Reform Plan for Aeromedical (Rotary Wing) Retrieval Services in NSW
Medical retrieval is often critical to a person’s chances of surviving a major illness or trauma.

In NSW, our medical retrieval system, which is managed by NSW Ambulance, provides for the transfer of patients with critical illness or injury. These patients – whether they be babies, children or adults – require either stabilisation prior to transport or management during transport by a medical practitioner with appropriate skills.

As part of a broader system of medical retrieval, including road and fixed wing services, helicopter – or rotary wing – retrievals provide rapid, life saving care and transportation for the critically ill and injured across NSW no matter where they may be.

When I became Minister for Health it was clear that we needed a long-term strategic direction for this vital service so that the people in NSW would have access to the best medical retrieval when they needed it.

This is why I commissioned an independent strategic review of NSW Ambulance, including the aeromedical operations. The Government’s Reform Plan for Aeromedical (Rotary Wing) Retrieval Services in NSW, which draws upon the recommendations made by independent consultant Ernst & Young and extensive stakeholder consultation, provides a comprehensive blueprint for the future.

Growing the medical retrieval service to meet new population and health demands through increased capacity, longer operating hours, and clinical expertise is a major priority. Better coordination through the introduction of a single state-wide telephone number for adult retrievals, and stronger roles for our Regional Retrieval Services and the Aeromedical Operations Centre, are also key.

I am particularly pleased that this plan complements the growing medical and surgical capacity of regions, so that rotary wing retrieval services are focused where they are needed most. At the same time we also plan to ensure a better matching of crewing arrangements to patient needs, and a strengthening of training requirements to optimise patient care.

We will commence a structured procurement process which will increase standardisation across different helicopter types to strengthen interoperability between regions, while embracing innovation to cut unnecessary costs and inefficiencies.

To make sure every service and base across the State delivers the same high quality care we will establish a Statewide Medical Retrieval Executive Governance Committee. While leading the implementation of this Reform Plan, it will also provide expert advice on the strategic development and operational performance of the entire medical retrieval system in NSW.

I believe that the strategic directions outlined in this Reform Plan will help us build a contemporary, flexible and fit for purpose helicopter fleet in partnership with the very best medical care for babies, children and adults.

I would like to thank the Director General, the Steering Committee and the Aeromedical Sub Committee and all those who provided input to this review and who have helped develop this plan. I would also particularly like to thank the service providers who continue to offer high quality professional aeromedical retrieval services to the people of NSW.

Hon Jillian Skinner MP
Minister for Health
Minister for Medical Research
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## Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AOC</td>
<td>Aeromedical Operations Centre</td>
</tr>
<tr>
<td>ECMO</td>
<td>Extra Corporeal Membrane Oxygenation</td>
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<tr>
<td>IABP</td>
<td>Intra Aortic Balloon Pump</td>
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<tr>
<td>LHD</td>
<td>Local Health District</td>
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<tr>
<td>NETS</td>
<td>Newborn and paediatric Transport Service</td>
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<tr>
<td>NGO</td>
<td>Non Government Organisation</td>
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<tr>
<td>PAL</td>
<td>PerinatalAdvice Line</td>
</tr>
<tr>
<td>PSN</td>
<td>Pregnancy and Newborn Services Network</td>
</tr>
<tr>
<td>SHN</td>
<td>Specialty Health Network</td>
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<tr>
<td>SMREGC</td>
<td>Statewide Medical Retrieval Executive Governance Committee</td>
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**Prehospital mission** means a response to a request from the Aeromedical Operations Centre, to attend a patient, or an incident which may involve treatment and/or transport from the scene of the incident to a hospital.

**Interhospital mission** means transport, in response to a request from the Aeromedical Operations Centre, to transfer a patient from one medical facility or hospital to another medical facility or hospital.
Service Story

No one knows how unpredictable or urgent a call for an emergency medical rescue helicopter might be as well as the Illawarra’s Duty Operations Manager. Nor do people realise how complex, as the recent mission to save an injured man from his farm on the south coast of NSW showed only too well.

