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# Call for a New Zealand Rehabilitation Strategy

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## Call for a New Zealand Rehabilitation Strategy

A New Zealand Rehabilitation Strategy is needed to ensure people who experience disability from illness or injury are supported in optimising their recovery and in reducing secondary complications through timely and skilled rehabilitation services.

Scientific advances over the last 50 years have provided evidence-based rehabilitation practice and treatment possibilities for people with disability that are cost effective and provide optimal patient outcomes. Unfortunately, delivery of rehabilitation services has not kept pace, and is basically provided within the same scope as it was 40 to 50 years ago. Many New Zealanders are therefore not achieving the health outcomes that are possible and realistic.

A clear New Zealand Rehabilitation Strategy will promote cost-effective healthcare through improved patient outcomes and reduction in avoidable health and societal care costs, which result from secondary complications and preventable disability.

New Zealand showed great leadership in recognising the importance of rehabilitation by being one of the first signatories of the United Nations (UN) Convention on the Rights of Persons with Disabilities, Article 26.

Among the major outcomes of the UN Decade of Disabled Persons (1983-1992) was the adoption by the World Health Organization (WHO) General Assembly, in 1993, of the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities<sup>1</sup>. In these Standard Rules, Rule 3 'Rehabilitation' states that rehabilitation is a fundamental concept in disability policy and that:

*"States should ensure the provision of rehabilitation services to persons with disabilities in order for them to reach and sustain their optimum level of independence and functioning."*

Recently, WHO, after consultation with UN organisations and Member States, identified the need to further develop success indicators that can help measure and monitor the progress of the international community in meeting these standards. The 67<sup>th</sup> World Health Assembly has adopted a resolution endorsing the *WHO Action Plan 2014 – 2021: better health for persons with disabilities*<sup>2</sup>. The Action Plan will provide a major boost to WHO and governments' efforts to enhance the quality of life of the one billion people around the world with disabilities.

This paper outlines the need for a New Zealand Rehabilitation Strategy and provides a foundation for its development. This call has been developed by both the Australasian Faculty of Rehabilitation Medicine of the Royal Australasian College of Physicians (AFRM RACP) and the New Zealand Rehabilitation Association (NZRA).

The aims of the Strategy would be to:

- Guide policy and practice of healthcare for those with disability.
- Improve the health, wellbeing and functional abilities of New Zealanders who experience disability from illness or injury.
- Reduce the individual and Whānau/family burden of impairment and disability
- Enhance functional ability and independence thus reducing the need for community support for personal care and societal cost of disability.
- Improve participation outcomes and the ability to contribute to family, the community and the economy by encouraging return to life roles and work force participation.
- Create equity in rehabilitation service accessibility and provision across New Zealand.
- Promote leadership in healthcare and rehabilitation reform.

1. United Nations. (1993). *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities Adopted by the United Nations General Assembly, forty-eighth session, resolution 48/96, annex, of 20 December 1993*. Retrieved from <http://www.un.org/esa/socdev/enable/dissre00.htm> Note: international language about disability varies from that preferred by disabled New Zealanders.

2. See <http://www.who.int/disabilities/actionplan/en/> for more information.

This document, developed collaboratively by New Zealand members of AFRM RACP and NZRA, identifies the need for a New Zealand Rehabilitation Strategy.



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## 1. Executive Summary

Extensive international research has proven that timely and skilled rehabilitation reduces the disabling consequences associated with many acute medical conditions, chronic illness and injury. Rehabilitation allows those whose lives have been saved by acute medical care to regain a life worth living.

The state of New Zealand's rehabilitation services has been described as "woeful" by the Executive Chair of Health Workforce New Zealand, Professor Des Gorman. Recognition of the inadequacy and inequity of rehabilitation services in New Zealand and the need for improvement are clear. To date, there has been no national focus towards addressing these needs.

Within this document we provide evidence that timely and skilled rehabilitation improves patient outcomes and reduces the societal burden of disability. We also point to data supporting the cost benefit of coordinated rehabilitation services. Four current issues emphasise the immediate need for development of a New Zealand Rehabilitation Strategy to direct improvement in the provision of rehabilitation services in New Zealand:

1. Our population is ageing with more people surviving longer after injury or illness, often with chronic medical conditions. It is crucial to enhance this survival with disability-free years.
2. People of all ages are surviving life-threatening conditions due to a greater focus on prevention, early detection and improvements in care. Many are, however, surviving with significant negative effects on health and function due to the condition itself (e.g. stroke), or due to the treatment they receive (e.g. cancer). Without intervention, disability from these conditions is likely to worsen over time resulting in secondary complications, increased healthcare costs and diminished quality of life.
3. Health and rehabilitation needs of Māori are not being met. Inadequate rehabilitation service provision, severely limited number of Māori rehabilitation service providers, lack of understanding of the cultural aspects of illness and limited understanding, and incorporation, of cultural practices further diminishes positive outcomes after illness or injury and in chronic health conditions.
4. Significant advances in physical and medical rehabilitation treatments, and in evidence-based, best practice models of care have increased the opportunities to restore independence and improve function in those with acute and chronic disabilities. New Zealanders are entitled to access timely and skilled rehabilitation based on international standards of rehabilitation care.

There is now a consensus amongst health and political leaders that New Zealand is moving towards unsustainable health and social support systems and that action is urgently needed. This document supports the case that an integral part of that action is a coordinated, New Zealand-specific strategy that enables, and ensures skilled rehabilitation services' recognition as significant contributors to, a healthy, efficient and highly functioning health system. Recognition of some of these issues has prompted the Ministry of Social Development (MSD) and the Accident Compensation Corporation (ACC) to initiate discussions and development of changes regarding various disability concerns.

### **Position Statement Recommendations:**

- **Priority is given to the development of a New Zealand Rehabilitation Strategy to guide policy and service development, which will enhance the health and wellbeing of New Zealanders who experience disability from illness or injury.**
- **A cross-government collaboration is initiated, comprised of the Ministry of Health, the Ministry of Social Development, the Accident Compensation Corporation and The Treasury, to develop this Strategy.**
- **Key stakeholders in the provision of health and social services, leaders in Māori health affairs, consumers of health and disability services and the health professional community are involved in the development of a New Zealand Rehabilitation Strategy .**
- **Policies are operationalised in national and local action that is audited and evaluated for patient and societal outcomes, governmental impact and cost benefit.**

The co-signatories of this Position Statement are extremely willing to work with government towards realising this Strategy.

## 2. What is Rehabilitation?

Rehabilitation is a comprehensive, interdisciplinary and biopsychosocial process aimed at enabling people with conditions that impact on health and function to reach and maintain their optimal physical, sensory, intellectual, psychological and social abilities in order to live a meaningful life. Rehabilitation, when delivered at its best, provides people with the tools they need to attain maximal health, function, independence and self-determination.

In May 2001, the World Health Organization (WHO) adopted the International Classification of Functioning, Disability and Health (ICF)<sup>3</sup>. The new classification system modified the concept of disability to recognise that personal and environmental factors directly influence the experience of disability. Consensus is that the 'disability' is not *within the person* but is due to limitations placed upon the person by the environment. Previous terminology, such as 'handicap', has been replaced because of its negative connotations.

Within the ICF framework, rehabilitation is seen as a coordinated process that enhances 'activity' and 'participation in important life roles and in society', and minimises the experience of disability. It requires a comprehensive understanding of human functioning.

Whilst acute medical care treats, and on occasion cures, illness or injury, rehabilitation facilitates improvement in people's ability to function even when there is persistent impairment or disease. It works to help people obtain or resume, as far as possible, optimal roles in society and to limit preventable secondary impairments. Although some people manage to 'rehabilitate' themselves after minor injury or illness, for many others the process is complex and requires skilled assistance.

Rehabilitation is different for every individual and to maximise outcomes, requires input from a range of skilled health and social care professionals as well as the patient and whānau/family.

At its core, rehabilitation is truly patient-centred care supported by the skills of an interdisciplinary healthcare team (see Appendix 2) working with the patient and their family/whānau to:

- maximise a person's abilities and independence
- restore function
- prevent new, or further, functional loss or medical complication
- provide support to help the person and their family/whānau achieve emotional adjustment
- enhance the person's ability to contribute productively to family and society
- maintain health and wellbeing in complexity.

Throughout this document we provide case stories of people who have received skilled rehabilitation services. Stories have been told with the consent of the person concerned, and identifying details have been amended to ensure confidentiality is maintained.

### Danielle's story

Danielle, an 18-year-old woman, was driving her car in October 2008 when she lost control and crashed.

She was admitted to hospital with life-threatening injuries and in a coma. A brain scan showed severe bleeding with diffuse brain injury. She had multiple fractures of the face, right arm and pelvis. After she emerged from a prolonged coma, Danielle was transferred to a brain injury rehabilitation service in Auckland. She couldn't walk for three months due to her pelvic fractures and remained confused and amnesic. After five months she became more orientated and was able to remember day-to-day activities and information.

Danielle had six months of inpatient rehabilitation involving a team which included a doctor of rehabilitation medicine, a physiotherapist, an occupational therapist, a speech therapist, a psychologist and a social worker. At the end of her inpatient rehabilitation she was fully mobile. Because of behavioural changes and poor safety awareness due to her brain injury she was discharged home to her mother's care. She received on-going community rehabilitation funded by ACC and day centre activities at the Stewart Centre (run by the Brain Injury Association).

After two years, Danielle was able to set up her own flat supported by a caregiver who provided a few hours' assistance per day. After three years, the behavioural changes were much improved. She is now in a relationship and needs progressively less oversight from caregivers and her mother. Her memory problems persist but she copes well by structuring her day and by using memory aids.

3. World Health Organization. (2001). *International Classification of Functioning, Disability and Health*. Geneva: WHO.

### 3. An Historical Perspective of the ‘Right’ to Rehabilitation

New Zealand showed great leadership in recognising the importance of rehabilitation by being one of the first signatories of the UN Convention on the Rights of Persons with Disabilities, Article 26. The Convention, ratified by both the Australian and New Zealand Governments<sup>4</sup>, identifies rehabilitation as a Human Right.

A World Health Assembly resolution called on WHO to assist Member States in developing policies on disability and rehabilitation<sup>5</sup>. Among the major outcomes of the Decade of Disabled Persons was the adoption by the WHO General Assembly, in 1993, of the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities<sup>6</sup>. Although not a legally-binding instrument, the Standard Rules represent a strong moral and political commitment from governments to take action to attain equalisation of opportunities for persons with disabilities.

In these Standard Rules, Rule 3 ‘Rehabilitation’ states that rehabilitation is a fundamental concept in disability policy and that:

- *“States should ensure the provision of rehabilitation services to persons with disabilities in order for them to reach and sustain their optimum level of independence and functioning.*
- *States should develop national rehabilitation programs for all groups of persons with disabilities. Such programs should be based on the actual individual needs of persons with disabilities and on the principles of full participation and equality.*
- *Such programs should include a wide range of activities, such as basic skills training to improve or compensate for an affected function, counselling of persons with disabilities and their families, developing self-reliance and occasional services such as assessment and guidance.*
- *All persons with disabilities, including persons with severe and / or multiple disabilities, who require rehabilitation should have access to it.*
- *Persons with disabilities and their families should be able to participate in the design and organization of rehabilitation services concerning themselves.*
- *All rehabilitation services should be available in the local community where the person with disabilities lives. However, in some instances, in order to attain a certain training objective, special time-limited rehabilitation courses may be organized, where appropriate, in residential form.*
- *Persons with disabilities and their families should be encouraged to involve themselves in rehabilitation, for instance as trained teachers, instructors or counsellors.*
- *States should draw upon the expertise of organizations of persons with disabilities when formulating or evaluating rehabilitation programmes.”*

Given the leadership New Zealand showed in its early signing of this Declaration and in development of a specific Disability Strategy, we have an excellent platform on which to build. There is no doubt, however, that we could do much better in relation to developing and implementing a number of these statements of intent.

