Central Adelaide Local Health Network
Central Adelaide Rehabilitation Service

SA Spinal Cord Injury Service
Sub-Acute Model of Care

November 2016
## Contents

1. Purpose of Document ............................................................................................................ 3

2. SCI Rehabilitation & Lifetime Care .................................................................................. 3
   A. Objectives .......................................................................................................................... 4
   B. Governance ....................................................................................................................... 4
   C. Principles of Care and Service Delivery ........................................................................ 4

3. Model of Care ..................................................................................................................... 7
   A. Overview of SASCIS services across the continuum of care .......................................... 7
      SASCIS Access and Referral: .......................................................................................... 8
      SASCIS Service Elements: ............................................................................................ 9
      Discharge Paths ................................................................................................................ 10
   B. Dedicated SCI Rehab Inpatient Beds ........................................................................... 12
      Access and Referral to SASCIS Rehabilitation beds ..................................................... 12
      Patient Casemix for Rehabilitation beds: .......................................................................... 12
      Intervention ...................................................................................................................... 12
      Discharge Criteria and Pathways .................................................................................... 13
   C. Specialist Ambulatory Services ..................................................................................... 13
      Access and Referral .......................................................................................................... 14
      Intervention ...................................................................................................................... 14
      Discharge Criteria and Pathways .................................................................................... 16

4. ENABLERS ......................................................................................................................... 16
   A. Infrastructure, Equipment and Design Requirements .................................................... 16
      The Inpatient Environment ............................................................................................ 16
      Specialist Ambulatory Services ..................................................................................... 20
      **Specialist Clinics** ....................................................................................................... 20
      Spinal Outreach Rehabilitation Team ............................................................................ 20
      Research space ............................................................................................................... 21
   B. Workforce ...................................................................................................................... 21
   C. Support Service Requirements ...................................................................................... 22

5. References .......................................................................................................................... 24

6. Appendix .............................................................................................................................. 25
1. Purpose of Document

This document provides an overview of proposed SASCIS services and a proposed model of care for SA Spinal Cord Injury (SCI) Services operating from the Central Adelaide Local Health Network sub-acute ‘hub’. Recommendations are provided regarding the objectives, governance, principles of care and design, model of care and enablers. This document also provides recommendations of the principles and enablers to be considered in design requirements to facilitate delivery of the model of care at the Queen Elizabeth Hospital. These recommendations are based on clinical expertise, AFRM standards and internationally recognised best practice in the delivery of specialist rehabilitation services.

This document should be considered a point in time document and may be re-visited and updated along the Transforming Health journey, however the principles and key elements of care and design remain consistent.

2. SCI Rehabilitation & Lifetime Care

The South Australian Spinal Cord Injury Service (SASCIS) is the state-wide service providing integrated specialist rehabilitation services for South Australia. SASCIS is a part of Central Adelaide Rehabilitation Services (CARS). SASCIS provides specialist rehabilitation services for adults who have sustained neurological impairment due to spinal cord injury (SCI) or cauda equina compression from both traumatic and non-traumatic causes. SASCIS will provide specialist services across the care continuum, including: specialist acute injury management, rehabilitation and in-reach in the acute setting, sub-acute inpatient rehabilitation, specialist outpatient clinics, centre and home based ambulatory rehabilitation, outreach services, and collaboration with community services that provide support for people with a SCI.

The Model of Rehabilitation for SCI in South Australia (2012) was developed and endorsed by the Rehabilitation Clinical Network, based on best available evidence and extensive consultation, to be a blueprint for service delivery. The Model of Rehabilitation for SCI supports early commencement of rehabilitation and seamless transitions across sub-acute and ambulatory settings.
The Model of Rehabilitation for SCI in South Australia (2012) recognises that, in addition to the management and rehabilitation of new spinal cord injuries, best practice guidelines support ongoing lifetime follow-up and preventative inputs, which may require intermittent episodes of rehabilitation intervention throughout a person’s life.

This document should also be read in conjunction with the SASCIS Clinical Service Profile 2014 and the model of care for the Neuro-Trauma Rehabilitation Unit at the new RAH 2016.

A. Objectives

The objective of providing specialist SCI Services at TQEH as a sub-acute hub is to:

- Improve patient care and optimise the patient journey. The objective of improved care is accomplished with enhanced facilities, workforce and service design.
  - Streamline care and develop best practice protocols and pathways across care settings;
  - Integration with acute care; improved access to acute hospital facilities whilst in rehabilitation
  - Reduce the need for patient transfers

B. Governance

Patients admitted to inpatient SCI rehab beds at the sub-acute hub will be under a rehabilitation code and managed by the Rehabilitation Consultant. Patients receiving ambulatory services are also under an ambulatory rehabilitation code. This enables rehabilitation funding from the point of admission to these services and a rehabilitation model to be provided.

C. Principles of Care and Service Delivery

The guiding principles of this model are consistent with the State-wide Rehabilitation Service Plan (2009) and SA Health’s aim to optimise care by providing the right care, at the right time, in the right place; consistency and equity in access; seamless services; partnerships in service delivery; and by offering client centred care that optimises physical recovery, function and psychosocial wellbeing, maximises independence, vocation & lifestyle opportunities.¹
This model operates within a rehabilitation framework. Rehabilitation is “the process of assessment, treatment and management with on-going evaluation by which individuals (and their family/carer) are supported to achieve their maximum potential for physical, cognitive, social and psychological function, participation in society and quality of living”.

In addition to CAHLN values and the Transforming Health quality principles, which include patient centred care, the SASCIS rehabilitation service will utilise the following rehabilitation principles in delivering this model:

- **Patient- centred care**
  - Services are designed to meet the needs of the patient cohort and programs are tailored to individuals.

- **Life-long care:**
  Spinal cord injury is a life-long condition. Best practice guidelines support on-going lifetime follow-up and preventative inputs, which may require intermittent episodes of rehab intervention throughout a person’s life.

- **Specialist Rehabilitation**
  - the total active care of patients with complex disabilities by a multi-professional team who have undergone recognised specialist triaging in rehabilitation, led/supported by a consultant trained and accredited in rehabilitation medicine.

- **Inter-disciplinary, team-based care:**
  - Patients have access to a core specialist MDT who work collaboratively within an inter-disciplinary framework and environment where the patient and clinicians can readily access aligned services to best meet the needs of the client.
  - Team-work is one of the most fundamental factors in rehabilitation, along with common goals and a unified plan.

- **Care coordination:**
  - Patient care is planned, communicated and coordinated between the MDT / rehab team and other care providers across the care continuum in an environment which facilitates effective information transfer and seamless transitions for clients.

- **AFRM Standards**
The team will operate in accordance with the AFRM standards for inpatient rehabilitation, which also acknowledge that tertiary level, highly specialised rehabilitation programs, such as SCI, may be beyond the scope of those general standards.\textsuperscript{vi}

- Evidence based care
  - Care is provided in line with best available evidence

Patients should have an equitable experience of quality across their journey between CAHLN sites. The model of care and design of facilities to support delivery of care should be in keeping with principles of the Model of Care for Major Hospitals\textsuperscript{viii}. The four key aspects of a patient centred care model described should be applied:

- Providing safe care. Including:
  - Consider ergonomics and space requirements to address the needs of patients and staff using manual and powered wheelchairs and specialised equipment.
  - Allow clinical staff appropriate visual connection with patients
  - Minimising the need to move patients around the facility to access services
  - Clinical team spaces that promote inter-disciplinary team-based care, handover and information sharing
  - Use of technology

- Providing a healing environment. Including:
  - Access to natural light and fresh air, temperature control (allowing local/patient control where possible), noise reduction
  - Therapeutic green spaces; visual art and music,
  - Physical environment that enables patient independence and participation in rehab and daily living activities, socialisation with family and friends, interaction with peers;
Treating the whole patient. Including:

- Recognition that the patient centred model incorporates family and friends; spaces should facilitate family/carer interactions (both social and for involvement in care)
- Principles of self-care: Patients have control over their own health care;
- Support Privacy and dignity while allowing for the visibility needed for safe care

The patient journey. Including

- Ensure care is provided in the most appropriate environment
- Co-locating services / similar activity to utilise opportunities to share facilities, equipment, for flexible use and efficiencies.

3. Model of Care

A. Overview of SASCIS services across the continuum of care

B. Dedicated SCI Rehab inpatient beds

C. Specialist Ambulatory Services

A. Overview of SASCIS services across the continuum of care

The TQEH-based SASCIS services form part of an integrated, state-wide health service for people with spinal cord injury. The proposed SASCIS services are based on best available evidence and aim to provide equitable and lifelong access to integrated specialist services across the continuum.

