

# Rehabilitation in the Disability Context: A Snapshot evidence review

Sally Kanno & Clarissa Martin

(FINAL REPORT)

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This research report was prepared by:

Sally Kanno and Dr Clarissa Martin, Institute for Safety, Compensation & Recovery Research (ISCRR), Monash University

For:

Fiona Cromarty, Senior Manager Independence, Transport Accident Commission (TAC) and Alan Woodroffe, Senior Manager Policy Service & Review, TAC

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# Executive Summary

## Background

The TAC sought an evidence review to be conducted in relation to what constitutes “rehabilitation”. Specifically the TAC would like to understand if there is any relevant research and evidence in relation to what constitutes “rehabilitation” including any specific parameters, guidelines or measures that indicate whether a particular service or item has a rehabilitative effect. This snapshot review was commissioned by the TAC as insight for internal staff (e.g. TAC legal) on what definitions of rehabilitation exist in the literature and are being used by compensation schemes and health services.

## Purpose

This review aimed to enhance the TAC’s understanding of what constitutes rehabilitation. The following two questions were addressed, as agreed with TAC:

- What are the published definitions of rehabilitation?
  - What are the common themes (if any) across the published definitions of rehabilitation?
- How are the outcomes of rehabilitation interventions described or defined?

**Note:** These questions relate specifically to rehabilitation interventions aimed at improving participation for people living with a disability following a major injury.

## Methods

A ‘*snapshot evidence review*’ was conducted by searching and analysing the available academic and grey literature published between 2004 and 2014. The review focused on published definitions of rehabilitation in the disability context and descriptions/definitions of rehabilitation outcomes. Definitions of rehabilitation related to relating to surgery, medical treatments, drugs and hospital based interventions were excluded.

## Research findings

The search of the academic and grey literature found that rehabilitation is a term that is commonly used to describe training or treatment services which focus on difficulties following illness or injury. This snapshot review identified a range of definitions that have been proposed by experts in the field, including clinicians, academics and influential bodies such as the World Health Organisation, but a lack of scientific “evidence” to support a universal definition of rehabilitation or its outcomes.

A total of 16 definitions of rehabilitation within a disability context were identified from the literature. Five common themes were extracted from these definitions; the most commonly cited themes were optimal/maximizing function (88%) and empowerment (56%) and social participation (38%).

Key findings included:

- The majority of definitions were underpinned by the concept of self-determination for the individual participating in rehabilitation
- The majority of rehabilitation definitions recognised that not everyone will experience a full recovery due to the physiological limitation(s) imposed by the illness or injury itself.
- The active engagement of the individual to acquire skills, knowledge and develop their own capabilities and self-sufficiency was identified as an important element in the definition of rehabilitation.

## Background

The TAC sought an evidence review to be conducted in relation to what constitutes “rehabilitation”. Specifically the TAC wanted to understand if there is any relevant research and evidence in relation to what constitutes “rehabilitation” including any specific parameters, guidelines or measures that indicate whether a particular service or item has a rehabilitative effect. The TAC has recently encountered legal proceedings concerning clients seeking compensation for rehabilitation services/purchases/equipment under the Transport Accident Act 1986.

McPherson<sup>1</sup> provided a brief commentary on the much-debated issue of what defines a “good outcome” in rehabilitation. She highlights that rehabilitation outcomes are necessary for all stakeholders in the rehabilitation process. The results (outcomes) obtained help to determine the amount and the worth of resources put into the rehabilitation process. The Accident Compensation Corporation (ACC – a major funder of rehabilitation services in New Zealand) were similarly interested in the topic of outcomes as they confronted significant issues affording the health and social costs of rehabilitation that New Zealanders with injury-related disability have come to expect. McPherson also suggests that even though there has been a recent surge in regarding patient/client views as most important in rehabilitation, this may not always achieve the “best outcomes” for all the stakeholders.

Prior to this, 2001 marked the endorsement of the World Health Organisation International Classification of Functioning, Disability and Health (WHO-ICF) concept of disability being modified to recognise that personal and environmental factors directly influence the experience of people with disability<sup>2</sup>. The WHO-ICF views rehabilitation as a coordinated process that enhances “activity” and “participation” aiming to optimise functioning and minimize the experience of disability of people with health conditions. The ICF defined an activity as “the execution of a task or action by an individual” and participation as “involvement in life situation”.

This snapshot review was commissioned by the TAC as insight for internal staff (e.g. TAC legal) on what definitions of rehabilitation exist in the literature and are being used by compensation schemes and health services.

### Review purpose and research questions

This review aimed to enhance the TAC’s understanding of what constitutes rehabilitation. Depending on the outcome of the review the TAC may rely on this evidence in relation to future claims for novel rehabilitation services. The following two questions will be addressed, as agreed with TAC:

- What are the published definitions of rehabilitation?
  - What are the common themes (if any) across the published definitions of rehabilitation?
- How are the outcomes of rehabilitation interventions described or defined?

**Note:** These questions relate specifically to rehabilitation interventions aimed at improving participation for people living with a disability following a major injury.

## Method and scope

A 'snapshot evidence review' was conducted to address the research questions. This type of evidence review provides an overview of the evidence on a given topic.

### Search

A systematic search of the peer-reviewed academic literature and grey literature (mainly websites and documents linked to websites) was conducted to identify relevant literature published in English between 2004 and June 2014. Search terms used were combinations of: rehabilitation; definition; research; framework; outcomes; outcome measure; disability; participation. This included the following:

- Peer-reviewed academic literature – the electronic databases searched were Google Scholar, Medline, CINAHL and Scopus. Hand searching of reference lists of papers was also conducted. Due to the limited number of studies directly focusing on the research questions, all study designs were included.
- Grey literature (non-academic literature) – included searches of the following websites: Google; Trove; and Government websites. Reference lists of reports and webpages from motor accident compensation schemes (within Australia and New Zealand) were also hand searched and additional references retrieved. Due to the limited number of papers/studies directly focusing on the research questions, all publication types were included.