### 4. Rehabilitation Concerns in New Zealand

With an ageing population, the increased survival from what were previously fatal illnesses and the high numbers of trauma adding to the burden of chronic disease, the potential for rehabilitation to make a difference to individuals and to society is steadily increasing. Rehabilitation is a Human Right enshrined by the UN Convention on the Rights

4. United Nations. (2006). *Final report of the Ad Hoc Committee on a Comprehensive and Integral International Convention on the Protection and Promotion of the Rights and Dignity of Persons with Disabilities [A/61/611]*. Retrieved from <http://www.un.org/esa/socdev/enable/rights/ahcfinalrepe.htm>

5. World Health Organization. (2005). WHA58.23 – *Disability, including prevention, management and rehabilitation*. Retrieved from [http://www.who.int/disabilities/WHA5823\\_resolution\\_en.pdf](http://www.who.int/disabilities/WHA5823_resolution_en.pdf)

6. United Nations. (1993). *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities Adopted by the United Nations General Assembly, forty-eighth session, resolution 48/96, annex, of 20 December 1993*. Retrieved from <http://www.un.org/esa/socdev/enable/disre00.htm> Note: international language varies from that preferred by disabled New Zealanders.

of Persons with Disabilities, Article 26, a Convention ratified by the New Zealand Government. However, funding for rehabilitation services in New Zealand is non-uniform and largely historically determined. Over time this has contributed to a situation where we now have inadequate service delivery in many parts of the country and in many populations.

The lack of sufficient, effective rehabilitation services has human and economic consequences that are wide ranging, including, but not limited to:

- persistence of avoidable disability for many New Zealanders
- inefficiencies and inequities in the public health system including 'bed blocking' of acute medical and surgical beds and unnecessary, unplanned readmissions
- serious societal consequences when clients with disability and adjunct high, complex needs (e.g. behavioural, forensic, drug and alcohol and mental health issues) are neglected or receive limited care
- high demands on community resources and long term care that cannot be met
- increased societal costs for welfare benefits and disability support care
- reduced participation in, and contribution to, society
- reduced participation in the workforce
- demands on Whānau/family members and finances when one member requires help in the home and/or has lost an income due to disability (often, the family member providing care must alter their employment/income as well).

Numerous reports over the last 30 years have clearly demonstrated the underlying deficiencies and concerns related to rehabilitation services in New Zealand and yet this situation persists<sup>7</sup>.

## 5. Disability in New Zealand

New Zealand census data from 2013<sup>8</sup> identifies an estimated 1,062,000 New Zealanders as being disabled<sup>9</sup> (24 per cent of the total population). This is a high prevalence when considering other countries as sourced in Daniel Mont's paper of 2007<sup>10</sup>. The majority of disabled people (82 per cent) were adults living in households, while 4 per cent were adults living in residential facilities. Children made up 14 per cent of those living in households.

It is known that the risk of disability increases with age and in view of the ageing population, we can predict increased numbers of disabled older adults over the years to come. Another sobering statistic from the 2013 Disability Survey<sup>11</sup> is almost half (47 percent) of adults impaired by accident or injury reported that the damage occurred at work.

Prevalence of disability in New Zealand sub populations:

- Children and Disability

Congenital and birth injuries account for 49 per cent of disabled children. Second to that are the 33 percent of disabled children whose cause of impairment falls under 'other cause'. This includes conditions on the autism spectrum, attention deficit hyperactivity disorder, and developmental delay, as well as dyslexia and dyspraxia. Childhood disability comes at a cost to New Zealand's education system with 5 per cent of children requiring special education interventions. This equates to almost half our disabled children requiring the services of Special Education from the Ministry of Education. A number of these children also have either psychiatric or psychological impairments.

7. Moore, T. (1995). *Habilitation and Rehabilitation in New Zealand: a paper commissioned by the National Advisory Committee on Core Health and Disability Support Services*. Wellington: ACC; Bolt, B, and New Zealand Rehabilitation Review Committee. (1982). *Report of the Rehabilitation Committee*. Wellington: Department of Social Welfare; Department of Health, Planning and Research Unit. (1975). *Annual Report of the Department of Health*. Christchurch: Health Planning and Research Unit.

8. Statistics New Zealand. (2014). *Disability Survey: 2013*. Retrieved from [http://www.stats.govt.nz/browse\\_for\\_stats/health/disabilities/DisabilitySurvey\\_HOTP2013.aspx](http://www.stats.govt.nz/browse_for_stats/health/disabilities/DisabilitySurvey_HOTP2013.aspx)

9. We use the term 'disabled people' in preference to 'people with disabilities' in recognition that disability is a social construct as described in the *New Zealand Disability Strategy*.

10. Mont D. (2007). *Measuring Disability Prevalence: Social Protection Discussion Paper no. 0706*. Washington D.C.: The World Bank.

11. Statistics New Zealand, Op. Cit.

- Adults and Disability

Physical impairment is the most common cause of disability in adults (64 per cent of disabled adults) with a further 34 per cent due to accidents or injuries. The third leading cause of adult impairment is identified as 'natural ageing', which applied to 31 per cent of disabled New Zealand adults.

- Māori and Disability

Data from the 2013 New Zealand Census revealed there are approximately 176,600 disabled Māori. Most of these people live in households, with only 1 per cent residing in residential care. A majority of disabled Māori were noted to be less than 45 years of age (57 per cent) and had sustained their impairment as a result of disease or illness (40 per cent). Twenty eight percent (28 per cent) sustained disability as a result of an injury or accident occurring in the home, workplace or from a motor vehicle accident. Approximately 35,000 Māori children are disabled.

- Pacific People and Disability

According to the 2013 Census data approximately 43,000 Pacific adults were identified as experiencing a disability with the most common cause of impairment being a physical impairment (58 per cent). More than half of disabled Pacific peoples were aged less than 45 years. Approximately 9,000 Pacific children were recorded as experiencing a disability.

### Anna's story

Anna is a 12-year-old girl previously active, well, and outgoing, who developed a fairly sudden onset of left foot pain whilst playing in a school netball tournament.

After three weeks, the pain failed to settle. She was taken to her family doctor where X-ray showed no abnormalities. She continued to attend school, but was unable to participate in physical education classes. Pain persisted and eventually her foot became cold, clammy and purple. She managed to walk only by using bilateral elbow crutches. Some three months from the onset of symptoms she was seen by an orthopaedic surgeon, who arranged an MRI scan. The scan showed a possible stress fracture of the distal 1st metatarsal. A diagnosis of Complex Regional Pain Syndrome (CRPS) was made. Over the next three months Anna had a number of Emergency Department attendances due to continued escalation of pain in her foot. Her foot was immobilised in a cast, twice for four weeks each time, without improvement. Eventually a moon boot was provided and she was referred to a physiotherapist for range of movement exercises which she found too painful to perform.

Over time, Anna's foot pain started to affect the whole family. Her parents became over-protective of her, whilst her sibling expressed resentment towards Anna's foot and threatened to "stomp on it". As a result, Anna was reluctant to part with the protective moon boot, which she wore even in bed at night. She began to have bad dreams about her foot and withdrew from social contact with her school friends. The local hospital, which covers a population of 168,000, provides generic rehabilitation services headed by geriatricians but no pain management or rehabilitation clinics. After more than 10 months from the onset of her symptoms Anna's orthopaedic surgeon referred her to a rehabilitation medicine physician. The rehabilitation specialist initiated a coordinated interdisciplinary rehabilitation programme with input from a physiotherapist and a psychologist, both with experience in treating pain disorders in this age group. At long last, Anna began to make progress through the holistic approach taken to understand and to treat the effects CRPS had on Anna and her family.

## 6. The Evolution of New Zealand Rehabilitation

Historically, rehabilitation has been an inpatient activity, run out of publicly funded hospitals for persons over 65 years of age and often overseen by geriatricians. A few New Zealand rehabilitation services have developed programmes to include those under 65 who have acquired disability due to illness or injury. The focus of rehabilitation has been to help people regain their functional abilities or learn to adapt to the changes in ability following conditions such as stroke, amputation, traumatic brain injury, joint replacement, fractures, multi-trauma, spinal cord injury or neurological disease.

In addition, rehabilitation has been an essential component in management of people disabled due to developmental and intellectual impairment. In more recent times rehabilitation has expanded into community

locations. Currently, rehabilitation services fulfil many different functions within New Zealand and are provided in a number of key locations, including:

- public hospitals (e.g. for people who cannot go home from hospital without further improvement in function)
- community-based outpatient facilities
- community-based rehabilitation team (services provided in the home setting and/or as transition to return to work)
- people's own homes (e.g. for people who require assistance to maximise their ability to function or to fulfil their normal social roles after an injury or illness)
- schools (e.g. for children with congenital or acquired disabilities requiring input to maximise their ability to engage in education)
- The workplace (e.g. helping people regain or maintain employment after acquiring disability or illness)
- specialist residential facilities or supported accommodation (e.g. for people who need longer periods of post-acute rehabilitation during their transition from hospital to the community after serious injuries or illnesses)
- residential facilities for older adults.

It is important to acknowledge that there have been gains in New Zealand, particularly in the areas of rehabilitation of the elderly, rehabilitation of those who are injured with specialist rehabilitation of those who have sustained a brain injury or spinal cord injury, and in raising awareness of the rights of persons living with disability. However, there remain significant areas of disparity in rehabilitation service provision nationally.

In 2011, 20 District Health Boards (DHBs) and a number of community-based private providers of rehabilitation were identified as providing some form of rehabilitation service and often several different types of services. There are approximately 40 inpatient rehabilitation units in New Zealand. The majority of these facilities have no rehabilitation medicine specialist physician on staff or providing input into the therapy programme. All rehabilitation units are now members of the Australasian Rehabilitation Outcomes Centre (AROC), the last few taking up their membership in early 2012. In the 2011 calendar year, 23 units submitted data to AROC, reporting on some 5,000 inpatient rehabilitation episodes (see Appendix 4).

In 1974, the Accident Compensation Corporation (ACC), a universal no-fault accident insurance scheme, was set up in New Zealand. ACC has led the way in terms of case-managed, timely rehabilitation of persons injured in New Zealand. The scheme is cost effective compared to many international standards and the outcomes appear comparable to those obtained in Australia<sup>12</sup>. The legislation underpinning ACC only covers those who need rehabilitation after injury. This has resulted in an unforeseen consequence of disparity in service provision. These issues were addressed in a 1995 report to the National Advisory Committee on Core Health and Disability Support Services<sup>13</sup>. The author in his introduction to this document said:

*"There is no national rehabilitation policy, nor is there one single state agency with responsibility for co-ordinating the wide variety of rehabilitation initiatives... However, there are centres of excellence in this country, which have developed because of our isolation and our small population base. They are focused on innovative individuals and on small-scale programmes, rather than large scale institutions."*

Unfortunately these comments are still applicable 20 years later.

