programs can be effective launching pads for secondary prevention”. Unfortunately while this large body of evidence demonstrates the value in these programs, the National Health Priority Action Plan (2006) identified that “there are gaps between the optimal system(s) or service response(s) and what currently happens”.

### **Aim:**

The aim of this study was to evaluate the implementation of a cardiac rehabilitation program in a small rural village setting.

By answering this research question the following was to be demonstrated:

1. Whether it was possible to implement an effective and sustainable cardiac rehabilitation program in a small rural village in western New South Wales, utilising external support and resources.
2. Whether the program was responsive to the expressed needs of health consumers in similar rural locations (such as demonstrated in Wachtel's (2011) study in rural South Australia).
3. If the implementation of this program was acceptable and had positive outcomes from a participants' perspective.

### **Study Design:**

This was a qualitative study using mixed methods.

**1:** Physical functionality clinical data. Before and after the 8 week program participants undertook a standardised 6 minute walk test assessment to evaluate change in exercise tolerance; and a pre and post standardised Borg self-assessment.

**2:** Interviews were held with participants to evaluate if the health consumer preferences were met; and to identify if the program was effective in ensuring accessibility and minimising barriers to attendance. The interviews were also designed to evaluate if people made changes in their exercise and dietary habits, and if these changes were sustained.

**3:** Health professionals were sent questionnaires by “survey monkey” to their email addresses’. The sample of up to 30 people, included doctors with patients who had undertaken the program, guest program speakers, and local health staff involved in the program.

**Findings:** Findings show that there was some improvement in exercise tolerance for all the participants. While this improvement ranged from 3.3% - 24%, it did not meet the expectation that “an average expected improvement in the 6 minute walk test would be 30% regardless of age/sex or other factors” (De Feo et al, 2008).

Borg self-assessment showed that patients generally thought that their “perception of exertion” during exercise was less after the program, however this was marginal. (Borg 1998).

Thematic analysis of interview data showed that patients were generally satisfied with the program. Major themes which emerged were that the venue was suitable, times were acceptable, transport was not a barrier, and flexibility was helpful. Group size was discussed with most people being satisfied. Exercise and diet were not always positive, but most people found they had made some changes and some change was sustained.

Survey findings indicated that health professionals were very positive about the program and thought that it was sustainable. Comments included that more local Health Professionals’ should be involved. Health professionals supported the flexibility in mode of presentation as well as day/times to fit schedules of visiting health professionals.

**Conclusions:** This research demonstrated that it is possible to implement a structured cardiac rehabilitation program in a small rural village which is effective and meets the expressed needs of clients. In fact the program was found to be effective, acceptable and the outcomes were positive.

**Recommendations:** That the FWLHD considers resourcing and replicating this Cardiac Rehabilitation program across the remote sites.

## **FULL REPORT**

### **Introduction**

Cardiac Rehabilitation programs have long been demonstrated to be “crucial to improving outcomes after myocardial infarct” (Taylor et al, 2004) and Goble AJ & Worcester MUC (1999), stated that “ambulatory cardiac rehabilitation programs can be effective launching pads for secondary prevention”. Unfortunately while this large body of evidence demonstrates the value in these programs, the National Health Priority Action Plan (2006) identified that “there are gaps between the optimal system(s) or service response(s) and what currently happens”.

Circulatory disease is identified as the leading cause of death for the Far West Local Health District in 2005 – 2007 (Planning and Service Development report 2011), and the only Cardiac Rehabilitation program is delivered in the largest town in the region, making it largely inaccessible for those who may live hundreds of kilometres away in small rural villages or remote locations.

This research study evaluated whether the implementation of a Cardiac Rehabilitation program in a small rural village in Western New South Wales was effective and sustainable, and met the expressed needs of the participants. The study used a mixed methods approach to evaluate the implementation of what is known to be effective in improving long term health outcomes, in a variable clinical setting. The study involved analysis of routinely collected data on participants, interviews with participants, and a survey of health professionals.

The Cardiac Rehabilitation program at Menindee Health service consists of a weekly session lasting around 2 hours, with 1 hour of individually programmed exercise and 1 hour involving a speaker from a variety of relevant health professions. The speakers may either be present or via videoconference. The program runs for 8 weeks.

### **Background**

By answering this research question it was proposed to demonstrate the following:

1. Whether it is possible to implement an effective, robust and sustainable cardiac rehabilitation program in a small rural village in western New South Wales, utilising external support and resources. This will be evaluated using validated guidelines to assess whether it is an evidence based program, and participant responses to assess sustainability.
2. Whether the program is responsive to the expressed needs of health consumers in similar rural locations (such as demonstrated in Wachtel’s study, 2011, in rural South Australia).
3. If the implementation of this program has positive outcomes from a participants’ perspective.

Information from this research may be used to inform relevance to similar sites (facilities with no inpatient beds) across rural and remote communities, and inform local policy around replication of the program. This research builds on the work undertaken in previous studies, including the proposals put forward by Bonner et al (2009) regarding the development of “a network of community based rehabilitation coalitions” as a sustainable approach in rural and



remote Australia. Courtney-Pratt *et al* (2012) undertook a pilot study “Investigating the feasibility of promoting and sustaining delivery of cardiac rehabilitation in a rural community” which provides a relevant comparison for this research. Wachtel (2011) undertook research in rural South Australia in similar populations, around preferred models from the health consumer’s perspective.

