Neurology and Stroke Clinical Advisory Group

Response to Green Paper

The Neurology and Stroke CAG is pleased to have this opportunity to provide this response to the Government’s Green Paper.

Service Profile

Recommendation 1
To fully reflect clinical services within the Tasmanian Role Delineation Framework (TRDF), separate service profiles should be included for Neurology, Stroke and Neurosurgery.

Recommendation 2
The attached profiles for Neurology and Acute Stroke Service be included into the final version of the TRDF (Attachment A and B).

Current Service Overview - Neurology

Based on the Service Descriptions provided in the revised Service Profile for Neurology the CAG believes that the following levels of service are being currently provided in Tasmania:

- Royal Hobart Hospital (RHH) – Level 6
- Launceston General Hospital (LGH) – Level 4
- North West Regional Hospital (NWRH) – Level 3
- Mersey Community Hospital (MCH) - Level 3

As the LGH does not provide 24-hour on-call neurologist cover, it does not meet all of Level 5 service requirements.

However, the Neurology and Stroke CAG believe to meet future neurology demands the following levels of service are required in Tasmania:

- Royal Hobart Hospital – Level 6
- Launceston General Hospital – refer to Recommendation 8
- North West Regional Hospital – refer to Recommendation 8
- Mersey Community Hospital – refer to Recommendation 8
**Current Service Overview - Stroke**

Based on the Service Descriptions provided in the proposed *Acute Stroke Service* Profile, the CAG believes that the following levels of service are being provided in Tasmania:

- Royal Hobart Hospital – Level 6
- Launceston General Hospital – Level 5
- North West Regional Hospital – Level 4
- Mersey Community Hospital – Level 4

The evolution of stroke services has arisen from the recognition that dedicated stroke care improves patient outcomes. Stroke service development has evolved from within specialty services such as Neurology at the RHH and General Medicine at the LGH. Stroke services are dependent upon existing Medical Department budgets and are impacting resources such as medical and allied health staffing, time allocation, pharmacy and treatment costs. There is no formal stroke service plan for Tasmania and at present a significant amount of unrecognised and unbudgeted time is spent managing and developing stroke services at the RHH and LGH.

As a consequence, stroke services are not fully compliant with guidelines developed by the National Stroke Foundation: (1) There is no formal medical lead or stroke director of stroke services for Tasmania as required under Level 6, and (2) there are no formal or written agreements existing between hospitals in Tasmania guiding the process of stroke care or referrals of patients requiring higher levels of care (Level 4).

However, the Neurology and Stroke CAG believe to meet future stroke demands, the following levels of service are required in Tasmania:

- Royal Hobart Hospital – Level 6
- Launceston General Hospital – Level 5
- North West Regional Hospital – Level 5
- Mersey Community Hospital – Level 0
Future demand

Neurology

Neurological disorders are common. Neurological disorders account for one in five (5) emergency hospital admissions and one in eight (8) general practice consultations and account for a high proportion of disability in the general population. For a variety of reasons neurological services in Tasmania have lagged behind neurological services in Australia.

Future demands on inpatient and outpatient Neurological services in Tasmania are likely to increase. Neurodegenerative conditions such as Dementia and Parkinson’s Disease are driven by an aging population and rising rates of conditions such as Type 2 Diabetes Mellitus with neurological complications will increase demand for inpatient and outpatient neurology services. Tasmania has the highest prevalence of Parkinson’s Disease and Multiple Sclerosis in Australia. The rates of certain neurological conditions such as Epilepsy are likely to remain unchanged.

An increase in therapeutic complexity associated with newer treatment options can also be expected to drive demand for specialist neurology services. These will include both medical treatments and assessment of patients for surgical interventions. Similarly, the neurological side effects and consequences of new therapies used to treat non-neurological disorders (e.g. anti-neoplastic agents and antipsychotics drugs) will also increase demand for inpatient and outpatient neurology services.