In 2000, the New Zealand Government created the office of the Minister for Disability Issues and in 2001 released the *New Zealand Disability Strategy*<sup>14</sup>. The main focus of this document was to establish the rights of and ensure access to appropriate resources for persons living with disability. One of the stated objectives was to: 'Develop and maintain effective rehabilitation services'. Unfortunately, there was no strategy in the document for implementation of that objective.

Gaps in disability service provision between Māori and Pakeha in New Zealand/Aotearoa remain. Studies show that Māori experience higher rates of disability (26 per cent) compared to non-Māori (24 per cent) despite a more youthful population and lower life expectancy. In addition, Māori have lower rates of access to rehabilitation

12. Australasian Rehabilitation Outcomes Centre. (n.d.). AROC Annual Reports and Benchmarks. Retrieved from <http://ahsri.uow.edu.au/aroc/annualreports/index.html>

13. Moore, Op. Cit.

14. Ministry of Health. (2001). *New Zealand Disability Strategy. Making a World of Difference / Whakanui Oranga*. Wellington: Ministry of Health. Retrieved from <http://www.odi.govt.nz/documents/publications/nz-disability-strategy.pdf>

services. When surveyed, disabled Māori indicated higher levels of unmet need for health services, transport costs and disability related equipment. These difficulties are increased further for the 16 per cent<sup>15</sup> of Māori who live in semirural or rural areas where transport difficulties and access to rehabilitation specialists becomes even more challenging. Northland, Lakes, Tairāwhiti and Bay of Plenty DHBs have high Māori populations, and yet there are no AFRM Fellows or rehabilitation medicine consultants providing care in these areas (see Table 2). Better access to specialist rehabilitation services tailored to Māori is needed<sup>16</sup>.

2011 saw the launch of the *Australian and New Zealand Consensus Statement on the Health Benefits of Work* by the Australasian Faculty of Occupational and Environmental Medicine (AFOEM), of RACP, which was widely endorsed by all sectors of Government as well as ACC and the professional colleges<sup>17</sup>. Full implementation will require incorporation of a variety of rehabilitation services and occupational health services. This will place an increased demand on rehabilitation services aimed at removing the barriers an individual living with disability faces in order to achieve workforce participation.

## 7. Support for Rehabilitation Services

Although there has been increasing recognition of the importance of rehabilitation in New Zealand, the public profile of rehabilitation services is still relatively poor.

There is now good international evidence that rehabilitation leads to better outcomes for older adults after hospitalisation with acute illnesses such as stroke, cardiac disease and fractured neck of femur. The valuable role of rehabilitation in returning a hospitalised elderly person to their own home, rather than to an expensive institutional care facility, has long been recognised. Rehabilitation for younger people aging with congenital and acquired disabilities has received less attention from health funders.

**Table 1: A sample of the evidence base for contributions made by rehabilitation<sup>i</sup>**

Contribution	Recent examples of evidence (in some cases better evidence is still required)	Examples of potential application (selection only)
1. Prevention (primary, secondary and tertiary) of avoidable consequences of disabling and chronic conditions	(Larsen, Sorensen et al. 2008; Griffo, Ambrosetti et al. 2012; Stergiou-Kita, Rappolt et al. 2012; Teasell, Foley et al. 2012)	<ul style="list-style-type: none"> <li>Exercises to strengthen health and fitness of people prior to elective surgery</li> <li>Early and effective treatment of spasticity post stroke</li> </ul>
2. Coordinated interdisciplinary care management for people with complex and disabling health conditions to support engagement/reengagement	(Boelen, Spikman et al. 2011; Rosti-Otajarvi and Hamalainen 2011)	<ul style="list-style-type: none"> <li>Training people with brain injury in the skills needed to regulate their behaviour and other aspects of executive functioning</li> </ul>
3. Coordinated interdisciplinary care management for people with complex and disabling health conditions to increase the chances of people returning to work after experiencing illness and disabling conditions	(Norlund, Ropponen et al. 2009; Fadyl, McPherson et al. 2010; Desiron, de Rijk et al. 2011)	<ul style="list-style-type: none"> <li>Keeping people linked in with employers</li> <li>Multifaceted, interdisciplinary rehabilitation is better than purely physical strategies for many people</li> </ul>
4. Involving clients in their own rehabilitation planning contributes to better outcomes	(Snodgrass 2011; Stergiou-Kita, Rappolt et al. 2012)	<ul style="list-style-type: none"> <li>Identifying and connecting health and social care interventions to what is meaningful to people improves outcomes</li> </ul>

15. Paul Meredith. 'Urban Māori - Urbanisation', Te Ara - the Encyclopedia of New Zealand, updated 23-Feb-15 Retrieved from <http://www.TeAra.govt.nz/en/urban-maori/page-1>

16. Robson B, Harris R. (eds.). (2007). *Hauora: Māori Standards of Health IV. A study of the years 2000-2005*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

17. The *Consensus Statement* and lists of Australian and New Zealand signatories can be found on the Australasian Faculty of Occupational and Environmental Medicine's website. Retrieved from: <http://www.racp.edu.au/index.cfm?objectid=57063EA7-0A13-1AB6-E0CA75D0CB353BA8>

Contribution	Recent examples of evidence (in some cases better evidence is still required)	Examples of potential application (selection only)
5. Reduction of ambulatory sensitive hospital (ASH) admissions and reducing unnecessary prolonged length of stay	(Larsen, Sorensen et al. 2008; Desiron, de Rijk et al. 2011, O'Malley, Blauth et al. 2011, Puhan, Gimeno-Santos et al. 2011)	<ul style="list-style-type: none"> <li>• Keeping people out of hospital unnecessarily is key to ensuring the sustainability of the health care system; a number of inpatient and community rehabilitation programmes contribute to these outcomes</li> </ul>
6. Increase disability free years for our population (in view of the effects of an ageing population and more people surviving devastating injury and illness)	(Johansen, Lindbaek et al. 2011; Forster, Lambley et al. 2010)	<ul style="list-style-type: none"> <li>• Keeping older adults active helps to maintain health, mobility and independence</li> </ul>
7. Provision of specialist advice for primary care (PC) and community providers regarding assessment and management for disabled people	(Wearden, Dowrick et al.; Wearden, Dowrick et al. 2010; Wynne-Jones, Mallen et al. 2010; Lin, Haas et al. 2011; Miraux Dinomais, Ferrapie et al. 2011; Richette, Hilliquin et al. 2011)	<ul style="list-style-type: none"> <li>• Many GPs / PC providers have few patients with specific disabling conditions in their practices. These providers benefit from specialist advice</li> <li>• Practice nurses can be taught to assist with rehabilitation in the primary care setting</li> </ul>
8. Help the health system respond to the changing epidemiological consequences of conditions such as cancer survivorship	(Fors, Bertheussen et al. 2011; Harris, Schmitz et al. 2012; Stubblefield, McNeely et al. 2012; Winters-Stone, Schwartz et al 2012)	<ul style="list-style-type: none"> <li>• Services to assist cancer services and primary care services manage the impact of increased survivorship and accompanying disability</li> </ul>
9. Assist people to adjust with complex and disabling conditions	(Kennedy, Lude et al. 2012)	<ul style="list-style-type: none"> <li>• For many conditions, adjustment to disability is a difficult process. People benefit from assistance / support through interdisciplinary approaches</li> </ul>
10. Benefits of community based rehabilitation	(Graven, Brock et al. 2011; Novak 2011)	<ul style="list-style-type: none"> <li>• Much rehabilitation is suitable for delivery in the community including home-based 'self-management' strategies</li> </ul>
11. Enhance the skills of the informal carer's ability to provide care and support	(Ranmuthugala, Nepal et al. 2009; Ellis, Mant et al. 2010; Carers UK 2011)	<ul style="list-style-type: none"> <li>• Informal carers and families play an important role in enabling people to live in their own homes and communities; assistance and support to carry out their role is essential</li> </ul>
12. Enhance the health and wellbeing of whānau / family who provide much of the support required for disabled people and are thus a crucial part of the healthcare team	(Parag, Hackett et al. 2008; Ranmuthugala, Nepal et al. 2009; Simon, Kumar et al. 2009; Carers UK 2011)	<ul style="list-style-type: none"> <li>• The role of caregiver can be difficult; additional support carers and respite are essential</li> </ul>

## 8. The Costs of Rehabilitation and Who Pays

Like any service, rehabilitation has costs attached, with some of its benefits realised over time rather than immediately. This can make it appear costly, particularly because the benefits may come to funding streams other than health (e.g. social services, the welfare system and the tax system with more people returning to work). However, even with that complexity, there is growing evidence showing the cost benefits of rehabilitation from early access to rehabilitation, early supported discharge to home, reduced lengths of stay, fewer readmissions to hospital and return to work success through vocational rehabilitation.

Nearly 15 years ago, the American Academy of Physical Medicine and Rehabilitation published an annotated bibliography that identified 132 studies meeting specified criteria related to the field of rehabilitation and evaluation of cost effectiveness<sup>18</sup>. Most of these studies supported the cost effectiveness of dedicated units or centres incorporating early rehabilitation therapies for the management of stroke and spinal cord injury as opposed to care in a general medical unit. Also supported are multimodal back injury programmes and revascularisation procedures in limb ischaemia. Studies in traumatic brain injury underscore the significant financial resources involved in the care of these patients as well as the potential benefit from rehabilitation services even in the most severely injured.

Over the last decade a number of meta-analyses and reviews have been completed that further attest to the cost benefit of rehabilitation in both **the short-term to medium-term**<sup>19, 20, 21, 22</sup>. It is likely that these benefits are even greater than already indicated as evidence grows about novel strategies and the potential for long term benefit. Recent Australian studies (2013, publication pending 2014), involving 'in-reach' hospital rehabilitation services and early discharge programmes supported by 'Community Based Rehabilitation' teams (home-based interdisciplinary rehabilitation services), have shown strong financial benefits associated with these expanded rehabilitation initiatives<sup>23</sup>.

In New Zealand, the two major sources of funding for rehabilitation are the Ministry of Health and ACC. These two funders differ in rehabilitation eligibility criteria, frameworks for funding rehabilitation, reporting requirements, levels of compensation for people with acquired disabilities and in levels of financial support for various aspects of rehabilitation (e.g. for therapist hours, specialist assessments, assistive technology, equipment, home modifications, transport and retraining options). Rehabilitation providers endeavour to ensure the clients in their services receive an equally high standard of input regardless of the funding source, but this divide between rehabilitation opportunities for people funded by ACC versus the Ministry of Health has been a source of tension for decades.

In addition there are other funders of specific aspects of rehabilitation. The Ministry of Education funds therapeutic input in schools for children living with disability. The Ministry of Social Development (MSD) has, in the past, provided some funding for New Zealanders on the Sickness and Invalids Benefits (now Jobseekers Support and Supported Living Payment respectively)<sup>24</sup> to address barriers to employment arising from physical impairments (e.g. the 'Providing Access to Physical Health Solutions [PATHS]' project in 2004). Private health insurance, through the workplace, travel insurance or through personal funding, occasionally funds various rehabilitation services.