### Review scope

The following inclusion and exclusion criteria applied to the review.

#### Inclusion Criteria

- All publication types
- Adults living with disability within the community
- Definitions relating to rehabilitation, therapy, equipment (including assistive technology, devices)
- Full text available

#### Exclusion Criteria

- Definitions relating to:
  - Surgery
  - Medical treatments
  - Drugs
  - Hospital-based interventions

### Review Limitations

The methodology of a *snapshot evidence review* involves an overview of the current publically available evidence to answer specific research questions. It is not a systematic

review, and does not provide an exhaustive search (i.e., all potentially relevant academic and grey literature). The quality of academic studies is considered during the study selection and synthesis stages, however formal assessment of academic study quality is not conducted.

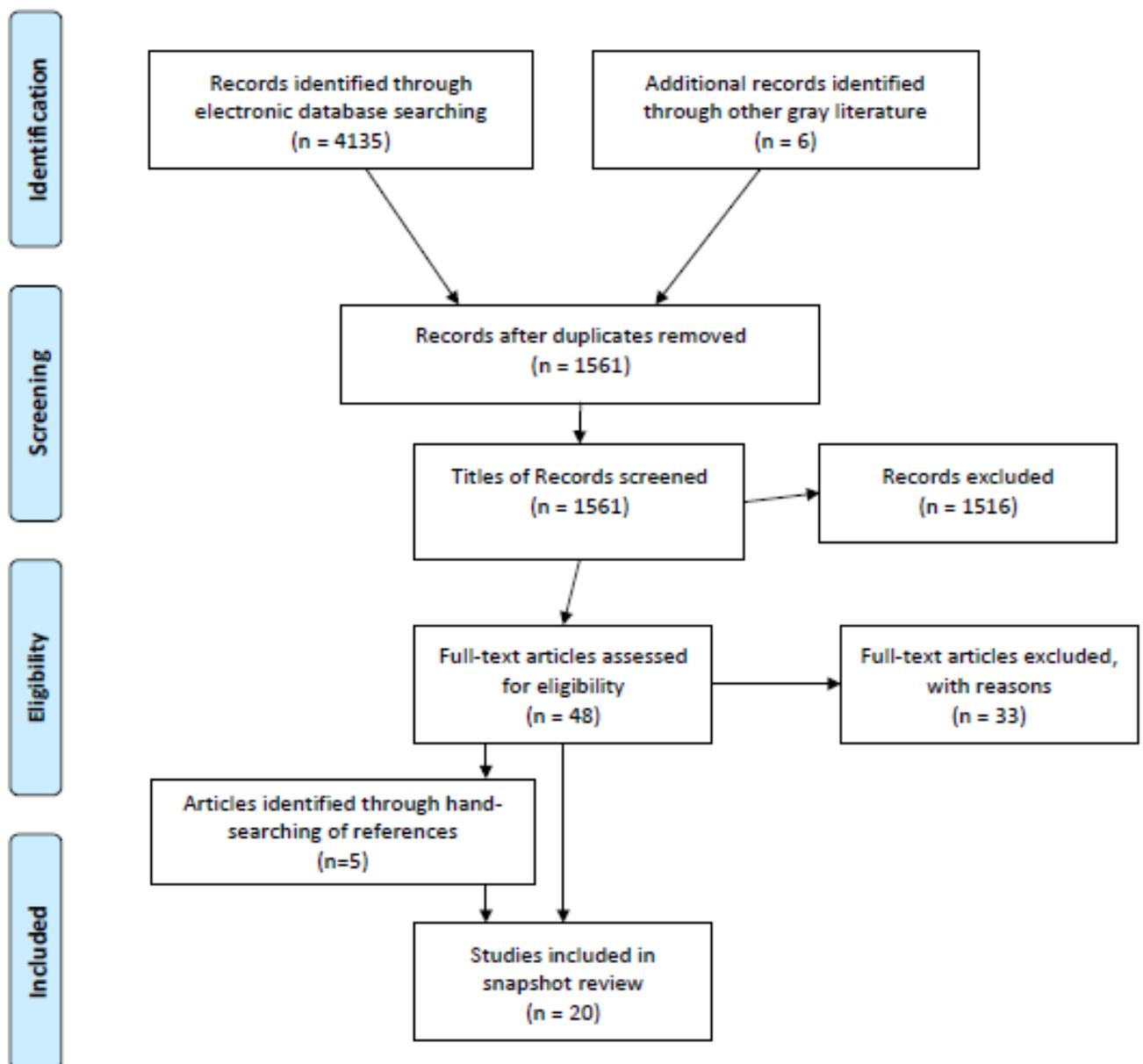
Due to the exploratory nature of the research questions addressed by this review, all publications (anecdotal reports, expert opinion pieces, commentaries) were included in this review.

# Results

## Search Results

Searches of academic literature in electronic databases yielded 1561 search hits (refer to Figure 1). The search identified thirty-seven academic papers and eight grey-literature documents that met the review scope. After reviewing for eligibility, eight journal articles were included which were a mix of discussion papers, one systematic review and one qualitative study. One book and two book chapters (from the same book edition) were also identified. Grey literature search results included information found on webpages, reports and concept paper.

**Figure 1.** Summary of Search Strategy & Results



## Question 1

### What are the published definitions of rehabilitation and what are common themes (if any) across the published definitions of rehabilitation?

