



Perspective

March 2006

Metropolitan Ambulance Service

The Games-Behind the scene



As we go to press the Melbourne 2006 Commonwealth Games are under way. Phil Cullen, who wrote this piece for us just a few days before the opening ceremony, discovered it was not just the athletes training hard to prepare. MAS had to prepare for the equivalent of twelve consecutive days of New Year's Eve celebrations!

Melbourne's ambulance fleet was fitted with two-way radios for the first time not long before 3184 athletes competed in the 1956 Olympic Games. In that year, ambulances attended 88,000 telephone calls for help and transported 10,800 patients.

Fifty years later - as 4500 athletes descend on Melbourne for the Commonwealth Games - the Metropolitan Ambulance Service attends more than 430,000 cases and transports more than 360,000 patients a year. And the level of planning behind the MAS response to major events such as the 2006 Commonwealth Games matches the explosion in emergencies attended by paramedics over that time.

While the entire organisation has contributed to the planning, the detailed preparation to ensure that the ambulance

service was ready for the Games fell to the emergency management department, run by operations manager Paul Holman.

NOTHING LEFT TO CHANCE

Holman says about 200 paramedics and 40 extra ambulances and vehicles will be assigned to work at Games venues and events. MAS has left nothing to chance, using risk management models and data from previous events to determine the resources required.

'We have a full team working on the Commonwealth Games, which is the biggest operational response that MAS has ever undertaken both in size and duration,' Holman said.

'And it involves co-ordination of not only operational resources but all the support services as well in terms of fleet, equipment, finances and human resources.'

'Everyone and every department at MAS is involved in some way, shape or form in contributing to the Commonwealth Games project.'

MAS plans to be involved in athlete, VIP, spectator, and general public care during the Games, and to provide transport to hospital

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for assessment and admission. Some sports, such as contact sports, require an ambulance and paramedics on site, as determined by regulations of the international governing bodies of individual sports. There has also been a requirement to provide on site ambulances at some venues or events for public safety.

Each venue or event area has its own unique planning problems. The mountain bike competition at Lysterfield, for example, will be held in remote surroundings and not ticketed, meaning that people can access the venue as they please from a range of areas. The prestigious marathon event is another that requires considerable planning because of factors such as road closures and expected crowds of up to a million spectators lining the streets.

Holman said the type of crowds expected for the Games, and the areas they were most likely to go to, would be similar to the annual New Year's Eve fireworks celebrations. Each year, about 400,000 revellers line the banks of the Yarra to view the fireworks. It's this high-density crowd in a celebratory mood MAS envisages during planning for the Games.

MAJOR EVENT FOLLOWS MAJOR EVENT

MAS is working with the estimate that 500,000 people will be in the central business district during the two weeks of the Games. With big crowds also expected for two major sporting events the following week – the Formula 1 Grand Prix and the first round of the AFL premiership season.

The gathering of so many people in a city can generate risks and there is a genuine need for effective emergency management. While the rest of the world may be focused on the Games competition, MAS' preparation extends well beyond the boundaries of sporting events. Indeed the public domain areas such as Carlton Gardens, Sidney Myer Music Bowl, Federation Square and Birrarung Marr, are the most unpredictable. These areas have been selected to feature cultural events such as concerts and 'live sites' displaying sports on large screens.

'We have all the data from Manchester Commonwealth Games, from the Sydney and Athens Olympic Games and indications are that we can expect an across-the-board increase in workload of at least 10 per cent,' he said.

'The other thing that we had to ensure was that while we were focussed on the Games we still kept in mind our normal day-to-day business. So while it's been exciting, it's been pretty full on as well.'

Holman says a recent addition to the ambulance fleet, bicycle patrols, will also be deployed. 'When we have used them, the bicycle patrols have proven their worth beyond all expectations,' he said. 'We used them on New Year's Eve, for instance, and they helped paramedics respond quickly to a large number of jobs. They are a valuable resource and are going to be quite an asset to us at these events.'

Holman says paramedics will also be on hand at the athletes' village 24 hours a day and security risks were explored due to a heightened threat of terrorism. He said many lessons have been learnt from major international events such as the September 11 tragedy and the London bombings. The threat of terrorism is being taken seriously, as are other risks that may come from a large number of temporary structures and cooking facilities using bottled gas.

About 300 paramedics are being trained to respond to incidents requiring personal protective equipment, including more than 100 paramedics who have been trained to use self-contained breathing apparatus and fully encapsulated airtight suits. The equipment is suited to disasters beyond the threat of terrorism, such as an infection pandemic, dust and fire. 'These are the type of things we have had to consider – each of the events and each of the days and each of the sports has been evaluated and the risk models and the processes and the response tailored to suit,' he said.

DEVELOPED EMERGENCY MANAGEMENT CAPABILITY

Over the past 18 months, Holman said, MAS has developed an 'emergency management capability and response that we have never had before.' Two new emergency support vehicles, a new communications vehicle able to dispatch ambulances from a mobile setting, and new personal protective equipment all have wider applications beyond the short life of the Games.

Much of the co-ordination of MAS' Commonwealth Games response – particularly if a major incident develops – will be run from a North Melbourne office. State-of-the-art technology in the emergency operations centre will be able to directly feed footage from incidents giving controllers a bird's eye view of incidents without even being there. 'Smart board' technology allows three whiteboard-sized screens to be used for co-ordinating responses to major events.

The centre has video conferencing capabilities that can link it to the mobile



communications unit, MAS headquarters, Tally Ho, the Department of Human Resources and Rural Ambulance Victoria. Holman says the centre would not have gotten off the ground without the support of the MAS board, government and senior MAS management and would not function without its disciplined and focussed team of staff.

‘What I’m hoping for, like all events, is that if we plan this well, and we have the resources in place, we will feel we are not doing anything out of the ordinary.’

‘New Year’s Eve was planned really well and even though we thought it was quiet we were actually really busy - the difference being, if you plan and you position your resources and manage your responses you will be able to cope with any demands.’

‘Event processes we have developed over several years are ensuring that we approach this one in the same way. We are trying as much as possible to keep it business as normal. We are not changing anything we would do in any other event, the only thing that should be changing is the scale.’

Holman said he had just one wish for when the final medals were decided and the closing ceremony brought the Games to a close. ‘I’m hoping that we will have demonstrated MAS is a leader, worldwide, in the way that it handled this event,’ he said. ‘I know that we’ll be able to show that we are a world leader in planning operational events, and our capability for emergency management and response is second to none.’

Games planning officer Justin Dunlop

‘If the Games were to start tomorrow, I’m extremely confident that we would perform well.’

The above quote wouldn’t appear out of place on the back page of a newspaper but the words didn’t fall from the mouth of an athlete – it was MAS Commonwealth Games planning officer Justin Dunlop.

Dunlop, a team manager at Caulfield seconded to the emergency management department, took on the role of Games planning officer in December 2004. He manages the Commonwealth Games planning team of Alan Eade, Simon Thomson, Megan Dunham and Chris Clifford.

Dunlop said the secret to getting MAS ready for Melbourne’s biggest sporting event in 50 years was in breaking the project down into ‘manageable chunks’. It also required tapping into the experience and expertise of people from every area of the organisation. For instance, MAS team managers used their local knowledge to create detailed plans for ambulance responses to events in their areas.

The pre-Games period required the development and specific planning for the distribution of ambulance services, standard operating procedures for clinical care, communication and reporting, and maintenance of usual ambulance services. Venue-specific emergency response plans were also developed in case of a mass casualty incident.

