

FRAMEWORK

# Rehabilitation for chronic conditions



**The Agency for Clinical Innovation (ACI) works with clinicians, consumers and managers to design and promote better healthcare for NSW. It does this through:**

- *service redesign and evaluation* – applying redesign methodology to assist healthcare providers and consumers to review and improve the quality, effectiveness and efficiency of services.
- *specialist advice on healthcare innovation* – advising on the development, evaluation and adoption of healthcare innovations from optimal use through to disinvestment.
- *initiatives including Guidelines and Models of Care* – developing a range of evidence-based healthcare improvement initiatives to benefit the NSW health system.
- *implementation support* – working with ACI Networks, consumers and healthcare providers to assist delivery of healthcare innovations into practice across metropolitan and rural NSW.
- *knowledge sharing* – partnering with healthcare providers to support collaboration, learning capability and knowledge sharing on healthcare innovation and improvement.
- *continuous capability building* – working with healthcare providers to build capability in redesign, project management and change management through the Centre for Healthcare Redesign.

ACI Clinical Networks, Taskforces and Institutes provide a unique forum for people to collaborate across clinical specialties and regional and service boundaries to develop successful healthcare innovations.

A key priority for the ACI is identifying unwarranted variation in clinical practice. ACI teams work in partnership with healthcare providers to develop mechanisms aimed at reducing unwarranted variation and improving clinical practice and patient care.

[www.aci.health.nsw.gov.au](http://www.aci.health.nsw.gov.au)

## **AGENCY FOR CLINICAL INNOVATION**

Level 4, 67 Albert Avenue  
Chatswood NSW 2067

**PO Box 699 Chatswood NSW 2057**

**T** +61 2 9464 4666 | **F** +61 2 9464 4728

**E** [aci-info@health.nsw.gov.au](mailto:aci-info@health.nsw.gov.au) | [www.aci.health.nsw.gov.au](http://www.aci.health.nsw.gov.au)

**SHPN:** (ACI) 160442, **ISBN:** 978-1-76000-519-1.

**Produced by:** ACI Rehabilitation for Chronic Conditions Working Group

Further copies of this publication can be obtained from the Agency for Clinical Innovation website at [www.aci.health.nsw.gov.au](http://www.aci.health.nsw.gov.au)

**Disclaimer:** Content within this publication was accurate at the time of publication. This work is copyright. It may be reproduced in whole or part for study or training purposes subject to the inclusion of an acknowledgment of the source. It may not be reproduced for commercial usage or sale. Reproduction for purposes other than those indicated above, requires written permission from the Agency for Clinical Innovation.

**Version:** V1

**Trim:** ACI/D16/7627-05

**Date Amended:** 18 September 2017

**© Agency for Clinical Innovation 2017**

<b>Definitions</b>	<b>1</b>
<b>Section 1 Introduction</b>	<b>2</b>
Definition of rehabilitation for chronic conditions	3
Target audience	3
Benefits of rehabilitation for chronic conditions	4
Service delivery models	4
<b>Section 2 Overview of the Framework</b>	<b>7</b>
Purpose	7
Aims	8
Key principles	8
<b>Section 3 Components of chronic condition rehabilitation</b>	<b>9</b>
1. Screening	10
2. Development of a rehabilitation plan	11
3. Assessment	11
4. Self-management support and disease management	13
5. Psychological and social support	17
6. Supervised exercise planning	18
7. Advance care planning	19
8. Maintenance of self-management skills and follow-up	20
<b>Section 4 Enablers of chronic condition rehabilitation</b>	<b>22</b>
A. Provision of individualised, person-centred services	22
B. Flexible service delivery models	22
C. Innovative staffing models	23
D. Information and communications technology	23
E. Effective communication, knowledge sharing and partnerships	24
F. Settings of care	24
G. Open access and referral pathways	28
<b>Section 5 Holistic service evaluation</b>	<b>30</b>
<b>Section 6 Considerations for priority groups</b>	<b>31</b>
Aboriginal people	31
People from CALD communities	33
People with serious and persistent mental illness	35
<b>Section 7 Conclusion</b>	<b>37</b>
<b>Section 8 References</b>	<b>38</b>
<b>Section 9 Appendices</b>	<b>43</b>
Appendix 1: Assessment tools	43
Appendix 2: Disease-specific considerations and assessment tools	47
Appendix 3: Components of chronic disease rehabilitation	51

## Definitions

<b>Advance care planning</b>	The ability of individuals to make their values and wishes known about the type of healthcare they would want to receive, should severe illness or injury affect their ability to do so.
<b>Acute care</b>	The provision of immediate care for trauma and injuries, severe or sudden illness, or recovery from surgery. Acute care is usually provided as an inpatient in a hospital setting. People may require rehabilitation following acute care and are identified for either disease-specific or chronic condition rehabilitation depending upon the presenting condition.
<b>Chronic conditions</b>	The term applies to a group of conditions that tend to be long lasting or recurring and have persistent effects. They have a range of potential impacts on a person's individual circumstances, including quality of life and broader social and economic effects, requiring long-term management. These conditions include osteoarthritis, cardiovascular diseases, type 2 diabetes, renal and liver disease and chronic obstructive pulmonary disease (COPD), among others.
<b>Chronic condition rehabilitation</b>	The delivery of care across clinical streams, targeting people with more than one diagnosed chronic condition and/or people at risk of being diagnosed with a chronic condition with recognised signs or symptoms that may impact on their function. Broadly, rehabilitation for chronic conditions aims to restore and maintain an optimal level of one's functional ability.
<b>Disease specific rehabilitation</b>	Comprehensive, functionally based, goal oriented care provided within a clinical stream, targeting specific diagnostic groups or conditions with evidence-based interventions.
<b>Maintenance of function</b>	The ability of an individual to maintain the level of function or slow down the rate of functional decline. Maintenance of function can be a goal of a chronic condition rehabilitation program.
<b>Multidisciplinary team</b>	A model of care involving a range of health professionals, from one or more organisations, working together to deliver comprehensive patient care. It is recognised that the capacity to draw on more than one team member may be a limitation for services in rural and remote NSW.
<b>Multimorbidity</b>	The presence of three or more chronic medical conditions in an individual.
<b>Rehabilitation plan</b>	The development of strategies to address identified health issues with realistic and relevant goals identified by the health professional and the individual.
<b>Screening</b>	To ascertain an individual's eligibility and suitability for chronic condition rehabilitation and any specific needs (for example, transport and cultural) relating to access, prior to progressing toward a more complex initial assessment.
<b>Self-management</b>	Partnership between the patient and their care provider(s) that empowers, prepares and supports the person to manage their health and ongoing care, ultimately making them more confident about managing their conditions and more likely to alter their behaviours.



# Section 1

## Introduction

Chronic conditions remain a major cause of morbidity and mortality in Australia.<sup>1</sup> In NSW, chronic conditions are currently responsible for nearly 80% of the total burden of disease and injury.<sup>2</sup>

Approximately 70% of Australians over the age of 65 report five or more long-term health conditions.<sup>1</sup> Increasingly, people aged 45-64 are experiencing multimorbidity with 21.1% (1.2 million people) having three or more chronic conditions.<sup>3</sup> Children and young people also have chronic conditions and increasingly are surviving into adult life.

The management of people with chronic conditions, especially people with multimorbidity, raises a number of challenges for healthcare internationally<sup>4</sup> and in Australia including significant and increasing healthcare costs and complexity of care. Access to rehabilitation services for people with one or more chronic conditions is limited, particularly for those residing in rural areas.

Approaches to the management of chronic conditions have a number of features in common, including the need for accurate diagnosis and assessment; optimisation of medication; and rehabilitation that includes, but is not limited to:

- health education on disease management
- psychosocial health assessment and treatment
- risk modification, such as smoking cessation programs and improving nutrition
- supervised exercise training.

Diagnosis or presence of a chronic condition may prompt advance care planning and involve phased conversations throughout the person's journey through a service.

This Framework has been developed to support the adoption of a uniform approach to rehabilitation in the context of chronic conditions specifically where a person is ageing with multimorbidity, or where access to disease-specific programs and/or services is limited. It aligns with and supports the principles of the [National Strategic Framework for Chronic Conditions](#).

Evidence demonstrates that rehabilitation is successful in supporting the management of a number of chronic conditions including: pulmonary disease, cardiac disease, diabetes (type 2), peripheral vascular disease, cancer, chronic pain and musculoskeletal conditions. Rehabilitation programs for chronic conditions have been shown to improve quality of life, functional exercise capacity, self-management skills, reduce harm from risk factors and decrease the need for the use of acute healthcare facilities.

Despite limited evidence for rehabilitation for chronic conditions programs, the principles of these disease-specific rehabilitation programs could be applied to people with comorbidities, thus improving access to rehabilitation for those who are ineligible for disease-specific programs, or who live remotely.

This Framework also encourages rehabilitation services to include people with a broad range of chronic conditions (such as neurodegenerative and neuromuscular conditions) so they too could benefit from improved functional exercise capacity and quality of life, as well as reduced hospital admissions.

In Australia, rates of chronic conditions are generally higher in areas of socioeconomic disadvantage. For example, people living in areas of highest disadvantage are more than twice as likely to have diabetes compared to those with the least disadvantage (6.8% compared to 3.1% respectively).<sup>5</sup> Additionally, rates of chronic conditions are generally higher among Aboriginal<sup>(i)</sup> peoples,<sup>6</sup> and people with serious and persistent mental illness.

Rehabilitation for chronic conditions in these populations may need significant tailoring and modification to provide maximum benefit. Programs should consider the needs of people from culturally and linguistically diverse (CALD) communities to ensure that programs are inclusive and accessible to all people living with chronic conditions in NSW.

<sup>(i)</sup> Although reference to both Aboriginal and Torres Strait Islander peoples may be required at times, within NSW Health the term 'Aboriginal' is generally used in preference to 'Aboriginal and Torres Strait Islander', in recognition that Aboriginal people are the original inhabitants of NSW.

Importantly, this Framework does not aim to replace disease-specific rehabilitation programs. Rather, it aims to provide guiding principles for the management of people who are ageing with more than one chronic condition (including people at risk of diagnosis with precursor signs and symptoms) who may be ineligible for, or unable to access, disease-specific rehabilitation. It also supports the premise that clinicians working across specialty areas should provide and reinforce key principles of rehabilitation for chronic conditions. The Framework does not attempt to cover younger age groups (12-25 years), although the principles can be adapted to suit their needs.

The Framework is intended for service providers who have a role in delivering rehabilitation for chronic conditions services or programs, which span across staff working in local health districts (LHDs), particularly subacute services and rural LHDs, community-based services, and primary care, including primary health networks (PHNs).

In addition, the Framework is intended for people and services who refer patients to rehabilitation services and programs for people with chronic conditions, such as a care coordinator or general practitioner (GP).

Definition of rehabilitation for chronic conditions

Based on the NSW Health rehabilitation model of care,<sup>7</sup> rehabilitation for chronic conditions is the provision of care that aims to:

- restore or optimise functional ability for a person who has experienced illness or injury<sup>7</sup>
- regain function and self-sufficiency to the level prior to the illness or injury within the constraints of the medical prognosis for improvement<sup>7</sup>
- develop functional ability to compensate for deficits that cannot be medically reversed<sup>7</sup>
- maintain level of function or slow down the rate of functional decline.

This can be a whole of life approach, including advance care planning for some individuals with a life-limiting condition.

Target audience

Rehabilitation for chronic conditions primarily targets people with more than one diagnosed chronic condition and/or people at risk of being diagnosed with a chronic condition with recognised signs or symptoms that may impact on their function.

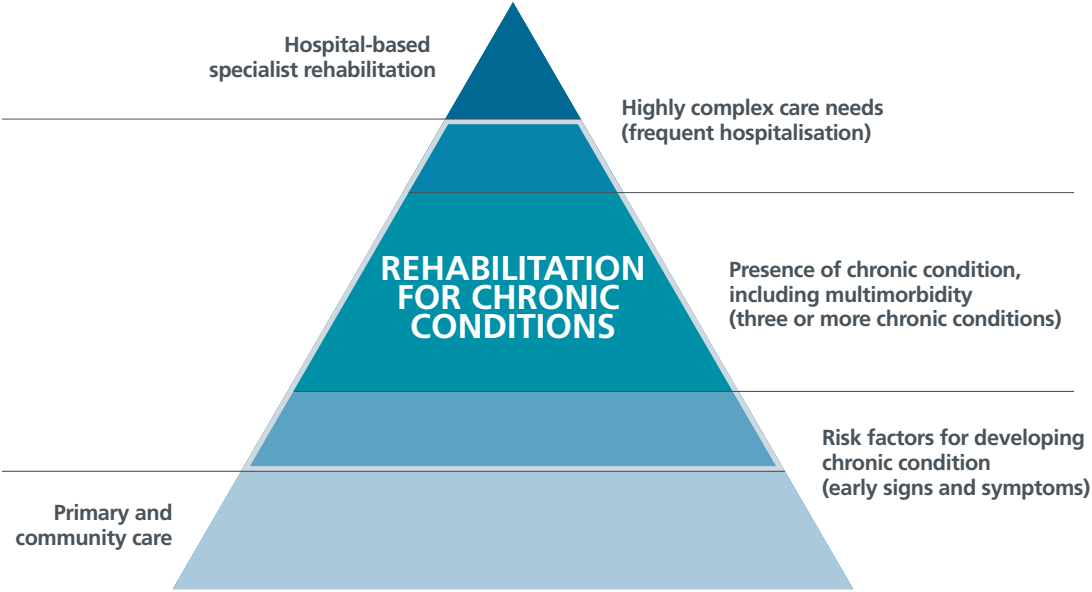


Figure 1: Rehabilitation for chronic conditions framework

## Benefits of rehabilitation for chronic conditions

Benefits of rehabilitation for some chronic conditions include:

- reduced admissions to hospital and subsequent length of stay<sup>8</sup>
- reduced morbidity and mortality<sup>9</sup>
- improved functional exercise capacity
- improved psychosocial wellbeing and reduced stress<sup>8,9</sup>
- improved quality of life.<sup>8,10</sup>

For health systems, rehabilitation for chronic conditions may offer more cost effective and sustainable interventions due to the centralised approach of managing more than one chronic condition. Shared resources, including allied health team members, equipment and location, provide cost benefits.

## Service delivery models

Rehabilitation for chronic conditions services should be provided as part of a continuum that may include primary and community-based care, inpatient rehabilitation during a hospital admission and ongoing rehabilitation services post-discharge. Flexible models of service delivery may be viewed more favourably by people accessing the service with chronic conditions, which may include telehealth.<sup>11</sup>

Broadly, there are two approaches to the delivery of rehabilitation: service provided within a clinical stream; and services provided across clinical streams (see Figure 2).

This Framework focuses on services provided across clinical streams of chronic conditions, referred to as rehabilitation for chronic conditions. The differences in these approaches and examples are outlined below.

1. Services provided within a clinical stream are referred to in this Framework as disease-specific rehabilitation. These are comprehensive, functionally based, goal oriented services which target specific diagnostic groups or conditions, inclusive of (but not limited to): geriatric, orthopaedics, stroke and neurological, spinal cord injury, brain injury, burns, pulmonary and cardiac rehabilitation. These services are particularly important in situations:
  - where a disease process or condition with specific symptoms is identified as the priority problem with significant impact on quality of life, for example following a cardiac event, or breathlessness from respiratory disease
  - when high patient acuity or complexity in that particular specialty area requires speciality oversight, for example oxygen dependent people with COPD requiring a pulmonary rehabilitation program
  - following an acute episode.

### DISEASE-SPECIFIC REHABILITATION CASE STUDY: MR JONES

Mr Jones is a 71-year-old man with advanced COPD. He experiences severe shortness of breath and requires long-term oxygen therapy 16 hours per day. Mr Jones attends an outpatient pulmonary rehabilitation program at his local hospital to assist with quitting smoking, improving exercise tolerance, providing psychosocial support and providing strategies to reduce breathlessness.

2. Services provided across clinical streams (which are referred to in this Framework as rehabilitation for chronic conditions), are services that are accessed when a person presents with a range of chronic conditions with a number of limiting symptoms. Rehabilitation for chronic conditions is suitable when:
- the person has multiple comorbidities with or without risk factors
  - the person is ineligible for disease-specific rehabilitation
  - there are high levels of demand for disease-specific services and extended waiting lists
  - there are limited workforce resources which restrict the provision of disease-specific rehabilitation services
  - disease-specific services are not available in the local areas.

There may be a need for people attending a rehabilitation for chronic conditions program to be referred to disease-specific rehabilitation for a period of time (for example, to learn about managing breathlessness or specific airway clearance techniques). Following discharge, they may return to rehabilitation for chronic conditions.

Rehabilitation for chronic conditions may be part of a broader chronic care service within a LHD, including programs and initiatives delivered as part of the NSW Integrated Care Strategy; and can be delivered in a number of settings (for example, PHNs, general practice and Aboriginal community controlled health services (ACCHS). The service may be delivered through partnerships between these services.