The ARIA score for Menindee is 5.5 which means moderately accessible (or the ASGC is RA4 which is remote), and is very similar to some rural areas in South Australia in population and accessibility. Most patients who have cardiac events and or surgery go to Adelaide for care and treatment, so the study by Wachtel, (2011) is as relevant to this area as it is to rural South Australia. It could also be expected that this research may be relevant to the development and provision of programs in any similar “moderately accessible” rural populations/health facilities across Australia.

The significance of answering this question lies in the area of burden of disease. Circulatory disease is identified as the leading cause of death for the Far West Local Health District in 2005 – 2007 (Planning and Service Development report 2011), and it is known that participation in Cardiac Rehabilitation programs “is crucial to improving outcomes after myocardial infarct” (Taylor *et al* 2004). Unfortunately however, according to the National Health Priority Action Council (2006) “only a fraction of eligible cardiac patients” attend these programs. Until now the only option for local patients has been to travel in excess of 110 kilometres to attend programs, and these have restricted access and availability.

#### **Literature Search Strategy:**

The review included literature published over the last five years which had relevance to, and reported studies of cardiac rehabilitation services in rural and remote settings. The search strategy was to use the New South Wales Health Clinical Information Access Program (CIAP) to review the specialist and nursing journals contents pages for relevant articles (as listed in Appendix 8), and to check systematic reviews in the Cochrane library and Joanna Briggs library.

#### **Literature Review:**

The table attached at Appendix 8 summarises the literature review findings. Seven studies reported that Cardiac Rehabilitation programs can be effective in rural and remote locations in Australia, and investigated barriers and enablers to attendance. Measurement of process indicators indicated that access factors affected attendance and therefore outcomes. Access factors indicated in these findings were transport, venue, and flexibility of times, as well as rapport building and encouraging positive messages.

Some of the conclusions identified that local provision of programs and local collaboration were enablers. One of the studies (Canyon & Meshgin 2008) identified that patients’ who attended a community based CR program “were readmitted less often and spent less time in hospital”.

## **Aim of Research**

The main aim of this study was to evaluate the implementation of a cardiac rehabilitation program in a small rural village setting. The outcome can be of value in determining the merit of a recommendation for implementation across similar sites in the Local Health District.

## **Method**

The research was mixed method, and was conducted in 3 elements.

**Element 1:** In the first element information was collected relating to physical functionality, as improved exercise tolerance is defined as a major benefit by Goble, AJ and Worcester, MUC (1999). At the beginning of the program participants have a standardised 6 minute walk test assessment and another one at the completion of the 8 week program to evaluate change in exercise tolerance. A standardised Borg self-assessment is also undertaken pre and post program (in exercise testing the Borg RPE Scale measures perceived exertion). According to De Feo et al, (2008) an average expected improvement in the 6 minute walk test would be 30% regardless of age/sex or other factors, and is considered to be feasible and safe even in the elderly and frail. This information was collected by a review of the data from the cardiac rehabilitation program records.

**Element 2:** In the second element interviews were undertaken to evaluate if the health consumer preferences were met. This was achieved using tools based on the study by Wachtel, (2011). This evaluation is important to identify if the program is effective in ensuring accessibility and minimising barriers to attendance. The interviews would also enquire as to any changes in people's exercise and dietary habits, and if these changes were sustained. As the interviewer was also the person who has developed the program, bias was taken into account. Every effort was made to remove bias during the interview by having a health worker or other person present, and advising the interviewee's that their input would assist in improving the program (participative action research). All people eligible to take part in the Menindee Health Service CR program from June 2011 were invited to participate in the research interviews, and this total number was 15.

**Element 3:** the third element of the study involved distributing questionnaires by survey monkey to health professionals involved in the program. The health professionals included up to 30 people, and were Doctors who had patients' who had undertaken the program, guest speakers, and local health staff involved in the program. The professionals involved already had their email addresses commonly listed in the Far West Local Health District email system and at Menindee Health Service.

**Data Collection:** Quantitative data collection was undertaken by retrospective data collection from the post completion data section of the patient files. This data was accessed after consent by the patient, by the principal researcher who commonly has access to the files in the normal course of clinical work. The 6 minute walk test and Borg assessment is routinely carried out pre and post completion of the program. The 6 minute walk test (6MWT) is routinely carried out on an 18 metre track set out in a large room by either the program coordinator or a Primary Health care worker. A medical record audit was completed using patients who have completed the CR program since June 2011. The following data items were collected: Pre-test 6MWT distance, Post-test 6MWT distance and Borg assessment. Clinical data was routinely collected from all 15 participants. Qualitative data collection consisted of interviews utilising predetermined questions for the participants, and surveys for the health professionals.

Interviews were held at the health service or at mutually negotiated places in the community, and times and days were negotiable. Interviews were conducted by the principal investigator, with assistance from the health worker. Interviews for qualitative assessment were recorded (using two recorders) and transcribed. Fifteen participants were invited to interview, eight of whom accepted.

The surveys were conducted online using a recognised online format which assists in ensuring confidentiality of responses. Thirty surveys were sent out to health professionals from which, six were returned after reminders.