The roster has been carefully balanced to ensure MAS meets its usual business requirements during the Games and paramedics have been briefed on the effect of road closures and accessibility in the city. While leave has not been cancelled, many paramedics will take holidays either before or after the Games to ensure there are enough resources.

While Dunlop’s consultation touched every corner of MAS, it also extended beyond its boundaries to include Commonwealth Games officials, fire services, police, Rural Ambulance Victoria, the Red Cross and government departments.

‘My aspiration, by the end of the Games, is to have MAS thought of in the Commonwealth Games community and the wider community as a professional service that produced adequate resources for the duration of the Games,’ he said. ‘And I hope that paramedics come away having enjoyed the experience and ready for the next major event we have in Melbourne.’

Planning Teams

Six planning teams consisting of senior operational members from across MAS helped develop the service’s Commonwealth Games response. The teams looked after five Games precincts as well as MAS’ normal business requirements.

Central Business District

This precinct features most live and cultural events and includes the City Square, Federation Square, Queensbridge Square, Carlton Gardens, Alexandra Gardens and the Sidney Myer Music Bowl.

Sports and Entertainment Precinct

This precinct includes the MCG, Birrarung Marr, Rod Laver Arena and the Multi-Purpose Venue (also known as Vodaphone Arena). Feature events will be the opening and closing ceremonies, athletics, basketball, track cycling, netball final, gymnastics and training at Yarra Park and Olympic Park.

Docklands

The Docklands precinct includes the Melbourne Exhibition and Convention Centre for events such as rugby, the walk, badminton, boxing, a youth festival and a live site at New Quay.

Royal Park and Albert Park

This includes the Games Village, Melbourne Sports and Aquatic Centre and State Netball and Hockey Centre. Sports include hockey, netball, swimming, diving, synchronised swimming, squash, table tennis, pistol shooting, small bore shooting and lawn bowls in Darebin.

Outer precinct and road events

These events presented complex logistical and traffic issues. They include mountain bikes at Lysterfield, clay target shooting at Lilydale, the triathlon at St Kilda, the marathon through Melbourne, the Docklands and Albert Park, the bicycle time trial between St Kilda and Black Rock and the bicycle road race in the Domain.

Normal business

This group had the toughest planning job of all and had to consider municipal events, airport traffic, road closures, outpatients and elective listings, servicing increased workload and allowing access for paramedics to work.



People power

Working out the shifts of 1,500 paramedics is an onerous task at the best of times but with 4,500 Commonwealth Games athletes, their entourages and supporters descending on Melbourne in March, the job of roster paramedic John Coetzer got even tougher.

Coetzer says about 200 paramedics, ranging from student paramedics to clinical support officers, will work at Games events.

'I've been in the service for 26 years and I certainly haven't heard of anything approaching this scale before,' Coetzer said.

'We've got more people who have expressed an interest in working at the Commonwealth Games than we required so we have staggered the rostering to give as many people as possible their chance.'

Coetzer said MAS' emergency management department determined the level of resources required for each sporting contest and public domain event, such as those at Federation Square and the Docklands.

He said the rosters were further complicated by the fact that 250 paramedics were on leave during any given four-week period.

'The Games are on halfway through the four-week cycle so people who are normally on leave during that cycle will have their leave either before or after the Games,' he said.

'We will have more than 100 extra people than usual for the Games period, and their normal shifts will have to be backfilled.'

Coetzer, who discovered he had inherited the job of rostering resources for the Commonwealth Games when he returned from long service leave, said he was grateful that such an event only comes along once in a lifetime.

'The Commonwealth Games end on March 26 and I'm starting my holiday on March 27,' he said.

'I dread to think what it would have been like if it were the Olympics!'

Ambulance fleet on track

It was clear from the outset of the MAS planning for the 2006 Commonwealth Games that more ambulances would be needed than were available.

It was estimated that - on top of the usual day-to-day fleet requirements - 23 ambulances and 18 passenger vehicles would be required solely for use at Commonwealth Games competitions and events.

A strictly enforced safety regimen ensures that ambulance vehicles that have reached 150,000 km or are older than 3 1/2 years are retired, regardless of their condition.

So MAS brought forward the build program to allow some vehicles to be retired from service early with enough kilometres left on the clock to be brought back for the Commonwealth Games.

Of course, with the need for extra ambulances comes the need for extra equipment ranging from spinal boards and defibrillators to fuel cards and E-tags.

Fleet officer Tim Cotsell said the fleet would not have been ready were it not for the teamwork of MAS and its partners including BOC gases, Linen Care, GE, Rapp Australia, Mader International, Daimler Chrysler and Emergency Transport Technology.

'In the true spirit of the Games, everyone has come together to make this work,' he said.





The Main Stage

The generosity of a prominent Melbourne family took MAS to a major Commonwealth Games victory – months before athletes took to the track.

A huge Port Melbourne warehouse was transformed into a staging point for a fleet of ambulances needed to respond to Games incidents after MAS secured an extraordinary deal with the Herzog family.

MAS general manager operations Ian Patrick said the deal granted MAS a short-term lease of the 45,000 square foot building (4180.5 square metres) at a discount rate well below market value.

Patrick said the building would become a staging point for all Commonwealth Games activities, allowing better co-ordination of resources than the alternative of having vehicles at various points across Melbourne.

‘We can now bring all the equipment in here and fit out all the vehicles in a protected space,’ Patrick said.

‘When we marshal people for the Games, we’ve got a place where they can come that doesn’t interfere with normal operations.

‘Staff can park their cars, have somewhere to sit and get ready and pick up a vehicle that will be ready to go.’

The deal – struck by MAS property manager Ian Tozer with Israel Herzog, AM, and his son, Ruvi – came about by chance.

Patrick was catching up with the Herzogs about Chevra Hatzolah – a community-based emergency first responder group unit that Ruvi was instrumental in establishing – when talk shifted to MAS’ preparation for the Commonwealth Games.

‘It’s tremendous that (the Herzogs) have gone out of their way to assist us in making this possible,’ Patrick said.

Israel said they wouldn’t normally agree to such a short-term lease ‘but being the ambulance service we made an exception.’

‘I think that due to our association with the ambulance through Hatzolah we do feel close to them and we would like to help out,’ he said.

Pictured: Ian Patrick, Israel Herzog, AM, Ruvi Herzog, Ian Tozer

Ruvi said Hatzolah was helping save lives by bridging the time gap between initial calls for help and the arrival of paramedics.

He said the service, established in 1995, now had 26 trained volunteers responding to about 100 calls a month.

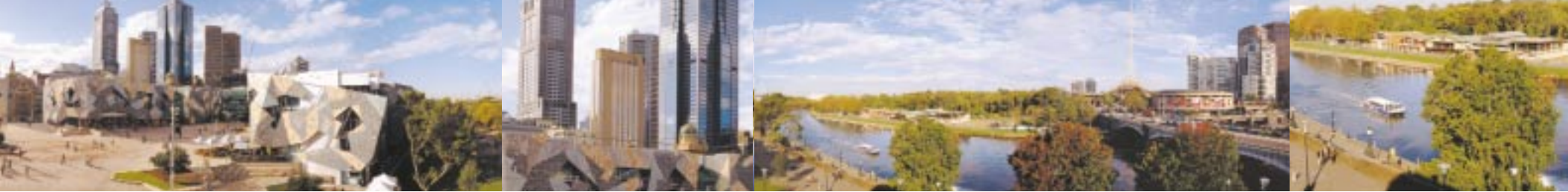
‘The support given to us by MAS, particularly at the upper level, has made Hatzolah what it is today,’ Ruvi said.

