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Executive summary

The Statewide Rehabilitation Clinical Network commenced in July 2007. It is an initiative of the State Government to facilitate ongoing reform of the health system in South Australia with a focus on clinical leadership, strategic planning and clinician engagement in service planning across the continuum, in both country and metropolitan regions. *South Australia’s Health Care Plan 2007–2016* provides a clear mandate to the network, identifying rehabilitation as a priority.

Rehabilitation is part of all patient care, including acute care, and involves the prevention, assessment, management and supervision of a person with a disability until that person has attained an adequate and appropriate level of performance. Rehabilitation provided in acute care is ideally for a short length of stay with a focus on straightforward programs prior to discharge home or transfer to a specialist rehabilitation unit for ongoing input to facilitate independence and attainment of goals. The term specialist rehabilitation refers to those episodes of care where a formal multidisciplinary program is provided. The primary focus of this plan is on specialist rehabilitation, while acknowledging that the provision of rehabilitation in acute care is critical to facilitate early intervention and effective, efficient flow of patients through the health system.

The initial focus of the Statewide Rehabilitation Clinical Network (also referred to as the Rehabilitation Clinical Network) has been on the development of models and processes for improvement of rehabilitation services in South Australia. Five clinical priority areas have also been considered – amputations, brain injury, older people, stroke and paediatrics. Specific strategic directions in relation to older people and stroke rehabilitation have been included in the *Health Service Framework for Older People 2009–2016* and the *South Australian Stroke Service Plan 2009–2016*, which were both released in July 2009. Strategic directions in relation to brain injury rehabilitation are expected to be released in 2010. This *Statewide Rehabilitation Service Plan 2009–2017* outlines the proposed rehabilitation system construct required for South Australia and identifies the key initiatives needed to provide an efficient and effective service.

As our population ages, the need for rehabilitation services will increase. This plan sets out the key strategies and investments that should be undertaken in response to these needs.

The need for public specialist rehabilitation services is dependent on several factors:

> Demand associated with highly specialised statewide services including spinal cord injury, brain injury, major burns and multitrauma

> Demand for regional specialist rehabilitation services including stroke, amputee, orthopaedic, and neurological services, which generally increase with age and are dependent on population size and morbidity patterns

> The level of private sector rehabilitation services available to the population.

The effectiveness of rehabilitation is highly dependent on the nature of the relationship between inpatient, outpatient and community services. Rehabilitation services are particularly sensitive to difficulties at service interfaces and hence organisational arrangements can either enhance integration and the quality of service delivery or exacerbate problems.

The National Health and Hospitals Reform Commission in the report *Beyond the Blame Game: accountability and performance benchmarks for the next Australian Health Care Agreements (April 2008)* identifies the need for additional subacute care options including rehabilitation. The report describes governance principles that take a long term view, are transparent and accountable and provide services that are safe, high quality, ethical, and respectful, ensuring a ‘public voice’ and a culture of reflective improvement and innovation. In line with the COAG National Partnership Agreements, the *Statewide Rehabilitation Service Plan 2009–2017* acknowledges South Australia’s need for increased rehabilitation service provision, while focusing on future long term planning and the principles outlined by the National Health and Hospitals Reform Commission.

A summary of the key strategic directions in this plan are listed on the following pages.
Strategic directions

Rehabilitation service system development

1. Develop statewide specialised interdisciplinary rehabilitation service teams that work across all care settings for the management of spinal cord injury, brain injury, burns and complex multitrauma. These services are to be based at Hampstead Rehabilitation Centre and will be fully integrated to include multi-day and same-day inpatient, outpatient and ambulatory services. These teams will provide expert advice, assessment and management including providing consultation and liaison and inreach services to acute services in major hospitals and visiting into homes, including residential care facilities where necessary. Outreach services will be provided to regional and country areas. The service will gradually increase capability to deliver six and finally seven day a week services.

2. Establish regional specialised interdisciplinary rehabilitation services that work across care settings for the management of stroke, amputee, orthopaedic, neurological and geriatric* rehabilitation. These services are to be based in the metropolitan and country general hospitals with responsibility across defined geographic areas. These services are to gradually increase capacity to deliver six and finally seven day a week services. Multidisciplinary triage to acute hospitals, including medical specialist assessment, will be provided by the rehabilitation services to ensure early commencement of rehabilitation, assessment of most appropriate discharge destination and timely transfer to a rehabilitation facility or ambulatory services. Links will be established between metropolitan and country services to ensure appropriate medical, nursing and allied health specialist support for services based in country areas.

3. Expand rehabilitation service capacity across the care continuum in line with projected future demand informed by the benchmarks recommended by the network.

4. Establish leadership positions in each regional service to support the development of rehabilitation services. Cross-regional appointment of specialists may assist in achieving necessary flexibility and more efficient use of specialist workforce.

Service model development

5. In conjunction with relevant Statewide Clinical Networks, develop clinical protocols for rehabilitation management in relation to stroke, orthopaedic conditions, lower limb amputation, acquired brain injury and spinal cord injury. These models are to include day rehabilitation, home based rehabilitation (including early supported home based), transition services and shared care approaches as well as inpatient services.

6. In conjunction with relevant partner agencies, develop agreed integrated service models for:
   - people under the age of 65 requiring rehabilitation
   - Aboriginal and Torres Strait Islander people
   - people with degenerative neurological disorders
   - people from culturally and linguistically diverse backgrounds
   - people requiring pulmonary rehabilitation
   - young people transitioning from children services to adult services.

Partnership development

7. Strengthen partnerships with consumers, health providers, government and non-government agencies in the delivery of efficient, effective and quality rehabilitation services to the South Australian community.

*Recommendation also included in the Health Service Framework for Older People 2009–2016.
Workforce development and training

8. Develop a rehabilitation workforce strategy, based on the SA Health Workforce Reform Strategy 2008–2009, to set state-based medical, nursing and allied health rehabilitation benchmarks and targets, drawing from national and international guidelines where available. This strategy should guide expansion of the workforce including role re-design to ensure appropriate workforce availability to match the planned expansion of rehabilitation services. This includes expansion of rehabilitation and geriatric medicine registrar training programs.

9. Develop a statewide approach to training, including university-hospital partnerships with equal access to training placements at all rehabilitation sites across South Australia and enhanced professional development opportunities for staff.

10. Establish or expand partnerships with the universities in the health facilities across South Australia to increase numbers of training placements available for allied health training.

Research

11. Establish a rehabilitation research network with participation of all three universities in South Australia promoting research opportunities and developing a rehabilitation research strategy for the state.

Safety and quality

12. Embed reform of rehabilitation services within a quality improvement and integrated performance monitoring approach.

13. Establish a safety and quality subcommittee of the Network Steering Committee to support delivery of high quality services.

14. Appoint a lead coordinator to provide data management support including coordination of and regular reporting of national benchmarking, comparative public reporting and performance monitoring.

Enablers

15. Develop rehabilitation funding mechanisms that support the establishment of integrated services across the care continuum.

16. Build and/or redevelop physical infrastructure to support the delivery of evidence-based care at the service delivery levels identified as required to meet need. This includes development of appropriate ICT systems.

17. As availability of transport is a key enabler to ensure appropriate access to day rehabilitation and outpatient rehabilitation services, current processes need to be reviewed.

Collaborative enablers

18. The Rehabilitation Network will collaborate where necessary to:
   > support implementation of South Australia’s Stroke Service Plan 2009–2016 and Health Service Framework for Older People 2009–2016
   > support the Cardiology Network in the development of cardiac rehabilitation services in South Australia.

The strategic directions outlined above were developed through a varied and wide reaching consultation process. Many of the strategic directions will take time to deliver. Table 1 outlines the initial priority areas that will assist in the first stages of reform to rehabilitation services in South Australia.
### Table 1
Priority areas for the first 12 months

<table>
<thead>
<tr>
<th>Statewide initiatives</th>
<th>Service level redesign initiatives</th>
<th>Access to services</th>
<th>Quality data and reporting initiatives</th>
<th>Workforce and training initiatives</th>
<th>Research initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Develop agreed pathways for individuals under 65 with disability.</td>
<td>2.1 Increase rehabilitation activity in South Australia, including inpatient and ambulatory.</td>
<td>3.1 Improve equity and access to Statewide Rehabilitation Services (spinal cord injury and brain injury).</td>
<td>4.1 Develop capacity for all inpatient and ambulatory rehabilitation units to enable quality reporting and performance monitoring.</td>
<td>5.1 Develop a rehabilitation workforce strategy to address, workforce benchmark requirements, training and professional development.</td>
<td>6.1 Develop a plan for strategic rehabilitation clinical and health service research and establish processes to facilitate involvement of all units in a statewide approach.</td>
</tr>
<tr>
<td>1.2 Develop a model of rehabilitation for Aboriginal and Torres Strait Islanders living in metropolitan Adelaide.</td>
<td>2.2 Develop detailed service profiles for TQEH, Modbury Hospital and two country sites, including Whyalla.</td>
<td></td>
<td></td>
<td>5.2 Expand Allied Health Advanced/Extended Scope of Practice roles.</td>
<td></td>
</tr>
<tr>
<td>1.3 Develop models of care for: &gt; acquired brain injury &gt; spinal cord injury &gt; pulmonary rehabilitation &gt; orthopaedic rehabilitation (in collaboration with Orthopaedic Clinical Network) &gt; complex and progressive neurological conditions.</td>
<td>2.3 Establish a seven day inpatient rehabilitation service model, including admissions, discharges and therapy beginning with Monday to Saturday and progressing to a seven day a week service.</td>
<td>3.2 Provide multidisciplinary rehabilitation triage to acute hospitals including medical assessment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Establish transitional services to facilitate young people moving from children services to adult services.</td>
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</tr>
</tbody>
</table>
Introduction: A platform for change

The South Australian Health Care Plan 2007–2016 (HCP) identified the challenges facing the SA Health system into the future; clearly identifying the need for expansion and improvement in rehabilitation services as key to addressing these challenges.

Hospitals in South Australia are experiencing an escalating number of patients requiring rehabilitation. This demand is predicted to grow beyond the current capacity of statewide and regional specialist rehabilitation services. The HCP describes a planned increase in inpatient and ambulatory rehabilitation services to effectively rebalance acute and rehabilitation services.

Research evidence suggests that increasing access to inpatient, home-based and centre-based rehabilitation services will improve patient flow through the acute system, reduce re-admissions and improve patient outcomes. South Australians require an integrated, modern rehabilitation service system to ensure people of all ages who require rehabilitation have access to appropriate services in a timely manner with the aim of moving them rapidly back into their communities.

This plan describes current services and a new innovative rehabilitation service system across metropolitan and country areas including the highly specialised services offered on a statewide basis. Priorities for implementation to achieve outcomes quickly are also identified. These key priorities and enablers of the plan have been listed previously in Table 1.

Current rehabilitation service profile

South Australia currently has 237 publicly funded rehabilitation beds which equates to a statewide provision ratio of 15 public inpatient rehabilitation beds/100,000 population. With the inclusion of the 141 private rehabilitation beds, the total for South Australia is 24 rehabilitation beds/100,000 population. The total number of ambulatory rehabilitation places is 58; all of which are in metropolitan Adelaide, equating to four public ambulatory rehabilitation places/100,000 population. Current rehabilitation services are fragmented and unevenly distributed across the health regions. In summary:

> Statewide specialist rehabilitation services for spinal cord injury, brain injury and burns are provided by Hampstead Rehabilitation Centre under the auspices of Central Northern Adelaide Health Service. These services include inpatient, ambulatory, outpatient and limited outreach services

> Inpatient rehabilitation services for stroke, amputee, orthopaedics, neurological, de-conditioned and other required conditions are provided by:

  – Hampstead Rehabilitation Centre and St Margaret’s Hospital which are designated ‘stand alone’ adult rehabilitation facilities
  – Repatriation General Hospital, Lyell McEwin Hospital and The Women’s and Children’s Hospital which have designated inpatient rehabilitation units
  – Strathalbyn and District Health Service which has a small designated rehabilitation unit

> Home-based rehabilitation services are provided by Repatriation General Hospital and Lyell McEwin Hospital

> Centre-based rehabilitation services are provided at Repatriation Rehabilitation Hospital and Hampstead Rehabilitation Centre

> Country Health SA provides a range of integrated home and centre-based community health services that include rehabilitation

> Three private hospitals provide rehabilitation: Griffith Rehabilitation Hospital, Calvary College Grove Hospital and The Memorial Hospital

> Ongoing rehabilitation and maintenance services in the community are provided by a range of government and non-government organisations including Disability SA, Domiciliary Care SA, Commonwealth-funded Day Therapy Centres, Novita Children’s Services and private providers.