SASCIS will provide specialist services across the care continuum, including: specialist acute injury management, rehabilitation and in-reach in the acute setting, sub-acute inpatient rehabilitation, specialist outpatient clinics, centre and home based ambulatory rehabilitation, and outreach services.

SASCIS Rehabilitation services are matched to client needs and are goal based. Pathways are adapted to suit individual, geographic and population based needs, to meet the specific requirements of patients. Rehab services are delivered according to rehab principles through interdisciplinary team-based care.
SASCIS provides collaborative inputs, education and training to metropolitan and country general hospitals and health services in a capacity building approach to support the provision of services to people with SCI.

Partnerships and collaborations are developed and maintained with other agencies that manage or provide support services for people with spinal cord injury to improve integration of care and achieve the best outcomes for clients.

SASCIS Access and Referral:

**Referrals:**

- Referrals are received from multiple sources (acute hospitals, rehab facilities, GPs and other health providers, self-referral).
- There are multiple points of entry for episodic care. Referrals are triaged to the most appropriate SASCIS service element, with entry points to and from all aspects of SASCIS services, facilitated by a coordinated rehabilitation referral and entry system.

*Indicators for acceptance to SASCIS state-wide services include, but are not limited to:*

- Clinically significant neurological loss following newly acquired traumatic or non-traumatic damage to the spinal cord (excluding neurological diseases with a spinal cord component, e.g. Multiple Sclerosis)
- Medical illness or morbidity as a result of an existing spinal cord injury
- Spinal cord dysfunction as a result of congenital spinal cord impairment, such as spina bifida-myelomeningocele
- SASCIS (may / on rare occasions) provide services to people with medical conditions that render the individual functionally tetraplegic or conditions that have pathology that will manifest as a spinal cord injury or similar functional impairments. Examples include haematological tumours such Multiple Myeloma and peripheral polyneuropathy such as severe Guillain Barre Syndrome (GBS).
- Children (under the age of 16 years old) will be admitted to the Women’s and Children’s Hospital for acute management and rehabilitation. Adolescents may be referred in consultation with paediatric services and legal guardians, with individual assessment for suitability.
SASCIS Service Elements:

- **Acute SCI management – Shared Care – at nRAH**
  - SASCIS provides specialist surgical and medical acute care consultation, advice, triage and shared care on the RAH spinal surgical unit. The rehabilitation team and spinal surgical team work in partnership to develop ways of working, provide assessment, advice and support to plan, deliver and review care programs for SCI patients within ICU.

- **Dedicated SCI inpatient rehab at nRAH**
  - Dedicated neurotrauma rehabilitation beds co-located with the Royal Adelaide Hospital (RAH) acute spinal unit to support joint development of client focussed goals, early rehabilitation, and streamline care across settings.
  - In-reach: specialist SCI rehabilitation in-reach within the RAH to provide consultation and advice to support acute teams to manage SCI patients outside the specialty units and to facilitate transfer to the most appropriate SCI rehabilitation service.

- **Dedicated SCI inpatient rehab at the sub acute hub**
  - Dedicated SCI rehab beds at TQEH in a specialist unit catering exclusively for SCI patients.
  - Individualised, multi-disciplinary, specialist inpatient rehabilitation programs that promote collaboration with patient, family and carers. Includes ability to in-reach to support the management of people with a spinal cord injury in general hospitals and rehabilitation facilities.

- **Specialist Outpatient Clinics – base at the sub-acute hub**
  - Specialist medical, nursing, allied health and multidisciplinary clinics provided at TQEH as well as access to specialist clinics in the acute setting, with community service support as appropriate.
  - Lifelong multi-disciplinary functional assessments and complex health reviews offered in multiple locations in metropolitan and regional areas.

- **Home and Centre-based Ambulatory Services – base at the sub-acute hub**
  - Early supported transition and re-integration from inpatient to community setting following initial injury.
  - Interdisciplinary community rehabilitation
  - Lifelong community wellness and hospital avoidance service, in collaboration with community service providers, as appropriate.

- **Outreach**
  - Regular multidisciplinary outreach clinics in key country SA and outer metropolitan locations, providing direct assessment, complex health reviews and consultation and
education to build local capacity. Centre based clinics, with in-reach and home based consults as indicated. Additional input is provided on a needs basis via phone, email, internet, Telehealth, with involvement / engagement of community service providers as appropriate.

- Provided at key regional centres across SA. Provided interstate as contracted (Alice Springs, Darwin and East Arnhem, NT).

• Community Programs and partnerships
  - SASCIS develops partnerships with, and pathways into, health care services and community organisations to provide supportive, culturally, age and geographically appropriate care, therapy, recreation and health and wellbeing programs in the community, including transition services.
  - SASCIS has a key partnership with PARAQUAD SA and collaborates with PARAQUAD SA to deliver client services at CAHLN rehabilitation sites as part of the rehabilitation team, and to deliver ambulatory and outreach services and a range of advisory and support services, accommodation and events in the community.

• Research, Education and Training
  - The SASCIS Spinal Cord Injury Research Centre (SASCIRC) is the research arm of the SASCIS clinical service and a subsidiary of the Centre for Orthopaedics and Trauma research, University of South Australia. SASCIRC aims to improve spinal cord injury care and patient outcomes through knowledge and knowledge translation. SASCIRC and SASCIS clinical leaders work together to: design, fund and implement research programmes, form research partnerships, and develop local research capacity.
  - SASCIS provides undergraduate education and training; teaching and supervision for post-graduate candidates; training to up-skill other health professionals and community service providers in SCI; and develop staff specialist skills.

Discharge Paths

Discharge planning commences on referral and is coordinated by the multi-disciplinary clinical team in each service element. Patients may be transferred to another SASCIS service element or referred to other health, disability and community support services. Patients are transferred or referred to the most appropriate services for on-going care based on patient needs and goals, capacity, skill mix and admission criteria of the receiving service.
State-wide Spinal Cord Injury Service – patient rehabilitation flow

State-wide Referral Sources: (lifelong re-entry)
- Acute hospitals
- Sub acute rehabilitation facilities
- Community
- Self-referral
- Health Providers: SA, NT, Western NSW, NW Victoria

Co-ordinated rehabilitation referral entry system

SASCIS service required?
- Yes: SASCIS initial contact assessment
- No: Referrer notified and alternatives suggested

Acute- nRAH
- RAH spinal unit: shared care and transfer planning.
- RAH Inpatient Rehab.
- Inreach to country & metro hospitals (delivered direct, Telehealth, phone, email, as indicated)

Sub acute hub (TQEH)
- CAHLN inpatient rehab unit
- Specialised Outpatients
- Hub for ambulatory service
- Inreach to country & metro hospitals (delivered direct, Telehealth, phone, email, as indicated)

Home & Centre based
- New injury transition and re-integration support.
- Hospital avoidance and community wellness
- Outreach clinics
- Support from other available community services.
- Inreach to country & metro hospitals (delivered direct, Telehealth, phone, email, as indicated)

Transfer between acute and sub-acute
Transfer between sub-acute and community
Transfer between acute and community
B. Dedicated SCI Rehab Inpatient Beds

Access and Referral to SASCIS Rehabilitation beds at sub-acute hub

- Referral sources include RAH, other hospitals and rehab units, GPs, SASCIS ambulatory service
- Coordinated referral entry system with a standardised process for early notification for consults and for inpatient bed referrals. Triage assessment and identify appropriate SCI pathway
- RAH Spinal surgical unit and the SASCIS SCI rehab service at RAH is the primary referrer, but referrals will also come from other services such as neurosurgery, neurology, and oncology. Close collaboration with RAH spinal surgical service, SCI rehabilitation service at nRAH and inter-disciplinary decision making.
- Admissions are not accepted without discussion with the rostered SASCIS medical consultant. A consultant is available 7 days a week.