‘This was a personal way to be able to reciprocate...

‘I think it is a community’s responsibility to not just talk about doing things but to actually lead and to help and put your hand in your own pocket and make sure that the services are there for a community.’

At a Glance

- The warehouse is 45,000 square feet (4180.5 square metres).
- It will house 26 all general purpose ambulances, 16 sedan ambulances and eight bicycles over the course of the Games.
- The warehouse is more than twice the size of the MCG centre square and big enough to house:
 - three competition-size swimming pools;
 - three six-rink lawn bowls greens;
 - 10 basketball courts; or
 - 113 boxing rings.



Emergo Train

In a time of crisis and major emergency, experience and level-headedness can make the difference between calm decision-making and avoidable mistakes. When faced with an incident such as a coordinated attack on Melbourne's public transport system resulting in two train accidents, a tram derailment and hundreds of patients, the allocation of a finite number of resources and paramedics is a balancing act with potential life and death outcomes.

Thankfully for the 20 MAS paramedics, team managers and emergency planning officers involved in the Emergo Training exercise for the Victorian health system on February 17, this scenario was only a test and provided a surreal opportunity to gain experience and hone scene management, casualty prioritisation and resource allocation skills.

The Emergo Train system is an educational simulation system developed 17 years ago at the Centre for Research and Education in Disaster Medicine (KMC) at the University of Linköping, Sweden. While the system may be thorough and complex, the actual simulation itself is a very basic and cost-effective way to test entire systems, something often impossible when the day-to-day priorities of emergency facilities and services cannot be abandoned for testing and exercise.

The exercise involves the use of a series of magnets, on whiteboards, representing patients, staff and resources. In addition, movable markers indicate a large patient bank, priority and treatment. Protocols give results of treatment based on trauma score.

PERFORMANCE MEASURES FOR EVERY STAGE

As in real life, the patient outcome and survival rate is the ultimate indicator of emergency management success and, therefore, the exercise is designed to mirror this. There are performance indicators for every stage of patient management from treatment through to movement, and if certain measures are not performed within defined timeframes, patients suffer unfavourable outcomes.

Management and decision-making skills are put to the test, with every decision or action incurring a realistic time penalty. For instance, if incident managers decide to walk from the casualty clearing post to the scene of the incident, they must take themselves out of action for four minutes. Similarly the decision to provide certain treatments to patients means they must remain at the scene longer, a decision that may have a negative impact on their outcome due to delayed transport to hospital.

MAS emergency planning manager, Jon Byrne, said that the system placed paramedics under the same pressures and mental strain that exist at a major incident. 'The intensity in this sort of exercise is incredible. I could walk up to a paramedic while they were working on this scenario, allocating resources and making decisions for their patients and do my very best to distract them and they wouldn't even know I was there,' Jon said.

'While nothing can ever fully recreate the tension and challenges of a real scenario, this sort of enactment allows us to test not only our ambulance systems, but the capability of the entire health network to

cope with the overload of a major incident scenario.'

'Through time management within the rules of the exercise we can evaluate how our resources would cope, how long we take to respond and how we treat and distribute patients from a scene. In no other sort of exercise can you simulate utilising your entire fleet of ambulance resources and paramedics.'

This model of training is accepted and recognised worldwide, including by countries such as Sweden, UK, Netherlands, Germany, Japan and by the World Health Organisation. The simulation in Melbourne embraced all aspects of the emergency health network, allowing MAS paramedics to work in real time, as they would with an actual emergency, with doctors and medical staff from The Alfred, Royal Melbourne, Royal Childrens and Western Hospitals.

LEARNING BY DOING

The systems belief of 'learning by doing' means that for the staff involved in the exercise, it is not just a case of testing the systems already in place, but also learning through the experience of decision-making with time-based pressures affecting the outcomes.

Operations manager (emergency management), Paul Holman, said that because of the very real learning in the exercise, involvement in a system such as Emergo is a valuable tool for MAS staff.

'As an organisation we have worked very hard over the past few years to become adept with emergency management and major incident responses. We now have high technology facilities, a sophisticated management system and leading response capabilities with our emergency support vehicles, command and communication truck and welfare tents.

'One area we continue to focus on though is educating our staff in decision making and emergency management experiences. The use of an array of equipment and vehicles to combat major incidents is seriously diminished if we don't have the experienced people to utilise those tools and make the decisions on how to use them.'

Involvement in this training comes on top of the more physical testing in exercises such as the Melbourne Loop train bombing exercise (Exercise Dowling) and annual Melbourne Airport exercise, as well as the national counter terrorism exercise Mercury 05. MAS also actively participated in various exercises in the lead up to the Commonwealth Games.

'Since September 11 the world has become a lot more awake to the challenges and increased risk of multi-casualty incidents,' Paul said. 'Previously, as an ambulance service we managed a major incident with the same thinking as we did for any other case. Now we have become a lot more strategic, a lot smarter and much more prepared.'

'The establishment and evolution of the emergency management department shows just how far we have come as an organisation. We now have a whole of service response to major incidents dictating not only how we respond, but also how we maintain business continuity and communications. That response allows us to deal with the much broader issues; not only patient management but also staff management.'

By James Howe



Can delays be cut?



Ian Patrick, MAS general manager operations

A 12-month joint project between MAS and four Melbourne hospitals has tackled the problem of ever increasing ambulance delays at hospitals and very real opportunities to cut delays have been identified. Worldwide the time ambulances spend at hospitals is increasing, meaning that other ambulance services are facing the same problems that are causing MAS concern. Delays at hospitals reduce general ambulance availability for emergency calls. This directly affects response times, which remain a critical measure of ambulance service performance.

Demand for hospital services, including demands on emergency departments, have significantly increased over the last five-plus years. The volume of walk-in patients continues to increase (possibly partly as a consequence of the disappearance of alternative after-hours services) and the number of complex emergency cases also continues to increase. However, despite the increasing pressures created by this demand, the processes for handing over ambulance patients at most emergency departments have not changed much.

Working under the wider Department of Human Services (DHS) Patient Flow Collaborative (PFC), MAS joined forces with Royal Melbourne Hospital, Monash Medical Centre (Clayton), Northern Hospital and Frankston Hospital to jointly investigate and analyse the types of factors that kept ambulances at hospital longer. Given the working title of at destination patient management (ADPM), this exercise brought about one of those unique opportunities for a concentrated review of a set of system problems about which people were generally aware but hadn't had time to analyse and address systematically.

STREAMLINING PROCESSES

ADPM, in simple terms, has focused on having a close look at the processes in emergency departments that involve interactions between paramedics, nursing and medical staff – the different processes that are part of triage and patient hand-over. The primary aim of the project was to not only identify the restraints and problems that delay patients' journeys, but also to analyse those processes and identify opportunities to streamline them.

The ADPM approach has been a real partnership, with every step of the way jointly planned by the four participating hospitals and MAS. Joint planning was critical for success because, although there are many common factors between hospitals, the systems used vary from one hospital to another and the differences had to be recognised to ensure real benefits from the project for each participant.

ADPM business analysts spent considerable time observing what happens from the time an ambulance arrives at an emergency department to when it clears. They walked through with paramedics, detailing every process, and recording where there was a constraint preventing a paramedic from moving on to the next process step, or where there was any idle time.