Current service delivery issues

Extensive stakeholder consultation identified the following issues that contribute to delays or prevent access to appropriate rehabilitation services:

> Historical capping of the number of available rehabilitation beds in South Australia below suggested national benchmarks

> Stand-alone rehabilitation facilities have poorer access to diagnostics, specialist medical staff (such as cardiologists and neurologists) and no overnight medical cover. This can lead to delays in accepting patients for rehabilitation

> Lack of consistent early identification of patients within the acute sector who may require rehabilitation services

> Lack of consistency of referral mechanisms and entry criteria to rehabilitation services

> No uniform guidelines for referrers and no transparent systems for tracking patients, monitoring consultation performance and managing patient flow into rehabilitation beds

> Lack of specialist interdisciplinary ambulatory and community-based specialist rehabilitation services

> Inability for direct community admissions to rehabilitation facilities which means that patients need to attend an Emergency Department or access an acute bed to be eligible for inpatient specialist rehabilitation services

> Disorganised referral and assessment systems for patients under 65 years of age with degenerative neurological conditions such as Multiple Sclerosis, cerebral palsy and muscular dystrophy presenting to acute hospitals. There has been poor development of integrated rehabilitation services for adults under 65 years of age across South Australia with no services available in the country

> The majority of specialist inpatient rehabilitation services are concentrated in inner metropolitan Adelaide with limited access to specialist rehabilitation in outer metropolitan and rural areas

> Inequity of access to statewide services such as brain injury and spinal cord injury, particularly the ability to access outreach clinics in rural and remote areas

> Transitions from specialist rehabilitation services to community services that provide ongoing support and maintenance can often be delayed and poorly executed. Communication, lack of resources, selective admission criteria, and inability to develop shared risk frameworks all contribute to hampering service integration and ‘seamless’ service transitions for patients and their families. Transitions are often further complicated when there is no direct access back to specialist rehabilitation services if required by the patient or their community service provider

> For adolescents with disabilities, there are no formal transition pathways from paediatric to specialist adult rehabilitation services

> There has been limited opportunity for the development of shared care models for transitioning patients from SA Health rehabilitation options to other service providers

> Current staffing levels are inconsistent across specialist rehabilitation sites and do not reflect recommended national benchmarks

> University training is limited by access to clinical placements and historical arrangements linking some universities with individual hospitals

> Human resource and budget implications often hamper innovative service delivery options such as ‘sharing’ staff across sites or staff exchange programs

> Country SA reports significant difficulties in recruiting and retaining allied health staff, particularly those with expertise in the delivery of specialist rehabilitation services

> Poor access to ongoing training and professional development opportunities impacts on recruitment and retention of rural staff

> Poor career structure for the required workforce limits staff recruitment and retention, and does not match interstate incentives.
Profile of rehabilitation service demand

The demand for rehabilitation services in metropolitan Adelaide continues to grow as the population ages. The majority (68%) of Australians receiving rehabilitation are aged over 65, peaking in the 75–84 age group, as shown in Figure 1 below. Investment in new contemporary models of rehabilitation services across the continuum is needed to ensure equity, accessibility and availability of rehabilitation to meet the needs of the community.

Figure 1
Separations for principal diagnoses Z50 – care involving use of rehabilitation procedures in Australia 2006/07

A range of conditions benefit from rehabilitation, including spinal cord injury, orthopaedic conditions, neurological conditions, amputations, multitrauma, age-related illnesses and developmental delay.

The need for specialist rehabilitation services is determined by:

> Demand associated with highly specialised clinical services which are planned and delivered on a statewide basis, including spinal cord injury, brain injury, major burns and complex multitrauma

> Demand for regional specialist services including stroke, amputee, orthopaedic and neurological services, which generally increase with age, and are dependent on population size and morbidity patterns

> The level of private sector rehabilitation services available to the population.

The effectiveness of rehabilitation is highly dependent on the nature of the relationship between inpatient, outpatient and community services. Rehabilitation services are particularly sensitive to difficulties at service interfaces and hence organisational arrangements can either enhance integration and the quality of service delivery or exacerbate problems.

Inability to access appropriate rehabilitation services causes patients to have prolonged periods of stay in acute beds. These patients often fail to recover optimally and require repeated admissions. An effective system of rehabilitation will provide improved outcomes for both the South Australian health system and the individual patients it treats.
Current service utilisation

Most metropolitan rehabilitation units are operating at capacity, with three out of four operating at or above 95 percent as shown in Table 2 below.

Table 2
Rehabilitation activity for metropolitan South Australia 2006–07

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Separations</th>
<th>Bed Days</th>
<th>Actual Beds</th>
<th>Operating capacity</th>
<th>ALOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampstead</td>
<td>1 107</td>
<td>40 471</td>
<td>117</td>
<td>95%</td>
<td>36.6</td>
</tr>
<tr>
<td>Lyell McEwin</td>
<td>90</td>
<td>1 523</td>
<td>5</td>
<td>83%</td>
<td>16.9</td>
</tr>
<tr>
<td>St Margaret's</td>
<td>698</td>
<td>12 248</td>
<td>34</td>
<td>99%</td>
<td>17.5</td>
</tr>
<tr>
<td>RGH</td>
<td>1 075</td>
<td>19 582</td>
<td>55</td>
<td>98%</td>
<td>18.2</td>
</tr>
</tbody>
</table>

Note: Based on Rehabilitation ESRG: 132 Non-acute rehabilitation. Paediatric Rehabilitation Unit, Women’s and Children’s Hospital and Care of the Elderly Unit, Noarlunga Health Service not included as Paediatric Rehabilitation Unit established after 2006–07.

Information on the age, average length of stay and functional improvement (based on admission and discharge Functional Independence Measure (FIM) of patients at the three main rehabilitation hospitals in South Australia is presented in Table 3 and includes South Australian and national benchmarks, utilising data from the Australasian Rehabilitation Outcomes Centre (AROC). Caution needs to be exercised in comparative analysis between rehabilitation sites given varying admission criteria and availability of ambulatory services or discharge options.

The admission and discharge FIM to South Australian rehabilitation sites is higher than the National Public Benchmark, indicating that individuals are classified as having a higher level of function when admitted and discharged from inpatient rehabilitation in South Australia. However, FIM efficiency (a measure of functional improvement by time) is lower at Hampstead Rehabilitation Centre than other rehabilitation sites. A higher FIM efficiency score is indicative of greater functional improvement over a shorter period of time.

Given the data presented in Table 3 also combines SNAP (Sub-acute and Non-acute Patient) classes, further caution needs to be exercised in comparative analysis between rehabilitation sites. Furthermore, variations can be attributed to delays in transfer to inpatient rehabilitation from acute sites, inconsistent admission criteria across rehabilitation sites, varying levels of therapy available and limited ambulatory rehabilitation services/discharge options at some sites resulting in delays to discharge.
### Table 3
Characteristics of patients receiving rehabilitation in SA hospitals 2006/07

<table>
<thead>
<tr>
<th></th>
<th>Number of episodes</th>
<th>Mean age</th>
<th>Mean LOS</th>
<th>Admission FIM</th>
<th>Discharge FIM</th>
<th>FIM Efficiency**</th>
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<td><strong>Orthopaedics</strong></td>
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<tr>
<td>Hampstead Rehab Centre</td>
<td>221</td>
<td>73.3</td>
<td>23.1</td>
<td>91.2</td>
<td>106.5</td>
<td>0.66</td>
</tr>
<tr>
<td>Repatriation General Hospital</td>
<td>529</td>
<td>76.9</td>
<td>16.5</td>
<td>94.0</td>
<td>108.5</td>
<td>0.88</td>
</tr>
<tr>
<td>St Margaret's Hospital</td>
<td>202</td>
<td>77.1</td>
<td>19.0</td>
<td>92.1</td>
<td>109.3</td>
<td>0.91</td>
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<tr>
<td>SA Public</td>
<td>76.2</td>
<td>18.6</td>
<td>92.8</td>
<td>108.0</td>
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<td>21.1</td>
<td>84.6</td>
<td>101.7</td>
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<td><strong>Amputations</strong></td>
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<td>Hampstead Rehab Centre</td>
<td>52</td>
<td>63.7</td>
<td>37.5</td>
<td>100.1</td>
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<td>50</td>
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<tr>
<td>Hampstead Rehab Centre*</td>
<td>199</td>
<td>62.9</td>
<td>45.6</td>
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<td>98.0</td>
<td>0.48</td>
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<tr>
<td>Repatriation General Hospital</td>
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<td>75</td>
<td>23.8</td>
<td>86.1</td>
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<td>0.76</td>
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<td>St Margaret's Hospital</td>
<td>83</td>
<td>73</td>
<td>29.1</td>
<td>81.2</td>
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<td>SA Public</td>
<td>70.1</td>
<td>31.3</td>
<td>81.5</td>
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<td>0.63</td>
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<td>National Public Benchmark</td>
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<td>94.2</td>
<td>0.69</td>
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<td></td>
<td></td>
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<tr>
<td>Hampstead Rehab Centre</td>
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<td>72.1</td>
<td>28.6</td>
<td>95.5</td>
<td>104.0</td>
<td>0.30</td>
</tr>
<tr>
<td>Repatriation General Hospital</td>
<td>159</td>
<td>80.9</td>
<td>16.9</td>
<td>89.0</td>
<td>103.1</td>
<td>0.83</td>
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<tr>
<td>St Margaret's Hospital</td>
<td>16</td>
<td>78.7</td>
<td>23.3</td>
<td>88.0</td>
<td>103.3</td>
<td>0.66</td>
</tr>
<tr>
<td>SA Public</td>
<td>79.1</td>
<td>19.2</td>
<td>89.7</td>
<td>103.2</td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>National Public Benchmark</td>
<td>79.3</td>
<td>21.1</td>
<td>80.5</td>
<td>94.9</td>
<td>0.68</td>
<td></td>
</tr>
</tbody>
</table>

*Due to a data collection error some patients who should have been coded as brain injury may appear in stroke for Hampstead.

**FIM efficiency is the FIM improvement score divided by the total length of stay of the patient; it is a measure of functional improvement by unit of time.

Source: Australasian Rehabilitation Outcomes Centre.
Rehabilitation-sensitive diagnosis related groups

Kathy Egar from the Centre for Health Service Development at the University of Wollongong undertook an analysis of rehabilitation sensitive Australian Refined Diagnosis Related Groups (DRGs) for South Australia. The purpose of the analysis was to estimate the number of patients in South Australian metropolitan public hospitals who are currently classified as acute care but may benefit from rehabilitation or other sub-acute care.

The analysis used a methodology known as ‘rehabilitation-sensitive DRGs’ developed by Dr Lynette Lee, a rehabilitation physician based in New South Wales. This methodology has been applied in Tasmania, Northern Territory and some parts of New South Wales. A total of 177 Australian Refined DRGs were classified as ‘rehabilitation-sensitive DRGs’ and then grouped into 17 functional groups as shown in Table 4 below.

Table 4
Rehabilitation-sensitive DRG functional groups

<table>
<thead>
<tr>
<th>Amputee</th>
<th>Neurological conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>Non-traumatic brain dysfunction</td>
</tr>
<tr>
<td>Arthritis after care</td>
<td>Other complex orthopaedic</td>
</tr>
<tr>
<td>Chronic pain (back and neck)</td>
<td>Other orthopaedic</td>
</tr>
<tr>
<td>Complex joint replacement</td>
<td>Rehabilitation/other</td>
</tr>
<tr>
<td>Complex medical</td>
<td>Spinal cord dysfunction</td>
</tr>
<tr>
<td>Fractured neck of femur</td>
<td>Stroke</td>
</tr>
<tr>
<td>Joint replacement</td>
<td>Traumatic brain dysfunction</td>
</tr>
<tr>
<td>Multi trauma and other</td>
<td></td>
</tr>
</tbody>
</table>

For the purpose of this analysis, any patients classified in one of these rehabilitation-sensitive DRGs in the first ten days of each episode were assumed to be ‘acute’. Any days beyond ten were days when patients could have more appropriately been receiving rehabilitation or other sub-acute care. It is acknowledged that this would not have been true for every patient; however this method gives an overall estimate of potential sub-acute and non-acute patient activity in acute beds.

There are two main assumptions that this methodology is based on. Firstly, the 177 rehabilitation-sensitive DRGs represent the full range of patients who would potentially benefit from rehabilitation or other sub-acute care. It is recognised that in practice this is not the case and hence this methodology underestimates the potential need. Secondly, there is an assumption that patients assigned to a rehabilitation-sensitive DRG receive and require ‘acute’ care for ten days. This would be true for some and this assumption is regarded as clinically plausible, if not conservative, given ten days is significantly longer than the typical acute care episode. Therefore this assumption may result in an underestimation of total need for rehabilitation and sub-acute care.

The net effect of this methodology is that while it is regarded as sufficiently accurate for service planning purposes, it likely underestimates the true need for rehabilitation and sub-acute care.

To enable the data to be converted into ‘occupied bed days’, an average bed occupancy rate of 90% is assumed at all hospitals. This analysis was conducted for all public metropolitan hospitals as shown for the three year period 2005–06 to 2007–08. Country hospitals were not included as part of this analysis.