It is recognised that patients with neurological conditions are most effectively dealt with by a specialist neurologist. Utilisation and resource demand for specialised services and expertise for specialised care requires Level 4-6 services.

Stroke

In Tasmania in 2014 there were 1,329 incident strokes (246 per 100,000) with 11,391 people (2,110 per 100,000) living with the effects of stroke. Of the incident strokes there were 292 deaths (54 per 100,000). These figures for stroke incidence per head of population, are second only to South Australia (256 per 100,000) and is higher than the national rate of 217 per 100,000.

It is predicted that by 2050 there will be a 2.5 percent increase in stroke incidence to 3419 with an increasing prevalence of stroke survivors to 25,438 and it important that we ‘future proof’ by improving outcome for stroke patients now and into the future irrespective of where they live. This increase in stroke numbers will also put significant pressure on acute rehabilitation, outpatient rehabilitation, community services and outpatient post-stroke medical services.

- These impacts can be mitigated by improving acute stroke services with development of appropriately staffed, resourced and utilised acute stroke units.
Service Requirements

The ‘service requirements’ as specified within the TRDF for Neurology are appropriate.

The ‘service requirements’ for Acute Stroke Services are based on the National Acute Services Framework and are appropriate. However, issues have been identified for both the RHH and NWRH in meeting Levels 6 and 5 respectively.

RHH

The RHH manages 350 stroke patients per year requiring a Level 6\(^1\) service but it does not meet the following Level 6 service requirements:

- There is no dedicated director of stroke services
- Statewide coordination of stroke services
- Network referral role
- Formal linkages with emergency services.

NWRH

To ensure safe and coordinated stroke care in the North-West region, a single admitting hospital for stroke patients is required. To be a designated Level 5 primary stroke centre, the service must receive over 100 stroke admissions each year\(^2\). Currently, neither the NWRH nor the MCH meet this target (160 stroke admissions each year between them).

Centralising the service in the North West would enable:

- over 100 stroke admissions at a single centre, building local expertise; and
- provide sufficient numbers to enable a geographical (dedicated) stroke unit to be established with appropriate staffing support.

This model of care is known to improve patient outcomes in the acute stroke phase and longer term, and is associated with improved survival, reduced complications, reduced hospital stay and return to independence.

Although once established stroke specialist services are highly cost effective, there is often an initial additional cost for establishing (or expanding) to dedicated stroke unit care. However, this is offset by greater health benefits by delivering best practice care and avoiding severe complications.

The MCH would be suitable as a site for outpatient follow up of stroke patients within a comprehensive chronic disease management framework. A multidisciplinary team is an important aspect of chronic disease management and post-stroke patients would ideally fit into such a service with resources shared across different chronic disease groups.

The current service provision at the NWRH does not meet the following service requirements for a Level 5 service. It is lacking:

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\(^1\) The LGH manages approximately 200 stroke patients per year requiring a Level 5 service.

\(^2\) National Stroke Foundation of Australia, National Acute Services Framework 2011
With the development of a single stroke centre, it will be important that assessment tools to identify patients at risk of potential acute strokes are developed and implemented in clinical practice settings to ensure patients are transported to the most appropriate emergency department.

**Recommendation 3**

Centralise stroke care for patients in the North West to a single admitting hospital.
- This needs to be appropriately staffed with medical, allied health and nursing staff with expertise in stroke.
- Ambulance bypass protocols need to be developed based on proximity to acute stroke services, not postcode.
- Develop a bypass protocol for stroke patients from MCH.
- Bypass rules should include the transfer of time-critical stroke patients to the LGH regardless of being within the North West catchment area if the LGH is closer than the NWRH.

It is recommended the stroke service should be at the NWRH.