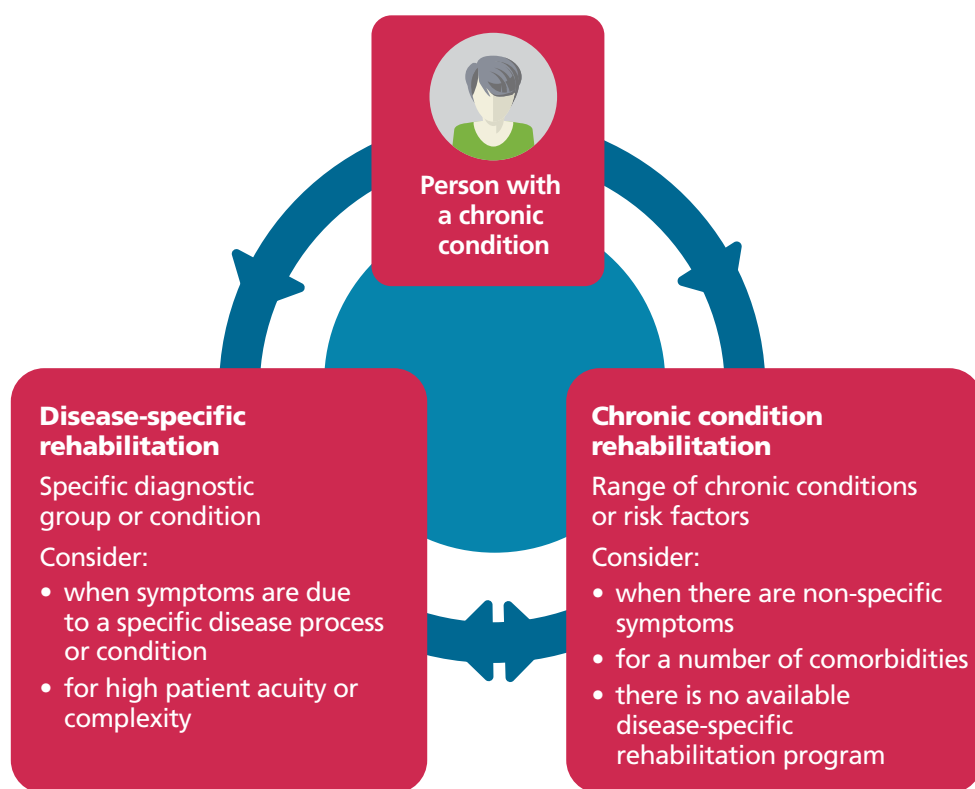


Figure 2: Approaches to chronic conditions rehabilitation



## CASE STUDY: MRS BECK

Mrs Beck is a 78-year-old woman with early signs of heart disease and osteoarthritis in her knee. Following admission to hospital last year, she was enrolled in her LHD's integrated care program. Through this program she was linked with a care coordinator, who referred Mrs Beck to the local osteoarthritis chronic care program which is linked to the chronic condition rehabilitation program.

During her participation in this program she was assessed and her goals included the necessary preparation for her elective knee joint replacement surgery scheduled in the next few months. Her home needs were assessed by the occupational therapist and modifications were made. She was linked to community transport so she could get out after her surgery for appointments and shopping. She was assessed and taught specific exercises so that her cardiac and joint health status could be improved.

After commencing rehabilitation, Mrs Beck went to hospital for scheduled knee replacement surgery. Following surgery she attended chronic condition rehabilitation for a few weeks until she was assessed as being confident enough to no longer require support in her self-management activities.

Rehabilitation needs for people with chronic conditions vary widely. Service delivery models for rehabilitation for chronic conditions need to include the following.

- They need to be delivered flexibly to meet the needs of individuals.<sup>12</sup>
- They should offer service efficiency and be tailored to the specific needs of individuals recognising the needs of Aboriginal people, people with a mental health condition, people from CALD communities, older people, people living in rural and remote NSW and other disadvantaged groups.
- They should be managed in a variety of ways, dependent on local resources.
- They need to ensure health professionals with relevant expertise and knowledge are responsible for delivery of rehabilitation for chronic conditions components. In particular, health professionals require broad clinical experience and an understanding of exercise training and the principles of self-management. Local policy and governance should oversee appointment and professional development of suitable health professionals. Capacity and competency of individuals employed is the responsibility of local service providers.
- They should deliver services in partnership with other health providers (for example, mental health providers, Aboriginal health workers, ACCHS, multicultural health workers and others) to ensure people who may have difficulty engaging with chronic condition services are supported and able to benefit from rehabilitation.

# Section 2

## Overview of the Framework

### Purpose

The purpose of this Framework is to guide service delivery and thereby improve access to evidence-based and appropriate rehabilitation for chronic conditions programs and initiatives for people in NSW with chronic conditions. The Framework aims to provide service providers, including executives, managers and clinicians across a range of settings with an understanding of the requirements for providing evidence-based, safe and therapeutic rehabilitation for people with chronic conditions.

The Framework has been developed as service providers have reported a shortage in the supply of rehabilitation services for people with chronic conditions. Models of care for delivery of rehabilitation for chronic conditions should be developed which are able to be tailored to the local context, resource availability, target population and geographic remoteness.

The Framework reflects recent changes in the delivery and focus of rehabilitation for chronic conditions through the following:

- **New technology** – technological advances (for example, telehealth, through virtual consultations via video-conference and web-based video technology; or mobile technologies, such as tablets and smartphones) have provided opportunities to:
  - improve access to evidence-based care
  - broaden the settings for rehabilitation services (for example, in the home)
  - increase service provision in regional and remote locations.
- **Service flexibility** – in how and when services are delivered, including the introduction of new techniques, such as telehealth, for providing the individual components of rehabilitation for chronic conditions.
- **Expanded care settings** to offer flexibility and enhance access to care. For example, home-based, community-based, web-based services (NSW Health Get Healthy, and Healthdirect's MindHealthConnect), and through technology.

- **Developments in service context and availability** – including the NSW Integrated Care Strategy and web-based health coaching and information services.
- **Addressing the needs of Aboriginal peoples.** There has been low participation in rehabilitation programs by Aboriginal people across services in NSW. This is due to a number of issues including past policy and practices that have resulted in a reluctance to participate in hospital and community-based rehabilitation. The Framework explores appropriate and effective models of service delivery for Aboriginal people. Rehabilitation services need to create flexible approaches that are culturally safe, while improving overall access and supporting individuals to complete their rehabilitation for chronic conditions programs.
- **Addressing the needs of people from CALD communities.** There is an increased focus on the needs of people from CALD backgrounds. The Framework explores appropriate and effective models of service delivery for these groups.

This document does not promote the replacement of current disease-specific programs. Rather, it aims to describe models of service delivery which will enhance access to rehabilitation for people with one or more chronic conditions. This model of rehabilitation may not be otherwise available in the local setting, especially where participant numbers are low and access to specialist clinicians and multidisciplinary or skilled teams is limited (refer to 'Definitions').

## Aims

The broad aims of the Framework are to:

- identify the core components and requirements of rehabilitation for chronic conditions and the best practice strategies for different settings and contexts
- support better integration of disease-specific and rehabilitation for chronic conditions services to provide person-centred care, which involves:
  - broadening system thinking about where rehabilitation for chronic conditions can be provided
  - supporting effective information transfer and referral pathways between health providers through integrated healthcare delivery
  - ensuring effective coordination and follow-up of the rehabilitation for chronic conditions experience for participants
  - ensuring consistent messaging and information across health providers
  - strengthening connections with Aboriginal health organisations, mental health service providers, CALD communities and other community organisations supporting disadvantaged and minority groups
- promote understanding among health professionals of the potential impact and outcomes of each component of rehabilitation for chronic conditions
- support services to involve participants as equal and active partners in their care in relation to self-management.

## Key principles

To increase access to rehabilitation for chronic conditions programs, providers should:

- incorporate interventions that maintain, manage and improve functional and physical needs, disease management, psychosocial and self-management support requirements of individuals
- develop and maintain strong relationships with existing rehabilitation service providers to ensure people with complex needs optimise the full range of multidisciplinary services required to meet their rehabilitation needs
- develop collegial referral pathways and communication channels with other health providers, including service providers for Aboriginal peoples
- deliver flexible, person-centred service delivery models, including consideration of settings and access to technology that address the unique needs of people living with chronic conditions
- actively promote access to rehabilitation for chronic conditions for high-risk population groups including Aboriginal peoples and people with mental health conditions
- recognise the unique needs of CALD communities and actively promote access among multicultural communities
- support the ongoing and consistent collection of process and patient experience, outcome and process data to drive ongoing service improvement.

# Section 3

## Components of chronic condition rehabilitation

In recent years, the evidence surrounding the different components of rehabilitation for chronic conditions has grown substantially. In particular, new evidence has emerged regarding what constitutes therapeutic exercise training, how to incorporate behaviour change, self-management support strategies and individualised tailored service provision.

There are eight core components to rehabilitation for chronic conditions. Service providers will be able to offer the person access to each of the components (although not everyone will require all components). People may move in and out of components depending on their needs at different stages.

### CORE COMPONENTS OF REHABILITATION FOR CHRONIC CONDITIONS

1. Screening
2. Development of a rehabilitation plan
3. Assessment (initial, progress and discharge)
4. Self-management support (including health education, smoking cessation and nutrition)
5. Psychological and social support
6. Supervised exercise training
7. Advance care planning
8. Maintenance and follow up

Figure 3 illustrates where each of these components are introduced in the person's journey and the linkages between the different components.

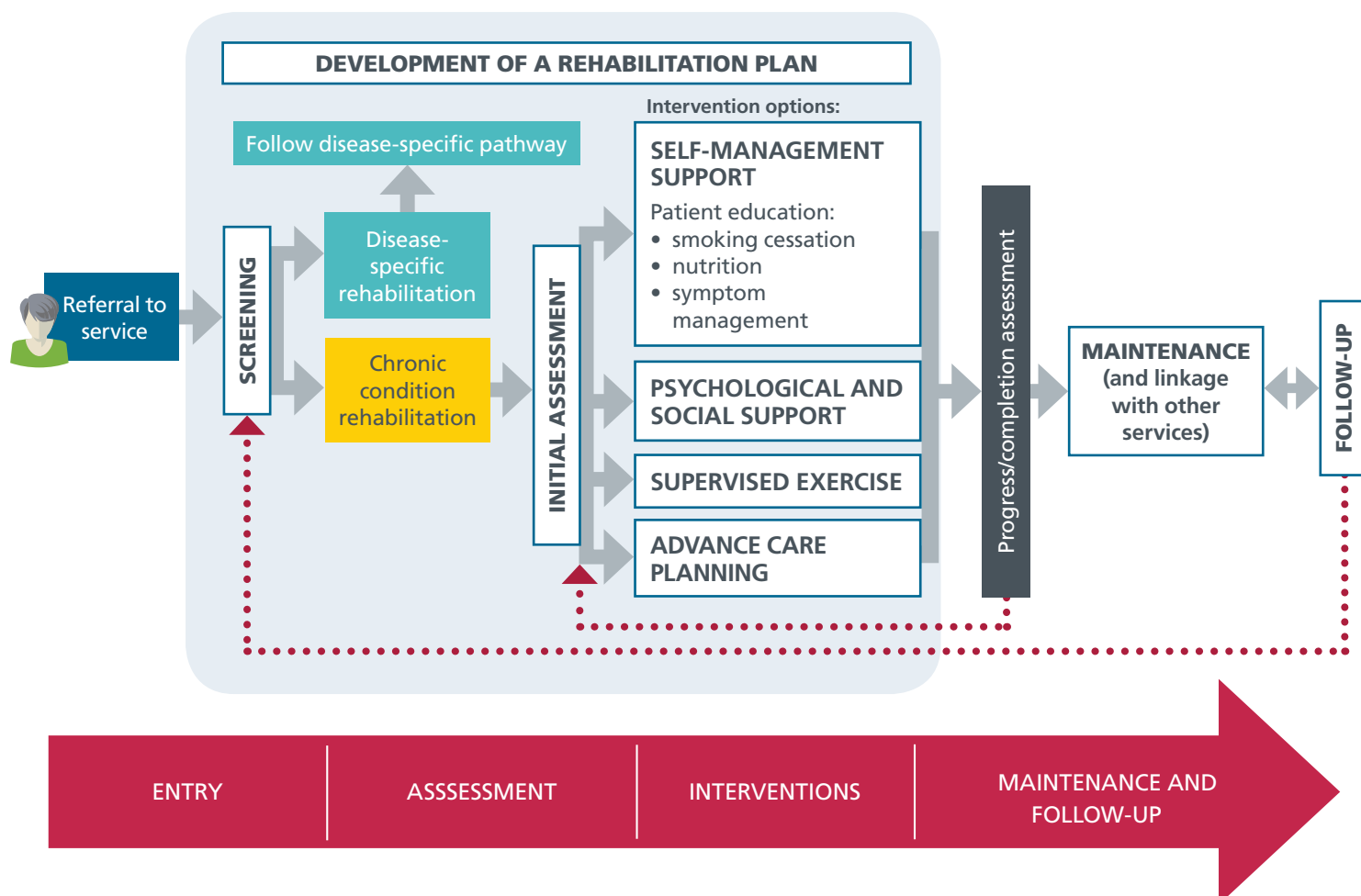


Figure 3: Components of chronic disease rehabilitation (Refer to appendix 3 for an expanded diagram view)

## REFERRAL

Information on how to refer, entry points, referral processes and eligibility criteria into rehabilitation for chronic conditions should be widely communicated to other healthcare providers and services in the area. It is important that Aboriginal status is recorded on referral forms so Aboriginal clients can be easily identified. The need for an interpreter should be identified prior to screening.

Referrers to rehabilitation for chronic conditions include:

- primary care (GPs, practice nurses, care coordinators)
- ACCHS and other Aboriginal health services
- care coordinators or care navigators as part of an LHD integrated care program or initiative
- inpatient acute care or rehabilitation teams
- community-based services/other non-government organisations
- the person, carer or family member
- other LHD services, such as mental health or multicultural health
- private providers (for example, allied health).

## 1.

### Screening

People should be screened to determine their eligibility for rehabilitation for chronic conditions or disease-specific rehabilitation. Medical clearance should be obtained prior to participation in an exercise program. Unless the referral has been made by a medical professional, people should be instructed to obtain clearance from a medical professional, such as their GP, prior to commencement to enable review of functional exercise capacity.

The aim of screening is to determine the person's ability to improve their physical, mental and/or social skills by participating in one or more components of rehabilitation for chronic conditions; and to understand the needs and access requirements of each person to maximise engagement with the service prior to comprehensive assessment. This includes review of:

- cognitive impairment
- any needs in relation to cultural safety and additional support such as:
  - family involvement and/or flexibility in regards to time/appointments for Aboriginal peoples
  - interpreters for people from CALD communities
- mobility requirements
- transport options and other financial considerations
- any support to ensure that care is provided in a culturally safe and appropriate way, for example, significant liaison with mental health services may be required for a person with a diagnosed mental health condition; or involvement of an Aboriginal health worker or liaison officer may be appropriate for an Aboriginal person.

Screening can be conducted in a range of settings, such as in the home, community, or via telehealth in collaboration with other health practitioners as required (or appropriate).



## 2.

### Development of a rehabilitation plan

The development of a rehabilitation plan may begin during the screening stage, after confirming that rehabilitation for chronic conditions is likely to be of benefit and it should continue throughout the assessment, monitoring and review stages. The rehabilitation plan sets out the person's current problems and the agreed actions that will be taken to address these, based on goals developed between the health professional and the individual.

Information for the rehabilitation plan should include:

- personal details, including name, age, address, contact details, emergency contact, whether the person identifies as Aboriginal or Torres Strait Islander, or from a CALD background (and whether an interpreter is required)
- medical history, including current medications
- social situation, including family, social network, details of any community services being received, whether the person identifies with a particular cultural background or language group, hobbies/interests, relevant financial information and usual transport arrangements (for example, driving, community transport, family)
- current functional level based on:
  - physical factors including mobility and transfers, level of independence with activities of daily living, information on the need for any aids/equipment/modifications and/or physical assistance required
  - psychosocial factors including symptoms of anxiety or depression, isolation, loneliness, or difficulty adjusting to chronic disease
  - cognitive factors which may include memory, ability to follow instructions and financial management
- assessment tools and results, with the choice of tools based on the information in the plan and including sections to record baseline and progress assessments
- key issues, including the main problems identified that impact on function
- patient goals to tailor the program to their individual goals and to measure goal attainment

- an action plan, including details of interventions to address goals which may include referral to other health professionals or services
- the review date, to monitor progress and goal attainment
- a discharge plan, including details of the home program to maintain benefits of rehabilitation, their referring/treating health professionals and saved in their file.

The rehabilitation plan should be written in consumer-friendly language, with a copy provided to the person and their referring/treating health professionals, (as appropriate).

#### LINK TO REHABILITATION PLAN

After completion of screening, the sections of the rehabilitation plan that can be completed include:

- personal details
- medical history
- elements of social situation, for example, transport needs and interpreter requirements will need to be determined to enable access to chronic condition rehabilitation
- patient preference.

## 3.

### Assessment

#### Entry, progress and exit assessments

An assessment should be completed at entry to rehabilitation for chronic conditions, at discharge and at points during the program to identify progress (clinical, functional, social, psychological, risk factor profile, progress with goal attainment). Assessments are delivered by multidisciplinary teams (or their delegates).

Consent must be obtained before people begin rehabilitation for chronic conditions. Consent procedures, and reason for obtaining consent, should be clearly explained to the person accessing services.

