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“Facilitating a Clinical Service Network” MEDICAL RETRIEVAL SERVICES

a submission by the Tasmanian Ambulance Clinical Council

Medical Retrieval Services

“Medical retrieval is often critical to a person’s chances of surviving a major illness or trauma.”

Hon Jillian Skinner, Minister for Health, Minister for Medical Research, New South Wales

“Trauma remains the leading cause of death and disability among young people around the world ... significant improvements in survival after trauma have been achieved. One reason for this has been in emergency medical services and life-saving transport of trauma patients to a center capable of providing definitive care.”

Galvagno et al, 2012, JAMA

“Well coordinated and appropriately utilised retrieval services are integral to the outcomes of time critical patients.”

Victorian Government Retrieval Services

This document has been submitted and endorsed by the Tasmanian Ambulance Clinical Council (TACC). The TACC is appointed by the Minister for Health under the *Ambulance Service Act 1982* and is the pre-eminent clinical advisory group providing advice to the Commissioner of Ambulance Services on ambulance services and pre-hospital emergency care with membership including all acute care medical colleges.

Members of the TACC are:

Chair: Dr Rod Franks MBBS FACEM

Membership: Dr Con Georgakas MBBS FACEM

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Vision

To facilitate a statewide Clinical Service Network by the establishment of a Medical Retrieval Service consisting of a dedicated Medical Retrieval Helicopter and increased Road Retrieval capability to complement the existing Fixed Wing aircraft, coordinated and facilitated by the Aero-Medical and Medical Retrieval Division (AMMRD) of Ambulance Tasmania.

Objectives

- To provide a timely clinical response for patients who need critical care treatment.
- Operating 24 hours a day with activation times consistent with industry best practice, crewed by a dedicated specialist response team comprising of a retrieval doctor and an Intensive Care Flight Paramedic.
- To facilitate transport of critically ill and injured patients to appropriate receiving facilities identified as part of Tasmania's Clinical Services Profile.
- To minimise health care costs associated with medical intervention, rehabilitation and community care through quicker response to certain categories of patients and a reduction on the release of duplicated specialist services.
- To support the *One Health System* reforms to centralise specialist medical services through the provision of access to these services for all Tasmanian residents into centres of excellence.
- To improve the quality of life, and chances of survival, for certain categories of patients through the implementation of Tasmania's Clinical Service Profile.

Executive Summary

The purpose of this document is to provide TACCs response to a number of Clinical Advisory Groups who have highlighted the need for having increased capacity to transport critically ill and trauma related patients, identified as part of Tasmania's Clinical Services Profile.

It is proposed that AT, under the banner of the Aero-Medical and Medical Retrieval Division, facilitate and manage a dedicated Medical Retrieval Service that provides Tasmanians with the assurance of emergency medical care, treatment and transportation from anywhere in the state to the most appropriate medical facility in line with the Tasmanian Clinical Services Profile.

It is proposed that this dedicated service provides:

- Medical retrieval advice 24 hours, 7 days a week via specialist clinical consultants to support local Doctors confronted by complex critical patients
- Emergency transport between hospitals for the critically ill and injured
- Rapid response for pre-hospital trauma care to deliver a medical officer to the critically unwell patient wherever they may be in Tasmania including the Bass Strait Islands
- Specialist escorted inter-hospital transfers
- Rapid clinical response for patients who need critical care and transport

- Support in medical emergencies and disaster preparedness and response anywhere in the State
- Retrieval capability for NeoNatal Emergency Transport Services/Paediatriac Emergency Transport Services/Peri-Natal Emergency Retrieval Service
- Single integrated service resting with Ambulance Tasmania (AT) at the Statewide Communications Centre.¹

Transport modality utilised by this dedicated service will include:

- Fixed Wing aircraft
- Road based ambulances
- Medical Retrieval Rotary Wing (helicopter)

Background

AT provides emergency ambulance care, rescue and transport services and a non-emergency patient transport service through a network of 54 urban, rural and remote ambulance locations across the state. AT also coordinates other providers of road ambulance services as well as fixed and rotary wing air services.