*This would enable over 100 stroke admissions at a single centre and build expertise, designating it as a Level 5 service.*

**Recommendation 4**

That the NWRH be a designated Level 5 Acute Stroke Services with:
- A dedicated Acute Stroke Unit with clinicians who have stroke expertise
- Stroke protocols for acute care and rehabilitation
- Written agreements and formal networks with a Level 6 service
- Access to Tissue Plasminogen Activator (tPA) for hyper-acute stroke on-site or via telemedicine support (especially out of hours)
- Rapid access Transient Ischaemic Attack (TIA) clinic
- Standardised and early assessment for neuro-rehabilitation
- Access to early supported discharge
- Regular audit and stroke-specific quality improvement activities.

A By-pass Policy for hyper-acute treatments, including appropriate time standards, is also required. This would improve ease and timeliness of transport of patients to and from
referring hospitals while ensuring they have appropriate management and review of their condition. In particular, a lag during rehabilitation phase can impact on the intensity of care and patient outcomes while a patient is waiting to be transferred from one hospital to another.

By utilising telehealth services, tPA for hyper-acute stroke patients could be developed in the North-West. There are well established models for tele-thrombolysis in Victoria, New South Wales, South Australia and Queensland.

**Recommendation 5**
Utilise tele-neurology to allow higher services to provide clinical advice and education and training to lower services.
This would increase patient access to better services and improve local knowledge enabling these services in the future to be more independent.

**Workforce Requirements**

**South**

There are currently four (4) SAC³ accredited Neurologists in Tasmanian Health Organisation – South (THO-S) (Staff Specialists with 3.5 Full Time Equivalent (FTE) attributable with 0.5 FTE is seconded to the UTAS Menzies Research Centre). There are no neurologists working fulltime privately.

Three (3) of the RHH neurologists and a general physician are actively involved in stroke care and share inpatient and outpatient stroke services.

As a Level 6 service the RHH should have a recognised dedicated stroke director thus enabling improved state-wide co-ordination of stroke care and development and implementation of clinical pathways.

The RHH is SAC site accredited for an advanced trainee in Neurology (recurrently funded by THO-S) and an advanced general medical trainee in stroke (shared funding with the Commonwealth Government STP program). The RHH neurology advanced trainee is selected by a Victorian-Tasmanian selection panel and rotates between Victorian hospitals and the RHH over the three (3) years of the training program. The RHH stroke advanced trainee is selected by the RHH Department of General Medicine.

To maintain accreditation as an Advanced Training site current staffing levels at RHH will need to be maintained. Further, best practice for a 24 hour, 365 days per year on-call roster providing cover for and service delineation for Level 6 neurology services minimum of four (4) staff members is required.

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³ Specialist Advisory Committee in Neurology.
The RHH neurology service, while separate from RHH neurosurgical services, contributes significantly to pre- and post-operative neurosurgical care of patients at the RHH. Neurological and neurosurgical services at the RHH are interdependent with frequent sharing of patient care.

**Recommendation 6**

The CAG recommends that current Level 6 service level role delineation for both Neurology and Acute Stroke Services needs to be maintained at the RHH.

**Recommendation 7**

The RHH appoint a dedicated medical lead who is responsible for the state-wide consultation of stroke care; and development and implementation of clinical pathways.

**North and North-West**

The CAG recognises that the current neurology staffing configuration in the North and North-West is not sustainable in the long-term.

Further, that Neurology services are inadequate in the North and North-West, and a detailed analysis of service needs is required for Tasmania within the context of the move to a single THS. The CAG acknowledges that further work is required to develop a contemporary and sustainable model of Neurology care for Tasmania.

However, the outpatient demand for neurological outpatient services alone is enough to justify the appointment of additional neurologists.

**North**

Neurological services at the LGH are currently being provided by a single SAC accredited Neurologist (1.0 FTE) who is professionally isolated and solely responsible for inpatient and outpatient neurological services.

The current staffing configuration includes a general medicine trainee. The LGH does not provide 24 hour on-call neurologist cover, so does not meet the requirements to be a Level 5 service. If LGH was to be designated as a Level 5 Neurology service a minimum of three (3) neurologists would be required to provide a 24 hour, 365 days per year on-call service.