16 published definitions of rehabilitation were extracted from the 20 articles that were included in this snapshot review (Appendix A). These definitions were reviewed to identify common themes, in an attempt to collate and summarise the definitions of “rehabilitation” within the disability context. Five key themes were subsequently identified as follows:

1. **Empowerment:** defined as control over one’s life enabling decision-making and self-determination<sup>3</sup>.
2. **Social Participation:** defined as the social role performance of an individual as a member of society with or for others<sup>4</sup>.
3. **Optimal/maximize Functioning:** defined as an individual regaining skills, abilities or knowledge that enable the person with disability to attain and maintain maximum independence<sup>5</sup>.
4. **Compensatory Strategies:** defined as adaptive behaviours or alternative ways of performing tasks that enable the individual to optimise their independence despite the impairments and limitations imposed by their illness or injury.
5. **Goal-Oriented:** defined as incorporating individualised goal setting as part of the rehabilitation process.

Table 1 provides a summary of these themes with examples from the relevant literature of how these relate to the definition of “rehabilitation”. The prevalence of these themes across the various definitions of rehabilitation is presented as the percentage of definitions that referred to each particular theme (number of definitions referring to the theme/ total of 16 definitions x100).

Appendix B captures a summary of the 5 themes identified across the 16 definitions and commonalities between these themes across the definitions.

## Question 2

### How are the outcomes of rehabilitation interventions described or defined?

Defining and describing outcomes of rehabilitation yielded 4 main sources for review (refer to Table 2).

The overarching consensus of these definitions/ descriptions is that these outcomes are not limited to impairment and activity, but participation and the role of an individual in society is important as an outcome of rehabilitation. This encompasses broader measurement indicators aimed at capturing an individual regaining their role or function within society.

From the papers reviewed it appears that there is no consensus on what constitutes and what does not constitute a rehabilitation outcome.

**Table 1.** *Examples of Themes extracted within 15 rehabilitation published definitions*

<u>Theme</u>	<u>Examples (Citation)</u>	<u>No. of Published Definitions Incorporating Theme (%)</u>
<b><u>Empowerment</u></b>	<p>“Empowerment – a process and outcome which features being in control and making decisions”<sup>3</sup>, <b>Pellatt (2005)</b></p> <p>“Rehabilitation provides disabled people with the tools they need to attain independence and self-determination”<sup>6</sup>, <b>Australian Rehabilitation Alliance (2011)</b></p> <p>“Process aimed to enabling an impaired person to reach an optimum mental, physical and/or social functional level thus providing her or him with the tools to change her or his own life”<sup>7</sup>, <b>Cameron (2010)</b></p> <p>“WHO’s integrative model of functioning, disability and health applies and integrates...approaches that build on and strengthen resources of person”<sup>8</sup>, <b>Meyer et al. (2011)</b></p> <p>“Rehabilitation is defined as the process of restoring or attempting to restore the person....to the maximum level of function of which the person is capable or which the person wishes to achieve”<sup>9</sup> <b>NSW Government (2012)</b></p> <p>“Rehabilitation...aim to enable persons with disabilities to attain and maintain maximum independence....and full inclusion and participation in all aspects of life”<sup>5</sup>, <b>UN (2006) – Article 2 &amp; UN (2006) – Article 26</b></p> <p>“Educating people with disabilities is essential for developing knowledge and skills for self-help, care, management and decision-making”<sup>10</sup>, <b>WHO (2011)</b></p> <p>“...some individuals may require support with decision-making about rehabilitation choices. In all cases rehabilitation should help empower a person with a disability...”<sup>11</sup>, <b>WHO (2012)</b></p>	9/16 (56%)
<b><u>Social Participation</u></b>	<p>"Picking up one's life again – an outcome which features getting back to the “real world”, picking up the life one had prior to the spinal cord injury”<sup>3</sup>, <b>Pellatt (2005)</b></p> <p>“Rehabilitation teams help people to....resume, as far as possible, their former roles in society...enhance people’s ability to contribute productively to society after illness or injury”<sup>6</sup>, <b>Australian Rehabilitation Alliance (2011)</b></p>	6/16 (38%)

	<p>“Rehabilitation involves...process aimed at enabling person to reach an optimum social functional level .....other measures intended to facilitate social adjustment or readjustment”<sup>7</sup>, <b>Cameron (2010)</b></p> <p>“Rehabilitation is defined as the process of restoring or attempting to restore the person...to the maximum level of function of which the person is capable or which the person wishes to achieve and includes...all forms of social rehabilitation such as family counselling, leisure counselling and training for independent living.”<sup>9</sup> <b>NSW Government (2012)</b></p> <p>“Aim to enable persons with disabilities to attain and maintain maximum.... social ability.... and full inclusion and participation in all aspects of life”<sup>5</sup>, <b>UN (2006) – Article 2 &amp; UN (2006) – Article 26</b></p>	
<p><b><u>Optimal/Maximize Functioning:</u></b></p>	<p>“Process aimed at reaching and maintaining an individual’s optimal physical, sensory, intellectual, psychological and social functional levels...Rehabilitation is about a multidisciplinary healthcare team....working together with the patient and family to maximise a person’s abilities and independence”<sup>6</sup>, <b>Australian Rehabilitation Alliance (2011)</b></p> <p>“Process aimed to enabling an impaired person to reach an optimum mental, physical and/or social functional level”<sup>7</sup>, <b>Cameron (2010)</b></p> <p>“Rehabilitation is about....helping the person to maximize their functioning within a given health condition”<sup>12</sup>, <b>Dean, Siegert &amp; Taylor (2012)</b></p> <p>“WHO’s integrative model of functioning, disability and health applies and integrates...approaches to optimize a person’s capacity...develop a person’s performance...with the goal to enable persons with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning”<sup>13</sup>, <b>Meyer et al (2011)</b></p> <p>“Aim to re-habilitate, i.e. restore or return a person to a state of optimal functioning in interaction with his or her environment”<sup>14</sup>, <b>Meyer et al (2014)</b></p> <p>“Defined as having goal to enable persons with health conditions....to achieve and maintain optimal functioning...with all descriptions convey the notion of optimizing function as the ultimate aim of rehabilitation”<sup>14</sup>, <b>Meyer et al (2014)</b></p> <p>“From a health perspective, rehabilitation can be thought of as a "general health strategy with the aim of enabling persons with health conditions experiencing, or likely to experience, disability to achieve and maintain optimal functioning. This definition allows the inclusion of consideration of very different settings or professions who deal with rehabilitation issues...”<sup>14</sup>, <b>Meyer et al (2014)</b></p>	<p>14/16 (88%)</p>