**Data Analysis:** The following data items, Pre-test 6MWT distance, Post-test 6MWT distance and Borg assessment were to be analysed. Low patient numbers precluded the application of statistical methods to the analysis.

The transcriptions were to be coded and thematic analysis undertaken. To ensure reliability a second person experienced in research was asked to also code and analyse the themes in 2 or 3 transcriptions to assess reliability and interpretation. Thematic analysis is a validated qualitative research tool.

Questionnaires were analysed and themes identified using validated qualitative coding and analysis tools.

**Ethics Approval** Full ethics approval was required, and HREC number is Greater Western Human Research Ethics Committee (HREC) HREC Project No. HREC / 121 GWAHS / 37

## Findings:

### Element 1: Pre- and post-exercise and Borg assessment.

Pre and post exercise capacity results are reported at **Table 1**. Findings show that there was some improvement for all the participants. While this improvement ranged from 3.3% - 24%, it did not meet the expectation that “an average expected improvement in the 6 minute walk test would be 30% regardless of age/sex or other factors” (De Feo et al, 2008).

**Table 1.**

Pre Program 6MWT	Post Program 6MWT	Percentage Change
360 metres	372 metres	3.3%
385 metres	426 metres	10.6%
288 metres	312 metres	8.3%
386 metres	479 metres	24%
326 metres	360 metres	10.4%
332 metres	351 metres	5.7%
334 metres	397 metres	18.8%
259 metres	297 metres	14.6%

Borg self-assessment showed that patients generally thought that their “perception of exertion” during exercise was less after the program, however this was marginal as demonstrated in Table 2 (Borg 1998).

**Table 2.**

Pre Program Borg	Post Program Borg
13 (Some-what hard)	11 (Light)
14 (Hard)	13 (Some-what hard)
15 (Hard)	14 (Hard)
13 (Some-what hard)	13 (Some-what hard)
15 (Hard)	14 (Hard)

11 (Light)	11 (Light)
13 (Some-what hard)	13 (Some-what hard)
19-20 (Maximal exertion)	17 (Very hard)

## Element 2: Participant interviews

Thematic analysis of interview data showed that patients were generally satisfied with the program. Themes which emerged are listed in Table 2 below with an explanation of what patients reported.

**Table 3.** Themes identified in the analysis of the patient interviews.

Theme	Interpretative Comments
<b>Family/significant other support</b>	All patients identified support was present
<b>Venue acceptability</b>	All agreed; like it being local
<b>Program times</b>	All happy with program times
<b>Program flexibility (ie. Not mandatory to attend each week)</b>	All patients commented that flexibility was a positive
<b>Understanding about referrals</b>	Some patients not sure how they were referred to the program, indicating that they were unsure about health professional roles
<b>Exercise</b>	Positive about venue being in a room, as reluctant to be seen “out and about” in the town.
<b>Diet</b>	Positive about the information given
<b>Transport to group</b>	Because local no issues with transport
<b>Group size</b>	Some wanted a bigger group >2 participants; others in group of 6-7 thought that size optimal

Patient responses to the program are detailed below under the headings.

### Increased knowledge

“Has made me aware of a few more things.” (patient 1 female)

### Increased awareness

“It changed me a bit, but, you know probably should change a lot more” (patient 1 female)

“Made me realise just how important it is to take care of yourself”. (patient 2 female)

### Motivation and support for diet and exercise

“Yeah, I can now, you know I’ve tried before and it sort of hasn’t happened, but anyway it did last year” (patient 1 female)

“Yes exercising a bit more and walking a bit more and being more careful of my diet – and yeah it think that’s been really important”. (patient 2 female)

They reported that the program met their needs because it was local, in a good venue and at the right time. However, they reported that they found changing diet difficult. Pre and post exercise tests showed an improvement in exercise capacity.

## Element 3: Survey of Health professionals

The survey results showed that health professionals involved in the program:

- thought it met patients' needs
- were supportive of the program;
- thought that the fact that it was locally run was important;
- were keen to see the program continue;
- would refer patients to the program and
- wanted it to be made sustainable.

Survey findings indicated that health professionals were very positive about the program and thought that it was sustainable. Comments included that more local Health Professionals' should be involved.

Health professionals supported the flexibility in mode of presentation as well as day/times to fit schedules of visiting health professionals.

## **DISCUSSION:**

The design of this program was informed by the issues raised by Wachtel's study (2011) and designed to address flexibility and accessibility of the program in an attempt to meet the needs of participants.

The findings were that some small changes occurred in exercise capacity, and the perception of difficulty with exercise improved. Diet information was acceptable, but making dietary changes were difficult to sustain, and in that the program was found to be somewhat effective. While the changes did not meet expectations such as a 30% increase in exercise capacity, there were positive changes made.

The areas of venue, timing, transport, support and flexibility were found to be acceptable to participants of the program and it therefore met their needs.

A couple of patients indicated that they would continue in the program if it were offered as a maintenance program, which provides further evidence of acceptability.

The response of health professionals to the survey was disappointingly low: 6 out of a possible 30 (20% response rate). This can be explained by the fact that health professionals tend to place a higher priority on clinical work rather than research, even in the form of responding to a survey. Generally however, the health professionals who responded were supportive of the program, and felt it was, and should be, sustainable.