Tasmania has a wide dispersal of highly qualified paramedics throughout urban and rural areas across the state. There are also over 600 volunteer ambulance officers who either provide support and work alongside paramedics in 14 stations, or respond from 23 wholly volunteer stations in smaller rural and remote areas including King, Flinders and Bruny Islands.

AT provides three Community Emergency Response units to deliver first response services, staffed by trained volunteers, as well as operating a fleet of non-emergency stretcher vehicles staffed by Patient Transport Officers, providing specialised patient transport (including inter-facility transfers) that support the effective operations of the Tasmanian public hospital system.

Tasmania's Health Plan (2007)

In 2007 Tasmania's Health Plan (THP) was released. The THP consisted of a Primary Health Services Plan, which focused on health services delivered in a community setting, and a Clinical Services Plan, which focused on services delivered in the major public hospitals and by the Tasmanian Ambulance Service.

Through the implementation of the Clinical Services Plan, AT became responsible for:

- Functions previously undertaken by the Tasmanian Ambulance Service;
- The management of the state's three patient transport services; and
- The Tasmanian Medical Retrieval Unit;

As part of the implementation of Tasmania's Health Plan, and to ensure fair access to health services, the Government engaged specialist consultants to conduct two reviews into emergency and non-emergency patient transport: the *Review of Current Tasmanian Patient Transport Services* which was undertaken by Banskott Health Consulting (Banskott Review) and the *External Review of Tasmanian Medical Retrieval Services* was undertaken by Dr Peter Sharley OAM (Sharley Review).

¹ ORH (2010) ORH review of Aeromedical Retrieval Services 2010

Sharley found that a more rapidly responsive service was required and developed recommendations to bring the medical retrieval service up to a sustainable level consistent with national standards, including the employment and training of additional clinical staff. The Government accepted all of the recommendations from the Sharley Review, subject to transitional arrangements for Medical Retrieval Services to be completed between 2009 and 2012.²

Importantly, planned funding for a dedicated Medical Retrieval Helicopter Service of around \$12 million recurrent was withdrawn by the previous Government as a result of the global financial crisis despite strong clinical support.

Medical Retrieval Services

The Medical Retrieval concept is founded on the principal of rapid intervention of advanced clinical skills to manage complex medical emergencies, and efficient retrieval of those patients to a place of definitive care.

AT is responsible for the provision of aero-medical services in Tasmania. This vital service has always been provided using the high quality, expert skill of doctors and paramedics employed within the Department of Health and Human Services (the Agency).

Medical staff from the Launceston General Hospital (LGH) work with ATs flight paramedics to provide the statewide Medical Coordination and Retrieval Service, with long distance movements of critical patients (including movements interstate) usually involving fixed wing air movements, with the aircraft and pilots provided by the Royal Flying Doctor Service under contract to the Agency.

² Tasmanian Department of Health and Human Services, *Government Response and Action Plan – Review of Current Tasmanian Patient Transport Services and External Review of Tasmanian Medical Retrieval Services*, (November 2008), page 3.

Current Situation

“If we are to provide safe, effective and sustainable services in Tasmania, we need to shift the discussion from simply “better access to services”, and instead strive towards “access to better services”. This needs a recognition that we cannot afford – either financially or in terms of the safety and quality of services – to provide all services in all locations. We must determine the best profile of services across the state to ensure equal access to quality services for all Tasmanians, regardless of where they live.”³

Tasmania has long been grappling with escalating demand across its health sector due in part to the challenges presented by an ageing population, high prevalence of chronic disease such as obesity and diabetes, poor socio-economic profiles in some areas leading to limited access to preventative and primary care, and a high proportion of rural patients.

Future predictions for Tasmania’s population over the next 45 years showed a marked shift in the age structure with the proportion of younger people predicted to decline, while the proportion of older people (aged 65 years and over) is predicted to double⁴. Data available from the Council on the Ageing shows that by 2020, 26 per cent of Tasmanian residents will be over 65 years of age, and 38 000 of these will be living outside the major metropolitan areas.

