MICA

MOBILE INTENSIVE CARE AMBULANCE IN VICTORIA

THE FIRST 50 YEARS

AmbulanceVictoria

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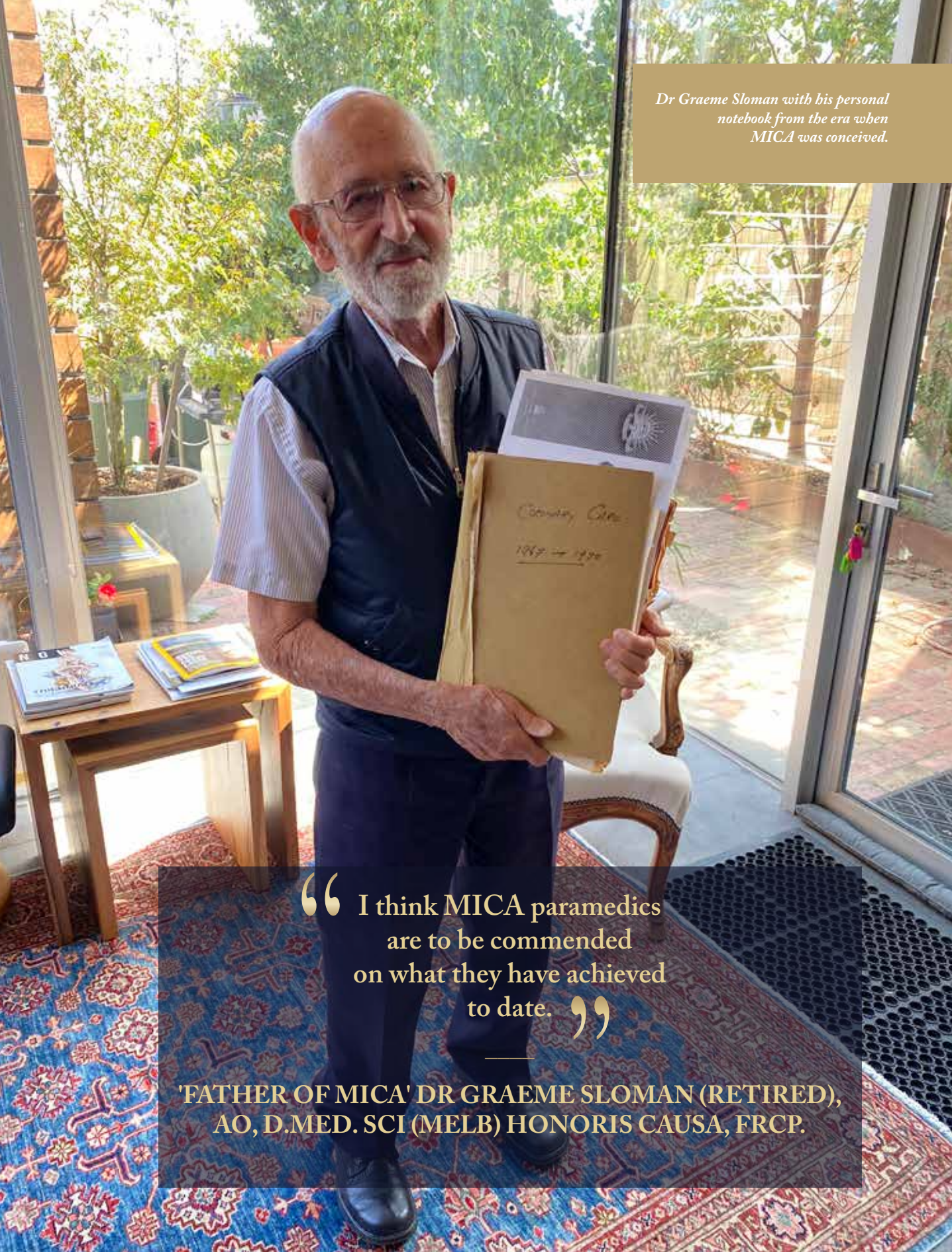

Dr Graeme Sloman with his personal notebook from the era when MICA was conceived.

"I think MICA paramedics are to be commended on what they have achieved to date."

'FATHER OF MICA' DR GRAEME SLOMAN (RETIRED), AO, D.MED. SCI (MELB) HONORIS CAUSA, FRCP.

50 GOLDEN YEARS OF MICA

This 50-year history of the Mobile Intensive Care Ambulance (MICA) service in Victoria, Australia, was produced to commemorate MICA's golden anniversary in 2021.

Ambulance Victoria (AV) recognised the need to preserve the history of MICA, which represented a pivotal turning point for ambulance services both in Australia and globally when it was established, and to record that history while pioneers of MICA were still on hand to tell their own story.

Sadly, the two original 'men of MICA', Wally Ross and Wally Byrne – Victoria's first two MICA officers – are now deceased.

However, this research has benefited from numerous pioneering figures in the development of MICA, including those who served within the Victorian ambulance service and the medical profession. These individuals generously gave their time and access to their personal photo albums and archives to help flesh out 50 years of MICA history.

Ambulance Victoria gives our deepest thanks to them for their incredible contribution to ambulance services in Victoria and for their wonderful memories.

The history of MICA and advanced training for ambulance officers are inextricably linked and the 50th anniversary of MICA coincides with the 60th anniversary of training for paramedics. As such, key moments in the advancement of paramedic training in Victoria are included in this research.

This history is based on a series of conversations with these pioneers of MICA and current serving MICA paramedics, as well as a review of historical documents, articles, videos, previous interviews and publications.

MICA Paramedic Tony Walker, left, and colleagues caring for a patient in Geelong in the 1990s.

"The 50th Anniversary of MICA is a moment for us to recognise the incredible contribution to ambulance services in Victoria by countless trailblazers of the state's ambulance and medical professions.

There is no doubt in my mind that our statewide MICA service, established in 1971, coupled with...the introduction of Advanced Life Support across the state, have entrenched within the DNA of our organisation, a strong and dedicated focus on clinical practice and providing the best care to our patients.

We really do stand on the shoulders of giants."

PROFESSOR TONY WALKER ASM
CHIEF EXECUTIVE OFFICER, AMBULANCE VICTORIA

FROM THE CEO

In a historic moment for Ambulance Victoria, in September 2021 we celebrate half a century of our Mobile Intensive Care Ambulance (MICA) service and reflect on the revolution in clinical practice and patient care that MICA helped to usher in.

It gives me enormous pleasure and pride to think about the countless Victorians who are alive today, being part of their families and part of our vibrant community, because of the life-saving work of MICA.

When I'm travelling around Victoria, speaking to members of our community, people often want to tell me their story, or the story of their loved one, or friend, and what it meant to them to have the care of MICA and the wider Ambulance Victoria team.

So as we celebrate MICA turning 50 this year, it's as much a celebration for our community as it is for the people of Ambulance Victoria. We look forward to celebrating this milestone with you.

It's also a moment for us to recognise the incredible contribution to ambulance services in Victoria by countless trailblazers of the state's ambulance and medical professions.

It's a time to recognise those early MICA pioneers who fought for ambulance officers to have the authority to provide higher levels of clinical care to patients, right through to the MICA paramedics of today, who continue to blaze a trail forward through participation in clinical trials and research.

For me personally, I am proud to have served as a MICA Paramedic for 28 years and to have been part of the first official wave of MICA into rural Victoria in the 1990s.

Having qualified for MICA as part of the then Metropolitan Ambulance Service, I transferred to Geelong in 1993 to contribute to the establishment of the first rural MICA service there, where along with other fine MICA paramedics, I served as a Clinical Instructor to the new MICA personnel coming through in the Barwon South West region.

This year also marks the 60th anniversary of the first training course for ambulance officers delivered by the then Ambulance Officers Training Centre (AOTC), a forerunner to today's university qualifications for paramedics and a significant turning point in creating the paramedic profession.

There is no doubt in my mind that our MICA service, established in 1971, coupled with the new levels of training for all paramedics leading to the introduction of Advanced Life Support across the state at the start of the 2000s, have entrenched within the DNA of our organisation a strong and dedicated focus on clinical practice and providing the best care to our patients.

But if there's one thing that history teaches us, it's that constant progress and evolution is required to not only keep pace with change, but also to anticipate the future needs of our diverse and growing community.

That's why for me, this anniversary is as much about looking forward as it is about reflecting back.

I look forward to conversations this year within Ambulance Victoria, and across the wider health and emergency services sectors, about the role and contribution of ambulance services and of MICA, in meeting the emergency healthcare needs of Victorians today and into the future.

Professor Tony Walker ASM
Chief Executive Officer
Ambulance Victoria

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History of MICA

Modern MICA

1883 First ambulance services begin in Melbourne via St John Ambulance Association.
1887 Six Ashford Litters (person-powered wagons) are bought and placed at police stations and the Metropolitan Fire Brigade headquarters.
1899 First horse-drawn ambulance goes into service.

1880s

1910 First motor vehicle ambulance commences.
1916 St John Ambulance splits its function and Victorian Civil Ambulance Service is formed.
1918 Victorian Civil Ambulance Service is insolvent and at risk of folding when a serious outbreak of influenza in Victoria makes ambulance services essential and more staff and vehicles are added.

1910s

1923 Fleet comprises six motor vehicles, a motorcycle and sidecar, three horse-drawn ambulances and 27 operational staff.
1923 Rural services begin at Yarram, Yarra Junction and Rushworth.
1925 Horse-drawn era ends.

1920s

1944 Some ambulances receive one-way radio transmissions.

1940s

HISTORY

1954 Two-way radios are fitted to the fleet and the first communication centre begins operations.

1950s

1961 Ambulance Officers Training Centre commences with classes in Geelong. Graduates become known as 'Ambulance Officers' rather than the previous 'Ambulance Drivers'.
1962 Air Ambulance fixed wing service starts.
1963 Ambulance Officers Training Centre moves to the Mayfield Centre in Malvern.
1969 Specifically developed ambulance, the Ford F100 Series, goes into service.
1969 Management of Road Traffic Casualties seminar by Royal Australasian College of Surgeons recommends a greater clinical role for ambulance officers.

1960s

1970 Angel of Mercy ambulance helicopter commences operations.
1970 Fixed wing Air Ambulance crashes into a helicopter at Moorabbin, with five people killed.

1970

9 September 1971 A three-month trial of Mobile Intensive Care Ambulance (MICA) commences. One vehicle operates from Royal Melbourne Hospital with a crew of two: a surgical registrar and a senior ambulance officer.

1971

OF MICA

CHAPTER 1

LEADING THE WORLD

Victoria became a world leader in pre-hospital care with the development of what became known as the Mobile Intensive Care Ambulance (MICA) in 1971. Victoria's new MICA was one of just three mobile intensive care units established around the world and only the second to be operated exclusively by paramedics rather than a combination of doctors and paramedics.

The concept of mobile intensive care pushed the boundaries of medical practice at that time. It advanced the development of skills and responsibilities for Victoria's 'ambulance drivers', as they were originally known, accelerating their transition to 'ambulance officers' and ultimately to become the paramedics of today.

The development of Victoria's new intensive care ambulance service had its origins in two perhaps unlikely places: Vietnam and Northern Ireland.

During the Vietnam War in the late 1950s through to early 1970s, recovery rates for seriously injured servicemen were observed to be significantly higher when they were stabilised in the field by specially trained medics, then rapidly evacuated by helicopter to frontline hospitals.[1]

These observations coincided with new thinking from cardiologists in the late 1960s that patients were needlessly dying of cardiac arrest before they could reach treatment in hospital.

Coronary care units within hospitals were a relatively new concept in the 1960s, both in Australia and around the world. Previously, patients with heart attacks were admitted to general wards but during 1961 coronary care units were opened in Kansas, New York and Philadelphia in the United States, in Toronto, Canada and in Melbourne (at the Royal Melbourne Hospital, which would go on to be the birthplace of MICA) and Sydney, Australia.[2] The evolution of new equipment, including electrocardiograph monitors and defibrillators, contributed to the development of coronary care units and the breakthrough of modern resuscitation methods were another turning point for emergency care. The introduction of cardio-pulmonary resuscitation (CPR) for the first time enabled cardiac arrest patients to be kept in a viable state in a pre-hospital setting until they could receive more definitive care.[3]

In Belfast, cardiologist Frank Pantridge MD (1916-2004) was determined to address the appalling mortality rates after myocardial infarction (heart attack). He noted that left untreated, coronary patients usually died in the first 12 hours, with the majority passing in the first three hours, yet most were not admitted to hospital until 12 hours had elapsed. Professor Pantridge also observed cardiac survival rates were much better in the intensive care unit where early defibrillation and advanced life support were available.[4]

Prof. Pantridge, sometimes referred to as the 'grandfather of pre-hospital advanced life support', pioneered the world's first mobile cardiac care service for the community in Belfast in 1966.

Recognising the need to bring the defibrillator to the patient, rather than bringing the patient to the

Left: An injured soldier is loaded aboard an American medical evacuation helicopter in South Vietnam, 1967 .

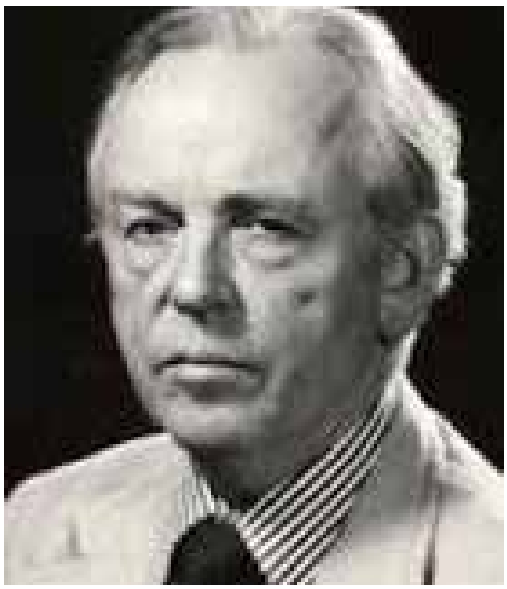
defibrillator in a hospital, Prof. Pantridge was also responsible for developing the world's first lightweight portable defibrillator using technology developed by the NASA space program[5]. At the request of a general practitioner, a team of doctors and nurses from the cardiac department at Royal Victoria Hospital in Belfast would travel to the cardiac patient and treat them with portable equipment. This breakthrough in treatment at the scene led to Belfast in the late 1960s being described as 'the safest place to have a heart attack.'

Though life-saving, this program was less than warmly received in the United Kingdom, where Prof. Pantridge presented his results to the Association of Physicians in 1967.
He later observed:

> *"We were disbelieved and indeed, to some extent ridiculed. The unfavourable comments emphasised the lack of need for pre-hospital coronary care, the prohibitive costs and the danger of moving a patient who had had a recent coronary attack."*[6]

Official support from UK physicians did not eventuate until the mid-1970s.

By that time, Prof. Pantridge and his work had received accolades and honours across the Atlantic Ocean in the United States, leading to a similar mobile coronary care unit being established in Seattle in 1969.



Above: Prof. Frank Pantridge MD.