The aim of the assessment is to:

- develop an understanding of the person as a whole (including health, psychological, life context, feelings, expectations and opinions)
- increase knowledge about the person from a physical and psychosocial perspective

- assess functional exercise capacity and design and prescribe an individualised exercise program which is safe and effective
- understand level of health literacy and level of activation and capacity to participate in self-management
- identify whether the person has any pain that could impact on their activity, quality of life or capacity to self-manage
- identify the person's main problems, set personalised goals and determine how the goals will be achieved (self-management) in collaboration with the person
- determine baseline quality of life and other psychological and coping measures
- provide an opportunity to measure outcomes and service effectiveness using information collected from the initial/entry assessment
- identify other community health and care services that may be required
- communicate with, and engage, the participant's GP and other health practitioners as appropriate.

Assessment should cover medical history, personal goals and preferences, physical parameters, disease specific status, disease management, psychosocial health (particularly depression, anxiety and social support), risk factors (particularly smoking and diet), functional exercise capacity, quality of life, pain and the impact of decreased physical and cognitive capacity (for example, the impact on mobility and self-care).

Assessment of someone's physical function is an important part of rehabilitation for chronic conditions and will inform prescription of an exercise program. Assessment should include previous exercise levels, aids used, goals and exercise capacity/function (aspects such as strength, flexibility and endurance should be assessed).

Chronic pain should be considered as part of the entry assessments and pain management strategies implemented as part of rehabilitation for chronic conditions. Failure to address this aspect will result in poor outcomes in the physical activity domain, non-completion of the program and likely have negative flow on affects to other areas of rehabilitation. Factors

such as past experiences, age, gender, socioeconomic status and cultural background can influence how each individual experiences pain. Up-skilling healthcare staff about available pain assessments and management strategies is important.

Health professionals with a thorough knowledge of particular diagnostic groups will identify contraindications (often subtle) to elements of rehabilitation for chronic conditions and tailor components to suit individual need, while at the same time not restricting participation.

The use of measurement tools is essential and needs to be relevant to the individual's needs. Some examples of baseline general health, quality of life or other tools appropriate to use in a multimorbidity context are outlined in Appendix 1.

Disease-specific tools can also be used in the assessment of participants' function. Additional tools to assess respiratory, cardiac and pain are located in Appendix 2.

An essential part of the assessment process is to establish meaningful goals for improvement or maintenance with the person, their family and carers. Setting goals at the beginning of the rehabilitation process will assist in framing the type of interventions delivered, the intensity of the program designed and the length of time over which it is conducted.

#### LINK TO REHABILITATION PLAN

After completion of the assessment, and discussion of results, the sections of the rehabilitation plan that can be completed include:

- current functional level
- assessment tools and results
- key issues
- goals (note that goal-setting is also a core component of self-management).

## Intervention options

Following the assessment and discussion with the person, their family and carers about their goals, potential intervention options can be discussed and chosen to reflect the person's needs and interests.

The main approaches to intervention include:

- self-management support and disease management, which may include:
  - health education regarding disease process and symptom management
  - smoking cessation
  - nutrition
- psychological support
- supervised progressive exercise
- advance care planning.

### LINK TO REHABILITATION PLAN

The sections of the rehabilitation plan that should be completed following discussions about intervention options include:

- action plan
- review date.

## 4.

### Self-management support and disease management

#### Self-management support

Strengthening and supporting self-management for people with chronic conditions is well recognised as a critical aspect of improving health outcomes and quality of life.

Self-management involves the person, with their family and carers, engaging in activities which protect and promote their health, manage their signs and symptoms, monitor behaviours and manage the impact of their condition.<sup>13</sup> The adoption of healthy behaviours and extent of self-management is dependent upon the person's capacity, motivation and

life context. It has been found that self-management education is associated with positive outcomes such as a reduction in hospital admissions, with no apparent detrimental effects.<sup>14</sup>

Supporting people to self-manage is recognised as a critical part of an overall treatment program for managing chronic conditions. Self-management support involves providing support for the person (either directly or through carers) to self-manage identified goals and to improve their physical, psychological health and quality of life, which with the elements of health education, supports positive behaviour change.<sup>15</sup> Self-management recognises that individuals live with their condition/s 24 hours a day and manage their health problems within the bounds of their circumstances with varying degrees of impact on their quality of life; and that they vary in their capacity, motivation and circumstances to be able to self-manage effectively.

Clinicians commonly use either the Flinders or Stanford models of chronic condition self-management. The Flinders model of self-management is a person-focused model of care with a clinician and the person (and their carer if required/needed) working up a care plan that will support implementation of the person identified goals. This model is ideal for rehabilitation for chronic conditions.

The Stanford model of self-management is a primarily peer-led group program (though clinical team members are sometimes involved) that generally is provided over a set period of time. This model of care is ideal for ongoing self-management support following rehabilitation for chronic conditions. Both models include tools for assessment of self-management capability.

Many LHDs have implemented the HealthChange Australia methodology which aims to increase adherence to evidence-based treatment and lifestyle recommendations leading to better outcomes. It can be applied in clinical consultations, care planning, care coordination and patient education and rehabilitation programs.

Links to further information on these self-management approaches are provided in Table 2.

**Table 2: Self-management approaches**

Self-management approach	Type	Website link
Flinders Model	Individual	<a href="http://flindersprogram.com/about/information-paper-effective-management-of-chronic-conditions/">http://flindersprogram.com/about/information-paper effective-management-of-chronic-conditions/</a>
Stanford Model	Peer group	<a href="http://patienteducation.stanford.edu/programs/cdsmp.html">http://patienteducation.stanford.edu/programs/cdsmp.html</a>
HealthChange Australia	Individual	<a href="http://www.healthchange.com/">http://www.healthchange.com/</a>

### Components of self-management

Self-management support involves a range of components, service providers, tools and resources, which need to be tailored to the needs of each individual. Common elements of self-management support include:

- the person being an active participant in the management of the chronic condition
- collaboratively defining the person's key problems and assessing and reviewing their health status and risks
- collaboratively determining the person's goals and priorities in relation to their problems or risks
- assessing and identifying a person's stage of change to provide interventions, using behaviour theory, to support the required behaviour
- regular monitoring and review, providing feedback on goals and actions
- empowering people with tools for monitoring
- forming partnerships between health professionals, individuals and their carers/families, incorporating shared decision-making.

### Barriers to achieving self-management

There are many factors which may impact on a person's capacity to self-manage. They may be intrinsic to the individual or beyond the person's control. A critical aspect of providing self-management support is helping the person to identify specific barriers and assisting in problem solving.

Barriers to self-management may include:

- poverty, lack of finance
- low literacy
- low health literacy
- readiness to change (see 'Stages of behaviour change')
- cognitive impairment
- limited access to healthcare
- low confidence or self-efficacy
- lack of motivation – personal health may not be a priority, depending on the individual's wellbeing at a point in time or other competing priorities or demands
- cultural beliefs and attitudes
- myths about self-management
- other competing personal/family/community demands
- isolation and lack of access to community resources.

## TRANSTHEORETICAL MODEL: STAGES OF BEHAVIOUR CHANGE

### Stages of behaviour change

Stage-based interventions propose that by identifying a person's position in the change process (readiness to change), staff can more appropriately match and tailor interventions.

The conceptual framework, known as the transtheoretical model,<sup>16</sup> recognises that people are in different stages of readiness for change. Models that use the stages of change approach propose that tailored interventions, which take into account the current stage an individual has reached in the change process, will be more effective in bringing about positive changes in health-related behaviour.<sup>17</sup>

The five stages of change include the following.

1. **Pre-contemplation:** people in this stage are not thinking seriously about change.
2. **Contemplation:** people in this stage are able to consider change and may be starting to experience consequences of not changing.
3. **Preparation:** people in this stage have usually made a recent attempt to change behaviour (for example, in the last year), and believe that change is necessary.
4. **Action:** people in this stage are actively involved in taking steps to change behaviour and making steps toward significant change.
5. **Maintenance:** people in this stage are able to maintain change, and successfully avoid temptations to return to previous behaviours. Temporary slips are not seen as failure.<sup>18</sup>

A systematic review of stage-based interventions for smoking cessation showed that staged-based interventions were neither more nor less effective than un-staged interventions, although both interventions were more effective than any control.<sup>19</sup>

## Types of self-management interventions

### Patient education

The adoption of adult learning principles and multi-modal delivery is required to gain the greatest benefit from health education. Wherever possible, health literacy should be assessed, however if not available, assume that health literacy may be limited and provide relevant health information. Health information should be understandable, accurate, accessible and actionable.

People may respond well to different modes of delivery (for example, group interactions, individual discussions, visual mediums).<sup>20</sup> Ideally, health education should provide each person with a variety of modes. Graphic forms of education (for example, videos and pictures) should be used to educate people with low levels of health literacy. Information will need to be repeated in a range of mediums over time to help facilitate uptake of the learning. This may be particularly relevant for Aboriginal people or people from a CALD background where pictures and storytelling may be the most appropriate medium to deliver information.

Opportunities for health education include:

- the point of initial assessment, where an understanding of current health status, disease progressions and methods of management can be conveyed; there are many online and culturally appropriate resources that can be used to assist in this early stage
- clinician-led and peer-led group work and facilitated discussions
- pamphlets, posters, fact sheets, video/DVDs and audiotapes (which are effective for stress management) and support groups
- smart phone and tablet apps
- telehealth, which may provide an opportunity for more face-to-face interventions.



## I. SMOKING CESSATION

Rehabilitation clinicians have an important role to play in identifying current or recent smokers and providing ongoing encouragement and support for cessation throughout the rehabilitation program. All people referred for rehabilitation should be asked about their smoking status in a non-judgemental way and brief interventions provided for all current or recent smokers. Brief interventions include assessing their level of nicotine dependence, offering brief advice tailored to their health conditions, facilitating access to pharmacotherapy, educating on the correct use of pharmacotherapy and referral to specialist cessation support.

Smoking cessation resources available for health professionals include:

- [Managing Nicotine Dependence: A guide for NSW Health Staff](#)
- [NSW Quit referral form](#)
- [Smoking Cessation: A Guide for Staff](#) (HETI Online).

Smoking cessation resources available for consumers include:

- Quitline (13 78 48 or 13 QUIT), which includes information in Arabic, Cantonese and Mandarin and Vietnamese languages, and Aboriginal Quitline (13 78 48)
- [iCanQuit](#) website
- [My QuitBuddy](#) application
- fact sheets on smoking and tobacco related information accessible from:
  - [the Cancer Institute NSW](#)
  - [NSW Health – smoking, your health and quitting.](#)

## II. NUTRITION

Nutritional advice and education is a vital component of care for people with a chronic condition.<sup>21, 22</sup>

Adequate nutrition and appropriate nutrition intervention can support the management of chronic conditions and help improve the quality of life of a person living with one or more chronic conditions.

Some people will require individually tailored information and strategies to achieve a healthy weight and a healthy diet. Other individuals may be malnourished and may require nutrition support. Referral to a dietitian for nutrition assessment and ongoing support may be required. The dietitian will assess the individual and provide advice on appropriate management.

To refer an individual to an accredited practising dietitian (APD), go to the [Dietitians Association of Australia](#) website to find an APD.

### GET HEALTHY INFORMATION AND COACHING SERVICE

#### Get Healthy Information and Coaching Service

The Get Healthy Information and Coaching Service is a free telephone-based service supporting NSW adults to make sustained improvements in healthy eating, physical activity and achieving or maintaining a healthy weight. The service can be used in isolation of other programs or as a supplement to the services of a dietitian or coaching provided through chronic conditions rehabilitation.

The Get Healthy Service includes an information-only service or information plus six months of free health coaching by a university-qualified health professional. Coaching participants receive 10 individually tailored coaching calls based on behaviour change to assist with goal setting, maintaining motivation and overcoming barriers. Printed support materials are also provided. There are also specific modules for Aboriginal people and those at risk of type 2 diabetes. In addition, an alcohol reduction module will be available soon.

People who complete the coaching program lose on average 3.8 kg and 5 cm off their waist circumference, as well as making significant improvements to body mass index, physical activity and healthy eating behaviours. The Get Healthy Service is available Monday to Friday from 8am to 8pm and coaching calls are made by the service provider to participants. For more information visit the website [www.gethealthynsw.com.au](http://www.gethealthynsw.com.au) or call 1300 806 258.

Some individuals may find it difficult to prepare their own meals. There are meal service companies (for example Meals on Wheels), however any specific dietary advice should be discussed with an APD.

For further nutrition information, visit the websites:

- [Eat for Health](#) – Tips for eating well
- [Diabetes Australia](#) – Eating well
- [Heart Foundation](#) – Healthy eating
- [Dietitians Association of Australia](#).

### III. SYMPTOM MANAGEMENT

Self-management approaches can assist the individual to identify and manage symptoms of their conditions, such as fatigue and shortness of breath. Strategies to identify and self-manage symptoms can increase the individual's knowledge of the condition, their confidence and coping ability, and can assist in avoiding further exacerbation.

#### SYMPTOM MANAGEMENT CASE STUDY: MR DAVIS

Since attending chronic condition rehabilitation, Mr Davis has been measuring his blood oxygen levels and pulse rate at home using an oximeter. When his oxygen levels drop below 90, he knows to practise his breathing technique that his respiratory physiotherapist taught him. This has helped Mr Davis feel more confident completing day-to-day activities, even gardening, which he had stopped doing because he felt so short of breath.

## 5.

### Psychological and social support

Psychological and social factors that may impact on the ability to self-manage or benefit from interventions may be identified following an assessment. In these situations, the inclusion of the psychological management approaches is critical and often poorly implemented in people with chronic conditions, despite the enormous clinical and public health impact.<sup>23,28</sup>

For example, a range of psychosocial factors has been found to have a relationship in the development of, and progression of, atherosclerosis and heart disease. These include the depressive and anxiety disorders, temperament factors such as anger and distress, and chronic life stressors including low socio-economic status, poor social support, work stress, marital stress and caregiver strain.<sup>27,28</sup>

Research demonstrates that depression, social isolation and lack of quality social support are independent risk factors in both the development of coronary heart disease and in worsening prognosis once heart disease is established.<sup>29</sup> The risk is estimated to be of similar magnitude to that associated with other modifiable risk factors including hypertension, high cholesterol and smoking.

Individuals who present with psychological distress should be referred for psychological support and counselling as appropriate. Rehabilitation for chronic conditions services should have processes in place to ensure participants have access to, and appropriate referrals for, psychological services. These may be provided internally or externally to the LHD. Local service directories may be a useful resource.

Staff can assist individuals having difficulty with adjusting to their chronic condition and the change to their lives by:<sup>30</sup>

- encouraging people to engage in pleasant activities<sup>30</sup>
- acknowledging the emotions they have about the disease<sup>30</sup>
- challenging the barriers to engaging in self-management<sup>30</sup>
- supporting people to find meaning in small things.<sup>30</sup>

## 6.

### Supervised exercise planning

Exercise is an essential component of rehabilitation for chronic conditions with strong evidence showing that exercise alone improves exercise capacity and quality of life. It aims to reverse de-conditioning and restore and maintain physical function. It is critical in the clinical management of chronic conditions, and can improve mood and reduce depressive symptoms.<sup>31</sup> All people with chronic conditions can benefit from an individually designed exercise program. The program should be prescribed by a specialist physiotherapist or exercise physiologist. Medical clearance and screening to participate in an exercise training program is an important safety feature and may include specific instructions or limitations regarding intensity and type of exercise.

The essential components of an exercise program are:

- assessment (see Appendix 1 for tools to assess functional exercise capacity)
- prescription (including intensity, duration, frequency and mode)
- education regarding the importance of incidental physical activity and reducing sedentary time
- goal-setting
- exercise progression
- home program
- maintenance and inactivity relapse prevention program
- self-monitoring
- reassessment
- data collection
- documentation of outcomes.

### Exercise prescription

Correct prescription of exercise is based on a thorough individual assessment which will allow participants to exercise safely, restore physical function and improve endurance capacity, strength and confidence.

Experienced physiotherapists or exercise physiologists are the preferred people to assess, prescribe and supervise exercise in rehabilitation for chronic conditions programs. In some situations, exercise can also be provided by:

- a suitable health professional trained and mentored in exercise prescription for people with a chronic condition
- other centres (for example in regional hubs) with physiotherapists or exercise physiologists via email, phone or telehealth
- other professional groups and private providers who are supported to link with health professionals and training programs accredited to provide the service (for example [Lungs in Action](#) training).

When prescribing exercise for people with chronic conditions, consideration should be given to:

- the degree or severity of the chronic condition/s
- the individual problems and goals
- time since last formal exercise program
- comorbidities such as obesity, peripheral vascular disease, peripheral neuropathy, hypertension, osteoporosis, joint pain and stiffness, back pain and muscle weakness
- discussion of topics to enhance exercise training and behaviour change (for example sleeping well, nutritious diet, being well hydrated, wearing appropriate clothing and footwear, and gradually increasing intensity as able).