NOT PEOPLE - SYSTEMS

The problems identified did not revolve around the people involved but the operation of established systems. While there were several causes of delays, the major problems occurred at triage and subsequent handover. Delays at the triage point often occur because the triage nurse is taking care of many other matters. Sometimes the triage delays are exacerbated by several ambulances arriving at the same time, the last to arrive having to wait while the others are triaged. Sometimes there isn't enough space to park the vehicles. Minor, but significant, delays can arise from such things as the availability and location of pillows. These matters are significant because every minute of delay has an impact on ambulance response times and ambulance and hospital budgets.

With the research and analysis complete, findings have been analysed and options for addressing the various problems considered via a brainstorming process involving all stakeholders.

One of the options being considered is a process variation that adds a triage resource at peak times to assist with patient flow. Another possible option is information sharing (electronic) between MAS and emergency departments of real time data to facilitate immediate term planning resource allocation and patient management decisions.

Powerful focus

The ADPM project has been a great project because it has created a powerful focus on at-destination times. MAS general manager operations, Ian Patrick says that the project has been a strong collaboration from the start, with a focus on improving system performance.

'All the hospitals involved in the project were keen to assist in reducing the time paramedics spend at emergency departments, because they understand the benefits for ambulance performance and for patients. In addition, this project, even though focused on just one aspect of emergency department procedures, may have a flow on effect to other procedures and processes,' he says.

'While MAS has been focused on addressing one of its own primary causes of response time delays, working together may help the participating hospitals address some of their problems. We would be pleased if that was one of the outcomes.'

Patrick says that the project reflects the strategic direction set out in the MAS 2005-2007 Strategic Plan, particularly the stress on system improvement. 'One of our strategic drivers is 'improving the overall performance of the health system through collaboration with relevant service providers and this project is an excellent example of what our thinking is about.

'If the hospitals who worked on this project with us make their own gains through enhanced processes then everybody is a winner. Ultimately the project was about improving patient outcomes,' says Patrick.

Delayed handover

Increasing delays at hospitals are plaguing ambulance services around the world. The Staffordshire Ambulance Service NHS Trust (UK) has published information (priority 1 and 2 cases only) about average turn around times encountered at a number of hospitals on a day-to-day basis. What is particularly valuable about their published figures is that they have calculated a monetary value for the cost of replacement ambulances to cover delays in turn around time.

The Staffordshire Trust says that while some delays are caused by ambulance service issues, 'the majority are caused by delayed handover between ambulance and hospital staff. Those hospitals with longer turn round times will come as no surprise to our staff and are expensive in terms of the cost of the delay.'

'These delays threaten patient safety as they remove ambulance resources from the plan - a plan that is funded by the purchaser and built on resources being available to meet the needs of patients who dial 999, and not tied up unnecessarily at hospital.'



Vehicle Trials



An integral part of the MAS operations is its fleet. Vehicles are the primary workplace for paramedics and need to be an appropriate platform for patient care and have the highest possible level of safety. Given the amount of time paramedics spend in their vehicles, it is vital that the best quality vehicles are on the road.

The quality of a vehicle is established by a number of measures including: the safety of paramedics and patients during transport, the ergonomics of getting a patient in and out of the vehicle, the space available for use, how the vehicle handles in traffic, and the layout of the workspace. One critical aspect of internal space is whether paramedics have to work 'around' the patient and whether they have to reach for equipment.

While much of MAS' work in selecting and trialling potential vehicles is done through internal consultation processes, external consultants are also important. The Monash University Accident Research Centre (MUARCS) plays an active role in investigating the safety of the vehicles and by evaluating vehicle-handling characteristics with a typical ambulance configuration. The centre provides MAS with reports covering safety, braking, ergonomics, traction and vehicle stability.

Last year MAS began trialling the Volkswagen T5, and although this vehicle is still in the evaluation stage and may or may not be accepted for general use, the knowledge that is already available and is still to be obtained will be invaluable for future vehicle trials.

Four Volkswagen T5s were purchased and trialled in fifteen branches across the organisation. Current feedback from paramedics is that while the driveability, comfort and ride are all fantastic; there is a significant problem, compared to other vehicles currently in use as ambulances, resulting from reduced space in the rear.

Trialling a vehicle is a lengthy process and there is more to the process

of evaluating a vehicle than simply deciding if it passes or fails. Lessons learnt can be applied to the evaluation and fit out of future vehicles and may prove to be critically important in supporting negotiations with manufacturers.

BASELINE CRITERIA

When considering a vehicle for trial, it has to meet the baseline criteria developed by MAS. These criteria include crash worthiness, performance, and safety features such as airbags and braking systems. The new vehicles also have to be the products of the original equipment manufacturer (OEM), which means they have to be as close as possible to the vehicle as manufactured and any changes must not compromise vehicle integrity. Problems may arise when repairing modified vehicles because it is harder to get new parts. On advice from MUARCS, MAS has moved away from buying left hand drive vehicles and converting them to right hand drive.

The operations manager for emergency operations, Andre Coia, says that if a vehicle meets all of the criteria then the recommendation is to review it for trial. 'Obviously there are some exceptions. If vehicles are unavailable due to import restrictions or are not being offered to the Australian market, or if the number of vehicles available or the ordering processes won't give the numbers to maintain our fleet, then we must seek alternatives.'

However, when it comes to cost, MAS gives priority to finding vehicles that are safe and fit for purpose, rather than lowest cost. 'We have a financial responsibility to the community to ask what the benefits are when providing a vehicle that has a higher overall cost. However, spending money for a vehicle that has a higher level of safety for our paramedics is a very good investment,' Coia said.

'The ordering process is protracted; it all depends on the number of



vehicles allocated to MAS by the manufacturer in the production run. This can take upwards of three months from order to delivery and then you need to add the specific ambulance build time.'

'The development of a new ambulance progresses through three main stages. First, once the vehicle is selected, there is a pre-production phase i.e. consultation, design and layout. This is followed by production, and then the vehicle goes into build. If vehicles aren't available when they are needed, or you are unable to order a specific manufacturer's vehicle, then you may not have ambulances on the road when they are needed,' he said.

Once the cab chassis is available from the vehicle manufacturer, the development phase begins. Vehicle builders such as ETT and Mader are employed to assist with the design. They work with paramedics, occupational health and safety (OHS) representatives, ergonomists and other specialists and then build the modules or compartment in which the paramedics work.

STRONG SUPPLIER PARTNERSHIPS

MAS has strong partnerships with a number of suppliers who also come on board to design the internal set up of the vehicle and ensure it suits operational requirements. Suppliers of engineering, lighting, electrical and signage equipment, work closely with the key MAS vehicle group members to fit out the inside of the vehicle.

Coia said that new ambulance development was a long but thorough process, involving a series of consultations between representative paramedics, industry specialists, the manufacturers and other suppliers.

We bring a number of ergonomists on board, like Risk Injury Management Services (RIMS), and have preliminary designs drawn up,' he said. 'We then work with a vehicle builder to mock up a design and go through a series of reviews until we progress to the end stage where all key group signs off on the design.'

Once signed off, the vehicle enters the rollout phase where the quality assurance process picks up any faults that require attention before the vehicle goes on the road. It can often take several months before a vehicle is ready for field evaluation, and further modifications can be made during the evaluation phase.

The trial vehicle is evaluated by paramedics in the operational environment for between two to six months, depending on any changes that may have occurred along the way. 'We like to ensure that a vehicle is trialled by different teams across the organisation in differing circumstances. The paramedics complete a detailed and critical evaluation of the vehicle, which enables us to identify further development opportunities that may not have been identified in the prior stages of development,' Coia said.