**Optimal/Maximize  
Functioning  
(continued)**

“Rehabilitation is defined as the process of restoring or attempting to restore the person, through the combined and co-ordinated use of medical, social, educational and vocational measures, to the maximum level of function of which the person is capable or which the person wishes to achieve and includes placement in employment and all forms of social rehabilitation such as family counselling, leisure counselling and training for independent living.”<sup>9</sup> **NSW Government (2012)**

“Rehabilitation care in NSW is defined as the provision of care that aims to: restore functional ability for a person who has experienced an illness/injury”<sup>14</sup>, **NSW Health (2011)**

“National Service Framework defines rehabilitation as a multidisciplinary process that supports the individual to achieve his/her maximum potential to function physically, socially and psychologically through support and intervention.”<sup>3</sup>, **Pellatt (2005)**

“One common denominator for the definition of the science and practice of rehabilitation, it is "human functioning", ranging from body functions and structures to activities and participations and the interaction with the person and the environment”<sup>15</sup>, **Stucki (2005)**

“WHO’s integrative model of functioning and disability applies and integrates...approaches to optimize a person’s capacity...develop a person’s performance in the interaction with the environment...with the goal to enable persons with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning”<sup>16</sup>, **Stucki, Cieza & Melvin (2007)**

“Aim to enable persons with disabilities to attain and maintain maximum independence, full physical, mental, social and vocational ability”<sup>5</sup>, **UN (2006) – Article 2 & UN (2006) – Article 26**

“Defines rehabilitation as “a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments...and rehabilitation, where those who have experienced a loss in function are assisted to regain maximal functioning”<sup>10</sup>, **WHO (2011)**

Rehabilitation, defined as "a set of measures that assist individuals, who experience or are likely to experience disability, to achieve and maintain optimum functioning in interaction with their environments" (WHO, 2011), is instrumental in enabling people with limitations in functioning to remain in or return to their home or community, live independently, and participate in education, the labour market and civic life....Rehabilitation measures are aimed at achieving the following broad outcomes: prevention of the loss of function, slowing the rate of loss of function, improvement or restoration of function, compensation for lost function & maintenance of current function.”<sup>11</sup>, **WHO (2012)**

<p><b><u>Compensatory Strategies</u></b></p>	<p>“Rehabilitation teams do not cure people. They help people to improve their function despite their disability, and to resume, as far as possible, their former roles in society.”<sup>6</sup>, <b>Australian Rehabilitation Alliance (2011)</b></p> <p>“It can involve measures intended to compensate for a loss of function or a functional limitation...and other measures to intended to facilitate social adjustment or readjustment”<sup>7</sup>, <b>Cameron (2010)</b></p> <p>“Rehabilitation care in NSW is defined as the provision of care that aims to....enable regaining function and self-sufficiency to the level prior to that illness or injury within the constraints of the medical prognosis for improvement; develop functional ability to compensate for deficits that cannot be medically reversed.”<sup>14</sup> <b>NSW Health (2011)</b></p> <p>“A distinction is sometimes made between habilitation, which aims to help those who acquire disabilities congenitally or early in life to develop maximal functioning; and rehabilitation, where those who have experienced a loss in function are assisted to regain maximal functioning.”<sup>10</sup>, <b>WHO (2011)</b></p> <p>“Rehabilitation measures are aimed at achieving the following broad outcomes:...compensation for lost function”<sup>11</sup>, <b>WHO (2012)</b></p>	<p>5/16 (31%)</p>
<p><b><u>Goal-directed</u></b></p>	<p>“Underlines the ultimate goal of rehabilitation that is the “social participation” of the person, though the intermediate goals of rehabilitation are as crucial as social participation to the person.”<sup>17</sup>, <b>Bloun et al. (2014)</b></p> <p>“Rehabilitation means a goal-oriented and time-limited process”<sup>7</sup>, <b>Cameron (2010)</b></p> <p>““Rehabilitation...is a problem-solving process with four major components: ...goal setting (a process to identify and organize multiple interventions or actions)”<sup>18</sup>, <b>Wade, Smeets &amp; Verbunt (2010)</b></p> <p>“Rehabilitation ...defining rehabilitation goals”<sup>10</sup>, <b>WHO (2011)</b></p>	<p>4/16 (25%)</p>