The recognition of Tasmania’s demographics was acknowledged in the Government’s Green Paper which explained *“a properly designed and managed health system in a state with Tasmania’s size, population and resources should be seen as statewide in its service provision. This should be accompanied by a recognition that patients should be able to access the same level of high quality service, regardless of where they live.”⁵*

The Green Paper also recognised that Tasmania’s maintenance of separate health “regions” has led to some clinical caseloads being spread too thinly across too many facilities. This presents Tasmania (as with other regional areas of Australia) with the challenge of maintaining a full suite of safe, reliable, effective and sustainable clinical services in all centres despite real and significant concerns about appropriate volumes, resources and capacity.

In order to ensure that the services provided are safe and sustainable an appropriate multi-modular transport infrastructure is necessary.

On behalf of the Tasmanian Government, AT retrieval service currently delivers both fixed wing and road response capability retrieving and transporting patients both intra and interstate. During the 2013-2014 financial year over 1 000 patients were beneficiary to this important service.

Additionally, the Tasmanian Government currently provides aero-medical, search and rescue, policing and other emergency services through a contracted helicopter service. These services are provided through the Department of Police and Emergency Management (DPEM) and AT. The service involves the use of a single rescue helicopter based at Hobart Airport which is available on a stand-by basis.

The needs of a dedicated Medical Retrieval Helicopter are very different to a rescue helicopter.

³ Tasmanian Department of Health and Human Services, *Green Paper: Delivering Safe and Sustainable Clinical Services*, page 3.

⁴ Tasmania Medicare Local, *Primary Health Indicators Tasmania Report*, page 62.

⁵ Tasmanian Department of Health and Human Services, *Green Paper: Delivering Safe and Sustainable Clinical Services*, page 11.

Proposed Solution



The recently released Green Paper identifies that through the process of reforming Tasmania's health system, coordinated statewide strategies will enable patients to receive the right care, at the right time, in the right place, by the right person.

As the Green Paper notes “In a number of service areas, reforming our service delivery model to maintain fewer, larger units supported by an appropriate transport infrastructure can bring better results for patients and the community, through real improvements in safety and better value for money.”⁶

It is proposed that AT, under the banner of the Aero-Medical and Medical Retrieval Division, facilitate and manage a dedicated Medical Retrieval Service that provides Tasmanians with the assurance of emergency medical care, treatment and transportation from anywhere in the state to the most appropriate medical facility in line with the development of specialist service role delineation.

It is proposed that this dedicated service mirrors similar established services such as New South Wales, Victoria and South Australia which provides:

- Medical retrieval advice 24 hours, 7 days a week via specialist clinical consultants;
- Emergency transport between hospitals for the critically ill and injured;
- Rapid response for pre-hospital trauma care;
- Specialist escorted inter-hospital transfers;
- Rapid clinical response for patients who need critical care and transport;
- Support in medical emergencies and disaster preparedness and response anywhere in the State;
- Retrieval capability for NeoNatal Emergency Transport Services/Paediatric Emergency Transport Services/Peri-Natal Emergency Retrieval Service; and
- Single integrated service resting with AT in the Statewide Communications Centre.⁷

⁶ Tasmanian Department of Health and Human Services, Green Paper: Delivering Safe and Sustainable Clinical Services, page 15.

⁷ ORH (2010) ORH review of Aeromedical Retrieval Services 2010

Transport modality utilised by this dedicated service will include:

- Fixed Wing aircraft
- Road based ambulances
- Medical Retrieval Rotary Wing (helicopter)

