



Perspective

Ambulance Victoria

March 2010



Driving change

The statewide rollout of Mobile Intensive Care Ambulance (MICA) single responder units (SRUs) has begun, with new resources already in place in Ballarat, Bendigo and Geelong.

In the coming months, 10 additional MICA SRUs will be introduced to the metropolitan region, improving the coverage of MICA resources, providing enhanced triage at more scenes and ensuring effective response times for the most critically ill patients. A unit will also be introduced in Gippsland soon.

'The single responder units combine speed, flexibility and

the highest level of paramedic assessment and care available,' said Ambulance Victoria's Chief Executive Office Greg Sassella.

'As an ambulance service, our priority is, "What is best for the patient?" And this initiative provides a timely, high-quality service through triage and treatment.'

Each SRU is manned by one experienced MICA paramedic, who drives the vehicle to an incident, before treating any patients. The SRUs do not transport patients, so are always backed up by at least one ambulance.

Four MICA single responder units have worked in the metropolitan region for more than a decade.

'We know it works, all the data tells us it does,' said Greg. 'The patients are better off for it. And all the paramedics who work on the SRUs, almost without fail, say that they enjoy it.'

A key benefit of the SRUs, said Greg, was that paramedics were available at more incident scenes to provide MICA-level knowledge and care. In the metropolitan area, for example, the number of MICA vehicles is set to increase from 20 to 29.

'We learned when we did trials and developed this concept that one of the main advantages was that because of its speed and flexibility, an SRU got to many more patients.'

This meant the single responder could quickly assess a patient and determine what level of care was needed.

'If a patient is critically ill, we can provide a MICA level of care immediately on arrival of the single responder. And because they are generally quicker, if the patient is time-critical they are getting that MICA level of care more quickly.'

'The single responder can report back from the scene on important things, such as whether we need a MICA level ambulance or if we don't need an ambulance at all. If the decision is made not to send an ambulance, it's important we have

Continued page 2



HEART ATTACK TREATMENTS

Innovative care is saving lives P3



RESOURCES GO WEST

New buildings, paramedics in state's west P6-P7



COME FLY WITH ME

Four new planes on order P8



From page 1

our highest level of triage as the patient may be advised of alternative providers for their care.

'This will maximise the efficient use of our Advanced Life Support (ALS) ambulances by giving us timely, accurate information that lets us cancel or divert ambulances whenever that is appropriate.'

Greg said the role of single responders would evolve in coming years. 'There is a certain inevitability about the growing demand for ambulance services, combined with the ageing of the population and growth in primary health spectrum of our activities.'

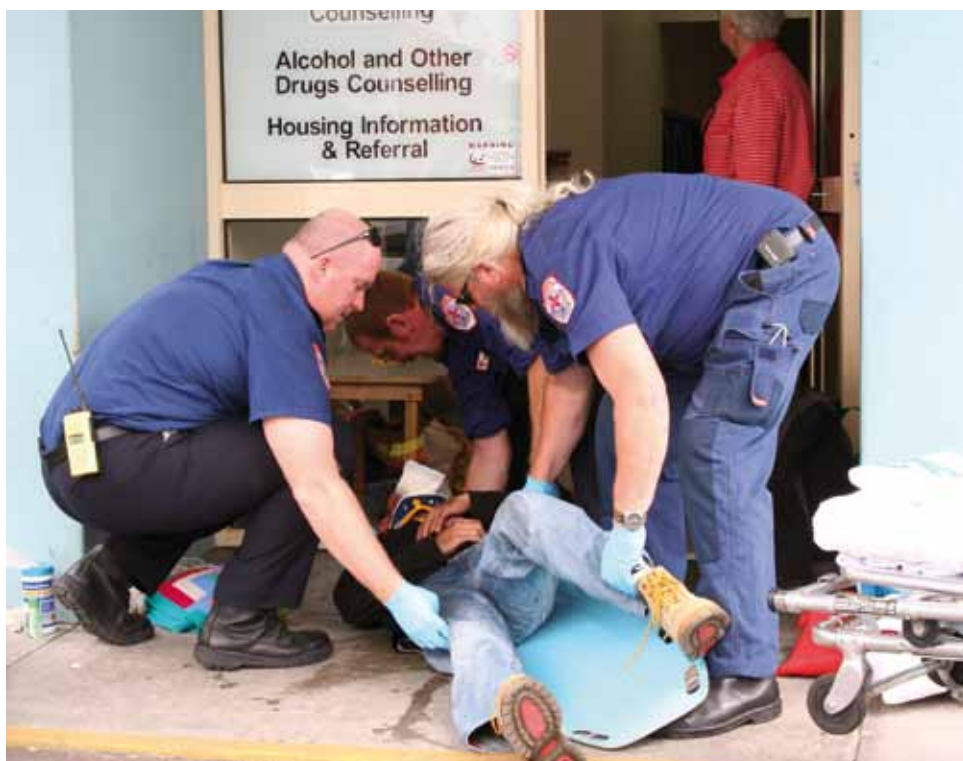
'We need to look to the future, especially in the primary-care field. In the coming years we will build a database that means we will be well placed to more formally deal with the primary care of patients.'

Greg said the expansion of SRUs was one of several ways MICA paramedics are deployed across the state.

'MICA resources are in helicopters, single responder units, in two-person MICA ambulances, in ambulances with an ALS paramedic. The services are delivered in a range of ways across the state and there will always be a mix of how this care is delivered. There is no one size fits all when you look at what the patient needs.'



In Ballarat, the SRU is operating 24 hours, seven days a week. 'It's operating really well, and is especially useful when the MICA unit is tied up or out of town,' said MICA SRU Paramedic Mal Callaway (centre), pictured with MICA Team Manager Toby Bugter (left) and Ballarat ALS Team Manager Dave Halsall.



In Geelong, the SRU is based at Norlane, providing an additional MICA response for the city. SRU MICA Paramedic Duncan Erwin (left) treats a collapsed patient with Advanced Life Support Paramedic Brett Denning and MICA Paramedic Laurie Blick.