**Table 2.** Descriptions or Definitions of Rehabilitation Intervention Outcome Measures

<b>Bloun et al.<sup>17</sup> (2014)</b>	<b>Webpage Article</b>	<b><u>International Encyclopaedia of Rehabilitation</u></b> <b>Context:</b> Rehabilitation in Disability
<p>Describes the general category and the domain that rehabilitation belongs to: "process of evaluation and intervention" (and by inclusion "prevention"), and the specificity of the subject of rehabilitation: a person with impairment. By inference, it states that rehabilitation, as a clinical domain, is a scientific domain, as those evaluations and interventions have a scientific basis and this is also a teleological definition as it underlines the ultimate goal of rehabilitation, that is the "social participation" of the person, though the intermediate goals of rehabilitation are as crucial as social participation to the person.</p>		
<b>Dean, Seigert &amp; Tylour<sup>19</sup> (2012)</b>	<b>Book Chapter</b>	<b><u>Chapter 5: Outcome measurement in rehabilitation</u></b> <b>Context:</b> Persons with disability resulting from congenital, traumatic or chronic health condition.
<p>Outcome measures have developed from being rather narrow, biomedical indicators of outcome, such as statistics on death, disease and disability, to include much broader instruments that attempt to capture the individual's personal and subjective experience of disability, health and well-being.</p> <p>Focus on outcomes today is much more on people's abilities and their role in society rather than just on their symptoms and limitations.</p> <p>Two key issues that need to consider when selecting what outcomes are important to measure in rehabilitation. The first issue is precisely which level of functioning is most appropriate or relevant to assess in measuring outcome. This is important because it makes sense to measure outcomes at the level at which therapy or intervention is targeted. The second issue concerns who decides what the important outcomes to measure are? Is it the patient, family, clinician, the service manager, the funder or government? This question of "important to whom?" is arguably the single most important issues in outcome measurement.</p> <p>Siebert &amp; Adams suggest reliable outcome measures consist of patient reported outcome tools (PROM) which are used to measure outcomes but those tools should be created in consultation with a patient to ensure patients participate in determining the important goals for their own treatment.</p>		
<b>Eyssen et al.<sup>4</sup> (2011)</b>	<b>Journal Article</b>	<b><u>A Systematic Review of Instruments Assessing Participation: Challenges in defining Participation</u></b> <b>Context:</b> Patient participation in réhabilitation
<p>"We defined participation as performing roles in domains of social functioning, family, home, financial, work/education, or in general domain. First activities were distinguished from participation by stating that participation requires a social context, involving not just an environmental factor, but mainly involving other people and were therefore not considered as participation.</p> <p>Excluded are self-care activities, even if it included other people, because there is no social context involved. Participation should include a combination of multiple activities; these activities should be related to a role. Social roles distinguishes participation from activities (which are tasks performed by individuals) as participation is the social role performance as a member of society with or for others.</p> <p>Definition left items relating to shopping, sexual life, leisure, transport, and religion as undetermined as it is unclear if these items are related to a specific role function.</p> <p>Excluded autonomy, quality of life (QOL) and well-being. Excluded concepts relating to performance, work productivity, work ability and work limitations as participation as they give information about the ability or the intensity of work rather than about participation in which a social context and role is involved."</p>		

<b>Finch et al.<sup>20</sup> 2002</b>	<b>Book</b>	<b>Physical Rehabilitation Outcome Measures: A guide to enhanced clinical decision making (2nd edition)</b> <b>Context: Physical rehabilitation</b>
Outcome defined as “a characteristic or construct that is expected to change as a result of the provision of a strategy, intervention or program”		
Suggest that three measurement paradigms with particular relevance to evaluating rehabilitation outcomes are (1) the World Health Organisation’s (WHO) International Classification of Functioning, Disability and Health (ICF), (2) health-related quality of life (HRQoL), and (3) cost. Noted that outcomes can be targeted at the level of the organ, the person or the group, and argue that the ideal outcome to measure is the one that is most affected by a strategy, intervention or programme and minimally affected by other influences.		
<b>Gutenbrunner et al.<sup>21</sup> 2007</b>	<b>Journal Article</b>	<b>White Book on Physical and Rehabilitation Medicine in Europe</b>
The two fundamental outcomes of rehabilitation that have to be demonstrated are the person’s well-being and their social and vocational participation. <sup>21</sup>		

## Discussion

Rehabilitation is a term that is commonly used to describe training or treatment services which focus on difficulties following illness or injury. It is a generic term, covering a huge range of potential activities, conditions and circumstances. This snapshot review sought to identify the published definitions of “rehabilitation” within the context of improving participation for people living with a disability following a major injury, in addition to considering the question “what constitutes a rehabilitation outcome?”.

Our search of the academic and grey literature published over the last 10 years revealed that there is no scientific “evidence” supporting a universal definition of rehabilitation or its outcomes. There are, however a range of definitions that have been proposed by experts in the field, including clinicians, academics and influential bodies such as the World Health Organisation. A total of 16 definitions of rehabilitation within a disability context were extracted from these various sources, and from these some common themes were identified. The most commonly cited themes were optimal/maximizing function (88%) and empowerment (56%), with a further 33% of authors specifying social participation (i.e. engagement in life roles as a member of society) within their definition. Underpinning each of these themes is the fundamental concept of self-determination for the individual participating in “rehabilitation”. However, none of the definitions identified in this review explicitly referred to rehabilitation as a person-centred process, suggesting that even within the disability context, rehabilitation models are still largely based on a service-centred, medical model<sup>22</sup>.

A key finding of this snapshot review is that the majority of rehabilitation definitions included a caveat to the requirement of restoring or regaining the individual’s function, with recognition that not everyone will experience a full recovery due to the physiological limitation(s) imposed by the illness or injury itself. Some authors took a broader biopsychosocial view, suggesting a variety of factors including culture, individual values, and societal expectations may impose limitations on the level of function that an individual could reasonably expect to achieve from rehabilitation<sup>6,8,10,11,13,16</sup>. Consistent with the biopsychosocial approach, many authors considered the need for active engagement of the individual to acquire the skills and knowledge necessary to develop their own capabilities and self-sufficiency, as a critical element in the definition of rehabilitation<sup>(5-11)</sup>.

