



**Ambulance Service
of New South Wales**

excellence in care

Ambulance Year in Review

2012/13



Introduction

A year of reform

2012/13 has been a year of major change in NSW Ambulance, with the appointment of a new chief executive and the launch of the Reform Plan for NSW Ambulance released by the Minister for Health in December 2012.

The plan outlines five strategic directions aimed at improving ambulance services for the NSW community:

1. Integrating NSW Ambulance into the broader health system.
2. Separating non-emergency patient transport (NEPT) from urgent medical retrieval patient services so that NSW Ambulance is able to focus on its core role – attending to emergencies.
3. Developing new models of care and investing in new providers to effectively manage demand and response times, reduce paramedic fatigue and improve the operating costs of NSW Ambulance.
4. Ensuring that NSW Ambulance has effective infrastructure and a funding model that will ensure financial sustainability in the future.
5. Strengthening the leadership, workforce and governance structure of NSW Ambulance and embracing the CORE values of Collaboration, Openness, Respect and Empowerment.

NSW Ambulance has formed a high-level steering committee comprising key stakeholders from across the health system who are working together to implement the reforms. As at June 2013, 11 of the 34 reforms contained in the plan are complete and the remaining 23 are on track. The majority are expected to be completed by the end of 2013.

The Reform Plan for NSW Ambulance also acknowledged that the NSW Ambulance organisational structure could be improved by better aligning and grouping 'like' functions to enhance communication, clarify reporting lines and better equip the organisation to respond to the challenges of the future. Following a period of consultation with affected staff and unions, the new organisational structure was finalised and approved by the Director-General in June 2013. Recruitment to the executive director positions in the new structure will be completed by the end of 2013 and the phased transitioning of functions will occur as the successful candidates commence in their roles.

The implementation of the Reform Plan will assist in ensuring that patient care is delivered in a coordinated way across the entire health system, increasing the ability of ambulances to respond



to urgent, life threatening emergencies. The leadership capability across the organisation will be strengthened by the realignment of the executive structure, recruitment to vacant positions, and enhanced training opportunities.

A handwritten signature in black ink that reads "Ray Creen".

Ray Creen ASM
Chief Executive

Working with NSW Health

One of the five strategic directions outlined in the Reform Plan is for NSW Ambulance to be more closely integrated into the broader health system. This is being accomplished in many ways, including education, collaborations with Local Health Districts (LHDs) and IT systems. Some of the initiatives for 2012/13 were as follows:

Working to reduce infections

myhospitals.gov.au is a government website which informs the community about hospital performance, including occurrences of health care associated staphylococcus aureus bloodstream infections (SABSIs). These are frequently preventable and are often traced back to intravenous cannulation (IVC). A number of hospitals investigated the cause of infections and so were able to advise NSW Ambulance when the infection was caused by a paramedic-inserted IVC.

This information prompted NSW Ambulance to review and improve its cannulation products and procedures and to develop strategies to alert hospitals that the cannula may have been inserted under emergency conditions. Since changes were implemented, ongoing monitoring has shown that the number of infections caused by NSW Ambulance-inserted IVCs has declined.

StaffLink Human Resource Information System

StaffLink Human Resource Information System (HRIS) is a human resource and payroll system rolled out across NSW Health since 2009. In line with the Reform Plan to be more closely integrated with NSW Health, NSW Ambulance commenced implementation of StaffLink in February and will use the system for HR, finance, salary packaging, workers' compensation and clinical administration. Go-live for the StaffLink HRIS at NSW Ambulance is scheduled for early 2014.

HealthRoster

HealthRoster is the integrated electronic rostering system being introduced across NSW Health, with NSW Ambulance one of the first areas to implement the eRostering system. HealthRoster has now been configured to meet NSW Ambulance requirements and roll-out has commenced to operational staff including paramedics. This roll-out will be extended to corporate and other staff over the next 12 months.

Ambulance Operational Showcase

In April, NSW Ambulance invited key representatives from LHDs to attend a series of operational showcases demonstrating the tools used to manage demand and optimise availability of ambulance resources. Presentations provided an overview of ambulance demand, capacity building strategies, and how hospital access block impacts on operational status and ambulance responsiveness. Guests were able to explore various ambulance vehicles and gained an insight into the variety of calls and diverse range of incidents attended by NSW Ambulance.

NSW Ambulance is anticipating an increased understanding between LHDs and local zone management in managing pressures, meeting regularly to monitor and manage issues, and working together to evaluate local strategies and performance.

The Ambulance Operational Showcase was one of a number of initiatives supporting ambulance crews and management in reaching common ground with hospitals to find solutions when faced with delays at hospitals and improve the patient journey.



Collaborating to slash hospital delays

In one example of a NSW Ambulance zone working closely with its LHD to reduce hospital delays, Ambulance's Illawarra Zone worked closely with Wollongong Hospital for 10 months to improve patient flow and ambulance turnaround times. New initiatives included a Minor Injury Unit, a reconfigured fast-track area which has increased treatment capacity, and a review and modification of the models of care – which now necessitate that initial consultation in the ED be completed by a senior doctor and nurse. These initiatives, improvements and strategies have seen an average decrease of 85 per cent of hours lost waiting in hospitals and, even though demand has increased, the average off-stretcher time has declined from 60.1 minutes in winter 2012 to just 28.5 minutes this winter.