When the NSW Ambulance was called to the property to treat the 57 year old after his tractor rolled nearly 100m down a steep hill it quickly became clear that this was going to be a very difficult case to manage.

“He’d lost consciousness briefly, but was able to use his mobile phone to raise the alarm despite having chest injuries, multiple limb injuries and severe neck pain,” the Duty Operations Manager said.

The emergency call soon triggered a rapid, multi-agency response.

Along with two ambulances from NSW Ambulance, a Special Operations Team and Rescue 26 helicopter, were also dispatched.

“The terrain was steep with rolling hills and it was also quite slippery, so we couldn’t just walk him out,” the Duty Operations Manager said.

Following assessment and treatment of the patient at the site of the accident by an ambulance doctor and paramedics, the State Emergency Service, which had been designated as the chief rescue agency, worked out a plan of extraction.

“We were faced with the decision of either loading him into a stokes litter and carrying him to the chopper at the top, or repositioning the chopper 200m down and walking him out with a rope attached, anchored to the site.” the Duty Operations Manager added.

“We decided to reposition the chopper and walk him out as the easiest and safest option.”

Ninety minutes after the emergency call was first received, the patient was airlifted to Wollongong Hospital in a serious, but stable condition.

Photo: Paramedics tend to a patient on the scene after an accident. Photographer: Greg Totman
(Picture Courtesy of the Illawarra Mercury)
Rotary Wing Retrieval Services – At a Glance

Rotary wing retrieval services provide critically ill and injured people across NSW with high quality, safe, clinical care via timely inter-hospital transfers, land on scene responses, and extrication by winch.

What We Do

- In 2011 there were 3,339 pre-hospital and inter-hospital helicopter missions. This included 150 complex, high-risk winching operations.
- Of the total missions undertaken in 2011, 14.9% were Newborn and Paediatric Transport Services (NETS) missions.
- A small number of NSW missions are also performed by inter-state providers across State borders.

Cost

- Operating costs in 2011 were approximately $112.1M, mostly funded by NSW Health.
- The estimated average cost of a rotary wing retrieval in NSW in 2011 was $34,166.

Future Trends

- In the next decade NSW’s population is expected to grow by 15%, with growth concentrated in larger rural centres, coastal and southern areas of the State.
- By 2022 the demand for rotary wing retrieval services is expected to have increased by 23% to reach 4,000 missions per year.

The Service

- A fleet of 15 helicopters currently provide retrieval services from 8 bases located at Sydney (Bankstown and Westmead (NETS)), Orange, Wollongong, Canberra, Newcastle, Tamworth and Lismore. Of the 15 helicopters, 10 are operational at any one time under contract agreements and 5 are backup helicopters.
- The service operates 24 hours a day, 7 days a week at six bases – Sydney (Bankstown and Westmead (NETS)), Wollongong, Canberra, Newcastle, Lismore and 10 hours a day, 7 days a week at two bases – Orange and Tamworth.

Structure

- Rotary wing retrievals are currently provided by five public, commercial and not for profit helicopter operators under contract to NSW Ambulance.
- Helicopter operators are managed by NSW Ambulance and medical crew are provided by various arrangements with NSW Ambulance, Local Health Districts and not for profit organisations.
- NETS coordinates the provision of clinical advice, bed finding services and medical retrievals for babies and children.
- The Aeromedical Operations Centre (AOC) is at the centre of helicopter co-ordination and tasking.

Other Retrievals

- Medical retrievals in NSW are also undertaken by road and by fixed wing aircraft.
- In 2011, there were 2,510 road retrieval missions and 3,166 fixed wing missions.
Executive Summary

NSW has a strong, capable, professional and responsive statewide aeromedical retrieval system which forms part of the network of services coordinated by NSW Ambulance to deliver the very best in coordinated emergency transport and care for adult, paediatric and neonatal patients.

Services have evolved overtime, however to ensure services continue to meet the requirements of patients into the future, it is necessary to strengthen the governance, management and operational arrangements supporting our rotary wing retrieval services.