While based on Prof. Pantridge's work, the Seattle Medic One Program diverged from the one operating in Belfast, as Medic One was operated by fire department personnel trained to use battery-operated defibrillators. Pioneered by Dr Leonard Cobb, the Medic One Program significantly improved survival rates for out-of-hospital cardiac arrest in Seattle, creating another 'safe place to have a heart attack.'[7]

A year later in Melbourne, a feasibility trial started for Australia's first mobile intensive care unit. As early as 1966, cardiologists in Melbourne had made moves with the then Victorian Civil Ambulance Service (a predecessor to Ambulance Victoria) toward the establishment of 'flying squads' or Mobile Intensive Care Units (MICU), as the service was initially known, to provide rapid defibrillation following heart attack or electric shock.[8]

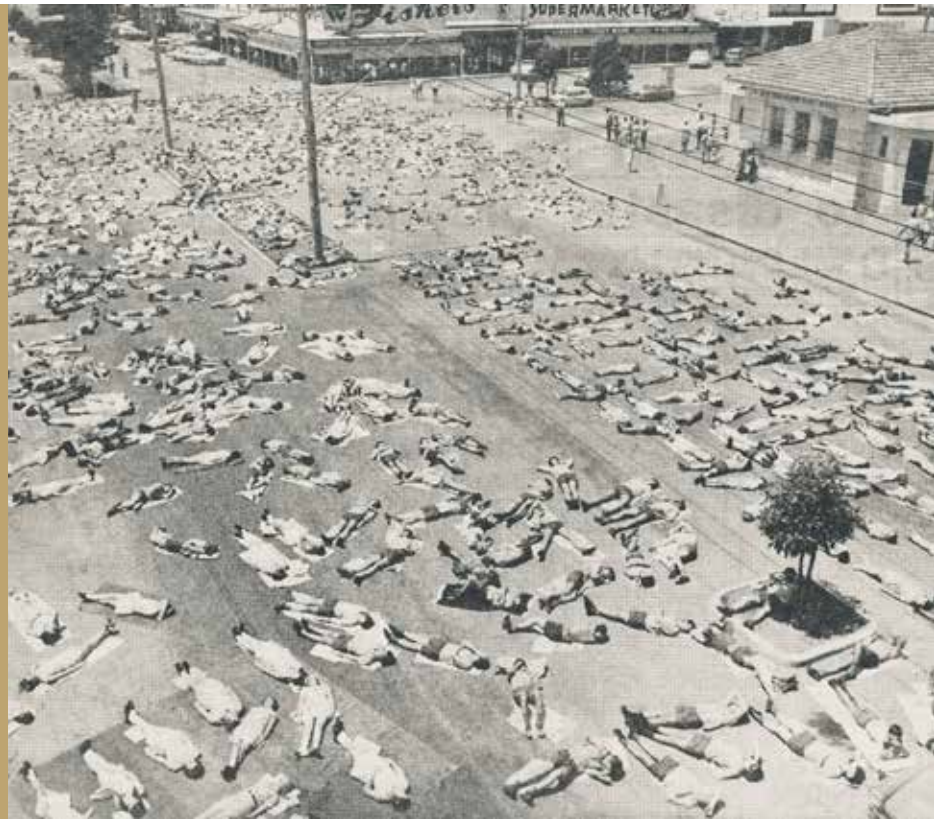
However, it was the shocking toll of road trauma rather than cardiac arrest, which proved pivotal in securing political backing and funding for the trial in Melbourne. Some 1,034 people were killed on Victorian roads in 1969. By comparison in 2020, with almost double the population in Victoria, there were just 213 road deaths. The year prior in 2019, when COVID-19 pandemic restrictions in Victoria were not a factor reducing road traffic, there were 263 deaths.

The 1969 Victorian road toll became the clarion call for a campaign by then The Sun News Pictorial – The Ten Thirty Four campaign – which was later applauded as the most successful newspaper campaign of the 20th century.[9]

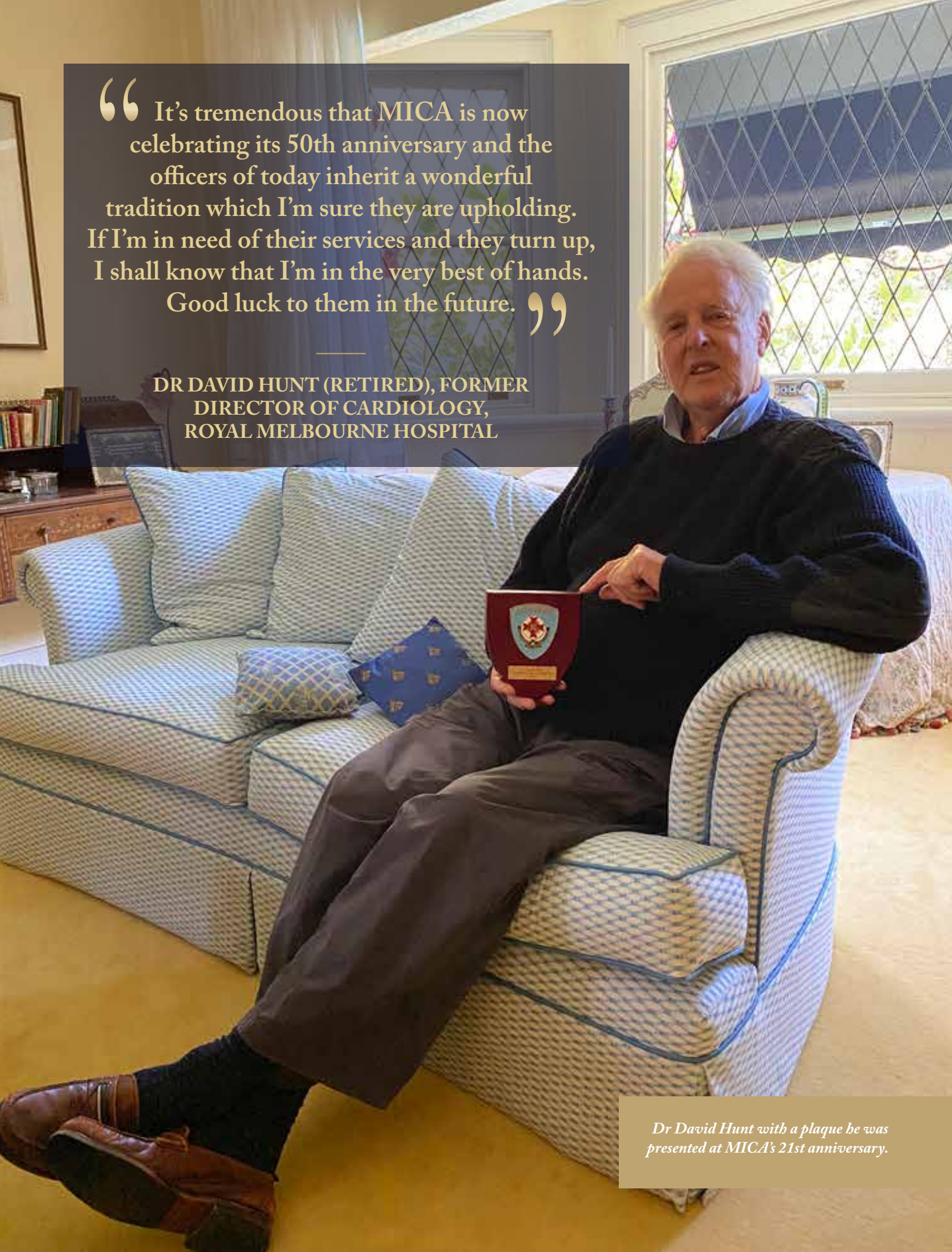
Alarmed by the rate of road deaths, in October 1969, a seminar on the Management of Road Traffic Casualties was held by the Royal Australasian College of Surgeons. The seminar was influential in supporting the Australian Medical Association's proposal that led to the compulsory wearing of seatbelts, plus research into the management of road traffic casualties and, importantly for ambulance, support for a greater role for ambulance officers.[10]

In May 1971, the Victorian Government approved a three-month trial of an emergency on site medical care unit. The initial trial in Melbourne followed the Belfast model with doctors accompanying ambulance officers, but Victoria's intensive care ambulance would later develop into a paramedic-only model.

For brief periods in development the new service was known as the Emergency On Site Medical Care Unit (EOSMCU) and the Mobile Intensive Care Unit (MICU). Ultimately, the Victorian service was officially named the Mobile Intensive Care Ambulance, or MICA, because it was deemed the most appropriate and that it sounded better. ■



Right: As part of its campaign to reduce Victoria's road toll, The Sun News Pictorial ran the front-page headline 'Declare War on 1034' and published this powerful image of school children lying on the street as though they were dead.



> It's tremendous that MICA is now celebrating its 50th anniversary and the officers of today inherit a wonderful tradition which I'm sure they are upholding. If I'm in need of their services and they turn up, I shall know that I'm in the very best of hands. Good luck to them in the future.

DR DAVID HUNT (RETIRED), FORMER DIRECTOR OF CARDIOLOGY, ROYAL MELBOURNE HOSPITAL

Dr David Hunt with a plaque he was presented at MICA's 21st anniversary.

CHAPTER 2

THE 'FATHER OF MICA'

They say invention has many mothers and fathers: the many who step forward to take their share of credit for a great idea. For MICA, even among those who might themselves rightly claim the title of MICA pioneer in Victoria, either as members of the ambulance service or the medical profession, just one name is offered first and foremost for recognition. That name is Dr Graeme Sloman.

In the corridors of Ambulance Victoria, right up to the office of the Chief Executive Officer, Dr Sloman is recognised as 'the father of MICA.'

Dr Sloman, AO, D. Med. Sc. (Melb) honoris causa, F.R.C.P, pioneered the introduction of coronary care units in Australia, working with the late Dr Clive Fitts to establish Victoria's first Coronary Care Unit at the Royal Melbourne Hospital. Dr Sloman became Director of Cardiology at Royal Melbourne Hospital and later moved across to become Epworth Hospital's first medical director, where he established the first Cardiology Unit at Epworth. A world authority in the field of cardiology in the late 20th and early 21st centuries, Dr Sloman pioneered intra-aortic coronary angiography and cardiac pacemakers in Australia, and importantly for ambulance services, he campaigned for the introduction of a free national emergency Triple Zero (000) telephone service and specialised intensive care ambulances in Victoria.[11]

Following the 1969 road trauma seminar by the Royal Australasian College of Surgeons, a sub-committee which was formed to report on the conduct of casualty services, recommended the development of the Mobile Intensive Care Unit (MICU) concept at strategic areas throughout the state. Discussions between the Royal Melbourne Hospital and the Victorian Civil Ambulance Service (VCAS) led to the formation of a sub-committee of surgeons, cardiologists and VCAS personnel, including Dr Sloman representing Royal Melbourne Hospital.[12]

Dr Sloman had long been interested in pre-hospital emergency care and, influenced by the work of Prof. Pantridge in Belfast and Seattle's Medic One Program, was concerned that at least one-third of acute myocardial infarction (heart attack) patients died before they reached hospital.[13] He received a Heart Foundation grant to travel to Seattle and learn from the work of Dr Leonard Cobb. After observing the work of Seattle's Medic One Program, Dr Sloman returned to Melbourne determined to establish a similar system to provide earlier treatment to cardiac patients.[14]

MICA Paramedic (retired) John Blosfelds, who served ambulance in Victoria for 41 years including 10 years as the first person in charge of MICA, said Dr Sloman had campaigned for years until support and funding were secured for a mobile coronary care unit.

"Graeme Sloman started the coronary care unit (at the

Left: Dr Graeme Sloman, front row, third from left, and his team at the Royal Melbourne Hospital Cardiology Department.

Royal Melbourne Hospital), it was one of the first coronary care units in Australia," Blosfelds said. "The other one was in Sydney, they both started at roughly the same time."[15]

"They were only small units but the result was they were able to reduce the mortality rate at the hospital by about 30 per cent by constant monitoring, treating arrhythmias and rapid defibrillation."

"He was also, as a result of that, asked by the Victorian State Electricity Commission to provide some sort of… mobile coronary care unit, with a defibrillator to help patients who had been electrocuted."

"He started writing letters to the…Hospitals and Charities Commission at that time, to get permission to establish a mobile coronary care unit and it went on for a few years. He kept pushing. Then in 1969, the College of Surgeons had its seminar," Blosfelds said.

MICA Flight Paramedic (retired) Philip Hogan ASM, himself a Churchill Fellowship recipient and the architect of Victoria's MICA helicopters, said Dr Sloman had earned a place in ambulance history, not just in Australia but globally.

"He was the father of MICA,"[16] Hogan said. "He was a brilliant and lateral thinker and he wouldn't settle for second rate as a possibility."

"He faced tremendous backlash from other medical professionals who thought that this was the role of doctors, but he just had the tenacity to push through with this program. Looking back now, I'm glad he did, but I don't know how he did it."

Once the MICA trial was established in Melbourne in 1971, the ambulance went out with a doctor rather than being operated by paramedics only, as was the practice in Seattle. However, Dr Sloman arranged for the two ambulance officers in the trial, District Officers Wally Byrne and Wally Ross, to get the necessary training to prepare them to take a greater frontline role with cardiac patients. Byrne and Ross took part in a one-month coronary care course run for nurses in the coronary care unit at Royal Melbourne Hospital and gained practical clinical experience working alongside coronary care staff.

Dr Sloman went out with Byrne and Ross on the first call-out to a patient – a man who suffered a stroke while on the roof of his house.

At the 35th anniversary of MICA in 2006, Wally Byrne (deceased) remembered those early days with enormous respect for the visionaries behind the MICA trial, especially Dr Sloman.

"It was rather fortuitous, really. Everything happened at the right time,"[17] Byrne said.

"Graeme Sloman… without him it didn't go. Sloman was the everything man – he made things happen that a lot of people couldn't."

"When it all came together it all clicked. It was just a wonderful area we were working (in); there was some magic there."

Dr Sloman continued to be hands-on in the development of the MICA concept, both in Victoria and as a guest lecturer as the idea spread to other parts of Australia and the world. For many years after MICA was established in Melbourne, it became a drawcard for visiting health officials from other countries seeking to learn about Victoria's world-leading model of

pre-hospital emergency healthcare. Visiting groups who met with MICA and observed its operations included doctors, nurses and other paramedics, including helicopter paramedics from the United States Coastguard. MICA officers also shared their knowledge and practices with paramedics in the Australian defence services and visiting ambulance officers, doctors and nurses from other Australian states.

Fifty years down the track from the innovation he led, and now retired, Dr Sloman is recognised for revolutionising both cardiac care and ambulance services. At mention of the term 'father of MICA', 94-year-old Dr Sloman is both humble and inclusive.

"Oh, I'm very pleased that they have that attitude, it's nice to hear," Dr Sloman said, his soft voice coupled with a self-effacing laugh. "It wasn't done (just) by myself. There was a whole team behind me in the Royal Melbourne Hospital cardiology department."[18]

His colleagues during Dr Sloman's time as Director of Cardiology at Royal Melbourne Hospital recall his critical role in driving forward his vision for MICA into reality.

"Graeme was the organiser-in-chief," said Dr David Hunt, who was Graeme Sloman's deputy, and later successor, at Royal Melbourne Hospital. "Graeme was the dreamer… a tremendous leader and he generated ideas right and left. There was a flood of people in his wake who…acted, modulated, and you know, I was one of those. But Graeme was the great ideas man, organiser, fundraiser."[19]

Another member of Dr Sloman's Royal Melbourne Hospital team, Dr Harry Mond, described Dr Sloman as the "absolute heart and soul" of the MICA project.[20]

"A lot of people were involved, but it was Graeme's dedication and enthusiasm that got it over the line," Dr Mond said. "All the hard political work behind the scenes was done by Graeme Sloman. Graeme was always first in getting anything. Anything he thought would work, he really pushed it," Dr Mond said.

Early MICA paramedics remember Dr Sloman as a fierce advocate for their work and ongoing development, even in the face of, at times significant, push-back from sections of the medical profession.