MICA Paramedic Owen Curnow says Bendigo's SRU has responded to cases not only within Bendigo's suburbs, but has also assisted crews at Castlemaine, Heathcote and Inglewood. 'The addition of the SRU to the existing Bendigo and Kangaroo Flat ALS crews, Bendigo MICA unit and HEMS 3 helicopter means that residents in this area should feel quite comfortable that highly qualified pre-hospital care is usually available 24 hours a day, seven days a week.'

Perspective

Ambulance Victoria
Registered Office and Headquarters

375 Manningham Road
Doncaster Victoria 3108

Postal Address
PO Box 2000
Doncaster Vic 3108

Email information@mas.vic.gov.au
Website www.ambulance.vic.gov.au
Administration 03 9840 3500
Facsimile 03 9840 3583
First Aid Training 1800 248 859
Membership 1800 648 484

Perspective is produced by the People & Community division of Ambulance Victoria.

General Manager
Susan Smith

Editor
Tom Noble

Contributing Authors
Phil Cullen
Tom Noble

Published by
Editorial and Publishing Services
Tel 03 9525 8603

Designed and typeset by
The Modern Art Production Group
Tel 03 9525 2005

Printed by
Erwins Printing
Tel 03 9793 4844

Disclaimer and Copyright

This publication is produced as a vehicle for raising awareness and dialogue relating to issues of concern to the ambulance sector. The views contained herein are not necessarily those of Ambulance Victoria, the State Government of Victoria or any Government agencies or departments.

Articles herein are published in good faith but Ambulance Victoria and its agents do not warrant the accuracy or currency of any information or data contained herein. Ambulance Victoria and its agents do not accept any responsibility or liability whatsoever with regard to the material in this publication. In no event shall the publisher or authors be liable for any incidental or consequential damages resulting from use of the material contained herein.

ISSN 1832-2611

Where possible authors and sources of articles and information reproduced herein have been acknowledged. Where material is based on a copyrighted source, the source is always acknowledged. To the best of the knowledge of Ambulance Victoria and its agents, there is nothing contained in this publication that is the copyright material of another person or organisation. In the event that articles are misquoted or wrongly attributed, Ambulance Victoria will, at its discretion, rectify the situation by publishing correct details in a following issue.

© Ambulance Victoria. This publication may not be in whole or in part photocopied, lent, reproduced in printed or electronic form without the written permission of Ambulance Victoria. Inquiries should be directed to the General Manager People & Community division of Ambulance Victoria at the contact number provided.



Life-saving MICA project expands

Ambulance Victoria's highly successful 12-lead ECG project has expanded throughout the metropolitan area and into Geelong.

The expansion follows a pioneering trial completed in October 2008 that significantly cut the time it took for patients to receive critical hospital treatment, leading to a marked improvement in patient outcomes.

'The praises should be sung loudly, particularly to Ambulance Victoria for embracing this and doing such a wonderful job,' said Professor Ian Meredith, Director of Cardiology at Monash Heart at Southern Health.

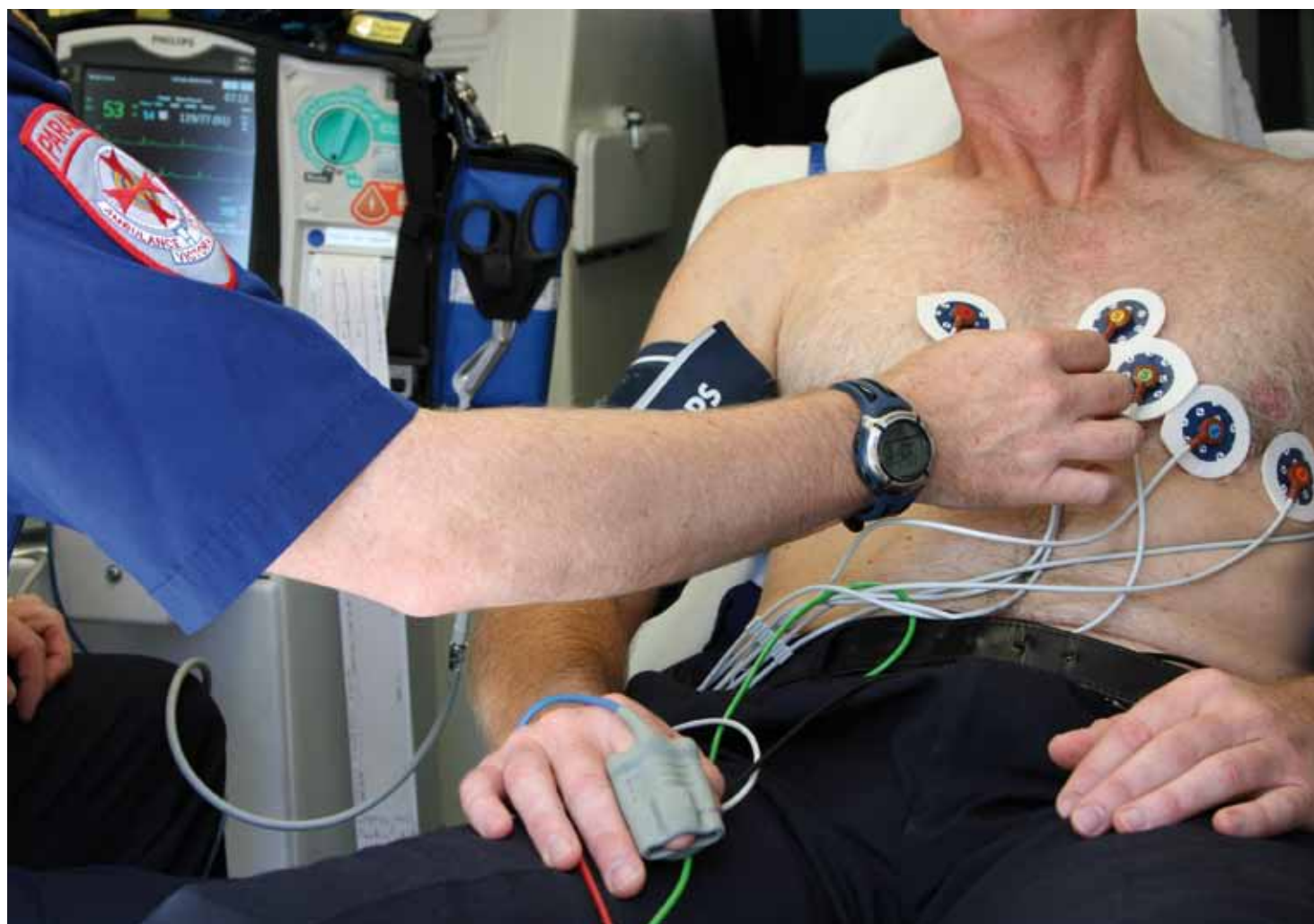
'These are world-class times and equal the times of any city on the planet. This is the result of system-wide collaboration between the ambulance service, emergency department physicians and cardiologists and nursing staff. This is saving heart muscle and ultimately patients' lives.'