**Table 3: Additional resources to assist with the prescription of exercise**

Resources	Website link
American College of Sports Medicine (ACSM) Guidelines for Exercise Testing and Prescription, 9th Edition (2014)	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4139760/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4139760/</a>
Canadian Medical Association Journal: Prescribing exercise interventions for patients with chronic conditions (2016)	<a href="http://www.cmaj.ca/content/early/2016/03/14/cmaj.150684">http://www.cmaj.ca/content/early/2016/03/14/cmaj.150684</a>

For clinicians in NSW Health, discipline specific allied health assessment forms may be available for use in the electronic medical record (eMR).

## 7.

### Advance care planning

Advance care planning is an important process that helps a person to plan for future care for a time when they may lose decision-making capacity. Advance care planning can reduce the distress for the person and their families as they approach and reach the end of life.

Ideally, advance care planning should begin when a person is still well, such as during the assessment phase, and when there is a change in prognosis.

Service providers, including GPs, should include advance care planning as early as possible in the rehabilitation for chronic conditions process for all diagnostic groups and acuities.

Advance care planning can include the following.

- It may include conversations between a person and their family, carer and/or the health professionals who care for the person about the person's wishes for future care. Involving these people in discussions helps ensure that they are aware of the person's wishes and that the person's wishes are integrated into and throughout the management of chronic life-limiting conditions. These conversations can be documented in an advance care plan.
- It might involve appointing an enduring guardian who can legally make decisions on a person's behalf about medical and dental care, if the person loses the capacity to make the decision.

- Making an advance care directive involves documenting a person's specific wishes and preferences for future care including treatments they would accept or refuse if they were reaching the end of life. It is to be used where the person does not have capacity to make or communicate the decision.

It is recommended that an advance care directive is a written document that is signed and witnessed. A doctor should consider an advance care directive valid and legally binding if:

- the person had decision-making capacity when they made it
- the person was not influenced or pressured by anyone else to make it
- it has clear and specific details about treatment that the person would accept or refuse
- it is current (the person has not since changed their mind since they made it)
- it extends to the situation at hand.

In NSW, an advance care directive can be verbal or written. It does not need to be signed or witnessed.

**Table 4: Resources to assist with advance care planning and end-of-life issues**

Resources	Website link
ACI Palliative and end of life care – A blueprint for improvement	<a href="http://www.aci.health.nsw.gov.au/palliative-care-blueprint">http://www.aci.health.nsw.gov.au/palliative-care-blueprint</a>
NSW Guidelines for deactivation of implantable cardioverter defibrillators at the end of life	<a href="http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0008/179990/ACI-Deactivate-ICDs.pdf">http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0008/179990/ACI-Deactivate-ICDs.pdf</a>
Advance Care Planning Australia website (including information booklets and forms)	<a href="http://advancecareplanning.org.au/resources/advance-care-planning-in-my-state">http://advancecareplanning.org.au/resources/advance-care-planning-in-my-state</a>
NSW Health Advance care planning website	<a href="http://www.health.nsw.gov.au/patients/acp/pages/default.aspx">http://www.health.nsw.gov.au/patients/acp/pages/default.aspx</a>
NSW Government, NSW Trustee & Guardian website – What is a power of attorney?	<a href="http://www.tag.nsw.gov.au/what-is-a-power-of-attorney.html">http://www.tag.nsw.gov.au/what-is-a-power-of-attorney.html</a>

## Completion assessment and transition from rehabilitation for chronic conditions

The duration of rehabilitation for chronic conditions depends on an individual's needs and goals. It is intended that people will complete rehabilitation for chronic conditions at a point in time when their goals are met and they can join a community-based exercise or maintenance programs or continue a home exercise program. However, there may be instances where a person is carrying out their rehabilitation plan within a maintenance group if this is their preference.

Discharge is determined by the completion assessment and is achieved when there is evidence that an individual has achieved their goals, for example, understands their disease, how it is managed, demonstrates self-management capabilities and improvement in functional exercise capacity and quality of life. Contact information for re-accessing services or re-entry should be provided in case of deterioration.

Discharge to community-led services such as [Heart Support Australia](#), [Lungs in Action](#), and other exercise programs that are held in local gymnasiums and service clubs are recommended and should be investigated.

Rehabilitation for chronic conditions staff should be involved collaboratively in the set-up, but not leadership of community-based opportunities for ongoing self-management support.

### LINK TO REHABILITATION PLAN

Following discharge from chronic condition rehabilitation, the sections of the rehabilitation plan that should be completed are:

- completion assessment results
- goals achieved
- referrals to community-based exercise or maintenance programs.

## 8.

### Maintenance of self-management skills and follow-up

People and carers should be encouraged and supported to continue practising their newly acquired self-management skills as lifelong habits.

Following discharge, people will need to be reviewed to determine if self-management skills and functional outcomes developed during rehabilitation for chronic conditions have been maintained over time.

Follow-up may occur through 3 or 6-monthly assessments (for 1-2 years), through surveys, or by other means such as focus and support groups.

Other strategies may include invitations to people to phone into the program if a problem arises that requires counselling or a return to rehabilitation for chronic conditions.

Rehabilitation for chronic conditions staff will be involved in referring to community-led exercise programs to maintain the benefits gained from rehabilitation, and to support groups to provide ongoing support. These may include but are not limited to:

- peer-led support groups such as [Lung Foundation Australia](#)
- cultural community groups such as Aboriginal community groups and people from CALD backgrounds, led by health workers from particular cultural groups
- services in local gymnasiums
- services provided in local service clubs or by non-government organisations
- other health service supported initiatives, such as community fitness leaders trained to provide falls prevention programs, and [Active Over 50 program](#).

The benefits of rehabilitation for chronic conditions are maintained most effectively when services connect individuals with maintenance exercise programs in the community that suit their needs. Prior to completing rehabilitation for chronic conditions, participants should be provided with home maintenance exercises, details of suitable community-based exercise programs and referred back to their usual primary care provider.



After completion of rehabilitation for chronic conditions, individuals should be followed up to ensure they are accessing health services when needed. This is particularly important for people in rural and remote areas who may be referred out of their local area in order to receive diagnostic care and treatment.

To ensure appropriate levels of follow-up, services should:

- liaise and collaborate with other service providers (for example, aged care services) to identify the most appropriate service for individuals and share knowledge about existing services
- establish clear and appropriate referral pathways to support those transitioning to other community-based exercise or maintenance programs
- assess an individual's readiness to progress to self-management based on their health literacy, skill, functional ability and readiness to move to a maintenance program (rather than the duration of attendance in the rehabilitation for chronic conditions service)
- ensure communication channels and recall systems are in place which allow follow-up and support relapse prevention for individuals following completion of their rehabilitation program.

# Section 4

## Enablers of chronic condition rehabilitation

### ENABLERS OF CHRONIC CONDITION REHABILITATION

- A. Provision of individualised, person-centred services
- B. Flexible service delivery models
- C. Innovative staffing models
- D. Information and communications technology
- E. Effective communication, knowledge sharing and partnerships
- F. Settings of care
- G. Open access and referral pathways

### A.

#### Provision of individualised, person-centred services

Person-centred care is based on a collaborative and respectful partnership between the service provider and the participant, which includes involving the individual in goal setting and decision-making.<sup>32</sup>

Services have a responsibility to provide person-centred care that respects the wishes and needs of the individual, their family and carer. Person-centred individualised care has been recognised for many years as beneficial in increasing the outcomes of chronic condition management.<sup>33</sup> Services should focus on the needs and preferences of individuals, including preferences based on religious beliefs, language and cultural background. Development of rehabilitation for chronic conditions services tailored to individual needs includes offering:

- a variety of education options and counselling services
- services of varying lengths depending on the goals of the participant and individual need
- timely commencement date relative to referral
- individual and group sessions

- information provided in a variety of modes to suit learning preferences and needs, as an example, paper-based, internet-based, DVDs
- alternative methods of service delivery to meet individual needs (for example, peer-led, community-based programs for Aboriginal people, such as Auntie Jean's program; and telehealth and tele-monitoring technology).

### B.

#### Flexible service delivery models

Rehabilitation for chronic conditions services have traditionally been disease specific, often targeting people with either cardiac or pulmonary disease. In order to increase access to rehabilitation, and to support the needs of individuals with comorbidities, services may need to strengthen linkages with specialist rehabilitation services (for example, specialist medical rehabilitation services offering stroke, orthopaedic and reconditioning programs) which have the flexibility to accommodate individuals with comorbidities.

Options for disease-specific rehabilitation services to address the diversity of diseases and comorbidities include:

- combining some of the required group education sessions for people with different conditions, rather than provide individual diagnostic education modules
- combining community-based exercise classes for low risk participants across diagnostic groups
- considering options for private provider exercise groups for maintenance across diagnostic groups (such as Aboriginal-specific lifestyle programs) and, where possible, co-locating chronic conditions rehabilitation services to increase access to different expertise
- providing participants with the option to select modules that are only relevant to the individual (for example, only selected education modules require completion)

- collaborating with other specialist services and providing referrals for people who are assessed as requiring either specialist rehabilitation or maintenance services, for example a person may attend pulmonary rehabilitation and see a heart failure nurse separately.

People with complex needs (for example high acuity/ frailty mental health, drug and alcohol use or a history of non-completion) may require more active and dedicated case management in addition to tailored rehabilitation for chronic conditions programs. This requirement increases the need for healthcare services and providers to work closely together.

## C.

### Innovative staffing models

Delivery of rehabilitation for chronic conditions is most effective when delivered by multidisciplinary teams. It requires strong communication channels both between health professionals within the multidisciplinary team, and between participants and health professionals.

In regional and remote locations, it may be difficult to access the allied health professionals required for delivery of disease-specific rehabilitation components. Services should consider the use of alternative staffing models or tools to increase access to required expertise, including:

- the use of technology such as telehealth to create virtual teams
- inter-professional mentoring to deliver some interventions not usually provided by particular professional groups (for example, a physiotherapist initially prescribes for a patient then mentors a local community nurse to supervise the exercise to ensure safety with re-assessment by the physiotherapist as required)
- where feasible, the use of fly-in fly-out models for staff with required expertise practising in metropolitan locations
- establishing processes for staff to facilitate referrals to other services where appropriate
- establishing new positions in collaboration with local community-based providers to attract professionals to the area when each organisation may not have a full-time role to offer.

## D.

### Information and communications technology

The increased use of new and innovative technology and web-based devices is transforming health management and service delivery.<sup>34</sup> Adoption of new technology has the ability to broaden service access, particularly in rural and remote areas. In the delivery of rehabilitation for chronic conditions, service providers should consider telehealth and applications technology.

- Telehealth is influencing delivery of care in remote locations by facilitating appropriate communication between individuals and care providers that are not available at their home locality.<sup>34</sup> For rehabilitation for chronic conditions, telehealth can be particularly successful for delivery of group exercise classes where a person's level of functional exercise capacity has already been assessed in a face-to-face healthcare encounter.
- Rehabilitation services are increasingly using applications (apps) to provide information to people (for example, [My heart, my life](#)). These can be accessed via smart phone and tablet devices.

#### TELEHEALTH IN REHABILITATION: THE TELER STUDY

##### The TeleR study

Research being conducted by the Charles Perkins Centre at the University of Sydney is aiming to determine the effect of an 8-week tele-rehabilitation program on exercise capacity versus no rehabilitation in people with COPD. In addition, the study aims to determine compliance with rehabilitation and participant satisfaction with the technology used.

#### EXAMPLE OF SMARTPHONE APP: MY HEART, MY LIFE

'My heart, my life' is a smart phone app that has been developed by the Heart Foundation to assist individuals to manage their medications, manage health status (including blood pressure and cholesterol), and learn about heart attack warning signs and what to do.

For more information visit the website:

<https://myheartmylife.org.au/>

## E.

### Effective communication, knowledge sharing and partnerships

Effective care transition plays an important role in the attainment of optimal outcomes for the person. Care transitions can be improved through comprehensive care assessments and planning, post-discharge follow-up, interactions between providers, coordination of community resources and the uptake of new technology.<sup>34</sup>

There is growing recognition of the importance of linking health services with community organisations and providers.<sup>35</sup> Achievement of optimal outcomes through rehabilitation for chronic conditions requires integration and effective communication between service providers and community organisations, maintenance programs and other health professionals (particularly GPs and inpatient services).

The patient-centred medical home (PCMH) is one model described in the literature for effective delivery of primary care for patients with chronic and complex needs. See 'Settings of care' for more information on the PCMH model and delivery of rehabilitation for chronic conditions in a primary care setting.

Service providers should ensure they develop strong partnerships with specialist rehabilitation services, mental health providers, GPs, ACCHS and Aboriginal community providers, NGOs and local service providers from CALD communities. Connections should also be made with local chronic condition and integrated care services and initiatives and the relevant clinical networks.

Effective communication and integration between these different providers will ensure:

- people receive continuity of care extending from inpatient services through to rehabilitation and maintenance care
- people who relapse or are readmitted to inpatient settings receive effective in-reach support from people they know, so care can be delivered more efficiently and effectively
- rehabilitation for chronic conditions services can effectively collaborate and integrate with other health providers to deliver individualised services which achieve optimal person and health system outcomes.

## F.

### Settings of care

Equitable access requires flexible service delivery arrangements. This will enable services to better suit the needs and requirements of individuals, and the context for delivery. Flexible service delivery arrangements include the following.

- Rehabilitation for chronic conditions services should not only be restricted to usual business hours but also consider how after-hours access is likely to be required in both the evenings and weekends, especially for younger people and Aboriginal people.
- Services can be delivered in a variety of settings, including primary care, outpatient, community and in-home venues. Some aspects of rehabilitation for chronic conditions can be provided via the phone (for example, telephonic health coaching and care coordination) and online.
- Combining service delivery settings can add flexibility, cater for personal preferences and alleviate difficulties in accessing usual care for people who have difficulty accepting or accessing usual care.<sup>36</sup> Examples include people living in rural and remote locations, those returning to work and people with no access to transport.

#### Primary care

The PCMH is one model that supports the delivery of rehabilitation for chronic conditions in primary care that can also improve efficiency and effectiveness of the healthcare system.

The PCMH seeks to provide 'whole person' healthcare by ensuring that people, particularly those with ongoing and complex needs, have a continuing relationship with a chosen GP and a care team that is supported by an integrated primary healthcare team and system enablers. The PCMH is valued and integrated into the broader healthcare system, and is especially useful when considering integrated care initiatives, such as rehabilitation for chronic conditions.

PCMHs are a strong basis for care teams to partner with the person, their carer and family (where appropriate) and to establish, coordinate and oversee a healthcare neighbourhood in which clinicians and service providers work together to wrap services around the person so their needs are met as close to home as possible.

The PCMH is responsible for ensuring that the patient receives comprehensive, continuous and coordinated whole person care as they journey through the healthcare system. This approach involves shared care, where care is not handed over, but is shared with the person and among members of the multidisciplinary team.

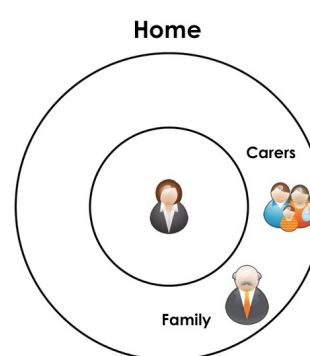
Features of this model that are aligned with the rehabilitation for chronic conditions framework, include:

- accessibility
- patient participation
- comprehensive, whole-person care

- continuity of care
- team-based care
- self-management
- connections to the medical neighbourhood
- system-based approach and participation in quality improvement
- excellent clinical information (which includes ensuring that there is appropriate information available to all providers of care)
- workforce education and training.

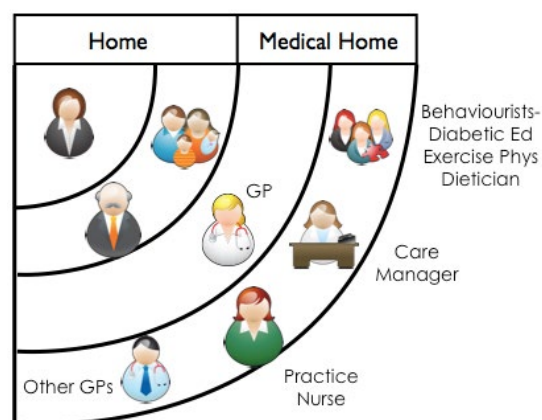
### 1. The home

Under this model, the health system will be designed to have the person and their needs at the centre.



### 2. The medical home

People benefit from having an ongoing relationship with a particular GP. This relationship is supported by a practice team, forming the medical home.



### 3. Community-based care

As a person's need for care increases, they benefit from extending their care team by adding new members. The expanded team may include medical specialists, physiotherapists, community pharmacists, optometrists, psychologists and other allied health providers. It may also include community nursing, home care and personal care providers. The medical home has a special role in coordinating care, and in maintaining a source of accurate, consistent and complete clinical information about each person.

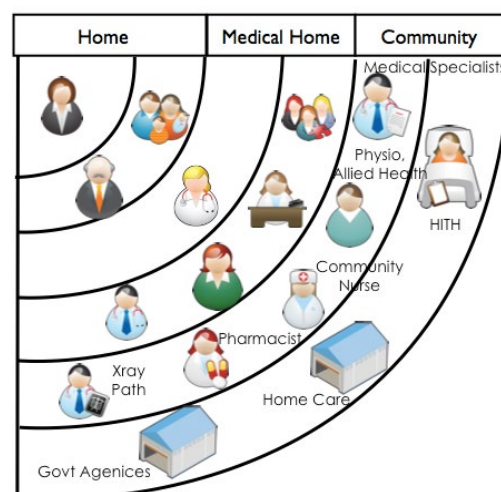


Figure 4: The patient-centred medical home (\*Images reproduced with permission from T Lembke (2016))



As care is delivered closer to the centre of the circle it is:<sup>37</sup>

- more generalist rather than specialist
- more whole person focused, rather than diagnostic or condition-specific
- delivered closer (physically) to the person's home
- based on long-term relationships, rather than episodic encounters
- more focused on person self-management – things done by the person rather than to the person
- more preventative and proactive, rather than reactive
- less costly to provide.

