Summary Report

Review of Aeromedical Helicopter Services in Queensland

December 2012

Prepared by
Chief Health Officer Branch
Department of Health
December 2012

EXECUTIVE SUMMARY

In February 2011 the Community Helicopter Providers (CHPs) met with the Director-General of Queensland Health to discuss the existing arrangements for the provision of emergency helicopter services. The Director-General approved that a comprehensive review of aeromedical helicopter services (the Review) be undertaken to inform the optimal model for Government to provide aeromedical helicopter services for the next 10 years. This paper provides a summary of the issues facing the emergency helicopter network (EHN) and options for resolution.

The existing EHN has grown from a combination of community and Government initiatives. In addition to providing its own emergency helicopter service, the Queensland Government has long recognised the vital role of providing emergency helicopter services to the community and has actively supported suitable community based organisations. However the size and activity of this network is at the point where some community based organisations are concerned that they are experiencing difficulty in raising the funds required to provide the necessary supplementation. Viability varies depending on the model of delivery including aircraft ownership, aircraft type and location of the service (see Section 7).

The current model of funding was developed after a number of adverse events relating to the operation of EHN aircraft. The network capability was subsequently enhanced by the implementation of several key safety requirements. These enable the EHN to provide a multirole platform for a comprehensive range of emergency helicopter services to the community: aeromedical patient transfers; search and rescue; counter disaster operations; and support to police and fire and rescue services.

While there are some policy and governance issues to be resolved, the most critical issue facing the network is the further development of sustainable funding models for community based services.

Recommendations

Building on the existing system, the recommendations for the future propose a balance between maintaining operator safety and financial viability for the next ten years. The recommendations are as follows:

- A single administrative authority is maintained to set state-based regulatory framework for emergency aeromedical helicopter and fixed wing services in Queensland. The regulatory framework will be coordinated with other levels of government to fix minimum standards and monitoring. This may be located within Queensland Health.
- A combination of service providers (community, commercial and Government owned) has robust agreements with this area to maintain the minimum standards and safety. In order to achieve robust agreements is it recommended that:
    - the commercial contract in Torres Strait continue in accordance with Queensland Government Procurement Policy;
    - the CHPs with commercial wet lease arrangements that need renewal will progress to tender. Information from this tender will inform the best price arrangements for the network;
    - CHPs provide financial modelling that demonstrates the sustainability of the business model over the term of the agreement and their ability to supplement government funding which incorporates;
        - Efficient price; (Option 4, p 21)
        - Proportion of the efficient price to be funded by Government to be targeted at a 70:30 split;

- Funding options of the capital replacement component; and
- Debt funding burden over the agreement period.

- contracts be re-negotiated to remove the limited number of base hours as the basis of funding and that services are funded on a fixed retainer with all hours purchased at an agreed rate based on an efficient price.;
- a capital component to funding CHPs be developed as part of the fixed retainer;
- the QH administrative area should promote efficiency in emergency helicopter choice and configuration strategies including the provision of shared backup helicopter access; and
- a Memorandum of Understanding be developed with the Department of Community Safety regarding the purchase of services from the Government owned helicopter provider .
- The approved funding model and reporting arrangements will promote further sustainability, beginning with an agreement on service agreement variations to apply from 1 July 2013.

1. Introduction

A series of events occurred in 2010 that resulted in the establishment of the project to review the provision of aeromedical helicopter services in Queensland. These events were:

- Funding and administrative responsibilities for Community Helicopter Providers (CHPs) and the contracted emergency helicopter service in Torres Strait were transferred from the Department of Community Safety (DCS) to Queensland Health (QH), effective 1 July 2010.
- At that time, funding deeds with CHPs expired on dates between April and July 2012 and a 12 month notice of extension of the services was needed for the services to continue. The Funding Deeds were offered to be extended for 5 years as per the agreement arrangement; however the CHPs only accepted an extension of 12 months until the 30 June 2013 at the same terms and conditions.
- The contracted services, with Australian Helicopters Pty Ltd for the provision of EHN services in the Torres Strait, was also due to expire in December 2013.
- Representatives of the CHPs met with the Director-General, Queensland Health on 14 February 2011. The CHPs indicated that they believed that their base funding was not adequate for them to remain viable even with annual indexation. They also indicated that the one twelfth payments over 12 months was not sustainable given that engine hours were greater than that covered by the funding deeds. Funding for hours above that provided for in the funding deeds (known as overfly hours) was previously paid by DCS after the 600 hours were exceeded.
- In 2010, QH allocated internal funds to pay for overfly hours and commenced payment of overfly hours quarterly and then monthly to address the payment and cash flow issues raised by the CHPs.
- The CHPs maintained that the capability of the EHN was inconsistent since EMQHR enhanced safety capability on their aircraft (eg: providing night vision goggles). (
- The Queensland Floods Commission of Inquiry raised questions relating to the tasking of the EHN.

The QH Director-General established the Review of the Aeromedical Helicopter Services in April 2011. A significant delay was experienced in this review when the CHPs commenced their own funding and service model review with an independent aviation consultant. The CHP report was provided to QH in July 2012 and the analysis of issues is summarised in this paper.

2. Terms of Reference of the Review

On 14 April 2011, the Director-General, Queensland Health approved that a review be undertaken of aeromedical helicopter services in Queensland to:

- examine options for the sustainability of emergency helicopter services;
- examine current arrangements with emergency helicopter service providers;
- examine service delivery and aircraft capability;
- examine the administrative structure of Queensland's Emergency Helicopter Network;
- analyse aeromedical helicopter services in comparative jurisdictions; and
- consider other relevant matters that should be included in the Review, in consultation with key stakeholders.