In contrast to the commonalities identified within the definitions of rehabilitation and rehabilitation outcomes included in this review, there were some differences in opinion amongst the authors. For example, Finch et al (2002)<sup>20</sup> described both health-related quality of life and cost as two of the most relevant paradigms in rehabilitation outcome measurement. The issue of cost and economic impact of disability has also been recognized by the Australian Faculty of Rehabilitation Medicine which describes within its purpose statement the aim of rehabilitation is to “... minimize the long-term health care need and community support needs of these people.”<sup>23</sup> Similarly, one of the definitions identified in this review specifically referred to rehabilitation as a time limited intervention<sup>7</sup>, implying support of an episodic approach to rehabilitation for individuals with disability living in the community. Although beyond the scope of the current review, this raises the question of what is the optimal model of rehabilitation for long term disability management (e.g. episodic, time-limited interventions vs. ongoing maintenance therapy).

## Snapshot review limitations

The general limitations of the snapshot review method are described in the Methods section of this review.

However, one of the main limitations specific to this particular review is that all of the definitions of rehabilitation and rehabilitation outcomes identified were based on expert opinion, not scientific evidence. The common themes that were extracted from these definitions reflect our attempt to synthesise the key principles postulated by the various “expert” authors in this field. The findings of this snapshot review may be used to inform knowledge and thinking on this topic, but should not be used as the sole input to decision-making regarding policy and/or practice.

# Appendix A

## Snapshot Review Findings: Published definitions of “Rehabilitation”

<b>Australian Rehabilitation Alliance (2011)</b>	<b>Position Statement</b>	<b><u>The Need for a National Rehabilitation Strategy. Working Towards a clear and united Rehabilitation Strategy for Australia</u></b> <b>Context:</b> Australian population
<p>"Rehabilitation of people with disabilities is a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels. Rehabilitation provides disabled people with the tools they need to attain independence and self-determination."</p> <p>Rehabilitation teams do not cure people. They help people to improve their function despite their disability, and to resume, as far as possible, their former roles in society. Rehabilitation does not happen spontaneously. The process is complex, different for nearly every individual, and requires input from all members of the team, including the patient. Teams can accomplish much more than individuals working alone.</p> <p>At its core, rehabilitation is about a multidisciplinary healthcare team; involving medical, nursing and allied health professionals working together with the patient and their family to:</p> <ul style="list-style-type: none"> <li>➤ maximise a person's abilities and independence</li> <li>➤ restore lost function</li> <li>➤ prevent new or further functional loss</li> <li>➤ provide support and achieve emotional adjustment</li> <li>➤ enhance people's ability to contribute productively to society after injury or illness</li> </ul>		
<b>Bloun et al. (2014)</b>	<b>Webpage Article</b>	<b><u>International Encyclopaedia of Rehabilitation</u></b> <b>Context:</b> Rehabilitation in Disability
<p>Describes the general category and the domain that rehabilitation belongs to: "process of evaluation and intervention" (and by inclusion "prevention"), and the specificity of the subject of rehabilitation: a person with impairment. By inference, it states that rehabilitation, as a clinical domain, is a scientific domain, as those evaluations and interventions have a scientific basis and this is also a teleological definition as it underlines....(refer to Table 3)</p> <p>N.b Continuation of definition in Table 3 re: outcome measures of rehabilitation.</p>		
<b>Cameron (2010)</b>	<b>Journal Article</b>	<b><u>Models of rehabilitation – commonalities of interventions that work and of those that do not</u></b> <b>Context:</b> Persons with a disability
<p>Rehabilitation means a goal-oriented and time-limited process aimed at enabling an impaired person to reach an optimum mental, physical and/or social functional level, thus providing her or him with the tools to change her or his own life. It can involve measures intended to compensate for a loss of function or a functional limitation (for example by technical aids) and other measures intended to facilitate social adjustment or readjustment.</p> <p>Nb. Refers Stucki et al.<sup>6</sup>, 2007 published definition (see below)</p>		

<b>Dean, Siegert &amp; Taylor (2012)</b>	<b>Book Chapter</b>	<b><u>Chapter 7 – Conclusion: rethinking rehabilitation</u></b> <b>Context:</b> Persons with disability resulting from congenital, traumatic or chronic health condition.
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Rehabilitation is not necessarily about returning someone to their pre-injury or pre-illness state, rather it is about helping the person to maximize their functioning within a given health condition, including a condition that maybe deteriorating over time.

<b>Meyer et al. (2011)</b>	<b>Journal Article</b>	<b><u>Towards a Conceptual Description of Rehabilitation as a Health Strategy</u></b> <b>Context:</b> Rehabilitation as a health strategy
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Rehabilitation is the health strategy which, based on **WHO's integrative model of functioning, disability and health** applies and integrates

- approaches to assess **functioning** in light of **health conditions**
- approaches to optimize a **person's capacity**
- approaches that build on and strengthen the resources of the **person**
- approaches that provide a **facilitating environment**
- approaches that develop a **person's performance**
- approaches that enhance a person's health-related quality of life in partnership between person and provider

and in appreciation of the person's perception of his or her position in life over the course of a **health condition** and in all age groups; along and across the continuum of care, including hospitals, rehabilitation facilities and the community, and across sectors, including health, education, labor and social affairs; with the goal to enable persons with **health conditions** experiencing or likely to experience **disability** to achieve and maintain optimal **functioning**

Nb. Refers to and revises Stucki et al., 2007 published definition (see below). ICF terms in the proposed ICF-based conceptual description are marked in bold.