### **Medicare Benefits Schedule items as an enabler to rehabilitation for chronic conditions**

There are Chronic Disease Management Medicare items for GPs to manage the healthcare of people with chronic or terminal medical conditions, including those requiring multidisciplinary, team-based care from a GP and at least two other health or care providers. These Medicare Benefits Schedule (MBS) items can be enacted to provide elements of rehabilitation for chronic conditions outlined in this Framework, including the preparation, coordination, review and contribution to chronic disease management plans and case conferencing. They are an important enabler for GPs to plan and coordinate the care of patients with complex conditions requiring ongoing care from a multidisciplinary team.

An overview of the six items that provide rebates for GPs to manage chronic conditions, and eligibility criteria, is provided in the [Australian Government Department of Health fact sheet](#).

## **TEAM CARE ARRANGEMENT**

### **Case study**

Mrs Clark is a 67-year-old woman who lives alone. She has type 2 diabetes and is insulin-dependent. Mrs Clark's risk factors include smoking, alcohol use and limited physical activity. Recently she has been struggling to manage her medication and reports having a number of 'ups and downs' during the day, which are affecting the way that she feels physically and her mood.

Her GP suggests preparing a GP management plan to assist Mrs Clark in managing her condition. The doctor documents her medical history, medications, discusses her main problems and sets some achievable goals. To assist Mrs Clark to achieve these goals, the GP recommends a referral to a diabetes educator and podiatrist and links her with her local integrated care program delivered by the LHD. Because Mrs Clark requires more than two allied health professionals as part of her care team, the GP sets up a team care arrangement to coordinate her care.

The GP prints off a copy of the management plan and copies of referrals for Mrs Clark and suggests she take these to each of her appointments. The GP introduces her to the practice manager, who arranges a follow-up appointment with the practice team to see how she has gone with her appointments and review progress against goals. The practice manager books in the case conference for the GP to continue to coordinate care.

### **Inpatient setting**

The inpatient setting is where some participants may begin rehabilitation for chronic conditions. The aim is to provide basic information to enable the individual and their family or carer to begin the process of self-management, which will continue in the outpatient and community setting.

It is good practice to visit participants who may be eligible for rehabilitation for chronic conditions while they are still in hospital in order to develop rapport and trust early and encourage attendance post-discharge. It is vital for inpatient and rehabilitation for chronic conditions teams to work together at this point of care to support the person's referral and subsequent attendance.

## **Outpatient based rehabilitation for chronic conditions services**

Early referral and access to outpatient based rehabilitation programs is ideal to ensure seamless care and to impress the need for behaviour change before the 'moment' of need is lost by individuals.

All people should complete the rehabilitation program as agreed. Provision should also be made for a fast-track service (early and short period of time post-discharge) for:

- people returning to work early
- people with prior understanding who are progressing well functionally and psychologically
- people requiring an update/refresher/motivation service.

Provision should be made for longer rehabilitation for chronic conditions when:

- individuals are not progressing as well as expected (for example, people on long-term oxygen therapy)
- frailty, disease progression, exacerbations and readmissions prevent achievement of individual goals
- recovery is complicated by psychological disorders (for example, anxiety and depression)<sup>38</sup>
- there are frequent relapses.

Outpatient service providers should consider referral to rehabilitation services to allow consultation with a rehabilitation physician-led multidisciplinary team, if it is required. When these resources are not available, options for advice and mentorship from these teams should be explored.

## **Community-based services**

Community-based rehabilitation for chronic conditions allows the service to be taken to the person and is especially useful when people live far from a large centre. Community settings include community health centres, service clubs and day centres. The exercise component of the rehabilitation for chronic conditions cannot be successfully delivered for people:

- at high risk of further cardiac events
- waiting for further diagnostic testing (such as angiography)
- who have recently survived an event that involved cardiogenic shock – in this instance, the venue must be a health service where support is available to manage an acute cardiac event<sup>39,40</sup>

- who require access to oxygen support if oxygen is not available in community-based settings.

Ongoing consultation with the community is required to make sure that services are located to meet the needs of the population with easy access and good transport options. Programs should include flexibility for people to support completion based on the needs of the individual.

To improve access and participation of Aboriginal and/or CALD populations, services may need to engage the wider community, such as Aboriginal medical services (AMS) and non-government organisations to provide culturally appropriate services (for example, partnership arrangements including sharing of resources, staff and access to referral pathways).

## **Home-based services**

Home-based rehabilitation for chronic conditions is useful for frail, unwell people or those who exhibit signs of concern at leaving their homes.<sup>41</sup> It is also useful when carers are confined to home due to their own illness or caring duties for other dependants, or when facility-based services cannot be accessed. It can also be useful for people who are still able to work or who have other commitments and for those who wish to carry out their treatment while working at home.

Linkages can also be made with other community-based home services such as home care packages and hospital in the home. These service providers can work with the rehabilitation team to support the participant to achieve rehabilitation for chronic conditions goals.

## HUB AND SPOKE MODEL

In rural locations, the hub and spoke model of care can be used to deliver chronic condition rehabilitation to participants. This model creates linkages between small rural services and larger regional and metropolitan services.

A hub and spoke model of service delivery can expand the reach of services across geographical areas.

The hub, a central local or facility, may provide the knowledge and expertise to a number of smaller facilities (the spokes) that may otherwise not have the internal capability or resources.

Spokes may be linked to the hub via telehealth solutions or outreach programs, where staff visit spoke locations on occasions. Service delivery models should define the relationship between the hub and spoke to ensure resources are allocated and called upon appropriately to maximise efficiency and effectiveness.

## G.

### Open access and referral pathways

All individuals with the potential to benefit from rehabilitation have the right to access services.<sup>43</sup> To enhance participation, service providers should ensure these are delivered in a variety of settings using a range of methods and should implement or develop effective referral pathways especially from the acute setting to the community and primary care providers including the ACCHS and AMS.

People requiring rehabilitation for chronic conditions should be appropriately assessed to determine the most suitable setting in which to receive rehabilitation considering their clinical needs, and importantly, their own preferences.

Processes for increasing access and receiving referrals are outlined below.

### Processes to support flexible approaches

To increase access to rehabilitation for chronic conditions, service providers and clinicians require processes which:

- enhance referral processes (for example, include rehabilitation for chronic conditions on clinical pathways and transfer of care as part of usual care across medical and surgical services) and promotion of services
- engage with potential participants during their inpatient stay to provide them with an understanding of the potential benefits gained through rehabilitation for chronic conditions and increase participation upon exit from acute services – options include:
  - use of mobile rehabilitation for chronic conditions teams who can reach inpatients
  - navigation processes (either staff members or systems) to direct people in inpatient settings to rehabilitation for chronic conditions services
- provide opportunities for all people with chronic conditions to attend a rehabilitation service – irrespective of their diagnosis all participants can benefit in some way no matter how severe their disease, comorbidities, gender or age<sup>43,44</sup>
- include older or frail people in rehabilitation for chronic conditions as evidence indicates that the more debilitated and/or elderly participants are, the greater their gains from participating in rehabilitation for chronic conditions services<sup>42</sup>
- enable communication with primary healthcare providers.

Service providers need to actively educate and promote their services to GPs and other health professionals to:

- increase awareness about the benefits of rehabilitation for chronic conditions
- ensure health professionals are aware of the eligibility criteria for people to access rehabilitation for chronic conditions
- support health professionals to effectively and positively communicate and inform individuals about what is involved in rehabilitation for chronic conditions.

## Referral sources

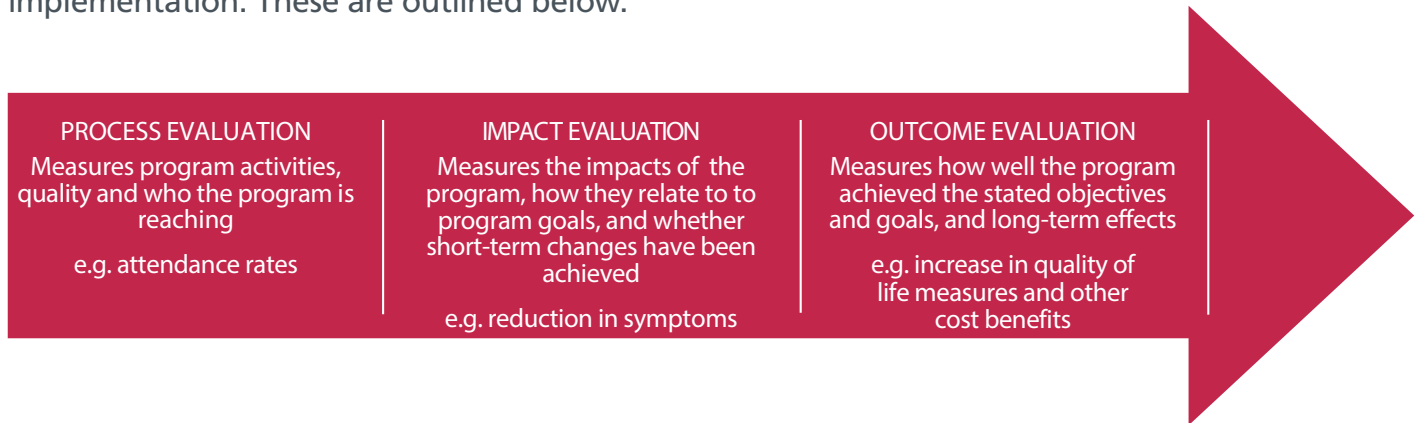
Rehabilitation for chronic conditions services should accept referrals from a range of sources. Equitable access to rehabilitation for chronic conditions requires expansion of the current referral process. Service providers should:

- accept referrals from a wide range of sources, including GPs, specialist medical practitioners, hospitals, allied health, AMS, Aboriginal health workers, Aboriginal chronic care workers and self-referrals
- ensure there is a clear process for GPs and other health and care providers to refer to rehabilitation for chronic conditions services
- consider referral to rehabilitation for chronic conditions for any person being cared for by a chronic conditions worker, that is, case manager and care coordinator
- create linkages with community care nurses and accept their referrals into rehabilitation for chronic conditions services
- ensure referrals are not rejected unless an alternative service is identified for the individual.

# Section 5

## Holistic service evaluation

There are three types of evaluation that should be conducted at various intervals of program implementation. These are outlined below.



Ongoing service improvement requires consistent data collection that provides information on service improvement needs and clinical outcomes and facilitates effective knowledge sharing between service providers.

Collection of data:

- enables service monitoring
- facilitates the review of person-related outcomes
- drives ongoing quality improvement
- enables comparisons between different approaches, especially when coordinated and monitored through a central body.

It is critical that people accessing services are involved in the evaluation of services. This can be through the collection of information that captures participant's experience and patient-reported outcomes. This should be collected in a variety of ways at various stages of rehabilitation. Ways that information can be collected include the following.

- Patient reported measures can be captured (both experience and outcome measures) and the data used, in consultation with patients and for service improvement. ACI is currently supporting LHDs to design and implement patient reported measures as part of the NSW Integrated Care Strategy.
- Focus groups are a form of group interview that focus on experience and gaining information on what people think and feel. ACI has developed a guide to plan and deliver focus groups for LHDs – the [Participant experience focus groups: Facilitation guide](#).

It is also important to see staff and other stakeholder (for example, primary care) feedback and involvement in the evaluation. Surveys, focus groups and one-on-one interviews are useful ways of gathering information.

# Section 6

## Considerations for priority groups

Rehabilitation for chronic conditions programs should have considerations for the following priority groups.

- Aboriginal people
- People from CALD communities
- People with serious and persistent mental illness.

### Aboriginal people

Implementation of effective models of rehabilitation for chronic conditions for Aboriginal people is an important element in addressing the health disparities that exist in Australia. To be effective, programs need to be holistic, culturally safe and centred on respect and trust.

Principles to consider when designing and implementing rehabilitation for chronic conditions services that are accessible and inclusive for Aboriginal people include the following.

#### Person-related

Ensure services are flexible and person-centred.

- Person-centred services must be flexible and focus on the specific needs of individuals (for example, younger Aboriginal people may not require the full spectrum of chronic care services and may be better suited to a follow-up, secondary service). Many Aboriginal people first experience chronic conditions much earlier than the non-Aboriginal Australian population. Younger Aboriginal people are often reluctant to join existing programs which are predominately focused on the needs of older people.<sup>46</sup> Other person-centred approaches include:
  - providing services out of working hours<sup>46</sup>
  - drop-in sessions rather than allocated times
  - build trust and relationships with patients (importance of yarning)
  - develop programs for use at home by the whole family
  - tailor lifestyle and diet advice to modern Aboriginal family situations

- have both male and female Aboriginal health staff if possible
- encourage Aboriginal people to attend programs together (buddy system).
- Provide culturally appropriate information to participants about how to manage their chronic condition/s when discharged, including local content on who to access for post-discharge services.
- Consider access to transport required to attend ongoing rehabilitation services, especially for Aboriginal people located in regional or remote locations. The NSW Health [Isolated Patients Travel and Accommodation Assistance Scheme](#) is designed to help with the financial assistance towards travel and accommodation costs when a patient needs to travel lengthy distances for specialist medical treatment that is not available locally.

#### System-related

Ensure services are system-related.

- Consider community-based care and community education forums, rather than hospital-based services. Hospital-based services are less likely to be accessed by Aboriginal people and this will assist to overcome the barriers presented by limited access to transportation.<sup>46</sup>
- In some instances, services may combine components of rehabilitation for chronic conditions and maintenance. In Aboriginal communities, programs which have demonstrated success among the Aboriginal community have not differentiated between rehabilitation and maintenance services – rather they focus on delivering the specific support and services required by the individual. Within the Aboriginal population, chronic condition rehabilitation service providers have an opportunity to assist in the provision of preventative care and focus on potential risk factors, not just the disease. One example is the Aunty Jean's program, which is commonly recognised as a successful health promotion program model for delivery of rehabilitation



for chronic conditions and management among Aboriginal communities.

- Develop a LHD management plan to increase uptake of services by Aboriginal people. This might include pooling resources from various initiatives to ensure multidisciplinary teams are available and networked, with mechanisms to access chronic condition and specialist rehabilitation services if required (for example, using service level agreements between the LHD, ACCHS and the NSW Rural Doctors Network).
- Include the LHD Aboriginal health unit in decision-making to increase the uptake of services by Aboriginal people. Teams should gain executive/management sponsorship for decisions that focus on service access by Aboriginal populations to ensure support for the strategic direction. Each LHD has a person responsible for Aboriginal chronic care.
- Service providers need to be flexible in how they develop referral pathways and deliver services in partnerships across primary care and acute care settings. Aboriginal people and communities access a variety of health services at any point in time, including ACCHS and GPs.
- Services should develop cultural competencies among staff and build strong links with local health providers. This could include:
  - training and recruitment of Aboriginal staff in key positions
  - mandatory Respecting the Difference training for LHD staff throughout NSW Health
  - employment of Aboriginal health workers with strong community relationships, or facilitating time for LHD staff and Aboriginal health workers to develop relationships
  - pooling resources between local health organisations, including LHDs, PHNs, ACCHS, non-government organisations, to develop local rehabilitation services/centres
  - promoting the importance of Aboriginal health.
- Services should maximise the physical environment in a way that promotes cultural sensitivity.

## SUMMARY OF THE AUNTY JEAN'S PROGRAM

### The Aunty Jean's program

The Aunty Jean's program offers multi-disciplinary approaches to exercise, education and psychosocial support. The program is designed around the central concept of community capacity building and five basic principles of a population health approach.

1. Increase access.
2. Address identified health issues.
3. Improve social and emotional wellbeing.
4. Increase the effectiveness of health promotion.
5. Create an environment of supportive good health.

These principles provide the Framework that links all the levels of support for the Aunty Jean's program with the shared aim of providing culturally appropriate health promoting strategies and behaviours for the local community.

The Aunty Jean's program provides support and continues the development of good health behaviours and strategies for Aboriginal people with chronic and complex care needs. This program was developed around the community's capacity to work together for better health outcomes, with the Elders leading the way. The strong supportive relationship between local Elders and Aboriginal health workers has given the program its identity and direction.

## EXAMPLES OF ALTERNATE APPROACHES TO CHRONIC CONDITION MANAGEMENT

### The 48-hour follow-up program

The program aims to improve the health outcomes of Aboriginal people with chronic conditions by providing follow-up within 48 hours (or two working days) of discharge from an acute care facility. This is to ensure appropriate links are made back to GPs, AMS and other health specialists. The program also focuses on developing connections to ensure adherence with medication.

This program operates in all of the LHDs and is mainly delivered by Aboriginal health workers in conjunction with other chronic conditions programs. Success of the program is largely dependent on team continuity to ensure service delivery is not fragmented.