The Review outsourced two elements to approved parties for professional advice:

1. A review of the current funding models for the delivery of aeromedical helicopter services. Queensland Treasury Corporation (QTC) was engaged to:
    a. develop a sustainable funding model, which will calculate the hourly rates for emergency helicopter services based on the cost of providing the service; and
    b. explore the viability of various EHN models. This task encompassed assessment of ownership and funding options for the EHN model to determine how the EHN can be most effectively funded to provide the required service outcomes.
2. A review of current aircraft capability standards in the provision of aeromedical helicopter services. The independent aviation advice from Nova Systems (Nova), a Queensland Government panel member for the provision of expert aviation advice regarding:
    a. the appropriateness for the future of the Government's current minimum standards in the funding deeds including specification of aircraft and configuration, personnel, service model and night operations;
    b. identification of any other impending technical modifications (not mentioned in (c) below) which have been implemented elsewhere for emergency helicopter services and may be required/mandated by CASA in the next ten years;
    c. the likelihood of Terrain Awareness and Warning System (TAWS), NVG and Auto Hover being mandated by CASA for installation in emergency helicopters during the next 10 years, the safety and operational capability risks and benefits of each, the rationale for including each in the existing minimum capability requirements for emergency helicopters and the feasibility of retrofitting each identified capability into current EHN aircraft;
    d. the regulatory requirements for initial training and annual training in utilising any impending regulation modifications and the expected additional costs for this training;
    e. a downtime formula for maintenance into the future that is practical for 24/7 availability based on a coordinated service model; and
    f. an appropriate operational crew model that includes duties and responsibilities and minimum capabilities of the recommended crew.

A project management framework was established to support and guide the project deliverables. The Project Executive Advisory Board (PEAB) was established to provide leadership and guidance for the Review.

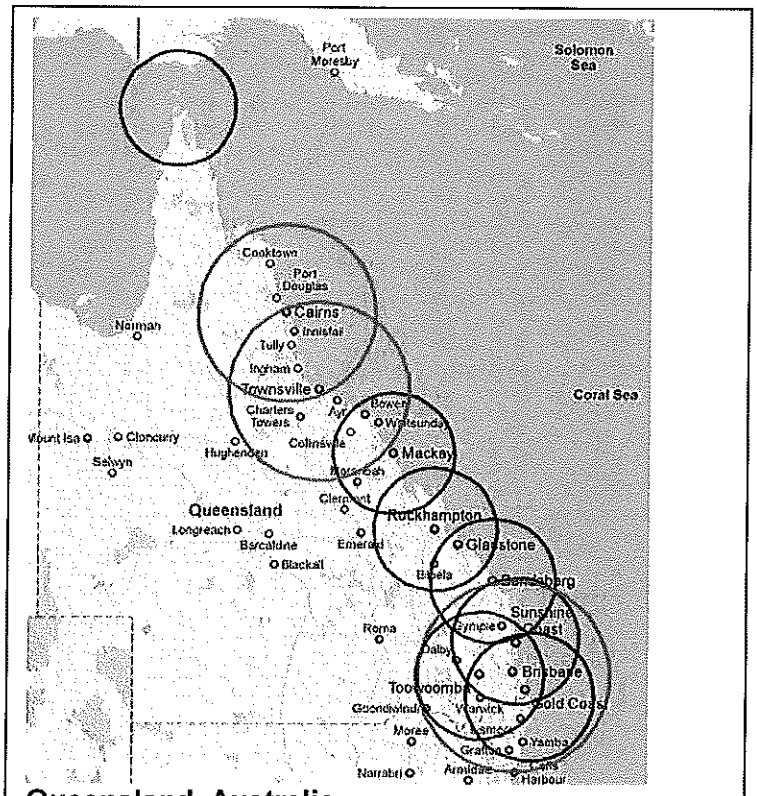
The PEAB was established with representation from:

- Department of the Premier and Cabinet (DPC);
- Queensland Treasury (QT);
- Department of Community Safety (DCS) which includes:
  - Emergency Management Queensland (EMQ);
  - Queensland Ambulance Service (QAS);
  - Queensland Fire and Rescue Service (QFRS);
- Queensland Police Service (QPS); and
- Queensland Health specifically:
  - Retrieval Services Queensland (RSQ);
  - Health Coordination Services Unit (HCSU).

3. Background

3.1 Emergency Helicopter Network

The provision of emergency helicopter services in Queensland has emerged since the late 1970s and early 1980s. It developed as a combination of Community Helicopter Providers, a contracted provider and Government own and operated services. This combination of service providers has formed the Emergency Helicopter Network (EHN), a group of helicopter services that provide 24 hour a day, 7 days a week (24/7) multirole helicopter emergency response services.



Queensland, Australia
Land Area: 1,730,648 km^2
Population: 4,513,850 (2.6 people per km^2)
Helicopter coverage: Approx 97% of population

◯ - 200km radius

◯ - 300km radius

The figure above provides a snapshot of helicopter base locations with a 300km radius for AW 139 helicopters and a 200km radius for all other helicopter types.

The EHN aircraft have evolved from a mix of single engine helicopters operating under Visual Flight Rules (VFR) and twin engine helicopters that are capable of operating under Instrument Flight Rules (IFR), to a minimum requirement of twin engine, IFR capable helicopters, as the primary aircraft at each base. Single engine, VFR helicopters are permitted as backup aircraft, but are restricted to day-time only operations.

The Air Operating Certificates (AOC) ownership varies across the network. While most have their own AOC, Capricorn Helicopter Rescue Service (CHRS) and Central Queensland Rescue (CQ Rescue) have wet lease agreements with helicopter companies that hold the AOC. The existing EHN fleet is as follows.