"That push to deal with the road toll was really topical at the time, but Graeme was smart enough to say, Ok well the pre-hospital cardiac arrest is the most serious emergency you can get and we'll concentrate a lot of our efforts on that," said Hogan, who served ambulance services in Victoria for 40 years, 36 of them in MICA.[21] "We had a lot of detractors for the MICA system, a huge number of detractors. There were people who didn't want the system in any way, shape or form. (But) Dr Graeme Sloman was absolutely amazing," Hogan said.

MICA paramedics on the receiving end of push-back from general practitioners and other doctors recall Dr Sloman picking up the telephone to back them up.

"If Graeme rang people, they knew they'd been rung," said Ian Patrick, ASM, Board Member Paramedicine Board of Australia, Adjunct Assoc. Prof. Monash University and MICA paramedic since 1979.

Among the second group of ambulance officers trained for MICA, MICA Paramedic (retired) Ian Donaldson remembers Dr Sloman championing not only intensive care ambulance, but also the need to back that up with community training in first aid and CPR.

"Without Graeme Sloman and David Hunt and some of these people that gave us all the support from the cardiac side of things from the Royal Melbourne, it wouldn't have been possible," Donaldson said.

Right: Dr Graeme Sloman at the Ambulance Victoria Museum to celebrate the 45th anniversary of MICA and his 90th birthday in 2017.

"Graeme Sloman, for example, was brilliant. He came out with all the figures from overseas, we kind of worked on the Seattle principle, where the general public were taught first aid and advanced life support with CPR. That made the difference,"[22] Donaldson said.

Other major players in the establishment of MICA were Michael Luxton and Prof. Richard (Rick) Harper, who is now the Interim Director of MonashHeart and Emeritus Director of Cardiology at Monash Medical Centre, and research fellow Thomas Peter, who became emeritus professor of electrophysiology at Caesars Sinai Hospital in San Francisco.

MICA also enjoyed considerable support in the 1970s and beyond from numerous Melbourne doctors and medical professionals including Dr David Hunt and other members of the Royal Melbourne team including Dr Harry Mond, Dr Manny Manolas and Dr Jitendra (Jitu) Vohra; Dr Frank Archer, who championed a greater clinical role for ambulance officers and went on to lead the development of the first MICA clinical practice guidelines and MICA training; Royal Melbourne anaesthesiologist Dr David Komesaroff, who invented a portable oxy resuscitation machine which extended the life of oxygen tanks for MICA paramedics; Assoc. Prof. Aubrey Pitt, who as Director of Cardiac Services at The Alfred Hospital played a big role in getting the Peninsula MICA established; Dr Andrew Bacon, who as Consultant Anaesthetist and Consultant to Intensive Care at Dandenong Hospital in the late 1970s, was one of only two doctors who would allow MICA officers into the operating theatre to learn intubation; and Dr Roger Redston who became the first Medical Director at Frankston Hospital in 1974 and gave continual support to the MICA concept on the Peninsula.

As well as being an early contributor to the establishment of MICA, Dr Hunt served for many years on the panel examination MICA trainees had to pass before they were fully qualified for MICA.

"Ever since the day dot the MICA so-called panel exam was…always broken up into cardiology and non-cardiology which mainly involved paediatrics, trauma, and some medical stuff like anaphylaxis and the like and seizures,"[23] said MICA Area Manager Colin Jones, on MICA since 1996. "David (Hunt) for years examined for cardiology and one of the things that he was famous for was, you could have three different MICA paramedics face the same scenario…obviously demonstrate the base knowledge required, but then take three completely different courses of treatment, all of which would pass, because what David was examining was whether their decisions were sound and safe, not looking for a particular answer."

"So the concept of thinking, of being taught to solve a clinical problem and apply your knowledge to a particular situation, is really what sets the MICA officer and the MICA system apart from many others in that there's not just didactic: this is what you've got to know now splurge it back."

"What's being taught is the ability to solve clinical problems and medical problem solving which if you have a look, for example, at the words of someone like Graeme Sloman, that's exactly what the aim was, to teach the MICA officer medical self-help, if you like. David Hunt was also unfailingly polite and just an absolute gentleman (and) would have examined cardiology right through until the early '90s."

Dr Gordon Trinca, AO, OBE OM, (1921-2009) also played an instrumental role in MICA as part of a lifelong body of work that helped establish Australia as a world leader in road trauma services and prevention.[24] A Fellow of the Royal Australasian College of Surgeons from 1958, Dr Trinca was Chairman of their National Road Trauma Committee from 1975 to 1993 and also served as President of the Board of Management for Ambulance Services Melbourne and as Chairman of the Victorian Traffic Accident Commission's Medical Advisory Committee.

As MICA evolved from the late 1970s to start developing its own protocols, Dr Trinca played a key role in relation to pre-hospital clinical practices for trauma.

"When we started to develop our own information, people like Gordon Trinca for trauma and the Royal Melbourne Hospital, Graeme Sloman and Frank Archer, were medical leaders who actually made sure that we kept true to what we were trying to do," said MICA Paramedic (retired) Ian Patrick. "There's been a few emergency physicians but Gordon Trinca really was the guy that said to emergency physicians, you need to listen to the paramedics when they come in."

"He developed splinting, ways to splint and ways to handle trauma and the importance of the trauma handover, and a focus on packaging patients properly. But he didn't just have a big influence on MICA, he had a big influence on paramedic practice." ■

CHAPTER 3

TWO WALLYS AND THE BIRTH OF MICA

The first two ambulance officers assigned to MICA are affectionately referred to as 'the two Wallys' – belying the great respect with which the pair are remembered. Back in 1971, the late Wally Ross and Wally Byrne were hand-picked to lead the trial because of their extensive service and acumen as ambulance officers.

Both Wally Byrne and Wally Ross were in management at the time of the trial, serving as District Officers, and they went back on road as part of the three-month trial.

In addition to aptitude, Dr Graeme Sloman, when interviewed for the 40th anniversary of MICA, said a key requirement for the ambulance officers assigned to the trial was their attitude.

"They had to be enthusiastic and no one could ever criticise the ambulance service for the lack of enthusiasm," Dr Sloman said. "John Blosfelds was the first person who was eventually put in charge of the concept, but the two Wallys were the drivers and they were mature men, they had had long years of service with the ambulance service and they were only too keen to learn."[25]

According to MICA Paramedic (retired) John Blosfelds, who was the first manager of MICA, the selection of senior staff was designed to safeguard the success of the trial. Blosfelds had also been called in for the one-week introduction session at Royal Melbourne Hospital, but it was the two Wallys who were selected for the trial and completed four weeks of practical training at the hospital. "Suddenly, being in the hospital environment and being welcomed by certainly a section of the hospital, it was like heaven," Blosfelds said.

"I was very disappointed at the end of it when they said it would be two officers selected to introduce this unit and that was Wally Ross, because he was a training officer, and Wally Byrne, he was recently promoted to the Control Room so he came from Footscray branch, and they said he was the most recent who had road experience. I had been seven years in the Control Room and I was disappointed."

"However, while the two Wallys were wandering around the hospital…sitting in on any lectures that were going on, spending time in coronary care, helping when they set up the unit, there was carpentry, electronics and so on, and I kept in touch with them, asking questions… what they had been doing and so on," Blosfelds said.[26]

Byrne was a father of eight and Station Officer at Footscray when he and Wally Ross were selected. He thought it was inevitable the trial would become permanent.

"Nothing would have stopped us, mate,"[27] Byrne said in

2006. "We would have walked over hot coals."

Wally Byrne's son Jon Byrne, who also became a paramedic, was 10 years old and living in a residence next to the Footscray ambulance branch when his father was selected to do the MICA course.

"Come 1971, Wally would now come home from work, help mum with the tea and the eight kids, and then he would sit down to study,"[28] Ambulance Victoria Regional Health Commander (retired) Jon Byrne ASM said.

"It was certainly bizarre for an ambulance officer then, but now it is par for the course for paramedics to study while they are on the job, while they are at home and throughout their career."

"Did these ambulance officers think it was going to be cutting edge, did they think it was going to be the future? No, they just wanted to make a difference," Jon Byrne said.

On 9 September 1971, Ross and Byrne commenced mobile intensive care ambulance operations out of Royal Melbourne Hospital. Then Victorian Civil Ambulance Service CEO GH Ortmann announced the new unit in a memorandum to staff:

> *"From the foregoing, it can be seen that the medical service is not a substitute for the work normally carried out by Ambulance Officers. It is an extension of it. The primary aim is to bridge the barrier between treatment which can be given by Ambulance Officers and that which alone can be given by Medical Officers…"*[29]

Ross and Byrne were interviewed about their pioneering roles as part of Ambulance Victoria's 25th Anniversary of MICA celebrations.

"I was very proud that I was selected to be on the training for the first MICA unit, which I believed was really necessary," Ross said. "People were dying you know, because we couldn't get the patient to the hospital quick enough. And he (Dr Sloman) was very much for getting the equipment to the patient instead of the patient to the equipment."[30]

Byrne felt the burden of responsibility placed on him in leading the revolutionary trial.

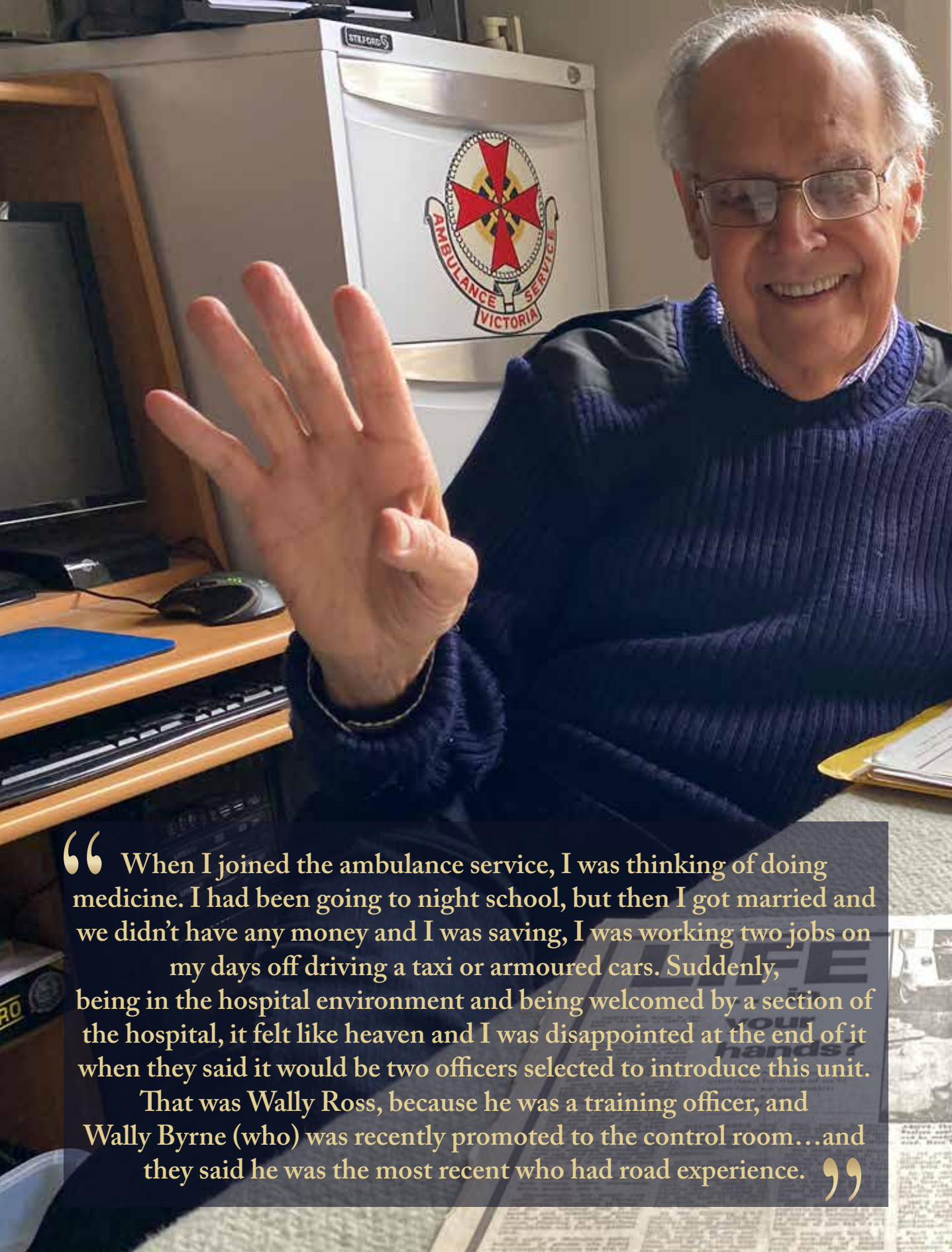
"I found it very exciting, and serious and at times worrying, because of those responsibilities and because in the early days we were not readily accepted by medical people, other than those immediately around us at the Royal Melbourne," Byrne said.[31]

The first MICA was a Dodge day care clinic bus converted for the trial as it provided additional space and head room compared to the Ford F100 vehicles that were in use as ambulances at that time. Converted by the local ambulance workshop to keep costs down, all equipment for the trial was privately funded by the Strathmore Lions Club.[32] Known as Car 208, the first MICA had one stretcher space, a defibrillator and an ecocardiogram (ECG) machine. A replica of Car 208 is now housed at the Ambulance Victoria Museum in Bayswater.

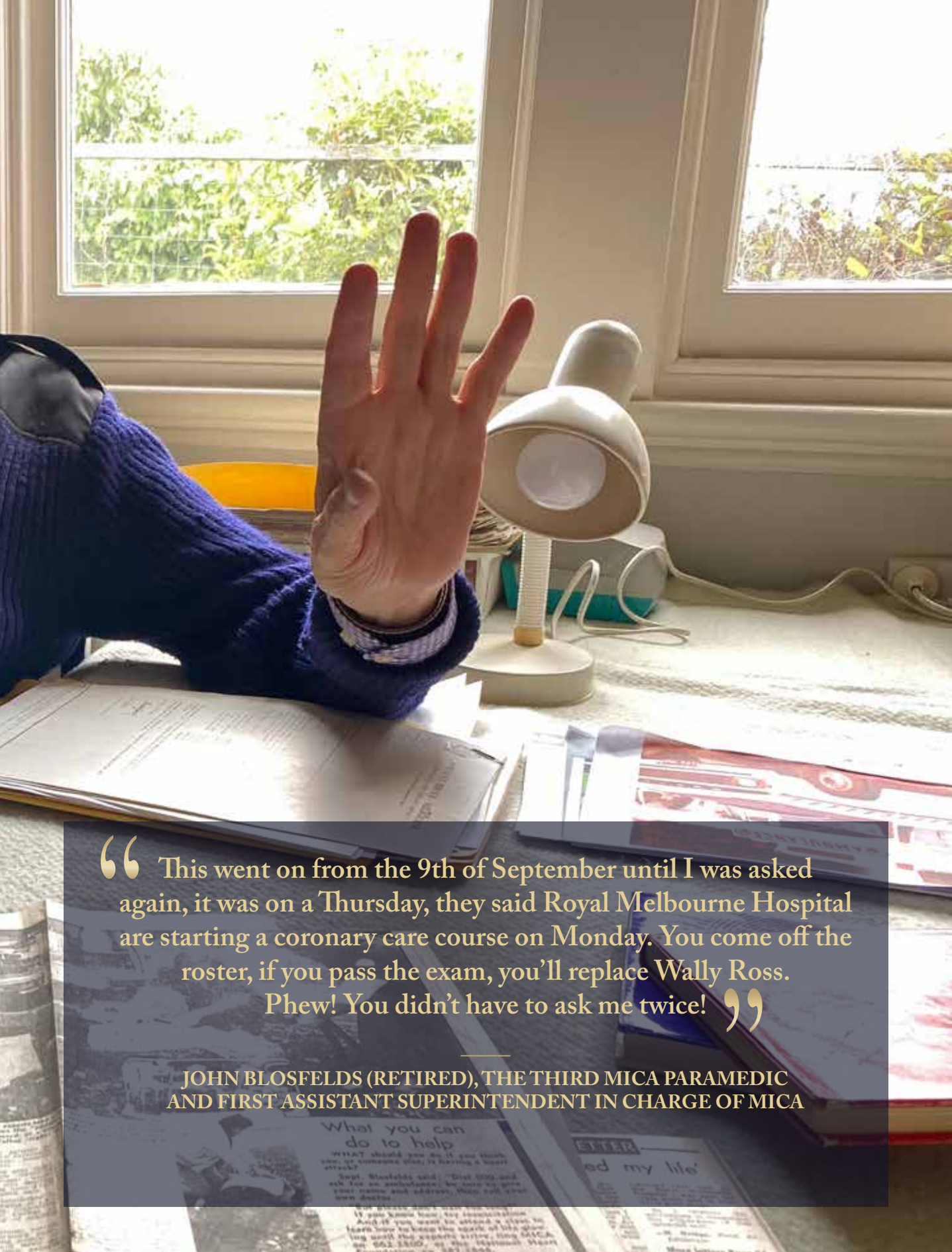
Byrne and Ross would go out in Car 208 with a surgical registrar on board as it was anticipated at least half the calls for the unit would be for trauma cases. The trial operated in a 10-kilometre radius of Royal Melbourne Hospital and attended 93 cases, saving a number of lives. Initially operating on an 8 hours per day basis, this was later extended to 80 hours per week. They immediately ran up against professional jealousy from other ambulance officers and coronary care nurses.

