



**Queensland
Government**

Department of **Health**
Department of
Emergency Services

Queensland Emergency Medical System

Strategic Plan 2003 – 2006



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WHO ARE WE?

The Queensland Emergency Medical System Advisory Committee (QEMSAC) is an inter-departmental committee between Queensland Health and the Department of Emergency Services established to advise the relevant Ministers, through the Directors-General, on emergency medical services in Queensland.

The committee is chaired by the General Manager, Health Services and consists of:

- Three representatives of Queensland Health, including the Chair.
- Three representatives of the Department of Emergency Services.
- Three community engagement representatives; and by invitation
- A representative of the College of Surgeons;
- The Chairs of the QEMS Zonal Committees; and
- The Chair of the Core Inter-departmental Working Group.

ABOUT THE QEMS SYMBOL



The caduceus over the 'Star of Life' is an internationally recognised symbol of emergency health care.

The caduceus is the more commonly used symbol of medicine. From mythology, it consists of the wand of Hermes entwined by two snakes. This version of the caduceus is used by the Queensland Ambulance Service to identify paramedics and their respective skill levels.

The 'Star of Life' was developed in the US during the 1970's and much of the concepts of emergency medical services systems (EMS) emerged at that time. The six bars of the cross represent elements of an EMS system:

- Detection
- Reporting
- Response
- On Scene Care
- Care in Transit
- Transfer to Definitive Care

The QEMS Symbol represents a visual link between the service providers in emergency health care services in Queensland.

STRATEGIC PLAN SNAPSHOT

This plan focuses on the provision of emergency health services in Queensland. Its strategic direction is derived from existing planning processes within Queensland Health and the Department of Emergency Services, specifically:

Smart State: Health 2020, a vision for the future. Directions statement published by Queensland Health in 2002, available at www.health.qld.gov.au

Department of Emergency Services Corporate Plan 2002-2006, available at www.emergency.qld.gov.au, and the

Queensland Ambulance Service Strategic Plan 2002-2006, available at www.ambulance.qld.gov.au.

VISION

An integrated and coordinated system of care for the acutely ill and injured.

AIM

A seamless model of emergency medical services that is efficient, effective and safe.

GOALS

1. A statewide emergency medical system delivered through an integrated and coordinated model of emergency health care.
2. Community preparedness achieved by improving the community's knowledge of acute health incidents and their ability to respond, render aid, and seek assistance.
3. World-class pre-hospital patient care delivered through an integrated and coordinated model of service delivery.
4. Best practice definitive medical care delivered through standardised and integrated hospital-based emergency health services.