<b>Meyer et al. (2014)</b>	<b>Journal Article</b>	<b><u>ISPRM Discussion Paper: Proposing a Conceptual Description of Health-Related Rehabilitation Services</u></b> <b>Context:</b> Rehabilitation as a key health strategy to address disability
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Rehabilitation (in the area of health) is best described by its aim, to re-habilitate, i.e. to restore or return a person to a state of optimal functioning in interaction with his or her environment. Hence rehabilitation relates to the individual level. Interventions on the societal level, e.g. barrier removal initiatives, are not considered rehabilitation.

N.b. Above referring to WHO (2011)<sup>10</sup> published definition (see below)

Rehabilitation has been defined as "a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments" with the goal "to enable persons with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning.

All descriptions convey the notion of optimizing functioning as the ultimate aim of rehabilitation.

From a health perspective, rehabilitation can be thought of as a "general health strategy with the aim of enabling persons with health conditions experiencing, or likely to experience, disability to achieve and maintain optimal functioning. This definition allows the inclusion of consideration of very different settings or professions who deal with rehabilitation issues..."

<b>NSW Government (2012)</b>	<b>Final Report</b>	<b><u>Rehabilitation Redesign Project Final Report</u></b> <b>Context:</b> Person who experienced illness or injury
Rehabilitation is defined as the process of restoring or attempting to restore the person, through the combined and co-ordinated use of medical, social, educational and vocational measures, to the maximum level of function of which the person is capable or which the person wishes to achieve and includes placement in employment and all forms of social rehabilitation such as family counselling, leisure counselling and training for independent living.		
<b>NSW Health (2011)</b>	<b>Final Report</b>	<b><u>Rehabilitation Redesign Project Final Report</u></b> <b>Context:</b> Person who experienced illness or injury
An operational definition has been adopted to support the development of a NSW Rehabilitation Model of Care that can be consistently operationalised and implemented. Rehabilitation care in NSW is defined as the provision of care that aims to: <ul style="list-style-type: none"> <li>➤ restore functional ability for a person who has experienced an illness or injury</li> <li>➤ enable regaining function and self-sufficiency to the level prior to that illness or injury within the constraints of the medical prognosis for improvement</li> <li>➤ develop functional ability to compensate for deficits that cannot be medically reversed.</li> </ul>		
<b>Pellatt (2005)</b>	<b>Journal Article</b>	<b><u>Redefining rehabilitation from spinal cord injury: A process-outcome model</u></b> <b>Context:</b> Spinal cord injury patient sample
<p>"National Service Framework defines rehabilitation as a multidisciplinary process that supports the individual to achieve his/her maximum potential to function physically, socially and psychologically through support and intervention. "</p> <p>A qualitative study investigating patients and professionals' definitions of SCI rehabilitation. The findings suggest that patients and health professionals define rehabilitation in three ways.</p> <p>The three definitions that emerged were:</p> <ul style="list-style-type: none"> <li>• "toolbox" – a process which features the provision of physical and psychosocial skills that enable patients to deal with a range of problems now and in the future; tools can be added as patients progress through life</li> <li>• "picking up one's life again" – an outcome which features getting back to the "real world", picking up the life one had prior to the spinal cord injury and</li> <li>• "empowerment" – a process and outcome which features being in control and making decisions.</li> </ul>		
<b>Stucki (2005)</b>	<b>Journal Article</b>	<b><u>International Classification of Functioning, Disability, and Health (ICF). A Promising Framework and Classification for Rehabilitative Medicine</u></b> <b>Context:</b> Disability due to health conditions in rehabilitation medicine
One common denominator for the definition of the science and practice of rehabilitation, it is "human functioning", ranging from body functions and structures to activities and participations and the interaction with the person and the environment.		
<b>Stucki, Cieza &amp; Melvin (2007)</b>	<b>Journal Article</b>	<b><u>The International Classification of Functioning, Disability and Health: A Unifying Model for the Conceptual Description of the Rehabilitation Strategy.</u></b> <b>Context:</b> Rehabilitation as a health strategy
Rehabilitation is the health strategy which:		

- based on **WHO's integrative model of human functioning and disability**
- applies and integrates biomedical and engineering approaches to optimize a **person's capacity** approaches which build on and strengthen the resources of the **person** approaches which provide a **facilitating environment** and approaches which develop a **person's performance** in the interaction with the **environment**
- over the course of a **health condition**
- along and across the continuum of care ranging from the acute hospital to rehabilitation facilities and the community
- and across sectors including health, education, labor and social affairs
- with the goal to enable people with **health conditions** experiencing or likely to experience **disability** to achieve and maintain optimal **functioning** in interaction with the **environment**

Rehabilitation is:

the core strategy for the medical speciality PRM

a major strategy for rehabilitation professions

a relevant strategy for other medical specialities and health professions, service providers and payers in the health sector and a relevant strategy for professionals and service providers across sectors caring for or interacting with people with health conditions experiencing or likely to experience disability.

ICF terms in the proposed ICF-based conceptual description are marked in bold.