Under the program, patients with a suspected heart attack are given a 12-lead electrocardiogram (ECG) - which reads the electrical activity of the heart - in the field by MICA paramedics.

The ECG can establish whether the patient is having a heart attack, which can be caused by a narrowing of the artery in the heart or the blockage of the artery supplying blood to the heart muscle.

If the readout shows that the patient is having a suspected ST-elevation myocardial infarction, paramedics send the ECG readout directly to the nearest major hospital that can provide appropriate treatment, activating a chain of events.

At the hospital, the emergency department consultant confirms



the diagnosis and contacts the cardiology department, which prepares for the patient's arrival.

By the time the patient arrives at hospital, the cardiology team is activated and confirms the diagnosis, typically by injecting a dye into the bloodstream and using medical imaging to watch the restricted blood flow in the heart.

In the cardiac catheter lab, a stent is often inserted (a procedure known as coronary angioplasty), clearing the blockage in the bloodstream and returning coronary blood flow to normal.

'This is a time-critical procedure,' said Ian Jarvie, AV's Manager of Clinical Standards and Audit.

'Every 30 minutes saved in getting treatment reduces by 7.5 per cent the chance of dying or having a serious complication in the next 12 months.'

Ian said the expansion began in April 2009, and treatment is now applied to patients across the metropolitan region and in Geelong, with at least one patient a day taken to one of 10 hospitals that can provide appropriate treatment.

The hospitals involved are The Alfred, Austin, Box Hill, Epworth, Geelong, Monash Medical Centre, Northern, Royal Melbourne, St Vincent's and Western.

Initial results have shown big reductions in the time it takes from arriving at hospital to having the

angioplasty, which is known as the 'door-to-balloon time'. 'During the trial, Monash cut its door-to-balloon time from 102 minutes to 57 minutes. It is maintaining this time now at around 56 minutes, which is a great success.

'Other hospitals have also shown big cuts. For example, the Austin has cut its door-to-balloon time from 80 minutes to 44 minutes.

'All metropolitan MICA paramedics, including single responders and clinical support officers, now have upgraded equipment that allows them to conduct a 12-lead ECG, which is proving a significant benefit to patients,' he said.

Heart initiative in Lakes Entrance

Patients who have a heart attack in Lakes Entrance are benefiting from a local collaboration between doctors and paramedics that provides effective treatment much earlier.

Previously, all patients who had a heart attack were driven to Bairnsdale Hospital, where doctors administered a 'clot-busting' drug to disintegrate the body's clotting agents and allow the resumption of blood flow to the heart.

Under a new arrangement, if paramedics cannot reach the hospital within 30 minutes, they can notify a doctor at a local GP clinic,

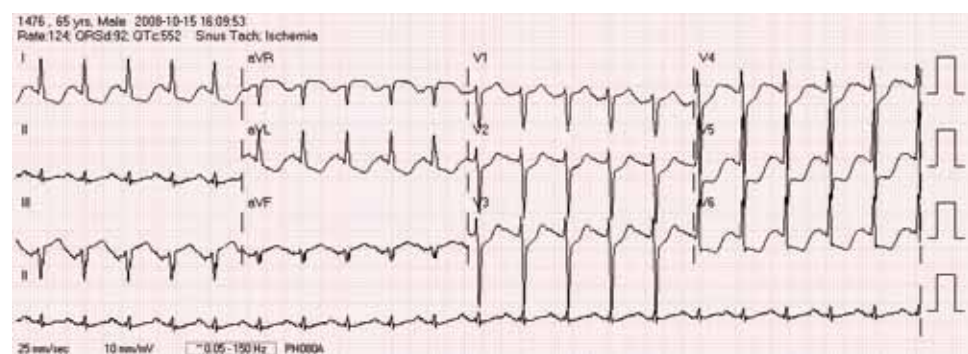
who administers the drug.

'This initiative is significantly reducing call-to-needle time in this area,' said Lakes Entrance Team Manager Rob Standfield.

Rob said there were strict protocols around the process.

MICA paramedics perform a 12-lead ECG to confirm the heart attack, and advise the medical clinic before arrival, so the drug can be prepared. The doctor administers the drug after confirming the ECG readings, and ensuring the drug is appropriate for the patient.

Rob said once the drug is administered, patients are taken to Bairnsdale Hospital for further



treatment. Adult Retrieval Victoria is notified, as most patients needed urgent cardiac care treatment in Melbourne.

'Because patients get treatment earlier, it means they are likely to

have a better outcome. The first patients have now been treated, and the system has worked well, and seems well suited to areas like this, which are some distance from a hospital.'



The new team includes (from left) Matt McCrohan, Damien Gravenall, Ben Madgwick and Daniel Petrotta.

New team, at your service

Paramedics in the metropolitan region are spending more time on the road and less time changing vehicles, following a change to the support model developed by the Fleet and Equipment Department.