In September 2011 the Minister for Health commissioned a strategic review of the NSW Ambulance, including its aeromedical operations. A Steering Committee, Chaired by the Director General, NSW Health, and an Aeromedical Sub-Committee Chaired by Dr Peter Sharley OAM, an Intensive Care and Medical Retrieval Specialist from South Australia, were formed to oversee the strategic review.

Ernst & Young were engaged to undertake a formal review of the State’s rotary wing aeromedical retrieval services and delivered a final report with 56 recommendations for change in November 2012.

The report and recommendations proposed by Ernst & Young were released for public comment from December 2012 to mid March 2013. Seventy three submissions were received.

Following analysis of the feedback, and further consultation with clinical and aviation experts, the NSW Government endorsed in part or full, most of the Ernst & Young recommendations.

These recommendations, combined with stakeholder feedback, now form the basis of the six key strategic directions which will guide the development of our rotary wing retrieval services over the next decade:

- **Strategic Direction 1:** Growing To Meet Demand
- **Strategic Direction 2:** Improving Tasking and Coordination
- **Strategic Direction 3:** Enhancing Crewing Models
- **Strategic Direction 4:** Upgrading Infrastructure
- **Strategic Direction 5:** Increasing Standardisation and Interoperability
- **Strategic Direction 6:** Strengthening Governance

The new Statewide Medical Retrieval Executive Governance Committee will oversee the implementation of this Reform Plan for rotary wing retrieval services in NSW. The Committee will work in partnership with the Ministry of Health, NSW Ambulance, Local Health Districts and Specialty Health Networks and Pillars to achieve our vision for the future.
Our Strategic Directions and Reforms
STRATEGIC DIRECTION 1:
Growing to Meet Demand

If NSW’s aeromedical services are to keep delivering the very best care we will need to expand and improve our rotary wing retrieval services across the State.

Service growth will need to occur in both our urban and rural bases in NSW. Better rotary wing retrieval services in rural areas will complement ongoing investment in new health facilities and services regionally, along with new technologies that allow more people to be treated closer to home.

Providing the right crew mix to meet the needs of our patients and an ongoing investment in training to ensure they have the required skills will also be critical.

Our reforms:

- Increase the operating hours of the Orange Helicopter Base to 24 hours a day, 7 days a week from January 2014, with the crew to be on base 10 hours a day, 7 days a week and then on call after hours. The need for the crew to be on base 24 hours a day, 7 days a week by 2018 will be monitored and reviewed in line with demand changes over time.
- Increase the operating hours of the Tamworth Helicopter Base to 24 hours a day, 7 days a week from January 2015, with the crew to be on base 10 hours a day, 7 days a week and then on call after hours. From January 2015, prehospital missions tasked from Tamworth Base will use a clinical crew comprising a doctor and a paramedic.
- Move the medical and paramedical crew on base 24 hours a day, 7 days a week at the Newcastle Helicopter Base from January 2014 to improve response times and the level of medical care to patients. Prehospital missions out of Newcastle will be tasked with a clinical crew comprising a doctor and a paramedic. A dedicated emergency retrieval ambulance will also be located at the Newcastle Base to support rapid road retrievals where appropriate.
- Retain the Wollongong Helicopter Base to meet the needs of the people of the Illawarra and South Coast. The facilities available on the Wollongong Base will be improved to bring rotary wing retrieval staff and helicopter facilities closer together to boost response times.
- Support the reinstatement of the Perinatal Advice Line (PAL) and commission NSW Kids & Families, working with Sydney Children’s Hospital Network (operator of the Newborn and paediatric Emergency Transport Service (NETS) and the Pregnancy and Newborn Services Network (PSN)) to assess obstetric retrieval demand and develop an appropriate model of care where rotary wing retrieval is considered a viable mode of transfer for mother and baby.
- Concentrate high-risk winching skills and expertise in five locations – Lismore, Newcastle, Sydney, Wollongong and Canberra and provide winching support for missions across NSW as appropriate. Putting safety first, winching will cease at the Tamworth Base immediately.
- Conclude an agreement with QLD Health regarding increased opportunities for NSW patients to access southern QLD critical care services including medical retrieval. Additional funding will be allocated to the Lismore service to improve staff coverage and to ensure the needs of patients are met.
STRATEGIC DIRECTION 2: Improving Tasking and Coordination

At present medical retrieval teams are coordinated and tasked across NSW by a mixture of central and regional coordination. A range of telephone numbers exist to access regional retrieval services.