UN (2006)	Webpage	<b>Article 2 – Convention on the Rights of Persons with Disabilities</b> <b>Context:</b> Persons with disability
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Rehabilitation is understood and characterized by its aim, "to enable persons with disabilities to attain and maintain maximum independence, full physical, mental, social and vocational ability, and full inclusion and participation in all aspects of life"

UN (2006)	Webpage	<b>Article 26– Convention on the Rights of Persons with Disabilities</b> <b>Context:</b> Persons with disability
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"Habilitation" refers to a process aimed at helping people gain certain new skills, abilities, and knowledge. "Rehabilitation" refers to re-gaining skills, abilities or knowledge that may have been lost or compromised as a result of acquiring a disability, or due to a change in one's disability or circumstances. The goals of habilitation and rehabilitation as defined in the Convention on the Rights of Persons with Disabilities (CRPD) are to "enable persons with disabilities to attain and maintain maximum independence, full physical, mental, social and vocational ability, and full inclusion and participation in all aspects of life."

<b>Wade, Smeets &amp; Verbunt (2010)</b>	<b>Journal Article</b>	<b><u>Research in rehabilitation medicine: Methodological challenges</u></b> <b>Context:</b> Various intervention settings in rehabilitation medicine
<p>“Rehabilitation” is taken to be a process and not a treatment or specific action. In particular, it is a problem-solving process with four major components: assessment (diagnosis, the collection of data to formulate the situation); goal setting (a process to identify and organize multiple interventions or actions); interventions (specific actions or activities); and evaluation (comparing actual and planned outcomes).</p>		
<b>WHO (2011)</b>	<b>Report</b>	<b><u>World report on disability</u></b> <b>Context:</b> Persons with disability
<p>This report defines rehabilitation as “a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments”. A distinction is sometimes made between habilitation, which aims to help those who acquire disabilities congenitally or early in life to develop maximal functioning; and rehabilitation, where those who have experienced a loss in function are assisted to regain maximal functioning.</p> <p>In this chapter the term “rehabilitation” covers both types of intervention. Although the concept of rehabilitation is broad, not everything to do with disability can be included in the term. Rehabilitation targets improvements in individual functioning – say, by improving a person’s ability to eat and drink independently. Rehabilitation also includes making changes to the individual’s environment – for example, by installing a toilet handrail. But barrier removal initiatives at societal level, such as fitting a ramp to a public building, are not considered rehabilitation in this report.</p> <p>Rehabilitation reduces the impact of a broad range of health conditions.</p> <p>Typically rehabilitation occurs for a specific period of time, but can involve single or multiple interventions delivered by an individual or a team of rehabilitation workers, and can be needed from the acute or initial phase immediately following recognition of a health condition through to post-acute and maintenance phases. Rehabilitation involves identification of a person’s problems and needs, relating the problems to relevant factors of the person and the environment, defining rehabilitation goals, planning and implementing the measures, and assessing the effects. Educating people with disabilities is essential for developing knowledge and skills for self-help, care, management, and decision-making. People with disabilities and their families experience better health and functioning when they are partners in rehabilitation.</p>		
<b>WHO (2012)</b>	<b>Concept Paper</b>	<b><u>WHO Guidelines on Health-Related Rehabilitation (Rehabilitation Guidelines)</u></b> <b>Context:</b> Persons with disability
<p>Rehabilitation, defined as "a set of measures that assist individuals, who experience or are likely to experience disability, to achieve and maintain optimum functioning in interaction with their environments" (WHO, 2011), is instrumental in enabling people with limitations in functioning to remain in or return to their home or community, live independently, and participate in education, the labour market and civic life.</p> <p>Rehabilitation measures are aimed at achieving the following broad outcomes:</p> <ul style="list-style-type: none"> <li>➤ prevention of the loss of function</li> <li>➤ slowing the rate of loss of function</li> <li>➤ improvement or restoration of function</li> <li>➤ compensation for lost function</li> <li>➤ Maintenance of current function.</li> </ul> <p>Rehabilitation is always voluntary, and some individuals may require support with decision-making about rehabilitation choices. In all cases rehabilitation should help empower a person with a disability and his or her family. Rehabilitation is cross-sectoral and may be carried out by health professionals in conjunction with specialists in education,</p>		

employment, social welfare and other fields. In resource poor contexts it may involve non-specialists workers – for example, community-based rehabilitation workers in addition to family, friends and community groups. Rehabilitation can be provided in a range of settings including acute care hospitals, specialized rehabilitation wards, hospitals or centres, nursing homes, respite care centres, institutions, hospices, prisons, residential educational institutions, military residential settings, or single multi professional practices. Longer-term rehabilitation may be provided within community settings and facilities such as primary health care centres, rehabilitation centres, schools, work places or homes.

## Appendix B

Themes evident within “Rehabilitation” definitions

	Themes Evident					
	Empowerment	Social Participation	Optimal/Maximize Functioning	Compensatory Strategies	Goal-directed	Other
Australian Rehabilitation Alliance (2011)	✓	✓	✓	✓	✓	Achieve emotional adjustment
Bloun & Vallejo Echeverri (2014)						
Cameron (2010)	✓	✓	✓	✓	✓	Mental functional level
Dean, Siegert & Taylor (2012)			✓			
Meyer et al. (2011)	✓		✓			
Meyer et al. (2014)			✓			
NSW Government (2012)	✓	✓	✓			
NSW Health (2011)			✓	✓		
Pellatt (2005)	✓	✓	✓			Psychological function
Stucki (2005)			✓			
Stucki, Cieza & Melvin (2007)			✓			
UN (2006) – Article 2	✓	✓	✓			Independence Vocational ability Mental functional level
UN (2006) – Article 26	✓	✓	✓			Independence Vocational ability Mental functional level
Wade, Smeets & Verbunt (2009)					✓	
WHO (2011)	✓		✓	✓	✓	
WHO (2012)	✓		✓	✓		
<b>TOTAL DEFINITIONS: 16</b>	<b>9</b>	<b>6</b>	<b>14</b>	<b>5</b>	<b>4</b>	<b>-</b>

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