PROVIDER	AIRCRAFT	CAPABILITY	BASE
EMQ HELICOPTER RESCUE (EMQHR)	**AgustaWestland AW139**	Twin engine IFR	Interchangeable between Cairns, Townsville and Brisbane.
	Bell 412 EP	Twin engine IFR	Interchangeable between Cairns, Townsville and Brisbane.
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	Bell 412 EP	Twin engine IFR	Interchangeable between Cairns, Townsville and Brisbane.
CAREFLIGHT (QLD) (CFQ)	**Bell 412 HP**	Twin engine IFR	Interchangeable between Gold Coast and Toowoomba.
	Eurocopter AS 350 BA	Single engine VFR	Interchangeable between Gold Coast and Toowoomba.
	Bell 230	Twin engine IFR	Interchangeable between Gold Coast and Toowoomba.
	Bell 412 HP	Twin engine IFR	Interchangeable between Gold Coast and Toowoomba.
SUNSHINE COAST HELICOPTER RESCUE SERVICE (SCHRS)	**Bell 206 L1**	Single engine VFR	Interchangeable between Sunshine Coast and Bundaberg.
	BK117 B-2	Twin engine IFR	Interchangeable between Sunshine Coast and Bundaberg.
	BK117 C-1	Twin engine IFR	Interchangeable between Sunshine Coast and Bundaberg.
CAPRICORN HELICOPTER RESCUE SERVICE (CHRS) Wet Lease Provider – Jayrow Pty Ltd	**Sikorsky S76A**	Twin engine IFR	Rockhampton.
CENTRAL QUEENSLAND HELICOPTER RESCUE SERVICE (CQ RESCUE) Wet Lease Provider CHC Helicopters	**Bell 412 Classic**	Twin engine IFR	Mackay.
	Bell 412 Classic	Twin engine IFR	Mackay.
AUSTRALIAN HELICOPTERS PTY LTD	**Bell 412 Classic**	Twin engine IFR	Horn Island.

The helicopters within the EHN are required to undertake the following tasks:

- aeromedical operations (including aeromedical primary responses and interfacility transport);
- search and rescue operations (SAR);
- counter disaster operations;
- urgent Queensland Fire and Rescue Service (QFRS) responsibilities (fire spotting and suppression, transportation of QFRS specialised equipment and personnel);
- non-urgent QFRS responsibilities which may involve cost recovery;

- assist with urgent QPS responsibilities. Non-urgent QPS responsibilities may involve cost recovery; and
- training of tasking agency staff involved in helicopter operations.

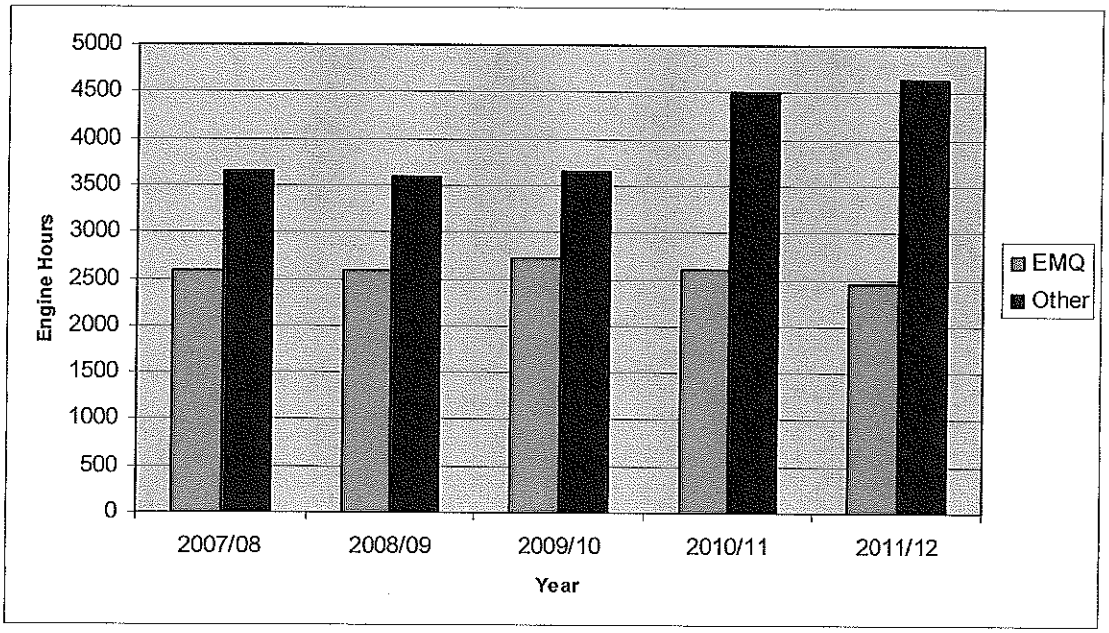
The helicopters are required to be capable of carrying two stretcher patients with stretcher bridge and two medical attendants, a neonatal intensive care cot and full aeromedical configuration including plumbed oxygen, high intensity lighting, inlets/outlets for suction equipment and intravenous (IV) equipment, IV hooks or tracks and a fluid containment floor. The aircraft can be readily reconfigured from the standard aeromedical configuration to perform other emergency tasks and are required to be outfitted with appropriate communication systems, winch and a high powered search light. Most of the helicopter service providers offer additional capability such as water bombing, cargo hook, and Forward Looking Infra Red thermal imaging technology.

3.2 Government Provision of Services

A significant proportion of the EHN activity is undertaken by EMQHR.