THE MAS VEHICLE GROUP

The MAS vehicle group (MVG) is the main forum where paramedics are represented and this consists of a paramedic staff representative, a MICA paramedic representative and five paramedic representatives. The MVG operates as a steering committee, looking at the development of vehicles and the resolution of issues once they are in service, taking into account the functionality of the vehicle. The membership of MVG also includes managers of various departments including fleet, operations, OHS, the AEA-V, technical services, and a staff representative. Specialists are referenced for special knowledge.

'The main contribution to the MVG success is the strength of the consultation with paramedics over recent years to rectify vehicle issues quickly. It is important that when you have six paramedics sitting around a table, they are representative of all paramedics,' Coia said.

'We are now at the stage where we know we need a certain cab size, dual airbags or better, crash exclusion bars, ABS braking, perhaps traction control and automatic transmission. We also have an approximate idea of interior size. We have built up this knowledge from trialling several vehicles and even those we reject for general use would have yielded valuable information for future vehicle planning.'

'We have improved our capacity to make good decisions by expanding our knowledge bank and enhancing our capacity to set specifications for the future and for the evaluation of new vehicles.'

'The current focus is to identify potential new vehicles and to maintain our fleet strength, while ensuring there is no compromising of quality. We are very strongly focused on providing the best vehicle platform that meets the demanding operational requirements of paramedics,' Coia said.

Current vehicle trials

The MAS fleet consists of 162 vehicles, including Ford F350's and Mercedes Benz 316 Sprinters. Apart from these all general-purpose (AGP) ambulances, or stretcher vehicles, there are a number of other vehicles designed to operate in special situations. Vehicle trialling and review, then, includes sourcing and evaluating vehicles that meet identified specific requirements. Currently, the all-wheel-drive Mercedes Benz, the Ford Territory and the Holden Adventra are being evaluated.

The all-wheel-drive Mercedes Benz is being trialled in branches on the periphery of the area serviced by MAS; rural areas such as Healesville, Emerald and Yarra Junction. One of the problems these branches have encountered with the Mercedes Benz 316 is that it can't be reversed up steep driveways. The all-wheel-drive looks like a standard Mercedes Benz but has a manual transmission and has higher ground clearance. It has proven its ability to get up steep driveways.

The all-wheel-drive Mercedes Benz will not replace the Land Cruiser all-terrain vehicle, as it has a different purpose – to go off road to reach patients in remote areas. 'If there is a specific need we will have a look at it. Currently we have six four-wheel drives in our fleet. They are not meant as a primary patient carrying vehicle, instead operating as an access vehicle. We have placed them in outlying areas where there is sometimes a need to travel along bush and fire tracks,' Coia said.

The Ford Territory and Holden Adventra are being trialled for single responder work, and are mainly for use in the city. Teams in the city have identified the need for a vehicle with higher clearance and smaller turning circle. Many paramedics prefer vehicles that are higher off the ground to provide increased visibility and fulfil the need to mount the curb when traffic is heavy and road space is limited. All of these requirements were factored into trialling the Ford Territory and Holden Adventra.

Driver training

Driver training is an important component of vehicle selection and introduction. It is important to look at the peculiarities of a vehicle when going through the trialling process and if the vehicle is selected for general use, paramedics have to be given specific training in driving that vehicle.

MAS has adopted a driving competency standard that sets out its expectations of staff who drive service vehicles.

The Driving Standards Team is responsible for getting MAS drivers to the desired driving standard and ensuring they maintain this standard. The driving standards facilitators provide information sessions and in-field assessment for qualified ambulance paramedics and other training as required. Drivers are taught and assessed in the types of vehicle they will be driving.

by Liana Cross



Call referral service

At the turn of the millennium, MAS was approaching a watershed. Continuing strong growth in demand for ambulance services was becoming a major challenge. In particular, calls to 000 that resulted in ambulances being sent for people in the 'sick person' category – those with non-specific illnesses and with no priority symptoms – were spiralling.

Most of these callers – whose complaints can include stings where there are no allergic reactions, sunburn, sleeplessness or hunger – were requesting an ambulance when they actually required another health service provider.

About that time, key members of the emergency operations department launched a worldwide search for options to manage the predicted rise in call volumes. A steering committee, led by CEO Greg Sassella, explored the option of telephone triage and health advisory lines and by September 2003 MAS had launched its referral service.

The referral service is unique in the way it ensures 000 callers get the most appropriate response to their needs while alleviating pressure on emergency services and minimising avoidable presentations at hospital emergency departments.

Quite simply, the referral service implements an alternative health strategy to dispatching an emergency ambulance to people who do not need one, which means more resources are available when and where they are needed. The referral service now handles about five per cent of all 000 calls for an ambulance.

A UNIQUE EXTENSION OF 000

Referral service manager Angela Hodgkinson said it was a unique extension of 000. 'We have gone beyond what other advisory services do,' Hodgkinson said. 'We manage the patients and manage them safely. We make sure we send an ambulance where a medical problem is time-critical but we also refer a high number of 000 calls to alternate providers – nowhere else in the world does a service do this.'

In 2003-2004, its first year of operation, the referral service handled 2400 cases which did not require an emergency ambulance. In 2005-2006, it will get more than 20,000 calls with about 68 per cent not

requiring an emergency ambulance. This equates to the daily workload of 3.75 ambulance branches.

MAS aims to have 12,500 calls referred to another service this financial year and, despite perceptions that most people who ring 000 would expect an ambulance, almost 70 per cent of callers triaged by the referral service have agreed that an ambulance wasn't needed.

This is how the system of secondary triage works: call takers from the Emergency Services Telecommunications Authority (ESTA) provide primary triage for emergency calls and refer suitable calls to the team of paramedics and registered nurses at the referral service. These health professionals provide secondary triage and, using 411 clinical guidelines, determine the most appropriate course of action to meet the needs of the caller. This may include sending an ambulance, nurse or locum doctor, or instructing the caller to attend an emergency department, GP or health care provider. In some cases self-care advice is provided over the phone.

Secondary triage usually takes about 11 minutes with serious conditions managed within the first 90 seconds of the call. Well-performed triage has identified hundreds of cases requiring immediate ambulance dispatch such as heart attacks and strokes that might otherwise have gone unnoticed.

APPLICATION OF CLINICAL KNOWLEDGE

'The beauty of my experienced team is that they don't just do this as a rote learning thing; they ask further questions and apply clinical judgement gained from years of experience as a paramedic or registered nurse,' Hodgkinson said. 'Another feature of the referral service is that we can send an ambulance in an appropriate time frame for the presenting symptoms. For example, some patients need to receive health assistance within four hours or more and are best managed by the non-emergency service. If resources are stretched at a particular time, MAS has the knowledge that the patient has been triaged, the situation is not life threatening and does not require an emergency response.'

Once a referral has been made, the alternative service provider calls the patient within an hour to ensure he or she has not deteriorated and



attends the patient's home, usually within four hours, and patients can be brought back to emergency status at any time.

'We caution them to be alert to any changes for the worse and detail what to look for and tell them that they must call 000 if they note any of these,' she said. 'They are advised to await the provider service and that they will receive a call within an hour. If they do not receive that call, they come back to 000. We are focussed on risk management - we handle the person from start to finish.'

About 70 per cent of 'sick-person' calls now go through the referral service. Only 2 per cent require time-critical ambulance attendance; 18 per cent require a 25-minute ambulance; and 8 per cent require a 60-minute ambulance. All the rest need another service provider or self care.