Supporting our patients

Non-Emergency Patient Transport

One of the five key strategic directions set out in the Reform Plan for NSW Ambulance is that Non-Emergency Patient Transfer (NEPT) be split from the emergency medical retrieval tier. This will reduce the demands on the NSW Ambulance fleet and resources throughout the state, enabling us to respond more quickly to priority patients. It will also improve the flow of non-emergency patients to and from scheduled hospital and other medical appointments.

THE JOURNEY

A key part of the project is the establishment of an NEPT Booking Hub to centralise all NEPT work throughout the state, along with the implementation of a web-based booking and scheduling system, OptimaNet. This system will enable third party bookings to be made by hospital staff and other relevant groups, and will also feature a simple reporting framework to enable performance reporting.

The interface between OptimaNet and new mobile data terminals to be installed in NSW Ambulance Patient Transport vehicles has been successfully developed. Comprehensive training for call taking, dispatching and system administration will be developed and provided for the new application.

THE FUTURE

The new NEPT Booking Hub will open in Sydney's Regents Park in July 2013. It will initially use the VisiCAD system staffed with call takers and dispatchers who have been redeployed from the Sydney Control Centre. The transition from CAD to OptimaNet will commence in late 2013.

Collaboration reduces hospital delays

NSW Ambulance's Hunter & New England (HNE) Sector collaborated with the Hunter New England LHD to eliminate Ambulance Release Teams (ART), increase NSW Ambulance responsiveness, decrease Transfer of Care times and significantly reduce off-stretcher delays. The project has halved delays and improved patient outcomes, staff morale and working conditions.

THE JOURNEY

In 2012, the HNE sector commenced working with the LHD to develop strategies to streamline the patient's journey from arrival at an emergency department until discharge home or to a ward. A risk-managed process was introduced and included nurse ART, clinical intervention in triage, escalation procedures, hot swaps and straight-through processing for stroke, Pre-Hospital Assessment for Primary Angioplasty (PAPA) and mental health patients. Escalation and management plans were developed to assist duty operations managers in managing off-stretcher delays and lost productivity triggers. The NSW Ambulance liaison officer hours were also modified to meet peak demand periods.

The strategies have been a major success. In July 2012, there were 1555 hours of lost productivity due to crews waiting more than 30 minutes to off-load patients, which dropped to 748 hours at 30 June 2013 – just 48 per cent of the previous year. Patient journeys have also improved with the introduction of nurse-initiated ART, clinical care pathways and general nursing.

THE FUTURE

Improved productivity has been sustained, which has also improved the HNE LHD's ability to implement nursing staff during peak demand periods. The processes are sustainable and continue to improve and deliver improved performance.



Implementation of the New Emergency Response Grid

To improve public and paramedic safety, NSW Ambulance has introduced a new emergency response category which will allow certain patient incidents to be transported to hospital as an immediate ambulance response without the use of lights and sirens.

THE JOURNEY

Following a comprehensive review of ambulance responses both in NSW and throughout Australia, NSW Ambulance undertook a specific review of Priority 1 incidents. A new Emergency 2 Immediate response category was developed for incidents not requiring the use of lights and sirens (such as non-life threatening falls, generalised pain or stabilised mental health patients). This brings NSW Ambulance processes into line with the rest of Australia and reflects world's best practice. This new category was integrated into NSW Ambulance operations and the Control Division software, VisiCAD.

THE FUTURE

The Emergency 2 Immediate category will improve paramedic and community safety, further decreasing response times to our Priority 1 incidents, meaning our sickest patients will get more expedited care.

Supporting our patients

First aid training for Rural Fire Service in remote areas

The NSW Rural Fire Service (RFS) has expanded its capability to respond to fires in more remote areas. NSW Ambulance is not always in a position to provide immediate support to these firefighters, so has been providing first aid training to crews working in remote areas to improve patient outcomes.

THE JOURNEY

Some time ago, RFS approached NSW Ambulance to provide remote area first aid training for RFS members involved in Remote Area Fire Fighting Teams (RAFT) and the newly developed State Mitigation Support Services (SMSS). For the past couple of years, the NSW Ambulance Special Operations Unit has trained all RFS members employed in SMSS and selected members involved in RAFT. The training consists of a brief review of first aid measures appropriate to these RFS members' working environment, as well as consideration for patient management

The first aid training means RFS members are equipped to manage patients for a longer period than their training otherwise permits, improving patient outcomes.



for protracted periods of time. It also includes planning for the environment and requirements for notification and handover of patients to NSW Ambulance. Remote area training scenarios with these crews were also conducted post-course.

The first aid training means RFS members are equipped to manage patients for a longer period than their training otherwise permits, improving patient outcomes. As the training also focuses on handover and communications with paramedics once they arrive on-scene, it also enables a smoother transition of care between RFS and NSW Ambulance.