Figure 1 below illustrates a high level summary of the engine hours provided by EMQHR compared to the remainder of the EHN service providers. Total activity undertaken by the EHN in 2011-12 was 7083 engine hours. In 2011-12 there was a reduction in EMQ hours as a percentage of total EHN activity when compared to activity in the previous three years: with EMQHR providing 35% of the total 2011-12 EHN activity; 37% in 2010-11; 43% in 2009-10; 42% in 2008-09 and 41% in 2007-08.

Figure 1 - EMQ and Other EHN Comparison Hours by Year



3.3 Other providers

Over the last few years, other aeromedical helicopter service providers have emerged. Operators such as the North Queensland (NQ) Rescue based in Mt Isa and the Surat Basin Rotary Wing Aeromedical Evacuation Service (SBRWAMES) based in Roma. NQ Rescue provides services on a fee for service arrangement. The oil and gas companies' consortium contract for SBRWAMES provides 100 hours per annum for aeromedical support, free of charge. The oil and gas companies are about to commence another service based in Gladstone. These services are not part of the EHN (refer Section 4.4).

3.4 Tasking and Coordination of the EHN

Tasking and coordination of the EHN is undertaken by the Queensland Emergency Medical System Coordination Centre (QCC) which is a joint arrangement between QH and Queensland Ambulance Services (QAS). QH provides clinical leadership and coordination through Retrieval Services Queensland (RSQ), part of the Health Coordination Services Unit (HCSU), Chief Health Officer Branch (CHOB). QAS provides transport logistics. The establishment of the QCC was a key system improvement recommended by the Coroner and reviews that followed significant events. The Coroner and reviews undertaken identified the need for a consistent and standardised process of coordination functions that would assist in improving system wide safety.

The role of QCC as further strengthened by the recommendations from the Queensland Floods Commission of Inquiry to implement single point tasking where *'an interim structure needs to be formally in place under which one organisation is informed of the status, location, capabilities and allocated task of each helicopter in the Emergency Helicopter Network at any given time. The deployment of helicopters should be made through this organisation.'* On 1 November 2011, the single point tasking protocol was implemented.

Aeromedical transport (fixed wing and helicopter) and road ambulance transport provides the ability to move patients (pre-hospital care or transfer patients between facilities) to access services across the State. The tasking of aeromedical transport is dependent on multiple factors including:

- the need for rapid response to patients (patient priority);
- clinical needs of the patient (patient severity);
- access difficulties to patients;
- remoteness or distance from definitive care;
- availability of local definitive care; and
- the need to retain a primary response capability in the community.

In summary the accountability matrix for aeromedical helicopter services is as follows:

Function	Accountable Area
Management of EMQHR	Emergency Management Queensland (EMQ), DCS
Management of Funding Deeds with CHPs, payment of all Government usage	CHOB, QH
Management of contract with AHPL	CHOB, QH
Clinical coordination of all aeromedical requirements primary and IFTs	Combination of QH staff, Contract managed by CHOB, QH
Tasking of aircraft within QCC	Emergency Medical Dispatcher, QAS, DCS
Clinical crewing of helicopters	• QH managed contract for Medical Officers • Paramedics provided by QAS
Safety Audits	Contract Managed by CHOB, QH

The EHN is underpinned by Tasking Agency Standard Operating Procedures (SOPs) and the Queensland Emergency Helicopter Network Tasking Guidelines. These guidelines have been reviewed following the recommendations from the Queensland Floods Commission of Inquiry regarding the need for single point tasking for the EHN.

4 Underpinning Policy

4.1. Minimum Standards: Safety

As a result of two fatal accidents involving CHP helicopters in 2000[1] and 2003[2], a Coronial Inquiry into each incident was undertaken. There were two reviews coordinated by Queensland Health with the aims of improving the overall safety and efficiency of aeromedical retrievals:

- Independent Review of Queensland's Aeromedical and Air Rescue Helicopter Network (Cornish Review dated 30 April 2004); and
- Independent Review of the Aeromedical Retrieval System in Queensland (Wilson Review dated 24 August 2004).

The Queensland Government funding deeds with the CHPs and contracted provider were negotiated in 2007 and were significantly influenced by both the recommendations of the Coroner and these reviews.

A summary of key safety initiatives included in the current agreements is as follows:

- primary aircraft are to be a twin-engine helicopter, capable of operating under Instrument Flight Rules (IFR);
- night operations are to be conducted by IFR capable helicopters. Helicopters operating under Visual Flight Rules (VFR) are not to be used for night operations;
- strengthened safety audit regime;
- consistent standards across the Emergency Helicopter Network;
- consistent requirements for pilot and aircrew qualifications and experience;
- consistent requirements for reporting of incidents and safety issues; and
- requirement for reporting of helicopter availability and down time for maintenance;

Generally, members of the CHPs expect that all helicopters will have the same capacity and capability. The CHPs and the contracted provider have the minimum service standards defined as part of the funding deeds and the contract.

In April 2004, funding was approved to upgrade the Government owned and operated helicopter fleet. In April 2006, a contract was subsequently executed with Agusta S.p.A for the supply and commissioning of the three AgustaWestland AW 139 helicopters that are currently in service. The AW 139 helicopters offer a greater range, increased payload, improved fuel economy and faster transit times than their predecessors and were also equipped with upgraded capability such as air conditioning, Night Vision Goggles (NVG), four (4) axis autopilot and Traffic Collision Avoidance Systems (TCAS).

The remainder of the EHN have been requesting funding to implement upgrades such as NVG as part of minimum standards across the network. EMQHR did not seek funding to support improvements to the whole network when they implemented the AW139 aircraft.