Ambulance Victoria has established three support centres where ambulances are cleaned, stocked and checked before being returned to duty, as part of a review of service delivery that involved significant consultation with AV stakeholders and industry providers.

'This has been a significant change,' said Operational Fleet

and Equipment Manager Matt McCrohan.

'Historically, vehicles "belonged" to a branch and, when it was time for the vehicle to be serviced, the branch was given a temporary "reserve" ambulance, before their original vehicle was serviced and returned,' he said.

'There was constant feedback that there were too many changeovers. Generally the reserve vehicles were not fully stocked and often had flat batteries. Crews were out of service while they fixed their vehicle.'

Matt said vehicles needing a service were now swapped for an 'operationally ready' newly serviced ambulance, and branches no longer

had 'their own' vehicle. 'This new procedure has immediately halved the number of changeovers paramedics need to do.

'Crews are guaranteed that their vehicle is clean inside and out, has the appropriate equipment (we have standardised this), is stocked with consumables to a predetermined level (following consultation with teams) and safety tests have been done on the communications and other operational equipment.

'They just need to take their key bits of gear, such as a defibrillator and portable radios, their drugs and swap from one vehicle to another,' Matt said.

'It now averages less than 15

minutes to do a vehicle changeover, which is significantly less than before. Ultimately this is about reducing out-of-service time and having more available resources, which in turn leads to better patient outcomes.'

The metropolitan region has about 211 ambulances, of which 158 are used each day. Vehicles are serviced every 5000 kilometres or every six to eight weeks, depending on the workload and geography.

Matt said seven new staff had been recruited to the Fleet and Equipment Department. The next step was to improve equipment supplies, with a strategy being developed for the supply of equipment across the state.

New leadership structure covers the state

Ambulance Victoria has unveiled its new structure, with two experienced paramedics responsible for statewide operations.

General Manager of Regional Services Tony Walker will oversee the statewide emergency road response and General Manager of Specialist Services Mark Rogers is responsible for Air Ambulance Victoria, Adult Retrieval Victoria and logistic and support functions.

Said Tony: 'My role is to ensure AV provides an effective emergency road ambulance service that meets

appropriate clinical performance and response performance across Victoria.

'In rural regions the delivery of services is more complex because of a number of factors: the locations, isolation, availability for other resources to back-up crews and the strong use of volunteers, and this brings its own unique challenges.'

Tony, who began his career in 1986 and has worked in metropolitan and rural areas in a range of senior operational and clinical roles, said a key priority was to build better support structures for paramedics and volunteers.

'Our staff do an incredible job and we want to standardise what we do statewide so we get consistent levels of patient care and continue to improve the services we offer.'

Mark said his role involved ensuring paramedics had the resources and structures to do their job, and to make those processes more efficient.

'We are about putting the patient first and ensuring the patient gets an improved service.

'My division is about enabling paramedics to conduct their day-to-day business and putting in statewide processes to make that

more efficient.

'I have some service delivery areas - Air Ambulance, adult retrieval and non-emergency transport - but those aspects are also about supporting the overall road response to the patient.'

Mark's responsibilities include overseeing resourcing, communications, the call referral service, operational planning and fleet and equipment.

Mark began as a paramedic in 1979 and has served in a range of operational paramedic and senior management roles in the metropolitan region.



MICA procedure expands statewide

Mobile Intensive Care Ambulance (MICA) paramedics in rural regions are being trained to use rapid sequence intubation (RSI), a life-saving technique first trialled in urban and selected regional sites several years ago.

The technique involves sedating and paralysing a patient, before inserting an endotracheal tube and breathing for them. The patient remains unconscious and sedated until arrival at hospital.

This procedure is used for seriously ill patients with clinical presentations such as a traumatic head injury, stroke, and can be helpful for hypoxic brain injuries (where the brain has been deprived of oxygen) such as strangulations,

Landmark study

Patients with a traumatic head injury who received RSI fared better than those who were not treated this way, according to a study involving AV paramedics.

The landmark study, conducted in Ballarat, Bendigo, Geelong and the metropolitan region,

has prompted AV to change its clinical protocols to ensure that, when appropriate, all patients with traumatic brain injuries receive this technique.

A paper detailing the outcome of the trial is expected to be published in a leading medical journal this year.

post-drowning, hangings and some drug overdoses.

MICA paramedics in Ballarat, Bendigo, Geelong and the metropolitan region were trained to use RSI on patients with severe

head injury as part of a clinical trial that began several years ago. The practice was limited to those areas that were geographically able to deliver patients to the hospitals involved in the trial.

Following the successful completion of the trial AV is now expanding RSI to MICA paramedics statewide.

'During the trial a lot was learnt about how to successfully perform this procedure safely in the pre-hospital environment,' said AV's Manager of Clinical Operations Dave Garner.

He said MICA paramedics undertake rigorous training and accreditation before being able to perform the procedure in the field. 'Undertaking the procedure has been developed into a well-honed drill and is proving very effective.'

Ambulance Victoria closely monitors the use of RSI. All cases are audited and reviewed by a MICA team manager and a senior clinical review team.



Seymour-based Clinical Support Officer Guy Zuccola, above, has used rapid sequence intubation on several people since mid-2009, when he was accredited to practice on patients.

'There's no doubt it saves lives,' said Guy.

In a recent incident, a bashing victim was treated using RSI before being flown by helicopter to the Royal Melbourne Hospital.

'He was hypoxic and was later diagnosed with a depressed skull fracture. For two days the hospital staff kept the patient heavily sedated. Thankfully a full recovery was made.'

'Because we were able to perform this procedure, it is likely we may have protected him from brain damage.'

Guy began as a paramedic in Melbourne in March 1989, having worked for 10 years as an anaesthetic technician at the former Preston and Northcote Community Hospital. 'I had a good background of all this stuff then.'

In March 1998 he moved to Seymour, becoming MICA qualified in 2004 and was appointed as a CSO in 2009.

Although he was trained to use RSI as part of his MICA course, it was then not part of clinical practice in most rural regions.