This initiative has the potential to refer clients into mainstream rehabilitation or Aboriginal targeted programs delivering health promotion, for example, the Aunty Jean's program.

## Partnerships

Partnerships should be promoted.

- Engage with ACCHS and local communities to understand initiatives being delivered and identify opportunities to develop partnerships. Ensure that communication protocols are in place to support shared care management. Aboriginal medical services are an ideal setting to address a range of chronic conditions in Aboriginal people.<sup>47</sup>
- Consider opportunities for program staff to partner with Aboriginal health workers, ACCHS and non-government organisations in the delivery of services. Working in partnership with the Aboriginal workforce can help support culturally appropriate service delivery and build stronger ties with individuals, families, communities and the Aboriginal community controlled sector.<sup>48</sup> Services should explore opportunities to provide skills development and consider joint service provision.
- The benefits of rehabilitation services should be promoted to communities through engagement of Aboriginal health workers and members of the local community. Cultural events such as National Reconciliation Week, National Aborigines and Islanders Day Observance Committee (NAIDOC) Week and other local events are additional opportunities to promote access, engagement and partnership with local communities.

## Additional resources

Additional resources include the following.

- [Communicating Positively](#) is a useful guide to support working with Aboriginal peoples.
- The ACI's [Aboriginal Chronic Conditions Network](#) (ACCN) which works to improve the experience and delivery of healthcare for Aboriginal people with chronic conditions in NSW.

## People from CALD communities

Although NSW has the largest and most diverse CALD population in Australia, there is limited evidence available that identifies the needs of CALD populations in relation to chronic conditions and service access.

The following section provides guidance to assist service providers in increasing service access by individuals from CALD communities.

### Person-related

Service providers should provide translated resources that are culturally appropriate.

Language is a primary barrier to participation in all healthcare services for individuals from CALD communities.<sup>49</sup> Healthcare interpreters need to be a partner in rehabilitation for chronic conditions so that at the outset of service development these services are engaged and understand the importance of their participation.

People who do not speak English should have a healthcare interpreter to assist with entry to rehabilitation for chronic conditions and circumstances where there is a need to further explain or discuss specific issues and formal assessment.

Service providers should explore options to increase development and access to language appropriate resources.

- This includes sourcing or developing translated resources that are culturally appropriate and provided in a range of formats, for example, online, brochures. The Heart Foundation, for example, has developed multilingual DVDs for managing heart failure and heart disease. The [Multicultural Health Communications Centre](#) also has a large range of translated resources available.
- It also involves the use of technology, for example social media and online community websites to disseminate translated, language appropriate information to CALD communities.

## System-related

Services should develop cultural competencies among staff and build strong links with local health providers. Providers of chronic conditions services to CALD populations should consider the following opportunities to improve staffing models.

- Build cultural competency among health professions through:
  - training and active development of trusted relationships with the community (for example, participation in local activities throughout the year)
  - recruitment of CALD staff in key positions.
- The importance of multicultural health should be promoted. Cultural events or local activities provide the opportunity for program staff to partner with local government, community organisations and non-government organisations in the delivery of services.
- Maximise the physical environment in a way that promotes cultural sensitivity.

## Partnerships

CALD communities require improved access to multicultural health workers and multidisciplinary teams. Evidence indicates that use of multicultural health workers is an effective way to increase access to health services by CALD communities. Multicultural health workers effectively bridge the gap between healthcare service providers and CALD communities. International evidence from Europe, China and India indicates that integration of multicultural health workers in the delivery of healthcare to CALD communities significantly improved chronic condition prevention and self-management outcomes.<sup>50</sup> An example of effective use of multicultural health workers follows.

### THE HEALTHY-LIFESTYLE EDUCATION PARTNERSHIP PILOT PROGRAM

In Queensland, the Healthy-lifestyle education partnership pilot program found that involvement of multicultural healthcare workers was effective due to their:

- understanding of the cultural context of health concepts and beliefs
- awareness of challenges faced by CALD communities when navigating the Australian health system
- ability to deliver culturally appropriate chronic condition prevention and self-management programs.<sup>51</sup>

Service providers noted a gap in access to psychosocial support by members of the CALD community. Psychosocial support includes culturally sensitive provision of psychological, social and spiritual care including:<sup>52</sup>

- information about illness, treatments and services
- support in coping with emotions
- help managing illness including assistance changing behaviours and managing disruptions in work, school and family life
- financial advice and/or assistance.

The cultural stigma which exists for chronic conditions among some CALD communities, particularly related to cancer, emphasises the importance of ensuring individuals from CALD communities have access to psychosocial support and are able to access rehabilitation programs that do not exclusively assist people with cancer.

## People with serious and persistent mental illness

The physical health of people with a mental illness is poor<sup>53,54</sup> and people with serious and persistent mental illness have high rates of mortality and reduced life expectancy. There are a variety of reasons for this, including higher prevalence of cardiovascular disease and infectious diseases. It is also due to the higher presence of modifiable risk factors (for example, smoking and obesity), an increased likelihood to be vulnerable from a socioeconomic standpoint, and polypharmacy.<sup>55,56</sup> In addition, evidence suggests that people with mental illness have reduced access to healthcare and may receive insufficient medical assessment and treatment.<sup>57</sup>

Smoking, alcohol consumption and other drug use, poor diet, lack of exercise, regular use of psychotropic medication and high-risk behaviours all contribute to a range of physical illnesses and conditions, including:

- coronary heart disease
- diabetes
- cancers
- infections
- obesity
- respiratory disease
- dental disease
- musculoskeletal conditions
- poor outcomes following acute physical illness.

Apart from exposure to unhealthy lifestyle risk factors, the poor health of people with mental health conditions is linked to their diminished awareness about their physical health and wellbeing. Many suffer from self-neglect and lack of motivation,<sup>56</sup> and often have limited social and communication skills which can impede their ability to seek healthcare.

People with mental health conditions can also have low expectations and a lack of trust of healthcare services associated with previous adverse encounters.<sup>57</sup> They also may find it difficult to visit a GP due to the cost or potentially long waiting times.<sup>57</sup> Prescribed medications used to treat mental health conditions have also been associated with obesity, diabetes, heart disease and dyslipidemia.<sup>55</sup>

Health services and staff attitudes can also create barriers to improving the health of those with mental health conditions. Misinterpretation of physical symptoms as being part of their mental illness or late recognition of symptoms by health workers has a significant impact on health outcomes. The stigma and discrimination sometimes associated in the care of people with mental health conditions can result in untimely referral to appropriate chronic condition and other health services.<sup>56</sup>

Additionally, there can be confusion around who is responsible for assessing and monitoring the physical health of consumers and a lack of knowledge and training within mental health services regarding how to refer people appropriately.<sup>56</sup> A focus on crisis management by mental health services can also impede a planned approach to meeting the physical health needs of consumers.

In some instances, a person's comorbidities may need to be stabilised before rehabilitation for chronic conditions commences. The resources and links in Table 5 provide some guidance in relation to the management of the physical healthcare of people with mental health conditions.

**Table 5: Physical management of comorbid conditions**

Mental health resources	Website link
Physical health care of mental health consumers	<a href="http://www1.health.nsw.gov.au/PDS/pages/doc.aspx?dn=GL2009_007">http://www1.health.nsw.gov.au/PDS/pages/doc.aspx?dn=GL2009_007</a>
The Physical health, mental health handbook	<a href="http://www.health.nsw.gov.au/mentalhealth/programs/mh/Publications/phmh-handbook.pdf">http://www.health.nsw.gov.au/mentalhealth/programs/mh/Publications/phmh-handbook.pdf</a>

Principles to enhance effectiveness of rehabilitation for chronic conditions programs for people with serious and persistent mental illness include the following.<sup>58</sup>

- Ensure there is a focus on medication adherence. The impact of side effects on quality of life, disorganisation and out-of-pocket expenses can present as barriers to adherence to medication regimes, especially in individuals with multiple comorbidities that require several medications.<sup>58</sup>
- Provide opportunities for mainstream health professionals to collaborate and work with mental health professionals. This can assist to build confidence in the workforce to address physical and mental health issues resulting in a more holistic approach to care.<sup>58</sup>
- Provide access to increased navigation or coordination support if this is required. People with mental health conditions often experience a heightened fragmentation of healthcare. This is due to more complex interactions with the healthcare system, and the cultural and physical disconnect between mental health and other services.<sup>58</sup> Ensure routine, regular follow-up and monitoring of participants occurs, to increase engagement with rehabilitation and flag any new barriers to access.<sup>58</sup>
- Tailor self-management support to meet the needs of the individual. People with serious and persistent mental illness may have a reduced capacity to self-assess or self-manage their health problems.<sup>58</sup>
- Consider the financial impact of attending services and transport arrangements.<sup>58</sup>
- Dispel the culture of low expectations regarding the outcomes of treatment for people with serious and persistent mental illness.<sup>58</sup>

# Section 7

## Conclusion

People with, or at risk of developing, one or more chronic conditions can benefit from access to rehabilitation to reduce the impact on, and rate of, functional decline. Rehabilitation for chronic conditions services are a way of increasing access to rehabilitation for people that may not be eligible for disease-specific rehabilitation programs and services. It requires a committed workforce and system to engage people in their own care. Flexible delivery options and tailored interventions are at the core of rehabilitation for chronic conditions. To optimise services over time ongoing improvement should be incorporated into routine business. Considerations should be given to priority groups to maximise effectiveness and acceptability of services.



# Section 8

## References

1. Australian Institute of Health and Welfare. Australia's Health 2014. Australia's health series no. 14. Cat. no. AUS 178. Canberra, AIHW, 2014.
2. NSW Health. Chronic Disease [Internet]. Sydney: Centre for Aboriginal Health; 2013 [cited 1 September 2014]. Available from: <http://www.health.nsw.gov.au/aboriginal/Pages/current-chronic-disease.aspx>
3. The University of Sydney. Family Medicine Research Centre: Care of middle-aged people in Australian General Practice – a focus on people aged 45-64 years [Internet]. Sydney: The University of Sydney; 2016 [31 August 2016]. Available from: [http://sydney.edu.au/medicine/fmrc/publications/infographic\\_2016.pdf](http://sydney.edu.au/medicine/fmrc/publications/infographic_2016.pdf)
4. National Institute for Health and Care Excellence (NICE). Multimorbidity: clinical assessment and management [Internet]. London: NICE; 2016 [27 September 2016]. Available from: <https://www.nice.org.uk/guidance/ng56/resources/multimorbidity-clinical-assessment-and-management-1837516654789>
5. Australian Bureau of Statistics (ABS). 4338.0 -Profiles of Health, Australia, 2011-13 [Internet]. Canberra: ABS; 2013 [21 June 2015]. Available from: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4338.0main+features12011-13>
6. Australian Institute of Health and Welfare. The Health and Welfare of Australia's Aboriginal and Torres Strait Islander people, an overview 2011. Canberra: AIHW; 2011. Cat. no. IHW 42.
7. NSW Health. NSW Health Rehabilitation Redesign Project: Final Report – Model of Care, Version 1.5 [Internet]. Sydney: NSW Health; 2015 [2 December 2015]. Available from: <https://www.aci.health.nsw.gov.au/resources/rehabilitation/rehabilitation-model-of-care/rehabilitation-moc/NSW-Rehabilitation-MOC.pdf>
8. Murray C, Vos T, Lozano R et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet* 2012;380(9859):2197-223.
9. Wenger NK. Current status of cardiac rehabilitation. *Journal of the American College of Cardiology*, 2008;51(17):1619-31.
10. Taylor RS, Brown A, Ebrahim S et al. Exercise-based rehabilitation for patients with coronary heart disease: systematic review and meta-analysis of randomized controlled trials. *The American Journal of Medicine* 2004;116(10):682-92.
11. The Health Foundation. Evidence: Getting out of hospital? The evidence for shifting acute inpatient and day case services from hospitals into the community. London: The Health Foundation; 2011.
12. Bodenheimer T, Wagner EH, Grumbach K. Improving Primary Care for Patients with Chronic Illness The Chronic Care Model, Part 2, *The Journal of the American Medical Association* 2002;288(15):1909-14.
13. Lorig K, Holman H. Self-management education: context, definition, outcomes and mechanisms. *Annals of Behavioural Medicine* 2003;26(1):1-7.
14. Effing T, Monninkhof EM, van der Valk PD et al. Self-management education for patients with chronic obstructive pulmonary disease. *The Cochrane Database of Systematic Reviews* 2007(4): Art No. CD002990.
15. Coulter A, Entwistle VA, Ryan S et al. Personalised care planning for adults with chronic or long-term health conditions, Cochrane Consumers and Communication Group. *The Cochrane Database of Systematic Reviews* 2015(3): Art No. CD010523
16. Prochaska JO, DiClemente CC. Transtheoretical therapy: toward a more integrative model of change. *Psychotherapy Theory, Research & Practice* 1982;19(3):276-88.

17. Riemsma R, Pattenden J, Bridle C et al. A systematic review of the effectiveness of interventions based on a stages-of-change approach to promote individual behavior change. *Health Technology Assessment* 2002;6(24):1-231.
18. The Department of Health. The stages-of-change model, Module 9: Working with young people on AOD issues: learner's workbook [Internet]. Canberra: The Department of Health; 2016 [cited 24 May 2016]. Available from: <http://www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-front9-wk-toc~drugtreat-pubs-front9-wk-secb~drugtreat-pubs-front9-wk-secb-3~drugtreat-pubs-front9-wk-secb-3-3>
19. Cahill K, Lancaster T, Green N. Stage-based interventions for smoking cessation. *The Cochrane Database of Systematic Reviews* 2010: Art No. CD004492.
20. Knowles M. *The adult learner: A neglected species*. St. Louis: Butterworth Heinemann; 1990.
21. Krauss R, Eckel R, Howard B et al. American Heart Association dietary guidelines: Revision 2000: a statement for healthcare professionals from the Nutrition Committee of the American Heart Association. *Circulation* 2000;102(18):2284-98.
22. McCullough M, Feskanich D, Stampfer M et al. Diet quality and major chronic disease risk in men and women: moving toward improved dietary guidelines. *American Journal of Clinical Nutrition* 2002;76(6):1261-71.
23. Everson-Rose S, Lewis T. Psychosocial factors and cardiovascular disease. *Annual Review of Public Health* 2005;26:469-500.
24. Noel P, Williams J, Unutzer J et al. Depression and comorbid illness in elderly primary care patients: impact on multiple domains of health status and well-being. *Annals of Family Medicine* 2004;2(6):555-62.
25. Patten S. An analysis of data from two general health surveys found that increased incidence and duration contributed to elevated prevalence of major depression in persons with chronic medical conditions. *Journal of Clinical Epidemiology* 2005;58(2):184-9.
26. Bates S, Smedley C, Wong M et al. Arthritis and Disability [Internet]. Sydney: Social Policy Research Centre, UNSW; 2014 [9 October 2015]. Available from: [http://www.arthritisaustralia.com.au/images/stories/documents/news/2014/Arthritis\\_and\\_Disability\\_final\\_report\\_2014.pdf](http://www.arthritisaustralia.com.au/images/stories/documents/news/2014/Arthritis_and_Disability_final_report_2014.pdf)
27. Kuper H, Marmot M, Hemingway H. Systematic review of prospective cohort studies of psychosocial factors in the aetiology and prognosis of coronary heart disease. *Seminars in Vascular Medicine* 2002;2:267-314.
28. Rozanski A, Blumenthal J, Davidson K et al. The epidemiology, pathophysiology, and management of psychosocial risk factors in cardiac practice: the emerging field of behavioural cardiology. *Journal of the American College of Cardiology* 2005;45:637-51.
29. Colquhoun DM, Bunker SJ, Clarke DM at al. Screening, referral and treatment for depression in patients with coronary heart disease. *Medical Journal of Australia* 2013;198(9):483-4.
30. De Ridder D, Greenen R, Kuijter R et al. Psychological adjustment to chronic disease. *Lancet* 2008;372:246-55.
31. Pedersen B K, Saltin B. Evidence for prescribing exercise as therapy in chronic disease. *Scandinavian Journal of Medicine and Science in Sports* 2006;16(S1):3-63.
32. Victorian Government Department of Human Services. Health independence programs guidelines. Melbourne: Victorian Government Department of Human Services; 2008.
33. Suhonen R, Valimäki M, Katajisto J at al. Provision of individualised care improves hospital patient outcomes: An explanatory model using LISREL. *International Journal of Nursing Studies* 2007;44(2):197-207.
34. Rao S, Brammer C, McKethan A at al. Health Information Technology: Transforming Chronic Disease Management and Care Transitions. *Primary Care Clinics In Office Practice* 2012;39:327-44.
35. Rijken M, Bekkema N, Boeckxstaens P at al. Chronic Disease Management programmes: an adequate response to patients' needs? *Health Expectations* 2014;17(5):608-21.