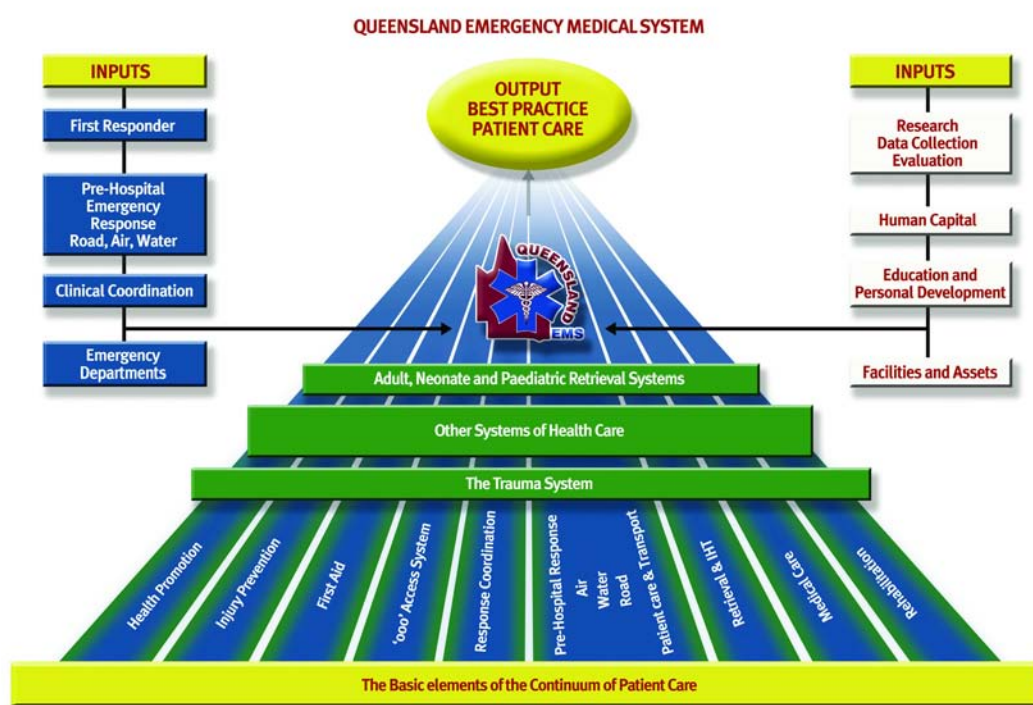
QUEENSLAND EMERGENCY MEDICAL SYSTEM

The Queensland Emergency Medical System (QEMS) represents an integrated and coordinated system of care for the acutely ill and injured. It focuses on a system, rather than organisational approaches to the delivery of patient care services.

This approach is necessary as emergency health care services are achieved through a series of focused sub-systems including private and public health care providers and emergency services agencies. These sub-systems, as summarised below, operate within a complex and extensive network of arrangements that together form QEMS.

High quality primary health care, pre-hospital patient care and definitive medical care is provided in Queensland through a continuum of care process, which reflects the QEMS concept. The basic elements of this continuum of care are:

- Health Promotion and Injury Prevention;
- First Aid;
- A '000' Access system;
- Response Coordination;
- First Responders;
- Pre-hospital Response, Care and Transport;
- Retrieval and Inter-facility Transfers (IFT);
- Medical care; and
- Rehabilitation.



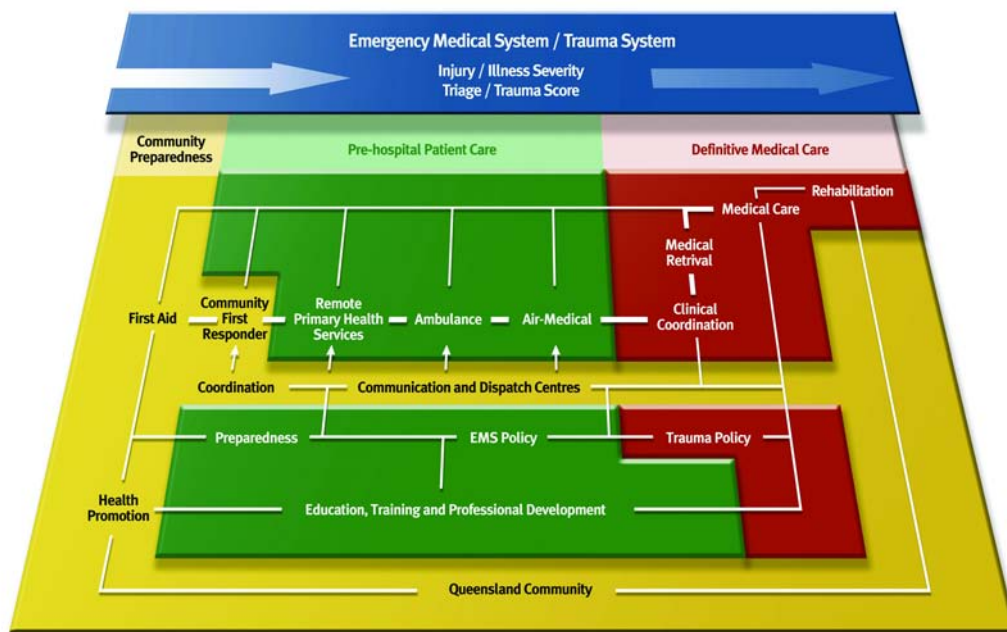
The aim of QEMS is a seamless model of emergency medical services that is efficient, effective and safe.