18. Cardenas DD, Hazelkorn JK, McElligott JM, Gnatz SM. (2001). A bibliography of cost-effectiveness practices in physical medicine and rehabilitation: AAPM&R white paper. *Archives of Physical and Rehabilitation Medicine*, 82(5), 711-9.

19. Mewes JC, Steuten LM, Ljzerman MJ, van Harten WH. (2012). Effectiveness of multidimensional cancer survivor rehabilitation and cost-effectiveness of cancer rehabilitation in general: a systematic review. *Oncologist*, 17(12): 1581-93.

20. Sritipsukho P, Riewpaiboon A, Chaiyawat P, Kulkantrakorn K. (2010). Cost-effectiveness analysis of home rehabilitation programs for Thai stroke patients. *Journal of the Medical Association of Thailand*, 93 Suppl 7:S262-70.

21. Larsen K, Hansen TB, Thomsen PB, Christiansen T, Soballe K. (2009). Cost-effectiveness of accelerated perioperative care and rehabilitation after total hip and knee arthroplasty. *Journal of Bone & Joint Surgery. American Volume*, 91(4): 761-72.

22. Jolly K, Taylor R, Lip GY, Greenfield S, Raftery J, Mant J, et al. (2007). The Birmingham Rehabilitation Uptake Maximisation Study (BRUM). Home-based compared with hospital-based cardiac rehabilitation in a multi-ethnic population: cost-effectiveness and patient adherence. *Health Technology Assessment (Winchester, England)*. 11(35): 1-118.

23. Unpublished papers presented at the Australasian Faculty of Rehabilitation Medicine's 2013 Annual Scientific Meeting, 17-21 September, 2013.

24. From 15 July 2013, Work and Income replaced the Sickness Benefit (amongst others), with the Jobseeker Support, and replaced the Invalid's Benefit (and the Domestic Purposes Benefit – Care of Sick or Infirm), with the Supported Living Payment. For more information about the benefit changes, see: <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/benefit/index.html#WelfareReform>

## 9. Aims of a New Zealand Rehabilitation Strategy

A New Zealand-specific rehabilitation strategy will ensure a more coordinated focus on development of structures and processes that enhance the health and wellbeing of New Zealanders. Below are six key areas of national healthcare concerns that a national rehabilitation strategy will positively influence and promote:

- i. National leadership to ensure rehabilitation is an integral component of health and social service strategies for New Zealand
- ii. Rehabilitation needs of Māori
- iii. Improved integration between acute care, rehabilitation, community care, primary care, aged care and disability services
- iv. National service planning and rehabilitation standards
- v. National workforce planning
- vi. National database and benchmarked rehabilitation outcomes

### i) National leadership to ensure rehabilitation is an integral component of health and social service strategies for New Zealand

To date, there has been some progress in implementing the *New Zealand Disability Strategy*. Although a Government Ministerial position has been established to focus on disability issues, this has not translated into substantial emphasis on, or change in, access to rehabilitation services for people who fall outside the ACC umbrella.

The inequity between rehabilitation services available for ACC claimants and non-ACC patients with similar disabilities remains and negatively impacts thousands of New Zealand citizens, both children and adults. The gap is particularly stark for people under 65 years once they are discharged from acute care services as on-going community rehabilitation and vocational rehabilitation services are severely limited for this group.

Acute tertiary hospitals are anxious to reduce unnecessary admissions and reduce length of stay to avoid building new wards. Poor funding and a systemic lack of clear policy leadership and direction around rehabilitation-focused alternatives results in a paucity of safe, supported early discharge opportunities and hampers rehabilitation service development and provision.

In New Zealand, there is an increasing political demand for DHBs to collaborate in the development of more regionally-based services. But progress is slow, and service development is constrained within the existing practice and funding models with the exception of Whānau Ora. National leadership with involvement of rehabilitation medicine specialist and rehabilitation service providers will encourage coordination of rehabilitation services and collaboration with community providers to assist in meeting this demand.

MSD is exploring how to support people into employment from Jobseeker Support and Supported Living Payment benefits. Vocational rehabilitation and habilitation is a specialist area within the wider rehabilitation framework. Scientific evidence shows that paid employment is generally good for health and wellbeing and that long-term work absence, work disability and unemployment have a negative impact on health and wellbeing<sup>25</sup>. It is likely that poor or absent vocational rehabilitation services have an adverse effect on national productivity and fiscal resources. New Zealand's increasing need for social sustainability requires workplaces to accommodate a wide variety of workers. Vocational rehabilitation/habilitation seeks to ensure performance excellence by optimising the worker's abilities to the job's expectations and the workplace environment. Vocational rehabilitation is not simply about return to work following injury or illness but about the promotion of work for all through both entry and re-entry into the workforce.

Well-targeted expenditure at the 'front end' for excellent rehabilitation services and on-going rehabilitation support in the community significantly reduces care and medical costs at the 'tail end' and improves the quality of life for New Zealanders with disability. With our ageing population and longevity of persons with established disability, improving rehabilitation service provision and accessibility will result in sound social and financial investment outcomes. Governmental collaboration with rehabilitation specialists in the development of national healthcare and social policy will ensure the most efficient healthcare system and optimal patient outcomes.

25. The Royal Australasian College of Physicians, Australasian Faculty of Occupational and Environmental Medicine. (2011). *Position Statement on Realising the Health Benefits of Work*. Sydney: RACP. Retrieved from: <http://www.racp.edu.au/page/afocem-health-benefits-of-work>

## ii) Rehabilitation needs of Māori

The rehabilitation needs of Māori are not being met by the public health system. Dr Matire Harwood<sup>26</sup> stated in her seminal paper in 2010:

*“While Māori and non-Māori may have some rehabilitation needs in common, there are also differences. Inequalities between Māori and non-Māori in rehabilitation outcomes confirm that a ‘one size fits all’ approach is not working. Ratima’s He Anga Whakamua, a framework for the delivery of disability services to Māori identified in interviews with disabled Māori a preference for Māori-specific assessment criteria, access to cultural expertise and input to assessments.”*

It should be a matter of priority for the health system of Aotearoa/New Zealand that the rehabilitation needs of its indigenous people are addressed. This does not necessarily mean separate services (mana motuhake), but rather the provision of culturally appropriate services that unreservedly include the vital participation of the whānau and give wholehearted attention to Māori cultural practices to optimise best outcomes through rehabilitation after injury or illness.

Given the disproportionate numbers and significant needs of disabled Māori, more effort is needed to identify the origins of disability. Near drowning in childhood and injury in early childhood and adolescence from car accidents are two examples of causative disability with significant consequences, particularly for Māori.

Māori need to have a relationship of trust with key health professionals to ensure the best rehabilitation outcomes. The government’s Whānau Ora programme is a key means of supporting disabled Māori through appropriate medical care and by addressing their spiritual and psychological needs. Rehabilitation services creating and strengthening relationships with Whānau Ora providers and with DHB-based Maori health workers will help provide optimal rehabilitation services for Māori.

## iii) Better integration between Acute Care, Rehabilitation, Community Care, Primary Care, Aged Care and Disability Services

Contemporary rehabilitation is developing new models of care in response to changing patterns of morbidity, changing demographics of our society, and in changing demands on the acute care sector. These include:

- Recognition of the importance of person-centred care within the medical community and rehabilitation<sup>27</sup>.
- Early intervention in acute care to prevent complications and maximise recovery and function.
- Early supported discharge from hospitals to reduce length of stay and improve functional outcomes, i.e. rehabilitation is the ‘back door’ to the hospital system.
- Development of community-based models of rehabilitation including outpatient and ambulatory care.
- Extension of the role of rehabilitation in promoting independence and maximising quality of life in older people and those receiving palliative care.

Rehabilitation is not an ‘add on’ to the end of acute care episodes. When integrated into the continuum of care within the hospital setting and community-based health and disability services it produces increased opportunity to maximise health and quality of life outcomes for people with disabilities. In addition, financial costs associated with disabling conditions are reduced (see iv) d. below).

## iv) National service planning and rehabilitation standards

Inequity and inadequacy in the distribution of the rehabilitation workforce and rehabilitation services are prevalent in New Zealand. Limited numbers of rehabilitation practitioners, the sparse geographic distribution of practitioners and facilities and the limited funding resources contribute to extreme variations in availability of rehabilitation. Whether a person receives rehabilitation or not is largely dependent upon where they live.

26. Harwood M. (2010). Rehabilitation and indigenous peoples: the Māori experience. *Disability and Rehabilitation*, 32(12): 972-977. doi: 10.3109/09638281003775378

27. See for example, two recent reports by the UK’s Health Foundation: *Evidence: does clinical coordination improve quality and save money? Volume 1: a summary review of the evidence.* (2011), retrieved from: <http://www.hqsc.govt.nz/assets/General-NEMR-files-images-/John-Ovretveit-2a-clinical-coordination-Feb-2014.pdf> and *Helping measure person-centred care: a review of evidence about commonly used approaches and tools used to help measure person-centred care*, (2014), retrieved from: <http://www.health.org.uk/public/cms/75/76/313/4697/Helping%20measure%20person-centred%20care.pdf?realName=lnet6X.pdf>

National rehabilitation standards are required for DHB service planning and for measuring and benchmarking of DHB performance in meeting MOH requirements. These standards must cover rehabilitation bed and service to population ratios, staffing levels, infrastructure requirements, rehabilitation specialist (medical, nursing, allied health) role delineation guidelines, minimum rehabilitation specialist to patient contact time and identification of the optimal rehabilitation continuum of care. National Rehabilitation Strategy service planning and standards should include, but would not be limited to, the following elements:

**a. Rehabilitation beds per 100,000 population**

National agreement to achieve 45 rehabilitation beds per 100,000 population across all DHB areas, provided in both public and private sectors. This standard is based on health planning studies undertaken in Australia and elsewhere. The Australian National Rehabilitation Strategy document recommends 45 rehabilitation and Geriatric Evaluation and Management (GEM) beds per 100,000 population with 30 of those beds designated as rehabilitation beds. The Australian GEM service is comparable to New Zealand's 'over 65' Assessment, Treatment and Rehabilitation (ATR) units, which generally are managed by Geriatricians. To date, Australian GEM plus rehabilitation bed ratios vary from 1:350,000 (WA) to 1:66,000 (NSW). In New Zealand AROC data estimates that the ratio is 1:4022, which equates to 25:100,000 ATR beds based on 1,094 New Zealand rehabilitation beds. To attain the 45:100,000 beds there would need to be another 20 rehabilitation beds per 100,000 established. It is important to note that the New Zealand bed numbers are not clearly defined into numbers of AT&R beds versus Rehabilitation Unit beds managed by rehabilitation medicine specialist versus other facilities' beds.

In addition to the number of beds needed, there are significant concerns regarding the condition of existing rehabilitation beds currently housed in facilities where the rehabilitation units have been retrofit for use or are at the end of their structural life. All of these beds, current and planned, require adequate staffing with rehabilitation medicine specialist leadership and coordinated interdisciplinary team management. This comprehensive approach often is lacking. It is extremely important to note that although the meaning of a 'rehabilitation bed' is well defined by AFRM standards in Australia, it is not consistently well defined in many New Zealand facilities. This leads to a lack of reliable data regarding accurate determination of the number of rehabilitation beds, the number of rehabilitation providers and the rehabilitation needs in New Zealand.