Far Left: Wally Byrne and Dr Graeme Sloman in 2001.

Left: Wally Ross.



“When I joined the ambulance service, I was thinking of doing medicine. I had been going to night school, but then I got married and we didn’t have any money and I was saving, I was working two jobs on my days off driving a taxi or armoured cars. Suddenly, being in the hospital environment and being welcomed by a section of the hospital, it felt like heaven and I was disappointed at the end of it when they said it would be two officers selected to introduce this unit. That was Wally Ross, because he was a training officer, and Wally Byrne (who) was recently promoted to the control room…and they said he was the most recent who had road experience.”



> “This went on from the 9th of September until I was asked again, it was on a Thursday, they said Royal Melbourne Hospital are starting a coronary care course on Monday. You come off the roster, if you pass the exam, you’ll replace Wally Ross. Phew! You didn’t have to ask me twice!”

JOHN BLOSFELDS (RETIRED), THE THIRD MICA PARAMEDIC AND FIRST ASSISTANT SUPERINTENDENT IN CHARGE OF MICA

"After the first movement of Car 208, nobody gave us any work for another three days," Byrne said in 2011.

One of the first cardiac patients whose life was saved by MICA was a famous Melbourne clothing manufacturer and retailer. It was during the early trial period and MICA 1, which Car 208 came to be known, was called to the cardiac arrest of a businessman in central Melbourne. MICA officer Wally Ross set about defibrillating and resuscitating the patient.

"It happened to be Fletcher Jones himself, the great Fletcher Jones who made all the suits and all the wonderful things he did in the early days," MICA Paramedic (retired) Ian Donaldson said. "He was so grateful of being resuscitated that he contributed some uniforms and some shirts…that were used by the ambulance service. In particular, there were woollen shirts and we used to use them in the winter and they were absolutely fabulous."[33]

Blosfelds eventually got his chance to serve on MICA, becoming the third ambulance officer to work on the trial following Ross and Byrne. Blosfelds later went on to take charge of MICA from 1975 to 1985.

"I was asked again, it was on a Thursday, they said, Royal Melbourne Hospital are starting a coronary care course on Monday. You come off the roster, if you pass the exam, you'll replace Wally Ross. Phew! You didn't have to ask me twice!" Blosfelds said.[34] "The course finished on a Saturday…and on Sunday I went on the unit. I was on the afternoon shift. Never turned the wheel, but I went through all the drugs, I took notes, all the equipment, just made sure that I knew how it works and where it is and you know, thoroughly enjoyed myself."

A short time later, financial uncertainty led to the suspension of the service. There was widespread reaction to the life-saving service being interrupted, including letters to the editor by patients whose lives had been saved by MICA. Mr H. Bridge of Edithvale wrote:

> *"I was distressed to learn that the special ambulance unit operating from the Royal Melbourne Hospital had been withdrawn. On November 15 last I had a heart attack in the Fitzroy Gardens. An ordinary ambulance was called, but was not equipped to deal with such an emergency.*
>
> *"The special unit was then called to the scene by radio and arrived in a few minutes. This special unit was staffed by a doctor and ambulance officer who were trained to handle coronary cases, drownings, electric shocks etc.*
>
> *"I have no doubt that I owe my life to the above unit. When I arrived at the coronary care unit at the Royal Melbourne Hospital, I was past the crisis point and in relatively good shape. So I implore the authorities to reconsider the withdrawal of this splendid unit."*[35]

1971 Christmas Eve – Permanent MICA service starts.

1971

5 March 1973
Introduction of second trained ambulance officer to replace doctor on MICA.
25 December 1973
Second MICA unit (now known as MICA 6) starts operations on Mornington Peninsula.

1973

1974 Publishing of MICA protocols.
1974 Komesaroff Oxy Resuscitator introduced.

1974

1976 MICA training now managed by the Ambulance Officers Training Centre, but the Royal Melbourne Hospital continues to sign the certificates and conduct most of the course.

1976

According to Blosfelds, such letters to the editor formed part of a wider campaign calling to continue the service, that was fired up by MICA officers and their supporters.

"We were very disappointed when MICA was suspended in early December because the three months was up and I only had a few weeks on the unit," Blosfelds said.

"But we all pushed, all the people who were involved with it, the doctors and nurses, patients who had been transported, like this man Mr Bridge. Wally Ross resuscitated him and the doctor who was with him, and he wrote a letter to the paper and there was enough momentum to convince the Health Department to fund for a further trial," Blosfelds said.

The Hospitals and Charities Commission (a precursor to today's Department of Health) accepted financial responsibility for the costs of operating the ambulance and decided to take guidance on activities and policy from the Ambulance Advisory Committee. The Committee called for the ambulance to be available 24 hours a day and sought to have the service publicised in the Australian Medical journal.[36]

In June 1972, Dr Sloman proposed the radical shift to a paramedic-only service. The increased caseload was placing pressure on doctors, who had normal duties in the hospital to perform, and doctors involved in the trial felt ambulance officers would be more than capable of attending without a doctor if provided the appropriate training.

"It is strongly recommended that the present 24-hour emergency ambulance service be retained and training should be continued, aimed at staffing the ambulance with two ambulance officers so that in selected situations the emergency ambulance would be capable of operation without any medical practitioner…" Dr Sloman said.[37]

The following month in July 1972, the Ambulance Advisory Committee confirmed the need for the mobile intensive care service and recommended it be called the Mobile Intensive Care Ambulance (MICA). The Committee recommended phasing out the special ambulance and replacing it with conventional ambulances with portable equipment, training ambulance officers to a level where they can perform tasks without a doctor being present on-site, and establishing a technical MICA Advisory Committee to develop the organisational details of the MICA service and phase it in.[38]

The final hurdle to establishing a paramedic-only MICA service was a legal one. Due to concerns about whether ambulance officers could legally undertake medical procedures such as defibrillation, intubation and intravenous drug administration, legal advice was sought from the Crown Solicitor. The Crown Solicitor's advice was that it wasn't illegal and any legal action against an ambulance officer would only be successful if there was a breach of duty by negligence. Based on this, the Committee recommended properly trained ambulance officers, certified as competent by an acceptable medical authority, be permitted to carry out emergency measures without a doctor's supervision.

From 5 March 1973, two certified ambulance officers on each shift started operating on their own without a doctor. This critical step forward resulted in greater flexibility for the MICA unit and response times improved significantly.

As a result, MICA attended five times as many cases in March compared to the previous month as control officers were more willing to dispatch the unit knowing a doctor would not need to be found.[39]

On Christmas Day, 1973, the Peninsula Ambulance Service, which then operated separately to the Ambulance Service Melbourne, got its first MICA unit based at the Frankston Headquarters Station. While it was the second MICA unit to be established in Victoria after the unit at Royal Melbourne Hospital, the Frankston unit was named MICA 6 when the Peninsula and Metropolitan ambulance services merged.

The expansion to the Peninsula came about as a result of pressure on the government from the local community after the death of champion Essendon full-forward John Coleman, of Coleman Medal fame, who died aged just 43 at his Dromana Hotel in 1973.

"In 1973, the Health Minister did a tour of the Mornington Peninsula and it was at that time that the great John Coleman, the footballer, coach, captain of Essendon unfortunately collapsed and died," said John Clancy (retired), one the first station officers on the Peninsula MICA unit.

"And the people of the Mornington Peninsula were of the opinion that perhaps, if we had a MICA unit like they had in the city, the outcome would have been different."[40]

MICA paramedic (retired) John Winterton, speaking in 2006, also recalled the impact of Coleman's death.

"It became such a political football that at the slash of a pen, they sent ambulance officers away for extra training

and there was a new ambulance waiting for them at the depot when they got back,"[41] Winterton said.

While it was two Wallys who kicked off MICA, the first MICA unit came to employ a number of Davids in the early 1970s, including Dave Appleton (deceased), who was the first station officer in charge of MICA 1; David Shugg, who went on to serve at the Ambulance Officers Training Centre; and Dave Talbot.

Above: MICA Paramedic (deceased) Dave Appleton treating a patient at the scene of a major fire in Melbourne.

"There were three or four of us on MICA 1, all by the name David,"[42] said MICA Paramedic (retired) Dave Talbot, who joined ambulance in 1970 and qualified for MICA in 1974. "They asked me at the Royal Melbourne, What's this all about? I said, It makes it easier for you people!"

Appleton is understood to have been the first Victorian ambulance officer to awarded a Churchill Fellowship in 1974 and after visiting the few places in the world with pre-hospital advanced care, including the United States, he returned to Melbourne with ideas to further develop the MICA system. Reflecting the status of ambulance services at the time, Appleton's fellowship is described in the section under 'Fire and Emergency Services' rather than being considered part of healthcare in a 1980 book 'Churchill Fellows of Australia 1966 to 1977':

> *"Ambulance services as 'immediate' treatment facilities was the 1974 project of R.D. Appleton of the Civil Ambulance Service of Victoria. His report goes thoroughly into the training of personnel and the emergency equipment needed for motor car accidents and myocardial infarction; the substance of his findings has been incorporated into the development of the Mobile Intensive Care Ambulance units servicing Austin and Heidelberg Hospitals, and he has published reports and taken part in seminars on early assistance in acute coronary crises."*

Appleton, who joined ambulance in 1969 and qualified for MICA in 1972, is remembered by colleagues as a larger-than-life character, a hard worker, who would not tolerate anything less than optimal performance.

"Out of all the people who've been through the service, he was what many of us considered in the day, to be the doyen of MICA officers. He was it," Talbot said. "He was in charge of MICA 1 and when I first met him, we didn't click. I thought, I don't fancy running with this bloke, and he felt the same way."

"When we were thrown together on MICA 1, I spent three months with him after I'd done the course, so legally I was qualified, but I didn't feel that I was. That three months I spent with him, I learnt more than the whole course put together."

"He was tremendous, we became great mates. He was very quick, very efficient, he was courageous. He was honest to the bone, he wouldn't try to cover anything up. When he thought he'd made a major mistake, which he thought he had at one stage, he immediately reported it, and they had doctors and surgeons down to fix it, only to find that he hadn't made a mistake in the first place. He was just that kind of guy."

Appleton was a man with a big physical and leadership presence, as determined to drive MICA forward as pioneers like Dr Graeme Sloman.

"Now as big as he was, and as small as Graeme Sloman was, Sloman was the one guy who put the fear of Christ into him," Talbot said. "Sloman was a similar personality in a way. You love them or you hate them. I personally loved him, but he was a pusher, an urger, and without those people, these improvements don't happen."

By 1977, there were four further MICA units operating across Greater Melbourne, all attached to major hospitals: MICA 2 at The Alfred Hospital, MICA 3 at the Western General Hospital (Footscray), MICA 4 at the Austin Hospital, and MICA 5 at Box Hill and the Peninsula MICA based at Frankston. Following the lead of Victorian ambulance services, New South Wales introduced advanced life support and intensive care ambulances in late 1976.[43] Other states started to follow in the decade ahead. During this era, MICA-type services were also being introduced at other locations around the world. ■

THE FIRST 10 YEARS OF MICA PARAMEDICS TRAINED

1971 Wally Ross, Wally Byrne, John Blosfelds.

1972 K Atkinson, Bill Long, W Rutherford, J Smith, C Swinton, David Appleton, R Thorne, C Woodman, Alan Watkins, L Ladner, G Krause, P Stallard, J Andrews, David Shugg, R Harrold.

1973 V Robinson, Brian Cass, D Candy, K Browning, J I'anson, Ian Donaldson, Dennis Goodwin, Peter Briscoe, Martin Birss, Don White, John Clancy, Bert Bryant, Jim Mercer, Len Starkey, Robert Hood, Bill Hogg, Alan Tickall, Ian Cameron.

1974-1980 JF Brown, Terry Richardson, Dave Talbot, Arthur Manning, Rod Coffey, J Strawbridge, J Dorival, R Armstrong, A Bowden, Dave Perkins, Col Saunders, G Whiley, Carl Bryant, Alan Scott, Chris Eccles, Laurie Spelling, David Calder, Les Lambert, David Land, Ken Wild, P Young, Lyle Hillbrick, W Clarke, Frank Sammon, Peter Whittle, T Seggie, Tony Mathieson, L Henry, JT Walker, John Winterton, Ian Cooper, Liam McCarthy, I Watson, G Mantold, T Lee, Ken Laycock, M Mansfield, C Kirkwood, Geoff Cousins, J Spanswick, P Morgan, Jeff McKiterick, Wayne Jenkins, Peter McFarlane, Ken Clarkson, C Bowden, Jeff Allan, Philip Hogan, W Butters, Ray Loughheed, Ken Paulsen, Jim Sams, P Pardoe-Mathews, G Barrowman, Ian Patrick, Bob Pratt, D Burke, Terry Chessells, G D'Orival, Ray Nolan, Roger Richards, G Silvester, G Vanhees, Mark Chilton, Bruce Hyatt, Greg Cooper, Ian Dale, Bruce Hyatt, Tony Veitch, Chris Brown, Clive Butler, Peter Boyle, Neil Smith, Barry Marr, Peter White, Doug Geeson.

Thank you to the MICA pioneers who helped compile this list in conjunction with Ambulance Victoria training records. We apologise for any inadvertent errors or omissions.

CHAPTER 4

A HISTORY OF OPPOSITION

The suggestion in the 1970s that ambulance officers could be trusted to undertake clinical procedures previously performed only by medical officers, was met with considerable surprise, some consternation and in certain quarters, outright opposition.

Members of the medical profession and parts of the community were concerned about 'ambulance drivers', as they had been known, performing any task beyond picking up sick or injured patients and rushing them to the nearest hospital.