Table 5 reveals the rehabilitation-sensitive analysis and demonstrates that for metropolitan South Australia, around 80 000 ‘acute’ bed days per year are consumed by patients who would be more appropriate to be receiving rehabilitation/sub-acute care. This equates to approximately 200 beds per day. Table 5 also demonstrates that the number of people classified as ‘acute’ that could benefit from rehabilitation/sub-acute care has slowly been increasing each year. The 80 852 days in 2007–08 when these patients may have more appropriately been receiving rehabilitation or sub-acute care is the equivalent of 11.4 days length of stay per separation. The ten days assigned as ‘acute’ are additional to these 11.4 days. In total, 70% of these rehabilitation/sub-acute appropriate days occurred in just three hospitals – the Royal Adelaide Hospital accounts for 30% of these days, Flinders Medical Centre 22% and The Queen Elizabeth Hospital 18%.
### Table 5
Rehabilitation/sub-acute bed days classified as ‘acute’ by year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amputee</td>
<td>1 303</td>
<td>1 624</td>
<td>1 393</td>
</tr>
<tr>
<td>Arthritis</td>
<td>1 957</td>
<td>1 793</td>
<td>1 754</td>
</tr>
<tr>
<td>Arthritis after care</td>
<td>466</td>
<td>255</td>
<td>337</td>
</tr>
<tr>
<td>Chronic pain (back and neck)</td>
<td>1 196</td>
<td>1 423</td>
<td>1 800</td>
</tr>
<tr>
<td>Complex joint replacement</td>
<td>2 255</td>
<td>2 337</td>
<td>2 277</td>
</tr>
<tr>
<td>Complex medical</td>
<td>34 247</td>
<td>34 972</td>
<td>36 961</td>
</tr>
<tr>
<td>Fractured neck of femur</td>
<td>834</td>
<td>1 103</td>
<td>918</td>
</tr>
<tr>
<td>Joint replacement</td>
<td>1 072</td>
<td>1 229</td>
<td>901</td>
</tr>
<tr>
<td>Multi trauma and other</td>
<td>3 571</td>
<td>3 318</td>
<td>3 744</td>
</tr>
<tr>
<td>Neurological conditions</td>
<td>5 673</td>
<td>6 295</td>
<td>6 875</td>
</tr>
<tr>
<td>Non-traumatic brain dysfunction</td>
<td>32</td>
<td>97</td>
<td>109</td>
</tr>
<tr>
<td>Other complex orthopaedic</td>
<td>6 992</td>
<td>6 682</td>
<td>6 396</td>
</tr>
<tr>
<td>Other orthopaedic</td>
<td>1 611</td>
<td>1 581</td>
<td>1 714</td>
</tr>
<tr>
<td>Rehabilitation/other</td>
<td>1 392</td>
<td>1 419</td>
<td>1 647</td>
</tr>
<tr>
<td>Spinal cord dysfunction</td>
<td>2 734</td>
<td>2 373</td>
<td>2 337</td>
</tr>
<tr>
<td>Stroke</td>
<td>7 123</td>
<td>8 505</td>
<td>8 318</td>
</tr>
<tr>
<td>Traumatic brain dysfunction</td>
<td>3 133</td>
<td>3 548</td>
<td>3 371</td>
</tr>
<tr>
<td>Grand total</td>
<td>75 591</td>
<td>78 554</td>
<td>80 852</td>
</tr>
<tr>
<td>Estimated beds at 90% occupancy</td>
<td>186</td>
<td>194</td>
<td>200</td>
</tr>
</tbody>
</table>
The rehabilitation service system

The rehabilitation service system and model of care presented within this service plan has been developed by the Statewide Rehabilitation Clinical Network with the input of many interested and dedicated individuals through specific workgroups, attendance at workshops and active participation in small group discussions. Contributors have been multidisciplinary and from a range of organisations across the continuum of care including acute and rehabilitation hospitals, community, private and country-based services. Consumers have also been involved in development of the model. See Appendix 1: Membership of Steering Committee. The Rehabilitation Clinical Network also developed the Service Delineation for South Australia, details of which can be found in Appendix 2.

Key aims

The service system developed for rehabilitation in South Australia aims to:

> maximise each individual’s independence, function and ability
> reduce the period during which an individual experiences less than optimal independence, function and ability
> build on and strengthen current rehabilitation services to deliver these outcomes, acknowledging the fundamental need to redress the balance of services across inpatient and ambulatory settings
> ensure the availability of rehabilitation services in South Australia across the continuum of care that are patient centred, sustainable, responsive, accessible and effective, and based on population need and best available evidence
> deliver services that are integrated across the continuum of care and promote smooth transitions between care settings
> promote the integration of clinical services with quality and research initiatives, workforce development, and education and training, acknowledging that to be an effective leader in rehabilitation, all these components are essential
> provide comprehensive interdisciplinary rehabilitation services (including inpatient and community based) that are cost effective, equitable and consistent across the state
> reduce dependence on the health, aged care and disability sectors over the long term.

The essential building blocks for highly effective and efficient rehabilitation services in South Australia are illustrated in Figure 2.
Figure 2
Essential building blocks for highly effective and efficient rehabilitation services in South Australia

Key principles

The Model of Care for Rehabilitation in South Australia is based on SA Health’s aim to optimise patient care outcomes by providing the ‘right care at the right time and in the right place first time’:

> **Right care**: ensuring the availability of staffing, skills, expertise and resources for the management of the individual’s specific health care needs

> **Right time**: ensuring the availability and access to the required services to meet the individual’s needs in a timeframe that will minimise adverse outcomes and/or complications

> **Right place**: ensuring that the individual’s care is provided in a facility that will best meet their specific needs

> **First time**: ensuring that the required care is provided in the most appropriate place within necessary timeframes first time and that transfer to various facilities, services and personnel is not required.

‘Right care, right time, right place, first time’ is further enhanced by the following key principles of the Rehabilitation Model.

**Client centred**

This model places the individual, their family, carers and significant others at the centre of care. It acknowledges that individuals have the right to be treated with dignity, respect and fairness. Services are delivered in partnership with the patient and their family/carers based on their needs and preferences. The model ensures there is patient choice and services are matched to patient needs.

**Maximising function and independence**

Central to this model is the maintenance of an individual’s independence, function and ability. Preventive strategies should be implemented to avoid loss of function both in the community and hospital. If an individual requires hospitalisation, a program of restoration and rehabilitation should be started immediately and supported by adequate levels of staffing and in suitable environments.
Service consistency
There will be consistency of service across the whole system assisting in facilitating access and equity. Within the agreed service consistency there will be scope for flexibility to meet specific population groups and individual needs.

Seamless service
Services as part of this model are seamless across the continuum of care and patients and their families are supported and easily able to identify who to contact if issues of concern arise. Services are responsive and facilitate throughput and avoid blockages within the system. Duplication of assessment is avoided.

Partnerships
Communication and teamwork are essential elements of this model. Strong partnerships will be established between all key stakeholders in the patient’s care including the individual, government and non-government organisations, the general practitioner and specialist medical staff.

Standards of care
Ongoing monitoring of outcomes and standards of care forms an essential component of this model to ensure better health outcomes. Care will be provided based on the best evidence available to ensure high-quality patient-centred services with the minimisation of errors.

Support and value staff
Staff with expertise in rehabilitation, including specialty areas such as stroke and brain injury, need to be supported and valued in their roles. New or inexperienced staff also need to be fostered in their development and employment in these roles. A robust professional development strategy needs to be available for all staff.

Service elements
The following service elements (see Figure 3) form the Model of Care for Rehabilitation in South Australia and are essential to ensure access, patient flows, integration and meeting of consumer needs/choice across the continuum:

> Assessment services – access and triage
> Shared care models in the acute inpatient setting
> Inpatient rehabilitation
> Rehabilitation in the home
> Centre-based day rehabilitation
> Specialist outpatient clinics – medical and allied health
> Community therapy programs
> Transition services.
Access and equity
Service planning is based on population need. Comprehensive rehabilitation services are available to maximise an individual's independence and function, recognising that not 'one size fits all'. This is of particular importance for minority groups and people from culturally diverse backgrounds. Further there are multiple entry points to a service and service access is based on clinical need, not age. Services are provided as close to an individual's home as practical. Various elements are more important for some clinical priority areas than others. For example, access to care awaiting placement for older people.

Access and triage
Multiple access points into rehabilitation and streaming of patients into the most suitable pathway/service following comprehensive assessment is needed. This will ensure the suite of available rehabilitation services work successfully and align with the key principles of this rehabilitation model.

Early assessment, screening and identification of a person's rehabilitation needs and risk of functional decline should be undertaken as soon as practicable following presentation to hospital. The timing will be dependent on the individual's medical status but may be possible within the emergency department. This process will be assisted by the availability of a multidisciplinary rehabilitation team, including access to a medical specialist, to triage referrals to inpatient, ambulatory and outpatient rehabilitation.
Shared care models in the acute setting

Individuals, especially older people, admitted to hospital for an acute episode are at high risk of loss of function and independence due to periods of inactivity, immobility and prolonged bed rest. This is further impacted by individuals who have multiple co-morbidities, experience complications and require lengthy periods in intensive care.

Interventions that either prevent decline or maximise function should start immediately on admission to hospital for most patients over 65 years of age and those with neurological and orthopaedic conditions such as stroke, brain injury and hip fracture, if there are no medical contraindications for this to occur. This may facilitate direct discharge home with early supported discharge and ambulatory rehabilitation services.

Shared care models suitable for acute settings include integrated pathways where specialist rehabilitation teams work with physicians and surgeons (e.g. stroke, brain injury); and early consultation and transfer to specialised wards and services (e.g. spinal cord injury, young complex disability).

Inpatient rehabilitation

Inpatient rehabilitation is the most intense level of care which provides an interdisciplinary team approach to enhance and restore an individual's function following a disabling injury, illness or surgical intervention.

Individuals in inpatient rehabilitation require a goal-orientated program of medical and therapy interventions to regain independence, confidence and optimum function.

The program of rehabilitation will vary for each patient depending on presenting condition and subsequent cognitive and physical deficit. The individual's goals also form a rehabilitation variable. This will influence the health professionals involved in the program and intensity of therapy.

Suitable environments and staffing need to be available for inpatient rehabilitation as per the Australasian Faculty of Medicine Standards 2005: Adult Rehabilitation Medicine Services in Public & Private Hospitals. Requirements vary depending on medical condition.

Rehabilitation in the home

Rehabilitation in the home is provided in an individual's own home, with the goal of maximising independence and function. A skilled multidisciplinary team provides therapy with intensity varying depending on individual need. Medical specialists need to form part of this team and be available to undertake home based assessments and interventions as needed and work closely with the individual's general practitioner.

Adequate social supports, suitable and safe environment and availability of required equipment are essential elements that must be considered if an individual is to receive rehabilitation at home.

There must be multiple access points to rehabilitation in the home to minimise hospital inpatient stays and avoid admissions. Access into the program needs to be co-ordinated by a Program Manager with referrals accepted from emergency, inpatient care, community teams and general practitioners.

Centre-based day rehabilitation

Day rehabilitation provides low to moderate therapy, depending on individual patient needs in a non-inpatient setting. The patient attends the day rehabilitation program two to five times a week for approximately half a day at a time for a program of rehabilitation to maximise independence and function. The length of time a patient attends a day rehabilitation program is time limited and usually ranges between six to 12 weeks.

The patient resides at home when not attending the day rehabilitation program and therefore must have a suitable environment and social supports to facilitate this.

An interdisciplinary rehabilitation program – including medical, nursing and allied health input – is provided to individuals attending a day rehabilitation program.

The lack of available transport options can often impact on an individual's ability to access ambulatory rehabilitation services. The availability of transport options that are accessible and cost efficient needs to form a part of all ambulatory and community-based rehabilitation services.
Specialist outpatient clinics – medical and allied health

Outpatient clinics provide individuals with the opportunity to access specialist medical assessment, and review and therapy interventions to improve and maintain their independence and function. These clinics are usually most suited to individuals who only require a single discipline intervention or have a specific medical condition requiring intervention.

Development of outpatient clinics that are interdisciplinary including medical, nursing and allied health that focus on specific areas requiring rehabilitation post injury or illness such as driving, swallowing and spasticity is important.

Community therapy programs

Centre-based (e.g. day therapy centres) and home-based community therapy programs provide therapy-based interventions to facilitate an individual to maintain, rehabilitate or recover a level of independence that allows them to remain living at home in the community.

These programs are provided by either a single discipline or a multidisciplinary team, such as occupational therapists, physiotherapists and speech pathologists and are goal orientated with a care plan developed in consultation with the patient, family or significant others.

Transport needs to be considered as an essential component of community therapy programs to ensure individuals are able to successfully access these programs to facilitate their independence and improvement.

Transition services

Transition services provide accommodation and or support services to patients requiring complex planning and organisation or ‘phased’ discharge options from rehabilitation services into the community. Transition services should:

> have shared care arrangements with community organisations such as Disability SA
> be based on explicit shared-risk frameworks between SA Health, patient, carers and involved community organisations
> be time limited.

The integrated service system

Effective collaboration across clinical settings and services, across disciplines and across the public and private sectors are hallmarks of system integration.

The establishment of specialised interdisciplinary rehabilitation services able to deliver all core service elements is a key component of this plan. These regionalised rehabilitation services will use a common model of care, clinical protocols and approach to service delivery utilising an integrated interdisciplinary approach.

Regional teams will apply their collective specialist expertise, knowledge and skills at key points along the continuum of care to deliver a range of rehabilitation services that will be integrated with, support and enhance those services provided by generalist, acute and primary health service partners.

As well as direct care they will also assume a system-wide leadership role in championing the redesign of specialised acute and community services to better meet the needs of people requiring rehabilitation through:

> the piloting and evaluation of new and advanced practice roles
> service innovations
> the building of evidence to support best practice models of care for all types of rehabilitation.

Their wider brief is to improve, through a range of direct and indirect means, the outcomes for South Australians requiring rehabilitation.
The team approach to rehabilitation services

These interdisciplinary teams will have specialist knowledge and clinical expertise in the assessment and management of people with rehabilitation needs. The interdisciplinary teams will include (but are not limited to) the following health professionals:

- rehabilitation specialists
- rehabilitation nurse practitioners and advanced practice nurses with specialist skills relating to specific rehabilitation types
- allied health practitioners with rehabilitation expertise
- clinical psychologists and neuropsychologists.

These teams may also include or have access to:

- geriatricians and advanced trainees
- psychogeriatricians.
The rehabilitation service design

Statewide services

Statewide specialist rehabilitation services should be available in clinical areas that traditionally require highly specialised rehabilitation services provided to a relatively low volume of patients. Nationally these clinical groups are considered to be brain injury, spinal cord injury, burns, complex multitrauma and amputees. However evidence suggests that following amputation, patients should be treated as close to home as possible and are therefore considered within the regional specialist rehabilitation services in South Australia’s service planning.