THE FUTURE

NSW Ambulance will continue to train RFS members for RAFT and SMSS in remote area first aid.

Stroke Reperfusion Program

The Stroke Reperfusion Program was launched in January 2013 to improve patient access to stroke services across the NSW hospital network, specifically to early stroke thrombolysis at an Acute Thrombolytic Centre (ATC). A total of 20 ATCs were identified across the state – including four rural sites – as being able to deliver 24/7 thrombolytic services and acute stroke care.

THE JOURNEY

Ischaemic strokes account for approximately 80 per cent of all strokes, yet only seven per cent of these patients receive thrombolysis. This low rate and patient outcomes can be significantly improved if patients arrive in an appropriate hospital on time and a stroke team is ready to treat immediately.

Paramedics are playing an important role in the early identification of stroke-positive patients using the FAST (Face, Arms, Speech, Time) assessment tool and in pre-notifying hospitals to “turn the stroke system on”.

A collaboration between NSW Ambulance, the Ministry of Health and the NSW Agency for Clinical Innovation (ACI), the program increases the number of eligible patients receiving thrombolysis by changing out-of-hospital protocols. These include the introduction of a stroke assessment tool, identifying a hospital that can provide the appropriate services, and pre-notifying the hospital to ensure the stroke team is ready on arrival. Paramedics are playing an important role in the early identification of stroke-positive patients using the FAST (Face, Arms, Speech, Time) assessment tool and in pre-notifying hospitals to “turn the stroke system on”. When appropriate, stroke-positive patients are transported directly to an ATC.

By June 2013, paramedics had transported 550 patients to the ATCs with an average patient thrombolysis rate of 12 per cent (of patients for whom outcome data has been received).

THE FUTURE

Paramedics will continue to receive education on stroke management through scheduled training and will be advised of future developments in stroke care. The program will be closely monitored and a feedback mechanism developed to provide patient outcome information to paramedics.

Supporting our patients

Authorised Care Program

The Authorised Care Program helps paramedics respect the palliative care wishes of patients regarding transport to hospital, and ensures family members and carers are fully aware of the wishes of the patient.

THE JOURNEY

The program was initially established as a collaboration between NSW Ambulance and The Children's Hospital at Westmead to allow palliative care plans to be put in place for paediatric patients both in hospital and at home. Due to its success, it was expanded to include the Children's Health Network and a plan was established for adult patients in selected sites. There are now three aspects to the program:

- Authorised Paediatric Palliative Care Plan – for children under the care of the Children's Health Network or their treating clinician, which allows their family and/or enduring guardian to discuss treatment and transport options for the patient.
- Authorised Adult Palliative Care Plan – for adults under the care of their treating clinician, allowing the patient and their family and/or carer to discuss the patient's paramedic treatment and transport wishes.

- Authorised Care Plan – for patients identified with specific medical conditions which require pre-authorised medications or procedures not included in NSW Ambulance protocols and pharmacology.

Adult palliative care plans will be rolled out statewide by working with operational managers to identify priority areas, with Medicare Local groups to advise GPs, and with aged care providers to explain the importance.

In 2012, paramedics attended 97 cases where an Authorised Care Plan was in place, with 43 per cent of these patients remaining at home as per their wishes in the care plan. This freed up attending ambulance crews and saved an average of 55 minutes per case.

THE FUTURE

Adult palliative care plans will be rolled out statewide by working with operational managers to identify priority areas, with Medicare Local groups to advise GPs, and with aged care providers to explain the importance of their residents having an Authorised Care Plan and how to establish it.



Fleet improvements

NSW Ambulance has one of the most modern ambulance fleets in the world, with an average vehicle age of 18 months and a fleet availability of over 95 per cent. A number of initiatives this year have improved it even further.

THE JOURNEY

The phasing out of the Volkswagen T5 and Crafter ambulance and patient transport vehicles has commenced and all vehicles will be replaced over the next three years. This is in response to feedback from paramedics and to ensure vehicles can carry the necessary medical equipment.

Three additional bariatric ambulances have been introduced and can be used to transport morbidly obese patients (weighing up to 300 kg) and critically ill patients in a state of high-dependency. Based on a Mercedes Benz Sprinter 519, the major advance is the reduced risk to morbidly

obese and high-dependency patients during transport and treatment. Risk to paramedics is also reduced, as each vehicle features an electric-powered stretcher. The vehicles have also been designed to fit in with statewide medical retrieval services and interface into Air Ambulance when required.

THE FUTURE

Three additional bariatric ambulances will be delivered in the next year. Also, Mercedes Benz Sprinters delivered from January 2014 will receive a safety upgrade with a host of active and passive safety devices, including an in-dash satellite navigation unit.

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Supporting our patients

24 hour secondary triage with Healthdirect Australia

To increase our ability to respond to the critically injured and seriously ill, NSW Ambulance is providing an alternative service for people who phone Triple Zero (000) and are found to be 'low acuity' (not urgent). Transferring these calls to Healthdirect Australia, a registered nurse undertakes secondary triage, and provides referral services and self-care instructions.