"The hospital wasn't keen, that's the Royal Melbourne Hospital, wasn't keen to have anything to do with treatment of people outside the hospital," Dr Sloman recalled in 2011.

"And the ambulance service was not keen that their drivers should be involved in resuscitating or helping to resuscitate people after road trauma or after a heart attack, so everybody was frightened of getting too much out into the community. Luckily, nowadays in the 2000s, people have changed their views very considerably."[44]

Dr Sloman recalled 'lots of petty arguments' took place around the establishment of MICA.

"You know what the ambulance service is like and you know what doctors are like. Everyone was frightened,"[45] Dr Sloman said. "First of all, the doctors were frightened that if MICA was used for collecting people with heart attacks that they would bypass GPs and that GPs would lose custom."

"Then the doctors who were cardiologists didn't like the idea of ambulance officers looking at electrocardiograms, reading electrocardiograms and treating patients."

"And they didn't like ambulance officers or nurses doing CPR and they didn't like the whole concept…they felt that the whole business was slipping out of the hands of the medical profession into the hands of nurses and the ambulance officers. This went on for many years."

Despite legal advice in 1972 that ambulance officers could legally undertake medical procedures such as defibrillation, intubation and intravenous drug administration, doubts continued about MICA's role. As late as 1977, the Medical Board of Victoria questioned whether MICA officers were infringing on territory that belonged to doctors.[46]

In MICA's first year, a cardiologist would accompany the ambulance officers to their cases. The next step was for one of the training coronary care nurses to go out with the ambulance, but before long, two trained ambulance officers were permitted to go out alone.

"After a year we looked at the results and the results were many lives were saved," Dr Sloman said. "We had so much resistance from the GPs, from our colleagues, and from the government for costing more money – in

the early days we thought that everyone was against us."

"I don't know what the situation is now, I think it is just accepted in the community that you have to have MICA ambulances and people who are properly trained to do all the things that are likely to be required," Dr Sloman said in 2006.

There is perhaps no greater example of the shift in perceptions, of both the medical profession and community alike, during the first 50 years of MICA than the practice of defibrillation. Where once doctors opposed the then revolutionary idea of ambulance officers defibrillating patients, now Automated External Defibrillators (AEDs) are located in public buildings and spaces, and members of the Victorian community are encouraged to take them and use them on people in cardiac arrest. In the 21st century world of medicine and pre-hospital emergency care, the critical role of Cardiopulmonary Resuscitation (CPR) and defibrillation in cardiac arrest survival are well entrenched. Ambulance Victoria research shows that for every minute CPR is delayed, survival decreases by 10 per cent. However, when bystanders act to call Triple Zero (000), begin CPR and shock using an AED, the chances of survival increase by 68 per cent.[47] In the 1970s, medicine was only awakening to the potential life-saving benefits of early defibrillation.

Pioneers of MICA, both within the ambulance service and hospitals, had to play a dual role in setting up the service and working to educate and at times placate, members of the medical profession who were opposed to the idea of ambulance officers defibrillating as part of a greater clinical role.

"Because obviously this was a new thing and the general practitioners didn't really understand (or) like the idea of ambulance officers, as we were then, going around doing these advanced support principles that we had," early MICA Paramedic (retired) Ian Donaldson said.

"They weren't quite supportive in the early days but of course that took a lot of work from the politicians as well, and also by going around and doing what we did and doing public speaking, we were able to convince the general practitioners that we were ok in this field as it went on."

As the first station officer for the Peninsula MICA unit, which was established on the Mornington Peninsula on Christmas Day in 1973, MICA Paramedic (retired) John Clancy also spent time winning over local doctors.

"It was so new and maybe we could have introduced it better in the respect of more education to the medical field, the hospitals," Clancy said.

"But it grew and then, it grew to the degree that the medical field…the doctors and the hospitals, would be requesting MICA when they could see what we could do," Clancy said.[48]

Early MICA Paramedic (retired) John Winterton saw the medical fraternity's trust in MICA become stronger over time.

"In the early days it was different,"[49] Winterton said. "Some doctors and nursing staff didn't like MICA because here we had ambulance drivers undertaking procedures that emergency department nurses weren't even allowed to try."

A MICA Paramedic since 1979, Ian Patrick (retired) said MICA paramedics knew what to do if they encountered pushback from GPs.

Left: Early MICA Paramedics Laurie Spelling, left, and John Winterton

Right: Early defibrillator in use by Wally Byrne and a doctor in the first MICA, Car 208.

"You'd get there and they'd say, I don't want you to do anything," Patrick said. "And you'd go, Why did you call us, really?"[50]

"And that's when (Dr) Frank (Archer) was great because Frank would say, well just put him in the car and then when they're under your control, you just do what your CPG says, or gives you the guidance to do, and he would take it up with people that give us a hard time. Frank would ring the doctors himself, and (Dr) Graeme Sloman would ring people."

Early MICA paramedics tell stories about times when, under pressure from doctors to 'load and go', they took a patient around the corner in the ambulance and once out of sight, stopped to insert an intravenous (IV) line to allow appropriate care for the patient. One such situation led early MICA Paramedic Dave Appleton to become the first ambulance officer in Victoria to insert an intravenous line in an ambulance on the move.

"No one thought it was possible before that, to put an IV in, in the back of a moving ambulance,"[51] MICA Paramedic (retired) Dave Talbot said. "He was forced to do it by a doctor at the scene. All the doctor wanted us to do was pick up and go, none of this (other) stuff."

In this instance, the patient was the doctor's mother and he was understandably concerned to get her to definitive care.

"So Dave (Appleton) wouldn't argue, that's the kind of guy he was. He just got in the back, with the lady," Talbot said. "Now she needed the IV, she was really flat, but (Appleton) understood that as it was her son, he just wanted to get his mother to hospital so (Appleton) did (the IV) in the back of a moving vehicle, which isn't easy. You've got to let your mate know what you're doing so he can ease off the brake and the accelerator, keep it smooth."

The doctor followed the ambulance to the Royal Melbourne Hospital and when the door opened, his mother emerged with an IV in her arm.

"(The doctor) said, How the hell did you do that, you didn't stop?" Talbot said. "That's what they sometimes forced us to do in the early days."

"That was during the period when they were pushing us not to spend time at the scene. Do what you have to do, but do it quickly, and go."

One doctor wrote a magazine article with the headline: 'Stay and Play or Load and Go.' It referred to a car crash that Talbot attended which took place just minutes away from the Royal Melbourne Hospital, but it took MICA 20 minutes to load the patient and get him to hospital.

"I got criticised by the doctor and we had a bit of a ding-dong in (casualty) actually," Talbot said. "He was a senior doctor and I explained to him that had you taken the trouble to walk up, you'd see that the patient was trapped."

"They never allowed us problems with access and egress and often there were big problems with access and egress with the patient. It wasn't how far they were away, it's that we couldn't get to them or you had to move mountains to get to them or whatever. None of that was taken into consideration. It takes a long time to get somebody out of a car that's really mangled, to get them out safely."

Having qualified as the third MICA officer, John Blosfelds continued his studies by changing his ambulance work to night shifts so he could attend all the classes to complete the full six-month coronary care course and the six-month intensive care course through the Royal Melbourne Hospital. He was recognised as the top of the class, among a field of mostly nursing personnel, and in doing so, earned a lot of respect for MICA. Things also started to change when doctors started to understand the benefits of MICA skills.

Left: MICA Paramedics Peter Watts, left, Ian Donaldson and Don White in 1990. Donaldson and White both qualified as MICA paramedics in 1973.

"When medicine started off, there were a lot of doctors saying, What are these upstarts doing? Then GPs, particularly, just couldn't wait for you to come and help them," Patrick said.

"A lot of the emergency departments we went to in the early days, we'd be in the hospital in the middle of the night and we're the only ones in there that had actually ever intubated anyone because they had a whole lot of residents doing night shift."

In particular, MICA built a strong rapport with emergency department personnel.

"We still have a rapport within the emergency departments, but back then when the workload was high, but it was nowhere near what it is today, there was a lot of interaction and it was good," said Mark Hamer, a MICA Paramedic for 38 years, now retired.

"You'd look forward to having a bit of a chat with them afterwards, if they had time, and there was really good sort of camaraderie between us."

"I think from a MICA perspective because we're doing that little bit extra…and our knowledge was a little more advanced, that we had a better rapport."

"The word MICA began to evolve…and what we started to find down the track was that doctors would ring up or nurses ring up from various places and they would say we want MICA. Sometimes saying MICA meant they thought they were going to get the ambulance faster, not so much the MICA skill set, but they'd get an ambulance faster if they asked for MICA."

"But I think overall, certainly that's what I noticed that over time, we found that the word MICA became more acknowledged and there are some pretty clever people working within MICA too that had done a lot of work."

There was also friction within the ranks of ambulance services during the first decade of MICA. Victoria had established a two-tier system with the introduction of specialist MICA officers, while the majority of ambulance officers had a lower level of training and were only authorised to provide a limited level of clinical care.[52]

John Blosfelds recalls tension between the two groups of personnel.

"MICA was a bit like an elite group and there's always problems with elite groups," Blosfelds said. "Your previous people don't like someone being elevated."

"From within the service, no one wants to have an elite group. They use the elite group…(for)…some big event and they bring the MICA forward and say, We've got the best. But in the everyday running, there is resentment."[53]

Ian Patrick worked for many years out of The Austin Hospital on MICA 4, where he was the Station Officer and he experienced different reactions from different branches to MICA.

"Well, we were seen as the elite," Patrick said. "There were a lot of branches that hated us, some that liked us…because you know, you were doing stuff to people they didn't understand."

"We used to try to spend a lot of time to bring them along and there was a big gap for a long time and the gap actually remained for some time in places."

This concern began to be addressed as the concept of Advanced Life Support (ALS) was implemented and expanded across Victoria in the 1990s. This followed a 1980 report into ambulance services, the Opit Report, which recommended upgrading equipment across all ambulances and training all ambulance officers how to

use the new equipment. This led to the introduction of defibrillators and salbutamol nebulisers for all ambulance officers.

Meanwhile, the expansion of MICA across rural areas in the 1990s, starting with Geelong in 1993, revealed there were still pockets of resistance to the concept, both within the medical profession and the rural ambulance service when confronted with a new concept that for regional areas, still felt quite revolutionary.

One of the first two rural MICA officers to qualify and now Regional Director for the Grampians Region, Chris James, recalled: "Obviously the hospital, by and large the emergency department physicians, embraced (MICA), they could see what we were doing."

"GPs less so, and even some of our…ambulance colleagues weren't particularly enamoured with MICA so yeah there was some resistance. There was… a bit of a perception… glory boy type thing, but no honestly that was very much the exception rather than the norm. By and large, it was embraced," James said.[54]

Dissension toward paramedics practising advanced life support techniques was also exchanged between different regional services, particularly between the various metropolitan and regional services.

A specialist ambulance service was established in Ballarat in the 1980s, and though it became something of a forerunner to the Advanced Life Support (ALS) paramedics of today, at that time the only other ambulance personnel administering such advanced clinical care were the MICA paramedics in the Metropolitan and Peninsula ambulance services.

Prof. Mark Fitzgerald, who pioneered the Ballarat ALS service and is now Director of Trauma Services at The Alfred Hospital, recalled accompanying an ALS officer from Ballarat to Royal Melbourne with a female patient who had head injuries. The patient was intubated and ventilated.

"I remember as we dropped the patient off, the ALS officer was being barrelled by the MICA crew based at the Royal Melbourne," Prof. Fitzgerald said. "They were saying, You shouldn't be doing this. You don't know what you're doing."

"And I sort of came in on this conversation (and) I said…you know, you guys sit in the city, I'm sure you do a great job…but don't barrel these guys for trying to help people out."

"Because MICA was held in high esteem, I think they just felt threatened by it," Prof. Fitzgerald said.

The wariness also worked against metropolitan MICA and those who moved out into regional areas following mergers, such as when the Metropolitan and Peninsula ambulances merged, could find they had to re-establish their stripes with their regional counterparts.

"It was difficult for them, for sure," said MICA Team Manager Doug Quilliam, who has worked on the Peninsula for most of his career. "But over a period of time…because of the nature of the work, you have to work together and that will come about and ultimately it was a better outcome. Absolutely, it provided a better level of service to the public as well."[55]

The early concerns from doctors and community members may have taken a couple of decades to fully address, first in metropolitan areas, then across rural Victoria, but in some ways, MICA has never broken free from resistance to change, despite the evidence of its success. The MICA of today faces ongoing scrutiny and critique as it continues to test the boundaries of pre-hospital medical care, striving to deliver the best possible patient experience and outcomes.

Right: Early MICA prototype from 1971.

This has often been the experience of Air Ambulance helicopter crews as they have frequently been at the cutting edge of MICA medical procedures and services. What is different between the 1970s and now, is paramedicine in Victoria has amassed its own body of data and research to prove the case for its clinical practice.

Following criticism from the Royal Melbourne Emergency Department that paramedics were narcotising (providing high doses of narcotics to) patients, in 1984 Ian Patrick, under guidance from Dr Frank Archer, conducted one of the first pieces of research, which reviewed MICA's use of morphine.

Morphine was considered a dangerous drug of addiction and for a considerable period it was not allowed onto ambulances. However when Fortral, the only intravenous analgesic MICA had been using for a number of years, was declared a dangerous drug of addiction, it cleared the way for morphine to finally become part of the MICA drug kit.

While doctors had tried for some years prior to MICA to have morphine available on ambulances for doctors to use at the scene, the drug's introduction to MICA caused concern among some medical officers including key senior staff of the Royal Melbourne Emergency Department. As a result, Patrick reviewed MICA patient care records and presented his paper to the College of Emergency Physicians in New Zealand.

"There was a doctor…at the Royal Melbourne who was lambasting us for narcotising people…making them sleepy and non-breathing from opiates," Patrick said. "I did a review of the morphine (administered by) paramedics…and found that it was actually doctors doing it, not us."

"I went back through 24,000 cases and found that the only time we'd narcotised patients was giving them the dose that they were supposed to get and these were well managed. And the only time that we'd had to give Narcan was for heroin overdoses and GP overdoses because doctors used to come to people's places with chest pain, and they'd give them an (intramuscular) injection of pethidine and leave."

"So...we then started to get some credibility in terms of not just being ambulance drivers anymore, but actually clinical decision-makers and where they found that despite people thinking we were doing things badly, we were doing it because that's the way medicine set us up," Patrick said.

Following a similar pattern, there was criticism of early MICA officers from medical staff who contended the

Above: MICA Paramedic Single Responder/ Clinical Instructor Bill Briggs ASM, holding an old MICA drug box.

infection rate of intravenous infusions commenced by MICA officers was unacceptably high. Their argument was that intravenous therapy was best commenced in hospital where it was far cleaner.

"This was likely to have a huge setback to MICA care as so much of the patient care was dependent on having this access,"[56] said MICA Flight Paramedic (retired) Philip Hogan. "If the crews were not able to commence an intravenous drip, it would have effectively ended the MICA program."

MICA Paramedic (retired) Dave Talbot said even at Royal Melbourne Hospital, which supported MICA's inception, nurses had been asked to make a note of any patient who came through their ward on whether they were treated appropriately or whether they had phlebitis (inflammation) in their arm from an IV put in by MICA.

Above: Dr Frank Archer, centre, helped set the standards for MICA.

"At one stage the medical superintendent of the day came down to (casualty) while I was there with a number of lists of people who had phlebitis up on the wards and when she checked, all the IVs had been put in (by casualty),"[57] Talbot said. "That didn't surprise me because after all the bugs are in hospitals, they're not out in the field."