Statewide specialist rehabilitation services will be provided in a hub and spoke model. Hampstead Rehabilitation Centre will be the hub for statewide services. Funding for these statewide specialist services will be quarantined to support equity of access and provision of services across the state with regular reporting requirements to SA Health. The hub will have staffing and facilities to support:

Access and triage

Inreach triage services provided by specialist interdisciplinary teams to the metropolitan major hospitals with the expectation that this will facilitate early shared-care models and timely transfer to appropriate specialist rehabilitation options. This is expected to be a seven day a week service.

Inpatient beds

> Brain injury unit
> Spinal cord injury unit
> Burns unit
> Complex multitrauma unit.

Interdisciplinary services will need to be provided seven days a week or as supported by evidence regarding best patient outcomes.

Rehabilitation in the home

> Direct provision of rehabilitation in the home for all statewide services
> Support to the metropolitan and country general hospitals in the provision of specialist statewide rehabilitation services to patients at home. This may require negotiation of flexible resources.

Centred-based statewide specialist rehabilitation services

> Direct provision of centre-based specialist rehabilitation options for all statewide services
> Provision of advice and support to metropolitan and country general hospitals as required. This may require negotiation of flexible resources.

Specialist outpatient clinics

> On-site and outreach clinics for all statewide services. The locations of the clinics will need to be negotiated with regional health services and support existing interstate commitments.

Transition services

Bed-based and ambulatory services encouraging shared-care models with participating community organisations. Hampstead Rehabilitation Centre hub will provide training, professional development and support for staff across the state involved in the provision or support of statewide specialist rehabilitation services.
Regional services

Three rehabilitation services (Northern, Central and Southern) are planned for metropolitan Adelaide. The administrative centres of these three services will be located at the Modbury Hospital, The Queen Elizabeth Hospital and the Repatriation General Hospital respectively. They will develop and maintain strong links with General Practice, a wide range of acute and community-based services, and with residential care services and facilities within their respective catchment areas.

Four regional rehabilitation services are planned for country South Australia. These services will be developed at each of the four country general hospitals. More detail in relation to the arrangements for country South Australia can be found on page 24.

Repatriation General Hospital, Modbury Hospital and The Queen Elizabeth Hospital will provide general rehabilitation services across the continuum of care to those living in their local communities. These services will include stroke, orthopaedics, neurology and amputee rehabilitation. The rehabilitation services provided by these regional services will include multidisciplinary triage to acute services (including access to medical specialist assessment), inpatient, home-based, centre-based (day) and outpatient rehabilitation clinics. The home-based rehabilitation services should have a significant focus on supporting early discharge home. Such changes to services provision will facilitate the services operating six to seven days a week.

Program managers will be required for each of these service elements to provide leadership, coordination and manage referrals, admissions and clinical service developments. A single management structure that encompasses the suite of rehabilitation options will encourage integration, timely transfers between service options and reductions in length of stay.

The role of St Margaret’s Hospital is expected to change over time to provide a range of ambulatory and home-based rehabilitations options. It is also expected to take on the role of a transition or step-down service facility, particularly for patients under 65 years requiring complex phased discharge to community settings.

Development of the regional rehabilitation service in the northern suburbs should be a high priority due to the high levels of younger patients (under 65) with disability, high burden of disease and high levels of socioeconomic disadvantage. Inpatient, early supported home rehabilitation and day rehabilitation will need to be available to these individuals, many of whom will present to Lyell McEwin Hospital for assessment and intervention. New models of care will need to be explored including shared-care models, early triage to facilitate prompt transfer to specialised rehabilitation units and integrated pathways of rehabilitation across hospital and home. It is critical that the rehabilitation service provided to Lyell McEwin Hospital is provided by an interdisciplinary rehabilitation team including a specialist rehabilitation consultant. Strong links between Modbury Hospital, Lyell McEwin Hospital and Hampstead Rehabilitation Centre will need to be established.

The Women’s and Children’s Hospital will provide paediatric rehabilitation services for the state and include inpatient, ambulatory, outpatient and outreach rehabilitation services. The Women’s and Children’s Hospital will also lead the development of a transitional service model that addresses the ongoing needs of young people as they transition from children’s services to adult services. For further information refer to ‘Rehabilitation for children’ on page 26.

Partnerships will be formed with other government and non-government organisations in the provision of ongoing rehabilitation, maintenance therapy and care in the community including Domiciliary Care SA, Disability SA, aged care and private providers. Transition of children to adult services also needs to be considered in the development of these partnerships.
Facility profiles

The development of the Model of Care for Rehabilitation builds on the *South Australian Health Care Plan’s* stepped-care architecture of the health system, as illustrated in Figure 4 below.

**Figure 4**
Stepped care architecture of the South Australian health system

Modelling future bed requirements

Rehabilitation bed benchmarks utilised in other jurisdictions nationally and internationally have been reviewed to best inform inpatient and ambulatory rehabilitation bed requirements in South Australia. Various rehabilitation benchmarks are shown in Table 6 below.

**Table 6**
Benchmarks for rehabilitation beds per 100,000 population

<table>
<thead>
<tr>
<th>Study/Paper</th>
<th>Rehabilitation Beds</th>
<th>GEM Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW AIM2005 Implications</td>
<td>28.8–35.5</td>
<td></td>
</tr>
<tr>
<td>Victoria (DHS, 2001)</td>
<td>29–32</td>
<td>24–26</td>
</tr>
<tr>
<td>Victoria (DHS, 2008)</td>
<td>18 (public inpatient beds only)</td>
<td>18 (public inpatient beds only)</td>
</tr>
<tr>
<td>AFRM (2008)</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Australasian Faculty of Rehabilitation Medicine.

There are no specific benchmarks available for ambulatory rehabilitation options such as rehabilitation in the home and centre-based day therapy, however there is strong evidence to suggest that services can only be effective if both inpatient and ambulatory rehabilitation options exist and operate as an integrated model across the continuum.

The Rehabilitation Clinical Network considered the available information regarding recommended benchmarks and has determined the benchmark for publicly funded services in South Australia should be 21 inpatient rehabilitation beds and 11 ambulatory rehabilitation bed equivalents per 100 000 people.

This benchmark, consistent with the *Health Service Framework for Older People*, assumes that the Geriatric Evaluation and Management (GEM) services will be provided based on 15 inpatient GEM beds and seven ambulatory GEM bed equivalents per 100 000 people.
Table 7 below indicates the number of beds and places required in 2011–12 and 2016–17 if these benchmarks are applied.

**Table 7**

Bed requirements based on Rehabilitation Network proposed benchmarks

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation</td>
<td>241</td>
<td>53</td>
<td>343</td>
<td>180</td>
<td>358</td>
<td>187</td>
</tr>
<tr>
<td>Geriatric Evaluation &amp; Management (GEM)</td>
<td>0</td>
<td>0</td>
<td>245</td>
<td>114</td>
<td>255</td>
<td>119</td>
</tr>
<tr>
<td>Total</td>
<td>241</td>
<td>53</td>
<td>587</td>
<td>294</td>
<td>613</td>
<td>306</td>
</tr>
</tbody>
</table>

Inpatient demand modelling undertaken during the development of the *South Australian Health Care Plan 2007–2016* identified the need for growth in inpatient rehabilitation beds by more than 120 beds by 2016–17, lifting the number of beds from 241 to 358 over this period. This is in line with the network’s recommendation.

Key to the creation of sufficient inpatient capacity by 2016–17 is the reconfiguration of a number of acute beds for use for GEM. This reconfiguration has commenced with the release of the *Health Service Framework for Older People* and is supported by the allocation of both state and commonwealth funds through the GP Plus Strategy and the Council of Australian Governments Sub-acute National Partnership Initiative.

The creation of regional services provides the opportunity for significant rethinking in relation to the use of facilities at Hampstead and St Margaret’s. Table 8 outlines the current number of beds at each site, illustrating the increase in the number of beds and the changes required in order to meet the projected demand in population areas. This shows the movement of beds from St Margaret’s Hospital, along with increases, to Modbury and The Queen Elizabeth Hospitals. Southern Adelaide Health Service will see an increase in the number of beds available in the Repatriation General Hospital, while the country general hospitals will see an increase in the number of beds from 34 to 70. A more detailed breakdown of the numbers for the Central Northern Adelaide Health Service area (CNAHS) is provided in Appendix 3.
# Table 8

**Current and proposed inpatient rehabilitation capacity**

<table>
<thead>
<tr>
<th></th>
<th>current</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CNAHS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampstead Rehabilitation Centre</td>
<td>121</td>
<td>155</td>
</tr>
<tr>
<td>The Queen Elizabeth Hospital</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Modbury Hospital</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Lyell McEwin Hospital</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>St Margaret’s Hospital</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>147</td>
<td>245</td>
</tr>
<tr>
<td><strong>SAHS</strong></td>
<td></td>
<td></td>
</tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Noarlunga Hospital</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100</td>
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<tr>
<td><strong>CYWHS</strong></td>
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<tr>
<td>Women’s and Children’s Hospital</td>
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<td>6</td>
</tr>
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<td><strong>Total</strong></td>
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<td>6</td>
</tr>
<tr>
<td><strong>CHSA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country General Hospitals</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Whyalla</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Port Lincoln</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Berri</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Mt Gambier</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34</td>
<td>70</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>247</td>
<td>421</td>
</tr>
</tbody>
</table>

**Notes**

1. Country General Hospital beds include Acute Stroke and Geriatric Evaluation and Management beds as these are incorporated into a single ward.
2. Metropolitan beds do not include beds in Comprehensive Stroke Units in major hospitals or Geriatric Evaluation and management beds.
3. Only the rehabilitation focused beds at St Margaret’s are shown in ‘current’ services.
4. Figures for numbers of beds differ between Table 2 and Table 8 due to alternate data sources and year of data collection.
Rehabilitation in country South Australia

Almost a third (28%) of South Australians live in the country, with 13% living in inner regional country areas and 15% in outer regional and remote areas.

Like the rest of the state, the population in the country is ageing. The Mid North and Fleurieu Health regions have the highest percentage of people aged over 70 in the country, making up over 12.5% of their local populations.

The lack of rehabilitation services (inpatient, community, specialist outpatients and visiting outreach) in the country results in those requiring rehabilitation travelling to the city to access these services. This causes isolation from family and friends, pressure on relationships and financial resources, and in some instances individuals declining rehabilitation at the cost of their quality of life and independence.

Attracting and retaining staff, especially allied health staff, in country areas is difficult. Often staff are newly graduated, only stay for a short time and are expected to cover a wide range of areas including hospital, community, paediatrics, adults and the aged. They require specialised expertise due to the variety of work they are required to undertake and their roles are often more challenging due to the lack of specialised support and professional isolation they experience.

Service styles for the provision of rehabilitation in the country need to encompass focused rehabilitation programs that are interdisciplinary, providing organised goal-directed care along with those requiring only allied health support to ensure community needs are met across vast areas.

Transport is a significant issue impacting on access to services located locally and in Adelaide. Whilst the Patient Assisted Transport Scheme (PATs) exists for those needing to access metropolitan-based services, it is limited in the financial assistance it provides and can only be utilised when visiting a medical specialist – allied health is not included in the eligibility criteria.

The use of telemedicine is an effective strategy for improving health service access to rural communities, provided it is appropriately supported and resourced in both country and metropolitan areas. Telemedicine can also assist in developing professional links and in the provision of continuing professional development. Telemedicine is currently poorly utilised in South Australia.

The model for country rehabilitation services

This model acknowledges the dedication and strength of local communities and local health services.

Given the breadth and sparse population of much of country South Australia, it is not possible to have rehabilitation services placed in all country towns, therefore country rehabilitation services will operate on a hub and spoke model. Consistent with the South Australian Health Care Plan 2007–2016, there will be a focus on rehabilitation services in the four country general hospitals (Mt Gambier, Berri, Whyalla and Pt Lincoln).

Rehabilitation units within the country will provide general rehabilitation for a range of conditions including stroke, orthopaedics, neurology and geriatrics. Specialist amputee rehabilitation is also recommended at these sites, with the feasibility of this influenced by volume, access to prosthetic services and workforce capacity. These sites will have 15–20 beds designed and staffed to provide interdisciplinary services in relation to stroke care, geriatric evaluation and management, and specialist rehabilitation.

Establishing dedicated rehabilitation inpatient and ambulatory services in the country will decrease the need for local communities to travel to the metropolitan area for rehabilitation.

The services provided at each of the country general hospitals will include inpatient rehabilitation, home-based, centre-based day therapy and outpatient rehabilitation. There is scope for some ambulatory rehabilitation services to be provided by country community hospitals.

Other innovative models of rehabilitation service provision may need to be considered depending on an individual’s circumstance and distance to a country general or country community hospital. This may include an admission as an inpatient to a country hospital for a burst of rehabilitation or partnerships with local organisations such as Housing SA to establish available accommodation in the town to enable a program of day rehabilitation to be accessed.
Strong formalised links between the country general hospitals and metropolitan rehabilitation hospitals will be formed providing support for workforce, visiting specialists, training, professional development and quality management.

The linked metropolitan-based services will provide input for quality, training, clinical competency and standards, and rehabilitation outcomes to the country-based rehabilitation units linked to their service. Referral pathways between the country and metropolitan-based rehabilitation units will be established as will staff rotations and a multi-layered program of professional development.

The emphasis of this model is on a team approach between country and metropolitan services. While the individual patient outcomes will be the responsibility of the local teams, analysing and improving rehabilitation outcomes will be a shared responsibility, ensuring quality, safe service provision, workforce and professional development requirements.

A Senior Lead Clinician (allied health or nursing) will be appointed at each country general hospital rehabilitation unit, in an Advanced Extended Scope Practitioner or Advanced Practice Nurse role. The Senior Lead Clinician will be the key link between country and metropolitan services and be responsible for liaising with metropolitan-based rehabilitation medical staff regarding patients, need for transfer, overseeing the organisation of follow-up care and coordinating quality, clinical standards and training needs at the country site.