36. NSW Department of Health. NSW Aboriginal chronic conditions area health service standards. Cardiovascular disease, diabetes, kidney disease, chronic respiratory disease and cancer. Sydney: NSW Department of Health; 2004.
37. Nielsen M, Langner B, Zema C et al. *Benefits of implementing the primary care patient-centred medical home: A review of cost and quality results*. Washington: Patient-Centred Primary Care Collaborative; 2012.
38. Berry M, Rejeski J, Adair N et al. A randomized, controlled trial comparing long-term and short-term exercise in patients with chronic obstructive pulmonary disease. *Journal of Cardiopulmonary Rehabilitation* 2003;23:60-68.
39. British Association for Cardiovascular Prevention and Rehabilitation (BACPR). The BACPR Standards and Core Components for Cardiovascular Disease Prevention and Rehabilitation 2012 (2nd edition) [Internet]. London: BACPR; 2012 [cited 17 October 2014]. Available from: [http://www.bacpr.com/resources/46C\\_BACPR\\_Standards\\_and\\_Core\\_Components\\_2012.pdf](http://www.bacpr.com/resources/46C_BACPR_Standards_and_Core_Components_2012.pdf).
40. Rabl M. A review of the literature on multidisciplinary interventions in cardiac rehabilitation. *South African Journal of Diabetes and Vascular Disease review* 2014;11(3):111-4.
41. Warrington D, Cholowski K, Peters D. Effectiveness of home-based cardiac rehabilitation for special needs patients. *Journal of Advanced Nursing* 2003;14(2):121-9.
42. World Health Organization (WHO). World Report on Disability 2011 [Internet]. Geneva: WHO; 2011 [cited 17 October 2014]. Available from: [http://whqlibdoc.who.int/publications/2011/9789240685215\\_eng.pdf](http://whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf)
43. British Thoracic Society. Pulmonary rehabilitation: British Thoracic Society standards or care subcommittee on pulmonary rehabilitation. *Thorax* 2001;56:827-34.
44. Leon A, Franklin B, Costa F et al. Cardiac rehabilitation and secondary prevention of coronary heart disease. *Circulation* 2005;111:369-76.
45. Oldridge N, Stump T. Heart disease, comorbidity, and activity limitation in community-dwelling elderly. *European Journal of Cardiovascular Prevention and Rehabilitation* 2004;11:427-34.
46. Taylor KP, Smith JS, Dimer L et al. Letter to the Editor. *Medical Journal of Australia* 2010;192(10):602
47. Dimer L, Dowling T, Jones J et al. Build it and they will come: outcomes from a successful cardiac rehabilitation program at an Aboriginal Medical Service. *Australian Health Review* 2013;37(1):79-82.
48. Taylor KP, Thompson SC, Smith JS et al. Exploring the impact of an Aboriginal Health Worker on Hospitalised Aboriginal Experiences: lessons from cardiology. *Australian Health Review* 2009;33(4):549-57.
49. Thow A, Waters A. Diabetes in culturally and linguistically diverse Australians. Canberra: Australian Institute of Health and Welfare; 2005.
50. Goris J, Komaric N, Guandalini A et al. Effectiveness of multicultural health workers in chronic disease prevention and self-management in culturally and linguistically diverse populations: a systematic literature review. *Australian Journal of Primary Health* 2013;19(1):14-37.
51. Primary Health Care Research and Information Service. Chronic disease in CALD populations in Queensland: health and health care experiences [Internet]. Adelaide, Primary Health Care Research & Information Service; 2011 [cited 1 August 2014]. Available from: <http://www.phcris.org.au/phcred/snapshot/2011/story9.php>
52. Institute of Medicine (US) Committee on Psychosocial Services to Cancer Patients/Families in a Community Setting. *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*. Washington (DC): National Academies Press (US); 2008.
53. Robson D, Richard G. Serious mental illness and physical health problems: A discussion paper. *International Journal of Nursing Studies* 2007;44:457-66.
54. Leucht S, Fountoulakis K. Improvement of physical health of people with mental illness. *Current Opinion in Psychiatry* 2006;19(4):411-2.

55. Mauer B. Morbidity and Mortality in People with Serious Mental Illness [Internet]. Alexandria, VA: National Association of State Mental Health Program Directors Medical Directors Council; 2006 [cited 24 February 2016]. Available from: <http://www.nasmhpd.org/sites/default/files/Mortality%20and%20Morbidity%20Final%20Report%208.18.08.pdf>
56. Naylor C, Das P, Ross S et al. Bringing together physical and mental health: A new frontier for integrated care. London: The Kings Fund; 2016.
57. Muir-Cochrane E. Medical co-morbidity risk factors and barriers to care for people with schizophrenia. *Journal of Psychiatric and Mental Health Nursing* 2006;13(4):447-52.
58. The Royal Australian and New Zealand College of Psychiatrists (RANZCP). Keeping Body and Mind Together: improving the physical health and life expectancy of people with serious mental illness [Internet]. Melbourne: RANZCP; 2015 [18 September 2015]. Available from: <https://www.ranzcp.org/Files/Publications/RANZCP-Keeping-body-and-mind-together.aspx>
59. Kramer R, Meissner B, Schlitz-Berndt A et al. Longterm study of psychosocial effects in clinical rehabilitation. *Deutsche Medizinische Wochenschrift* 2003;128:27:1470-44.
60. Perski A, Osuchowski K, Andersson L et al. Intensive rehabilitation of emotionally distressed patients after coronary by-pass grafting. *Journal of Internal Medicine* 1999;246(3):253-63.
61. Cheok F, Schrader G, Banham D et al. Identification, course, and treatment of depression after admission for a cardiac condition: rationale and patient characteristics for the Identifying Depression As a Comorbid Condition (IDACC) project. *American Heart Journal* 2003;146(6):978-84.
62. Bunker SJ, Colquhoun DM, Esler MD et al. 'Stress' and coronary heart disease: psychosocial risk factors. *The Medical Journal Australia* 2003;178(6):272-6.
63. McCarthy B, Devane CD, Murphy K et al. Pulmonary rehabilitation for chronic obstructive pulmonary disease. *The Cochrane Database of Systematic Reviews* 2015(2): Art No. CD003793.
64. Stewart KJ. Role of exercise training on cardiovascular disease in persons who have type 2 diabetes and hypertension. *Cardiology Clinics* 2004;22:569-86.
65. Diabetes Australia. Exercise [Internet]. Canberra: Diabetes Australia; 2015 [cited 16 August 2016]. Available from: [www.diabetesaustralia.com.au/exercise](http://www.diabetesaustralia.com.au/exercise)
66. Agency for Clinical Innovation (ACI). ACI Musculoskeletal Network: Osteoarthritis Chronic Care Program: model of care [Internet]. Sydney: ACI; 2012 [21 January 2016]. Available from: [http://www.aci.health.nsw.gov.au/\\_data/assets/pdf\\_file/0020/165305/Osteoarthritis-Chronic-Care-Program-Mode-of-Care.pdf](http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0020/165305/Osteoarthritis-Chronic-Care-Program-Mode-of-Care.pdf)
67. Alfano CM, Cheville AL, Mustian K. Developing high-quality cancer rehabilitation programs: A timely need [Internet]. In American Society of Clinical Oncology 2016 Educational Book. 2016. p 241-250. Alexandria, VA: American Society of Clinical Oncology; 2016 [24 November 2015]. Available from: <http://meetinglibrary.asco.org/record/50678/edbook>
68. McMillan EM, Newhouse IJ. Exercise is an effective treatment modality for reducing cancer-related fatigue and improving physical capacity in cancer patients and survivors: a meta-analysis. *Applied Physiology, Nutrition and Metabolism* 2011;36(6):892-903.
69. Schmitz KH, Courneya KS, Matthews C et al. American College of Sports Medicine roundtable on exercise guidelines for cancer survivors. *Medicine and Science in Sports and Exercises*. 2010;42:1409-26.
70. Fong DYT, Ho JWC, Hui BPH et al. Physical activity for cancer survivors: meta-analysis of randomised controlled trials. *British Medical Journal* 2012;344:e70.
71. Speck RM, Courneya KS, Masse LC et al. An update of controlled physical activity trials in cancer survivors: a systematic review and meta-analysis. *Journal of Cancer Survivorship* 2010;4:87-100.

72. Mishra SI, Scherer RW, Snyder C et al. Exercise interventions on health-related quality of life for people with cancer during active treatment. *The Cochrane Database of Systematic Reviews* 2012;(8): Art. No.CD008465.
73. Salakari MRJ, Surakka T, Nurminen R et al. Effects of rehabilitation among patients with advanced cancer: a systematic review. *Acta Oncologica* 2015;54(5):618-28.
74. Rock CL, Doyle C, Demark-Wahnefried W et al. Nutrition and physical activity guidelines for cancer survivors. *A Cancer Journal for Clinicians* 2012;62:242-74.
75. Ibrahim EM, Al-Homaidh A. Physical activity and survival after breast cancer diagnosis: meta-analysis of published studies. *Medical Oncology* 2011;28:753-65.
76. Kenfield SA, Stampfer MJ, Giovannucci E et al. Physical activity and survival after prostate cancer diagnosis in the health professionals follow-up study. *Journal of Clinical Oncology* 2011;29:726-32.
77. National Stroke Foundation. Clinical Guidelines for Stroke Management 2010 [Internet]. Melbourne: National Stroke Foundation; 2010 [12 December 2015]. Available from: <https://informme.org.au/guidelines/clinical-guidelines-for-stroke-management-2010>



# Section 9

## Appendix 1: Assessment tools

Tool	Description	Website link	Cost/licence
<b>General health – quality of life</b>			
<b>Assessment of quality of life (AQoL). (multiple versions of the tool ranging from four to eight dimensions tested)</b>	Reliable and valid quality of life tool tested within Australian populations and available in many languages. Is included in Electronic Medical Record (eMR2).	<a href="http://www.aqol.com.au/">http://www.aqol.com.au/</a>	No cost
<b>Patient-Reported Outcomes Measurement Information System (PROMIS-29)</b>	Set of person-centred measures that evaluates and monitors physical, social and emotional health in adults and children. It can be used with the general population and with individuals living with chronic conditions. Validated in US population.	<a href="http://www.healthmeasures.net/explore-measurement-systems/promis/obtain-administer-measures">http://www.healthmeasures.net/explore-measurement-systems/promis/obtain-administer-measures</a>	No cost
<b>SF-36v2 or SF-12v2 Health Survey</b>	Reliable and valid measure of physical and mental health. Can be used in generic or disease specific applications.	<a href="http://campaign.optum.com/optum-outcomes/what-we-do/health-surveys.html">http://campaign.optum.com/optum-outcomes/what-we-do/health-surveys.html</a>	Requires a licence agreement
<b>Health literacy</b>			
<b>Rapid Assessment of Adult Literacy in Medicine – Short Form (REALM-SF)</b>	Seven-item word recognition test used to identify people with limited literacy.	<a href="http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy/index.html">http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy/index.html</a>	To obtain permission to use the tool, contact Dr Terry Davis <a href="mailto:tdavis1@lsuhsc.edu">tdavis1@lsuhsc.edu</a>
<b>Test of Functional Health Literacy in Adults (TOFHLA)</b>	Assesses adult literacy (numeracy and reading comprehension) in a healthcare setting using health-related materials. Both long and short versions.	<a href="http://www.peppercornbooks.com/catalog/product_info.php?products_id=2514">http://www.peppercornbooks.com/catalog/product_info.php?products_id=2514</a>	Can be purchased from Peppercorn Books for \$70.00 and licence will be issued to the user.
<b>Behavioural questionnaires/readiness to change</b>			
<b>Readiness Ruler</b>	Tool to support the use of motivational interviewing to help guide conversation about personal change.	<a href="http://www.centerforebp.case.edu/resources/tools/readiness-ruler">http://www.centerforebp.case.edu/resources/tools/readiness-ruler</a>	PDF version can be downloaded for free. Rulers can be purchased for US\$2.00 each, plus shipping costs.
<b>Beliefs and Behaviour Questionnaire (BBQ)</b>	30-item Likert-type scale to measure the beliefs, experiences and adherent behaviour.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/16843634">http://www.ncbi.nlm.nih.gov/pubmed/16843634</a>	Fee applies to access this article
<b>Readiness to change questionnaire (RCQ)</b>	12-item instrument for measuring the stage of change reached by people that drink more than the recommended amount of alcohol to guide choice of intervention strategy.	<a href="https://ndarc.med.unsw.edu.au/resource/readiness-change-questionnaire-users-manual-revised-version">https://ndarc.med.unsw.edu.au/resource/readiness-change-questionnaire-users-manual-revised-version</a>	No cost



Consumer empowerment/enableness			
<b>Patient Enablement and Satisfaction Survey version 2 (PESS version 2)</b>	Survey to evaluate nursing care in Australian general practice	<a href="http://aphcri.anu.edu.au/projects/anu/patient-enablement-and-satisfaction-survey-ness-evaluate-nursing-care-australian">http://aphcri.anu.edu.au/projects/anu/patient-enablement-and-satisfaction-survey-ness-evaluate-nursing-care-australian</a>	No cost
Patient activation			
<b>Patient Activation Measure (PAM)</b>	Used to predict future visits to emergency department (ED), hospital admissions/re-admissions and medication adherence. Identifies where a person falls within four different levels of activation to guide more effective support of the individual.	<a href="http://www.insigniahealth.com/solutions/patient-activation-measure">http://www.insigniahealth.com/solutions/patient-activation-measure</a>	Requires a commercial licence
<b>Self-efficacy for Managing Chronic Disease 6-Item Scale</b>	Six-item scale that measures how confident people are in certain activities	<a href="http://patienteducation.stanford.edu/research/sec6.html">http://patienteducation.stanford.edu/research/sec6.html</a>	No cost
Consumer engagement			
<b>Patient Health Engagement (PHE) Scale</b>	Can be used to tailor interventions and assess change after patient engagement interventions	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4376060/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4376060/</a>	No cost
<b>Flinders Chronic Condition Management Program</b>  <b>Partners in Health assessment tool</b>	The Flinders Program offers training on tools and processes (including the Partners in Health tools) to enable health professionals to support their clients to more effectively self-manage their chronic conditions. Training is offered face-to-face and online. Fee applies.  Can be used as a screening tool to determine who requires full care planning and case management. Based on the principles of self-management.	<a href="http://flindersprogram.com/about/information-paper/the-flinders-program-tools/">http://flindersprogram.com/about/information-paper/the-flinders-program-tools/</a>	The Partners in Health assessment tool is provided at no cost upon successful completion of the Flinders Chronic Condition Management Program.
Cognitive assessment tools			
<b>Montreal Cognitive Assessment (MOCA)</b>	Cognitive screening test to assist in the identification of cognitive impairment. Available in 55 languages and includes a basic form test for people who are illiterate or who have lower levels of education.	<a href="http://www.mocatest.org">www.mocatest.org</a>	No cost
<b>Standardised Mini-Mental State Examination (SMMSE)</b>	Screening test to evaluate cognitive impairment in older adults.	<a href="https://www.ihsa.gov.au/sites/g/files/net636/f/publications/smmse-tool-v2.pdf">https://www.ihsa.gov.au/sites/g/files/net636/f/publications/smmse-tool-v2.pdf</a>	No cost
<b>General Practitioner Assessment of Cognition (GPCOG)</b>	Developed in Australia specifically for use with older people visiting their GP.	<a href="http://gpcog.com.au/">http://gpcog.com.au/</a>	No cost
<b>Rowland Universal Dementia Assessment Scale (RUDAS)</b>	Developed in Australia and is suitable for use with CALD populations.	<a href="https://www.fightdementia.org.au/resources/rudas">https://www.fightdementia.org.au/resources/rudas</a>	No cost
<b>The Kimberley Indigenous Cognitive Assessment (KICA)</b>	A culturally appropriate tool for use with remote-living Aboriginal and Torres Strait Islander peoples.	<a href="http://dementiakt.com.au/wp-content/uploads/2016/03/05_KICA_Form.pdf">http://dementiakt.com.au/wp-content/uploads/2016/03/05_KICA_Form.pdf</a>	No cost