Prince Henry's Hospital coronary care staff also started to collect data on patients admitted to the coronary care unit with intravenous lines commenced by MICA. Their findings showed the intravenous site of infections of MICA patients was just under half that of hospital-commenced intravenous infusions. The exact reason for MICA's better performance was not fully ascertained, but the release of the findings spurred further acceptance for MICA.

The further development of MICA data and research, then clinical trials, coupled with the enhanced training, all represented critical steps toward ambulance paramedics owning their own body of knowledge, independent of the wider medical system.

Clinical Support Officer Peter Norbury, who completed his MICA training in 1998, had a chance to speak with Wally Byrne at a MICA anniversary event and found a shared experience of criticism for MICA, despite almost 30 years separating their service.

"It was really interesting, because he said when they ran the first MICA…and they were defibrillating people and (Wally said), We got told we were going to just 'cut a swathe through the community',"[58] Norbury said. "And I went, That's an interesting term, because I've recently heard it."

Norbury said the same sort of claims – disproved by clinical trials and data – had been thrown around as a result of other clinical innovations introduced over the most recent two decades, such as Rapid Sequence Intubation using anaesthetic agents to assist patients with traumatic brain injury and clot-busting thrombolysis drugs for patients with ST-Elevation Myocardial Infarction (STEMI), a serious type of heart attack where one of the heart's major arteries is blocked, and thrombolysis for patients suffering from stroke.

"I heard the conversations when we got paralysing agents, there were a number of people in various organisations who said, you're just going to 'cut a swathe through the community' and do damage because you don't understand it," Norbury said.

"(But) we've been shown time and time again (and) through the STEMI notification program – because I had a doctor tell me, you're going to inundate the departments with false positives and things like that – and in the end, when one of the department heads at Box Hill ran a study on it, we ended up with a 93 per cent agreement rate with the ED physicians."

"But when you spoke to Wally (Byrne), the themes that he talked about are unchanged. Whilst the topics are different, the actual conversation in itself is unchanged in the 50 years since (MICA) started."

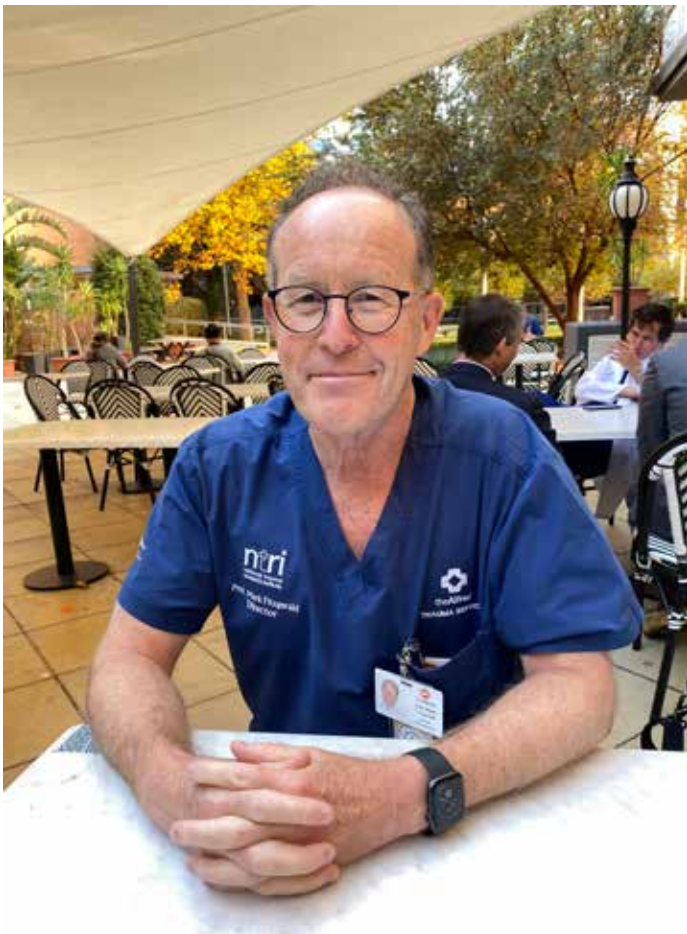
"You're having the same conversation about different things and it's about people accepting change, it's about us saying, well, we need to do this in a manner that will make people feel that we can do it safely," Norbury said. ■

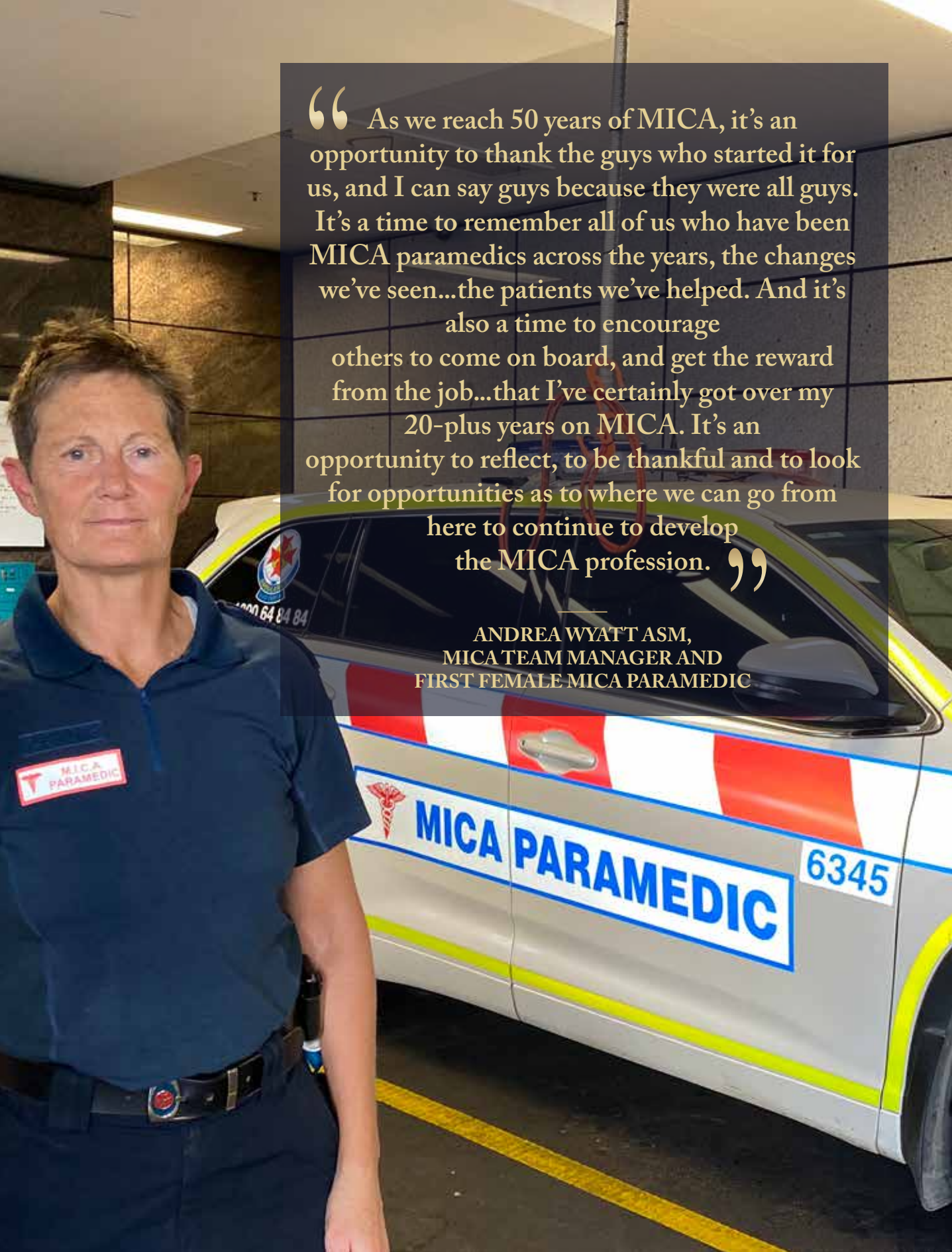
"I think the big message is the importance of taking responsibility for our own development. I think if we reflect and continually look at what we do, the whole professional approach of Ambulance and MICA in particular will flourish. The other thing is that MICA people have got to be looking to bring other paramedics up to their level, just like the two Wallys did 50 years ago."

IAN PATRICK ASM,
GENERAL MANAGER CLINICAL OPERATIONS (RETIRED), BOARD MEMBER PARAMEDICINE BOARD OF AUSTRALIA, ADJUNCT ASSOC. PROF. MONASH UNIVERSITY

"It's constantly evolving. Everyone involved today is a pioneer and what we've got today…you'll be looking back with the sort of amusement like you are now, about what happened 30 or 40 years ago. The key to it was the integration, having a seamless transmission of care…from the time of the accident right through to at least hospital reception and we can still do that. It's great to reach someone who is really sick and fix them up, and see them get better. It never diminishes, the satisfaction you get."

PROF. MARK FITZGERALD ASM,
DIRECTOR OF TRAUMA,
THE ALFRED HOSPITAL





"As we reach 50 years of MICA, it's an opportunity to thank the guys who started it for us, and I can say guys because they were all guys. It's a time to remember all of us who have been MICA paramedics across the years, the changes we've seen...the patients we've helped. And it's also a time to encourage others to come on board, and get the reward from the job...that I've certainly got over my 20-plus years on MICA. It's an opportunity to reflect, to be thankful and to look for opportunities as to where we can go from here to continue to develop the MICA profession."

ANDREA WYATT ASM,
MICA TEAM MANAGER AND
FIRST FEMALE MICA PARAMEDIC

CHAPTER 5

FROM OFFICER TO PARAMEDIC: TRAINING

When MICA was introduced in 1971, ambulance services in Victoria had already started the training journey that would see 'ambulance drivers' transition to become 'ambulance officers'. However, there is no doubt the advent of MICA, and the advanced training provided to MICA officers, propelled ambulance officers rapidly toward their respected title of 'paramedic,' which was introduced in the late 1990s and continues today.

After the Hospital and Charities Commission (a statutory authority within the Department of Health) was established in 1948 with responsibility for regulating ambulance services, a framework was drawn up for the duties of the superintendent/secretaries in the new regional ambulance services. The emphasis on being 'drivers' is clear from the description of skills, which included:

> *"Be a practical ambulance officer, competent to attend all types of cases encountered. Have sufficient mechanical knowledge to recognise faults in vehicles and perform running repairs. Be competent to deliver lectures and give instructions to members of the staff and general public."*[59]

Throughout the 1950s, most ambulance officers had a St John Ambulance first aid certificate and beyond that, they learned most of what they needed to know on the job.[60] But by the late 1950s, this was all about to change.

The Victorian Ambulance Services Association (VASA) was formed in 1957 to represent the then 16 metropolitan and rural ambulance services across the state. The Association's first meeting in 1957 resolved to:

> *"…write to Hospitals and Charities Commission requesting that a school be formed for preliminary training of ambulance officers to a defined standard."*[61]

The first ambulance officer training course in Australia was held in Geelong from 18 September to 13 October in 1961. It was established after a campaign for the training of ambulance officers led by several prominent ambulance officials, including Ric Bouvier from the Committee of Management of the Latrobe Valley District Ambulance Service and Alan Cumming, Superintendent/Secretary of the Geelong Ambulance Service. The course was run at the Geelong Hospital and lectures were given by sisters from the hospital and specialist doctors. The proposed syllabus of training was largely developed by Ric Bouvier and covered nursing, driving and mechanics and administration.[62]

By mid-1963, Victoria had appointed its first

Superintendent of Training and Coordinator of Ambulance Services, HG (Jock) Berry (OAM, deceased), who made a significant contribution to paramedic training and went on to be the Chief Superintendent of the Victorian Civil Ambulance Service and later the Metropolitan Ambulance Service. The first dedicated Ambulance Officers Training Centre (AOTC) opened in Malvern on 25 November 1963 after the Melbourne School of Nursing vacated the buildings on Mayfield Avenue. The courses were four weeks long and catered to existing ambulance officers.[63]

The next and perhaps most significant development in ambulance training in Victoria was the establishment of MICA. MICA training introduced ambulance officers to a raft of procedures and drugs previously administered only by doctors.

The 1969 seminar on the Management of Road Traffic Casualties held by the Royal Australasian College of Surgeons, featured a presentation by Dr Frank Archer. Dr Archer presented on the need for more and better training for ambulance officers. He contended ambulance personnel were the only ones involved in the care of accident victims who were not required to undergo intensive training before dealing with patients yet ambulance officers were 'one of the few who deals with the life of the patient.'[64] Dr Archer gave some sessional lectures at the AOTC, later went on to help develop and oversee adherence to the protocols for MICA, and has dedicated much of his career to advancing ambulance services in the state.

The early recruits to MICA had to pass a phase one evaluation to determine whether they had what it took to complete the MICA training. The one-week selection course was conducted at the Ambulance Officer Training Centre.

"It was an absolute hell week,"[65] said MICA Paramedic and former head of Air Ambulance (retired) Ken Laycock. "Everything was thrown at us, to learn drugs, to learn heaps of things."

"In those days, the people who were employed by the ambulance service…we were more or less employed late 20s, ex-tradies, people who had been around."

"So when it came to studying, academically, we found it very, very hard. So the week of the selection to go on MICA probably 50 per cent of them gave up before the week was up, and you're up until two and three o'clock in the morning learning your drugs and doing that."

MICA Paramedic (retired) Mick Lewis, who qualified on MICA in 1985 and now works in non-emergency ambulances, said there was a stark difference between what you were required to do as an 'ambulance officer' versus what MICA officers were doing.

"When you first got onto the MICA course, they said, Everything you've ever known, everything you've ever thought and everything you've ever done, forget it, because we do it differently," Lewis said.

"Those days (at the AOTC) would start very early. You would be doing anatomy, physiology, and drugs and protocols, and every day they would sort of give you a new drug to learn. And at the end of that week, essentially it was like an ambulance SAS boot camp, you failed or you passed, and you then go on to do the MICA course."[66]

As a result, the attrition rates for phase one selection were huge.

"We went to phase one, which was that initial week, where there were about 40-odd people," recalled MICA Paramedic (retired) John Schurink, who qualified for MICA in 1988 and now works with the Chevra Hatzolah Melbourne Inc. (Hatzolah) Community Emergency Response Team.

"Twenty were invited to go to phase two and continue the MICA course, which started the following week, and 14 finished."[67]

Above: MICA Paramedic (retired) Laurie Spelling and his graduating class at the coronary care course.

Phase two then consisted of completing the one-month external coronary care course offered by the Royal Melbourne Hospital, where ambulance personnel studied alongside nurses from all over Australia. The clinical coordinators for the course were coronary care trained nurses at Royal Melbourne

Hospital including Caroline Carlisle and Beata Csupor.

"What we were aiming to do, and what we were quite successful in doing, was to teach the ambulance officers, who had previously just been ambulance car drivers, basic medical self-help and how to administer drugs and how to defibrillate patients who had ventricular defibrillation," Dr Sloman said.[68]

MICA Paramedic (retired) John Winterton, who joined MICA in the early 1970s, recalled being one of eight ambulance officers doing the external coronary care course with 25 nurses.

"The nurses wondered what *we* were doing in *their* course,"[69] Winterton said. "The coordinator of the course, in his wisdom, recognised that this issue existed and on day one he gave us two exams."

"In the anatomy and physiology exam, the top eight in the class were all from ambulance. But in the examination on general medicine – on x-rays and other things common in hospitals – ambulance came in lowest."

"The doubters quickly realised that our roles were specialised in their own right," Winterton said.