'I did keep my skills up, however, because I was able to RSI people in hospital, under the supervision of a doctor,' he said.

'Most doctors in this area, the Southern Hume, are general practitioners with limited exposure to conducting RSIs.'

'There are many occasions when I have been called to the hospital by a local doctor and asked to assist in performing the procedure.'

Guy said now being able to perform an RSI in the field was a significant benefit to patients.

'We will be able to manage patients with traumatic head injuries caused by falls from significant heights, injuries sustained in fights, car accidents, and patients with strokes.'

'By protecting their airway, ensuring oxygen supply and decreasing intracranial pressure, the possibility of secondary brain injury happening is dramatically reduced.'

'If a patient has a GCS (Glasgow Coma Score, a measure of patient's alertness) below nine (out of 15), this may indicate the need to RSI.'

Guy said the longer transport distances to hospital in rural regions

meant the ability to RSI a patient was more important.

'In urban areas, you can usually get to a major hospital quite quickly. Our closest major hospital is the Northern Hospital, which is 45 minutes from here - and that's driving lights and sirens on the highway.'

'If the patient has experienced major trauma they may need to go directly to The Alfred or the Royal Melbourne and that's another 15 minutes more on the journey. To be able to perform an RSI on appropriate patients and manage them over these distances has the potential to improve their outcome.'

Guy said he expected most MICA paramedics in the Hume region would each use the procedure about six times a year. 'It is a valuable addition to our treatment.'



More resources go west

More paramedics and new facilities mean Victoria's south-west coast is better prepared for medical emergencies than ever before.

A permanent air ambulance helicopter at Warrnambool, single responder MICA paramedics in Geelong, more staff around the clock in Colac and branches built or under construction in Belmont, Hamilton, Norlane and Warrnambool are part of the picture.

Popular coastal towns Anglesea and Apollo Bay and the picturesque Timboon further inland are also preparing to open new branches with additional Advanced Life Support paramedic staff providing a higher level of care to the communities.

Until recently, the three towns mainly relied

on Ambulance Community Officers (ACOs) and nearby Community Emergency Response Teams (CERTs) to be first on the scene of emergencies.

But as part of a new service model, at least one paramedic is now permanently based in each town, which has led to quicker response times, a higher level of care and more ACOs.

Regional Manager Barwon South West Mick Cameron said more paramedics were in training or preparing to move to these areas.

'There has been a significant enhancement to the level of service we are able to provide at all three locations,' Mick said.

'Our response performance and our response times have clearly improved because we have a paramedic on shift during the day or on call in the evening.

'There is also much better support for the

ACOs and we have had an increase in ACO numbers at all of those locations because there is someone there to support them.'

ACOs are employed on a casual basis to work mainly in small communities. They are trained to deal with health emergencies such as stroke, breathing difficulties and chest pain, and provide a range of treatment such as basic life support, pain relief, and managing spinal injury and fractures. ACOs are paid for all work they undertake.

'People might not have been comfortable being an ACO who takes primary responsibility for patient care but they're quite comfortable to be trained to assist the paramedic,' Mick said.

He said ACOs were an essential and valued part of AV because of their links to their communities.

Anglesea

Anglesea was the place its first station officer Neil Stokes went for holidays as a boy. Neil, a bricklayer by trade, moved to Anglesea permanently and became involved with ambulance as an Ambulance Community Officer (ACO) in 1995 after taking a first aid course and getting 'bitten by the bug'.

He became a non-emergency patient transport officer in 1998 before becoming a paramedic student two years later at the age of

37 and working most of his career around Geelong.

'It's a bit different here, being the ambo,' Neil said. 'In Anglesea, when an ambulance goes past heads turn no matter what, so I probably have lost that anonymity. Two years ago no one knew what I did for a living... but it is really nice to look after your own community.'

Anglesea ambulance station also has its own 'doctor' on the team - Dr Trevor Thornton, an environmental management lecturer



The new branch under construction.

who holds a doctorate in clinical waste.

Trevor, who spent four years as

a navy medic before becoming an ACO seven years ago, splits his time between his Warrandyte and Anglesea homes.

'I guess it's like the old cliché, you are helping the community,' Trevor said. 'It's not just helping people who are sick or injured - it is being part of the community. You get a lot of comments from people saying: "It is nice to know that you guys are in town." And even when you think you are not actually doing anything, you are giving them peace of mind.'

ACO Jennifer Lingham's dedication to the branch extends to her place as treasurer of the auxiliary for the past four years.

'I think it is a pretty important job in this town. If we weren't here, the old people who fall in the middle of the night would have to wait at least three quarters of an hour,' she said. 'That was one of the main reasons I started as an ACO... it's just really rewarding being able to help people.'



Seachange: (From left) Trevor Thornton, Jennifer Lingham, Neil Stokes and student paramedic Anthony Perrett.



Timboon

Timboon Team Manager, Paramedic Gary Castledine, cut his teeth as a paramedic in Melbourne's north but has taken to his new country life with gusto. Not long after arriving Gary joined forces with local policeman Senior Constable Paul Marsland to formulate a unique emergency action plan for the town.

'We identified a significant risk at the start of last year's bushfire season,' Gary said. 'Timboon is heavily treed and the access and egress from here is very ordinary with winding roads that aren't in brilliant condition. We needed to come up with a plan that if people were isolated here, what we were going to do with them.'

The plan took into account Timboon's place as the region's industrial, farming, medical and retail centre and the numbers that flock to the Twelve Apostles over summer. Long distances from Timboon to the nearest emergency care centres and the frequency of major traumatic injuries means the Warrnambool-based helicopter is

often relied on.

'I've arrived at jobs down here now, major car crashes, and the helicopter is landing as I arrive, and that's just fantastic,' Gary said. 'You work together and obviously the patient gets the best outcome because they are taken to the hospital in the best timeframe.'

Another paramedic has been appointed to join Gary at Timboon, a new branch building is under construction and the number of Ambulance Community Officers (ACOs) has swelled to 10. Response times have improved and there is less reliance on Camperdown and Terang ambulances, which are more available in their own communities.