QEMS was established in 1997 as an interdepartmental framework to facilitate quality improvements to emergency medical services in Queensland. Work is currently underway to scope, describe, and develop a framework for that component of QEMS, which deals with Trauma.

A review of QEMS occurred in November 2001 (QEMS Future Directions Forum) involving a workshop of major stakeholders. The key outcomes of this review were:

- Support for the concept of an integrated and coordinated emergency medical system;
- Support for the basic elements of the QEMS framework; and
- Identification of a number of strategic priorities to be addressed by the QEMS Advisory Committee.

QEMS is consistent with, and is illustrative of the Government's current policy agenda of integrated service delivery and policy development. It also showcases health and emergency services as an example of a proactive approach. The diagram below reflects the diverse range of services and organisations that together provide emergency medical care services in Queensland.



QEMS processes facilitate multi-layered forums for consultation, research, identification and resolution of service deficits, and the promotion of integrated service delivery. At a strategic level an interdepartmental committee provides advice to the Chief Executive Officers of Queensland Health and the Department of Emergency Services. At an operational level QEMS forums facilitate resolution of inter-agency service issues and guide service quality improvement. The QEMS framework is summarised in the diagram below.

QEMSAC

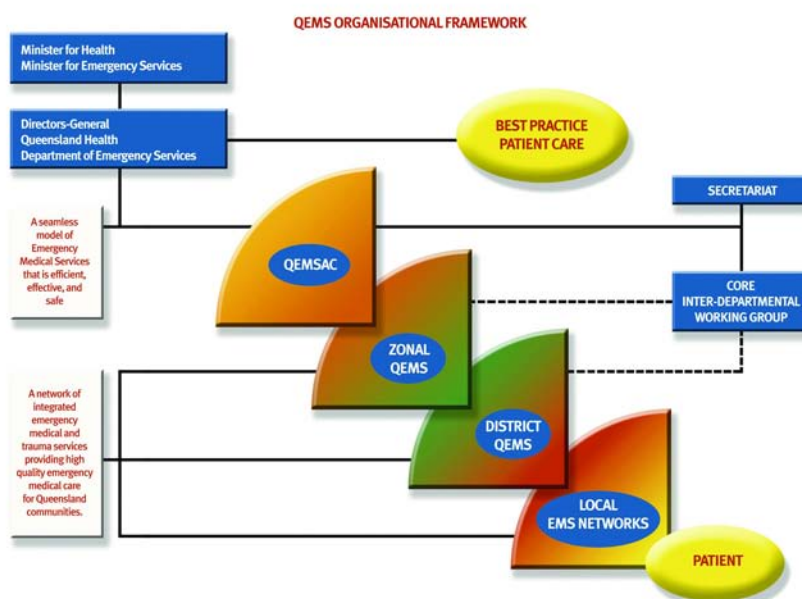
QEMSAC is the inter-departmental advisory committee between Queensland Health and the Department of Emergency Services. It is established to advise the relevant Ministers, through the Directors-General, on emergency medical services in Queensland.

The committee is chaired by the General Manager, Health Services and consists of:

- Three representatives of Queensland Health, including the Chair.
- Three representatives of the Department of Emergency Services.
- Three community engagement representatives; and by invitation
- A representative of the College of Surgeons;
- The Chairs of the QEMS Zonal Committees; and
- The Chair of the Core Inter-departmental Working Group.

The committee's terms of reference are:

- QEMSAC shall be responsible for the provision of strategic policy advice that guide the development of a seamless model of emergency patient care which is efficient, effective and safe;
- QEMSAC shall guide the establishment of mechanisms for continuous quality improvement in pre-hospital patient care and definitive medical care;
- QEMSAC shall ensure that Queensland Emergency Medical System policies are consistent with the Government's stated priorities;
- QEMSAC may establish such working parties and sub-committees as necessary to achieve its objectives;
- QEMSAC is to establish a Secretariat, and seek such funding as necessary; and
- QEMSAC shall provide an annual report.