In terms of the four components of access (Ware, 2013), the program proved: available – in a local setting with transport available; affordable – no direct patient cost; appropriate – was effective; and acceptable – the participants gave positive feedback.

Access was enhanced by the provision of some segments by videoconference. Another rural study showed that patients in a chronic disease rehabilitation program delivered by videoconferencing found the program acceptable and effective (Robinson, 2012).

The option for either face-to-face or videoconferencing also made the program more viable and sustainable, because it accommodated health professional preferences and availability. It is encouraging that health professionals indicated they would refer their patients to this program.

A possible way forward, as Bonner et al (2009) states, would be through "a network of community-based rehabilitation coalitions is proposed as a sustainable approach to community-based rehabilitation in rural and remote Australia. Each coalition would have a community rehabilitation facilitator and community specific database of resources, as well as a register of local community rehabilitation assistants who can support the work of health professionals by providing rehabilitation interventions under the latter's direction. In this

approach, rehabilitation is conceptualised as being about people's lives rather than only a series of interventions provided by health care professionals. As such, rehabilitation becomes everybody's business".

### **Study Strengths:**

The study is strengthened by the fact that the patient response rate was high and by member checking of transcripts. Study rigour and survey validity were improved by checking by research mentor/RRCBP supervisors.

### **Study Limitations:**

There were low numbers of patients and health professionals because of the location. However in consideration of validity, generalizability and usefulness, local context must be taken into account (Chambers, 2012). Remoteness classification is an important issue in rural/remote research. Menindee is no longer classified as "remote" (ARIA 2001), but as a "small rural village" under the modifications to the ARIA scheme. In discussing transferability of programs like this, the location and context become very relevant. The findings are generalizable to other similar locations, for instance other locations in the FWLHD such as Tibooburra, White Cliffs and Ivanhoe.

### **Conclusions:**

This research demonstrated that it is possible to implement a structured cardiac rehabilitation program in a small rural village which is effective and meets the expressed needs of the participants. In fact the program was found to be effective, acceptable and the outcomes were positive.

### **Recommendations:**

As the results of this study have demonstrated, this program is effective, acceptable, sustainable and transferrable. It is recommended that the FWLHD considers resourcing the ability to set up and replicate this Cardiac Rehabilitation program in the other similar remote sites.

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## Appendix 1:



# HETI

HEALTH EDUCATION &  
TRAINING INSTITUTE



Health  
Far West  
Local Health District

## PARTICIPANT INFORMATION SHEET

### **ADDRESSING THE BURDEN OF DISEASE: IS IT POSSIBLE TO IMPLEMENT A STRUCTURED CARDIAC REHABILITATION PROGRAM IN A SMALL RURAL VILLAGE, WHICH IS EFFECTIVE AND MEETS THE EXPRESSED NEEDS OF CLIENTS.**

The study is being conducted by Barbara Turner, who is a Nurse Practitioner at Menindee Health service, and is a participant in the HETI Rural and Remote Research Capacity Building Program. Other people involved will be a health worker who will assist with collection of information, and a researcher from the University Department of Rural Health who will review for quality and reliability purposes.

Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve.

Please take the time to read the following information carefully and discuss it with others if you wish.

#### **1. 'What is the purpose of this study?'**

The purpose of this study is to further our knowledge about whether the cardiac rehabilitation program offered is effective in meeting people's needs, and in improving exercise tolerance of the participants. The study also aims to further our knowledge about the current program's sustainability, and inform policy around replication of the program in similar rural and remote communities.

#### **2. 'Why have I been invited to participate in this study?'**

You have been invited to participate because you have previously attended, or been invited to attend, a Cardiac Rehabilitation program at Menindee Health service.

#### **3. 'What if I don't want to take part in this study, or if I want to withdraw later?'**

Participation in this study is voluntary. It is completely up to you whether or not you participate.

If you decide **not** to participate, it will not affect the treatment you receive now or in the future.

Whatever your decision, it will not affect your relationship with The Menindee Health service, Far West Local Health District or any associated Health services.

If you wish to withdraw from the study once it has started, you can do so at any time without having to give a reason. However, it may not be possible to withdraw your data from the study results if these have already had your identifying details removed: the researcher will be happy to discuss this further with you if you wish, before you give consent.

#### **4. 'What does this study involve?'**

This study will involve an interview with you, and will be conducted at a place that is mutually convenient, which can be in your home, or at the Menindee Health service or any other mutually agreeable site. The interview will be recorded and transcribed, and once transcribed the recording will be destroyed. The transcription will have no identifying information on it. The interview will last for about one hour.

Prior to the interview:

A date and time convenient to you will be organised between you and the researcher

Prior to the interview a brief discussion will occur between you and the researcher about the process. It is important that you feel comfortable during the interview, so it is best to choose a time of the day when you feel at your best.

If you wish to participate you will be asked to sign a consent form; this will be clearly explained to you by the researcher and the form will be provided to you for signing on the day. Any questions you have about the project can be discussed with the researcher on the day. The signed consent form will be retained by the researcher and you will be provided with your own copy of the consent.

The study will also involve analysis of the results from your pre and post program 6 minute walk test and Borg results. This information will be obtained from review of the information from the cardiac rehabilitation program section in your file.

The study itself will run over one year and is due for completion in March 2014.