Categories added to the referral service include eye problems or injuries, headaches, non-violent psychiatric cases and single fainting episodes. 'We are currently managing cardiac history and psychiatric presentations and we are doing this effectively,' she said. When the Referral Service took on psychiatric cases it was believed about 50 per cent of callers would not require an ambulance but MAS has in fact been able to redirect more than 70 per cent of these patients to other service providers.

'The team are very good at detecting those at risk,' she said. 'The other week they had a boy on the line whose mum was lying on the sofa and it turned out that while my staff member was speaking to the child they determined his mother was unconscious. A time critical event was declared, MICA responded, and intubated and transported her. This was a great outcome. Detecting that over the phone is pretty fantastic and we have had a number of wins in these sort of situations.'

Of the 65 calls the referral service gets each day, about 30 per cent require an emergency ambulance. 'The original call taker might not get the full picture,' Hodgkinson said. 'For instance, a patient might have numbness and tingling but if they don't say that to the ESTA person then they are not going to code them as a possibly evolving heart attack.'

RESTORATION OF COMMUNITY

Continuum of care is paramount and the service is helping patients who have lost touch with community services to re-establish contact. 'We recently had an 82-year-old woman whose husband had a blocked catheter and she was trying to deal with it,' she said. 'It is great that she's in her home and her husband is there but it is quite tragic that they had lost connection with community services. Previously she would have rung 000, gotten an ambulance and gone to an emergency department to be managed. Now we are able to keep these people in their homes and connect them with their community services.'

So where next for the referral service? MAS is continually considering other suitable categories and other ways to grow. The referral service is about to become involved in the management of 'PEG tubes' for people unable to swallow their food and medication. These cases previously required transportation to hospital emergency departments but referral service staff are now trained to triage them and nursing service staff trained to treat them at home.

An avenue being explored is the referral of cases to doctors at medical clinics during the day, just as patients are presently referred to locum services at night. Another possibility is expanding into high acuity psychiatric conditions, which might allow some patients to remain in

their homes and be visited by crisis assessment and treatment (CAT) Teams.

'When MAS first conceptualised the service, it thought there was one condition (sick person) that could be handled through secondary triage,' Hodgkinson said. 'We have expanded the conditions managed to now accommodate 13 event types. We have moved in diverse directions that were never envisaged. And all other ambulance services across Australia are watching what we are doing.'

Paramedics and nurses on call

A dedicated team of paramedics and registered nurses staffs the MAS referral service, around the clock. Each day, they take up to 70 calls from 000 for low acuity complaints such as headaches, abdominal pain and allergies.

Simon Brock, a registered nurse, has been with the referral service since it began in September 2003. Brock said the first priority was detecting whether the caller was in an emergency situation. The referral service then determines an appropriate health response such as low priority ambulances, GP locums, nurses and psychiatric services.

'People often want an ambulance but we are able to say to them "I can send a low priority ambulance to you in two or three hours or I can offer you a better alternative",' Brock said. 'For instance, they often think that if they get an ambulance they will be seen quicker in hospital but we tell them that they will still have to go through triage once they reach the emergency department.'

The unique working environment at the referral service gives registered nurses an insight into ambulance life and paramedics a greater awareness of hospital emergency departments. Paramedics periodically return to do shifts on the road and registered nurses to hospitals to maintain their clinical skills.

Paramedic Paul Carlon said the reason for the service's success was simple: it frees up ambulances. 'We are saved from sending out an ambulance that isn't needed and can otherwise be put to better use,' he said. 'This is directly benefiting paramedics, the service and the hospital system as a whole. It is relieving the system and saving everyone time and money.'

Referral service manager Angela Hodgkinson recently took a call from a woman wanting to speak to the referral service paramedic again because he was 'better than' her doctor. 'I told her that we are not here to diagnose and it wouldn't be appropriate but she said, "no, he was better than my doctor" and that's because our people talk at their level.'

Odd calls

Unusual complaints taken by the call referral service include:

- Hangovers.
- Children sticking things in their ears.
- Insects flying or crawling into ears.
- Sunburn.
- Toothaches.
- A woman who couldn't get her dentures in.
- A woman who couldn't get her stockings on.
- A woman upset by a noisy elevator.

Health lines

The Victorian and Commonwealth governments have both signalled intentions to set up health advisory lines. In January this year, the Federal Government confirmed it was looking at plans for a \$40 million national hotline for sick people to be assessed by triage nurses before attending hospital. And the State Government recently announced it would soon launch its Nurse On Call telephone service, which would provide free telephone health advice and referrals.

Several health call services are already operating in Australia, including those in the Hunter region of New South Wales, Hobart and Perth. The West Australian call centre alone reportedly takes between 200,000 and 250,000 calls a year and employs about 80 people.

The MAS referral service is different to other health advisory lines because it is able to manage patients' care from the time they call 000 through to the delivery of a range of health outcomes. For instance, rather

Continued on page 16



New and emerging communities

Following a survey in 2005 to determine the level of patient satisfaction with MAS services in Melbourne's culturally and linguistically diverse communities (CALD), MAS has started a research project designed to assist with the development of a community-oriented education program. The program will provide better information and educational materials for members of various non-English speaking groups, including new and emerging communities, to improve their levels of understanding of the ambulance services in Victoria.

'The education program, once completed, will target migrants who have been in Australia for fewer than five years,' said MAS cultural education and development coordinator, Jose Campos. 'It will be incorporated into an adult migrant English program (AMEP) where over 11,000 migrants study 510 hours of English as new arrivals in this country.'

'Representatives from the Somali, Eritrean, Ethiopian, Iraqi and South Sudanese communities have been selected for the survey' said Campos.

'We have ensured broad representation covering gender, age, country of birth and ethnicity.'

'The key area of research discussion is based on the different challenges faced by migrants when settling in Australia. These include a number of health care access barriers, particularly in relation to their awareness of the range of ambulance services in the community, and how best to access those services.'

GLOBAL PERCEPTIONS OF AMBULANCE SERVICES

'Prior to participating in AMEP, migrants have only the knowledge of the ambulance service in their country of origin, and yet the ambulance services in each country differ widely in terms of what they provide. Some communities from South East Asia have only experiences of ambulance services that revolve around the transport of people to hospital to die, and so they are very reluctant to call for an ambulance. Some Africans believe the ambulance only picks up the dead and others are even afraid of the uniforms. They have problems differentiating between the police, fire brigade and the ambulance and have little or no understanding of the ambulance services provided here in Australia' said Campos.

Working closely with Jose Campos, Myriad Consultants has been engaged to conduct the survey. While the consultations are still being undertaken, preliminary findings provide some insight into the key issues affecting awareness and access to MAS services among new and emerging communities. Issues encountered until now are: What is the

ambulance service? What is a paramedic? What is 000? How to call 000? How to ask for an interpreter? What is ambulance membership? What does it cost? How does billing take place? What are health cards?

When asked about MAS, participants provided a range of responses. Several said they knew about the existence of the ambulance service but didn't have much detail: 'before arriving in Australia, we received some information, but there is so much information provided at the one time that you really don't take much in. It's not until you get here and you need to use the ambulance that you see how much you need to know.'