**b. Minimum hours of allied health therapy per week required per patient on an inpatient rehabilitation ward.**

National agreement on minimum allied health therapeutic intervention time per patient per day in the inpatient rehabilitation setting is required. In all areas of rehabilitation and particularly in neuro-rehabilitation, there is evidence that timely, intensive therapy input leads to better functional outcomes<sup>28, 29, 30</sup>.

A prospective observational cohort study compared 1,161 patients after stroke who attended one New Zealand or one of six US rehabilitation facilities (and see Figure 1 on page 18)<sup>31</sup>. Although the mean age of New Zealand patients was higher (74.1 years) than their US counterparts (66.0 years), initial stroke severity was higher in the US patients. Mean length of stay was significantly longer in New Zealand patients (30.0 days versus 18.6 days for US patients). US patients gained more independence during their time in rehabilitation (FIM score increase 26.2 versus 20.6 for New Zealand patients). Correcting for all variables and age could not explain these differences.

28. Slade A, Tennant A, Chamberlain A. (2002). A randomized controlled trial to determine the effect of intensity of therapy upon length of stay in a neurological rehabilitation setting. *Journal of Rehabilitation Medicine*, 34(6), 260-6.

29. Nugent JA, Schurr KA, Adams RD. (1994). A dose-relationship response between amount of weight bearing exercise and walking outcome following cerebrovascular accident. *Archives of Physical Medicine and Rehabilitation*, 75(4), 399-402.

30. Langhorne P, Wagenaar R, Partridge C. (1996). Physiotherapy after stroke: more is better? *Physiotherapy Research International*, 1(2), 75-88.

31. McNaughton H, DeJong G, Smout RJ, Melvin JL, Brandstater M. (2005). A comparison of stroke rehabilitation practice and outcomes between New Zealand and United States facilities. *Archives of Physical Medicine and Rehabilitation*, 86(Suppl 2): S115-20.

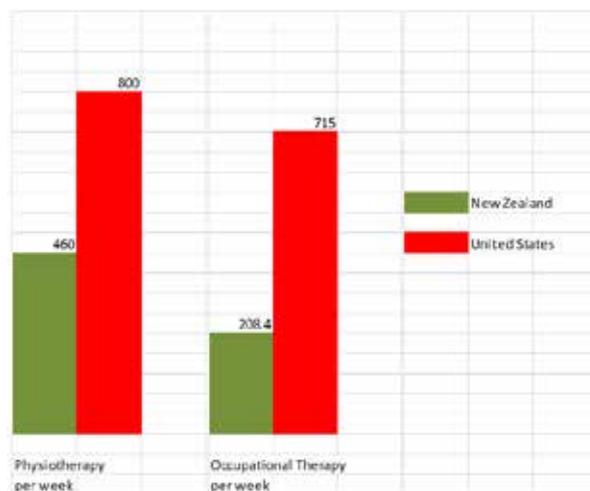


Figure 1: Minutes per week of allied health therapy: NZ:US

New Zealand therapists also spent a larger percentage of available patient contact time on assessment rather than treatment (NZ 49.4 per cent versus US 10.7 per cent;  $p < 0.01$ ) compared to therapists in the US.

*Australian and US standards for the minimum hours of allied health therapy per patient on an inpatient rehabilitation ward are 10 and 15 hours per week, respectively.*

Minimum weekly specialist allied health therapy intervention for inpatient rehabilitation based on international evidence and consensus is indicated. Standards should be based on the significant body of international research that demonstrates that better outcomes and efficiencies are achieved through more intensive therapy (two to three hours per day, five to seven days per week) rather than small amounts of therapy spread out over a longer length of stay.

Australian and US rehabilitation unit staffing standards have been established to ensure adequate rehabilitation medicine specialist and support staff are available to meet treatment provision standards. AFRM standards<sup>32</sup> best correlate to those expected in New Zealand and are required at AFRM Rehabilitation Registrar / Advanced Trainee training sites.

**c. *Rehabilitation Nursing Standards: models of care and minimum nursing hours per patient per day***

National agreement on rehabilitation nursing models of care and minimum nursing hours per patient day is required. Expert, trained rehabilitation nurses provide rehabilitation throughout the 24-hour period. Input is not only within their interdisciplinary team-specific role and patient care, but also in out-of-hours support and continuance of medical and allied health therapy plans. A New Zealand-based study suggests that older patients and family members focus on the relationships developed with nurses, rather than the tasks they perform. Motivation in rehabilitation is enhanced by the establishment of positive nurse-patient relationships<sup>33</sup>. Nurses need time to develop these relationships. With adequate skilled nursing hours, rehabilitation can continue throughout the day and night with integration of all the interdisciplinary team treatment plans and patient goals leading to potentially shorter lengths of stay, better preparation for discharge and therefore, safer discharges to home or the next level of care.

**d. *Continuity of specialist rehabilitation care: acute to community continuum.***

A New Zealand Rehabilitation Strategy will allow the framework for comprehensive, skilled, interdisciplinary rehabilitation to optimise patient safety, function and independence from diagnosis or injury to reintegration into the community and life roles. Recent (2013) Australian research has shown significant cost savings, significant hospital bed day savings and improved patient satisfaction from establishment of acute hospital 'in-reach' rehabilitation team services (ART) and community-based rehabilitation team services (publication pending 2014).

32. <http://www.racp.edu.au/page/AFRMstandards>

33. Tyrell EF, Levack WM, Ritchie LH, Keeling SM. (2012). Nursing contribution to the rehabilitation of older patients: patient and family perspectives. *Journal of Advanced Nursing*, 68(11):2466-76. doi: 10.1111/j.1365-2648.2012.05944.x

- **Commencement of rehabilitation in the acute setting**

National agreement on models of care that provide early commencement of rehabilitation is required. Clearly defined service and funding models allow the framework for coordinated interdisciplinary rehabilitation teams to 'in-reach' within the acute care setting before medical stability is achieved or, occasionally, until a rehabilitation bed is available. This can also be accomplished by defining a minimum number of rehabilitation beds within an acute hospital or acute hospital campus, when the next level of rehabilitation is in a stand-alone facility or the home.

- **Comprehensive ambulatory, outpatient and community-based rehabilitation programmes**

National agreement is required to establish comprehensive, skilled ambulatory (outpatient and community) rehabilitation programmes that allow safe and rapid discharge to home from inpatient rehabilitation or from the acute hospital. This is especially important in regions where centre-based rehabilitation services are limited.

With our growing and ageing population and the rising burden of chronic disease, there are an increasing number of patients who require coordination of their complex medical needs and their disability support packages. Ambulatory interdisciplinary rehabilitation teams are ideally placed to fulfil this role and to bridge the gap between primary and secondary care. By reducing the number of unplanned readmissions and by supporting other community rehabilitation-related services, ambulatory rehabilitation teams contribute to decreased medical and societal costs and greatly improve the quality of life for those with disability.

e. **National reporting and benchmarking of rehabilitation services**

National agreement to further develop data collection and benchmarking of rehabilitation service provision, access, quality and outcomes is required. The New Zealand rehabilitation sector believes that the existing service provided by the Australasian Rehabilitation Outcomes Centre (AROC) is an appropriate model to assist in this development (see Appendix 3).

v) **National workforce planning**

Health Workforce New Zealand's (HWNZ) 2011 *Rehabilitation Workforce Service Forecast*<sup>34</sup> identified the following key points, which echo our call for a New Zealand Rehabilitation Strategy:

- There is no comprehensive rehabilitation system in New Zealand; what exists is fragmented rehabilitation service provision with variable access across regions.
- The rehabilitation workforce faces issues of recruitment and retention at all levels and uptake of training in rehabilitation is not adequate to meet the needs of a comprehensive system.

Four recommendations were made:

1. Raise the profile of rehabilitation in New Zealand.
2. Increase the provision and opportunities to undertake rehabilitation training and increase the rehabilitation workforce.
3. Develop care coordination to support clients following discharge from an acute facility.
4. Provide appropriate dosage intensity of rehabilitation treatment.

**Rehabilitation Medicine Physicians: a significant workforce planning problem**

Increasing the number of specialist rehabilitation medicine physicians in New Zealand is an important focus for better workforce planning.

In Australia there is a well-established training system in place and a growing rehabilitation physician workforce with a critical mass of appropriate physician to population numbers slowly being achieved. In New Zealand, the number of rehabilitation medicine physicians relative to our population is much smaller.

34. Health Workforce New Zealand. (2011). *Rehabilitation Service and Workforce Forecast: final report December 2011*. Wellington: Ministry of Health. Retrieved from <http://www.healthworkforce.govt.nz/our-work/health-workforce/workforce-service-forecasts/rehabilitation-workforce-service-forecast>

The Australian population is served by nearly five times more rehabilitation medicine physicians per head of population. Even in Canterbury, which has the lowest ratio of population to specialist rehabilitation medicine physicians in New Zealand, the ratio of patients per physician is more than twice the Australian average and three times that of NSW and Victoria. In many DHBs there are no specialist rehabilitation medicine physicians. This represents a major problem that needs to be addressed for a New Zealand Rehabilitation Strategy to be adequately implemented.

In order to make an initial approach towards Australian standards we propose that the ratio of full-time working specialist rehabilitation medicine physicians to population be no less than 1:100,000 for the cities of Dunedin, Christchurch, Wellington and Auckland, which correlates to the European aim of one rehabilitation physician FTE per 100,000 population. This would require approximately 15 additional fulltime posts (Auckland 7.4, Wellington 2.9, Christchurch 1, Dunedin 3.6), just for these larger population centres.

Over 50 per cent of New Zealand specialist rehabilitation medicine physicians obtained their original medical degree outside of New Zealand compared to 41.5 per cent of the overall New Zealand medical workforce<sup>35</sup>. This highlights significant concerns regarding awareness of the specialty, in part related to the very limited introduction of New Zealand medical students to the field of rehabilitation medicine. It is not clear whether graduates do not choose to train in rehabilitation medicine because of the lack of recognition of the specialty or the lack of training opportunities.

There are a very limited number of training positions within the DHBs and private rehabilitation facilities. Current fiscal conditions and restrictions are unlikely to support additional positions. In addition, the limited number of Consultants in Rehabilitation Medicine influences trainee teaching and supervision capacity as well as the ability to increase the profile of the speciality. Reliance on overseas trained doctors is likely to continue for some time as 60 per cent of our current Advanced Trainees in rehabilitation medicine obtained their primary medical degree outside New Zealand.

**Table 2: Number of rehabilitation medicine physicians in Australia and New Zealand<sup>36</sup>**

Jurisdiction	AFRM Fellows or consultants in rehabilitation medicine	Population per AFRM Fellow
Australia	354	63,495
VIC	99	56,420
NSW	176	41,319
New Zealand	14.4	305,148
Hutt	0.2	680,505
Southern	1.2	397,533
Capital and Coast	0.9	296,287
Auckland	1.5	269,746
Waitemata	1.9	253,479
MidCentral	0.8	198,551
Waikato	1.8	188,438
Counties Manukau	2.4	180,452
Canterbury	3.7	126,056
Northland	0	-
Lakes	0	-

35. Medical Council of New Zealand. (n.d.). *The New Zealand Medical Workforce in 2011*. Retrieved from: <http://www.mcnz.org.nz/news-and-publications/workforce-statistics/>

36. For NZ, the data are expressed as FTE engaged in clinical rehabilitation practice. The Australian data are as at 2011. Source: Australasian Faculty of Rehabilitation Medicine. 2011. *The Need for a National Rehabilitation Strategy*. The New Zealand data are from a 2012 survey of AFRM NZ Branch members.