THE JOURNEY

NSW Ambulance provided an internal secondary triage program through its Health Access Coordination Unit (HAC) for



10 years before commencing a trial of referring patients to Healthdirect Australia outside of HAC operating hours. Under the system, Triple Zero (000) callers without any priority symptoms are triaged and those found to have a low acuity problem are transferred to Healthdirect. A registered nurse then utilises sophisticated software to ensure the patient can safely be referred to an alternative care pathway, and provides self-care instructions and advice on when to seek medical assistance. If the nurse identifies that an ambulance is needed, the patient is immediately transferred back to NSW Ambulance.

Due to the success of the Healthdirect trial, it was extended to 24 hours a day, seven days a week. It has reduced NSW Ambulance responses to low acuity patients by approximately 30 cases per day, with these patients instead given alternative pathways of care or self-care advice.

THE FUTURE

Further analysis will identify whether additional patients can be safely referred to Healthdirect and therefore avoid an ambulance response. This will increase NSW Ambulance's capacity to respond to patients requiring an emergency response and also reduce the number of low-acuity patients presenting to hospital emergency departments for treatment.

Cardiac Care Program

The Cardiac Care Program, which commenced in 2011 and is scheduled for completion by July 2014, will provide all NSW patients who present with an ST Elevation Myocardial Infarction (STEMI) with the most appropriate treatment pathway – either Pre-Hospital Assessment for Primary Angioplasty (PAPA) or Pre-Hospital Thrombolysis (PHT). These high-acuity patients receive early diagnosis and treatment aimed at restoring coronary artery blood flow as close to symptom onset as possible.

THE JOURNEY

Implementing timely pre-hospital access to cardiac reperfusion requires paramedics to be able to identify a STEMI. To enable this, last year NSW Ambulance equipped frontline ambulances in Sydney and Newcastle with a 12-lead ECG monitor which identifies STEMI-pattern ECG changes and transmits the data electronically to a cardiologist or

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ED specialist. This year, the program was implemented in Illawarra/Shoalhaven, the Mid North Coast and part of Southern NSW. All paramedics are completing 12 lead-ECG acquisition, interpretation and transmission training. Improved telecommunications equipment is being implemented to achieve better data (ECG) transmission.

In 2012/13, 1159 patients were enrolled in the PAPA pathway and 49 patients received PHT. The PAPA and PHT programs, together with ECG reading services, are an initiative of NSW Ambulance, the Agency for Clinical Innovation (ACI) and LHDs.

THE FUTURE

NSW Ambulance continues to work with the ACI and LHDs to achieve STEMI ECG Reading Services to support the cardiac reperfusion program prior to the 2014 completion date.

Supporting staff

Station and senior officer pre-winter forums

Every year, NSW Ambulance conducts a pre-winter planning exercise to prepare for the expected seasonal increase in demand. As part of this year's plan, the Sustainable Access and Patient Flow (SAPF) Unit ran a series of five station officer forums in Metropolitan and Hunter (Zone 1 and 2) Operations. The aim was to provide station officers with the knowledge, strategies and confidence to manage hospital delays and liaise with hospital staff and executives.

THE JOURNEY

Station officers were informed about NSW Ambulance's overall strategies to manage the increased demand, including:

- nine NSW Ambulance showcases held throughout NSW for LHD staff
- a revised Action Plan and Resources Kit
- station and senior officer forums.

The importance of the station officer role was emphasised as attendees examined their position as leaders, and identified ways they can model the right behaviour and create a culture of teamwork. Participants looked at case cycle times and how they can influence crews to reduce

on-scene and turnaround times, while also building a sense of urgency and 'saving five minutes' to improve response capacity and patient outcomes.

The forums also looked at operational status, the SAPF State Action Plan 2013 and the 2013 Resource Kit. This year's action plan had greater emphasis on crews delayed in emergency departments and was designed to ensure crews explored all avenues of patient off-loading before escalating the situation.

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THE FUTURE

NSW Ambulance will seek feedback from station officers as part of post-winter debriefing and incorporate lessons learned into next year's pre-winter planning. It will also continue to build upon the foundation established to build station officers' confidence in leadership.



Volunteer and Community First Responders management

Volunteer Ambulance Officers (VAOs) and Community First Responders (CFRs) are the frontline providers of out-of-hospital care in rural and remote areas, responding to all incidents and providing state-of-the-art lifesaving care to people located more than 30 minutes from an ambulance. This year, VAOs and CFRs were reinvigorated due to a state coordination that provides enhanced support and management of these units across NSW.

THE JOURNEY

NSW Ambulance Education recently developed *Certificate 2 – Emergency Medical Service First Responder*, a nationally-accredited course for VAOs and CFRs, bringing the standard of training in line with other states. In the past 12 months, more training has been provided in areas such as Broken Hill, Armidale and Pooncarie to

enhance the numbers of VAOs and CFRs in regional and remote areas. Communities have also been supplied with additional life-saving equipment which will enable VAOs and CFRs to provide better treatment for patients until an ambulance arrives.

More training has been provided to enhance the numbers of VAOs and CFRs in regional areas.