Stroke is currently covered by two general physicians with a third physician trained in acute and general medicine along with experience in running a stroke unit in the UK recruited and starting with scope of practice to include duty on the Stroke Unit in May 2015. The resident neurologist assists with leave coverage and consults on any complex neurology within the Stroke Unit.
Medical specialists practicing in Stroke Medicine, (so called “Stroke-ologists”) can be Neurologists, General Physicians, Geriatricians or Rehabilitation specialists with interest in stroke medicine and experience in Stroke care.

**Recommendation 8**

Further work be undertaken to explore and develop a contemporary and sustainable model of Neurology care in the North and North West of the State.

If the current staffing configuration in the North and North-West remain unchanged, the existing RHH on-call Neurology roster needs to be formally recognised as being available afterhours for state-wide public hospital advice in relation to complex cases (as is currently the situation, but on an informal basis).

**North-West**

There is currently no SAC accredited Neurologist in THO - North West region in salaried employment.

There is one (1) SAC accredited Neurologist visiting the NWRH on a monthly basis providing general neurology services which is funded by TAZREACH. In addition, there is one (1) neurologist providing private telehealth consultations on an ad hoc basis from an interstate location.

Neurological and stroke care is provided by general medical specialists with ad hoc advice provided by neurologists at the RHH. There is currently no Stroke-ologists in the North West. Patients requiring higher level care are usually transferred or referred to the RHH. Neurological and stroke care could be improved by better access to and support for telehealth services with links to the RHH.

This workforce profile has the capacity to deliver a Level 4 Neurology service at the NWRH but currently has no:

- Medical lead or general physician with an interest in stroke, which results in no driver for clinical change
- Dedicated stroke CNC
- Early supported discharge team
- Allied health with special expertise in stroke.

**Recommendation 9**

Consolidation of inpatient neurology and stroke resources at one location (NWRH) is recommended.
Support Service Requirements

The neurology ‘support service requirements’ as specified within the TRDF are generally appropriate.

The acute stroke ‘support service requirements’ as specified within the TRDF are appropriate.

Additional support requirements:

Neurology

Consideration should be given to using Nurse Practitioners and/or General Practitioners with an interest in neurology to increase capacity of clinical services in providing care in the North and North West. This would assist in bridging care gaps between tertiary and primary care of patients.

Stroke

Access to a neuro-interventionist is required for Level 6 Acute Stroke Services. A neuro-interventionist service is currently provided by a single physician currently based at the RHH. Neuro-intervention time critical stroke treatments (within 6 hours of onset of stroke) are significantly improving patients outcomes and the demand for this service will increase in the future.

Given staffing constraints, this service is not available 24-hours, 365 days per year and a formal arrangement with a Melbourne hospital to manage selected cases may be required, but logistics of transporting patients within the required time frame will be difficult.

Tasmanian Clinical Service Profile Considerations

Factors that need to be considered to ensure the successful implementation of the Tasmanian Clinical Service Profile (TCSP)

1. Clinical engagement

Clinicians need appropriate administrative support and ‘time release’ to enable the development of services and ongoing participation in clinical advisory groups.

2. Clinical Guidelines

Neurology

There are no clinical standards for neurological services in Tasmania. Existing performance indicators emphasise outpatient waiting times, and there are no standards reflecting the multidisciplinary nature of neurological care.
The Neurology and Stroke CAG recommends that generic clinical standards are required for general neurological services, but that clinical standards for common condition-specific services such as Multiple Sclerosis, Epilepsy, Motor Neuron Disease, Headache, and Parkinson’s Disease are also required. In selecting these groups the CAG wants to emphasise the value and importance of multidisciplinary care in chronic disease management.

Development of standards of care are essential to guide service development with the aim to improve the patient journey from the point of referral into the service and ensure that every patient with a disorder of the nervous system experiences a quality of care that gives confidence to the patient, clinician and carer.