'The main difference that I see (as a paramedic in a small town) is the involvement with community - we have Community Emergency Response Teams that support us from Lavers Hill, Port Campbell and Nullawarre,' he said 'And I really enjoy how committed and how excited the ACOs are about each job. There have been guys who have been doing this for 28 years - they are unbelievable.'



Timboon Paramedic Gary Castledine.



On the waterfront: (From left) Peter Wagstaff, Tony Mandic, Peter Biddle and Wayne Malady.

Apollo Bay

Intensive care paramedic Tony Mandic worked his entire career in Geelong before his permanent appointment to Apollo Bay in November 2008.

Being the town's first station officer means Tony is more recognisable to the community he serves but he

is relishing the ability to make a difference.

'There is a higher expectation on you but with that comes a higher reward as well,' Tony explained.

'People in big cities and towns have changed - their demands, the way that they treat people - whereas

people here are still respectful of each other.

'They are incredibly grateful for anything you can do for them and you do feel like you make a difference for them because the hospital is small.

'Being able to bring a MICA skill set to a place like this makes a big

difference to the community.'

Tony has worked closely with the staff of Otway Health since arriving and it is not unusual for the hospital to call on his expertise for very sick patients.

'I've done a lot of education with hospital staff, explaining to them the role of ambulance and our protocols, drugs, procedures, so we have now developed a trusting relationship,' he said.

'With them being more aware of what I do - and me being more aware of what they do - we have developed that trust.'

Tony said he was proud to work alongside a strong team of Ambulance Community Officers (ACOs), who have established close ties with several community institutions including local schools, Probus, Red Cross and surf life saving.

One of these ACOs, Peter Wagstaff, is completing the Rural Sponsored Degree Paramedic Program to become the station's second permanent paramedic.

'I worked as an ACO for 10 years and I really loved it. I was very interested in the work and liked it more and more, being able to help out as I could,' said Peter, a carpenter by trade.

Another builder, Peter Biddle, is celebrating 30 years as an ACO with the Apollo Bay ambulance, while Wayne Malady, a bed and breakfast operator, has been involved since 1988.



New planes on order



Ambulance Victoria has signed a contract for four new fixed-wing aircraft to begin service in mid-2011. The planes will replace the existing fleet of King Air 200s, which will be 16 years old. 'These new planes, King Air B-200s, offer several advantages,' said AV's Manager of Air Operations Phil Hogan. 'We will be able to get a degree of compatibility with the road

ambulance stretcher system, which is something we have been seeking for many years,' he said. 'For critical care patients, we would hope that on most occasions we will be able to keep the patient on the one stretcher for their whole journey to hospital.' The existing aircraft cannot take patients heavier than 120 kilograms. 'The new planes offer a significant advantage because they have a 160-kilogram standard loading

and, with adjustments, can take a maximum of 240 kilograms.' Phil said the new planes came with advanced avionics systems, which improves navigation accuracy and allows pilots to have better control of the aircraft. They also have a system that allows flight coordinators to track the planes' movements anywhere in Australia (two of AV's five helicopters have the same tracking system). In 2008-2009, AV's four planes

carried more than 4,600 patients. Most were flown from regional Victoria to Melbourne to provide access to specialist medical and hospital facilities. The planes also transport an increasing number of critically ill patients who are usually transported from regional hospitals to critical care hospital beds in the metropolitan area. The 10-year contract with Pel Air was signed in December.

ARV manages new critical care website

Adult Retrieval Victoria has taken management of a new website showing the availability of intensive care beds in Victoria's hospitals. The website requires hospitals to update data four times each day, including the occupancy of intensive care and cardiac care beds. 'The website has information that is close to real time and we can see exactly the available beds in the system,' said ARV's Director, Dr Marcus Kennedy. 'Previously there was limited compliance and outdated information, meaning we had to make numerous phone calls to hospitals to find a suitable bed. This is a substantial improvement,' he said. 'Now we can more

efficiently get the right patient to the right hospital, in a timely manner. Ultimately, this will mean better patient outcomes.' The secure website, which went live in November, provides alerts if the system nears capacity, allowing hospitals to plan their response.

Hospital		ICU Beds			HDU Beds			
	Minimum Number ICU Equipment	Occupied	Empty	Reserved (ICU/HDU/ICU)	Occupied by ARV awaiting next flight	Occupied	Empty	Reserved (ICU/HDU/ICU)
Alfred	31	23	2	2	0	11	1	1
Angliss	0	0	0	0	0	0	0	0

Retrievals expand to metropolitan hospitals

Adult Retrieval Victoria has begun providing a metropolitan retrieval service to complement its regional and rural operations. The inter-hospital transfer of critically ill patients in the metropolitan area will use paramedics, ARV doctors and Ambulance Victoria vehicles. 'This service is limited and will only be provided to selected, retrieval-appropriate, critical care patients, and is not designed for all inter-hospital transfers,' said ARV's director Dr Marcus Kennedy. 'When it comes to the most complex and high-risk patient transfers, there are clinical advantages if ARV conducts the retrieval.' A key benefit for referring hospitals is that their staff who would usually travel with the

patient - usually doctors from the intensive care unit (ICU) or emergency department (ED) - would be able to remain on site. 'This benefits the hospital and also benefits the ambulance service, because when these doctors leave their hospitals it can affect hospital performance and the access to an ED and off-stretcher times,' Marcus said. 'We expect we will support most referred transfers into ICU (or of ICU-type patients into EDs) and we will endeavour to service most hospital types, including urban, outer urban, and private. Service of transfers from tertiary hospitals will be reviewed in six to 12 months.' 'Ambulance Victoria's objective is to create a sustainable adult retrieval system and to improve the efficiency and effectiveness of the service for all Victorians.' Marcus said the service would be evaluated after six months.



Doug Lynch says retrieval medicine presents unique challenges.