THE FUTURE

Further training will be provided to enhance numbers in rural and remote areas, along with the supply of new training equipment. An internationally-recognised series of scenario-based training days will also be delivered in remote areas, allowing paramedics and volunteers to work together to ensure the best patient outcomes.

Supporting staff

Evidence-based clinical practice

New and revised NSW Ambulance Clinical Protocols and Pharmacology were released in October 2012 marking two significant milestones – the implementation of a Protocol Governance System, and the first suite of protocols reflecting paramedic feedback on format and distribution.

THE JOURNEY

Clinical protocols provide the authority, framework and direction of clinical care provided by paramedics. The development of the 2012 Protocols provided the opportunity to implement a protocol governance system which included:

- development of a schedule to support a systematic review of all protocols and pharmacology, for completion by 2015
- a process for scanning literature to identify clinical innovation
- ongoing review of the Clinical Excellence Commission and Agency for Clinical Innovation clinical practice guidelines, and Ministry of Health policies to identify new, or changes to, clinical practice
- evaluation of all proposed and revised protocols by the New Clinical Interventions and Procedures Committee.



The protocol development process was also refreshed to incorporate recommendations from paramedics. Changes as a result of this feedback include:

- inclusion of a page for age medication chart
- the protocol distribution cycle was increased to 18 months to complement the in-service training schedule
- the format continues to incorporate decision-making algorithms supported by linear instructions, background information to enhance learning, and changes to the font and colours in consideration of staff who may have visual or reading difficulties (e.g. dyslexia).

THE FUTURE

While the initial review of all Clinical Protocols and Pharmacology is scheduled for completion by 2015, the ongoing systematic review and identification of new initiatives is a continual process which will ensure patients receive the best possible treatment.

Introduction of new staff medals

NSW Ambulance provides honours and awards to acknowledge the outstanding performance of staff and recognise outstanding community contributions. In 2012, a new bravery award was introduced in the NSW Ambulance Honours and Merit Awards, and new medals were introduced for chaplains and volunteers.

The Conspicuous Service Medal was introduced as NSW Ambulance's second highest bravery award and recognises acts of conspicuous bravery by employees in circumstances of great peril.

THE JOURNEY

The *Chaplain and Volunteer Long Service and Good Conduct Ribbon Drop* was replaced by a new medal, in line with the NSW Ambulance staff *Long Service and Good Conduct Medal*. Like the ribbon drop, the medal recognises the contributions made by members of the NSW Ambulance chaplaincy and volunteer units. Eligibility for these awards is for continuous or aggregate service of five years for chaplains and 10 years for volunteers.



The new bravery award, the *Conspicuous Service Medal*, was introduced to bridge the gap between the highest NSW Ambulance bravery award, the *Distinguished Service Medal*, and the *Meritorious Service Medal*. The medal was introduced as NSW Ambulance's second highest bravery award and recognises acts of conspicuous bravery by employees in circumstances of great peril. Eligibility for the award includes staff members who demonstrate commendable achievement or commitment to duty, through displayed acts of bravery in perilous circumstances.

Supporting staff

NSW Ambulance Forward Commanders Course

Over the past several years, NSW Ambulance Operations has recognised a need to provide ongoing incident management training and education to operational managers. In late 2010, the Special Operations Team (SOT) applied for external funding to develop a curriculum program for forward commanders.

THE JOURNEY

Thirteen modules of study were identified for inclusion in a NSW Ambulance Forward Commanders program (AFCP) following analysis by SOT staff, consultation, and a review of existing Australian and international models of command training. The content of each module was drafted using expertise from

The next stage will be the development of a Forward Commanders' toolkit, together with a command capability framework for managers to demonstrate incident management competency and currency on a regular basis.

within NSW Ambulance to ensure it was placed into a practical ambulance context. By working closely with the Learning and Development Unit, the modules are now available to all staff. The objectives of the AFCP include:

- creating higher levels of local and district major incident and disaster management resilience, through an increase in operational managers' awareness of legislative and agency responsibilities
- delivering an established program of leadership management amongst those operational managers responsible for incident management
- developing a consistent approach to incident management.

THE FUTURE

All modules will be completed by the end of 2013, with the focus then shifting to programming and conducting consolidation workshops. The next stage will be the development of a Forward Commanders' toolkit, together with a command capability framework for managers to demonstrate incident management competency and currency on a regular basis.

HEMS Induction Course

Each year, the Greater Sydney Area Helicopter Emergency Medical Service (GSA HEMS) trains more than 30 experienced critical care physicians in the exciting and challenging field of out-of-hospital and retrieval medicine.

THE JOURNEY

Managing patients in challenging environments and transporting them long distances by road, fixed wing or helicopter requires the highest level of training and preparation. The HEMS Induction Course (HEMS IC) comprises two weeks of dedicated full-time clinical training and two weeks of helicopter winch training with supervised shifts. It has evolved over the past few years to encompass an extensive online pre-course, a comprehensive set of small-group workshops and simulation-based scenarios. The course now includes a day of practical rescue/extrication training, a pig cadaver-based surgical procedure lab and critical care ultrasound training. Throughout the course, there is a focus on non-technical factors and Crew Resource Management.