Patient Casemix for Sub-acute hub Rehabilitation beds:

- Patients will meet the SASCIS indicators for acceptance (see page 9).
- Patients with significant neurological impairment as result of newly acquired SCI or disease, or for re-admission with an exacerbation or deterioration with significant function change
- Patients require specialist, high intensity, high frequency rehabilitation that cannot be provided in other settings;
- Patients are unable to be managed safely in the community;
- Patients must be willing and have capacity to participate actively in an inpatient rehabilitation program
- Patients with a new SCI will, in most cases, be given priority over those without SCI (e.g. GBS)

Intervention

- Multi-disciplinary assessment and intervention; working collaboratively with patients and family/carers to an individualised, time-limited, goal oriented program to optimise recovery, function, psychosocial wellbeing, maximise independence, vocation and lifestyle opportunities. Utilises graded patient autonomy via the goal setting and review process.
• New Injury Program provides daily therapy and may include rehabilitation inputs such as: mobility, transfers, hydrotherapy, adjustment counselling, upper-limb therapy, self-care, bladder and bowel management, activities of daily living retraining, equipment prescription, community access training, home assessment and modification; rehab leave; carer support and education; carer agency orientation; patient education, income maintenance, transport and housing, driver assessment and training; vocational rehab; referral to care and support agencies.

• Re-admission programs includes: daily therapy; equipment and care needs review; individualised input such as graded sitting programs following surgical or conservative wound intervention and any of the above (from new injury stream) as applicable.

• Multi-disciplinary in-reach support to metropolitan and country inpatient units, delivered face to face, by phone / email, telehealth, as clinically indicated. Provides consult, assessment, advice and rehabilitation inputs appropriate to support the local site to care for those with less significant neurological loss and to facilitate transfer to/from SASCIS services. Provide multi-disciplinary in-reach support to the Women’s and Children’s Hospital to support the management of children with SCI. Provide consultancy, advice and education, plus direct, joint assessment and treatment sessions as clinically indicated.

Discharge Criteria and Pathways

• Discharge is co-ordinated by the SASCIS sub-acute inpatient rehabilitation team. Patients are transferred to the most appropriate services for on-going care based on patient need and goals, capacity, skill mix and admission criteria of the receiving service. Discharge paths may include:
  o Transfer to other SA rehabilitation unit or general hospital, with access to SASCIS in-reach support and ambulatory services upon discharge to final destination.
  o Discharge interstate (with medical outreach support to NT)
  o To transition housing with SASCIS ambulatory and other community services supports
  o Discharge to home / residential care, with appropriate community services support, in collaboration with the GP. Transfer to community rehabilitation services either specialist by SASCIS or in local community health setting with in-reach support by SASCIS.

C. Specialist Ambulatory Services

This service encompasses the single and multi-discipline specialist clinics and services as well as the interdisciplinary community (home and centre) based outreach and rehabilitation team.

Services will be delivered at the SASCIS sub-acute hub, satellite centers, and in patient homes and communities. The base for this service will be located at the SASCIS ‘hub’ to facilitate attendance at
client discharge meetings, joint assessment and handovers, and for sharing therapy and OPD areas for centre-based intervention.

Access and Referral
- Indicators for acceptance to the service are as indicated (page 9), and clients must be able to be safely managed in the clinic, centre or home based environment.
- Service elements may have their own guidelines and parameters for access.
- Clients may be transferred from SASCIS acute, sub-acute or other ambulatory services directly to specialist ambulatory services or referred from a variety of external sources via the coordinated referral system. The community setting includes private homes, supported and residential care facilities.
- Internal clinician referrals may be sent directly to appropriate clinic / service.
- Patients attending ambulatory services may be concurrently receiving a number of SASCIS services.

Specialist Clinics
- New clients / re-entry (not seen by SASCIS for ≥12 months) may require GP or specialist referral and, in most cases, new referrals will have a rehabilitation physician assessment prior to accessing further clinics.

Intervention
Specialist Clinics
- Centre-based specialist outpatient service providing assessment, short-term intervention and review for the proactive prevention and management of deterioration or complications associated with SCI and aging with a SCI.
- Clinics provided include:
  - Rehabilitation physician medical reviews
  - Urology
  - Colorectal
  - Pain
  - Wound management clinic;
  - Tendon and nerve transfer / upper limb clinic
  - Occupational Therapy seating (co-located with therapy space)
  - Physiotherapy
  - Clinical Dietetics
  - Exercise Physiology and Physical Education
  - Sexual health and fertility
  - Spasticity management
  - Functional health reviews (MDT)
  - Continence clinic (nurse-led)
  - Urodynamics - shared CAHLN facility
  - Driving Clinic
Spinal Outreach Rehabilitation Team

- Specialist interdisciplinary home and centre based ambulatory services for people with spinal cord injury in the community setting.

- Supported transition and re-integration from inpatient to community
  - Early supported discharge and support for transition from acute and sub-acute hospital settings for those with new SCI. Supports clients to self-manage and strive towards optimal independence and participation within their community. Reducing the impact of secondary complications and risk of re-admission through prevention, early identification and management of deterioration or secondary complications. May require graded intervention, with more intense inputs for first 3-4 months post discharge.

- Lifelong community wellness and hospital avoidance
  - Prevention, detection and community management of functional decline from complications or the ageing process. Hospital avoidance, health maintenance and wellbeing interventions are paramount is maintaining the client in the community. Clients may require a burst of home or centre-based rehabilitation of high intensity over a period of weeks (e.g. 4-6 weeks for re-conditioning) or a lower intensity program with more consultative focus over 3-4 months (e.g. for pressure injury management). Services delivered centre and home based and via outreach.

- Both programs provide interdisciplinary, patient centred, time limited goal-based interventions to optimise physical recovery, function, psychosocial wellbeing, maximise independence, vocation and lifestyle opportunities. Patients may access a range of SASCIS and CAHLN ambulatory services and regular multi-disciplinary case reviews are conducted jointly with SASCIS outpatient services to ensure co-ordinated care.

- Clinical inputs may focus on issues such as: skin care, mobility and transfer training, equipment review, refining bowel and bladder regimes; activity of daily living training in the home environment; access to financial, social and family supports, recreation and exercise programs, return to work, and integrated management of pressure injuries, urinary tract infections, upper respiratory tract infections, and mental health.

- This service may provide:
  - Rehabilitation in the client’s home and local community
  - Centre-based day rehabilitation
  - In-reach to country and metro hospitals for re-admissions and high risk clients, providing assessment, consultation, rehabilitation inputs to augment their care and support transfer to appropriate rehabilitation services.
  - Outreach clinics and interdisciplinary functional health reviews at selected metro and regional centres.
Use, develop and support pathways into community services and local service providers, providing education, resources, advice and support to community agencies to meet the needs of SASCIS clients in the community.

Input may be face to face, by phone, by Telehealth or combination, as clinically indicated.

- The development of ambulatory services is essential to provide continuity of care following inpatient episodes, to facilitate early discharge and avoid unnecessary transfers and readmissions.

**Discharge Criteria and Pathways**

- Discharge is coordinated and planned by the lead clinician or interdisciplinary team in the service.
- Work collaboratively with GP to manage on-going care, with link / referral to community based services (including SASCIS ambulatory services and other community supports and therapy services)For rehabilitation services discharge occurs on completion of a planned rehabilitation program and goal / issue resolution, and links clients back to their GP and the best placed SASCIS and community support services to meet any ongoing needs.
- Re-entry available for episodic care as new issues or goals arise.

## 4. **ENABLERs**

### A. Infrastructure, Equipment and Design Requirements

**The Inpatient Environment**

The elements below illustrate the best practice Spinal Cord Injury inpatient facility planning based on specialist clinician experience and the research of similar SCI rehabilitation units in Australia.

The thread of team based interventions and patient centred care are woven through these elements. These form the basis for accepted standards for SCI rehabilitation and are imperative to the effective functioning of the service and outcomes for patients.

- Client rooms to include:
  - Ceiling tracking (in different configurations in different rooms for patients to view / trial)
  - Cupboard space (digital lockable storage, wardrobe, patient workstation in room) and accessible wardrobes and drawers.
- Ensuites – space to enable use of a large shower commode with staff assistance. Some shelving in bathroom. Some bathrooms to be large enough for a trolley. Two bathrooms need piped oxygen and suction.
- Call bell system accessible for tetraplegic patients
- Individual room temp control. Environmental controls in each room; Lighting patient controlled and dimmable
- Environmental control systems in each room to enable clients to operate lighting, temperature control, TV and phone system independently.
- Numerous power points per room for bed, air mattress, nebulisers, charging wheelchairs, personal amenities. This saves space and enables patients to be more independent. At least 3 linked to back-up generator system
- TV
- Phones with headset or voice activation and messaging system
- Inside room curtains (for privacy and dignity) and modesty window dressing (for windows and doors)
- Hooks / hanging space in bedroom and bathroom
- Mirror – for checking posture and grooming;
- White / pin board (e.g. for patient goals, timetable, photos etc.)
- Wide doors – for wheelchair users and beds; bariatric access;
- Toilet seat heights appropriate to patient group
- Patient accessible Wi-Fi

- Ward & nurses station
  - Ward weigh bridge
  - Nurses station
  - Sluice room
  - Equipment storage - accessible out of hours (for shower commodes; air mattresses etc.)