New doctor joins ARV

Doug Lynch recalls working in a hospital trauma department in the United States as local gangs fought a turf war over drugs.

'It was the "Crack War" in Washington DC, and I couldn't believe the injuries coming through the door. People came in with wounds from high-velocity weapons and explosives. We even had FBI and US Marshals coming in with characters they'd shot.'

Doug, then a junior doctor on a trauma scholarship, found himself working closely with the paramedics who brought the injured to hospital.

'The paramedics were part of the team. They flew in helicopters with a small rotary wing that could land almost anywhere and pick up patients. We would get handover as they were flying. The patients were straight in the door and into the operating theatre.'

More than a decade later, Doug is again working closely with paramedics, this time as a one of the first registrar doctors at Adult Retrieval Victoria.

'I have learned a lot from seeing what the MICA paramedics do. They have spent a long time training to get where they are and, the more I work with them, the more I see they are irreplaceable.'

'What also impresses me is the

constant desire of the paramedics to improve the care provided to patients. The local clinical trials with cooling and rapid sequence induction, for example, are world-leading, and something we should all be proud of.'

Doug, 36, was born in Ireland and trained as a doctor in England. Following stints working in the United Kingdom, Guatemala, Spain and Indonesia, he moved to Cairns, where he did medical retrieval work and trauma response from the base hospital.

He then moved to Victoria, where he has worked in hospitals (mostly in intensive care units and emergency departments) while completing a Masters in public health and tropical medicine at James Cook University. He is an advanced trainee with three medical colleges, studying emergency medicine, intensive care medicine, and general practice (and anaesthesia).

'It's unusual because I'm trying to become a consultant in three different specialties. If I stay living in an urban environment I'll probably specialise in intensive care and retrieval medicine. If I live in a small remote community I want to be able to do a variety of things.'

Doug had been keen to again become involved in retrieval work when the opportunity at ARV came up. 'I jumped at the chance. I believe ARV has the best model

being an integral part of Ambulance Victoria, especially when you need to launch retrieval teams quickly.'

He began work in August, and works three shifts a week (with other work in hospital emergency departments).

Doug said retrieval medicine presented unique challenges. 'These patients are usually very sick, mostly intubated, with central lines and therapeutic combinations that can cause serious side-effects.'

'In the confined space of an aircraft, you can't provide the same treatment as a patient would receive in a hospital.'

'This means that there are occasions where using a doctor as well as a paramedic for a retrieval is a good option, especially when patients have potential for unpredictability or doing something weird. This team mix can provide high-level intensive care in an inter-hospital environment.'

In the six months since he began at ARV, Doug has visited many of the state's smaller hospitals to retrieve critically ill patients.

'People can be very stressed when you arrive. Often we go to a small hospital and the patient's clinical status is still not completely under control.'

Doug said the most important thing to focus on was the patient. 'Everything else is of secondary importance. This person is going through probably the worst day

of their lives, being passed from person to person,' he said.

'There are job-specific tricks and techniques that can make a significant difference to the outcome of patients and we are constantly working to improve the level of care at every stage.'

'There's nothing homogenous about this job. Every patient is different, every situation different. Waiting for a job is the hardest part for me.'

Doug said he would recommend air retrieval work, especially to senior registrar emergency and intensive care doctors.

'Even in a normal hospital environment, taking an intubated patient to a CT scanner is considered a real opportunity for disaster. We know there is a huge incidence of adverse events, even in a controlled environment.'

'So moving a very sick patient from a hospital into an ambulance, then into a plane, then another ambulance before getting to the destination hospital - the opportunity for things going wrong is enormous, so you really have to be on your game.'

'You have to leave nothing to chance and keep an eye on everything. And you need to think outside the box and be aware. This involves stepping outside your comfort zone and it is difficult. I would recommend it highly if you relish a challenge.'



And we can be heroes



Community Hero award winners with Health Minister Daniel Andrews and Ambulance Victoria Chief Executive Officer Greg Sassella.

Ambulance Victoria has celebrated its 10th annual Community Hero Awards, a ceremony designed to encourage members of the public to take action during a medical emergency.

AV Chief Executive Officer Greg Sassella said the 15 recipients recognised at a ceremony in November 2009 were selected from more than 150 nominations made by paramedics across the state.

'Our paramedics have the best clinical training and the latest technology, but one thing that never changes is the vital help from a bystander in the minutes before an

ambulance arrives,' said Greg.

The awards are part of AV's comprehensive strategy to educate and inform people about what to do in a medical emergency.

'Our strategy at AV is to look at the world from where the patient sits, because the patient comes first,' said Greg.

'When someone is in a time-critical situation, there is no ambulance service in the world that can get there within a couple of minutes.

'So our responsibility as an ambulance service is to get some sort of care there within a couple of minutes, and we do that in a number of ways.'

First, call-takers provide medical

advice and support to the caller, regardless of whether the caller has training or first aid experience.

'We have also developed a comprehensive strategy to train the community to recognise and deal with a life-threatening situation, so they can provide support for the patient immediately.'

This includes providing cardio pulmonary resuscitation (CPR), one of the key steps in the 'chain of survival'.

'The reason Ambulance Victoria is producing such improved patient outcomes is because we ask first, what does the patient need and how do we deliver each part of that chain of survival to them,' said Greg.

'Central to this are our extensive

programs delivered through schools, our teaching to communities who speak first languages other than English, and our work with the over-50s to recognise a life-threatening condition and know what to do about it.'

'The Community Heroes awards is a great example of how people respond in a medical emergency. We are continually surprised about how well people react, and these awards promote this activity.'

The 2009 awards were presented at Parliament House in Melbourne. More than 150 members of the public have been recognised for extraordinary acts of heroism since the first awards in 2000.



David Beale

David Beale was a customer at a Clayton South factory when he witnessed a man, 38, hit by a forklift. The victim was left in severe pain with serious leg injuries. David calmed the patient, exposed the injuries by cutting clothing away, then bandaged and elevated the leg to control bleeding. He remained on scene and assisted paramedics. He was nominated by MICA Paramedic Mariah Deacon.