#### **5. 'Will I benefit from the study?'**

This study aims to further our knowledge about whether the program offered is effective in meeting people's needs, and in improving exercise tolerance of those participating. The study also aims to further our knowledge about the current program's sustainability, and whether it may be able to be replicated across similar rural and remote communities.

Although the study is unlikely to benefit you directly, benefits from this study may be seen in the future through improvements to the program, and expansion of the program to other sites.

#### **6. 'Are there risks to me in taking part in this study?'**

If you decide to participate in the study, you need to be aware that the interview will take about 1 hour of your time.

The researcher has taken steps to minimise any risk to you by protecting your privacy by de-identifying data, so you will not be linked personally to any of the data collected.

As with any research, there may also be risks associated with the research that are presently unknown or unforeseeable.

#### **7. 'How will my confidentiality be protected?'**

Any identifiable information that is collected about you in connection with this study will remain confidential and will not be disclosed except as required by law. Only the researchers named above will have access to your details and results that will be held securely at Menindee Health Service. A researcher from the University Department of Rural Health in Broken Hill will be asked to analyse a minimum of two transcripts for quality review purposes, however these will have no identification on them.

#### **8. 'What happens with the results?'**

We plan to discuss the results at conferences and scientific meetings, and to publish the study results in peer reviewed professional journals.

In any publication, information will be provided in such a way that you cannot be personally identified. Results of the study will be provided to you if you wish, and you may request a copy from the researcher. A report will also be presented to the community working party.

**9. 'What happens if I suffer harm, injury or complications as a result of the study?'**

If you suffer any harm or complications as a result of this study, you should contact the Health Service Nurse Manager, or principal researcher, as soon as possible. Assistance will be given in obtaining appropriate counselling or information.

**10. 'How is this study being paid for?'**

The study is being sponsored by The Rural Directorate of the Health Education and Training Institute, as part of the Rural Research Capacity Building Program.

No money will be paid to participants.

**11. 'What should I do if I want to discuss this study further before I decide?'**

If you would like to know more at any stage, the principal researcher, Barbara Turner, or the health worker assisting, will be happy to help. Please do not hesitate to contact either of them on 08 80914209.

**12. 'Who should I contact if I have concerns about the conduct of this study?'**

This study has been reviewed by The Greater Western Human Research Ethics Committee. If you have any complaints about the conduct of this study you should contact the Ethics and Research Governance Officer, who is the person nominated to receive complaints from research participants.

The Ethics and Research Governance Officer can be contacted on:

Phone 02 63395601

Fax: 02 6339 5606

Email: [Suzanne.degiorgio@gwahs.health.nsw.gov.au](mailto:Suzanne.degiorgio@gwahs.health.nsw.gov.au)

Or The Greater Western Human Research Ethics Committee.

PO Box 143

BATHURST NSW 2795

**Thank you for taking the time to consider participating in this study.**

**This information sheet is for you to keep.**

**Appendix 2:  
CONSENT FORM**



**CONSENT FORM FOR PARTICIPATION IN RESEARCH**

I .....

being over the age of 18 years hereby consent to participate as requested in an interview for the research study on “Addressing the burden of disease: is it possible to implement a structured cardiac rehabilitation program in a small rural village, which is effective and meets the expressed needs of clients”.

1. I have read the information provided.
2. I have had the purpose of the research and any related benefits and risks explained to me.
3. I am aware that the research will involve an interview at a place to be mutually agreed upon.
4. I am aware the interview will be recorded electronically for analysis.
5. I am aware that the results of my 6 minute walk test and Borg test pre and post cardiac program will be de identified and collected for analysis.
6. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
7. I understand that:
  - I may not directly benefit from taking part in this research.
  - I am free to withdraw from the study at any time and am free to decline to answer particular questions.
  - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
  - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.

- I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
  - If I choose to withdraw at a late stage after my interview it may not be possible to remove my data from the study results if it has already had identifying details removed.
8. I agree/do not agree\* to the recording/transcript\* being made available to other researchers who are not members of this research team, for the purpose of checking quality of analysis, on condition that my identity is not revealed.      \* *delete as appropriate*
9. I have had the opportunity to discuss taking part in this research with a researcher or a family member or friend.
10. I understand that I will be provided with a copy of my transcript for review to ensure that what is recorded represents what I said during my interview
- and
- I understand that non-identifiable information from this research will be published in reports, presentations and peer reviewed journals.

**Participant's signature.....Date.....**

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

**Researcher's signature.....Date.....**

*NB: Two signed copies should be obtained. .*

**Appendix 3:**  
Interview Questions



## Interview Questions

The purpose of these interview questions is to explore whether the Cardiac Rehabilitation program at Menindee has met your needs. These questions are a guide only and we may expand on your answers if it is relevant.

**Date of Interview:**.....

1. Can you tell me about why you did or did not attend the Cardiac Rehabilitation program in Menindee?
  - how many sessions did you attend?
  - If you did not attend why not?
2. Can you tell me who referred you to the program – were you referred from hospital?
3. Can you tell me about why you were referred to the program?
4. How long from when you were referred until when you started the program?
5. Can you tell me about if there was anything that made it hard for you to attend the program?
  - was transport an issue?
  - was the time suitable?
  - was the venue suitable?
  - was the group size suitable - would you have preferred more or less people?
  - were your family/significant others supportive of you attending?
6. Can you tell me about how attending the program has changed you or your lifestyle (if at all)?
  - can you describe any changes you may have made?
7. Can you tell me how you feel the program has affected your capacity to exercise?
  - do you do more exercise or less exercise since the program?
  - what exercise do you do now
  - what were the positive outcomes from the program
8. Can you tell me about the different speakers?
  - what you found most helpful?
  - was there anything that you found unhelpful?
  - how you found the video-conferencing as opposed to face to face?
9. Do you have anything else you would like to comment on?
  - any changes that you think might improve the program?
  - what did you like about the program?