The model for employment of physicians by the country general hospitals to support the rehabilitation units will need to be further explored. Therapy assistants will augment the provision of therapy by allied health staff in the inpatient and ambulatory rehabilitation programs. These assistants will be actively recruited from the local community to assist in staff retention.

If an individual needs to be transferred to metropolitan-based services for rehabilitation (e.g. spinal cord injury), the involvement of the country team early on in the individual’s rehabilitation program at the metropolitan site will be strongly encouraged. This will assist with continuity of care, aid country clinicians' skill development and ensure the individual is transferred back to their local country region at the most appropriate time when local services are able to provide required support. This shared care model of service provision between country and metropolitan sites may also include work shadowing at the metropolitan site, peer support, targeted professional development and outreach support.

As medical input to country hospitals is traditionally provided by general practitioners, strong links will be established, ensuring consistent and timely advice, referral and retrieval as appropriate, quality of intervention and co-ordinated care. The Senior Lead Clinician based at each country rehabilitation unit will assist in facilitating these strong links.

The use of telemedicine in the provision of rehabilitation to country will be an essential element in linking with metropolitan services. Adequately resourced telemedicine units will need to be available in the country general hospitals and metropolitan hospitals to facilitate this.

The development of rehabilitation services in the country general hospitals will be staged and occur in consultation with Country Health SA. It is recommended that rehabilitation services first be established at Whyalla Hospital, followed by Berri, Pt Lincoln and Mt Gambier Hospitals.
Rehabilitation for children

Paediatric rehabilitation is a specialist area of paediatric health care that targets children and young people from 0–18 years with loss of function or ability caused through congenital or acquired conditions. It is a highly specialised field of practice that integrates the principles of sound rehabilitation care with paediatric practice. This is critical because many of the underlying conditions leading to physical chronic illness need to be understood to appropriately assist the child and family in establishing rehabilitation goals. Moreover, since rehabilitation aims to restore usual functioning appropriate to the child's development and age, it is important that issues related to child development, nutrition and paediatric medical and surgical care are fully understood. This assists in allowing for appropriate care to be offered, and sets paediatric rehabilitation care apart from the adult discipline, where appreciation of the complexities of childhood chronic illness may not be understood or appropriately managed.

Paediatric rehabilitation is delivered through teams of paediatric health professionals. These professionals provide medical, nursing and allied health skills within health, social, educational and vocational settings.

The Children, Youth & Women’s Health Service (CYWHS) established a Paediatric Rehabilitation Services Planning Group to develop the South Australian Paediatric Rehabilitation Plan which was endorsed by Portfolio Executive in June 2008. This plan proposes the steps required to develop a Paediatric Rehabilitation Service Plan.

Six key areas were identified through the initial phase of the planning process as requiring further interagency collaboration in order to develop the Statewide Paediatric Rehabilitation Plan. These are:

1. Service Framework – the design and development of a Statewide Paediatric Rehabilitation Plan for 0–18 year olds.
2. Service Model – the design and development of a service model that responds to the holistic needs of clients within their families and their communities.
3. Transition – the framework and service delivery model that takes into account key transition points along a child's developmental pathway, such as when they move from adolescent-based services into adult services.
4. Information Exchange – interagency information exchange and the standardisation of documentation to minimise duplication and improve the coordination of care for families.
5. Emerging Interventions – building and supporting mechanisms to assist in the successful introduction of emerging evidence-based technologies needed to support equitable access for South Australians.
6. Workforce Development – the development of a sound workforce strategy to attract and retain health workers to deliver a comprehensive range of paediatric rehabilitation services to children in South Australia.

Further work will be required to engage all SA Health providers of services to children into the next phase of this process.
Rehabilitation for Aboriginal people

Aboriginal people are over-represented in those South Australians experiencing severe trauma/injuries. Data from 2001–07 show 4.3% of hospital separations for traumatic brain injury were for Aboriginal people, compared with the non-Aboriginal population in South Australia at 1.7%.

Aboriginal people are more likely to use health services, participate in treatment and be compliant with treatment if they are satisfied with the services they are receiving. However data shows that Aboriginal people in South Australia are six times more likely to self discharge against medical advice than their non-Aboriginal counterparts.6

The current structure and design of the health system is not meeting the needs of Aboriginal people. It does not offer choice nor culturally appropriate local rehabilitation options. Aboriginal people who live in rural South Australia usually have to travel to Adelaide to access rehabilitation services isolating them from their families, local supports and culture, often for lengthy periods. There are numerous challenges in achieving successful discharge home, especially for those who live in the country. This is due to inadequate access to equipment, home modifications and ongoing therapy services and specialist medical outreach services.

The Statewide Rehabilitation Clinical Network ran a workshop and held meetings with interested individuals to assist in identifying key elements needed within a rehabilitation model for Aboriginal people. The involvement and active participation of Aboriginal people and their communities in the ongoing development of this model is vital.

Preliminary model ideas have been presented, however it is recognised that this is a complex and challenging area that requires further collaborative work to develop a model of care that is culturally appropriate and meets the needs of the Aboriginal community.

One of the key messages from the consultations to date is that one model of rehabilitation for Aboriginal people is unlikely to be successful and that three specific models may be needed focusing on:

> Aboriginal people living in the very remote areas of the state, predominately the APY lands
> Aboriginal people living in country South Australia
> Aboriginal people living in metropolitan Adelaide.

Some of the primary elements identified for these models are consistent with the key principles of the overall rehabilitation model, such as delivery of care as close to home as possible and client centred services. Other key elements are specific to the needs of Aboriginal people and include:

> Culturally respectful health care, which is delivered by Aboriginal health workers where possible
> Involvement of extended family members is crucial where practicable
> Services are goal centred from the individual’s perspective and provide the opportunity for informed choice regarding care decisions
> Responsive to regular changes in accommodation e.g. regular moves to cooler areas during hotter months
> Clear coordination and pathways between Aboriginal and non-Aboriginal specific health services
> Integration of health and other services to promote a holistic focus, addressing health, accommodation and transport, all of which are closely interrelated and impact on one another
> GP and/or key worker central to coordination of services to support individual’s health
> Fostering of self management, with infrastructure and personnel in place to facilitate this
> Incorporation of cultural beliefs and interests, for example story telling, language, traditional medicines and healing into service provision as appropriate.

It is acknowledged that Aboriginal-specific health services or units within broader health services already exist. Models of rehabilitation for Aboriginal people will build on current services and SA Health’s commitment to a Centre of Excellence for Aboriginal and Torres Strait Islander Health at Pt Augusta. Numerous strategic directions were identified from the consultation process and these are outlined here, noting that further work needs to be undertaken to explore more specific strategic directions.
Inpatient rehabilitation stays need to be limited where possible and if required, care needs to be provided in partnership with Aboriginal health workers. Workforce capacity issues mean consideration should be given to establishing a mobile team of Aboriginal health workers across the metropolitan area.

Establishing step down units in southern and northern metropolitan and country areas will facilitate earlier supported discharge of Aboriginal people from the hospital environment. Family members will be able to stay in these units and access local general practitioners for a health assessment if required. A team of medical, nursing and allied health professionals may provide rehabilitation services to individuals in the culturally appropriate step down units, similar to the rehabilitation in the home program. A coordinator would need to be based on site to coordinate care of individuals staying at the unit and for their transfer to home.

Home-based and ambulatory rehabilitation services for individuals who are suitable to discharge directly home in both metropolitan and country areas need to be established. The ambulatory services need to be flexible such as a ‘walk in’ service where an appointment is not required.

Community-based rehabilitation programs and functional maintenance programs within the APY Lands also need to be established. These may be provided by visiting specialists and therapy staff with a ‘drive, not fly’ model. Services are coordinated by key workers at the local level.

Develop key worker roles, preferably held by Aboriginal health workers, to coordinate rehabilitation services, follow up and integration with other services such as housing at a local level and provide health literacy opportunities for the local Aboriginal community to develop awareness of rehabilitation.

Train other Aboriginal community workers (e.g. those employed by Department of Families and Communities) operating in very remote communities in the principles of rehabilitation to support individual rehabilitation plans.

Redesign existing programs, systems and structures to align with the new rehabilitation service.

Facilitate multiple access points to step down units and community-based rehabilitation services, enabling direct admission to these services and thereby avoiding the need for hospital admission.

Use telemedicine and improved technology to facilitate provision of rehabilitation to Aboriginal individuals living in rural and remote areas, and to improve the professional development of local health workers.

Implement initiatives to build workforce capacity of Aboriginal health workers, both university and non-university trained. This may include cadetships, short training course, school-based training and university scholarships.

Use of analogies and visual aids such as storytelling to enable Aboriginal people to better understand their health and medical conditions, treatments and rehabilitation focus to facilitate good health, well-being and independence.

Availability of specific cultural awareness training to all health workers.
Rehabilitation for people from culturally and linguistically diverse (CALD) backgrounds

People from culturally and linguistically diverse (CALD) backgrounds have similar rehabilitation needs to the rest of the population, therefore culturally appropriate variations to mainstream services should be explored.

From the limited literature that exists, it is clear that health services do not meet the specific needs of people from CALD backgrounds.7

Access to interpreters is often not utilised in the delivery of rehabilitation services and there is a deficiency in rehabilitation-related patient education and information in non-English languages.

The following should be considered when providing rehabilitation to individuals from CALD backgrounds to ensure cultural appropriateness and relevance:

> Improve access to interpreters in the provision of rehabilitation services to individuals from CALD backgrounds
> Establish partnerships with organisations that provide community services to individuals from CALD backgrounds to facilitate the delivery of rehabilitation services to this population
> Develop education programs that promote cultural competence and delivery of culturally appropriate rehabilitation services to individuals from CALD backgrounds.
Workforce

The National Health and Reform Commission has identified 12 major challenges for health care, which include improving distribution and equitable access to services and ensuring there are enough well trained health professionals.

Challenges pertaining to recruitment and retention of the health workforce now and into the future are well documented nationally, and have informed the Commonwealth’s Subacute National Partnership Agreement.

Within South Australia there are variable levels of medical and allied health staff in inpatient and ambulatory rehabilitation programs. Table 9, with further detail contained in Appendix 4, reflects current staffing levels across rehabilitation sites compared with national benchmarks that have been developed by the Australasian Faculty of Rehabilitation Medicine.

Table 9
Current allied health and medical staffing in major metropolitan rehabilitation hospitals against national recommended staffing benchmarks

<table>
<thead>
<tr>
<th></th>
<th>Beds</th>
<th>PT</th>
<th>OT</th>
<th>SW</th>
<th>SP</th>
<th>Diet*</th>
<th>Neuro Psych</th>
<th>Clinical Psych</th>
<th>Rehab Phys**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampstead Rehabilitation Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>% of AFRM staffing standards currently</td>
<td>121</td>
<td>81%</td>
<td>83%</td>
<td>84%</td>
<td>74%</td>
<td>19%</td>
<td>123%***</td>
<td>23%</td>
<td>45%</td>
</tr>
<tr>
<td>Repatriation General Hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of AFRM staffing standards currently</td>
<td>55</td>
<td>69%</td>
<td>75%</td>
<td>53%</td>
<td>44%</td>
<td>55%</td>
<td>31%</td>
<td>31%</td>
<td>80%</td>
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<tr>
<td>St Margaret’s</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of AFRM staffing standards currently</td>
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<td>74%</td>
<td>79%</td>
<td>53%</td>
<td>67%</td>
<td>0%</td>
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<td>50%</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
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<td>80%</td>
<td>73%</td>
<td>66%</td>
<td>25%</td>
<td>82%</td>
<td>23%</td>
<td>54%</td>
</tr>
</tbody>
</table>

* Based on Victorian Allied Health Guidelines,8 as dietetics not included in AFRM guidelines.4
** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.
*** Hampstead Rehabilitation Centre, whilst over benchmark re neuropsychology is significantly under benchmark for clinical psychology.

The Australasian Faculty of Rehabilitation Medicine Standards 2005 are shown in Appendix 5.4

Victorian Allied Health guidelines for rehabilitation also exist and are particularly helpful for professions not covered by the AFRM standards such as dietetics. These guidelines average 0.4 dieticians per 10 inpatient rehabilitation beds and 0.3 dieticians per 10 ambulatory rehabilitation beds.

Paediatric rehabilitation services require a high level of staffing due to the complexity of needs managed within these inpatient and ambulatory services. There are no national guidelines for staffing of paediatric inpatient and ambulatory rehabilitation services but recommendations developed by clinicians can be found in Appendix 6.

Research indicates that rehabilitation outcomes are optimised by increases in intensity of therapy provided in the inpatient setting. The ability to provide increased intensity of therapy is determined by the design and roster arrangements of the rehabilitation workforce.

Using the AFRM4 and Victorian allied health guidelines, Table 10 provides recommendations for medical, allied health and specialist nursing staffing per 100 000 population in 2009.
Table 10
Staffing requirements based on SA bed strategic directions
(21 public rehabilitation beds per 100 000 (excludes GEM))

<table>
<thead>
<tr>
<th></th>
<th>PT</th>
<th>OT</th>
<th>SP</th>
<th>SW</th>
<th>Clinical Psych</th>
<th>Neuro Psych</th>
<th>Diet</th>
<th>Rehab Phys**</th>
<th>Spec Nurse</th>
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</thead>
<tbody>
<tr>
<td>Rehabilitation</td>
<td>3.4</td>
<td>2.9</td>
<td>1.5</td>
<td>1.9</td>
<td>1.0</td>
<td>0.4</td>
<td>0.8</td>
<td>1.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Total required for current SA population*</td>
<td>51</td>
<td>43.5</td>
<td>22.5</td>
<td>28.5</td>
<td>15</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Note: AFRM Staffing Guidelines\(^4\) used except for dietetics, neuropsychology (GEM) and specialist nurse
Victorian Guidelines for Allied Health Staffing\(^4\) used for dietetics and neuropsychology (GEM).
* Based on population of approximately 1 500 000.
** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.