The Neurology and Stroke CAG recognises the need to develop standards with reference to the six dimensions of healthcare quality in the Institute of Medicine publication, “Crossing the Quality Chasm”, 2001:

1. **Safe**: avoiding injuries to patients from the care that is intended to help them.
2. **Effective**: providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit.
3. **Patient-centred**: providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions.
4. **Timely**: reduces waits and sometimes harmful delays for both those who receive and those who give care.
5. **Efficient**: avoiding waste, including waste of equipment, supplies, ideas and energy. **Equitable**: providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographical location, and socioeconomic status.

**Stroke**

The *Australian Commission on Safety and Quality in Health Care* has developed draft Stroke Clinical Care Standards which are in the final stages prior to implementation.

**Recommendation 10**

That clinical standards are developed for Neurology Services to measure clinical care and are used to drive improvement and better patient outcomes.

That each stroke centre adopt the Stroke Clinical Care Standards to measure clinical care and drive improvement, resulting is better patient outcomes.

### 3. Data collection

It is agreed among the stroke community that collection of data enhances awareness of gaps in care, and increases hospital accountability and motivation, which when combined, drive efforts to improve the quality of stroke care.
To ensure proper integration of neurology and stroke services across regions/hospitals campuses there needs to be a standardised data collection across all stroke centres and neurology departments.

For stroke, tools currently available include the National Stroke Foundation’s Clinical and Rehabilitation Audit (currently completed at all centres) and the Australian Stroke Clinical Registry (AuSCR) (adopted at RHH).

The National Stroke Foundation is currently developing a single data entry tool (AuSDat) which will be available shortly.

**Recommendation 11**

Robust data systems be implemented and maintained to support clinical quality improvement and audit activities.

4. Integration of services across regions/hospital campuses

The Neurology and Stroke CAG provided the following responses on how best to ensure the proper integration of services across regions/hospital campuses:

- Acknowledgment and agreement from clinicians and health care professionals that the TCSP is the best solution for improved health outcomes and the sustainability of our health system.
- There needs to be written protocols for emergency, acute care and rehabilitation.
- Utilising telehealth services to:
  - Provide clinical consultations for patients to reduce travel requirements.
  - Improve and strengthen clinical networking between clinicians at the NWRH, MCH, LGH and RHH.
  - Facilitate case discussion, clinical education and quality assurance activities between clinicians at NWRH, MCH, LGH and RHH.
  - Support NWRH to transition to the Level 5 Acute Stroke service.
  - Develop clinical standards for neurological and stroke conditions to guide service development and delivery.
  - Ensure clear pathways for referral, protocols and that communication between individual acute services as well as the community is timely.

5. Supporting better patient access to services

The Neurology and Stroke CAG provided the following responses on how to support better patient access to services:
• Adequate transport and accommodation **MUST** be in place before any changes to service profiles are implemented.
• Rural and regional access to relevant allied health service needs to be enhanced.

6. **Sustainability of services**

The Neurology and Stroke CAG identified the following opportunities for clinical redesign and alternative models of care to better ensure sustainability of services:

• The current Level 6 Neurology and Stroke service at the RHH is to remain unchanged.
• Recognising that a sustainable neurology model for the North and North-West needs development, and that this will require additional resources.
• Develop an Acute Stroke Unit at the NWRH with appropriate staffing and ambulance protocols, ensuring that stroke patients from the North-West receive best standard of care resulting in reduced length of stay and improve independence.

7. **Private Services**

At present there no neurologists in Tasmania providing full time services in private. Visiting interstate neurologists do provide an ad hoc private service in Hobart and Launceston, but there is no collaborative relationship between the public services and these neurologists.

One of the limiting factors in attracting full time private specialists to rural and regional centres is professional isolation, and there is scope to improve recruitment prospects by providing casual VMP appointments in the public sector to specialists with high level skills.