The HEMS IC prepares medical teams for the missions they might be tasked with and trains them to work with on-scene crews. It has become so popular, in 2012/13 NSW Ambulance has been asked to train physicians and paramedics from a wide range of external



organisations, including Capital Region Retrieval Service, Westpac Life Saver Rescue Helicopter Service Lismore, Royal Flying Doctor Service and the Australian Defence Special Forces. The course regularly hosts interstate and international HEMS services who observe how training is conducted.

THE FUTURE

The HEMS IC will continue to build on the strengths of previous years and help provide our paramedic/physician teams with high quality medical training in out-of-hospital and retrieval medicine.

Supporting staff

CBRN incident management and investigator training

Australia participates in a quadrilateral exercising and information-sharing arrangement with the USA, Canada and the UK, which involves military units and emergency services from all four countries. Each member country conducts its own multi-agency training, then every two years teams come together for a Quadrilateral Capability Exercise (CAPEX) held in one of the host countries. NSW Ambulance's SOT paramedics are involved in this initiative along with other Australian emergency services.

THE JOURNEY

Over the last 12 months, training has focused on Chemical, Biological, Radiological or Nuclear (CBRN) incident investigation and management. A national training exercise was held at Holsworthy Army Barracks in October, with representatives from the Australian Defence Force and various emergency services attending. Separate management and investigation courses were conducted, culminating in a joint exercise where participants investigated simulated scenes where CBRN weapons had been prepared.

SOT paramedics were responsible for conducting medical monitoring on responders from all organisations when

deployed in CBRN Personal Protective Equipment (PPE). NSW Ambulance also worked with other agencies in the management cell for the exercise.

SOT paramedics were responsible for conducting medical monitoring on responders from all organisations when deployed in Chemical, Biological, Radiological or Nuclear Personal Protective Equipment.

Following the Holsworthy exercise, a NSW Ambulance SOT paramedic was deployed to join the Australian contingent attending CAPEX 13 in the USA in April. The paramedic again conducted medical monitoring and had the opportunity to share ideas with other member countries on medical monitoring and out-of-hospital care of CBRN responders.

THE FUTURE

NSW Ambulance will continue to be involved in this initiative with further information sharing within Australia and other member countries.



Leadership Training Calendar

Last year, a gap was identified in the leadership development of NSW Ambulance middle and senior managers. While the Ambulance Management Qualification captured emerging and existing managers, and the Executive Development Program (EDP) captured senior managers and executives, middle managers were left with no specific structure to assist in their career development.

THE JOURNEY

To provide this structured leadership development, the EDP was evolved into the Leadership Training Calendar (LTC) and a new Leadership Development Program was created and formalised in March. The rationale was that the LTC had the opportunity to have greater-reaching opportunities and impact for middle and senior managers.

The LTC is a scheduled calendar that provides a range of training presented in such forums as face-to-face workshops, webinars, virtual

classrooms and lunchtime sessions. To encourage the development of professional relationships between senior and emerging leaders, the LTC is a shared calendar between middle and senior managers.

By 30 June, 14 sessions had been conducted with 132 participants – 88 per cent from metropolitan areas and 12 per cent regional. The LTC has received very good feedback from staff through formal evaluations.

THE FUTURE

The challenge is to capture more regional participants, and to maintain a contemporary calendar that meets the needs of the organisation and challenges the thinking of the participants. Learning and Development is consulting with regional managers, as well as investigating the options of webinars and virtual classrooms to capture more regional participants.

The future

Planning for our ageing population

Half of all NSW Ambulance patients are over 65 and this is expected to increase as our population ages. Little is known about the impact a growing number of older people will have on ambulance utilisation, yet understanding this is crucial for planning future ambulance services and resource levels.

The study found with older patients paramedics spend more time on scene and the patient spends more time on the stretcher in hospital than with younger patients.

THE JOURNEY

The NSW Ambulance Service Planning Unit analysed patient data to investigate how an increasing number of older people will affect ambulance usage. The analysis looked at the relationship between age and utilisation rates, non-transport rates, time paramedics spend on-scene, and time the patient is on the stretcher in hospital. The key results of this study, which were presented in November 2012, include:

- for every 1000 people in the population aged 85 and over, there are about 1000 ambulance incidents per year
- older people are more likely to be transported to hospital than younger people
- paramedics spend more time on-scene and the patient spends more time on the stretcher in hospital than with younger patients and this is increasing
- Utilisation rates for older people are higher in regional than metropolitan areas.

The investigation highlighted that the impact of providing care for older people is greater than the increase in their total number.

The higher rates of transport to hospital and increased time on-scene and on the stretcher mean older patients have a longer case-cycle time than younger patients, requiring greater resources. Moreover, due to different utilisation rates between regional and metro locations, resources will need to be spread differentially throughout the state.

THE FUTURE

These results provide insight into the core clientele of NSW Ambulance and will be used in planning for future services.

Projecting demand for emergency ambulance services

Projecting demand has been difficult in the past, as the factors which drive demand for emergency services weren't completely understood. This made it difficult for NSW Ambulance to identify the staffing and infrastructure that will be required to provide excellence in care to the community in the future.