There is currently no single area that assesses the requirements for aeromedical capability and capacity and funding for the multirole services provided by the EHNalthough the Commonwealth Civil Aviation Safety Authority sets the applicable aircraft standards Australia-wide.

Aircrew and clinical crew composition and competency requirements for personnel engaged in emergency helicopter services will need to be revisited once aircraft capability and capacity requirements are fully specified and monitored.

[1] ATSB. 2000, Aviation Safety Investigation 200003130
[2] ATSB. 2003, Aviation Safety Investigation 200304282

4.2. Community presence

CHPs are reported to have significant community support within their local community with their board members being well known local community leaders. The community ownership of the emergency helicopter service has been reflected in community fund raising and sponsorship to support the operation of the local service.

Government funding of the service does not cover all of the reported costs. The funding does not guarantee CHP viability but the community expectation is that the service will be supported and tasking agencies expect that there will be a safe and reliable service available for emergency response.

4.3. Nova Findings: Current Minimum Standards

Nova has identified that the current minimum service requirements detailed in the funding deeds could be improved by including more detail around mission profiles, operating environment, range and payload performance requirements. This would assist in determining the most appropriate helicopter type for service provision within the EHN. The Nova Report also identified that proposed changes to Civil Aviation Safety Regulation (CASR) Part 138 – Aerial work operations – Rotorcraft may impact on any future arrangements with the EHN.

The funding deed for current EHN service providers stipulates the requirement for a twin engine IFR capable helicopter that is capable of performing the various roles required of the EHN. The analysis by QTC has shown that while helicopter providers meet these requirements the cost associated with the provision of certain aircraft varies greatly.

Down Time Model

Nova noted that the down time model in current funding deeds appears to be disproportionate when compared with other jurisdictions and a revised approach is appropriate. The amount of down time and the provision of a back up aircraft have significant impacts on overall costs. Currently, the different EHN providers do not share backup aircraft. If aircraft are not available, often other providers cover the service provision from their home base or by relocating aircraft.

Ratios for maintenance hours to flight hours vary from 2.4 through to 4.5 for older aircraft. That is, for every hour of flight (flight hours) the aircraft requires between 2.4 and 4.5 hours of maintenance. The technical complexity of helicopters and the requirements for maintaining safe operations and meeting strict CASA regulations for the maintenance of helicopters are critical to the EHN. When combined with increasing engine hours, there is a point at which both scheduled and unscheduled maintenance affects aircraft availability.

Anecdotal evidence suggests the reasonable upper limit for each helicopter operating within the EHN is approximately 1200 engine hours per annum. This figure includes the maintenance requirements of the aircraft and impacts on operational aspects such as escalating crew fatigue.

Since mid 2011, EMQHR has had ongoing issues with at times, decreased services provided from some bases. Other EHN providers are then tasked by QCC to provide these services, resulting in increased costs as the other providers need to be paid for overfly hours. No penalties are applied if EMQHR can not provide EHN services.

4.4. Regulation of EHN Service Providers for Aeromedical Services

There are currently no formal processes to gain accreditation as a service provider and to join the EHN. There is no process for regulation of helicopter providers who want to provide aeromedical services (essentially an air ambulance). The services are required to be conducted under an appropriate AOC and in accordance with the terms of agreements that service providers have with the State Government, or in the case of EMQHR, its Operations Manual.

Since the responsibility for the EHN was transferred from the Department of Community Safety (DCS) to Queensland Health on 1 July 2010, there has been discussion with DCS to formalise an agreement to utilise the services of EMQHR for Interfacility Transports (IFTs).

In recent times a restricted emergency helicopter service has been established in Mount Isa, while a consortium of Coal Seam Gas industry companies have established their own emergency helicopter service operating out of Roma. A contract or service agreement with QH has been used to ensure that these services meet the required minimum service aeromedical fitout requirements. Both of these services operate outside the EHN but are centrally coordinated through the QCC if their services are required.

They remain outside of the EHN since they are not funded by government to provide all of services provided by EHN providers. NQ Rescue provides aeromedical services on a fee-for-service basis while the service based in Roma provides 100 engine hours free to government per annum for aeromedical services. The QFRS and QPS have alternate arrangements across the state for the purchase of services that they require outside of the EHN. The existing EHN services approximately 97% of the Queensland population from 10 strategically located bases.

5 Minimum Purchase – availability

Under the initial 1996 service agreements, the CHPs received a minimum annual Government grant of $300,000. The minimum annual Government grant was increased to $600,000, effective 1 July 1997 and then further increased to $852,000 (excluding GST), effective 1 July 2002. The SCHRS received an additional grant payment of $450,000 (ex GST) for the Bundaberg service from 1 July 2002.

The annual grants to the CHPs have grown steadily through the compounding effect of indexation. The funding was increased substantially under the terms of the 2007 agreements (now known as funding deeds) whereby the CHPs each received an additional one-off payment of $1 million per base to assist fund the Government's requirement that they transition to twin engine, IFR capable helicopters (i.e. SCHRS received an additional $2 million to assist its bases at the Sunshine Coast and Bundaberg).