Goal setting and attainment			
<b>Goal Attainment Scale (GAS) in Rehabilitation</b>	Can be used as an outcome measure for rehabilitation in an elderly population. Also encourages patient involvement and communication and collaboration between team members.	<a href="https://www.kcl.ac.uk/lsm/research/divisions/cicelysaunders/attachments/Tools-GAS-Practical-Guide.pdf">https://www.kcl.ac.uk/lsm/research/divisions/cicelysaunders/attachments/Tools-GAS-Practical-Guide.pdf</a>	No cost
Psychological assessment tools			
<b>Patient Health Questionnaire-9 (PHQ-9)</b>	Instrument for screening, diagnosing, monitoring and measuring the severity of depression.	<a href="http://www.phqscreeners.com/sites/g/files/g10016261/f/201412/PHQ-9_English.pdf">http://www.phqscreeners.com/sites/g/files/g10016261/f/201412/PHQ-9_English.pdf</a> <a href="http://patient.info/doctor/patient-health-questionnaire-phq-9">http://patient.info/doctor/patient-health-questionnaire-phq-9</a>	No cost
<b>Patient Health Questionnaire-2 (PHQ-2)</b>	Includes the first two items of the PHQ-9 to inquire about the frequency of depressed mood and anhedonia over the past 2 weeks. Patients who test positive should be further evaluated using the PHQ-9.	<a href="http://www.cqaimh.org/pdf/tool_phq2.pdf">www.cqaimh.org/pdf/tool_phq2.pdf</a>	No cost
<b>Depression, Anxiety and Stress Scale 21 (DASS 21)</b>	Australian developed tool that is available in many languages. Available in Electronic Management Records (eMR2).	<a href="https://www.cesphn.org.au/images/mental_health/Frequently_Used/Outcome_Tools/Dass21.pdf">https://www.cesphn.org.au/images/mental_health/Frequently_Used/Outcome_Tools/Dass21.pdf</a>	No cost
<b>Hospital Anxiety and Depression Scale (HADS)</b>	Detects states of depression, anxiety and emotional stress. Can be used out of hospital setting.	<a href="http://www.scalesandmeasures.net/files/files/HADS.pdf">http://www.scalesandmeasures.net/files/files/HADS.pdf</a>	No cost
<b>Multidimensional Scale of Perceived Social Support</b>	Twelve item scale to assess an individual's perception of the social support that he or she receives from family, friends and significant others.	<a href="http://www.rehabmeasures.org/Lists/RehabMeasures/DispForm.aspx?ID=1231">http://www.rehabmeasures.org/Lists/RehabMeasures/DispForm.aspx?ID=1231</a>	No cost
<b>Kessler Psychological Distress Scale (K10)</b>	A 10-item measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period.	<a href="https://www.tac.vic.gov.au/files-to-move/media/upload/k10_english.pdf">https://www.tac.vic.gov.au/files-to-move/media/upload/k10_english.pdf</a>	No cost
Functional and exercise assessment tools			
<b>Six-minute walk test</b>	Assesses distance walked over 6 minutes as a test of aerobic capacity/endurance.	<a href="http://pulmonaryrehab.com.au/patient-assessment/assessing-exercise-capacity/six-minute-walk-test/">http://pulmonaryrehab.com.au/patient-assessment/assessing-exercise-capacity/six-minute-walk-test/</a>	No cost
<b>Timed Up and Go test (TUG)</b>	Tests basic mobility of frail elderly persons. Has also been used in people with arthritis, stroke, vertigo and for falls prevention assessment. Measures the time it takes for a person to rise from sitting, walk 3 metres, turn, walk back to the chair and sit down.	<a href="http://www.rheumatology.org/I-Am-A/Rheumatologist/Research/Clinician-Researchers/Timed-Up-Go-TUG">http://www.rheumatology.org/I-Am-A/Rheumatologist/Research/Clinician-Researchers/Timed-Up-Go-TUG</a>	No cost
<b>MET: Metabolic Equivalent Level</b>		<a href="http://onlinelibrary.wiley.com/doi/10.1002/clc.4960130809/pdf">http://onlinelibrary.wiley.com/doi/10.1002/clc.4960130809/pdf</a>	No cost

Pain assessment tools			
Visual Analogue Scale (VAS)	Self-rated severity of pain.	<a href="http://www.maa.nsw.gov.au/data/assets/pdf_file/0019/21619/Visual-Analogue-Scale-VAS-for-pain.pdf">http://www.maa.nsw.gov.au/data/assets/pdf_file/0019/21619/Visual-Analogue-Scale-VAS-for-pain.pdf</a>	No cost
Verbal Numerical Rating Score (VNRS)	Verbal self-reported pain intensity scale.	<a href="http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0017/212912/Verbal_Numerical_Rating_Scale.pdf">http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0017/212912/Verbal_Numerical_Rating_Scale.pdf</a>	No cost
Neuropathic pain assessment DN4 Questionnaire	Estimates the probability of neuropathic pain.	<a href="http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0014/212900/DN4_Assessment_Tool.pdf">http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0014/212900/DN4_Assessment_Tool.pdf</a>	No cost
Brief Pain Inventory	A nine item self-administered questionnaire to evaluate the severity of a person's pain and impact on daily function.	<a href="http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0015/212910/Brief_Pain_Inventory_Final.pdf">http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0015/212910/Brief_Pain_Inventory_Final.pdf</a>	No cost
Opioid risk assessment tool (prior to commencing opioids)	Predicts risk of aberrant behaviours in opioid treated patients.	<a href="http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0016/212911/Opioid_Risk_Assessment_Tool.pdf">http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0016/212911/Opioid_Risk_Assessment_Tool.pdf</a>	No cost
Pain self-efficacy questionnaire (PSEQ)	Measures confidence in managing pain. Low levels indicate need to address confidence in managing pain.	<a href="http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0005/212909/PSEQ_Final.pdf">http://www.aci.health.nsw.gov.au/data/assets/pdf_file/0005/212909/PSEQ_Final.pdf</a>	No cost
Nutritional screening and assessment tools			
Malnutrition Screening Tool	Validated screening tool that can be used to identify malnutrition risk and referral criteria to a dietitian.	<a href="http://www.health.qld.gov.au/nutrition/resources/hphe_mst_pstr.pdf">http://www.health.qld.gov.au/nutrition/resources/hphe_mst_pstr.pdf</a>	No cost
Mini Nutrition Assessment Tool (MNA®)	The MNA® is a screening tool to help identify elderly persons who are malnourished or at risk of malnutrition.	<a href="http://www.mna-elderly.com">http://www.mna-elderly.com</a>	No cost
ACI Nutrition Network resources	These resources relate to nutrition care and food standards in hospitals, home enteral nutrition and parenteral nutrition.	<a href="http://www.aci.health.nsw.gov.au/resources/nutrition">http://www.aci.health.nsw.gov.au/resources/nutrition</a>	No cost
Dietitians Association of Australia	Resources, practice guidelines and recommendations for professionals.	<a href="http://daa.asn.au">http://daa.asn.au</a>	A number of resources available at no cost.
Carer assessment			
Caregiver Strain Index (CSI)	Thirteen question tool that identifies families with potential caregiving concerns.	<a href="http://www.npcrc.org/files/news/caregiver_strain_index.pdf">www.npcrc.org/files/news/caregiver_strain_index.pdf</a>	Can be reproduced for non-for-profit educational purposes only with citation of The Hartford Institute of Geriatric Nursing, New York University. E-mail notification of usage to: <a href="mailto:Hartford.ign@nyu.edu">Hartford.ign@nyu.edu</a>
Nicotine dependence			
Fagerstrom Test for Nicotine Dependence	Six item instrument for assessing the intensity of physical addiction to nicotine.	<a href="http://ndri.curtin.edu.au/btftp/documents/Fagerstrom_test.pdf">http://ndri.curtin.edu.au/btftp/documents/Fagerstrom_test.pdf</a>	No cost

## Appendix 2: Disease-specific considerations and assessment tools

### Heart disease

Many aspects of heart disease management can impact on the morbidity and mortality of someone with heart disease.

Chronic disease rehabilitation services are able to support medical teams to deliver appropriate therapies to reduce risk of cardiovascular disease and the associated morbidity and mortality. The interventions provided by these teams may include referral to smoking cessation services, monitoring the effects of medication and informing medical teams about ongoing yet often subtle symptoms of disease instability.

Psychological distress is common following the diagnosis of any chronic disease, however if a cardiac condition is confirmed, people may be more distressed due to fear about the future and possibly shorter life span. As a result, people may be hesitant to resume their usual activities in case they trigger another event. Chronic disease rehabilitation, in collaboration with the individual's GP, can have a positive impact on psychological health.<sup>59,60</sup>

There are a number of strategies that have been demonstrated to reduce distress about the diagnosis including the provision of accurate information on the condition and ongoing positive messages relating to possible slowing of disease progression through self-management strategies such as risk factor modification and the correct use of medicines.<sup>61</sup>

Depression and social isolation have a strong and consistent causal relationship to cardiac disease.<sup>62</sup> Early identification and management of these factors is vital to promote positive psychological health and support self-management.

Details on some disease specific assessment tools are provided below:

Assessment tool	Website link
Heart Online	<a href="http://www.heartonline.org.au">http://www.heartonline.org.au</a>
Minnesota Living with Heart Failure Questionnaire	<a href="http://license.umn.edu/technologies/94019_minnesota-living-with-heart-failure-questionnaire">http://license.umn.edu/technologies/94019_minnesota-living-with-heart-failure-questionnaire</a>
Kansas City Cardiomyopathy Questionnaire	<a href="http://cvoutcomes.org/licenses">http://cvoutcomes.org/licenses</a>
MacNew Heart Disease Quality of Life Questionnaire	<a href="http://hqlo.biomedcentral.com/articles/10.1186/1477-7525-2-3">http://hqlo.biomedcentral.com/articles/10.1186/1477-7525-2-3</a>
Australian Cardiovascular Health and Rehabilitation Association (ACRA) Core Components of Cardiovascular Disease Secondary Prevention and Cardiac Rehabilitation 2014.	<a href="http://dx.doi.org/10.1016/j.hlc.2014.12.008">http://dx.doi.org/10.1016/j.hlc.2014.12.008</a>
Seattle Angina Questionnaire	<a href="http://myhealthoutcomes.com/demos">http://myhealthoutcomes.com/demos</a>
Cardiac Depression Scale	<a href="http://www.austinmedicine.unimelb.edu.au/docs/Cardiac%20Depression%20Scale%2026%20Items_Hare%201993.pdf">http://www.austinmedicine.unimelb.edu.au/docs/Cardiac%20Depression%20Scale%2026%20Items_Hare%201993.pdf</a>

## Lung disease

Pulmonary rehabilitation is a comprehensive program of supervised exercise, education and psychological support designed for people with COPD and other respiratory disorders (for example, asthma, bronchiectasis, interstitial lung disease) or co-existing chronic disease who are functionally limited by breathlessness. Pulmonary rehabilitation has been shown to reduce breathlessness, hospitalisations and improve individual's functional exercise capacity and quality of life.<sup>63</sup>

Pulmonary rehabilitation should be considered early for people with diagnosed lung disease who experience breathlessness despite optimal management. Pulmonary rehabilitation programs provide closely supervised strength and endurance training with oxygen saturation monitoring. As well, the programs offer supplemental oxygen for exercise induced hypoxia, airway clearance techniques, strategies to manage breathlessness, support to help anxiety and depression, disease-specific education and self-management support. No person with lung disease should be considered too severe to be assessed for inclusion in a rehabilitation program. Pulmonary rehabilitation should be considered as soon as possible after hospital to avoid readmission.<sup>63</sup>

Lung disease specific assessment tools are outlined below:

Assessment tool	Website link
Pulmonary Rehabilitation Toolkit	<a href="http://lungfoundation.com.au/health-professionals/clinical-resources/copd/pulmonary-rehabilitation-toolkit/">http://lungfoundation.com.au/health-professionals/clinical-resources/copd/pulmonary-rehabilitation-toolkit/</a> or via <a href="http://www.pulmonaryrehab.com.au">www.pulmonaryrehab.com.au</a>
St George Respiratory Questionnaire	<a href="http://www.healthstatus.sgul.ac.uk/sgrq/sgrq-downloads">http://www.healthstatus.sgul.ac.uk/sgrq/sgrq-downloads</a>
Chronic Respiratory Disease Questionnaire	<a href="http://qol.thoracic.org/sections/instruments/ae/pages/crq.html">http://qol.thoracic.org/sections/instruments/ae/pages/crq.html</a>
COPD Assessment Test	<a href="http://www.catestonline.org/">http://www.catestonline.org/</a>

## Diabetes

Inclusion of patients with diabetes in chronic disease rehabilitation services is appropriate and has been shown to be effective and safe.<sup>64</sup> However, recommendations may differ if a person has type 1 or type 2 diabetes.

Particular needs for all people with diabetes include specialist diabetes education including support to self-monitor the disease, appropriate dietary instruction and podiatry assessment. Exercise specific education may help ensure appropriate monitoring of safe blood glucose levels for exercise and regular inspection of feet.

According to [Diabetes Australia](#), exercise is an important component of the management of diabetes. Benefits may include:

- improvement in insulin performance and blood glucose control
- lower blood pressure
- decreased risk of heart disease
- assistance to maintain a healthy weight
- reduced stress.

Diabetes Australia also provides tips on exercise participation for people with diabetes including fluid and carbohydrate intake, insulin dosage and glucose monitoring.

Special precautions: People with diabetes shouldn't take part in strenuous physical activity if they are feeling unwell, have fluctuating or high blood glucose levels, or have ketones present in blood or urine. In these circumstances, exercise can elevate blood glucose and increase ketone production. If people are experiencing complications of diabetes, such as retinopathy or nephropathy, an experienced exercise physiologist should prescribe any increases to exercise intensity. When exercising, it is also important to avoid any damage to feet. People should be encouraged to monitor feet before and after exercise, wear suitable footwear and avoid exercise that causes stress to feet. Examples of suitable exercises include riding an exercise bike or walking.<sup>65</sup>

## Musculoskeletal conditions

Chronic musculoskeletal conditions are aptly conducive to the model of care described for chronic disease rehabilitation. The elements are all a part of what has been trialled in NSW and are now a part of normal care for people with osteoarthritis.<sup>66</sup>

The [Osteoarthritis Chronic Care Program \(OACCP\)](#) was trialled with over 6,000 people who were on the waitlist for elective hip or knee joint replacement due to advanced osteoarthritis. Following the trial (2011 to 2014), sites across NSW have expanded the cohort to include those in the earlier stages of their disease.

Elements include access to a multidisciplinary team; self-management support using behaviour change methodology that addresses the physical, social and psychological needs of individuals; and improving access to care as required for comorbidities.

Benefits of the OACCP have been shown to include:

- reduction in pain in joints
- weight loss
- improvement in function
- increased ability to self-manage joint health with some determining they can defer or delay their need for surgical joint replacement
- supporting the smooth transition and progress pre- and post-operation in those who proceed to surgical joint replacement.<sup>66</sup>

Musculoskeletal specific assessment tools are outlined below:

Assessment tool	Website link
Hip Osteoarthritis Outcomes Score (HOOS)	<a href="http://www.koos.nu/index.html">http://www.koos.nu/index.html</a>
Knee Osteoarthritis Outcomes Score (KOOS)	<a href="http://www.koos.nu/index.html">http://www.koos.nu/index.html</a>
Oxford Hip Scores	<a href="http://innovation.ox.ac.uk/outcome-measures/oxford-hip-score-ohs/">http://innovation.ox.ac.uk/outcome-measures/oxford-hip-score-ohs/</a>
Oxford Knee Scores	<a href="http://innovation.ox.ac.uk/outcome-measures/oxford-knee-score-oks/">http://innovation.ox.ac.uk/outcome-measures/oxford-knee-score-oks/</a>
STarT Back screening tool for psychological risk in back pain	<a href="http://www.keele.ac.uk/sbst/">http://www.keele.ac.uk/sbst/</a>
Örebro Musculoskeletal Pain Screening Questionnaire	<a href="https://www.oru.se/english/research/research-environments/hs/champ/questionnaires/">https://www.oru.se/english/research/research-environments/hs/champ/questionnaires/</a>



## Cancer

There is a growing body of evidence that clearly outlines how people diagnosed with cancer will benefit from the activities of chronic disease rehabilitation.<sup>67</sup> Exercise, nutritional advice, support to maintain healthy weight, psychosocial health and medical therapies have all been shown to improve outcomes for people with cancer.

Given the negative impact of fatigue and loss of physical functioning on quality of life in people with cancer, exercise and behavioural based interventions to improve these outcomes have shown positive results.<sup>68,69</sup> Systematic reviews highlight a growing consensus that moderate-to-vigorous intensity physical activity coupled with education and self-management support can improve several aspects of physical and psychological wellbeing that contribute to quality of life in early-stage cancer patients.<sup>70,72</sup> However it is not just individuals with early stage cancer who stand to benefit from rehabilitation programs.

Evidence suggests that physical and psychosocial rehabilitation can improve symptom control, physical function, psychological wellbeing and the quality of life of individuals with advanced cancer; and that physical rehabilitation is beneficial even in the palliative stages.<sup>73</sup> Consequently, the American Cancer Society's guidelines recommend regular (appropriate) exercise to all cancer patients both during and after treatment for improved quality of life.<sup>74</sup>

Importantly, there is growing evidence that physically active cancer survivors have a lower risk of cancer recurrences and improved survival compared with those who are inactive, although studies remain limited to some cancers and further research is still needed to better define the impact of physical rehabilitation programs on such outcomes.<sup>74-76</sup>

As cancer is not a homogeneous disease, it is not possible to recommend one single set of cancer-specific assessment tools for the purpose of rehabilitation programs. The American College of Sports Medicine, in their guidelines for cancer survivors, recommend professionals follow guidelines and use measures developed for the general population, with specific adaptations based on individual presentation, disease status and treatment-related side effects.<sup>69</sup>

## Stroke

Rehabilitation following an acute stroke is best provided by a specialist stroke rehabilitation team.<sup>77</sup> For people who return to community living post stroke and have completed their specialist stroke rehabilitation, motivation and practical assistance to facilitate regular exercise following stroke should be supported. Stroke survivors should be encouraged to participate long-term in appropriate community exercise programs.<sup>77</sup> Ideally, referral to the chronic disease rehabilitation program will be initiated by the specialist rehabilitation team, however if this is not the case, the individual should be cleared for participation by their primary care provider.

Individualised interventions delivered using behavioural techniques such as education and motivational counseling can be used to address risk factors for further stroke such as smoking cessation, improved diet, increased regular exercise and avoidance of excessive alcohol. The National Stroke Foundation Clinical Guidelines for Stroke Management contain the recommendations and evidence for behavior changing strategies which target lifestyle factors implicated in the prevention of stroke.

## Appendix 3: Components of chronic disease rehabilitation