THE JOURNEY

To reliably project future demand for ambulance services, a 2012 NSW Ambulance study compared 10 years of ambulance data with projections from NSW hospitals. Based on this data, the study identified that emergency ambulance demand is likely to grow by 27 per cent over the 10 year period to 2021, and growth in transports is likely to increase at a higher rate due to ageing of the population. Three broad categories were identified as driving this demand:

- total population growth – causing 35 per cent of the increased demand for ambulances
- the ageing of the community – contributing 24 per cent of growth
- increased utilisation of ambulances – responsible for the remaining 41 per cent of increased demand.



Other research suggests that increasing utilisation is related to factors, such as chronic disease and community capacity or awareness of alternative means to access primary care.

THE FUTURE

This study gives a level of precision to our level of understanding of future growth. The data will be used to understand the consistent trend in increasing demand and to provide a base against which variations can be compared. It will enable more detailed regional and local studies, and quantify the resources required to meet demographic growth and change. It will also be used to estimate the impact of alternate care models.

The future

Enhancing clinical policy decision-making

NSW Ambulance Research has developed a new model that provides a rigorous, evidence-based approach to our clinical policy decision-making practices. Using this approach benefits staff by ensuring guidelines reflect the most up-to-date information and provides improved outcomes for our patients.

THE JOURNEY

A comprehensive review of literature identified three 'types' of evidence that can be used to inform clinical policy: scientific evidence, stakeholder expertise and social-science evidence (organisational acceptability and capacity). The new evidence-based practice model features six phases:

1. generation of locally relevant research knowledge
2. seeking and synthesising evidence
3. decision-making (discussion and agreement)
4. protocol construction or amendment
5. implementation
6. evaluation.

To support this model, NSW Ambulance Research regularly reviews protocols and literature, and prepares summary reports to assist clinical policy-makers in their decision-making. Additional expertise is sought from the NSW Ministry of Health Pillars or university academics as required.

This systematic and transparent approach ensures that the most current information about contemporary paramedic practice and ambulance operations is captured for consideration.

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THE FUTURE

The model is now in place and Research is assisting clinical managers to ensure they are made aware of literature or new developments in their area of expertise. In the near future, a template will be developed to rate the quality of all published research and its applicability to NSW Ambulance.

GSA HEMS Aeromedical Research

The fields of pre-hospital and retrieval medicine/paramedicine are gradually being recognised around the world as the newest sub-specialties of critical care. Research is essential for developing better patient care, which is why GSA HEMS is heavily committed to a wide range of research activities which will benefit both practitioners and the patients we treat.

THE JOURNEY

In the last year, GSA HEMS published 12 papers in peer-reviewed medical journals and presented more than 25 abstracts, posters or lectures at a wide range of national and international medical conferences. Topics included an analysis of obstetric patients transported, a description of medical interventions in winch-accessed patients, and a new evidence-based out-of-hospital traumatic cardiac arrest algorithm.

Research has been driven by a prospectively-collected clinical database designed and developed by NSW Ambulance, which is now being rolled out to all retrieval services in the state and has attracted interest from Queensland and South Australia. The database collects



extensive data on all aspects of clinical care, including a detailed airway registry. The most recent research project is a prospective study of out-of-hospital lung ultrasound for the detection of pneumothorax in trauma, which aims to assess the real-world accuracy of this modality for this challenging diagnosis in the out-of-hospital environment.

THE FUTURE

Having established an enviable track record, GSA HEMS is moving forward with larger prospective and collaborative studies.

The future

Wide Area Network redesign

As reliance on Information and Communication Technology (ICT) services increases, it's critical that NSW Ambulance staff have access to the right systems and services when they're needed, at any time of the day or night.

THE JOURNEY

As part of a range of ICT infrastructure upgrades, NSW Ambulance's Wide Area Network (WAN) has been redesigned to support an increasing range of services, including clinical education, email, fleet, financial management, online procurement and rapid access to store and retrieve data. The upgraded WAN also addresses poor network connectivity issues experienced by some staff, particularly in remote rural areas.

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The project required a complete redesign of the WAN, with the intention of deploying a network that provided dual connectivity between two different carriage service providers at most sites. The concept required NSW Ambulance to have management access to implement and manage a number of specific networking protocols, and to develop solutions which had never previously been used. The new network design was deployed over a period of several months and became operational in early 2013.

THE FUTURE

By the end of 2013, the project team will develop and deploy a statewide video conferencing solution which will enable a range of new services. These include clinical video conferencing, to enhance clinical training and mentoring, video management training and various corporate communication initiatives.

Enhancing email and data storage

The completion of the WAN upgrade highlighted the need to improve the capabilities of the systems used to provide a number of core ICT services. Emails and forms of other messaging are essential for communication, with users expecting easy, fully-functional systems to be available across an increasingly wide range of media at all times. A project to upgrade NSW Ambulance's email and file storage was commenced in 2011 and completed in February 2013.

THE JOURNEY

The email upgrade project dealt with the massive email databases used by NSW Ambulance's 4500 employees across the state who currently send and receive about 120,000 messages per day, requiring more than 25 gigabytes of storage.