Improving access to medical retrieval teams in the future is a key priority in ensuring that patients requiring rotary wing retrieval are responded to as quickly and effectively as possible.

Our reforms:

• Retain the existing structure of Regional Retrieval Services, but simplify access by establishing a single statewide number for all adult retrievals. This statewide number will be routed automatically to the retrieval service closest to the patient in need.

• Provide an additional senior retrieval consultant and a senior supervisor within the Aeromedical Operations Centre to strengthen its capacity to provide Regional Retrieval Services with further support in managing highly complex, critical patients.

• Retain the Aeromedical Operations Centre at Eveleigh and the Newborn and Paediatric Transport Service at Westmead, but improve cooperation between the two services wherever possible.
STRATEGIC DIRECTION 3:
Enhancing Crewing Models

The crewing of rotary wing retrieval services can differ according to the needs of the patient and the type of mission being undertaken.

A typical helicopter retrieval mission in NSW uses a pilot and a crewmember, plus a clinical team comprising mostly a doctor and paramedic for prehospital missions, and a doctor and paramedic or nurse for interhospital transfer missions. Crewing arrangements are not uniform across NSW.

The differing crewing arrangements across the State, and the variation in the level of skills and training of medical and paramedical crew, all add to the complexity of coordination and tasking of rotary wing retrievals.

Our reforms:
• Move to a standard doctor/paramedic model for all prehospital missions. For interhospital transfer missions a doctor/nurse or doctor/paramedic model will continue to be used depending on patient need.
• Support a flexible crewing model for helicopter retrievals that optimises the delivery of safe, timely and cost effective care and maintains patient and aviation safety.
• Appoint a Statewide Training Coordinator to work with rotary wing retrieval services to standardise training across the State and monitor training compliance. Training requirements will be incorporated into service agreements with medical retrieval service providers, who will have responsibility for ensuring high quality patient care.
• Over the longer term look at opportunities to consolidate medical training both internally and through partnerships with registered training organisations. Uniform training standards will be developed and built-in review processes established to maintain high quality, consistent training for staff and ensure patients receive the best possible care.
STRATEGIC DIRECTION 4:
Upgrading Infrastructure

Most of the 15 helicopters in the NSW fleet are capable of undertaking rescue operations, including winching. Some also have the capacity to carry specialised equipment and additional crew for bariatric and neonatal retrievals, or the retrieval of patients requiring intra aortic balloon pumps (IABP) or extra corporeal membrane oxygenation (ERCP).

Presently, five different helicopter types are used by five different operators with each required to maintain their own back up helicopter. While the current fleet is adequate there are opportunities to improve efficiency, flexibility and cost effectiveness. In addition, the lack of an emergency ambulance at some bases limits potentially faster road retrieval.

Our reforms:

• Standardise to two types of helicopter for NSW to improve interoperability across the fleet and to help provide safer, more cost effective rotary wing retrieval services.

• Work toward ensuring that each helicopter base has access to a dedicated retrieval ambulance for use in rotary wing retrievals. As a key priority, a retrieval ambulance will be located at the Newcastle Base.
Medical retrieval by helicopter is not only resource intensive, but a complex service to organise and deliver. A typical base may include one or more helicopters, road vehicles, specialised equipment, a range of aviation, engineering, medical and maintenance staff and facilities, as well as the need to accommodate detailed aviation and clinical training.

The contracts for the current five helicopter operators were originally established using a discrete procurement process applied on a region-by-region basis. Work is underway to align the expiry date for all current contracts to May 2014, with the option of extending each contract by up to three years to 2017. This creates an opportunity for NSW Health to adopt a statewide approach to helicopter procurement while also inviting operators to propose innovative ways of organising and delivering services going forward.