However, the future mix and number of the rehabilitation workforce requires innovative planning as changes in the delivery of rehabilitation services are occurring. Increased ambulatory and community service setting options and the introduction of new technologies such as robotics and telemedicine challenge the current thinking on appropriate workforce needs.

Current workforce initiatives
SA Health recognised the significant workforce issues facing the state and established a Workforce Strategy Committee in 2007 with specific reform groups developing action plans on three tiers:
1. High-level strategic which have far reaching implications at policy levels across SA Health.
2. Operational which have impact on new operational approaches to workforce issues.
3. Existing work and resources which includes strategies that seek improvement to existing processes undertaken in SA Health related to workforce development.\(^9\)

Innovative models of role redesign and multidisciplinary approaches to service delivery across the patient journey pathway are being explored. Recent initiatives within SA Health have included Advanced/Extended Scope of Practice Allied Health Practitioners such as allied health led clinics and building skills and capacity in country speech therapists with links to their metropolitan-based colleagues.

A workforce strategy for rehabilitation
The growth and development of the workforce is essential to the implementation of the rehabilitation models described in the plan. A significant investment in the rehabilitation workforce is needed to ensure adequate resourcing of rehabilitation services across the continuum of care, thereby facilitating a reduction in acute hospital demand and maximising individuals’ recovery post injury and illness.

Given the challenges in ensuring an adequate rehabilitation workforce in terms of numbers, experience and skills, a detailed workforce strategy for rehabilitation is needed with a focus on improving service efficiency, optimising patient care outcomes and monitoring workforce capacity improvements.
The workforce strategy needs to address medical, nursing, allied health and ancillary staffing for rehabilitation and review future options and models for workforce redesign and innovation. Broad areas that need to be considered include:

> Review of current staffing standards and benchmarks for inpatient, ambulatory and community-based rehabilitation using available benchmarks such as the Australasian Faculty of Rehabilitation Medicine Standards for adult rehabilitation medicine services in public and private hospitals (2005). Critical analysis of future workforce design and benchmarking to reflect issues such as the provision of six and seven day a week therapy by allied health staff, training programs for registrars in rehabilitation, geriatric medicine and allied health

> Recruitment and retention strategies, such as career structures, appropriately funded professional development, leadership and team-building opportunities, flexible working arrangements, support for individuals re-entering the workforce, scholarships and fellowships, minimisation of short-term contracts and incentives to retain the ageing workforce

> Exploration of new roles and innovative models that will support interdisciplinary approaches to service delivery across the continuum, such as advanced extended scope allied health practitioners, physician assistants, nurse practitioners, allied health assistants and lifestyle co-ordinators

> Country staffing with specific support for staff providing rehabilitation services in the country including work shadowing, peer support, scholarships, career structure, rotations between metropolitan and country sites and encouraging student placements in the country. Formalised links between metropolitan and country rehabilitation services will facilitate this

> Professional development and training opportunities to enhance the skills of new and existing staff including rotation of staff across inpatient and ambulatory rehabilitation services, a defined professional development budget consistent between organisations, regular professional development for all staff, fostering links with universities and professional organisations in the delivery of training

> Building the capacity of specific workforces, namely Aboriginal and CALD populations with scholarships, cadetships and short training courses.
Education and training

Adequate training and professional development of staff is essential for the provision of quality, effective and evidence-based rehabilitation services.

Current professional development opportunities for staff working in rehabilitation are ad hoc with no formal, consistent or statewide training structures. Further there is inconsistent funding of professional development between professions and across organisations. Gaps in specific professional development training also exist such as behavioural management.

There is a significant lack of professional development opportunities and professional support for staff working in country areas, often those most in need, and more relevant with the high number of recently graduated health professionals working in the country.

The inclusion of rehabilitation-specific training in undergraduate university courses is limited and patchy.

Opportunities for general practitioners to expand their knowledge and understanding of the benefits of rehabilitation, access and referral processes are needed.

Training to support staff to positively engage in new innovations, models and change practices is important to achieve implementation success. Leadership and change management training programs can assist with this.

Strategies to improve education and training

There are a range of strategies to improve education and training opportunities including:

> Development of a statewide rehabilitation training program for medical, nursing and allied health
> Establishing a competency-based framework for education and training of all health professionals working in rehabilitation
> Expanding partnerships between health facilities and universities to maximise allied health training placements
> Working with universities to ensure rehabilitation principles and practice is taught within undergraduate programs
> Partnering with universities in the delivery of rehabilitation-specific post graduate programs, including country-based university campuses such as Whyalla and Mt Gambier
> Providing work shadowing, peer support and specialist advice for staff with limited rehabilitation experience, for both country and metropolitan-based rehabilitation staff
> Rotation of staff between rehabilitation work settings across the continuum (e.g. inpatient to home-based) and between country and metropolitan facilities
> Providing professional support and outreach training to country areas, as part of the formalised links between country and metropolitan hospitals
> Linking in with professional associations’ training, mentoring and accreditation/competency programs
> Use of web-based educational modules.
Partnerships

The delivery of rehabilitation services in South Australia requires partnerships between SA Health and other agencies to ensure continuation or maintenance of functional improvement across the continuum of care, maximising the independence and quality of life for patients.

The aim of this plan is to further strengthen these valuable and essential partnerships for the delivery of rehabilitation services, ensuring seamless linkages and integration across the continuum.

The involvement of the private sector in the delivery of rehabilitation is essential to ensure capacity to meet the rehabilitation needs of the South Australian community. Other partners include private hospitals and providers, other state and Commonwealth-funded government departments and organisations (such as Domiciliary Care SA and Disability SA) and non-government organisations.

Partnerships with general practitioners are critical given their key coordination role of an individual’s care in the community. There have been a number of initiatives in recent years to enhance the involvement of general practitioners in the ongoing care of their patients across the continuum, such as the Enhanced Primary Care codes that benefit the delivery of rehabilitation.

Consumers of rehabilitation services and their families are also essential partners in the delivery of rehabilitation services and care needs to be delivered in a way that empowers individuals, meets their needs, is accessible, available and provides individual choice.
Research

Promotion of research in rehabilitation will enhance the spread of innovation in clinical practice and encourage a culture of continuous learning.

Research is important from both an organisational and professional perspective. From an organisational perspective, research is one of the essential building blocks of an efficient and effective rehabilitation service. From a professional perspective, research improves patient care, drives excellence and avoids stagnation.

Research skills are traditionally learnt in post graduate degrees with minimal opportunities provided to develop necessary skills at an undergraduate and clinical service level. Possession of research skills has minimal influence on clinical appointments in rehabilitation services, not recognising the importance of research as one of the building blocks to a successful service.

The lack of designated resources for research and the scattered workforce across sites and settings presents many challenges for rehabilitation research unless a collaborative approach is embraced.

Research forum, February 2008

The Rehabilitation Clinical Network held a research forum in February 2008 to identify current research in rehabilitation across South Australia, gaps and barriers to research and opportunities to manage rehabilitation research more effectively in the state.

Key themes identified at the workshop included:

> Centralisation of research activities with increased collaboration and coordination between professions and organisations to decrease competitiveness and fragmentation

> Joint clinical/research/academic positions, to assist in improving links between clinical settings and universities and influence the relevance of research activities undertaken

> Attracting and retaining individuals with rehabilitation research experience and interest

> Increasing attractiveness of research with available funds, dedicated time and a career structure that recognises the value of research so that research becomes part of our working life.

The development of a rehabilitation research strategy for the state and establishment of a rehabilitation research network with participation of all three universities in South Australia will assist in addressing these identified issues.
Measuring performance and quality

Promotion of safe and high quality rehabilitation services across all metropolitan and rural rehabilitation sites is essential. The Australasian Rehabilitation Outcomes Centre (AROC) is a national benchmarking system which aims to improve clinical rehabilitation outcomes and produce information on the efficacy of interventions through the systematic collection of outcomes information in both inpatient and ambulatory settings. It also provides annual reports that summarise the Australasian data and provides information that allows comparisons across hospitals within a state.

Quality monitoring for South Australian rehabilitation services

Agreed minimum data sets, outcomes and national benchmarking processes will be collected on all rehabilitation activity regardless of setting. AROC is recommended as the primary tool, given the national benchmarking opportunities it provides. These benchmarking tools must be used independent of funding tools.

Utilisation of a ‘balanced scorecard’ system and comparative public reporting of quality outcomes as part of an integrated performance monitoring framework should be considered as mechanisms to effectively measure quality and safety outcomes.

Other specific quality and benchmarking tools, such as the completion of the National Stroke Foundation clinical and organisational audits/surveys against national guidelines may be utilised.

Participation in rehabilitation benchmarking and quality activities at the country general hospitals will be supported through a process of formalised links with metropolitan rehabilitation sites.

Quality improvement and development activities need to be coordinated across sites, thereby decreasing duplication and promoting consistency of practice.
Funding arrangements

A model of funding for rehabilitation services needs to be developed by SA Health in collaboration with rehabilitation providers that supports the following:

> Appropriate balance of care across locations and care types
> Equity of access to statewide specialist services
> The provision and expansion of ambulatory rehabilitation models
> The provision of rehabilitation to patients with complex needs
> Innovation in service provision
> The provision of weekend therapy.

At a national level, development of funding mechanisms to support development of sub-acute services including rehabilitation is a key priority. South Australian developments should be consistent with this national approach.
Infrastructure and information technology

National and international trends are to position inpatient rehabilitation units alongside acute hospital services to facilitate access to diagnostics; after hours medical cover; reduce patient transfers between acute and rehabilitation; promote early commencement and transfer to rehabilitation; and enable improved efficiencies and patient flows.

Physical infrastructure needs to be built or redeveloped to support the delivery of evidence-based rehabilitation care at the service delivery level including information technology.

The use of telemedicine is of particular importance in formalising strong links between metropolitan and country general hospitals as this will assist with clinical advice and decision making, clinical standards, quality of care and professional development. Medical, nursing and allied health staff will benefit from the use of this technology.

A commitment to trialling innovative models of service delivery via telemedicine such as monitoring of home rehabilitation programs, specialist medical reviews of individuals living in the country, group telemedicine therapy and virtual rehabilitation therapy. To facilitate the use of some of these technologies, health professionals will need to be supported to up-skill and engage in these innovations.

A single unique patient identifier will facilitate improved accuracy and reliability of rehabilitation data, aiding clinical service planning.

An electronic record will have significant efficiencies and improvements in the delivery of rehabilitation services, especially as the patient moves across the continuum of care, for example from inpatient rehabilitation to home-based rehabilitation.
## Appendix 1: Membership of steering committee

### Statewide Rehabilitation Clinical Network Steering Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenny Bennett</td>
<td>Consumer representative</td>
</tr>
<tr>
<td>Philippa Both</td>
<td>Director, Community Health Services, Barossa Health</td>
</tr>
<tr>
<td>Sharyn Broer</td>
<td>A/General Manager, Client Services, Domiciliary Care SA</td>
</tr>
<tr>
<td>Frida Cheok (until January 2008)</td>
<td>Manager, Injury Outcomes Unit, TRACsa</td>
</tr>
<tr>
<td>Maria Crotty</td>
<td>Director, Rehabilitation, Repatriation General Hospital</td>
</tr>
<tr>
<td>Graham Fleming</td>
<td>General Practitioner, Tumby Bay</td>
</tr>
<tr>
<td>Wendy Forster</td>
<td>Manager, Brain Injury Rehabilitation Unit, Hampstead Rehabilitation Centre</td>
</tr>
<tr>
<td>Adrian Heard (from May 2008)</td>
<td>Biostatistician/Epidemiologist, Health Statistics Unit, SA Health</td>
</tr>
<tr>
<td>Miranda Jelbart</td>
<td>Medical Rehabilitation Consultant, Brain Injury Rehabilitation Service</td>
</tr>
<tr>
<td>Josephine Kennett</td>
<td>Consumer representative</td>
</tr>
<tr>
<td>Josie Owens</td>
<td>Clinical Nurse Consultant, Aboriginal and Torres Strait Islander Unit, Royal Adelaide Hospital</td>
</tr>
<tr>
<td>Sandra Parr</td>
<td>Director, Allied Health and Occupational Therapy, Lyell McEwin Hospital</td>
</tr>
<tr>
<td>James Rice</td>
<td>Rehabilitation Consultant, Children, Youth and Women's Health Service</td>
</tr>
<tr>
<td>Judy Smith (Chair)</td>
<td>Executive Director of Nursing and Client Services, Royal District Nursing Service, South Australia</td>
</tr>
<tr>
<td>Sally Sobels</td>
<td>Program Manager, Intermediate Care, Primary Health Care Directorate, Central Northern Adelaide Health Service</td>
</tr>
<tr>
<td>Kevin Webb</td>
<td>Clinical Nurse Manager, Aged Care and Neurology, The Queen Elizabeth Hospital</td>
</tr>
<tr>
<td>Rebecca Witkowski</td>
<td>Community Nurse, Royal District Nursing Service, South Australia</td>
</tr>
</tbody>
</table>

### Rehabilitation Clinical Network Project Support

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karen Brown</td>
<td>Network Development Manager, Rehabilitation Clinical Network, resourced by Repatriation General Hospital</td>
</tr>
</tbody>
</table>
## Appendix 2: Service delineation

The Model of Care for Rehabilitation in South Australia has been developed based on the six level service delineation framework, consistent with SA Health and is described in the table below. It provides a guide for the essential service components required at each corresponding clinical service level.