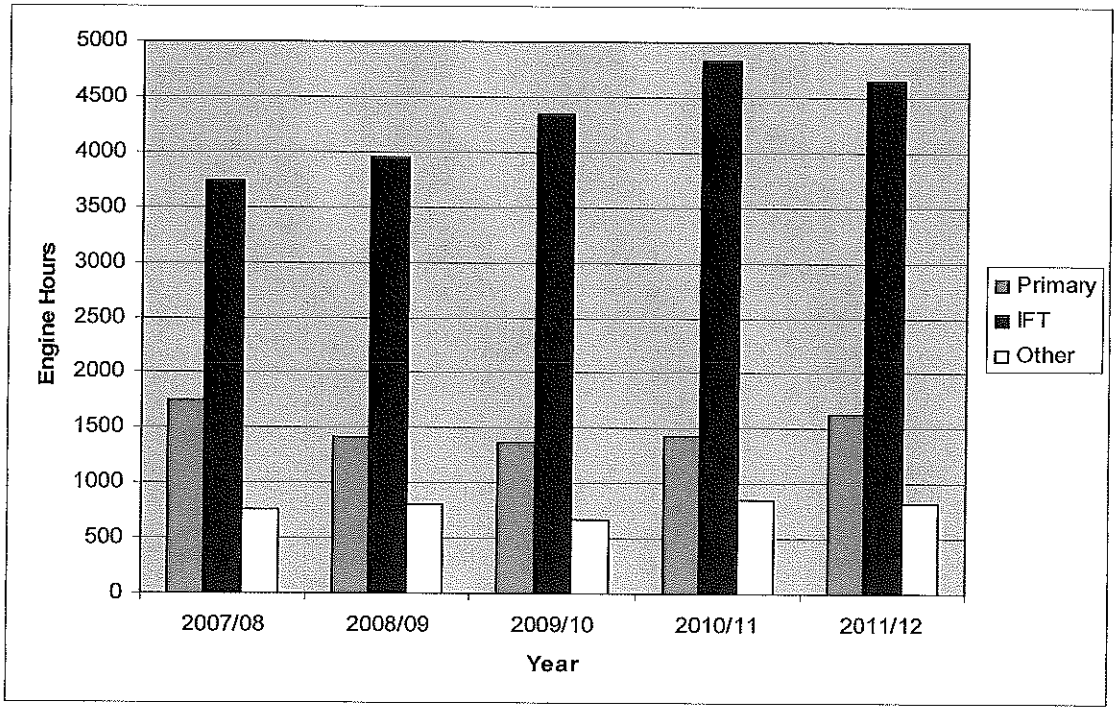
In 2011-12, the CHPs each received a total grant of $2.341 million for primary bases. SCHRS received an additional $1.797 million for its Bundaberg base, while CareFlight Queensland received $1.708 million for the Toowoomba base in 2011-12. Each financial year, indexation is applied to these grants on advice and funding provided by Queensland Treasury and Trade.

The CHPs are funded to provide 600 engine hours of activity at their main bases of Mackay, Rockhampton, Sunshine Coast and Gold Coast and 450 engine hours from satellite bases in Bundaberg and Toowoomba. The base hours, the backup aircraft requirements and the base funding were provided to ensure 24/7 availability. However, all of the CHPs except for CHRS exceeded funding deed hours in 2011-12 and required additional payment for hours above the base hours (overfly hours).

While aircraft are funded for multitasking, the majority of activity is aeromedical with interfacility and primary response (triple zero) consisting of 88% of all activity. Further detail of the tasking activity is below.

	2007/08	2008/09	2009/10	2010/11	2011/12
IFT	60%	64%	68%	68%	66%
Primary	28%	23%	21%	20%	23%
Other	12%	13%	11%	12%	11%

Figure 2 - EHN Service Delivery Engine Hours 2007/08 – 2011/12



As detailed above, most of the EHN activity is aeromedical activity (primary and interfacility) and the anecdotal feedback from a number of the EHN service provider senior pilots is that activity levels are approaching maximum capacity and could result in aircraft downtime.

6 Queensland Treasury Corporation (QTC) Review of CHP Funding Arrangements

It was difficult for QTC to undertake a comparable and comprehensive analysis of the service providers funding arrangements based on the initial data provided by the CHPs. The QTC analysis identified that the operational cost by EHN service provider base ranged from $3820 per hour to $6829 per hour. QTC recommended an adjusted cost benchmark approach to determine the funding required by each service provider which would make an allowance for the different operating circumstance of the service providers. QTC advised that there was a need to review the actual costs of the service providers to determine appropriate adjustments to the cost benchmark.

6.1 CHP Current State Independent Review Summary

The CHPs current state service and funding model identified the need to increase levels of Government funding to: replace aircraft, meet the anticipated new CASA regulatory requirements and meet operating costs. The CHPs advise that they are not able to meet the increased costs via fund raising or sponsorship.

The CHPs recommended that Government defines the exact requirements for helicopter capacity and performance. They advised that efficiencies could be gained by increasing the length of time of the funding deeds to a period of 10 years which would provide for better finance terms for CHPs aircraft and therefore efficiencies for Government. They also advise that efficiencies could be gained through the selection of a single type of helicopter although this would require the CHPs to work together rather than as the separate entities.

7 Funding

The CHP service delivery agreements do not cover all of the costs of providing a service. Although their base funding is indexed annually, the CHPs receive funding from corporate sponsorship, community support and / or commercial activity. The QTC analysis indicated that the ratio of Government funding to self funding is 70 to 30. Of the providers CQ Rescue is the only service that maintains an annual surplus while CHRS, SCHRS and CFQ all reported losses.

CHPs have various models for raising funds to support the funding deeds. CFQ reports that they support the Government service with their commercial activity and fund raising. CQ Rescue reports that they receive local sponsorship especially from the mining companies.

CHPs were paid $3,500 per engine hour for service delivery in excess of the funding deed 600 hours (overfly hours). This rate is a negotiated rate that does not attract indexation. SCHRS has indicated that this is not sufficient to meet their operating costs. In 2011-12 approximately $3.14 million was required to pay for overfly hours across the EHN.