- Other patient facilities
  - Dining room for daily patient use. Height adjustable table and chairs. Kitchenettes for patients and families including dishwasher.
  - Accessible laundry facilities for patient use; with access to outdoor clothesline, space for washer and dryer (x2), shelving, trough, ironing board
  - Warm ‘nooks’ or sunroom areas for patients to catch the sun (SCI can effect a person’s temperature control) and for families to be together
  - Self-directed rehab area (for out of hours and out of session use)
  - Sliding doors, sensor operated
  - Wi-Fi throughout patient and therapy areas (for apps, info etc.) for use by staff and patients (using own smart phones, tablets and laptops)
  - Qwerty (internet and computer facility run by PQSA for patients)
  - Space for PQSA Peer Advocate staff – near to or on the ward to enable patients to drop-in. These staff are part of the multi-d treating team. Space must be sufficient size for at least 3 wheelchair users at any one time. Used as dual office space and counselling space. Some degree of privacy required, while maintaining an accessible / visible presence.
• Therapy and treatment areas (Refer also to Appendix 1 – SASCIS Requirements OT, PT, EP)
  o Private treatment areas:
    o Consider privacy for those attending e.g. psychology, so not everyone can see who is seeing which specialties and how often
    o Multi-use private treatment rooms for clinical sessions that are not suitable for bedrooms (e.g. cognitive assessments; where families are engaging in treatment sessions and not appropriate to be in shared gym; psychology and social work counselling). Treatment rooms need phone lines and network access.
    o A continuous, co-located multi-disciplinary therapy space for SCI is proposed. Equipment and space has designated areas but is ultimately shared. Staff members have a visual and auditory connection between offices and therapy areas, to monitor patient therapy sessions. This concept has proved efficient for staffing and space, promotes interdisciplinary working, efficient time use and communication. It may also promote enhance patient attendance through co-location. Need closable windows for private office conversations.
    o Above therapy space is ideally adjacent the inpatient ward. If this is not possible, must be a manageable distance for inpatients to travel independently, have enclosed corridor access with temperature controlled.
    o Office space houses OT, PT, EP/PE and technicians. Ambulatory service team space may be co-located here, or nearby.
    o The therapy space includes a multi-use recreation area within the joint therapy space, which has multiple uses: its utilised by therapists for mobility training, wheelchair skills, recreation skills training, (tennis, rugby, and other recreation activities).
    o A seating clinic, workshop and technician space are co-located with the therapy shared area rather than in outpatients as the service is provided for both inpatients and outpatients, and for sharing of equipment, storage, joint patient/equipment assessment and handover. The workshop is used for specialist maintenance, repairs and modifications to specialist equipment, and the technician workshop is used for manufacture and modification of wheelchair seating items. These areas have specific equipment and design requirements (such as welding bay, steam cleaning bay, sewing machines, spray booth, dust extractor etc.) for further details of the space and equipment requirements.
    o Storage area for equipment (indicative numbers are 33 powered chairs and 50 manual wheelchairs and 100 wheelchair cushions). Co-located with treatment room and workshop for efficient access.
    o A functional training unit comprising kitchen, bedroom/living area and toilet/bathroom for patient re-training.
    o A separate equipment returns and cleaning / sterilisation area
    o The therapy area has a bookable, shared private treatment space for client education, group therapy, splinting and upper limb therapy, in-services.
- Driver assessment room with space for testing distances, plinth and multiple people present at assessment. Must be a quiet and uninterrupted space to conduct standardised testing.
- The Driving service requires and extra-large undercover carpark space, on ground level, close to the driver assessment room to house the modified vehicle used by the service.
- Having a hydrotherapy pool co-located with this therapy space is ideal; it allows visual supervision and staff efficiency. Hydro pool should have climate controlled, enclosed corridor access to/from wards.
- Access to gait lab shared space for all services is desirable.

- Outdoor patient facilities (Refer also Appendix 1)
  - Garden or area for outdoor mobility practice, including car for transfer practice (can use existing car) and varied surfaces. Service shared across rehab services). Needs call system and visual contact from therapy spaces is desirable.
  - Outdoor area(s) and garden for patient, friends and family (ambulant and wheelchair users) to access, with BBQ access. Includes covered all weather areas.
  - Family friendly areas-- play equipment for children (many patients are parents), and an animal friendly area would be desirable.
  - Accessible, raised garden beds for patient gardening as part of rehabilitation program
  - Safe, accessible pathways (wide, and with no bumps for the blind)
  - Call bell system link to outside areas
  - Drinking water fountain
  - Weather proof power points
  - Men’s shed area for activities (shared across rehab services) is desirable.

- Staff clinical and office areas (Refer to Appendix 1)
  - Clinical huddle / team room (private but on ward)
  - Social work and clinical psychology require space, ideally on the ward, that is dual office and clinical space (this model works well currently; planned and ad hoc clinical sessions are often conducted within the office areas).
  - Consider space for full time student placements; requires desk and PC access.
  - Quiet rooms for staff supervision 1:1 –shared use.
  - Multi-use rooms for clinical team meetings, staff and patient education sessions, family meetings. Indicative space for education sessions is 20 staff conference style or 12 power wheelchair users, with projector, telehealth points.
  - Staff office areas for medical staff and admin support.

- Staff amenities
  - To include staff Lockers; tea room / common area
Specialist Ambulatory Services

The SASCIS Ambulatory services base is required to be co-located with the inpatient service in order to support safe and effective clinical handover, seamless client transitions, early transition planning as well as education and specialist skills sharing cross the service.

Specialist Clinics

- Room requirements include: capability to perform consultation and clinical examination in the one space, wide doorways, ceiling hoists, electric hospital beds; privacy curtain; some to have separate air-conditioning (e.g. sexual health clinics), call bells.
- Telehealth facilities available within some clinics rooms OT/PT/EP/PE - therapy space to include access by centre-based ambulatory teams
- Multi-disciplinary team room(s) - generic, accessible by AHP and for multi-disciplinary health reviews (can access therapy area for specialist input) ceiling hoist; rail, bed,
- Accessible toilets in waiting area (for access and for part of clinic assessments; ideal would be touch free) Waiting area – with adequate circulation space, and bench heights appropriate for w/chair users; height adjust chairs and light to move / range heights plus w/chair space;
- Sexual health and continence clinic room – combined; Sex health clinic – gynae couch and possibly bed
- Room size may vary– a couple of smaller clinic rooms (e.g. for mostly desk based intervention), with most being large rooms to fit a number of attendees with treatment space and PC
- In-ground weigh scales
- Require a bladder scanner
- Storage for bloods
- These outpatient rooms may also be utilised for minor procedures for inpatients.
- Aspirational opportunity for a driving assessment / retraining lab, including driving simulator for use across rehab services.
- In clinic support for physical assistance (patient transfers etc)

Spinal Outreach Rehabilitation Team

Team ‘home’ base requirements include: (Refer also to Appendix 1)

- Will utilise and share treatment space, equipment and meeting rooms with SASCIS at sub-acute hub for centre-based treatment
- Interdisciplinary office base will be co-located either in therapy area or close to spinal ward.
- The service works closely as an interdisciplinary team on daily basis and needs to be housed within a team room for the service. This area should have the option to be closed off for private patient calls and sensitive team discussions.
- Consideration given for growth of the service, to meet current gaps in service provision
- Access to limited equipment storage space (may be combined or co-located with therapy storage areas described above)
• Need direct phone lines to service office / desk spaces
• Access to Telehealth facilities

Research space
(Refer also to Appendix 1 )

• Hot desks located within SASCIS blue space;
• A secured & dedicated storage room located within the SASCIS facility with access to the ward; or a private treatment room within the gym;
• Specifically Sufficient storage space to house a portable pQCT scanner, computer, & minor research equipment items;
• Exercise physiology testing laboratory (not dedicated for research, but utilised for both clinical and research purposes). Laboratory should be located within close proximity to Gymnasium/Therapy Area
• Access to a Gait lab/ wheel chair testing lab would be desirable, given a larger footprint
• This research imprint within the SASCIS facility is contingent on the allocation of dedicated research space at the Basil Hetzel Institute.