Bay of Plenty	0	-
Tairāwhiti	0	-
Taranaki	0	-
Hawke's Bay	0	-
Whanganui	0	-
Wairarapa	0	-
Nelson Marlborough	0	-
West Coast	0	-
South Canterbury	0	-

Similar issues exist for the allied health rehabilitation workforce. AFRM has established guidelines for staffing standards for all allied disciplines, but generally are unable to be followed due to local funding issues (see Appendix 5). Rehabilitation nursing workforce planning and the development of nursing models is also required.

#### vi) National database and benchmarked rehabilitation outcomes

AROC introduced a New Zealand benchmarking initiative in 2008. To date this has been largely funded by ACC, who have purchased AROC membership on behalf of all public rehabilitation units in New Zealand. Members collect a defined and agreed upon (i.e. standardised), set of data describing every episode of inpatient rehabilitation provided by their facility. These data are analysed by AROC who then provide six monthly benchmarking reports back to each member. In addition, sector-level information is provided to ACC. AROC is uniquely positioned to provide the information needed to measure and benchmark the availability, efficiency and effectiveness of rehabilitation services across New Zealand.

A review of the AROC funding mechanism will be necessary in the future, as additional funding will be required to expand into the ambulatory sector and to measure the role that various inputs have on rehabilitation outcomes. The current funding model has served AROC well in its formative years in New Zealand. With growth, this model will need to be strengthened, and will require support of local health authorities (such as DHBs) in addition to ACC. Ideally national government support (through the Ministry of Health and/or the Health Quality and Safety Commission) for AROC and the standardisation of rehabilitation outcome measures will provide the framework for local health authorities to also support AROC.

## 10. Conclusion

International evidence has established that specialised rehabilitation services make a significant contribution to the wellness, functional ability and community participation of individuals with disability acquired from illness or injury. This contribution benefits the individual, the health care system and society as a whole.

Rehabilitation is such an integral component of healthcare that it has been deemed a human right. Yet many New Zealanders have poor access to and inadequate delivery of coordinated, specialist rehabilitation. Limitations to rehabilitation are particularly pertinent for Māori, who lack access to adequate and culturally appropriate rehabilitation services.

In part, these deficits in care are due to an incomplete understanding of the value of specialised rehabilitation services. The New Zealand health care system is under increasing pressure from a growing and ageing population who carry an escalating burden of chronic disease. Deficits in the New Zealand rehabilitation infrastructure and workforce already severely compromise access to and provision of rehabilitation services. Future needs will further overwhelm these services and facilities.

Strategic national planning and investment in the development of New Zealand rehabilitation must be initiated to ensure all New Zealanders maintain the right to accessible specialist rehabilitation. This position statement calls for development of an all-inclusive New Zealand Rehabilitation Strategy. The AFRM RACP, and the NZRA as co-signatories of this position statement, would welcome being active partners in this process.

## Appendix 1: Contributors

### Members of the New Zealand Rehabilitation Working Party:

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A/Professor Will Taylor

### Responses to the Rehabilitation Strategy Working Party's Rehabilitation Strategy Questionnaire:

50 responses were received from a variety of non-government organisations, Government organisations and individual health professionals

#### *Organisations*

Abano Rehabilitation

ACC (*Did not fill out the questionnaire, however expressed strong interest in being involved in RS and offered Christine Bloomfield as a point of contact.*)

Amputees Federation of New Zealand Incorporated

Auckland Regional Pain Service

Auckland University of Technology

Blind Foundation (formerly the Royal New Zealand Foundation of the Blind)

Capital and Coast DHB

Child Health and Disability Service, Auckland DHB

Disabled Persons Assembly

Head Injury Society

Hutt Valley DHB

Integrated Partners in Health

Laura Fergusson Trust

MidCentral DHB

Ministry of Health

Ministry for Social Development

New Zealand Association of Musculoskeletal Medicine

New Zealand Artificial Limb Board

New Zealand Chiropractors' Association

New Zealand Nurses Organisation

New Zealand Pain Society  
New Zealand Register of Acupuncturists  
New Zealand Rheumatology Association  
Organisation of Therapy and Rehabilitation Services  
Osteopathic Society of New Zealand  
Pain Rehab  
Parafed Auckland  
Physiotherapy New Zealand  
Royal New Zealand College of General Practitioners  
Southern Rehabilitation Institute  
The Allied Health Professional Associations' Forum  
The New Zealand Organisation for Rare Disorders  
Wairarapa DHB  
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## Appendix 2: The Rehabilitation Team

Members commonly found in adult and paediatric rehabilitation multidisciplinary / interdisciplinary rehabilitation healthcare teams include:

- Client/patient and Whānau/family
- Occupational therapist
- Psychologist
- Physiotherapist
- Rehabilitation medicine physician
- Rehabilitation Nurse
- Speech pathologist
- Social worker

Healthcare and other professionals who may be included formally or informally in a team, dependant on patients' needs include:

- Counsellor
- Dietitian
- Diversional therapist
- Education agencies
- Medical specialists such as surgeons, neurologists
- Neuropsychologist
- Podiatrist
- Prosthetics and orthotics
- Recreational therapist
- School liaison
- Vocational rehabilitation providers

## Appendix 3: What is AROC?

Australia and New Zealand rehabilitation sectors are unique in that they are supported by the Australasian Rehabilitation Outcomes Centre (AROC), a collaborative entity working across all rehabilitation sector stakeholders. As a specialist healthcare sector, rehabilitation is pursuing an agenda of transparency and accountability through AROC that can be used as a model for the rest of the health system.

AROC was established in 2002 as a not-for-profit joint initiative of the entire Australian rehabilitation sector including providers, payers, regulators and consumers. The Australasian Faculty of Rehabilitation Medicine (AFRM) is the auspice body and data custodian. The Australian Health Services Research Institute (AHSRI) at the University of Wollongong is the data manager and is responsible for AROC's day to day operations. AROC is funded by annual contributions from all stakeholders including facilities, health funds, Department of Veterans' Affairs, state and Commonwealth health departments, some general insurers and the AFRM.

When AROC expanded to New Zealand in 2009, ACC (the Accident Compensation Corporation) funded membership on behalf of all public New Zealand rehabilitation units.

The basic purpose and aims of AROC were established as, and continue to be:

- To provide a national benchmarking system to improve clinical rehabilitation outcomes.
- To produce information on the efficacy of interventions through the systematic collection of outcomes information in both the inpatient and ambulatory settings.
- To provide annual reports that summarise the Australian and New Zealand data and demonstrate changes in outcomes over time. The latest can be accessed at <http://ahsri.uow.edu.au/aroc/annualreports/index.html>.

There are approximately 190 inpatient rehabilitation units in Australia, 110 public sector and 80 private sector units. In total, 178 units submitted data to AROC in the 2011 calendar year reporting on some 75,000 inpatient rehabilitation episodes.

There are approximately 40 inpatient rehabilitation units in New Zealand. All are now members of AROC, the last few taking up their membership in early 2012. In the 2011 calendar year, 23 units submitted data to AROC, reporting on some 5,000 inpatient rehabilitation episodes. AROC provides a New Zealand annual report, which includes all the inpatient rehabilitation unit data results with benchmarking to other New Zealand units and to Australia.

AROC has become an increasingly important part of the rehabilitation sector. The high rate of collection and submission of data to AROC clearly demonstrates the rehabilitation sector's commitment to transparency and accountability. It is the only national rehabilitation health data repository. Securing on-going funding for AROC is an essential element in any future national rehabilitation strategy.

## Appendix 4: What is the Cost of Disability within New Zealand?

In deciding the cost of disability within New Zealand it is important to firstly note the relevant statistics. According to Statistics New Zealand<sup>37</sup> in 2013, there were 1,062,000 New Zealanders who self-identified as having a disability. This corresponds to 24 per cent of the total population. Of the number of those with a disability it was also noted that 82 per cent lived in households and 5 per cent were adults in residential care facilities. Also of statistical note was that 11 per cent of those with a disability were identified as children.

The most common cause of adult disability was from stroke<sup>38</sup> and the most common accidental injury for adults resulted from a workplace accident. For those adults in residential care facilities 99.7 per cent were reported as having a disability with 82 per cent requiring high level support.

For children congenital abnormalities were the most common cause of disability.

The report 'Cost of Disability'<sup>39</sup> commissioned by the Ministry of Social Development and the Health Research Council of New Zealand has provided valuable information on the weekly cost for someone with moderate needs and someone with high needs. The results showed that the level of support required for a person with moderate needs totalled NZD\$578 per week, whereas for a person with high needs the cost climbed to NZD\$2878 per week. In the case of moderate needs 98 per cent of the total weekly budget was allocated for funding support person time. In the higher needs person 88 per cent of the budget related to covering costs of support such as personal care, cleaning, laundry, shopping, community activities and medical care.

The most recent data available concerning recipients of the Jobseeker Support benefit, and Supported Living Payment benefit are from March 2015. This information sourced from MSD<sup>40</sup> reveals that of the 116,893 people receiving the Jobseeker Support benefit as of March 2015, 53,830 (just over 46 per cent) were receiving that benefit because of a health condition or disability. Of these 53,830 people, 22,862 (42 per cent) were incapacitated with psychological or psychiatric conditions.

In regards to the Supported Living Payment benefit, 93,580 working age people were receiving this benefit as of March 2015. Of the 93,580 people, 85,047 (91 per cent) received the Supported Living Payment benefit because of a health condition or disability. 32 per cent of this sub-group were incapacitated by psychological or psychiatric conditions.

The Accident Compensation Corporation reported in September 2010<sup>41</sup> that in 2009 there were 4750 seriously injured clients and that the serious injury clients are a key driver of ACC's liability. One third of ACC's liability is for social rehabilitation costs for this group of clients.

Considering the comprehensive cost of disability to New Zealand society and to national health resources it is imperative that appropriate, interdisciplinary rehabilitation based on sound evidenced based practice be an integral part of the healthcare system.