Former Metropolitan Ambulance Service CEO from 2001-2008 and inaugural Ambulance Victoria CEO from 2008-2014 Greg Sassella, himself a MICA Flight Paramedic, in 2011 described MICA as something that grew out of training, not a rule book.

"The thing that's unique about MICA in Australia is that it really was born out of hospitals and it was born with having a doctor in the ambulance and then as time went by and the doctors realised the paramedics could be trained and do the role without them, the doctors came off the ambulance,"[70] said Sassella, now a lecturer and Professorial Fellow at Monash University, School of Epidemiology and Preventative Medicine.

"So the legacy of that beginning, it didn't grow from the development of protocols and treatments and then implementing that into ambulance, it started with having doctors with a broad approach to patient care, more an education base to patient care and decision making and so forth, then the doctor left the ambulance."

"So in fact, when they left the ambulance, they left behind that range of drugs, that range of treatment and that way of thinking."

When Ken Laycock went through MICA training in 1977, he was relieved to get through the theory of the coronary course and move onto the practical training. First, he was assigned to shadow a nurse in intensive care for a week, then he was put on a MICA unit with a training officer for several months.

"So after about three or four months, we did the exam," Laycock said. "Two weeks before the exam, I was asked to reconsider my exam date because I was considered not particularly up to scratch. I said no, and it was a matter of head down, backside up for the next two weeks, and I got through ok."

Prior to joining ambulance in 1974, Laycock had worked as a labourer, digging ditches with a pipeline

Left: How John (Schultz) Schurink tackled MICA training, according to fellow MICA Paramedic and cartoonist John Wheeler.

'Listen Schultz, for the last time...no I won't tell you the contraindications for Xylocard. Just shut up, take off those epaulettes, wipe that smile off your face and go to sleep!! ...Jeez, sometimes the training allowance just isn't enough."

company, where he operated dozers and backhoes. After joining MICA, he did a two-year Associate Diploma of Business Administration and went on to be the head of Air Ambulance.

Ian Patrick, who qualified for MICA a few years after Ken, described the initial classroom process as being like "a month of bastardisation" for ambulance officers who were in those days often ex-tradesmen or ex-military.

"It was probably one of the hardest things I ever did because when you think about it, we were effectively advanced first aiders,"[71] Patrick said.

"We gave oxygen and Trilene (analgesic), we were very good at splinting fractures, and managing scenes, and lifting heavy stuff."

"We then had to gear up in that first (phase) to see who had the capacity and then the next month was to get you ready to fit in with the coronary care course at the Royal Melbourne. We did it with nurses. They understood some of the biochemistry stuff. I didn't. It's one of the best things I've ever done, but it was one of the hardest things I've ever done."

Patrick started his career in his family's retail business before joining ambulance in 1976. He rose through the ranks as a Station Officer and Regional Training Officer to become a Group Manager and ultimately, the General Manager of Clinical Services prior to retiring from Ambulance Victoria in 2019.

Training for MICA paramedics then continued on the job and during John Blosfelds' time as Superintendent in charge of MICA in the late 1970s and early 1980s, continuing professional development was built into the roster. Paramedics worked a 10-14 roster: two 10-hour day shifts followed by two 14-hour night shifts.

"We had a new roster which was a 10-14 roster and that enabled us, they came back from leave and there was one week when they were able to get refresher training,"[72] Blosfelds said.

"We either send them to the theatre to refresh their ventilation skills, if the station officer said he hasn't done any intubations or hasn't done too many intravenous infusions, we could send them to the relevant section of the hospital where he'd get the practice."

"As well as that we would run a clinical session. (If it was) trauma, we would get the trauma surgeon."

Early MICA Paramedic (retired) Dave Talbot recalled developing his clinical skills around the Royal Melbourne Hospital in the early 1970s.

"In the early days of MICA 1, we used to carry a hospital pager, that died out a few years later,"[73] Talbot said. "The reason for that was, if we were in the hospital on downtime, like there wasn't a case, we either spent our time in CCU, ICU or casualty or the 24-hour canteen."

"If a code blue went off on the wards, they'd page us as well and we were expected to attend as well, to a cardiac arrest. So we got a lot more experience that way as well."

Blosfelds also had an arrangement with the then Royal Park Psychiatric Hospital, next door to the Royal Melbourne Hospital in Parkville, for training MICA officers.

"I used to send them to Royal Park, the psychiatric hospital," Blosfelds said.

"When the patients had (Electroconvulsive Therapy)… they have to be anaesthetised and they had lots of patients going through, so I could send quite a few MICA officers there to practise that."

MICA Flight Paramedic (retired) Philip Hogan recalls training at Royal Park when he qualified for MICA in the late 1970s.

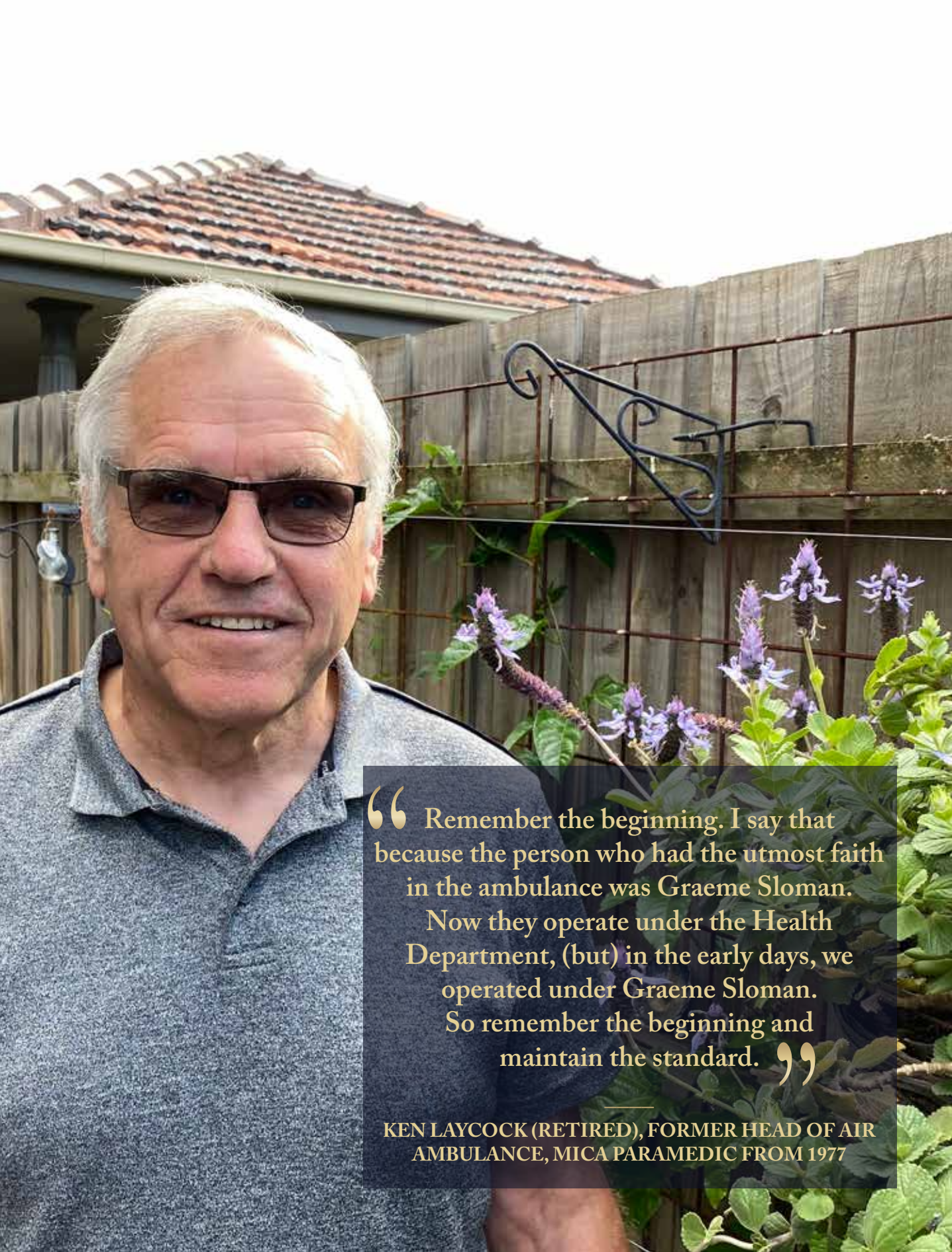
"We had to practise on these manikins, which were pretty hopeless, but we'd go to Royal Park where they did electroconvulsive therapy a couple of days a week,"[74] Hogan said. "You'd go in there and practise your airway management skills and breathing assistance on the patients that they were sedating and providing electroconvulsive therapy to."

Hogan said when Dr David Komesaroff introduced his Komesaroff Oxy Resuscitators to the then Peninsula Ambulance Service, he was adamant MICA officers had to be masters of resuscitation and airway management.

"He set a standard and goal because people couldn't get into the hospitals to do training," Hogan said. "They were allowed to get into the cardiology side…but on the intensive care side, and theatre, it was not on."

"David Komesaroff got people into theatre at Sandringham but even though he was a staff specialist at the Royal Melbourne he couldn't get people into there. No hope whatsoever at The Alfred. It just didn't happen."

MICA training under the auspices of the Royal Melbourne Hospital continued through to 1976, when the program became managed through the Ambulance Officers Training Centre. This followed a 1975 review by Dr Frank Archer, who then restructured the MICA training. Where once MICA did a few days preliminary



> “Remember the beginning. I say that because the person who had the utmost faith in the ambulance was Graeme Sloman. Now they operate under the Health Department, (but) in the early days, we operated under Graeme Sloman. So remember the beginning and maintain the standard.”

KEN LAYCOCK (RETIRED), FORMER HEAD OF AIR AMBULANCE, MICA PARAMEDIC FROM 1977

Above (top): MICA Paramedic (retired) John Blosfelds with the Car 208 replica at the Ambulance Victoria Museum.

Above: Dr Graeme Sloman and John Blosfelds at an early MICA graduation. Blosfelds was the third ambulance officer to qualify as a MICA Paramedic.

training, four weeks at the Royal Melbourne Hospital and several weeks on road, they were now required to undertake the two-week full-time preliminary course, followed by the six-week coronary care course at the Royal Melbourne Hospital under the supervision of Dr Graeme Sloman, followed by six weeks of practical experience on a MICA vehicle. Jenny Stroud, a coronary care trained nurse, was appointed as clinical coordinator and was based at the Ambulance Officers Training School, where she taught the two-week preliminary course as well as the six-week coronary care course.

Jenny Stroud's successors as clinical coordinator included Georgie Fleming and Cheryl Wilkinson.[75] As well as teaching the courses, the clinical coordinators sat on the MICA panel and worked closely with Dr Archer on MICA standards and protocols. By 1984, MICA trainees were spending two weeks at the AOTC, eight weeks at the Royal Melbourne Hospital and 16 weeks on road before they became accredited MICA paramedics.[76]

In 1980, the MICA system was evaluated at the request of the Health Commission of Victoria and a report (The Opit Report) was produced by Professor LJ Opit of Monash University and Dr D Christie of the University of Melbourne. The report recommended upgrading equipment across all ambulances and training all ambulance officers how to use the equipment.

It's hard to imagine that recommendation being made had it not been for MICA earning the right – and then proving the case – for ambulance officers to undertake more sophisticated clinical care. In some ways it was a revolution that paved the way for the evolution of the profession. Perhaps that's reflected in the fact the Opit Report looked upon MICA like a bridging service toward this wider expansion of clinical practice across all ambulance officers. The report recommended dismantling the two-tier system and merging MICA into an upgraded Advanced Life Support paramedic service.[77]

While the dismantling of MICA never took place, the Advanced Life Support (ALS) service went on to be built on the foundations of further education established in the 1960s and advanced through the 1970s and 1980s. From 1978 to 1982 ambulance officer training became a Certificate course run by the AOTC in conjunction with RMIT, within the Applied Science and Mathematics Division. Students were awarded their Certificate of Applied Science (Ambulance Officer) from RMIT. Accredited in 1977, the Certificate of Applied Science (Ambulance Officer) was the first such

course in Australia. Students of those first certificate courses were referred to as 'the bionics,' in a facetious reference to their new super-human skillset compared to earlier ambulance officers.[78] In some cases, they were trained beyond the level of skills they were permitted to use on the road, which the ALS program ultimately addressed. By 1983, candidates for MICA had to have completed the Certificate course and have at least 12 months experience before they could apply.[79]

The extension of ambulance officer treatment skills was the next major evolution in the ambulance service – driving significant improvement in clinical care for patients across Victoria. First, Qualified Ambulance Officers, as personnel with the Certificate were then known, got access to a wider range of drugs, such as Ventolin for asthma patients during the 1980s. Then the Rapid Response Defibrillation program was launched in 1989 after most qualified ambulance officers were trained in defibrillation. This represented a breakthrough in the level of training and clinical skills for all qualified ambulance officers and in the clinical care across the regions.[80] The expansion of the formal Advanced Life Support qualification across Victoria commenced in the early 2000s, championed by now Ambulance Victoria CEO Tony Walker, who was then Manager Clinical and Education Services for Rural Ambulance Victoria. This eventually led to all paramedics across the state being able to introduce these advanced treatments to the benefit of patients and making the shift in formal title and badge from 'ambulance officer' to paramedic.

In the late 1990s, ambulance training transitioned to the university sector. The AOTC partnered with Monash University and the ambulance course became a Diploma of Health Science. The AOTC moved from Queens Road in St Kilda to the Monash campus in Frankston and ultimately its courses were taken over by the university. Dr Frank Archer was appointed as an Associate Professor at Monash to head the then Monash University Centre for Ambulance and Paramedic Studies (MUCAPS). This was the culmination of more than 25 years' involvement in training of ambulance officers in Victoria for Assoc. Prof. Archer, who held various positions at the AOTC and was its Director from 1996.[81]

The shift in training from AOTC to Monash University marked the full transition from 'ambulance driver' to university qualified ambulance paramedic. The diploma was eventually changed to become a degree qualification and not long after, the ambulance services transition to a full pre-employment training model which requires applicants to have a university degree. In 2021, there are now four universities in Victoria offering paramedicine degrees. In 2004, the MICA qualification moved from an Advanced Diploma in Paramedic Practice to a Graduate Diploma in Emergency Health (MICA Paramedic). The Advanced Diploma represents two-thirds of a Masters qualification and in order to enrol, paramedics are required to work in a clinical role in an ambulance service with at least two years of experience after qualifying with their degree of Health Science (Paramedic) or other recognised bachelor's degree. Since 2006, MICA paramedics also have the option to build on their Graduate Diploma with a Masters in Emergency Health (MICA Paramedic), exploring emergency services management community health and research.

Some officers employed under the former AOTC training regime, even though their skills and experience were recognized as comparable at both ALS and MICA levels, went on to complete university qualifications at both levels. One such paramedic is Ian Patrick, who explained this personal investment in education was based on his own commitment to the professionalisation of paramedicine in Australia.

"Quite a few people have done it, a lot haven't bothered, but it was important to me," Patrick said. "A paramedic is what I am. Even when I've been a manager, I still say, I'm a paramedic first."

"Some things…have to happen to be a profession. You have to be educated properly, have your own body of knowledge as evidence, and then the final one was the registration, to be a health professional."

Paramedicine became a nationally regulated profession under the Health Practitioner Regulation National Law Act from 1 December 2018. This means the titles 'paramedic' and 'paramedicine' are protected by law and only people who are registered with the Paramedicine Board of Australia can lawfully call themselves a paramedic.[82]While paramedic registration does not cover scope of practice around specialist skills like MICA, it does set a minimum standard for paramedics across the nation that is firmly built on the foundations laid by the pioneers of MICA and ALS.