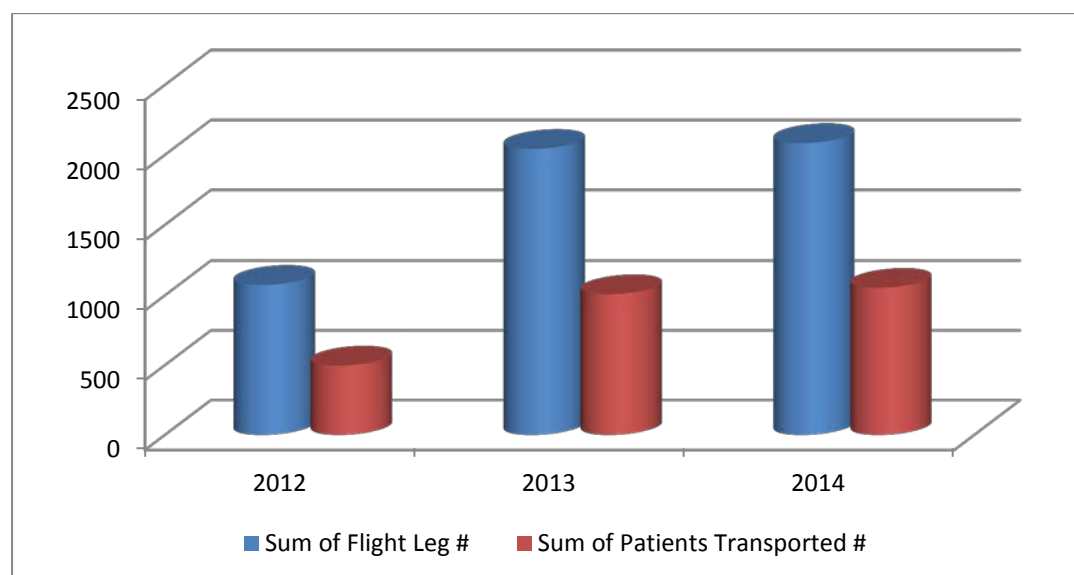
Fixed Wing

AT currently utilises a *Beechcraft B200C* Fixed Wing aircraft owned and operated in a contractual agreement by the Royal Flying Doctor Service (South Eastern Section).

Note: This organisation is a separate legal entity to RFDS Tasmania.

In 2014, AT completed over 2 300 flight legs transporting 1 054 patients to facilities (both intra and interstate) that were deemed to be able to provide more definitive care.

Table 1: AT AMMRD Fixed Wing Activity 2012-2014



Due to the geographical nature of Tasmania, the ability to service islands such as Flinders, King and Cape Barren by fixed wing is paramount and supports the government's acceptance that "every Tasmanian is entitled to, and should be able to access, the same standard of care regardless of where they live."⁸

⁸ Tasmanian Department of Health and Human Services, Green Paper: Delivering Safe and Sustainable Clinical Services, page 16.