37. Statistics New Zealand. (2014). *Disability Survey: 2013*. Wellington: Statistics New Zealand. Retrieved from [http://www.stats.govt.nz/browse\\_for\\_stats/health/disabilities/DisabilitySurvey\\_HOTP2013.aspx](http://www.stats.govt.nz/browse_for_stats/health/disabilities/DisabilitySurvey_HOTP2013.aspx)

38. Stroke Foundation of New Zealand. (n.d.). *Facts about stroke in New Zealand*. Retrieved from <http://www.stroke.org.nz/stroke-facts-and-fallacies>

39. Disability Resource Centre, (2010). *The Cost of Disability: Final Report*. Auckland: Disability Resource Centre. Retrieved from <http://www.odi.govt.nz/resources/research/index.html#CostofDisabilityresearch2>

40. Ministry of Social Development. (2015). *Benefit Fact Sheets for Jobseeker Support and Supported Living Payment benefits*. Retrieved from: <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/benefit/index.html>

41. Accident Compensation Corporation. (2010). *ACC: Overview for the Welfare Working Group*. Wellington: ACC. Retrieved from: <http://igps.victoria.ac.nz/WelfareWorkingGroup/Downloads/Working%20papers/ACC-Overview-for-the-Welfare-Working-Group.pdf>

## Appendix 5: Standards for Rehabilitation Medicine

The following is an excerpt from the Australasian Faculty of Rehabilitation Medicine, Royal Australasian College of Physicians' Standards for the Provision of Inpatient Adult Rehabilitation Medicine Services in Public and Private Hospitals 2011. Sydney: Royal Australasian College of Physicians, pp. 3-6. Available from the AFRM's webpages: <http://www.racp.edu.au//page/AFRM-Standards>

### 2. Staffing

There is a full range of team members (medical, nursing, allied health and support staff) with an appropriate skill base and training to provide comprehensive, contemporary programs of care to address the impairments, activity limitations and participation restrictions present in the patients admitted to the rehabilitation service. There are sufficient team member hours available to allow each patient to receive an individualised nursing and allied health program of adequate intensity to meet their needs, delivered in a way that optimises the effectiveness and efficiency of the rehabilitation program.

#### 2.1 Staffing of the rehabilitation medicine service

2.1.1 The staff establishment for a rehabilitation medicine service includes an adequate number of professional and support staff to allow the service to provide contemporary, evidence-based rehabilitation management in a safe, effective and efficient manner.

#### Medical staff

2.1.2 Each 10 inpatient beds within the rehabilitation medicine service should have either 0.4 FTE rehabilitation physicians (Amputation, Orthopaedic, Major Trauma, Pain, Reconditioning / Restorative and other impairment groups) or 0.625 rehabilitation physicians (Stroke, Neurology, Traumatic Brain Injury [TBI], Spinal Cord Dysfunction). These staffing levels are inclusive of the requirement for pre-admission assessment of patients for the service and for routine follow-up of patients of the service.

2.1.3 Inpatient services will have allocated junior medical staff (Registrars and Resident Medical Officers [RMO]). Specific staffing numbers for junior medical staff will vary depending upon the casemix of the inpatient rehabilitation medicine service and the acuity of patients. Where the inpatient service manages patients of higher acuity, such as patients with recent spinal cord injury or acute stroke, junior medical officer numbers will need to be higher than the minimum numbers outlined at 2.1.4 (below).

2.1.4 As a guide, it would be expected that for every 10 inpatient beds there would be a minimum 0.5 RMO and 0.5 Registrar. These minimum numbers apply only to the provision of direct inpatient care (for example, attending to the individual medical needs of patients, ward rounds, case and family conferences, and some pre-admission assessments and follow-up). Where Registrars undertake additional duties (for example, active involvement in community rehabilitation services, outpatient programs and assessing patients in acute care), then these duties are not to be included in the calculation of the Registrar hours required to support the inpatient rehabilitation beds.

2.1.5 Each rehabilitation medicine service should aim to obtain accreditation as a suitable training setting for registrars undergoing advanced training in rehabilitation medicine.

2.1.6 In some situations a Career Medical Officer may replace a RMO or Registrar.

2.1.7 In some rare situations the junior medical staff duties may be covered by an additional allocation of rehabilitation physician time.

2.1.8 There is sufficient medical staffing to provide a suitable after-hours medical roster.

#### Nursing staff

2.1.9 The nursing team must be led by a full-time nurse with relevant specialisation. This nurse will be the manager of the unit (supernumerary to direct care provision) and will lead the nursing and operational aspects of the unit.

2.1.10 Nursing staff numbers are to be sufficient to ensure the safe and effective nursing management of patients within the service. The majority of nursing staff will hold qualifications / experience in rehabilitation. Each service must demonstrate its professional nursing specialisation compliance with the “National Specialisation Framework” (National Nursing and Nursing Education Taskforce, 2006) where Rehabilitation Nursing is recognised as a National Professional Specialisation.

Note: For further details about nursing standards and competencies please refer to the Australasian Rehabilitation Nurses Association at <http://www.arna.com.au/index.htm>

2.1.11 Nursing staff within a rehabilitation medicine service also have responsibility for delivering nursing therapy in order to facilitate patient recovery and independence. There shall be sufficient nursing care hours (over a 24-hour period) for nursing staff to deliver, facilitate and reinforce therapy programs. This is especially important after business hours and on weekends and public holidays.

2.1.12 All nursing care, over the 24-hour period, must be under the supervision of a registered nurse.

2.1.13 The service shall employ nursing experts according to the rehabilitation casemix (such as Continence, Wound, Pain, Stomal nurses). The nursing service must have an active practice development plan, which clearly reflects the education and learning needs of rehabilitation nurses.

2.1.14 There should be a preponderance of registered nurses over enrolled nurses and assistants in nursing.

2.1.15 Nursing hours may need to increase if the rehabilitation medicine service caters for large numbers of patients with high nursing dependency.

2.1.16 It is recognised that individual rehabilitation medicine services may have their own methodology for determining nursing numbers (for example, load ratios). However, where that is not the case the following can be used as a guide to nursing staffing levels for a rehabilitation medicine service: For each 10 inpatient beds, there should be a minimum of 11.75 FTE nursing staff. This number may rise to 14.75 FTE for services which require greater nursing intensity, such as spinal injury rehabilitation. These figures include the Nurse Unit Manager, but do not include the Clinical Nurse Consultant or the Nurse Educator. An additional 0.5 Clinical Nurse Consultant in Rehabilitation and 0.5 Rehabilitation Nurse Educator is required for each 10 inpatient beds.

### Allied Health staff

2.1.17 Patients admitted to the rehabilitation medicine service will receive an appropriate quantum and mix of therapy to enable them to achieve an optimal rehabilitation outcome within an appropriate timeframe. This will vary according to individual patient factors such as the nature of the patient’s impairment, the time since onset of impairment, the presence of co-morbid conditions, the patient’s ability to tolerate therapy, their cognition and their motivation to undertake rehabilitation. There is mounting evidence in the literature on the benefits of greater therapy intensity in improving functional outcomes and improving the efficiency of the rehabilitation process.

2.1.18 The ultimate determinant of the appropriateness of the staff establishment of the rehabilitation medicine service will be the amount and type of therapy and care that patients admitted to the service actually receive. While the staffing ratios outlined in the table at 2.1.22 (below) are a useful guide to the overall allied health staff establishment required, the ultimate aim must be the delivery of appropriate rehabilitative therapy.

2.1.19 The appropriate amount of therapy that patients receive will range from a maximum of three hours for patients who have the capacity to tolerate this amount of therapy, down to lesser amounts, based on patient need and capacity to participate. This should occur on a minimum of five days per week.

2.1.20 ‘Therapy’, as used in 2.1.19 (above), generally includes physiotherapy, occupational therapy, and speech and language therapy, delivered by professionally qualified and skilled staff, or by allied health assistants under the supervision of professionally qualified staff. Therapy can be delivered on either an individual or group basis, but if delivered on a group basis the patient must be an active group participant and must be following an individually tailored program.

2.1.21 ‘Therapy’, as used in 2.1.19 can also include that delivered by other professional disciplines, such as Exercise Physiologists, Psychologists, or other professionally qualified staff, depending upon patient need.

2.1.22 The following table provides guidelines for allied health and allied health assistant staffing of the rehabilitation medicine service at the unit level. It should be noted that staffing levels for individual services will need to take into account the case mix of the service.

Allied Health Staff to Patient Ratios for Each 10 Inpatients<sup>42</sup>

Impairment type	Occupational	Physiotherapist	Allied Health Assistant	Speech Pathologist	Clinical Psychologist	Neuro-Psychologist	Podiatry	Dietitian	Social Work	Exercise Physiologist
Amputation	1	1.5	0.5	consult <sup>1</sup>	0.5	consult <sup>1</sup>	0.2	0.4	0.6	0.5
Stroke / Neurology	1.5	1.5	0.5	1.5	0.2	0.6	0.2	0.5	1.0	0.5
Orthopaedic	0.8	1.25	0.5	0.1	0.2	consult <sup>1</sup>	0.2	0.4	0.5	0.2
Major Trauma <sup>2</sup>	1.2	1.25	0.5	0.2	0.2	consult <sup>1</sup>	consult <sup>1</sup>	0.4	0.6	0.2
Spinal Cord Dysfunction <sup>2</sup>	2	2	0.5	0.25	0.5	0.1	0.2	0.4	1.2	0.5
TBI <sup>2</sup>	1.5	1.5	0.2	1.5	0.2	1.0	consult <sup>1</sup>	0.5	1.2	consult <sup>1</sup>
Pain	1	1.25	0.2	consult <sup>1</sup>	0.6	consult <sup>1</sup>	consult <sup>1</sup>	0.4	0.5	0.2
Reconditioning and Restorative	1.2	1.25	0.5	0.2	0.2	0.2	0.2	0.5	1.0	0.5

2.1.23 As well as adjusting staffing levels to suit the casemix of the rehabilitation medicine service, the staffing levels for allied health and allied health assistants must also be adjusted to account for the percentage of time that these staff have available for the delivery of direct patient care. In essence, only a percentage of the time that a therapist has available to them is 'patient attributable' time, and only a percentage of 'patient attributable' time is available for direct patient care, because 'patient attributable' time also includes other patient-related activities such as attending case and family conferences and ward rounds, writing reports and travel.

2.1.24 In cases where allied health staff are to be available on a consultation basis, the consultation should occur in a timely manner so as to not unnecessarily interfere with the rehabilitation program or prolong the inpatient rehabilitation episode.

2.1.25 Staffing numbers might need to be adjusted if the Rehabilitation Medicine service caters for patients with special needs (for example, bariatric patients, or patients with infection control requirements), as the time taken for staff to deliver effective therapy programs in these circumstances is greater.

2.1.26 The provision of therapy on weekends is strongly recommended.

2.1.27 There should be sufficient staff to meet the psychosocial needs of patients.

2.1.28 There should be sufficient staff to allow relevant rehabilitation team members to participate in case and family conferences and ward rounds, when required.

2.1.29 The services of a Neuropsychologist are essential in services where patients with brain impairment are managed.

2.1.30 Clinical psychologists are employed in all units where patients with complex behavioural issues are treated and where adjustment to the disability may be an issue.

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42. Notes:

- <sup>1</sup> 'consult' denotes the availability of staff on a consultation basis, as required.
- <sup>2</sup> For major trauma that includes spinal cord dysfunction and/or Traumatic Brain Injury (TBI), use either the spinal cord dysfunction or TBI staffing levels.
- Prosthetist / Orthotist: See section 2.1.32
- Impairment categories are taken from the AROC Impairment codes, AUS Version 1, July 2007. The staffing levels in the table have been adapted from the 'Guidelines for Allied Health Resources required for the provision of Quality Rehabilitation Services', Version 10, 2007. (Allied Health in Rehabilitation Consultative Committee) and the Standards for Adult Rehabilitation Medicine Services in Public and Private Hospitals (AFRM, 2005).