B. Workforce

Spinal Cord Injury rehabilitation is a complex, specialist area of practice that requires dedicated staff with rehabilitation expertise and specialised knowledge and skills in spinal cord injury.

Workforce Requirements across SASCIS Include:

- Rehabilitation physicians, supported by trainee medical officers, including 24hr cover.
- Specialist nursing, including 24hr cover (sufficient to reinforce therapy programs, and flexibility to cater for patients with high dependency nursing)
- Allied health staff including but not limited to: physiotherapy, occupational therapy, social work, speech pathology, clinical dietetics, clinical psychology, neuropsychology, physical educators, exercise physiology, equipment and seating technicians, therapy assistants, vocational rehabilitation and recreation therapy.
- Formal peer support services
- Research staff
- Administrative and data collection support
- Specialised Client Support Service Officers with training and experience to assist MDT in provision of high quality patient centred care.

The Australasian Faculty of Rehabilitation Medicine (AFRM) standards for inpatient adult services can be used as a guide to workforce requirements, recognising that highly specialised services such as SCI will have requirements beyond those of general rehabilitation standards, including ambulatory and community programs.
Workforce levels should take into account the case mix of the service, and allow each patient to receive a rehabilitation program of optimal intensity to meet their needs, including delivery and reinforcement of therapy programs after hours and on weekends (AFRM 2011).

The AFRM guided core workforce levels will need to be further enhanced to deliver:

- therapy programs after hours and on weekends
- responsive and effective in-reach services
- adequate cover of leave and non-patient attributable time (including research, training and education, and professional development)
- enhanced essential services, i.e. seating techs to enable timely equipment provision and the availability of therapy assistants in Specialist Ambulatory Services

To retain and build appropriate skillsets to manage complex SCI rehabilitation, SASCIS clinicians will align with the Single Service Multiple Site (SSMS) model and may work across the SASCIS rehabilitation sites and service elements of early acute rehabilitation, sub-acute rehabilitation and ambulatory services.

Some elements of this model remain aspirational and will need resource and workforce modelling as services develop. This includes consideration of cross-site working arrangements and access to site resources. The development of ambulatory services is important in supporting patient flow and the ability to deliver the right care at the right time and place.

C. Support Service Requirements

- This model does not work in isolation, but should be considered within the context of the SASCIS Clinical Service Profile and all its service elements, the SASCIS model of care for inpatient rehab at the nRAH, and other interdependencies.
- In line with the single service, multiple site model, and the intent of the state-wide services models of rehabilitation to consider the holistic needs of patients, there will be a range of rehabilitation services across the continuum to be able to provide the right care in the right place at the right time. This includes both CAHLN and SASCIS programs.
- It is essential that appropriate specialist SCI ambulatory services exist to provide a continuation of care following the inpatient episode, facilitating early discharge and avoiding unnecessary transfers and re-admissions.
- Wheelchair accessible undercover parking and drop off / pick-up area near ward and outpatients
- Patient parking and accessible public transport links to TQEH
- Shared CAHLN urodynamics facility
- Ambulatory service requires access to a number of fleet cars, tablets, dongle / vpn for working in patient homes and at satellite centres; rental of centres to operate from as satellites, with basic equipment
- Access to other specialties is required on a needs basis, including: spinal surgery, neurology, neurosurgery, orthopaedics, urology, plastic and reconstructive surgery, general medical, respiratory, infectious diseases, imaging, clinical pharmacy, podiatry, psychiatry, neuropsychiatry, neuropsychology, orthotics and prosthetics, colorectal, pain management, etc.
- Working as a single service across multiple sites will require access to timely transport and storage for equipment items, tech staff etc. to move between the acute, sub-acute and storage areas.
5. References


ii Rehabilitation for patients in the acute care pathway following severe disabling illness or injury: BSRM core standards for specialist rehabilitation (2014) (p3). British Society of Rehabilitation Medicine.

iii Rehabilitation for patients in the acute care pathway following severe disabling illness or injury: BSRM core standards for specialist rehabilitation (2014) British Society of Rehabilitation Medicine


v E-learn SCI overview module  [www.elearnSCI.org](http://www.elearnSCI.org)

vi NSW Rehabilitation Model of Care: NSW Health Rehabilitation Redesign Project (2015). Version 1.5 p 51-52)

vii Standards for the provision of inpatient adult rehabilitation medicine services in public and private hospitals (2011). Australasian Faculty or Rehabilitation Medicine

viii Mode of Care for Major Hospitals (SA Health)
6. Appendix 1

Requirements for SASCIS Occupational Therapy, Physiotherapy, Physical Education (PE) and Exercise Physiology (EP) Service Provision within the proposed shared therapy space at The Queen Elizabeth Hospital

Summary

Physiotherapy, occupational therapy and PE/EP service delivery requirements

Aim to deliver best practice services to SASCIS patients in both inpatient and community based setting both now and into the future

Assumptions Underpinning:

Equipment and space needs are based on:

- multidisciplinary therapy services for 12 inpatient beds
- ambulatory team seeing patients centre based in PT/OT treatment session and in PE/EP outpatient programs
- associated services such as seating clinics
- 2-3 x weekly ambulatory therapy groups
- recreation activities such as wheelchair tennis and volleyball (accessed by inpatients and outpatients)

Space that enables inpatients and ambulatory service client to operate from the same area offers benefits to the patients and staff of the service. Shared therapy and office space allows for sharing of knowledge from the specialist clinicians to newer and rotational staff. It provides a larger critical mass of staffing to assist with high needs patient, complex treatment sessions and also to help cover services with staff absence. Patients can engage with and learn from those who have recently discharged into the community, providing a peer support model. Information regarding patient care can also easily be handled over from the inpatient team to the ambulatory team with the patient involved in that handover as required.
Shift in Rehabilitation Paradigm

In the past few years a growing body of evidence is suggesting intensive physical activity in rehabilitation leads to improved outcomes post SCI. This is especially true for those with incomplete injuries. The proportion of incomplete injuries is steadily growing as acute medical management improves.

As incomplete injuries continue recovery and gain function for up to 2 years post injury, ambulatory services will need to grow to service the increase number of patients with incomplete SCI.

We need to develop a home for our service that is capable of delivering high intensity, quality care in both centre and home based environments to meet the changing needs of the population group.

Spaces Required:

- Joint OT/PT therapy area for inpatient and outpatient
- Nearby or adjoining PE/EP therapy area
- Functional training unit with bathroom, kitchen ad bedroom
- Private treatment room
- Workshop and technician space
- Store room(s)
- Office space for inpatient and ambulatory teams for OT/PT/PE/EP/SW/Nursing
- Recreation court space
- Driver assessment room
- Outdoor ‘mobility garden’
- Vehicle for car transfers

Details:

1. **Shared office space** –
- Office space for SASCIS inpatient and ambulatory physical therapy team: occupational therapy, physiotherapy, exercise physiology, physical education, (social work & nursing in the ambulatory team) and associated allied health assistant staff and administrative support.

- There needs to be division within the space to allow ambulatory services and associated admin support to work together in one space and inpatients staff in adjacent space.
  - Inpatient staffing to have combination of open plan desks and partitioned workstations to meet the needs of various staff roles. There should be a total of 23 workstations each with a computer to meet the needs of the team. This recognises the role of computers in report and discharge letter writing, provision of and updating of personal exercise programs, equipment and service research, web based communication, procurement and access to EPAS.
  - Space within shared office space for Allied Health Assistant and technician staff must be located adjacent to workshop space as much work completed across areas concurrently.
  - The ambulatory service (SORT) will utilise and share treatment space, equipment, storage, and meeting rooms with SASCIS at TQEH for centre-based treatment, patient and family meetings, operational meetings. The service works closely as an interdisciplinary team on a daily basis and needs to be housed within a team room for the service. This area should have the option to be closed off for confidential patient and service provider calls and sensitive team discussions. Needs dedicated phone lines for the service. Office base ideally co-located in therapy area but may also be near spinal ward (for access to joint patient sessions). Current SORT office footprint accommodates 7 staff members but growth to support model of care implementation is required / expected, so should be flexed up to enable 12-15 staff to work from the office.