Separate and mixed arrangements are in place for the provision of medical and paramedical crew who provide care to patients before and during the retrieval mission:

• NSW Ambulance and Local Health Districts employ the majority of the clinical crew on our bases (Sydney (Bankstown), Wollongong, Lismore, Tamworth and Newcastle).
• NETS medical crew operating out of the Westmead Base are employed by the Sydney Children’s Hospital Network.
• SouthCare, which is a joint NSW and ACT government owned service, sources medical crew from the Canberra Hospital.
• Contractual arrangements are in place with a not for profit organisation for the sourcing of some of the medical crew at the Sydney (Bankstown) Base and the crew at the Orange Base.

Key strengths of a mixed public, private and not for profit helicopter operator system are its diversity, the potential for healthy competition and value for money. The presence of not for profit providers, whose work is supported through donations and sponsorships, also brings valuable community engagement. Challenges remain however:

• Regional procurement forces each operator to provide their own back up helicopter, a level of investment that is not necessary or sustainable.
• The diversity of helicopters also means that cross training staff to work on different types of helicopters adds time and money.
• The fleet is expensive to maintain as operators have varied maintenance requirements and must carry a range of spare parts creating additional costs that are absorbed in NSW Ambulance contract costs.

It’s crucial that the procurement approach adopted by NSW Health for the next round of helicopter contracts encourages innovation while delivering a consistent, fit-for-purpose fleet that optimises the quality, safety and cost of rotary wing retrieval.

Our reforms:

• NSW Health will adopt a performance-based approach to the procurement of the next round of helicopter retrieval contracts for the State. This will provide clear guidance to helicopter operators on the standards and service outcomes required by NSW Health.
• The performance-based standards will be developed in consultation with aviation and clinical experts. The standards will set out what is required in regard to aircraft availability, capacity and performance, base and maintenance arrangements, flight crew experience and qualifications, and operational and aviation training standards.
• The helicopter retrieval fleet will be standardised to two types of helicopters for the State, and new helicopters will be phased in as part of the procurement and implementation process for longer contract terms of between 7 – 10 years.

• NSW Health will structure helicopter contracts around two regions within NSW so that each region has one operator, including options for consortia arrangements:
  • Northern Region: Lismore, Tamworth and Newcastle
  • Southern Region: Sydney (Bankstown and Westmead (NETS)), Wollongong and Orange which will work with SouthCare which is the joint NSW and ACT government helicopter retrieval service based in Canberra

• The procurement process will allow for consultation and engagement with helicopter providers and for tenderers to demonstrate compliance with performance-based standards, in tandem with innovation and value for money in tender submissions.

• The procurement process will encourage collaboration, sharing and possible joint venturing or consortia approaches by not for profit and commercial operators to promote diversity and the retention of a mixed NGO and commercial NSW fleet.

• NSW Health will continue to engage a range of organisations to provide doctors for helicopter missions, including NSW Ambulance, Local Health Districts, Specialty Health Networks and private and not for profit agencies. As a guiding principle, there will be only one employer of medical staff on each base to reduce complexity.

• NSW Ambulance will develop dedicated contract management expertise to ensure that performance-based contract outcomes are achieved while also providing greater support in terms of analysis, benchmarking and reporting against key performance indicators.
Reform Plan for Aeromedical (Rotary Wing) Retrieval Services in NSW
The current governance structure supporting medical retrieval in NSW, including rotary wing retrieval services, has evolved historically and needs to be modernised and streamlined.

Increased standardisation and performance monitoring - as well as high-level strategy development - will be overseen by a single peak committee providing expert guidance on strategic and operational performance across the entire medical retrieval system in NSW.

Improved information management systems, transparency and standardisation in reporting will guide the Committee in its task and also assist in empowering local decision making on the best use of resources for medical retrieval services.

The Ministry of Health is also committed to working with Local Health Districts and Specialty Health Networks to develop the most appropriate costing framework for medical retrieval services, including rotary wing retrieval services. Once complete, there will be the opportunity to develop a uniform, transparent and equitable funding model for these services in NSW.