2.1.31 Brain impairment and spinal cord dysfunction programs have access to an outreach team comprising appropriate medical and allied health staff.

2.1.32 Amputee rehabilitation programs have close liaison with prosthetists who are able to provide a comprehensive prosthetic service and who attend assessments when prostheses are prescribed. Close liaison with an orthotist is required for stroke and neurological patients, major trauma patients, and those with spinal cord dysfunction and traumatic brain injury. If prosthetists / orthotists are not part of the employed staff establishment, then arrangements with a private provider are to be made.

2.1.33 The majority of patients in a rehabilitation medicine service will require input from pharmacists. The pharmacist should be an integral part of the rehabilitation team.

2.1.34 Nominated staff from other disciplines such as diversional therapy, music therapy, leisure therapist / recreation officer, rehabilitation counselling, sexual therapy and rehabilitation engineering should be available when required.

2.1.35 Access to interpreters for optimal comprehension of rehabilitation, goals and overall process. Culturally appropriate goals and acknowledgement of cultural norms for certain patients where appropriate, should be in place.

### **Support Staff**

2.1.36 Each rehabilitation medicine service should have available adequate numbers of support staff to ensure the effective running of the service.

2.1.37 Administrative support is required to ensure that rehabilitation outcomes data are collected and entered onto an appropriate database and submitted to the relevant health authority and to AROC.

2.1.38 Staff to assist in the movement of patients to therapy areas should be available if required so that therapy programs can be scheduled without interruption and without taking the time of allied health and nursing personnel.

2.1.39 There should be adequate cleaning staff to meet the needs of the service and to cater for patients with infection control issues.

### **Other comments regarding staffing**

2.1.40 The staffing levels outlined in this document assume that leave relief is provided.

2.1.41 Staffing levels should be adequate to ensure that the rehabilitation medicine service is able to provide an appropriate rehabilitation environment outside of usual business hours, to allow patients to progress with their rehabilitation program during these times.

2.1.42 The use of family and volunteers in rehabilitation programs is to be encouraged and supported, but not at the expense of professional and support staff.

2.1.43 The use of formal peer support services or involvement of people with similar disability should be encouraged in rehabilitation services when appropriate.

2.1.44 Staffing levels for the rehabilitation medicine service must reflect the needs of the service to manage acute medical and surgical issues as they arise.

## **2.2 Human resource management**

2.2.1 The service is directed by a rehabilitation physician.

2.2.2 The Director of the rehabilitation medicine service is responsible for the co-ordination of treatment and the monitoring of standards of treatment.

2.2.3 Each inpatient rehabilitation service will have appointed a Nurse Unit Manager. The Nurse Unit Manager will be responsible for nursing professional services and operational requirements of the service.

2.2.4 There is documented evidence of a line of responsibility from the person in charge of the service to senior administration.

2.2.5 The senior clinician of each discipline is responsible to the Director of the Rehabilitation Service for the standard of clinical service provided by the practitioners in the service.

- 2.2.6 Each allied health professional staff member is responsible for the quality of care given to individual patients under the overall care of the assigned rehabilitation physician.
- 2.2.7 In each clinical unit there is at least one senior therapist assigned permanently. Junior staff in the same discipline may be rotated to facilitate their professional development.
- 2.2.8 Nursing requirements vary according to the nature of the disability and reflect the recorded dependency scale of the patients. The nursing staff are sufficient in number and have appropriate experience to fully perform the nursing duties necessary for the proper care of patients at all times.
- 2.2.9 All staff are adequately skilled, qualified and knowledgeable about rehabilitation in order to perform their duties professionally and effectively.
- 2.2.10 The rehabilitation medicine service and the relevant hospital administration recognise the need for staff to maintain and develop their skills and knowledge and provide them with capacity to do so through the application of provisions within industrial awards as well as through the provision of funding support where possible.
- 2.2.11 There is a current list of professional staff including their qualifications, experience and duties. This list is updated annually, and includes evidence of registration with the appropriate Board or agency where this is pertinent. There is evidence that qualifications have been verified.
- 2.2.12 There is a job description for each category of professional position.
- 2.2.13 Specialised procedures are undertaken only by staff with appropriate qualifications and experience; and an appropriate credentialing process and quality monitoring is established.
- 2.2.14 Where the service's staffing complement does not contain a full range of the professional expertise required, there are documented arrangements for referral to other resources.
- 2.2.15 Annual staff appraisal is conducted with appropriate documentation. These are performed by each staff member's discipline-specific supervisor and overseen by the Director.
- 2.2.16 There is a documented management review process, which regularly reviews and adjusts the overall staffing needs of the organisation.
- 2.3 Continuing education**
- 2.3.1 There is a documented policy and appropriate support for the continuing education of medical, nursing and allied health professional staff.
- 2.3.2 A minimum of 3 per cent of effective full time hours is allocated for formal in-service staff training and development at no cost to the staff.

i Sources for the evidence in table 1 are presented below in alphabetical order for ease of reference.

Boelen, D. H., J. M. Spikman, et al. (2011). Rehabilitation of executive disorders after brain injury: are interventions effective? *Journal of Neuropsychology* 5 (Pt 1): 73-113.

Carers UK (2011). *Valuing Carers 2011. Calculating the value of carers' support*. Retrieved from: [www.carersuk.org/for-professionals/policy/policy-library/valuing-carers-2011](http://www.carersuk.org/for-professionals/policy/policy-library/valuing-carers-2011)

Desiron, H. A. M., A. de Rijk, et al. (2011). Occupational therapy and return to work: a systematic literature review. *BMC Public Health* 11: 615.

Ellis, G., J. Mant, et al. (2010). Stroke liaison workers for stroke patients and carers: an individual patient data meta-analysis. *Cochrane Database of Systematic Reviews* (5): CD005066.

Fadyl, J. K., K. M. McPherson, et al. (2010). Factors contributing to work-ability for injured workers: literature review and comparison with available measures. *Disability and Rehabil* 32 (14): 1173-1183.

Fors, E. A., G. F. Bertheussen, et al. (2011). Psychosocial interventions as part of breast cancer rehabilitation programs? Results from a systematic review. *Psycho-Oncology* 20 (9): 909-918.

Forster, A., R. Lambley, et al. (2010). Is physical rehabilitation for older people in long-term care effective? Findings from a systematic review. *Age and ageing* 39 (2): 169-175.

Graven, C., K. Brock, et al. (2011). Are rehabilitation and/or care co-ordination interventions delivered in the community effective in reducing depression, facilitating participation and improving quality of life after stroke? *Disability and Rehabilitation* 33 (17-18): 1501-1520.

Griffo, R., M. Ambrosetti, et al. (2012). Effective secondary prevention through cardiac rehabilitation after coronary revascularization and predictors of poor adherence to lifestyle modification and medication. Results of the ICAROS Survey." *International journal of cardiology*.

Harris, S. R., K. H. Schmitz, et al. (2012). "Clinical practice guidelines for breast cancer rehabilitation: syntheses of guideline recommendations and qualitative appraisals." *Cancer* 118(8 Suppl): 2312-2324.

Johansen, I., M. Lindbaek, et al. (2011). "Effective rehabilitation of older people in a district rehabilitation centre." *Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine* 43(5): 461-464.

Kennedy, P., P. Lude, et al. (2012). "Appraisals, coping and adjustment pre and post SCI rehabilitation: a 2-year follow-up study." *Spinal cord* 50(2): 112-118.

Larsen, K., O. G. Sorensen, et al. (2008). "Accelerated perioperative care and rehabilitation intervention for hip and knee replacement is effective: a randomized clinical trial involving 87 patients with 3 months of follow-up." *Acta orthopaedica* 79(2): 149-159.

Lin, C.-W. C., M. Haas, et al. (2011). "Cost-effectiveness of general practice care for low back pain: a systematic review." *European Spine Journal* 20(7): 1012-1023.

Miroux Dinomais, E., A. L. Ferrapie, et al. (2011). "Dependent patients discharged home from PRM departments: relevant indicators." *Annals of Physical & Rehabilitation Medicine* 54(7): 411-420.

Norlund, A., A. Ropponen, et al. (2009). "Multidisciplinary interventions: review of studies of return to work after rehabilitation for low back pain." *Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine* 41(3): 115-121.

Novak, I. (2011). "Effective home programme intervention for adults: a systematic review." *Clinical Rehabilitation* 25(12): 1066-1085.

O'Malley, N. T., M. Blauth, et al. (2011). "Hip fracture management, before and beyond surgery and medication: a synthesis of the evidence." *Archives of Orthopaedic & Trauma Surgery* 131(11): 1519-1527.

Parag, V., M. L. Hackett, et al. (2008). "The impact of stroke on unpaid caregivers: results from The Auckland Regional Community Stroke study, 2002-2003." *Cerebrovascular Diseases* 25(6): 548-554.

Puhan, M. A., E. Gimeno-Santos, et al. (2011). "Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease." *Cochrane Database of Systematic Reviews*(10): CD005305.

- Ranmuthugala, G., B. Nepal, et al. (2009). "Impact of home based long term care on informal carers." *Australian Family Physician* 38(8): 618-620.
- Richette, P., P. Hilliquin, et al. (2011). "Comparison of general practitioners and rheumatologists' prescription patterns for patients with knee osteoarthritis." *Bmc Musculoskeletal Disorders* 12: 72.
- Rosti-Otajarvi, E. M. and P. I. Hamalainen (2011). "Neuropsychological rehabilitation for multiple sclerosis." *Cochrane Database of Systematic Reviews*(11): CD009131.
- Simon, C., S. Kumar, et al. (2009). "Cohort study of informal carers of first-time stroke survivors: profile of health and social changes in the first year of caregiving." *Social Science & Medicine* 69(3): 404-410.
- Snodgrass, J. (2011). "Effective occupational therapy interventions in the rehabilitation of individuals with work-related low back injuries and illnesses: a systematic review." *The American journal of occupational therapy. : official publication of the American Occupational Therapy Association* 65(1): 37-43.
- Stergiou-Kita, M., S. Rappolt, et al. (2012). "Towards developing a guideline for vocational evaluation following traumatic brain injury: the qualitative synthesis of clients' perspectives." *Disability & Rehabilitation* 34(3): 179-188.
- Stubblefield, M. D., M. L. McNeely, et al. (2012). "A prospective surveillance model for physical rehabilitation of women with breast cancer: chemotherapy-induced peripheral neuropathy. *Cancer* 118 (8 Suppl): 2250-2260.
- Teasell, R., N. Foley, et al. (2012). Evidence to practice: botulinum toxin in the treatment of spasticity post stroke. *Topics in stroke rehabilitation* 19(2): 115-121.
- Wearden, A. J., C. Dowrick, et al. (2010). "Nurse led, home based self help treatment for patients in primary care with chronic fatigue syndrome: randomised controlled trial. *British Medical Journal* 340: c1777.
- Winters-Stone, K. M., A. L. Schwartz, et al. (2012). A prospective model of care for breast cancer rehabilitation: bone health and arthralgias. *Cancer* 118 (8 Suppl): 2288-2299.
- Wynne-Jones, G., C. D. Mallen, et al. (2010). What do GPs feel about sickness certification? A systematic search and narrative review. *Scandinavian Journal of Primary Health Care* 28(2): 67-75.



## The Royal Australasian College of Physicians

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