HRC/TQEH are public teaching hospitals and as SASCIS is a State Wide specialist service we are expected to provide clinical placement and teaching to a wide range of students, particularly full time clinical student placement and project based placements. Co-located office space is required, preferably within shared office space to facilitate student placement and learning. To facilitate between 1-3 students at any given time

- Office to have visual and auditory connection to the therapy space for staff safety and more efficient use while awaiting patient attendance, distant supervision of programs and ad hoc assistance with transfers and mobility during treatment sessions.

- Shelving and storage space for resource folders and books, basic stationery supplies. Close access to printing and photocopying

- 2 smaller private breakout rooms necessary for supervision and confidential discussions with staff members. These must include computer, phone and desk space.
2 larger meeting rooms to allow treating teams, workgroups or discipline specific handovers and meetings.

2. OT/PT Therapy treatment room

- Used by OT, PT, and PE/EP clinicians for 1:1 therapy, group therapy, and group education sessions with SIU patients
- Adequate space is required to provide treatment for up to 10 patients at a time with power or manual wheelchairs and additional equipment, plus therapy and technical staff and at any one time.
- Assessments undertaken include, but not limited to: limb motor and sensory assessment, postural assessment, pressure mapping assessment, cognitive assessment, gait and balance assessment, functional bed mobility and transfers including floor transfers
- Treatment includes, but not limited to: strength, balance, flexibility, splinting, Wii rehabilitation, assisted gait, equipment set up and review, equipment demonstration and trial, including utilisation of robotics, functional retraining, technology set up and trial, specialist equipment prescription and alternation.
- Treatment space must be co-located with workshop, seating clinic and seating technician workspace. Essential for efficient and effective treatment and set up of highly specialised equipment. A therapist or technician will regularly move between workshop, storage and treatment room to alter, trial and demonstrate equipment with clients in order to achieve optimal set up or scripting of equipment. If workshop area is not co-located with therapy area this will result in ineffective, costly and inefficient service provision.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Size</th>
<th>Plus circulation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plinth stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Dimensions</td>
<td>Additional Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>4</td>
<td>Large plinths for stretches, self-directed exercise, transfer practice and dressing practice - adjustable height, mobile plinths (will require power points)</td>
<td>2x2m</td>
<td>1m between for transfer set up</td>
</tr>
<tr>
<td>2</td>
<td>Small hydraulic plinth for UL work, standing support and tall knee support, low level floor transfers</td>
<td>2x1m</td>
<td>Plinth to be easily moved around the gym</td>
</tr>
<tr>
<td>1</td>
<td>Height adjustable soft bed to practice bed transfers, bed mobility and dressing</td>
<td>1.35x1.9m</td>
<td>1m to side</td>
</tr>
<tr>
<td>1</td>
<td>Tilt table (will require power point)</td>
<td>2x0.7m</td>
<td>Can be moved under ceiling track for use, with additional 0.7m either side for therapist circulation.</td>
</tr>
<tr>
<td></td>
<td><strong>Gait training</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Parallel bards fixed into ground, height adjustable</td>
<td>4x0.7m</td>
<td>External clearance: need 1.7m at either end to get electric chair in, plus 0.7m either side for therapist assisting</td>
</tr>
<tr>
<td>1</td>
<td>Movable parallel bars, for positioning under ceiling hoist, or at end of plinth</td>
<td>3x0.7m</td>
<td>Bars can be moved about as required, stored in a corner - in therapy area</td>
</tr>
<tr>
<td></td>
<td>Equipment Description</td>
<td>3m long</td>
<td>Additional Details</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>fixed ceiling track hoist (in ceiling power and roof support required)</td>
<td></td>
<td>extending over free floor space to allow bed, bar or tilt table to be positioned under it for training and transfer purposes</td>
</tr>
<tr>
<td></td>
<td>Therastride to allow body weight support locomotor training (power for computer, compressor, treadmill and hydraulics)</td>
<td>8x2.5m</td>
<td>Space for treadmill, ramp, computer, compressor and therapists circulation</td>
</tr>
<tr>
<td></td>
<td>Treadmill (plus power)</td>
<td>2.3x0.9m</td>
<td>Need 0.5m either side for therapist assistance, plus 1.2 m on one side to allow transfer up from a mobile plinth</td>
</tr>
<tr>
<td></td>
<td>wall mount rail (ballet style), for balance and standing exercises</td>
<td>3m long</td>
<td>1.5 m space to allow leg swings and movement with therapist present. This replaces the needs for a second set of parallel bars</td>
</tr>
<tr>
<td></td>
<td>Space for gait training - set up obstacles or practice 2-3 x assist</td>
<td>20m long</td>
<td>3 m wide for circulation. Space to perform standardised gait measures such as 10m timed walk, HiMat and Timed up and go.</td>
</tr>
</tbody>
</table>
## General therapy spaces, strength and fitness

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Dimensions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Overway tables for high tetras to perform UL therapy and to set up eye level reading stations and activities</td>
<td>1x0.6m</td>
<td>can be moved to the patient as needed</td>
</tr>
<tr>
<td>2</td>
<td>tables for chair based upper limb therapy</td>
<td>2x1.2m</td>
<td>1m clearance around</td>
</tr>
<tr>
<td>1</td>
<td>bench with storage and sink suitable for splinting</td>
<td>3m long</td>
<td>adequate space for to staff work along one side</td>
</tr>
<tr>
<td>1</td>
<td>Motomed with hasomed FES (plus power)</td>
<td>0.6x1m</td>
<td>For each: 0.5m either side for set up plus 1.7m clear in front to approach in wheelchair. Therapy equipment to be shared with PE /EP if adjacent space. If not each space will require their own cycle ergometers and Theraband</td>
</tr>
<tr>
<td>1</td>
<td>RT300 FES bike (plus power)</td>
<td>0.6x1m</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Theravital active/passive cycle bike (Ul and LL) -plus power</td>
<td>0.6x1m</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Theraband exercise station. Wall mount for UL resistance and conditioning exercise</td>
<td>2m on the wall to mount</td>
<td>1.6 m clear in front to approach and set up Will also need storage for additional 2 standing frames which are in and out of the community</td>
</tr>
<tr>
<td>1</td>
<td>Standing frame</td>
<td>1x0.6m</td>
<td>Can be moved to sit in front of plinth as required</td>
</tr>
<tr>
<td>2</td>
<td>Freestanding UL assessment and retraining tools (rejoyce and large upright board for grasp and reach)</td>
<td>1x1m</td>
<td>To be positioned against wall Power point required for ReJoyce therapy tool which requires a laptop</td>
</tr>
<tr>
<td></td>
<td>UL suspended workstation - currently using OB help arm</td>
<td>0.75x0.75m (current OB help arm)</td>
<td>Current system is mobile and fits around the patient's wheelchair</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>Set stairs with hand rails</td>
<td>2x0.85m (current steps)</td>
<td>space to approach steps (1m) and to stand on the side to assist (0.7m)</td>
</tr>
<tr>
<td>1</td>
<td>Gait assessment and treatment space</td>
<td>20x2m</td>
<td>Space to perform standardised gait measures such as 10m timed walk, HiMat and Timed up and go. Ideally assessment space will allow for expansion into a gait assessment lab as technology is available for use including pressure mats, sensors, camera and computer. Otherwise co-location with recreation gym will allow for space to complete clinical outcomes measures</td>
</tr>
<tr>
<td>1</td>
<td>Foam cylinder for balance and stability practice</td>
<td>1x0.5m</td>
<td>Can be stored in corner and moved to plinth as required</td>
</tr>
<tr>
<td>Manual handling equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>floor hoist</td>
<td>1.65x1.2m</td>
<td>Will be moved to where it is needed. Will need a charging point in a storage area (charges directly - no removable battery). If traverse ceiling system is not provided, 2 hoists will be required</td>
</tr>
<tr>
<td>1</td>
<td>Traverse ceiling gantry (in ceiling power and supports) to cover ceiling across majority of the gym including all the plinths</td>
<td>N/A</td>
<td>Separate to track for gait training, and the traverse system is not stable in the lateral plane.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Functional skills</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Vehicle for car transfer practice (driver and passengers access)</td>
<td>Space to allow wheelchair to fit alongside vehicle</td>
<td>Position in sheltered position to keep out of heat/rain. Ideally visually connected to therapy space for safety</td>
</tr>
<tr>
<td>1</td>
<td>Outdoor mobility area</td>
<td>Include paths, ramps steps of a variety of gradients and surfaces. Ability to drive power chairs though, walk with gait aids with a mix of singular and consecutive steps</td>
<td>Ideally has visual connection with the therapy area so staff members not alone with patient when emergency occurs</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Shelving and cupboards to keep:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Balls, bats, balloons, gym balls</td>
<td></td>
<td>Shared with OT/PT/PE if in same spaces. Compactus may provide space efficiency.</td>
</tr>
<tr>
<td></td>
<td>Slide boards, handling belts, transfer pads</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AFO, ankle braces, knee braces, wobble disc</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foam rings, UL games, splinting materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foam wedges and rolls</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gait aids (frames/sticks)

mini tramp

floor mats

Imprest, ADLs aids, therapy equipment and orthotic devices

Currently utilising approx 12 floor to ceiling cupboards

Linen storage facilities - pillow cases, towels, sheets etc

handwashing facilities

General cleaning facilities and patient continence supplies

Need to be in gym so they can be accessed quickly when needed (cups, blue sheets etc.)