'I know how to ring 000 and ask for an ambulance but what then? I don't know anything about what happens after that. I don't know about whether it costs money or what I can do if I can't speak good English.' Several participants suggested that orientation resource material could be provided once people arrive in Australia as a reinforcement for earlier information, as often much of the information that is provided prior to arrival is forgotten or not retained due to high levels of stress. It was also suggested that such resource materials be developed in consultation with people who had been through the experience of contacting 000 for an ambulance as they could alert communities to some of the potential difficulties and challenges, such as asking for an interpreter and when to hang up the phone.

AMBULANCE COMES TO PICK UP DEAD BODIES

When asked what the key barriers to accessing MAS were, most participants said that it was lack of awareness and issues around English language fluency and perceived costs: 'Most of us know what an ambulance is, as we come from countries where there are ambulances but we do not have a lot of information about when we should contact them and how much it will cost - does someone have to be dying to contact them. At home [country of origin] the ambulance comes to pick up dead bodies.'

'They [community members] know how to call 000 but after that, they don't know how to give information in English. Also, they need to know about what happens once the ambulance comes and what will happen - for example the location of the hospital where their family member is being taken - they don't know how to ask these questions. Several participants said that they didn't know about the membership scheme or how the billing process worked. This is the first time I have heard that you can join up. It is important for various groups in the community to



Branch Openings



Generous donation for Yarra Junction

Made possible by a generous bequest from local identity Phyllis Christie, Yarra Junction has undergone extensive renovation and extensions.

Ms Christie a pioneer to the area, passed away at aged 88 just over 12 years ago and left a substantial bequest to the Yarra Junction branch. Nola Pennicuik attended the opening and said, 'If my aunt was here today she would be thrilled.'

The new additions to the branch are a second storey, a storeroom, sleeping quarters, more office space, functional areas and a top floor deck that offers great views of the surrounding mountains.

Team manager, Colin McLeod is impressed with the new facilities and what they offer to paramedics as well as the local community, 'As much as the facilities are for the guys here we would like to think that in some way we will now be able to give that little bit extra back to the community. Certainly we have better facilities here to do that '.

Diamond Creek police and emergency services complex a Victorian first

Victoria's first integrated police and emergency services complex at Diamond Creek was officially opened in February by Premier Steve Bracks. The multi-million dollar complex was custom built to house police officers, fire-fighters and ambulance officers in one central location.

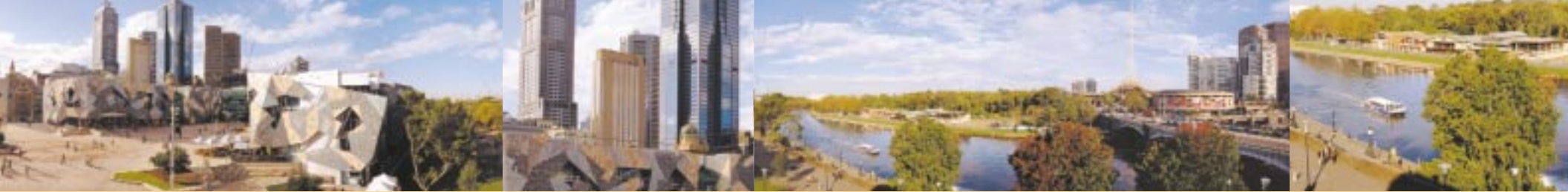
The new complex, which has been operational since late last year, is a fantastic asset for personnel, and the local community, as it enables greater coordination between police, fire-fighters and ambulance officers.

This means even greater safety benefits for Diamond Creek residents with Victoria Police, the Metropolitan Ambulance Service and the Country Fire Authority working together to better serve their community.

The new complex will provides 24-hour policing, 12-hour ambulance services and round-the-clock fire fighting capabilities for Diamond Creek and surrounding suburbs.

By Christine Hocking





CBR launch



An example of a triage area with new PPE storage vehicle in the background

The \$2.5 million chemical biological and radiological (CBR) enhancement project has positioned MAS to effectively handle patient retrieval at incidents involving hazardous materials. This increased capability will help to ensure that medical treatment can be provided immediately to casualties, not just when they are carried to safer ground – which can be too late.

The project involves the upgrade of personal protective equipment (PPE) at two levels. Level C provides instant protection to paramedics working in very hazardous areas with nearly 250 paramedics already trained to use the equipment. Level A enables paramedics to perform life saving activities through triage and patient treatment within contaminated zones prior to transportation. Close to 100 paramedics were trained by the commencement of the Commonwealth Games.

Effective use of the new equipment is supported by what are known

as welfare structures. Two large shelters can be configured in three ways to provide MAS with a dynamic sheltered resource. Controllers can deploy these shelters to best suit the needs of the incident: they can be configured as an emergency operations centre, welfare area for paramedics, casualty clearing post (CCP), or a combination of these. Configured as a clearing post they support the new emergency services Vehicle (ESV).

A vehicle has been designed by MAS to carry all PPE to incidents. Levels A, B, C and D equipment are carried, as well as an inflatable change room to provide paramedics with both shelter and privacy. This is important, as they must remove all clothing prior to donning PPE. This shelter is erected within five minutes and is not reliant on electricity as it is inflated via air cylinders.



Health Minister, the Hon Bronwyn Pike, with paramedics in both Level A and C PPE gear, examines the new equipment



Paramedics in Level A. PPE gear demonstrate the Atropine auto injector



The future for paramedic education and training

MAS has seen significant change in paramedic education and training during the last 40 years. This reflects the changing nature of paramedic practice and the evolution of the paramedic as a professional. MAS' paramedic education and training department (PE&T) is responsible for the management of paramedic education (through the universities) and is responsible for the coordination of all internal training for operational paramedics. PE&T is also responsible for developing standards (clinical practice guidelines) and the audit and measurement of those standards. PE&T regularly reviews the quality of the service provided to the community via its clinical risk management and clinical quality indicator processes. The information gleaned out of these processes is fed into internal education processes as well as back to the universities.

The paramedic profession has evolved from what could be regarded as drivers with first aid certificates, prior to 1961, into highly skilled professionals responding to the pre-hospital health care needs of the community. Further, the profession is slowly building its own body of knowledge that identifies it as an entity in its own right within the health industry.

Similarly, education for paramedics has had to keep pace and has progressed from the pre-1961 first aid course, to the first 4 week in-house course in 1961, to the first accredited courses in 1978 (the certificate of applied science) where the graduates were affectionately known as the bionics. The certificate course evolved into an associate diploma in the late 80's and then it became the Diploma in Paramedic Studies when it was transitioned to university in the late 90s.

MAS general manager of paramedic education and training, Kevin Masci, says 'Paramedics were employed as students and a condition of their employment was that they would complete the Diploma In Paramedic Studies at Monash University's Centre for Ambulance & Paramedic Studies (MUCAPS). Students would complete a block of study at university and then would complete a block of clinical experience within the service; this process would be repeated over three years until the student became a qualified ambulance paramedic. This was commonly known as the "post employment course".'

UNDERGRADUATE COURSES

'In the late 90s and early 2000s a new undergraduate course had been developed firstly by Victoria University and then by Monash University. The qualification achieved by students completing these undergraduate courses was a degree. This course was commonly known as the pre-employment course as students complete the course in their own time and at their own expense. The graduates can then apply for employment within an ambulance service.'

Masci says perhaps the most significant change to have occurred was only recently with paramedic education no longer to be offered in the post-employment mode. 'In fact, the final post-employment courses at MUCAPS will commence in April and July this year. The pre-employment

course, or more significantly the degree, has become the entry standard into ambulance services in Victoria.'

'These are exciting times for paramedic education and indeed the profession in general. A degree provides graduates with a broad based education that includes clinical, social and research based education paralleling the evolution of the paramedic profession.'