**HETI**  
HEALTH EDUCATION &  
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**Health**  
Far West  
Local Health District

## **SURVEY PARTICIPANT INFORMATION**

### **ADDRESSING THE BURDEN OF DISEASE: IS IT POSSIBLE TO IMPLEMENT A STRUCTURED CARDIAC REHABILITATION PROGRAM IN A SMALL RURAL VILLAGE, WHICH IS EFFECTIVE AND MEETS THE EXPRESSED NEEDS OF CLIENTS.**

You are invited to participate in a research project being conducted by Barbara Turner who is a participant in the Rural Research Capacity Building Program (RRCBP). The RRCBP is run by the Rural Directorate of the Health Education and Teaching Institute of New South Wales.

Please take the time to read the following information carefully, and if you wish to participate follow the link on this email

#### **1. 'What is the purpose of this study?'**

The purpose of this study is to further our knowledge about whether the program offered is effective in meeting people's needs, and in improving exercise tolerance of the participants. The study also aims to further our knowledge about the current program's sustainability, and inform policy around replication of the program in similar rural and remote communities.

#### **2. 'Why have I been invited to participate in this study?'**

You have been invited to participate because you have either referred a patient to the program, are a presenter for the program, or are a health professional employed by or visiting Menindee Health Service.

#### **3. 'What if I don't want to take part in this study, or if I want to withdraw later?'**

Participation in this study is voluntary. It is completely up to you whether or not you participate. Once you have completed the "survey monkey" on line it will not be possible to withdraw your information as there will be no way of identifying your information.

#### **4. 'What does this study involve?'**

15 minutes of your time to answer the questions in the online survey.  
The study itself will run over one year and is due for completion in June 2013.

#### **5. 'Will I benefit from the study?'**

Although the study is unlikely to benefit you directly, benefits from this study may be seen in the future through improvements to the program, and possible expansion of the program.

#### **6. 'What happens with the results?'**

We plan to discuss the results of this study at conferences and scientific meetings, and to publish the study results in peer reviewed professional journals. Results of the study will be provided to you if you wish, and you may request a copy from the researcher.

**7. 'How is this study being paid for?'**

The study is being sponsored by The Rural Directorate of the Health Education and Training Institute, as part of the Rural Research Capacity Building Program.

No money will be paid to participants.

**8. 'What should I do if I want to discuss this study further before I decide?'**

When you have read this information, the researcher, Barbara Turner, or a health worker that has been assisting, will discuss it with you and any queries you may have. If you would like to know more at any stage, please do not hesitate to contact them on 08 80914209.

**12. 'Who should I contact if I have concerns about the conduct of this study?'**

This study has been reviewed by The Greater Western Human Research Ethics Committee. If you have any complaints about the conduct of this study you should contact the Ethics and Research Governance Officer, who is the person nominated to receive complaints from research participants.

The Ethics and Research Governance Officer can be contacted on:

Phone 02 63395601

Fax: 02 6339 5606

Email: [Suzanne.degiorgio@gwahs.health.nsw.gov.au](mailto:Suzanne.degiorgio@gwahs.health.nsw.gov.au)

Or The Greater Western Human Research Ethics Committee.

PO Box 143

BATHURST NSW 2795

**Thank you for taking the time to consider participating in this study.  
This information sheet is for you to keep.**

**Appendix 5**

**Survey of Health Professionals.**

Survey Questions:

Are you aware of the Menindee Health Service Cardiac Rehabilitation Program (MHS CRP)    Yes No

In what capacity is your knowledge of the MHS CRP :    Presenter for the program

Referred a patient to the program

A patient I usually see participated in the program

Other – information box

What is your overall satisfaction with the MHS CRP?

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very dissatisfied

If you are dissatisfied, why?

How satisfied are you with the MHS CRP in the following areas:

	N/A	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Ability to meet needs of patient's						
Overall quality of the program						
Video-conferencing experience						
Variety of presenters*						
Venue						
Exercise Equipment						

\* Presenters include Dietician, Social Worker (or Psychologist), Pharmacist, Cardiologist, Physiotherapist and Nurse.

What do you believe would make this program sustainable at Menindee?.....

Based on your experience, would you refer patient's to the program in future?

- Definitely
- Probably
- Probably not
- Definitely not
- Not sure
- Not applicable

If no, why not?

Based on your experience, would you agree to be a presenter for the program in future?

- Definitely
- Probably
- Probably not
- Definitely not
- Not sure
- Not applicable

If no, why not?

What could we undertake to increase your level of satisfaction with the MHS CRP?