**Physical Education (PE) & Exercise Physiology (EP) Therapy space:**

Current services are essential to provide effective rehabilitation programs for patients with SCI. Areas of importance include:

- Strength, power and conditioning programs
- Cardiorespiratory and muscle endurance training & testing
- Manual wheelchair skills and testing (mobility garden)
- Introduction of SCI recreational and sporting opportunities
- Clinical testing and research facilities

**Court Area**

- EP/PE use for recreation and sports participation. EP/PE & OT utilise the manual & power wheelchair training and education. PT also able to use for mobility activities.
- This area should be linked to EP/PE & PT/OT therapy space (lockable) with co-access from the exteriors of the building.
- Optimal dimensions to be 28m x 15m plus run-off of 3m on sideline & 5m on baselines

EP/PE Therapy Space

- Therapy space at QEH will need to be larger than current PE/EP Gym at HRC to account for Leg Equipment which is currently located around the court space.
- This should be located within close proximity of OT/PT space to allow multidisciplinary communication and use of shared facilities.
- The separation of the spaces reduces the noise and congestion, and improves patient privacy,
- The space being located separately to the other departments and accessible to court space will allow the potential for expanding EP services across TQEH.
- Desirable space of 180 m².

Exercise Physiology Laboratory

- Specialised space used for both clinical and research purposes.
- This should be located next to the PE/EP therapy space and linked to the SASCIS Research Centre.
- Space should account for equipment specialised for testing and clinical monitoring

Store Room

- To store all recreation equipment listed below and up to 6 specialised sports wheel chairs for patients to trial and utilise.
- This should be linked to the court area and secured access for staff only.
<table>
<thead>
<tr>
<th>Equipment</th>
<th>Size (per item)</th>
<th>Plus Circulation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accessible Upper Limb Resistance Machines</strong></td>
<td>Resistance machines x 10</td>
<td>2.0 m x 1.5 m</td>
<td>1.5m circulation Space designed for wheel chair access &amp; prone trolley access</td>
</tr>
<tr>
<td><strong>Lower limb resistance Machines</strong></td>
<td>Resistance Machines x 6</td>
<td>2.0 m x 1.5 m</td>
<td>1.5m circulation Space designed for wheel chair access &amp; prone trolley access</td>
</tr>
<tr>
<td><strong>Aerobic Exercise Equipment</strong></td>
<td>Arm Bike x 2</td>
<td>1.0 m x 1.0 m</td>
<td>1.5 m Circulation space for MWC access for Leg bike &amp; prone trolley access</td>
</tr>
<tr>
<td></td>
<td>Leg Bike x 2</td>
<td>2.0 m x 1.0 m</td>
<td></td>
</tr>
<tr>
<td>Recreation, Wheel Chair Skills &amp; Sports Training Equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable ramps (3 &amp; 6 degrees incline up to 20 cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable platform (5 &amp; 20 cm in height)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable lip/step (2 &amp; 4 cm in height)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 visible cones/witches hats</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass (5 m in length)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4x basketballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x Rugby/volley ball</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 single-handle tennis racquets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 tennis balls &amp; basket/trolley</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x potable tennis nets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1x badminton net</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 badminton racquets (plus 4 shuttlecocks)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpet bowels matt – 15m in length</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpet bowels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archery Boards &amp; Accessories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archery Bows (x4) &amp; Arrows (x24)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4x Basketball MWC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4x Tennis MWC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 x rugby chair</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Items listed should be Stored in a separate PE/EP store room (attached to the court area)

Ramp, platform & lips/steps can be transported from HRC and may be include in mobility garden if possible

Grass may be associated to mobility garden
Clinical Testing and Monitoring Equipment

<table>
<thead>
<tr>
<th>Storage and Accessible Workstation/Trolley</th>
<th>2.0 m x 1.0 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Blood Pressure cuffs</td>
<td></td>
</tr>
<tr>
<td>- Pulse Oximeter</td>
<td></td>
</tr>
<tr>
<td>- Heart Rate Monitor</td>
<td></td>
</tr>
<tr>
<td>- Stop Watch</td>
<td></td>
</tr>
<tr>
<td>- Blood Glucose Kit</td>
<td></td>
</tr>
<tr>
<td>- Skin fold calipers</td>
<td></td>
</tr>
<tr>
<td>Wheelchair Scales (excess of 200kg)</td>
<td>2 x 2 m</td>
</tr>
<tr>
<td>Gas Analysis work station with MONARK Arm Egometer (Research grade) on accessible table/platform</td>
<td>3 x 3 m</td>
</tr>
</tbody>
</table>

3. Workshop

Function:

- Essential for provision of specialist services in order to maintain and alter highly specialised equipment and wheelchairs

- Works together closely with Inpatient therapists, Outpatient Seating Workshop & Seating Clinic to provide a service to both in and outpatients in the setup and provision of powered and manual wheelchairs for severely disabled patients.

- Repairs and maintenance of wheelchairs and other similar patient equipment

- Modification of equipment to suit patient need

- Storage of parts and materials (i.e. metal rack, tyres, armrests etc.)
  - Must be co-located with treatment room, seating clinic and seating technician workspace. Essential for efficient and effective treatment and set up of highly specialised equipment. A therapist or technician will regularly within and outside of treatment sessions move between workshop, storage and treatment room to alter, trial and demonstrate equipment with clients in order to achieve optimal set up or scripting of equipment. If workshop area is not co-located with therapy area this will result in ineffective, costly and inefficient service provision.

- Must have adequate illumination and circulation space for OH&S
- Must have no a/c return above welding booth
- Must have sound proofing due to unavoidable high levels of noise produced by machinery
- OT Department must be consulted on layout propose and flow between workshop, equipment room, treatment room and cleaning areas will have a significant impact on working efficiency, space required and staff safety.

Equipment:
- Welding bay and fume extractor
- Bench grinder
- Pedestal drill press
- Lathe
- Milling machine
- Power hacksaw
- Free standing vise
- Sufficient workbench space: X2 work benches – x1 steel bench 1.8mx1m, Timber bench 1.7mx0.9m
- Storage cupboards and shelving for powered and hand tools x3 minimum
- Overhead air lines x2
- Gantry crane 500kg
- Wall mounted storage for hardware (ie bolts, nuts, screws)
- Wall mounted tool cabinet
- Sink/trough for repairing cushions and tubes and handwashing
- Steam cleaning bay for infection control
- Storage for equipment accessories & spare parts – 2 racks at 6.7mx1.2m, 1 rack at 3.9mx1.2m, 1 rack at 2.5mx.7m, benchtop storage 4.4mx0.6m
- Minimum space required: 64m$^2$ for workshop and 72m$^2$ for storage of parts and materials.

Time used
• Full time 5 days per week. X1 technician at all times and Volunteer/Additional tech 4 days per week. Patients and therapists will also be in this space throughout the day – up to 4 people at one time and patients in powered/manual wheelchair. Note technician uses a manual wheelchair.

4. Seating Technician Workshop –

Function:

• Workshop for the manufacture and modification of wheelchair seating items and assessment of patient at times together with therapists

• Must be co-located with treatment room, outpatient seating clinic and seating technician workspace, for reasons outlined above.

• Sewing machines are accessed multiple times daily by therapy staff and wheelchair technician for the manufacture of splints and other custom functional items

• Must have sound proofing due to unavoidable high levels of noise produced by machinery

• OT Department must be consulted on layout propose and flow between workshop, equipment room, treatment room and cleaning areas will have a significant impact on working efficiency, space required and staff safety.