QEMS INTER-DEPARTMENTAL WORKING GROUPS

Due to the complex nature of emergency health services delivery QEMSAC may appoint working groups to address specific policy projects, as identified in the QEMS Strategic Plan. Working Groups are task specific and established for the duration of a specific project. This flexibility is necessary to ensure appropriate expertise, and to enable timely response to matters as they arise in a complex and rapidly changing emergency medical system.

A Core Interdepartmental Working Group (CIWG) is established by QEMSAC to facilitate the achievement of strategic policy advice outcomes. Members of the CIWG are appointed by QEMSAC. The CIWG is responsible for monitoring progress on QEMS policy projects, reviewing policy proposals and potential impacts of proposed policy, and supporting members of QEMSAC in relation to policy deliberation. The terms of reference of the CIWG are:

- The CIWG is accountable to QEMSAC for coordinating departmental resources to deliver QEMS policy outcomes as identified and approved by QEMSAC;
- The CIWG will coordinate impact assessments and submissions for strategic policy proposals to QEMSAC; and
- The CIWG will prepare such reports as requested by QEMSAC.

ZONAL QEMS COMMITTEES

A Zonal QEMS Committee is a sub-committee reporting to QEMSAC, and established within each Health Zone. The committee operates under terms of reference determined by QEMSAC. The committee's primary responsibilities are to monitor services, provide advice to QEMSAC, promote QEMS and enhance communications within the service provider network, and assist interdepartmental working groups. The committee's terms of reference are:

- A Zonal QEMS Committee is established to monitor and report to QEMSAC on the effectiveness of emergency health services within its Zone.
- A Zonal QEMS Committee is to advise QEMSAC on service deficits and proposed corrective action.
- A Zonal QEMS Committee is to assist and cooperate with QEMSAC Working Parties.
- A Zonal QEMS Committee shall promote integrated and coordinated service delivery within its Zone.

DISTRICT COMMITTEES

A District QEMS Committee is an inter-agency forum for participating emergency medical service agency's managers. The committees operate under terms of reference established by QEMSAC. The committee's primary functions are to review and seek incremental improvement in the system, seek opportunities for greater integration and coordination, facilitate peer review, and facilitate multi-agency preparedness.

LOCAL NETWORKS

QEMS reflects the natural professional and agency networks that exist to support services delivery at a local or community level. QEMSAC does not seek to influence or formalise these relationships. However, QEMSAC recognises the value of these networks for dissemination of information, local professional support, particularly in rural communities, and practical integration and coordination of service delivery. These networks are invaluable however for identifying system gaps, enhancing system communication and initiation system changes.

DELIVERING OUTCOMES

The following pages outline goals, outcomes and strategies for QEMS, developed during the first six months of 2003 as a result of agreed principles established by QEMSAC. The strategies also build on previous work in November 2001 (QEMS Future Directions Forum), and QEMSAC deliberations during 2002.

The QEMS CIWG will be responsible for coordinating departmental resources to deliver the identified outcomes.

The CIWG is accountable to QEMSAC for:

- The development of terms of reference and performance measures for each outcome area;
- Coordinating impact assessments for development of proposed strategic policies;
- Submitting policy proposals to QEMSAC for consideration; and
- The preparation of reports for QEMSAC.

The following tables list the goals, outcomes and strategies, which reflect the current QEMS priorities. These tables also form the basis for regular reporting to QEMSAC on the status of each outcome area.