Adam Farchione

Teenager Adam Farchione was at an AFL game when he saw a man collapse, and he watched as the man was given CPR. That evening, Adam's father, Tony, had a cardiac arrest at home. Adam's only knowledge of CPR was what he had seen that afternoon. He called 000, then applied CPR for 10 minutes until paramedics arrived. Tony was revived and made a full recovery. Adam was nominated by MICA Paramedic Kevin Commins, (pictured with MICA Paramedic Deb Norbury).



Rescue in Samoa

Four Mobile Intensive Care Ambulance (MICA) paramedics were part of an Australian deployment to Samoa in September, following a devastating earthquake and tsunami.

Shaun Whitmore, Pete Norbury, Dave Mati and Paul Golz (pictured) flew to Samoa 48 hours after the disaster, as part of an Australian Government aid deployment.

The four paramedics, all trained in Urban Search and Rescue (USAR), helped treat dozens of patients, as well as joining Queensland USAR specialists in searching the devastated coastline.

The 8.3 earthquake struck about 7.10 am on 29 September, followed about six minutes later by a tsunami that hit the south coasts of American and Western Samoa.

The tsunami devastated a 40-kilometre stretch of coastline – largely a 150-metre strip of land between the beach and a mountainous area – and killed 137 people (including five Australians) and injured hundreds more. More than 65 per cent of those killed were under 14. About 10,000 people were affected.

The AV paramedics worked as the leaders of medical teams from the



Royal Melbourne Hospital and Royal Children's Hospital, each made up of two doctors and three nurses.

As well as treating patients, the paramedic roles included establishing infrastructure at the hospital, stock distribution, providing daily briefings at the Australian High Commission, liaising with interstate and overseas teams and ensuring staff welfare.

The mix of injuries included fractures, aspiration injuries and many penetrating or infected wounds that needed cleaning. Hundreds

of patients required changes of dressings.

Shaun and Dave worked with the Royal Children's Hospital team. 'We worked full steam for five days, where we had a strong presence in the hospital emergency department and in the theatre of the hospital,' Shaun said.

'Some treatments were new to us, such as using ketamine to briefly sedate children for wound care and suturing. I use ketamine for pain relief in my role as a MICA flight

paramedic on the helicopter, but generally not for sedation.

'We also worked outside our regular roles, for example, acting as anaesthetic assistants in theatre. And because of the high number of patients, we were doing a lot of work in the emergency department that would normally have been done in theatre.

'There was a degree of adaptability and flexibility within the team that allowed us to do a lot more work and achieve good patient outcomes amid a great tragedy.'

The four paramedics also helped the Queensland specialists assigned to search for survivors and victims. 'It was tough conditions – 38 degrees and 90 per cent humidity,' Shaun said.

The Samoan people were helpful, appreciative and resilient. 'I remember searching with a local policeman for victims in an area where his girlfriend was missing. He left a strong impression.'

The paramedics spent seven days in Samoa, treating hundreds of patients. 'This was the first overseas deployment of AV USAR paramedics in this type of situation, and it was satisfying that we were able to arrive promptly and offer support to those affected,' Shaun said.

Revamped AV website now online

Ambulance Victoria's new website has resulted in increased traffic and an improved take-up in Ambulance membership.

The website, which went live in August 2009, features comprehensive information on membership, paramedics, education and AV.

'We conducted extensive research into the existing websites and

established that 70 per cent of visitors use the site for membership purposes – to join or update their details,' said AV Communications Manager James Howe.

'As a result, it is now set up to not only provide information about membership, but make the process of joining seamless. There are fewer clicks and screens required to join, and as a result we are seeing a

higher percentage of visitors buy a membership.

'From an information perspective, we have provided an oversight of all aspects of AV and built in interactive features to make it more engaging for users. It highlights the highly skilled work of paramedics and is designed to attract potential recruits.'

Educational elements on the site include games that show children

how to react in an emergency, and 'virtual tours' of equipment and vehicles.

The site includes television commercials, instructional videos on first aid and of dramatic rescues, and links to social media including Twitter, Facebook and Digg. The website also features media releases, which are updated daily.

www.ambulance.vic.gov.au



New recruits begin work

The first group of Ambulance Victoria recruits for 2010 has begun work, following a four-week induction course that included driver training, equipment familiarisation, clinical work and simulated emergencies.

This year's intake is made up of about 120 university graduates, 100 undergraduates (who have completed two years of their three-year paramedic degree) and a number of qualified paramedics from interstate and overseas.

They will begin work in six inductions from January to June.

Most of this year's graduate recruits come from Monash University, Victoria University and the University of Ballarat, with others from interstate universities including Flinders University, Charles Sturt University, Edith Cowan and Queensland University of Technology.

The graduate paramedics spend 12 months in an on-road development program, with a structured approach going from direct supervision to indirect supervision.

Undergraduates from Victoria University work under supervision for two years while they complete the final year of their degree.

AV's Manager of Graduate and Vocational Education, Associate Professor Tina Ivanov, said about 70 per cent of paramedic graduates began their course straight from school, 20 per cent were changing degrees (or doing a second degree) and 10 per cent were 'mature age', usually making a career change.

More women than men were studying to become a paramedic,

she said. 'Women are seeing being a paramedic as a caring profession, but one that is more exciting than a traditional role such as nursing.'

'It's one of the most popular university courses in each state, and the ENTER scores needed to get in are quite high,' she said.

Tina said a key element of the four-week induction was to learn about AV. 'This includes our clinical practice guidelines and how we apply them, their role as a member of a paramedic crew, familiarisation with our equipment and vehicles, and our policies, such as occupational health and safety and privacy policies.'

One of the most popular parts of the induction program involved simulated emergencies (pictured), such as dealing with a vehicle accident, a psychiatric patient or an unconscious patient in a confined space.

'These nights are very popular, and the qualified staff who help think they are great value, because a lot of learning occurs.'



New recruits take part in a training exercise as part of their four-week induction.