Equipment:

• Bandsaw

• Spray booth - 2mx1.6m to height of ceiling

• Industrial sewing machines (x2) with tables

• Table Saw

• Dust Extractor

• Large work bench – need provision for an additional bench 1mx3.5m and 1.22 x 3.5m

• Bench vise

• Overhead air lines and compressor

• Hand tools

• Foam rack 2.3mx1.9mx2.7m
- Timber rack
- Trough
- Bench tops and cupboards for storage of materials and hand tools – 1 at 3.4mx0.6m & 1 at 4.3mx0.6m
- Minimum space required: 150m²

Time used:
- Full time 5 days per week. X1 Technician at all times minimum. Will also have a patient and therapist in there approx. 1/3 of the day. Often have up to 4 persons in the space including the patient.

5. Equipment Storage Area

Function-
- Specialised seating assessment and the provision of specialised equipment is a core business for SIU Occupational therapy.
- Storage area required for approximately 33+ powered wheelchairs, 50+ manual wheelchairs, various personal care equipment, accessories and parts.
- Storage area for approximately 100 cushions for trial and use by inpatients.
- Space for inpatient/outpatient equipment waiting to be issued.
- Requires shelves and whiteboards
- Essential that storage area be co-located with treatment room and workshop. This is required due to complexity of specialist seating set up – a therapist or technician will regularly within and outside of treatment sessions gather equipment to trial and demonstrate with clients in order to achieve optimal set up or scripting of equipment. If storage area is not co-located with therapy area this will result in ineffective, inefficient and costly service provision.
- Currently our storage space is split between multiple areas creating inefficiencies – we propose one storage space large enough to store all specialised equipment to improve efficiency.
- Requires custom made compactus to store items such as cushions, backrests and small aids – this will improve space utilisation efficiency and meet OH&S requirements.
- OT Department must be consulted on layout propose and flow between workshop, equipment room, treatment room and cleaning areas will have a significant impact on working efficiency, space required and staff safety.
Equipment-

- Wheelchairs (powered and manual), modular backrests, personal care equipment i.e. mobile shower chairs, bath boards, static shower chairs etc, portable ramps
- Cushions.
- Minimum space required = 250m²

Time used-

Accessed daily by all staff. Equipment stored full time in this space

6. Functional Training Unit

Function-

- Essential for provision of quality, client centred, evidence based OT rehabilitation service provision.
- Must comprise of Kitchen, Bedroom/Living Area, Toilet/Bathroom.
- Space required providing opportunity for assessment and retraining of domestic and community tasks as well as leisure and vocational retraining. Examples include: meal preparation and laundry assessment and retraining, practice making a ‘normal bed’, vacuuming etc.
- Used for PADL Ax and retraining as well as practice transferring (OT & Physio)
- Used by some clients for overnight leave trial prior to discharge home - should be set up with a call bell and separate access to enable clients the opportunity to stay overnight with family to prepare for transition to home. Particularly important for country client access to leave.
- Access to the FTU is proposed for all rehabilitation specialties across the Central Adelaide Rehabilitation Service for the purpose of providing accommodation and trial for overnight leave. The space must be accessible for both manual and power wheelchair users.
- *IMPORTANT: exact design of FTU requires close consultation with the OT department to ensure that the space meets accessibility and therapy requirements. A guide of requirements has been provided here, however it is essential that architects consult OT department prior to finalising plans.

Equipment-

- Kitchen:
- Requires cupboards above and below benches as well as an area with no under bench storage to allow clearance for wheelchair access, including no pipes.

- Stove top, oven, refrigerator, microwave, kettle, toaster, cupboard space for non-perishable foods, kitchen utensils, crockery and cutlery as well as adaptive aids.

- Area for a table (1.8mx1.2m) and 6x chairs. Large enough for group therapy, i.e. breakfast group with sufficient circulation around table for mobility aids and wheelchair access.

- Size: 48m²

### Living Area/Bedroom:

- 1 x client per 1:1 session due to need for privacy and reduced distraction

- “Normal” home environment to be able to enable simulated practice

- Equipment/furniture required: regular double bed (with linen), height adjustable single bed, 1 x single armchair and 1x double couch, bedside table with call alarm & wardrobe, desk with power point, phone and data ports to allow for computer set up.

- FTU should be set up to explore options of environmental control with clients for discharge planning. (i.e. electric door opener, lights hardwired to enable external switch control).

- Privacy for overnight and weekend trials and ability to seclude from other treatment areas

- Size: 28m²

### Bathroom/Toilet:

- With bath, toilet, separate level access shower, grab rails, basin.

- Laundry: access to washing machine, sink and drier.

- Size: 9m²

**Time used**

- Used Mon-Fri for 3-4 hours per day

- Used on weekends for 24 hours a day for clients using for overnight leave. Average use of once every 1-2 months
7. Separate area for equipment returns and cleaning/sterilising area for equipment

Function

- To enable the AHA to clean and sterilise equipment that belongs to occupational therapy stock.
- To meet the OH&S guidelines for cleaning and sterilisation of equipment used by patients.
- Must be adjacent to workshop and treatment room for efficient working.
- Must be consulted on layout propose and flow between workshop, equipment room, treatment room and cleaning areas will have a significant impact on working efficiency, space required and staff safety.

Equipment

Adequate space to accommodate: storage of dirty equipment, hanging space for drying equipment, washing machine, clothes line, drier, steamer, laundry or large sink, separate shelves for dirty and clean equipment.

- Size: 40m²

8. Outpatient Seating Clinic

- Must be in proximity to workshops, treatment room and equipment storage as access to these areas and services will be used throughout the day on a daily basis. Unable to provide service without access to these areas.
- Minimum size: 40m²

9. Driving –

Driver trained OT is an essential service for clients with a spinal cord injury. Space requirements for this service include:

- Driver assessment Room:
  - Driver assessment and clinic room, used for assessment, education, transfer practice etc.
  - Specific space is required for testing (e.g. projected images for vision and cognitive skills need to be prescribed distances away). Often there are multiple people present
at assessment (e.g. up to 4 is typical; client, family, OT, other therapists, driving instructor) – minimum room size 30m²; testing distance required = need to have a space of 7m x 4-5m to complete vision testing properly.

- Requires space for plinth, laptop and projector; table to demo equipment
- Must be a quiet and uninterrupted space to conduct standardised testing
- Diver testing station ideally included in space (like a model drivers seat & controls)

**Vehicle:**

- Specialist Vehicle (modified station wagon) is used for assessment and training. This requires an extra-large carpark space required that is in a safe location to enable use for over an hour at time in and around the vehicle. This is a therapeutic space and not just a ‘storage’ space
- Need to be able to open 2 car doors open either side and do loading and unloading of wheelchairs at rear of car
- Carpark space must be on level ground, undercover, location to enable assistance to be sought promptly if required (currently visual contact), must enable drivers to drive straight forward out of into space (to accommodate disabled drivers learning to drive).
- Space requirement of vehicle parking and therapeutic space, currently: width 4300mm, length 7000mm, height of car = 1800mm. Ideally need space above for inclusion of a Wymo car hoist on top of car, this height is dependent on type of car, please liaise with driving service.

10. **Research space**

- Hot desks located within SASCIS blue space;

- Dedicated large clinical trial room / physiological testing lab with double height-adjustable plinth and sufficient floor space to manoeuvre hoist and powered wheelchair (1.5m turning circle) and 3 staff and wet bench (40m²). Must be co-located with SASCIS facility for accessibility for inpatients and in case of emergency medical assistance requirements; otherwise ambulance transport will be required.

- A secured & dedicated storage room located within the SASCIS facility with access to the ward; or a private treatment room within the gym;

- Sufficient storage space to house a portable pQCT scanner, computer, portable centrifuge, portable physiological testing equipment & minor research equipment items;
- Exercise physiology testing laboratory (not dedicated for research, but utilised for both clinical and research purposes). Include Monark Arm Ergometer (Plus grip/wrist accessories), Monark Leg ergometer, COSMED Medical Grade VO2 Gas Analysis Machine, ECG, Heart Rate Monitor, & Wheel Chair Rollers. Laboratory should be located within close proximity to Gymnasium/Therapy Area

- Access to a Gait lab/ wheel chair testing lab would be desirable, given a larger footprint

- This research imprint within the SASCIS facility is contingent on the allocation of dedicated research space at the Basil Hetzel Institute; otherwise additional space is required within the SASCIS precinct.

Other areas required for use to provide specialist OT/PE/PT services:

1. Outdoor mobility Garden
2. Internet Café (set up as per QWERTY at HRC)
3. Vocational Rehabilitation Facility: Shared between inpatient and outpatient/ambulatory services.