The CHP Review extract below shows that SCHRS has the lowest average cost per engine hour for their individual operation. However the debt holdings of the CHPs are not identified in this expenditure report. A more detailed assessment of each business will need to be undertaken and updated on a regular basis if the sustained viability of CHP businesses is to be protected.

CHP Network Current Financial Position

Current Model Income Statement	CF QLD	SCHRS	Capricorn	CQ Rescue	Consolidated Group
Revenue					
State Government Grants & Overfly	$4,040,781	$5,533,787	$2,089,982	$3,114,976	$14,779,526
Other Grants	$0	$0	$0	$66,311	$66,311
Business Donations	$0	$471,652	$613,196	$203,996	$1,288,844
Donations/Fundraising/ Sponsorship	$4,427,302	$893,915	$461,388	$2,288,932	$8,071,537
Interest Received	$0	$26,933	$187,243	$344,348	$558,524
Other Income	$606,685	$681,106	$89,883	$1,439,854	$2,817,528
Total Income	**$9,074,768**	**$7,607,393**	**$3,441,692**	**$7,458,417**	**$27,582,270**
Expenses					
Administration overhead	$1,488,674	$404,770	$84,999	$213,079	$2,191,523
Employment expenses	$3,025,106	$3,022,916	$164,565	$529,267	$6,741,854
Marketing expenses	$0	$384,766	$113,875	$84,628	$583,269
Community Direct Mail	$0	$0	$0	$45,674	$45,674
Sundry expense	$0	$0	$2,328	-$6,465	-$4,137
Crewmen	$0	$0	$0	$411,798	$411,798
Entertainment	$0	$0	$1,185	$591	$1,776
Helicopter Operations (incls. Overfly hours)	$4,227,939	$3,630,313	$3,143,748	$3,944,626	$14,946,626
Depreciation	$868,950	$550,000	$43,461	$188,828	$1,651,239
Travel	$197,392	$0	$14,469	$15,681	$227,542
General business	$0	$0	$0	$209	$209
Consultancy	$0	$16,221	$19,804	$13,009	$49,034
Holding Accounts	$0	$0	$0	$983	$983
Other expenses	$2,292,611	$0	$0	$412	$2,293,023
Less CareFlight Self Funded	**$1,400,000**	**$0**	**$0**	**$0**	**$1,400,000**

Doctor costs*					
Total Expenses	**$10,070,672**	**$8,008,986**	**$3,588,434**	**$5,442,320**	**$27,740,412**
Net surplus / (Deficit)	**($1,625,905)**	**($401,593)**	**($146,742)**	**$2,016,097**	**($158,143)**
Hours flown	**1400**	**1625**	**600**	**790**	**4415**
Average Cost Per Engine Hour	**$7,193.34**	**$4,928.61**	**$5,980.72**	**$6,889.01**	**$6,283.22**

** This table excludes interest costs associated with debt.*

** CFQ self fund doctors at their Gold Coast and Toowoomba bases and these costs are excluded to compare similar costs across the CHPs. Queensland Health funds doctors at all other CHP bases.*

The CHPs operating costs vary due to size of aircraft and the ownership of the aircraft. The current funding model does not provide funds for depreciation or capital replacement. It should be noted that the deficits reflected in this analysis are not duplicated in end-of-financial year audited reports.

Cost comparisons between the CHPs, the contracted provider in Torres Strait and EMQHR is not possible as the ownership of the aircraft and infrastructure overheads are not similar. The EMQHR review of costs is based on full ownership of the aircraft. SCHRS and CFQ have purchased their own aircraft and SCHRS has bank loans. CHRS and CQ Rescue have agreements with helicopter companies to supply their aircraft and therefore they do not have loans or overheads associated with aircraft ownership. It is therefore appropriate to compare CHPs using the wet lease costs as a baseline.

7.1 Torres Strait and Northern Peninsular Area

The increase in costs for CHP services has been due in part to the Government's requirement for larger, more capable helicopters following the Coroners reports and the reviews mentioned previously. The cost of the contracted service in Torres Strait and Northern Peninsular Area has increased dramatically since 1996.

In 2004, the annual standing charge was $425,000 (including GST) and the hourly rate for use of the single engine helicopter was approximately $1,500 per engine hour. This equates to a budget of $1.3 million to operate the service in 2004, based on the standing charge and 600 hours service delivery.

Since 2007, a twin engine IFR capable helicopter has been providing services in the Torres Strait and Northern Peninsular Area. The cost to operate this service in 2011-12 was $6.085 million (approximately $3 million standing charge and $3 million for hourly rates and reimbursement for landing charges and navigation fees). The contract rate for the 2011 July-September quarter was approximately $4,900 per hour, excluding the standing charge.

Additional costs are incurred for chartering helicopters outside the contract. The contract allows 72 hours downtime before a replacement aircraft must be provided. Usually, the Australian Customs Service permits the use of its contracted Bell 412 helicopter for medical emergencies during this 72 hour period, at a charge of approximately $11,300 per hour in 2011-12 and is paid for by Queensland Health.

8 Future Funding Options

The EHN service providers operate several different types of helicopters at varying levels of tasking activity driven by demand in their respective locations. Within the EHN there are several different ownership models. These are:

- aircraft owned and operated by a CHP;
- aircraft leased and operated by a CHP;
- aircraft contracted by a service provider; and
- aircraft owned and operated by the Queensland Government

QTC noted that regardless of the helicopter ownership model there may be efficiencies gained from the introduction of EHN demand management strategies.