A Statewide Emergency Medical System

Goal	Outcome	Strategy	Who is responsible	Status
<ul style="list-style-type: none"> 1. Statewide integrated and coordinated model of emergency health care. 	<ul style="list-style-type: none"> An audit and quality system. 	<ul style="list-style-type: none"> Establish statewide inter-agency mechanisms for information collection and management, and data sharing and reporting. Develop mechanisms for system monitoring, audit, continuous improvement, and reporting. Develop EMS service benchmarks. 		
	<ul style="list-style-type: none"> Establish a model for effective, integrated EMS research. 	<ul style="list-style-type: none"> Identify EMS Research activities and identify future research models. Identify future collaborative arrangements and funding opportunities. 		
	<ul style="list-style-type: none"> A Trauma System integrated with the Queensland Emergency Medical System. 	<ul style="list-style-type: none"> Describe a Trauma System Model for Queensland. Develop a Trauma System implementation strategy based on agreed model. 		
	<ul style="list-style-type: none"> Integrated Aero-medical services 	<ul style="list-style-type: none"> Identify and develop clinical standards for aero-medical services. Develop models for integrated and coordinated aero-medical services. 		
	<ul style="list-style-type: none"> Integration of EMS Education across the system. 	<ul style="list-style-type: none"> Review and report on current training and development activity across all EMS agencies. Development of partnerships with vocational institutions, universities, industry and the community to continuously improve: Staff and volunteer education, Professional development, Evidence based practices, and Efficient use of resources. 		
	<ul style="list-style-type: none"> Integrated whole-of-government approach to mass-media communication for EMS. 	<ul style="list-style-type: none"> Develop a mass-media communication model for EMS. 		

Goal	Outcome	Strategy	Who is responsible	Status
<p>2. Improve the community's knowledge of acute health incidents and their ability to respond, render aid and seek assistance</p>	<ul style="list-style-type: none"> • Best practice community CPR education. • First Aid training is integrated into school activity. • First Aid response capacity is established in schools. • All public sector employees and volunteers are trained in basic first aid. • High quality first aid training services available to communities in Queensland. • A network of integrated First Responder groups is established in Queensland 	<ul style="list-style-type: none"> • Develop sustainable and innovative community-training models in CPR. • Integration of first aid learning into school curriculum. • Develop models for first aid training for school staff in public and private schools, and a model for first aid response in schools. • Negotiate cross-agency agreements within the public sector that incorporate first aid training into workplace programs. • Establish an effective industry forum that includes commercial, not-for-profit, and public sector first aid teaching organisations. 		
		<ul style="list-style-type: none"> • Develop whole-of-Government strategic policy for community based, industry based and emergency services based EMS First Responder Groups, incorporating sustainable and innovative models for Early Access to Defibrillation. • Develop guidelines for integration of First Aid services at major events, namely: <ul style="list-style-type: none"> – Sporting events, and – Public gatherings. • Develop guidelines for the establishment, utilisation and integration of volunteer community based first responder groups, including standards for personnel and equipment. • Develop a process for state EMS accreditation of first responder groups; namely: <ul style="list-style-type: none"> – Community Based FR. – Volunteer First Aid Organisations. – Industry Based FR. – Emergency Services FR. 		

Pre-hospital Patient Care

Goal	Outcome	Strategy	Who is responsible	Status
<p>3. Integrated and coordinated model of service delivery.</p>	<ul style="list-style-type: none"> Integrated Primary Health-care Services in rural areas. Standardised, integrated and coordinated ambulance services in Queensland. 	<ul style="list-style-type: none"> Develop an innovative model for multi-disciplinary EMS in rural areas. Identify and describe standards for ambulance services in a variety of settings, which include: Clinical Standards; System access and coordination; Training and deployment of personnel; Response platforms and infrastructure. 		
	<ul style="list-style-type: none"> Integrated Hospital Based Ambulance Services. 	<ul style="list-style-type: none"> Develop a model for integrated pre-hospital service delivery within Queensland Identify locations in Queensland where Q Health provides the ambulance service. Evaluate current Hospital Based Ambulance Services against agreed standards and develop a report. Implement change action as required. 		
	<ul style="list-style-type: none"> Safe and effective EMS response to major events. 	<ul style="list-style-type: none"> Review the policy framework for response to major events, particularly clinical requirements and coordination. 		