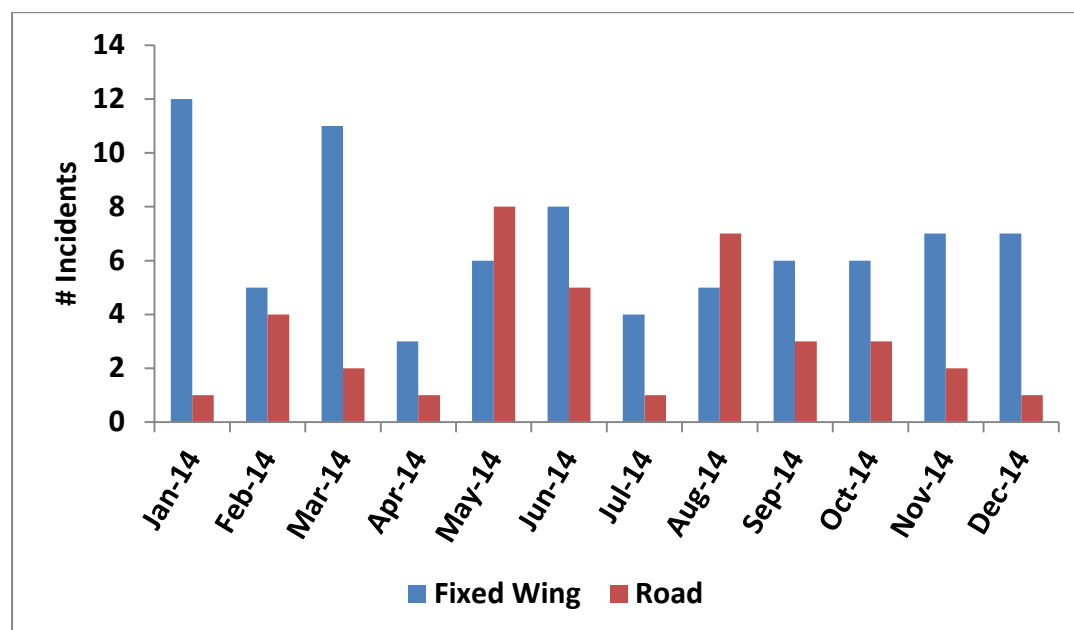
Specialist Escorted Retrieval

Utilising the services of a retrieval doctor, AT transports approximately 100 patients per year, of which a significant proportion are transported between Tasmanian hospitals by road. These patients are either medically ill or have suffered a significant traumatic event and require a higher level of definitive care.

As a minimum, a road retrieval crew includes an Intensive Care Flight Paramedic and a retrieval trained doctor provided as part of an agreement with the LGH, working in partnership with an increased scope of practice to ensure the best outcome for the patient.

Road retrievals are undertaken using either the standard road based ambulance configuration or at times the Special Operations Vehicles, with necessary medical equipment added as required to ensure the patient is provided the best possible care at all times during the transportation.

Table 2: Ambulance Tasmania Cases involving a Retrievalist



Medical Retrieval Helicopter (Rotary Wing)

To complement the existing Fixed Wing and Road Retrieval services, a rotary wing retrieval service would provide critically ill and injured people across Tasmania with high quality, safe, clinical care via timely inter-hospital transfers, on-scene responses and access to difficult terrain via winch capability.

In 2010, AT undertook an optimisation study of the states aero-medical needs. This study identified that the states needs could best be met with one (1) fixed wing aircraft based in Launceston and a single dedicated medical retrieval rotary wing aircraft based in Hobart. The study further showed that with a dedicated Medical Retrieval Helicopter (MRH) with Category A capability, up to 730 additional cases per year would benefit from this service.

Further to this in 2012, a US based retrospective cohort study of over 223 000 patients concluded that among patients with major trauma admitted to appropriate hospitals of care, transport by helicopter was associated with improved survival as compared to normal road transport.⁹

Utilising a dedicated Medical Retrieval Helicopter (MRH) will deliver highly trained medical retrieval specialists, in a timely manner to rural and remote community medical facilities and provide early advanced clinical intervention and retrieval to definitive care. This will particularly apply where there is currently limited or no access for a fixed wing aircraft but will also support fixed wing operations.

The government recently recognised the importance of rotary wing capability, and the ability to load and off-load critically ill patients with the announcement of a purpose built helipad at the refurbished Royal Hobart Hospital, which is consistent with a report released in New South Wales, stating that “Medical retrievals which involve multiple transfers between vehicles (modes of transport), increases movement and (subsequent) discomfort for patients.”¹⁰ Further to this, such transfers impact on available road ambulance resources unnecessarily and are associated with significant time delays to definitive care.

Summary

The recently released Green Paper ‘Delivering Safe and Sustainable Clinical Services’ states that through the implementation of coordinated statewide strategies and the development of appropriate transport infrastructure, better results for patients and the community can be achieved, and patients will receive the right care, at the right time, in the right place, by the right person.

An independent review of Aeromedical Retrieval Services in Tasmania identified that a fixed wing aircraft based in Launceston and a dedicated medical retrieval rotary wing service based in Hobart would best meet the states medical retrieval needs.

It is proffered that the Ambulance Service should be funded and fully resourced to manage a dedicated Medical Retrieval Service on behalf of the statewide health system to facilitate effective clinical services networking and ensure the long term viability of the role delineation framework.

⁹ S. M. Galvango, ‘Association between Helicopter vs Ground Emergency Medical Services for Adults with Major Trauma’, *Journal American Medical Association*, volume 307, number 15 (April 2012), page 1602

¹⁰ Guidelines for Hospital Helicopter landing sites for NSW, AviPro, Ambulance Service of New South Wales, revised Oct. 2014, page 2