A solution based on fixed-sized mailboxes with immediate overflow into an archiving system was developed, but initial estimates for storage requirements were quickly found to be inadequate as email usage increases. Instead, a solution was deployed that combined a network of virtual and physical servers connected with resilient Highly Available (HP) storage systems. The increased capacity and capability of the new systems resulted in a rapid 30 per cent increase in email traffic in the first couple of months, as users had better access to email across a range of systems, including webmail.

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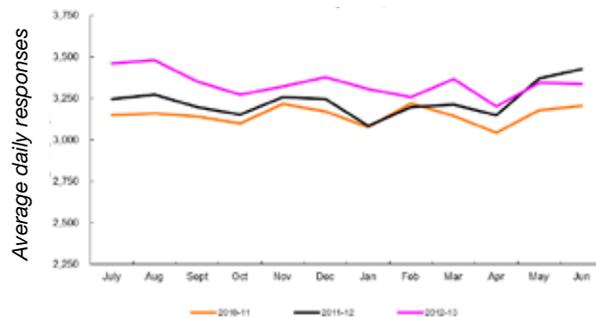
THE FUTURE

The focus will be on improved secure access for mobile users and enabling full access to various applications, regardless of the end device. Along with other improvements in the NSW Ambulance IT network, modern, resilient and unlimited storage will be essential for effective organisational operations.

Ambulance activity

Total NSW Ambulance responses

New South Wales



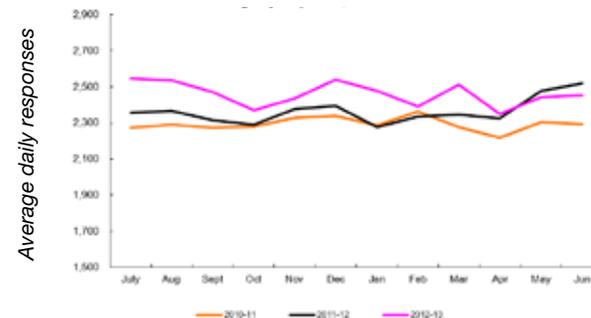
Ambulance activity

The average daily number of ambulance responses increased by 3.3 per cent over the past year. Factors contributing to this increased activity include population growth, an ageing population and the associated increase in rates of illness.

TOTAL ACTIVITY In 2012/13, NSW Ambulance provided 1,219,262 total responses (both emergency and non-emergency) compared to 1,183,795 total responses in 2011/12. On average, there were 3340 responses per day – equivalent to a response every 25.9 seconds. The average daily ambulance responses by month is illustrated above.

Emergency responses

New South Wales



Emergency activity

In 2012/13, the total number of emergency responses was 898,132 compared with 865,725 in 2011/12. The average number of emergency responses per day increased 4.0 per cent from 2365 in 2011/12 to 2461 in 2012/13.

Average daily emergency activity for the last three years is illustrated above.

Non-emergency responses

New South Wales



Non-emergency activity

Across NSW during 2012/13, NSW Ambulance provided 321,130 non-emergency responses compared with 318,070 in 2011/12. In 2012/13 there were 880 non-emergency responses per day, compared with 869 in 2011/12, an increase of 1.2 per cent.

Average daily non-emergency response activity over the past three years is illustrated above.

Ambulance activity

Dialling Triple Zero (000)

You can dial Triple Zero (000) for free from any phone, even a phone box or disconnected mobile phone.



Resources

- Download a range of health and safety information from our website at www.ambulance.nsw.gov.au

Follow us



Facebook

www.facebook.com/pages/Ambulance-Service-of-NSW



YouTube

[www.youtube.com.nswambulance](http://www.youtube.com/nswambulance)



Twitter

<http://twitter.com/asnsw>



Community Education Programs

We run a wide range of programs, including:

- **Access for Life:** dealing with medical emergencies at work
- **Be an Ambulance Hero, Dial Zero Zero Zero:** primary school program on what to do in an emergency
- **First Steps:** assisting new parents in a medical emergency
- **Emergency Helpers:** preparing children under five years for emergency situations
- **Life...Live It Save It!:** an educational program aimed at the over 55s to help them deal effectively with medical emergencies
- **Migrant Resource Program:** provides skills to Non-English Speaking communities on calling Triple Zero (000)
- **Traffic Offender Intervention Program:** an educational pre-sentencing option available for people to attend if they have been found guilty of committing a traffic offence, run in conjunction with the Police Citizens Youth Clubs NSW
- **U-Turn the Wheel:** a high school program aimed at educating pre-licenced and licenced students on road safety and the consequences of their actions
- **Thank a Paramedic Day:** an annual event held on the third Wednesday in November, it provides the community with an opportunity to acknowledge the extraordinary work of paramedics, call takers and other Ambulance staff
- **B Street Smart** (in conjunction with Westmead Hospital): an annual youth road and trauma forum open to all high school students in years 10-12 across NSW and the ACT, it's a real life enactment of a motor vehicle collision involving all of the emergency services.



**Ambulance Service
of New South Wales**

www.ambulance.nsw.gov.au