'Definitive Patient Care

Goal	Outcome	Strategy	Who is responsible	Status
<p>4. Standardised and integrated hospital-based emergency health services.</p>	<ul style="list-style-type: none"> Efficient and effective coordination between hospital-based services. 	<ul style="list-style-type: none"> Develop a model of resource-based decision-making. Review Clinical Co-ordination processes. Review current systems for inter-hospital transfer and retrieval and develop a policy framework. Investigate a system of monitoring available health resources. Develop a model for monitoring critical care bed availability 		
	<ul style="list-style-type: none"> Comprehensive planning for disasters and multi-casualty events. 	<ul style="list-style-type: none"> Review the 'State Health Disaster Plan', including: <ul style="list-style-type: none"> Strategic policy for on-site command and control. Strategic policy for site health services. Training and equipment needs. 		

BRIEF HISTORY OF EMS

The modern concept of EMS has emerged since the 1960s. In Queensland, government has taken a 'systems' rather than an organisational approach to service improvements. This is reflected in the selection of QEMS (Queensland Emergency Medical System) as the term to describe consultation processes drive service coordination, integration and quality improvements in patient care. In other jurisdictions, particularly the United States of America, the term EMS describes the ambulance service element only of what is, in reality, a much broader mix of agencies and disciplines.

Even though EMS is a new concept, the roots of EMS are found scattered through history, with each developmental step guiding and shaping modern concepts of EMS.

Good Samaritan: *"A man was going down from Jerusalem to Jericho, when he fell into the hands of robbers. They stripped him of his cloths, beat him and went away, leaving him half dead. A priest happened to be going down the same road, and when he saw the man, he passed by on the other side. So too, a Levite, when he came to the place and saw him, passed by on the other side. But a Samaritan, as he travelled, came where the man was; and when he saw him, he took pity on him. He went to him and bandaged his wounds, pouring on oil and wine. Then he put the man on his donkey, took him to an inn and took care of him. The next day he took out two silver coins and gave them to the innkeeper. 'Look after him,' he said, 'and when I return, I will reimburse you for any extra expense you may have'.*



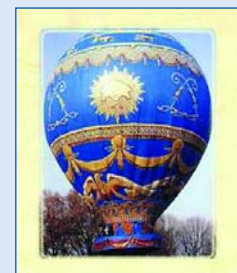
Knights of St John: During the crusades in the 11th century, the Knights of St John received first aid instructions from Arab and Greek doctors. This enabled the Knights to provide relief for the wounded of both sides in tents close to the battlefield.



Organised pre-hospital care though is generally credited to the initiative of Baron Dominique Jean Larrey, Surgeon and Chief to Napoleon's Imperial Guard. He introduced into the French Army the "Ambulance Volante" (Flying Ambulance) to retrieve casualties from the battlefield and their delivery directly to surgical services. This concept of **triage, retrieval and transport** (1797) remains the essence of organised pre-hospital care and became standard practice in military services around the world. He introduced the concept of taking traditional hospital skills of the period into the field.



Not all pioneering work has been on the ground. The first concepts for air ambulance originated in 1866, and are referenced in *Jules Verne's Robour le Conquerant* in which he described the rescue of shipwreck victims by an airship named the Albatross. And although the modern concept of air ambulance did not begin until the development of flight in fixed wing aircraft, it is recorded that in 1870, during the siege of Paris, balloons were used to evacuate 160 soldiers from the besieged city.



In 1910, the first known air ambulance was built in North Carolina and tested in Florida. It crashed after travelling 400 yards. But in Serbia the French evacuated a wounded soldier by aircraft in 1915.

The Royal Flying Doctor Service (RFDS) was established in Queensland in 1928, and nationally in 1930. The RFDS was the first comprehensive aerial medical organisation in the world and to this day remains unique for the range of primary health care and emergency services it provides.

Aircraft use for emergency medical services came to prominence during the 1952-54 Korean War. Helicopters were used for medical retrieval to a field hospital with more than 17,000 people being evacuated. During the Vietnam War improved survival of critically injured soldiers was attributed to rapid evacuation by use of helicopters.

Today in Queensland, a comprehensive network of helicopter rescue services serves communities from the Torres Strait to Tweed Heads. These services are a mix of government and community based arrangements.

The RFDS, under contract to Queensland Health, provide statewide fixed wing retrieval and inter-facility transfer services in addition to their clinical and outreach services.