Currently all funding associated with the CHPs and the contracted service, is held by the Chief Health Officer Branch (CHOB). It was anticipated that funding associated with helicopters would be distributed to the Hospital and Health Services and to tasking agencies such as QAS. However, a distribution model could not be developed due to the following:

- CHPs are funded for 600 hours whether they fly the hours or not.
- In the development of the MOU for EMQHR, the proposed high standing charge does not provide sufficient funds to purchase services from alternate providers.
- The different size aircraft have significantly different variable cost and flying times.
- There is an ongoing demonstrated issue where some lower level acuity patients are transported by helicopter as road ambulance is not available or a medical escort, which is available in a helicopter, is required to transport a patient. QCC determine the best way to transfer a patient which may not be the most efficient due to availability of vehicles and staff.

8.1 CHP Future State Independent Review

In presenting their case to Queensland Health, the CHPs define the future state model as representing the ideal 'real world' cost for the delivery of emergency helicopter services across the six CHP bases. It represents the current basing, staffing, fundraising and rate of effort for CHPs.

The model is based on economy of scale by utilising a single type of helicopter across all bases which is considered an efficient and robust model, regardless of the aircraft type deemed suitable for service requirements. The model provided three aircraft type options that may be considered to provide aeromedical helicopter services, the Bell 429 and Augusta 109 Grande and the Bell 412EP.

The CHP Independent Review provided indicative costing models for the above three aircraft which ranged in cost to Government from approximately $26.5 million to $31 million per annum over a ten year period (this includes the current funding).

The CHPs advise that the future state model represents an opportunity to fund the CHP capability collectively that is:

- underwritten by Government; and
- Government funding is augmented by CHP fundraising with sufficient milestones and performance measures to ensure continued CHP fundraising performance.

The CHPs identified that, compared to a fully commercial model with estimated costs for a similar service utilising a Bell 412EP, the cost would be approximately $47.5 million per annum over a ten year period (this includes the current funding).

The QTC has provided comment on the CHP Future State model. The future additional funding requirement (assuming replacement of the entire fleet, including three back-up helicopters) ranged from almost $7.9 million for the Bell 429 to approximately $12.6 million for the Bell 412EP. (Note this is the full funding required in addition to the current Government funding.)

The QTC also identified several issues not addressed within the CHP review, namely;

- there is still a significant difference in the cost per engine hour incurred by each service provider despite the same helicopter being used;
- the use of helicopters for other services and lack of recognition of other funding sources in the future state models; and
- no transition plan has been developed to replace the current helicopter fleet.

The QTC identified two possible funding methods that can be applied to a range of EHN structures and asset types (depending upon the Government's requirements and service capability of the CHPs).

- For the first method, Government funds 70% of the average cost per hour (calculated based on actual costs) for all direct helicopter expenses. Other income is used to fund the CHPs' non-direct costs (eg, administration overheads).
- The second method is a variation of the first method. This approach involves Government funding 70% of actual fixed costs and an average cost per engine hour calculated from the remaining variable costs. This pricing structure is commonly known as two part tariff pricing. Like the first method, other income is used to fund the CHPs' non-direct costs.

The QTC report provides further analysis in relation to the calculation of their proposed funding options. The identified funding required from Government based on the 70:30 split, for the consolidated CHP group ranges from $6 million per annum to $9.28 million dependent on the type of helicopter selected.

The QTC identify four key steps to achieving the Government's EHN objective, namely:

QTC Recommendation	Response
The State to define its emergency helicopter service requirements ie, needs analysis	Each Department to identify requirements QH to identify requirements for the purchase of IFTs
Decide the appropriate EHN operating model, which includes ownerships structure	Confirm base fixed costs which includes a capital component , with ability to purchase flying hours on a variable rate
Identify the type of helicopters, equipment, geographic location of bases etc. that would best meet the service requirements	Other tasking agencies, such as Fire, have other Standing Offer Arrangements (SOA) for helicopter providers across the State. Agency specific SOA could be developed outside of the EHN.
Develop a transition plan for the replacement of helicopters and the implementation of a funding structure that supports the chosen EHN specifications	Individual assessment will be required for each provider

9 Future Options – building on the current

Model Options	Detail
1. Current arrangement with overfly hour indexation	• Maintain the current arrangement with annual indexation. • Include annual indexation of the overfly rate.
2. Commercial arrangement	Progress all or some of the CHPs agreements to a commercial arrangement.
3. Expenditure based model	Expenditure model – funding to be based on CHP actual expenditure as outlined in the CHP funding review.
4. Efficient price with fixed base costs, variable flying hours rate	• Efficient prices to be developed based on specific identification of what Government will fund. This will consist of individual cost components such as wages for pilots, engineers, support staff and base costs (fixed costs) and aircraft flight hours (variable costs) which are applied uniformly across the network. • The CHPs develop a business model to demonstrate their abilities to raise funds to support the services and fund a proportion of the fixed costs. • All flying hours are funded at a efficient price variable rate paid for by the requesting agency. • Both fixed and variable costs are indexed annually.

The cost estimates associated with the future capital arrangements are included in the QTC Funding Review Findings.

Commercial contracts are estimated to be two to three times the current CHP costs and do not require a capital component. Increasing the proportion of Government contribution to the CHPs is not expected to be greater than the reported CHP expenditure; however SCHRS has indicated that this will still be insufficient due to staff vacancies and other infrastructure cuts implemented to maintain budget integrity.

To progress the above funding options for the emergency helicopter network detailed work on an efficient price should be undertaken by System Support Services Division and utilising existing Queensland Health funding for the provision of emergency helicopter services.

It is recommended that Option 4 be progressed. This option is equitable to all CHPs and provides a price signal as a demand management strategy to requesting agencies.