### Table 11

Service delineation for rehabilitation in South Australia

This table outlines the minimum requirements and clinical service components at each level of rehabilitation service delivery.

<table>
<thead>
<tr>
<th>Level</th>
<th>Service Type</th>
<th>Example of Service</th>
<th>Diagnostic Services (on-site)</th>
<th>Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; Emphasis is on maintenance and support</td>
<td>Day Therapy Centre</td>
<td>Essential</td>
<td>&gt; Care provided by generalist allied health and nursing staff with input from assistant staff</td>
</tr>
<tr>
<td></td>
<td>&gt; Patient residing in the community</td>
<td>Domiciliary Care SA</td>
<td>&gt; CT</td>
<td>&gt; Medical input provided by General Practitioner, specialist medical input not available</td>
</tr>
<tr>
<td>2</td>
<td>&gt; Less complex rehabilitation, often single discipline approach</td>
<td>Hospital outpatient clinic</td>
<td>&gt; Ultrasound</td>
<td>&gt; Administrative support</td>
</tr>
<tr>
<td></td>
<td>&gt; Emphasis is on specific rehabilitation goals and maintenance</td>
<td>Day rehabilitation/outpatient rehabilitation at a country hospital/health service</td>
<td>&gt; Digital imaging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; Patient residing in the community</td>
<td></td>
<td>&gt; Bloods</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&gt; Input provided primarily with general rehabilitation needs. Some patients with more complex needs may also be managed, depending on extent of needs</td>
<td>General rehabilitation unit in a country general hospital</td>
<td>Essential</td>
<td>&gt; Access to a consultant in rehabilitation medicine, via telemedicine and/or site visits. Supported by general physician and resident medical staff</td>
</tr>
<tr>
<td></td>
<td>&gt; Services include:</td>
<td></td>
<td>&gt; Senior Lead clinician (allied or health nursing) to program manage and lead rehabilitation service and link to metropolitan rehabilitation site. Has rehabilitation expertise.</td>
<td>&gt; Medical input provided by General Practitioner, specialist medical input not available</td>
</tr>
<tr>
<td></td>
<td>– inpatient rehabilitation</td>
<td></td>
<td>&gt; If rehabilitation consultant not on-site, availability of physician with relevant knowledge in rehabilitation principles and practice required on-site.</td>
<td>&gt; Administrative support</td>
</tr>
<tr>
<td></td>
<td>– rehabilitation in the home</td>
<td></td>
<td>&gt; Nursing staff with knowledge of rehabilitation principles and practice. Experience in rehabilitation highly desirable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– ambulatory services including centre based day rehabilitation</td>
<td></td>
<td>&gt; Allied Health staff with knowledge of rehabilitation principles and practice. Experience in rehabilitation highly desirable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; Rehabilitation assessment and intervention provided by an interdisciplinary team</td>
<td></td>
<td>&gt; Administrative support</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 2: Service delineation
## Appendix 2: Service delineation

<table>
<thead>
<tr>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Input provided primarily to individuals with general rehabilitation needs (specialised and complex rehabilitation needs addressed in Level 6 and 5 facilities)</td>
<td>&gt; Rehabilitation provided for individuals with a range of conditions and needs, including complex needs</td>
<td>&gt; Rehabilitation for highly complex, low volume patients, whose care requires specialised expertise</td>
</tr>
</tbody>
</table>
| > Services include:  
  − inpatient rehabilitation  
  − rehabilitation in the home  
  − ambulatory services including centre based day rehabilitation | > Services include:  
  − inpatient rehabilitation  
  − rehabilitation in the home  
  − ambulatory services including centre based day rehabilitation | > Specialist services including:  
  − inpatient rehabilitation  
  − rehabilitation in the home  
  − ambulatory services including centre based day rehabilitation |
| > Rehabilitation assessment and intervention provided by an interdisciplinary team | > Input provided includes specialist interdisciplinary rehabilitation assessment and intervention | > Provision of outreach services essential |
| > Older Person’s Assessment & Management (GEM) Unit | > Allied Health services available 6–7 days/week | > Input provided includes specialist interdisciplinary rehabilitation assessment and intervention |
| > Rehabilitation for general orthopaedic trauma and arthroplasty | > Stroke rehabilitation inpatient unit  
> Specialist medical and therapy services e.g. driving, spasticity, gait assessment | > Allied Health services available 6–7 days/week |

**Essential**

| > CT and/or MRI | > CT and/or MRI | > CT and/or MRI |
| > Ultrasound | > Ultrasound | > Ultrasound |
| > Digital imaging | > Digital imaging | > Digital imaging |
| > Bloods | > Bloods | > Bloods |

**Desirable**

| > Electro-diagnostic tests including nerve conduction studies | > Electro-diagnostic tests including nerve conduction studies | > Electro-diagnostic tests including nerve conduction studies |

**Consultant in rehabilitation medicine or geriatrics supported by resident medical staff, including 24 hour medical cover**

**Nursing staff with expertise in rehabilitation**

**Allied Health staff with rehabilitation expertise**

**Program Manager/Team Leader for service**

**Access to Neurology services**

**Administrative support**

**Consultant in rehabilitation medicine supported by resident medical staff, including 24 hour medical cover**

**Nursing staff with expertise in rehabilitation.**

**Specialist nurses, including amputee and stroke rehabilitation**

**Allied Health staff with rehabilitation expertise**

**Program Manager/Team Leader for service**

**On-site neuropsychology services**

**Neurology services**

**Administrative support**

**Consultant in rehabilitation medicine supported by resident medical staff, including 24 hour medical cover**

**Nursing staff with expertise in rehabilitation and specialised knowledge and skills in relevant area**

**Allied Health staff with rehabilitation expertise and specialised knowledge and skills in relevant area**

**Program Manager/Team Leader for service**

**Neurology services**

**Access to psychiatry, neuropsychology and behavioural management services**

**Administrative support**
<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
</table>
| **Environment**  
(not applicable to home-based therapy)  
> Therapy space  
> Wheelchair access to all areas  
> Safe environment for patients with cognitive impairment (indoor and outdoor) |  
> Therapy areas for group and individual sessions  
> Wheelchair access to all areas  
> Safe environment for patients with cognitive impairment (indoor and outdoor) |  
> Therapy areas for group and individual sessions  
> Wheelchair access to all areas  
> Safe environment for patients with cognitive impairment (indoor and outdoor)  
> Single rooms to enable access for individuals with infectious diseases  
> An area other than a therapy area that can be used for socialisation, meals |
| **Other**  
> Access to support services, e.g. information technology |  
> Access to OACIS  
> Telemedicine facilities and equipment  
> Access to support services, e.g. information technology |  
> OACIS  
> Telemedicine facilities and equipment  
> Access to support services, e.g. information technology |

Note: In addition to the service delineation for rehabilitation outlined, it should be noted that acute tertiary hospitals also have a responsibility for commencing a program of maintenance, restoration and rehabilitation immediately post admission if there are no contraindications. For some clinical areas such as stroke and older people, acute tertiary hospitals will play a significant rehabilitation role.
<table>
<thead>
<tr>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Therapy areas for group and individual sessions</td>
<td>&gt; Therapy areas for group and individual sessions</td>
<td>&gt; Therapy areas for group and individual sessions</td>
</tr>
<tr>
<td>&gt; Wheelchair access to all areas</td>
<td>&gt; Hydrotherapy pool</td>
<td>&gt; Hydrotherapy pool</td>
</tr>
<tr>
<td>&gt; Safe environment for patients with cognitive impairment (indoor and outdoor)</td>
<td>&gt; Wheelchair access to all areas</td>
<td>&gt; Wheelchair access to all areas</td>
</tr>
<tr>
<td>&gt; Single rooms to enable access for individuals with infectious diseases</td>
<td>&gt; Safe environment for patients with cognitive impairment (indoor and outdoor)</td>
<td>&gt; Safe environment for patients with cognitive impairment (indoor and outdoor)</td>
</tr>
<tr>
<td>&gt; An area other than a therapy area that can be used for socialisation, meals</td>
<td>&gt; Single rooms to enable access for individuals with infectious diseases</td>
<td>&gt; An area other than a therapy area that can be used for socialisation, meals</td>
</tr>
<tr>
<td>&gt; Single rooms to enable access for individuals with infectious diseases</td>
<td>&gt; An area other than a therapy area that can be used for socialisation, meals</td>
<td>&gt; An area other than a therapy area that can be used for socialisation, meals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Other</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; OACIS</td>
<td>&gt; OACIS</td>
<td>&gt; OACIS</td>
</tr>
<tr>
<td>&gt; Telemedicine facilities and equipment</td>
<td>&gt; Telemedicine facilities and equipment</td>
<td>&gt; Telemedicine facilities and equipment</td>
</tr>
<tr>
<td>&gt; Access to support services, e.g. information technology</td>
<td>&gt; Visiting access to biomedical engineering support for assistive technology devices and interfaces</td>
<td>&gt; On-site access to biomedical engineering support for assistive technology devices and interfaces</td>
</tr>
<tr>
<td></td>
<td>&gt; Research trained project officers</td>
<td>&gt; Research trained project officers</td>
</tr>
<tr>
<td></td>
<td>&gt; Access to support services, e.g. information technology, audiovisual for clinical purposes, statisticians</td>
<td>&gt; Access to support services, e.g. information technology, audiovisual for clinical purposes, statisticians</td>
</tr>
</tbody>
</table>

Note: In addition to the service delineation for rehabilitation outlined, it should be noted that acute tertiary hospitals also have a responsibility for commencing a program of maintenance, restoration and rehabilitation immediately post admission if there are no contraindications. For some clinical areas such as stroke and older people, acute tertiary hospitals will play a significant rehabilitation role.
### Appendix 3: CNAHS future inpatient rehabilitation services

#### Table 12

**CNAHS Future Inpatient Rehabilitation Services**

<table>
<thead>
<tr>
<th>Site</th>
<th>Current</th>
<th>Proposed 2016</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hampstead</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td>17 Brain injury transition</td>
<td>25 Preparation for transition to community based living</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>21 Stroke</td>
<td>20 Medically stable only</td>
<td></td>
</tr>
<tr>
<td>Geriatric/respite</td>
<td>17</td>
<td>0 Transferred to MH and TQEH</td>
<td></td>
</tr>
<tr>
<td>Complex trauma/burns</td>
<td>20</td>
<td>Complex trauma/burns 35 Includes amputee where part of multi trauma</td>
<td></td>
</tr>
<tr>
<td>Brain injury</td>
<td>25 Brain injury</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Spinal injury</td>
<td>21 Spinal injury</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>121</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td><strong>Modbury</strong></td>
<td>Stroke/neurological</td>
<td>20 Able to take unstable patients</td>
<td></td>
</tr>
<tr>
<td>Ortho/amputee</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>TQEH</strong></td>
<td>Stroke/neurological</td>
<td>20 Able to take unstable patients</td>
<td></td>
</tr>
<tr>
<td>Ortho/amputee</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>St Margaret’s</strong></td>
<td>Stroke</td>
<td></td>
<td>Becomes a day rehabilitation centre and transitional services for stable patients</td>
</tr>
<tr>
<td>Ortho/amputee</td>
<td>Transitional services</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>LMH</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>CNAHS Total</strong></td>
<td>147</td>
<td>245</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 4: Current allied health and medical staffing

### Table 13

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Beds</th>
<th>PT</th>
<th>OT</th>
<th>SW</th>
<th>SP</th>
<th>Diet*</th>
<th>Neuro Psych</th>
<th>Clinical Psych</th>
<th>Rehab Spec**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hampstead Rehabilitation Centre</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statewide (Brain Injury &amp; Spinals)</td>
<td>53</td>
<td>8.1</td>
<td>7.9</td>
<td>5.0</td>
<td>3.2</td>
<td>0.4</td>
<td>2.0</td>
<td>0.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Statewide as per AFRM</td>
<td>53</td>
<td>9.2</td>
<td>10.04</td>
<td>6.36</td>
<td>4.825</td>
<td>2.12</td>
<td>1.4</td>
<td>3.21</td>
<td>3.3125</td>
</tr>
<tr>
<td>Other beds</td>
<td>69</td>
<td>7.24</td>
<td>7.0</td>
<td>5.0</td>
<td>3.5</td>
<td>0.6</td>
<td>1.25</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Other beds as per AFRM</td>
<td>69</td>
<td>9.625</td>
<td>8.07</td>
<td>5.605</td>
<td>4.18</td>
<td>3.2</td>
<td>1.25</td>
<td>2.18</td>
<td>3.3675</td>
</tr>
<tr>
<td>Staffing Deficit to AFRM standards</td>
<td>3.485</td>
<td>3.01</td>
<td>1.965</td>
<td>2.305</td>
<td>4.32</td>
<td>-0.6</td>
<td>4.19</td>
<td>3.68</td>
<td></td>
</tr>
<tr>
<td>% of current staffing against AFRM standards</td>
<td>81%</td>
<td>83%</td>
<td>84%</td>
<td>74%</td>
<td>19%</td>
<td>123%***</td>
<td>23%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td><strong>Repatriation General Hospital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>55</td>
<td>5.25</td>
<td>4.8</td>
<td>2.4</td>
<td>1.7</td>
<td>1.2</td>
<td>0.4</td>
<td>0.4</td>
<td>2.2</td>
</tr>
<tr>
<td>As per AFRM</td>
<td>55</td>
<td>7.6</td>
<td>6.4</td>
<td>4.5</td>
<td>3.9</td>
<td>2.2</td>
<td>1.3</td>
<td>1.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Staffing Deficit to AFRM standards</td>
<td>2.35</td>
<td>1.6</td>
<td>2.1</td>
<td>2.2</td>
<td>1.0</td>
<td>0.9</td>
<td>0.9</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>% of current staffing against AFRM standards</td>
<td>69%</td>
<td>75%</td>
<td>53%</td>
<td>44%</td>
<td>55%</td>
<td>31%</td>
<td>31%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td><strong>St Margaret’s</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>34</td>
<td>3.5</td>
<td>3.0</td>
<td>1.0</td>
<td>1.0</td>
<td>Minimal, external by referral</td>
<td>Minimal, external by referral</td>
<td>Minimal, external by referral</td>
<td>0.8</td>
</tr>
<tr>
<td>As per AFRM</td>
<td>34</td>
<td>4.75</td>
<td>3.8</td>
<td>1.9</td>
<td>1.5</td>
<td>1.4</td>
<td>0.5</td>
<td>0.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Staffing Deficit to AFRM standards</td>
<td>1.25</td>
<td>0.8</td>
<td>0.9</td>
<td>0.5</td>
<td>1.4</td>
<td>0.5</td>
<td>0.5</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>% of current staffing against AFRM standards</td>
<td>74%</td>
<td>79%</td>
<td>53%</td>
<td>67%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffing Deficit to AFRM Standards</td>
<td>7.085</td>
<td>5.41</td>
<td>4.965</td>
<td>5.005</td>
<td>6.72</td>
<td>0.8</td>
<td>5.59</td>
<td>5.08</td>
<td></td>
</tr>
<tr>
<td>% of current staffing against AFRM standards</td>
<td>77%</td>
<td>80%</td>
<td>73%</td>
<td>66%</td>
<td>25%</td>
<td>82%</td>
<td>23%</td>
<td>54%</td>
<td></td>
</tr>
</tbody>
</table>