Do you have any suggestions for improvements to the program

If you have any additional comments or wishes in regard to the MHS CRP please share them:

## Appendix 6



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# HETI

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Health  
Far West  
Local Health District

Menindee Health Service  
Po Box 25  
Menindee NSW 2879

## Invitation to Participate in a Research Project

**Project Title: Addressing the burden of disease: is it possible to implement a structured cardiac rehabilitation program in a small rural village, which is effective and meets the expressed needs of clients.**

Dear

You are invited to participate in a research project being conducted by Barbara Turner who is a participant in the Rural Research Capacity Building Program (RRCBP). The RRCBP is run by the Rural Directorate of the Health Education and Teaching Institute of New South Wales.

Please find attached a participant information sheet and consent form. Please read the participant information sheet carefully and be confident that you understand the contents before deciding whether to participate. If you have any questions please ask the Principal Investigator Barbara Turner, or a health worker who has been assisting, to answer any queries.

If you decide you would like to participate please contact Barbara Turner on

Phone: 08 80914209

Fax: 08 80914521

Email: [bturner@gwahs.health.nsw.gov.au](mailto:bturner@gwahs.health.nsw.gov.au)

Or at Menindee Health Service, 25 Perry Street, Menindee NSW 2879

Thank you for your time.

Marie Kelly  
Health Service Nurse Manager

**Table 1: Survey Results Health Professionals**

N=6 participants out of a possible 37.

**1. Are you aware of the Menindee Health Service Cardiac Rehabilitation Program (MHS CRP)**

Yes: 5 (83.33%)

No: 1 (16.67%)

**2. In what capacity is your knowledge of the MHS CRP:**

- Presenter for the program: 2
- Referred a patient to the program - 1
- A patient I usually see participated in the program 1
- I work at Menindee Health Service: 3

**3. What is your overall satisfaction with the MHS CRP?**

- Completely satisfied: 1
- Satisfied: 4
- Neutral:
- Dissatisfied:
- Completely dissatisfied:

If you are dissatisfied, why?

**4. How satisfied are you with the MHS CRP in the following areas:**

	N/A	Completely satisfied	Satisfied	Neutral	Dissatisfied	Completely dissatisfied
Video-conferencing experience	4	1	0	0	0	0
Variety of presenters*	2	2	1	0	0	0
Venue	1	3	0	1	0	0
Exercise Equipment	1	4	0	0	0	0

\* Presenters include Dietician, Social Worker (or Psychologist), Pharmacist, Cardiologist, Physiotherapist and Nurse.

**5. What is your perception of the likelihood of this program meeting the patients' needs?**

Very Likely – 2

Likely – 2

N/A - 1

**6. What do you believe would make this program sustainable at Menindee?**

- 1: *More health professionals involved locally.*
- 2: *Use of teleconference when staff not available in Menindee.*

**7. *Based on your experience, would you refer patients' to the program in future?***

- Definitely - 4
- Probably - 1
- Probably not - 0
- Definitely not - 0
- Not sure - 0
- Not applicable - 0

If no, why not?

**8. *If you are a presenter for the program, do you think your role's commitment to the program is sustainable in the future?***

- Yes - 2
- No
- Not applicable - 2

If no, why not?

**9. *In your opinion, what worked well or does not work well in the program?***

- Have presenters from different areas present as not only their knowledge set you get but the clients meet professionals they may need to be referred to.
- Local nature of the program – people don't have to travel.
- No response - 4

**10. *Do you have any further suggestions or ideas for the program?***

- No response - 5
- Find the key to make it sustainable as it is a very important service.

**Table 2. Summary of literature review findings**

<b>Author/Date</b>	<b>Title</b>	<b>Aim</b>	<b>Methods</b>	<b>Conclusions</b>
H Courtney-Pratt, C Johnson, H Cameron-Tucker, S Sanderson <b>2012</b>	Investigating the feasibility of promoting and sustaining delivery of cardiac rehabilitation in a rural community	Members of rural communities face the dual burden of high rates of cardiovascular disease and barriers to accessing cardiac rehabilitation programs (CRPs). While rural healthcare providers recognise the need for local delivery of such programs, they are constrained by funding and resource limitations. This research sought to explore the feasibility, acceptance and support for the delivery of a secondary prevention CRP in a rural community.	8 local participants recruited to a pilot CRP after cardiac surgery, diagnosis of cardiovascular disease and/or identification by health practitioners as being at risk of developing cardiovascular disease. Measures of success: ability of the team to provide a on self-management program, with a local and collaborative focus. Evaluated by mixed methods: Health Education Impact Questionnaire (HeiQ) measured the effectiveness and outcomes and qualitative data used to enhance understandings of the efficacy of CRPs in rural settings from the participant perspective.	Pilot program that engaged local healthcare providers in partnerships with local residents was successful. Local provision was clearly a positive aspect. Participants described the program as supportive, holistic and convenient, providing new information in a framework that supported self-management. The program encouraged local collaboration that enabled continuation of the program.
Tracey M Wachtel <b>2011</b>	Preferred models of cardiac rehabilitation in rural South Australia from a health consumer's perspective	To investigate preferred models of cardiac rehabilitation (CR) in rural South Australia from a health consumer's perspective.	Cross-sectional, descriptive pilot study to examine preferred models of CR in the Riverland Region of South Australia from the perspective of local health consumers. A questionnaire (QA), informed by literature, consisted of 19 questions: demographics, education history,	This pilot study provides valuable insight into health consumer preferences for health care professionals and decision makers involved in planning further needs analysis and future cardiac rehabilitation services for rural South Australia. Further research is