Our reforms:

• Establish a new Statewide Medical Retrieval Executive Governance Committee reporting to the Director General, NSW Health to oversee:
  • The implementation of the changes to the medical retrieval system set out in this Reform Plan.
  • The adoption and implementation of consistent statewide information management systems and reporting requirements, supported by appropriate resourcing and technical support.
  • The development and implementation of consistent mechanisms for systematic review and reporting of operational performance at a whole of service and State level.
  • Communication and compliance monitoring of aeromedical retrieval policy directives.
• Improve funding transparency for medical retrieval services and enhance local decision making by:
  • Creating a consistent framework for allocating, capturing, monitoring and reporting on the actual costs of all modalities of medical retrieval service provision across NSW Health entities and external service providers. As a key first step, this will involve the establishment of discrete cost centres at a Local Health District level for capturing the resources allocated to medical retrieval.
  • Strengthening performance reporting, analysis and monitoring, and development of standardised models of care in partnership with the Bureau of Health Information, Ministry of Health, NSW Ambulance, Clinical Excellence Commission, Agency for Clinical Innovation and NSW Kids & Families.
• Reviewing the current level of information provided to Local Health Districts to identify opportunities for increased transparency over their costs, while developing an integrated statewide financial management report for monitoring by the Ministry of Health and Statewide Medical Retrieval Executive Governance Committee on an ongoing basis.
• Strengthening relationships and collaboration by establishing periodic meetings with Local Health Districts and NSW Ambulance to review and benchmark costs, identify opportunities to improve cost effectiveness and reduce the potential incidence of inappropriate rotary wing retrievals.
Next Steps

The new Statewide Medical Retrieval Executive Governance Committee will be established as a priority and tasked with overseeing the implementation of our Reform Plan for rotary wing retrieval services in NSW.

NSW Ambulance will provide support to the Committee and continue to manage our existing helicopter contracts on a day to day basis. Its strengthened contract management function will ensure that our current system continues to work well and that the people of NSW receive quality medical retrieval services, including rotary wing retrieval when they need it.

As a separate but related strategy, the Ministry will lead the procurement process for the next round of helicopter contracts. The process will commence immediately, so that the new contracts can be announced in late 2014. By working in partnership we know the implementation of our Reform Plan for our rotary wing retrieval services will help ensure that we continue to meet the needs of the people of NSW long into the future.
Patient Story

Bright, happy and always smiling: 10-month-old Monty Smith is everything a new parent could hope for. But the gorgeous little man’s demeanour belies his challenging start. At just seven days old, Monty’s heart went into cardiac shock. Quick to react, his parents rushed their precious newborn to Wyong Hospital where it was confirmed Monty was in heart failure.

Monty needed the specialist services available at The Children’s Hospital at Westmead and time was of the essence.

Enter NETS – the Newborn and Paediatric Emergency Transport Service.

Crucial in situations just like Monty’s, NETS is a statewide emergency service of NSW Health dedicated to babies, infants and children requiring transfer to a specialist perinatal or paediatric centre.

An emergency call to NETS puts into action a team of specialists who together activate and implement the appropriate medical response.

In Monty’s case, a NETS helicopter was dispatched, equipped with a life support system appropriate to Monty’s age and condition, and with an expert doctor and nurse on board.

Monty’s mum Catriona said: “I can’t even begin to put into words how grateful we are to the incredible team at NETS.

“From the start, we felt reassured that Monty was safe in their hands.

“They saved our baby – everyone involved deserves a medal of honour.”

On arrival, the NETS team treated and stabilised Monty – a pre-requisite of any transfer.

Then, with Catriona by his side, Monty was transferred by the same NETS helicopter to The Children’s Hospital at Westmead where he underwent successful emergency heart surgery.

From start to finish, 22 specialist NETS staff had a hand in ensuring Monty and his family received the best possible care.

Ten months down the track, Monty is a testament to his fighting spirit. While his condition requires long-term management, he is reaching his milestones and the outlook is positive.

Catriona said: “The exceptional care and attention shown by the NETS and Hospital staff healed our baby boy.

“He is now a happy and healthy baby, and that’s all we can ask for.”

Photo: Monty Smith, his mum Catriona and sister Edie.
Photographer: Not known