* Based on Victorian Allied Health Guidelines, as dietetics not included in AFRM guidelines.
** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.
*** Hampstead Rehabilitation Centre, whilst over benchmark re neuro-psychology is significantly under benchmark for clinical psychology.
St Margaret’s – based on 10 bed neuro, 10 bed amputee, 7 ortho, 7 debility.
RGH – based on 25 bed neuro, 20 ortho, 5 amputee, 5 debility.
Appendix 5: Benchmarks for staffing of rehabilitation services

Staffing levels suggested by the *Australasian Faculty of Rehabilitation Medicine Standards 2005* are shown in the following Tables.4

**Table 14**
Inpatient Staff to Patient Ratios for 10 Patients

<table>
<thead>
<tr>
<th></th>
<th>Nurses</th>
<th>PT</th>
<th>OT</th>
<th>SP</th>
<th>SW</th>
<th>Clinical Psych</th>
<th>Neuro Psych</th>
<th>Rehab Phys***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amputations</td>
<td>11.75*</td>
<td>1.5</td>
<td>1.0</td>
<td></td>
<td>0.6</td>
<td>0.5</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Neurology</td>
<td>11.75*</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.25</td>
<td>0.5</td>
<td>0.5</td>
<td>0.625</td>
</tr>
<tr>
<td>Orthopaedic</td>
<td>11.75*</td>
<td>1.25</td>
<td>0.8</td>
<td></td>
<td>0.4</td>
<td>0.2</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Spinal injury</td>
<td>11.75*</td>
<td>2.0</td>
<td>2.0</td>
<td>0.25</td>
<td>1.2</td>
<td>0.5</td>
<td></td>
<td>0.625</td>
</tr>
<tr>
<td>Traumatic brain injury</td>
<td>11.75*</td>
<td>1.5</td>
<td>1.8</td>
<td>1.5</td>
<td>1.2</td>
<td>0.7</td>
<td>0.5</td>
<td>0.625</td>
</tr>
<tr>
<td>Debility**</td>
<td>11.75*</td>
<td>1.25</td>
<td>1.0</td>
<td>0.2</td>
<td>0.6</td>
<td>0.2</td>
<td></td>
<td>0.4</td>
</tr>
</tbody>
</table>

* Includes the nurse in charge.
** Debility is a health and recent illness related functional limitation not specifically assignable to any other condition.
*** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.

**Table 15**
Ambulatory Rehabilitation Services Staff for Each 10 Patients

<table>
<thead>
<tr>
<th></th>
<th>Nurses</th>
<th>PT</th>
<th>OT</th>
<th>SP</th>
<th>SW</th>
<th>Clinical Psych</th>
<th>Neuro Psych</th>
<th>Rehab Phys**</th>
<th>Prosthetist/Orthotist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amputations</td>
<td>0.3</td>
<td>0.7</td>
<td>0.5</td>
<td></td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Neurology</td>
<td>0.7</td>
<td>0.9</td>
<td>1.0</td>
<td>0.75</td>
<td>0.4</td>
<td>0.5</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Orthopaedic</td>
<td>0.3</td>
<td>0.7</td>
<td>0.3</td>
<td></td>
<td>0.2</td>
<td>0.2</td>
<td></td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Spinal injury</td>
<td>0.7</td>
<td>0.9</td>
<td>1.0</td>
<td></td>
<td>0.4</td>
<td>0.5</td>
<td></td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Traumatic brain injury</td>
<td>0.7</td>
<td>0.9</td>
<td>1.5</td>
<td>1.0</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

*** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.
Appendix 6: Staffing guidelines – paediatric

There are no national guidelines for staffing of paediatric inpatient and ambulatory rehabilitation services but the following recommendations have been developed by clinicians.

Table 16
Staffing for inpatient and ambulatory paediatric rehabilitation services per 10 patients

<table>
<thead>
<tr>
<th></th>
<th>Spec Nurse</th>
<th>PT</th>
<th>OT</th>
<th>SP</th>
<th>SW</th>
<th>Clinical Psych</th>
<th>Neuro Psych</th>
<th>Diet</th>
<th>Prosthetist/Orthotist</th>
<th>Rehab Phys***</th>
<th>Therapy Assistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paediatrics</td>
<td>1.0</td>
<td>2.3</td>
<td>2.3</td>
<td>2.0</td>
<td>0.8</td>
<td>0.8</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
<td>1.7</td>
<td></td>
</tr>
</tbody>
</table>

*** In addition to rehabilitation physicians, additional medical staff are required for all rehabilitation units – registrars, training medical officers and interns.
Appendix 7: Glossary of terms

Aboriginal people  The term used to refer to people of Aboriginal or Torres Strait Islander descent.

Acquired brain injury  Injury to the brain that occurs after birth. This is often as a result of medical events, such as cancer or trauma resulting from injuries such as a vehicle accident.

Acute care  Treatment (usually in hospital) for patients having a short-term or episodic illness, injury, health problem or recovering from surgery. Care needs and treatment are driven by the patient's medical diagnosis.

Allied health  Tertiary qualified health professionals who apply their skills to restore optimal physical, sensory, psychological, cognitive and social function. They are aligned to each other and their clients. Professions may include but are not limited to: Audiology, Nutrition and Dietetics, Occupational Therapy, Physiotherapy, Podiatry, Psychology, Social Work and Speech Pathology.

Ambulatory  Care that is provided on an outpatient basis.

Country general hospitals  These regional centres will be developed in the country to manage the majority of health care needs of local communities so that only patients requiring very highly specialised or complex care will be required to travel to Adelaide. Country general hospitals will have an increased capacity, a high complexity of services and a range of enhanced and new health services.

Country community hospitals  These hospitals will have close links to the country general hospitals and/or metropolitan hospitals for the provision of more complex care. Country community hospitals will provide an enhanced range of services to the local community, including rehabilitation.

Disability  In relation to a person means:

1. Total or partial loss of the person's bodily or mental functions or
2. Total or partial loss of a part of the body or
3. The presence in the body of organisms causing disease or illness or
4. The presence in the body of organisms capable of causing disease or illness or
5. A malfunction, malformation or disfigurement of a part of the person's body that results in the person learning differently from a person without the disorder or malfunction or
6. A disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgement or that results in disturbed behaviour; and includes a disability that:
   - presently exists; previously existed but no longer exists or; may exist in the future or; is imputed to the person.

(Human Rights and Equal Opportunity Commission)

Evidence-based practice  Clinical decision making based on systematic review of the scientific evidence of the risks, benefits and costs of alternative forms of diagnosis and treatment.

General practice  The provision of primary continuing comprehensive whole population medical care to individuals, families and their communities.

General rehabilitation  Includes rehabilitation for stroke, amputations, orthopaedic and neurological conditions. The need for these services usually increases with age and are dependent on population size and morbidity patterns.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary</td>
<td>A group of health care professionals from diverse fields who work in a coordinated manner toward a common goal for the patient. The service provision program is synergistic, producing more than each discipline could accomplish individually.</td>
</tr>
<tr>
<td>Intersectoral</td>
<td>Working with more than one sector of society to take action on an area of shared interest. Sectors may include government departments such as health, education, environment and justice; not for profit organisations and businesses.</td>
</tr>
<tr>
<td>Maintenance therapy</td>
<td>Involves periodic therapy to maintain a certain level of function and prevent further deterioration. The relationship between rehabilitation and maintenance is complementary.</td>
</tr>
<tr>
<td>Multidisciplinary</td>
<td>A team of professionals, including representatives of different disciplines who coordinate the contributions of each professional, which are considered not to overlap, in order to improve patient care.</td>
</tr>
<tr>
<td>Partnership</td>
<td>A voluntary arrangement developed between parties to work cooperatively towards shared and/or compatible goals. It implies a sharing of decision making, resources and risks, trust, cooperation and negotiation of shared goals towards interests in a shared future.</td>
</tr>
<tr>
<td>Peri-urban hospitals</td>
<td>Peri-urban areas are centres in close proximity to Adelaide including Mt Barker, Victor Harbor and Gawler that are subject to urban sprawl and have a rural mode of service delivery. The catchment areas extend into designated country areas and hence services need to be jointly planned across both metropolitan and country.</td>
</tr>
<tr>
<td>Post acute care</td>
<td>Short-term community-based package of personal or nursing/allied health care aimed at facilitating a supported discharge home when alternative support is unavailable.</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>The process that brings about the highest level of recovery following developmental delay or loss of function and ability from any cause. This is usually achieved through physical and psychological methods, using medical, social, educational and vocational services, evidenced by a multidisciplinary rehabilitation plan comprising negotiated goals and indicative timeframes that are periodically evaluated using outcome measures.</td>
</tr>
<tr>
<td>Rehabilitation service</td>
<td>An organised system comprising clinicians from a variety of disciplines focused on functional improvement with the aim of achieving the optimal level of function, thereby reducing the prevalence of disability and handicap in the community.</td>
</tr>
<tr>
<td>Sub-acute care</td>
<td>Formal care provided either as an inpatient or in an ambulatory setting. Care needs and treatment are driven primarily by the patient's functional status and quality of life not the underlying medical diagnosis. Therapy is the dominant intervention, the goal of which is to maximise functional abilities.</td>
</tr>
<tr>
<td>Specialist rehabilitation</td>
<td>Highly specialised and complex rehabilitation requiring a specialised and experienced workforce, education and training; includes brain injury, spinal cord injury and major burns.</td>
</tr>
</tbody>
</table>
Appendix 8: Abbreviations

ABI  Acquired Brain Injury
ABS  Australian Bureau of Statistics
ACAT Aged Care Assessment Team
AFRM Australasian Faculty of Rehabilitation Medicine
ALOS Average length of stay
ANCER Acute Neurological Care of the Elderly Rehabilitation
APY Anangu Pitjantjajara Yankunytjatjara
AROC Australasian Rehabilitation Outcomes Centre
CALD Culturally and Linguistically Diverse
CNAHS Central Northern Adelaide Health Service
CYWHS Children, Youth and Women's Health Service
Diet Dietitian
DRG Diagnostic Related Group
FIM Functional Independence Measure
FMC Flinders Medical Centre
GEM Geriatric Evaluation and Management
HACC Home and Community Care
HRC Hampstead Rehabilitation Centre
ICF International Classification of Functioning, Disability and Health
LMH Lyell McEwin Hospital
LOS Length of stay
MH Modbury Hospital
NDM Network Development Manager
NeuroP Neuropsychologist
NHMRC National Health and Medical Research Council
NHS Noarlunga Health Service
OPAM Older Person's Assessment and Management Unit
OPAS Older Person's Assessment Services
OT Occupational Therapist
PATS Patient Assisted Transport Scheme
PE Portfolio Executive
Psych Psychologist
PT Physiotherapist
Rehab Rehabilitation
RAH Royal Adelaide Hospital
RCN Rehabilitation Clinical Network
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGH</td>
<td>Repatriation General Hospital</td>
</tr>
<tr>
<td>SA</td>
<td>South Australia</td>
</tr>
<tr>
<td>SAHS</td>
<td>Southern Adelaide Health Service</td>
</tr>
<tr>
<td>SASCIS</td>
<td>South Australian Spinal Cord Injury Service</td>
</tr>
<tr>
<td>SLA</td>
<td>Statistical Local Area</td>
</tr>
<tr>
<td>SMH</td>
<td>St Margaret's Hospital</td>
</tr>
<tr>
<td>SNAP</td>
<td>Sub-acute and Non-acute Patient Classification</td>
</tr>
<tr>
<td>SP</td>
<td>Speech Pathologist</td>
</tr>
<tr>
<td>SW</td>
<td>Social Worker</td>
</tr>
<tr>
<td>TIA</td>
<td>Transient Ischaemic Attack</td>
</tr>
<tr>
<td>TQEH</td>
<td>The Queen Elizabeth Hospital</td>
</tr>
<tr>
<td>WCH</td>
<td>Women's and Children's Hospital</td>
</tr>
</tbody>
</table>
Appendix 9: References