Meanwhile three import events were unfolding in the middle of last century that would rapidly transform the approach to pre-hospital patient care worldwide.

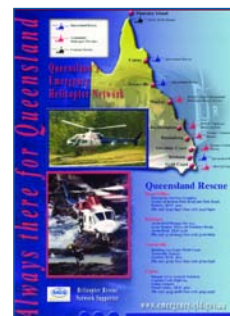
In the US, Dr Peter Safar (1958) demonstrated mouth-to-mouth ventilation to be superior to other methods of manual ventilation, and by 1960 had shown cardiopulmonary resuscitation (CPR) to be effective.

Also in the US a (1966) white paper entitled; *Accidental Death and Disability: The Neglected Disease of Modern Society* provided great impetus for attention to be turned to the development of EMS. This paper pointed out that the American health care system was prepared to address an injury epidemic that was the leading cause of death among persons between the ages of one and 37, road and other trauma. It noted that, in most cases, ambulances were inappropriately designed, ill-equipped, and staffed with inadequately trained personnel. Ambulance services were generally provided by municipal hospitals and fire services, although morticians were providing at least 50% of the US ambulance services.

Across the Atlantic in Belfast, Dr Frank Pantridge (1966) demonstrated that he could significantly improve patient survival from out-of-hospital cardiac arrest events through pre-hospital coronary care ambulances. His defibrillators were portable, robust and battery operated. Building on this work, the Irish Heart Foundation (1967) began a three year study of pre-hospital coronary care in Dublin where non-physicians provided the pre-hospital cardiac ambulance.



RFDS 1928 Queensland



Queensland developments in a snapshot: In August 1882, a riding accident at the Brisbane showgrounds gave birth to the idea for a civil ambulance service for Queensland. Dr Sandford Jackson, the superintendent of the Brisbane General Hospital and Mr Seymour Warrian of the Ambulance Corps of the Queensland Defence Force were at the ringside; neither could reach the rider before he was picked up and taken to hospital without treatment, causing a simple fracture to become compound. Disgusted and dissatisfied with the treatment of this patient, Mr Warrian arranged a meeting with the members of the Army Medical Corp. They decided to found the City Ambulance Transport Brigade on September 12, 1892.



The City Ambulance and Transport Brigade became the Queensland Ambulance Transport Brigade Hospital (QATBH) in 1902. The ambulance service expanded rapidly. Linkages with the Queensland Department of Health were maintained through the QATB State Council. In 1985 the Queensland Ambulance Service Board was established to coordinate the activities of some 97 QATB Committees. A statewide ambulance service, the QAS, was established in 1991, initially under the Bureau of Emergency Services and later the Department of Emergency Services.



Queensland Health: During the 1980s, hospital casualty departments began to be transformed into 'Emergency Departments' staffed by specialist medical teams. Staffing improved and education of medical staff developed particularly through the formation of the Australian College of Emergency Medicine in 1983, with similar developments in nurse education.

Early moves toward Integration and Coordination: The 1990 *Queensland Joint Parliamentary Select Committee of Enquiry into Ambulance Services* recommended the formation of an interdepartmental committee between the QAS and Queensland Health. The resultant Emergency Health Services Coordination Advisory Committee (EHSCAC) began to address a range of policy initiatives and procedures of common interest aimed at standardising arrangements in Queensland for the development of an emergency medical system. The principle result of that analysis was a policy framework known as the Queensland Emergency Medical System (QEMS).



CURRENT STATUS OF EMS IN QUEENSLAND

- Statewide ambulance service with well-educated workforce and two-tiered paramedic system.
- Statewide computer aided dispatch system with mobile data system in south east of the state.
- Australian Centre for Pre-hospital Research established jointly between QAS and the University of Queensland.
- Upgraded facilities at three major tertiary hospitals, emergency departments at major hospitals, and continuing education for rural and remote health services.
- A system of Clinical Coordination.
- Retrieval and Inter-facility Transfer systems.
- Statewide fixed-wing air cover through RFDS.
- Comprehensive helicopter rescue services along the coastline of Queensland, provided through government and community based agencies.