			history of CVD, personal belief of seriousness of their condition, past experience with CR services, preferred models of CR and suggestions for local CR services.	needed to ensure evidence based CR development.
<b>Author/Date</b>	<b>Title</b>	<b>Aim</b>	<b>Methods</b>	<b>Conclusions</b>
Kate P Taylor, Julie S Smith, Lyn Dimer, Mohammed Ali, Narelle Wilson, Tyra R Thomas and Sandra C Thompson <b>2010</b>	“You’re always hearing about the stats... death happens so often”: new perspectives on barriers to Aboriginal participation in cardiac rehabilitation	Engaging patients in CR, a program of secondary prevention measures, is crucial to improving outcomes after myocardial infarct.	Qualitative study on barriers to CR use from November 2007 to March 2008 with 15 Aboriginal cardiac patients (7 women and 8 men, aged 31–74 years) living in Perth, WA. 6 had participated in some outpatient CR sessions; 9 had not. Participants interviewed face-to-face using a semi structured interview guide, with questions exploring their views and experiences of CR, barriers to use and suggestions for improvement.	<ul style="list-style-type: none"> <li>• out of working hours</li> <li>• opportunistic drop-in sessions</li> <li>• appeal to younger clients</li> <li>• in Aboriginal community health centres</li> <li>• Build trust and relationships with patients by yarning</li> <li>• home programs for whole family</li> <li>• lifestyle and diet advice to modern Aboriginal family situations</li> <li>• include male and female Aboriginal health staff</li> <li>• Target youth with heart health education messages</li> <li>• Refocus public health messages away from negative/fear-based to positive/strength-based</li> <li>• Encourage buddy system</li> </ul>

Author/Date	Title	Aim	Methods	Conclusions
C. N. Keib, N. R. Reynolds, Karen L. Ahijevych, <b>2010</b>	Poor use of cardiac rehabilitation among older adults: A self-regulatory model for tailored interventions	Many older adults now live with CHD = significant public health problem; older adults are at high risk for CHD-related mortality and morbidity. Evidence supports CR for secondary prevention, yet only a small portion of eligible older adults receive it.	Many studies examined factors that affect the use of CR among older adults, few interventions aimed to improve their cardiac rehabilitation participation rates. Evidence indicates that an individual's illness perceptions important in health behaviour, and may be a promising target for intervention.	Improving participation rates in cardiac rehabilitation among older adults is an important healthcare initiative. Theoretical and empiric work, based on self-regulation theory, identified the importance of an older adult's illness representation on his or her use of cardiac rehabilitation after an acute CHD event.
A. Bonner, J. Pryor, J. Crockett, R. Pope, R. Beecham <b>2009</b>	A sustainable approach to community-based rehabilitation in rural and remote Australia	This paper presents the results of a project which sought to identify and recommend optimal approaches for community-based rehabilitation in rural and remote communities of NSW	Over 6 months, the project team: <ul style="list-style-type: none"> <li>• established a stakeholder group</li> <li>• conducted a detailed search of the literature</li> <li>• consulted with providers of rehabilitation services to rural and remote NSW</li> <li>• consulted with the Queensland Health Community Rehabilitation Workforce project members</li> <li>• invited the stakeholder group to provide comment on the emerging framework for rural and remote NSW</li> <li>• developed a final framework for community-based rehabilitation.</li> </ul>	The concept of a Network of Community Based Rehabilitation Coalitions addresses the rehabilitation and general life outcomes sought by individuals, their families and most other members of their communities. These outcomes are to be actively participating in families and communities in ways they choose, and to aggressively ward off the decline in function and participation that can accompany disability, ageing and ill-health.
Author/Date	Title	Aim	Methods	Conclusions
C. De Angelis, S. Bunker,	Exploring the barriers and	The objectives of this study were	A questionnaire administered by	Barriers: distance to hospital-based CR

<p>A Schoo <b>2008</b></p>	<p>enablers to attendance at rural cardiac rehabilitation programs.</p>	<p>to: (i) identify local barriers and enablers to the uptake of hospital-based cardiac rehabilitation (CR) programs, and (ii) identify preferred alternatives for the delivery of CR.</p>	<p>local CR coordinators and focus groups facilitated by the research team.</p>	<p>programs. Enablers: access to transport (63%); family support (49%); work flexibility (43%). 38% of the 97 participants receptive to alternative CR programs: in outlying communities; evening facility-based programs, home and GP based programs, telephone support and patient manual/workbook.</p>
<p>S. Canyon, N. Meshgin <b>2008</b></p>	<p>Cardiac rehabilitation Reducing hospital readmissions through community based programs</p>	<p>Community based cardiac rehabilitation programs have been shown to reduce cardiovascular disease related mortality and morbidity.</p>	<p>An observational study of 954 cardiac patients admitted to Royal Perth Hospital, WA with a cardiac event and registered in the HeartBeat™ CR program between October 2000 and December 2005. The primary end point was non elective readmission for a cardiac condition within 12 months.</p>	<p>Patients who attended the CR program were readmitted less often and spent less time in hospital. The program had a positive effect on women and men equally across a wide range of age groups.</p>