MAS STRATEGIC DIRECTION

The MAS strategic direction complements this move to a higher education standard. MAS has embarked on an ambitious program to develop and implement systems that will provide significant operational, clinical and management information stored in a data warehouse. Masci says, 'MAS has recently implemented a mobile data network to support the computer

aided dispatch system providing significant operational information. Also, we are in the process of implementing the Victorian Clinical Information System (VACIS), which will capture all of MAS' clinical information electronically. Behind these systems will be workforce management processes that will provide effective information management.'

Masci feels 'The challenge for MAS is to continue to develop the skills and abilities within the organisation to use this information to continually improve its service to the community.'

'Looking into the future, our education has to be broad based; not only providing paramedics with the skills necessary to meet the pre-hospital clinical needs of the community but also providing MAS with paramedics with the skills and knowledge to utilise the information provided by the IT systems. It will also be important that they can use this information in research and to provide evidence to support the ever evolving sophistication of paramedic practice and education, thus improving the quality of service provided to the community.'

CHANGE HAS BEEN EXPONENTIAL

'It's been an exponential change', Masci recalls. 'When I was first employed in the ambulance service,

my training officers told me stories of being accosted in the streets by ambulance officials as they walked past the headquarters building in La Trobe Street to "come and be an ambulance driver". Some dutifully obliged.'

'Essentially, in those days it was load and go; get the patient to hospital as soon as possible. In my early years the most complicated thing I did was splint a fracture: in 1981 taking blood pressure was not common practice for ambulance officers.'

Paramedic practice has become more sophisticated, paramedics these days will assess, treat and stabilise a patient prior to transporting them to the appropriate hospital. Treatment options now include defibrillation, the administration of drugs, and increased and advanced airway management techniques.

'These days, the content of the degree program is broader and more sophisticated. There is more detailed information on the structure and function of body systems, the pathophysiology of disease and pharmacology. Along with this, sociological and research based subjects



Kevin Masci, general manager paramedic education and training



have added to the broadening of the curriculum,' he says.

Masci says students can gain entry to the courses at Victoria University and Monash University after completing their VCE. 'They study for three years and are recruited as a "graduate paramedics in training" once their courses are completed. They are then required to work on the road, for another 18 months to two years, to gain on-road clinical experience before they are qualified. Students who apply for the undergraduate paramedic courses are a combination of school leavers who gain entry via their "enter score", mature age students and students who articulate from other bio-science courses.'

Both MAS and Rural Ambulance Victoria provide representation on the various university committees to ensure the courses are developed to meet the needs of the community. Enrolment levels have grown from a mere 20 (at Victoria University) in 1999 to over 200 for first year (at both Victoria University and MUCAPS) in 2006. Masci says that now that the degree course is the standard qualification there has been interest in providing undergraduate courses at other universities such Ballarat University and the Australian Catholic University.

'You could say in the past we weren't recognised as professionals but as time has gone on the profession has evolved. It's got to a point where the standard of education needs to increase consistent with professional status,' Masci said.

'Launching off this strong educational base - combined with growth in "paramedic information" and strong links with acute medicine and the universities - who knows, in another 25 years we may see a paramedic as the dean of a Faculty of Paramedic Medicine,' he says.

By Christine Hocking

Referral services from page 11

than just advise callers to see a doctor, the Referral Service can actually organise a doctor to visit the person in their home.

The referral service also has the advantage of being directly linked to the 000 emergency call system. The referral service takes calls only after they have gone through the primary triage of 000 and been deemed suitable for the service. Using their considerable experience as paramedics and nurses, the referral service staff establish what care is required by each patient and can, at any time, dispatch an emergency ambulance. Other health advisory lines do not have this power, which could potentially generate more 000 calls.

Service providers

The MAS Referral Service has lined up an enviable team of service providers. The Referral Service links in with nursing services, locum medical services, Crisis Assessment and Treatment (CAT) teams for appropriate mental health cases, local community health services and drug and alcohol service providers.

Among its partners are Stanhope Nursing, Melbourne Medical Locum Service, M&M Health Power, Australian Locum Medical Service, Response Assessment and Discharge (RAD) Team and the Southern Health CAT team.

Melbourne Medical Locum Service director Bronwyn Hawking said the Referral Service was working well for both MMLS and MAS. Importantly, she said, patients who do not need hospital care were able to wait in the safety and comfort of their own homes rather than in an emergency department.

'The Referral Service has integrated with our service beautifully. As soon as we receive notification from the referral service we contact the patient and reassure them, as the referral service has, that we will be there as quickly as possible,' Hawking said. 'We notify GPs of every patient that we see, and we can do that electronically. It started off slowly but is growing each month. I think it is a fantastic service.'

Stanhope Nursing Service Victorian manager Lisa Fuller said it had been exciting to be a part of the Referral Service team. Fuller said Stanhope treated patients in the home, usually without the need for crisis intervention, and connected patients with other health care services to ensure continuing care.

'We are able to link them in so that they don't find themselves in the same situation again,' she said. 'When you visit people in their own homes you get a much more accurate picture of what is happening because you are a guest in their environment.'

She said paramedics and nursing staff at the Referral Service had joined Stanhope nurses on the job to get a first-hand perspective of their work.

New and emerging communities from page 12

hear these things.'

'One person I know rang the ambulance. They [paramedics] were very polite and respectful to them and it was appreciated. The bill was sent, but they didn't understand why the bill was sent.' To date, all participants have commended MAS on undertaking the consultations and have stressed the importance of continuing work on increasing the awareness of MAS amongst members of new and emerging communities: 'Before you came we had no idea of the ambulance, now we understand what you do. But please, more people in our community must come to hear this. We hope that you do not stop. ... All services are important but MAS is top of the list because it's life or death.'

Importantly, members of the communities have shown strong support in assisting MAS to get the message out to other members of new and emerging communities. When asked about the most effective ways of doing this, participants have emphasised that face-to-face contact is extremely important in raising community awareness: 'It is good to have people come and talk to us and then we can see what the uniform looks like. It is also good to see what an ambulance has inside and know about



what happens when you call 000 and what you can do even if you can't speak English very well.'

The key observations made by respondents when addressing the question of how to undertake the delivery of community education campaigns are:

- Relationship building is critical to ensuring the development of effective communication and education strategies. Trust is an essential ingredient
- Collaboration between MAS and representatives of community groups is important in order to get the message across - this might include training bilingual workers within the community
- Using visuals and on-site education is important - eg. inviting people to meet with paramedics and see inside an ambulance
- Ethnic media, particularly radio, is a very effective method of communication - however, many new and emerging communities do not have their own language programs and so face-to-face information sessions are critical
- The role of bilingual workers and community leaders is important in disseminating information

Participants were also asked what information they thought was important for MAS to know about their communities. Many said that often as Africans, it was assumed that they were all the same: 'We may look alike but we're a very diverse community.'

Several of the Sudanese participants mentioned that there are over 500 different ethnic groups and languages in Sudan and that differences in cultures needed to be considered when delivering information and providing services.

Participants also indicated that having a mutual understanding of each other would facilitate better communications and sustainable relationships: 'The more MAS knows about us the easier it will be for them to understand some of our cultures and behaviours. For example if someone is ill, then often people will want to come with that person into the ambulance. Sometimes, too, we might be frightened because in some countries people just don't come back.'

The consultations are continuing and will build on the important consultative foundations that MAS is developing with new and emerging communities.

By Christine Hocking