The value of this two-tier system of training continues to be felt by both paramedics and Victorian patients.

MICA resources are usually dispatched if either the initial call is assessed as very serious – known as Priority 0, where the patient is deemed to in cardiac

arrest, or at significant risk of cardiac arrest – or MICA is called in by the ALS crew.

"In order to gain experience, you really need two things," said MICA Area Manager Colin Jones. "The first thing you need is exposure to the work."

"If you're doing a (cardiac) arrest every year, you're not really going to see enough of them to fine-tune your practice."

"But if you're seeing an arrest every week or every couple of days like you might on MICA particularly in Metro Melbourne…you get the exposure to get good at it."

"So experience is exposure then taking that exposure and reflecting on it and that's things like following the patient up, learning more about the condition you saw, reading some material about contemporary best practice, running trials, all of that sort of thing."

The idea of a tiered system, with prioritised and selective dispatch of MICA to the sickest and most critically injured patients, enables the MICA officer to get enough exposure and, coupled with reflecting on their practice and doing the further work, they can turn exposure into significant experience. It also ensures that their availability is maximised such that they are able to respond to those calls selected for them.

"One of the other advantages of the tiered response system is that the MICA officer or officers that attend, can help the ALS paramedics get that experience and get that exposure and do so in a safe environment, where they know someone's got their back," Jones said.

"It's a very powerful system to have a tiered response system and in terms of making sure that people are actually good at what they do, not just got a badge to be able to do what they do."

Ambulance Victoria Medical Director, Professor Stephen Bernard said the two-level system of paramedics in Victoria – ALS and MICA – continues to make sense because paramedics needed time on road with supervision and experience, to become competent in advanced skills. The two-tier structure of ambulance training reflects wider health and medical professions.

"After high school, (paramedics) do the training and the training involves three years of university but with a lot of on-road time and then, like any profession now, (it's) the idea that when you graduate, you're not an expert, but it's some time on the road with supervision, with support, that you become competent,"[83] Prof. Bernard said.

"But then…it's very much like medicine where you graduate from medical school, you work as a resident/registrar in a hospital but then to step up to being a specialist in some area."

"It's very similar, the idea that you then do another year of training, have to do some more exams, the training is supervised, you get great experience and then you step out into the world as a MICA paramedic. So I think that two-level system is really serving the people of Victoria best," Prof. Bernard said.

The advanced trauma care provided by MICA flight paramedics, particularly via helicopter, is a specialist skillset that does not belong across the wider workforce, according to Prof. Bernard.

"We're very proud that we've got that skillset," Prof. Bernard said. "It's probably valid that it stays for a

Right: The first training school for ambulance officers held in Geelong from 18 September 1961.

Above: Rope training in the mountains. Today's MICA paramedics undergo specialised training for the circumstances in which they are required to operate.

smaller group of MICA paramedics and not the entire workforce because in medicine, complex procedures have to be done frequently because if they're not, the skill often isn't done correctly and in fact, then can result in patient harm so that two levels of skillset we still think is very valid."

Patrick is a firm believer in the two-tiered system, but he has an eye to the future, and the potential next evolution for MICA paramedics, who currently service in MICA pairs or as single responders, to partner with ALS paramedics as part of the same crew.

"I don't think there's anything wrong with putting MICA people together with an ALS person. It actually shares knowledge, skill and thinking,"[84] Patrick said. "It's still a fair step from being an ALS paramedic to MICA paramedic in terms of the decision making, the clinical assessment stuff and the confidence to actually do these other things."

"The more you can spread your expertise, and knowledge and understanding, and get people to actually realise it's their job now, as professionals, to bring the next generation along. I think there's a good argument to integrate some of your MICA paramedics, pairing them up with ALS people." ■

Below: MICA Flight Paramedics undertaking bush survival training.

CHAPTER 6

FROM OFFICER TO PARAMEDIC: PATIENT CARE

Since the first pioneering 'men of MICA' in the early 1970s through to the diverse MICA paramedics of the 21st Century, one thing has never changed: the reason people choose to pursue the extra study and training to become a MICA paramedic. They do it so they can offer a greater level of clinical care to their patients.

Pursuing a MICA qualification may provide a new career challenge and it can be the pinnacle of a paramedic career, but it's the rewards of treating very sick and injured patients; being able to do more for them; and having the potential to make a bigger difference for them, that MICA paramedics speak about when asked why they do what they do.

"You could do more for your patient and you did see results,"[85] said MICA Paramedic (retired) Ian Donaldson, who joined MICA in its second full year of operations in 1973.

"When you did resuscitate someone, it was a great feeling. You know you've saved someone's life and that's the part that really gets to you."

Cardiac arrest

The first patient who felt the MICA difference was a 45-year-old man who was successfully resuscitated after he had a cardiac arrest in the Fitzroy Gardens in 1971.

At a time when an out-of-hospital cardiac arrest was often a death sentence, the man survived and was later discharged from hospital due to treatment by pioneering MICA officer Wally Ross.[86]

Victoria's third MICA Paramedic John Blosfelds conducted his first resuscitation on a 44-year-old man who arrested in a doctor's surgery as the doctor was writing the man a referral.

"The doctor gave him ventilation and cardiac massage for 20 minutes until we arrived," Blosfelds said.

The patient regained consciousness on the way to The Alfred after being successfully defibrillated.

"The doctor with me had never successfully resuscitated a patient either, and…we were both sitting on Cloud Nine,"[87] Blosfelds said.

It was another big leap forward for Blosfelds, who said there was no such thing as CPR when he joined the

ambulance service in the early 1950s. "If a patient's heart stopped, that was it,"[88] Blosfelds said.

"So when the CPR started, it was you know, all quite revolutionary. You could actually bring people back if someone's arrested."

Dr Sloman recalled it was difficult to get permission for ambulance officers to give certain drugs, especially when even nurses weren't able to give intravenous injections of drugs such as xylocaine, digoxin, amiodarone and atropine. He worked hard to get the first drugs approved for use on board the first MICA, Car 208.

"(Car 208) turned out to be quite successful – it was used for a few motor vehicle accidents but mainly for people with heart attacks – and after about a year or so, the ambulance service agreed that it was running satisfactorily,"[89] Dr Sloman said in 2006.

"We got a better ambulance after about a year or so and then we got two ambulances and eventually we got the concept of having an ambulance sited at the hospital where there was an adequate coronary care unit."

These early success stories illustrate two key points about early patient care from MICA.

Firstly, at the same time MICA was taking small steps toward greater clinical intervention in a pre-hospital setting, the fields of emergency medicine – for both cardiac and trauma care – were also emerging and evolving.

Secondly, there was a strong initial focus on cardiology, partly driven by the fact that cardiologist Dr Sloman was such a strong advocate for MICA, but also because this was an area of immediate need in the community where it was recognised earlier intervention could deliver better patient outcomes. The same basic principle has persisted into the modern era for the treatment of cardiac arrest. This has driven innovations such as the GoodSAM[90] app introduced by Ambulance Victoria, which enables Victorians to volunteer as community responders who can be called upon to help provide CPR and defibrillation if someone nearby had a cardiac arrest.

Cardiac arrest is an area of clinical practice which has undergone significant research and progress to continue driving improvements in patient outcomes – both in terms of survival to hospital and discharge, and also their subsequent quality of life.

Numerous trials have been undertaken by Ambulance Victoria to explore the optimum combination of treatments for patients in cardiac arrest. Research to

WHY WE BECAME MICA PARAMEDICS...

"On MICA you have more tools, more drugs, more management techniques at your fingertips. To get a successful revival of someone who is extremely ill, if not clinically dead, brings high self-satisfaction. You have seen someone at the lowest point of their life and brought them back to health to become a valuable part of their family again."
MICA Paramedic (retired) John Winterton, who joined MICA in 1975.

"Back then as an ambulance paramedic there was no ALS, so you didn't put IVs in, and you had a small number of drugs that you could use. You had GTN and Penthrane and Aspirin had only just come in, and salbutamol for asthmatics. So there wasn't a lot of scope to manage patients without getting MICA. (MICA) really was that next step that you wanted to be able to do more for the patient and provide IV access and give better pain relief predominantly, and then to manage the other significant cases."
Operations Manager Adult Retrieval Victoria Michelle Murphy qualified for MICA in 2001, five years into her career in ambulance.

"To see some of the things that I did early in my career and the differences you can make for patients, that was a real driver for me. Even now, that's the thing you make decisions on: Well, what's the right thing for the patient."
MICA Paramedic Dave Garner, one of the first two rural officers to join MICA in 1993, now Manager of First Responders and Community Programs.

"There's a lot more scrutiny in our work, there's a lot more peer review and for me, ambulance is about looking after people, and I think that's the natural progression for people who really enjoy patient care."
MICA Team Manager Glen Bail, who qualified for MICA in 1998.

explore questions such as: is there benefit in cooling the patient? Is there a patient benefit in administering oxygen?

As a result of that research and subsequent changes in clinical practice, cardiac arrest survival rates in Victoria have steadily improved, with 33.5 per cent of adults in cardiac arrest who presented with a shockable rhythm surviving to hospital discharge in 2019-2020 compared to 9 per cent in 1995.[91]

Those patients who go on to be discharged from hospital also stand a much stronger chance of going on to lead a normal life compared to the heart attack patients of the 1970s, as a result of improvements in both pre-hospital and hospital care.

"We have patients that would have a significant heart attack, they'd have a lot of heart muscle, that would be damaged as a result of their heart attack," said MICA Senior Team Manager Doug Quilliam, who joined ambulance in the late 1970s.

"They may well survive, but effectively, their heart muscle would be compromised for the remainder of their life. They would be known as 'cardiac cripples', they'd often go into cardiac failure very readily."

Today, patients in cardiac arrest due to a blocked artery may receive thrombolysis from paramedics at the scene or they're managed in hospital with a stent or clot extraction, protecting the heart muscle from permanent damage.

"So they go on to be a very healthy normal sort of person," Quilliam said. "(In the past) there weren't cardiac cath labs, there weren't stents being put in. The only intervention for a patient was a coronary bypass surgery and that was only if the patient was healthy enough to survive the surgery, so it didn't come about for those sick patients."

The efficacy of CPR has also changed significantly since the early years of MICA.

"We would start doing a cardiac arrest patient and not expect to get an outcome and it was extremely unusual to actually get a return of circulation on a cardiac arrest patient," said Quilliam.

"If we did…they'd often re-arrest again or if they had an arrhythmia, there'd be minimal treatment for that. Now, with the changes to CPR, defibrillation, ALS management and public education, the cardiac arrest survival rate is massively improved to what it used to be."

"So as an example, I think I'd probably been on MICA for close to six months before I had my first (successful) resus in a cardiac arrest patient whereas now we know it's probably as high as 50:50 to get resus if CPR is underway before we arrive."

Toward the end of the 1970s and start of the 1980s, the focus of MICA shifted from coronary care to wider intensive care. MICA paramedics were granted access to a wider range of drugs, previously administered only by doctors, including asthma drugs, morphine for pain management and Narcan to treat drug overdoses.

"The whole role of MICA has changed, from being just a basic cardiac-oriented vehicle to one with multiple disciplines in pre-hospital patient management,"[92] said MICA Paramedic (retired) John Winterton. "This includes trauma, anaphylaxis, asthma… we wouldn't have dreamed about all these sorts of things years ago."

Drug overdoses

Attending drug overdoses became such a common part of the caseload for MICA officers in the 1970s, by the end of the decade they were granted approval to carry Narcan (naloxone). The drug is administered to people known or suspected of an opioid overdose who have passed out or can't respond. Prior to Narcan being officially sanctioned for use by MICA, there was an arrangement between MICA 2 and The Alfred Hospital where the MICA crew would call in to the emergency department to get some ampules of Narcan on their way to an overdose so they could treat the patient at the scene. MICA 2 were key responders to heroin overdoses due to the prevalence of overdoses in the St Kilda area during that period.[93]

Many hospital emergency departments opposed the use of Narcan by MICA as they felt drug overdose victims would receive better access to rehabilitation if they woke up in hospital. However in practice it was found that giving Narcan to the overdose victim in hospital resulted in violent outbursts by the patient as they awoke in a strange environment away from people they knew.

Other doctors opposed MICA having Narcan because even locum doctors didn't carry Narcan as it was such an expensive drug.

"Part of my duties in my early days, I used to get the monthly drugs for MICA 1 from the Royal Melbourne pharmacy,"[94] said MICA Paramedic (retired) Dave Talbot. "They were all priced out and it used to amuse me that a 10-milligram ampule of Morphine, which is pure heroin, was three cents, but Narcan was $7.50."

"The first (thing) is to acknowledge the people that helped establish MICA. We wouldn't have had the service that we have now if it hadn't been for the people that went before us.

It's been the best decision I've made in the ambulance service to become a MICA paramedic. I've loved every minute of it and for the people that are paramedics on the job now, who might be thinking about becoming a MICA paramedic in the future: do it. It's such a rewarding job and it's something that you'll cherish."

DOUG QUILLIAM,
MICA SENIOR TEAM MANAGER,
MICA PARAMEDIC SINCE 1984

"I'm proud to have been a MICA paramedic since 1998. I've seen a lot of changes with the introduction of sedation and paralysis for critically unwell patients. Certainly our cardiac arrest management, when I started on MICA if we managed to resuscitate someone from a cardiac arrest, that was about all we did... whereas now our post-cardiac arrest care is certainly a lot more advanced. I've enjoyed all my time working with a variety of people and still enjoy the work as a MICA paramedic."

GLEN BAIL,
MICA TEAM MANAGER,
MICA PARAMEDIC SINCE 1998

"We had to use two of those minimum, sometimes three, to bring them out of (an overdose). It was a very expensive, and probably still is a very expensive drug, but a very effective drug," Talbot said.

Also serving on MICA 1 in the 1970s, MICA Paramedic (retired) Ken Laycock recalled attending overdoses in the suburbs around the Royal Melbourne Hospital.

"So it was illegal obviously, the heroin, but the poor old ones that OD'ed, the coppers would get them…but we never used to dob them in to the coppers," Laycock said. "They can be laid on the floor, non-breathing and you push (the Narcan) in, and by the time you've got it in, they're awake. I mean, it is amazing."

"I mean, they'll abuse you and everything and that's ok because you spoilt the hit. But the half-life of Narcan is less than what they call the half-life of heroin. So we used to have to give him what we used to call a goodbye wish."

"So we'd give them the Narcan intravenous and then you give him a bolus dose (intramuscular) which was slower releasing because if you didn't, by the time the Narcan had worn off, they might still have been under the heroin."

Laycock and his colleagues on MICA 1 were called regularly to overdoses around the Brunswick area, including a brothel off Fitzroy Street.

"This brothel, we would get up there on a regular basis," Laycock said. "They'd go, Kenny, Kenny, why don't you leave me some Kenny, we could save you coming. I said, I can't do that. I can't do that."

Today, all ambulances carry Narcan to deal with patients suspected of overdose and further demonstrating the shift in attitudes to drugs and treatments over time, the Victorian Government introduced legislation in November 2020 to permit a wider group of health workers to administer naloxone to help save lives.

MICA Area Manager Colin Jones, who joined ambulance in 1991 and started on MICA in 1996, remembers the expansion of Narcan to Advanced Life Support paramedics in the early 1990s.

"I was fortunate to be at around about the time when a few really significant things had happened for ALS paramedics, like for example the introduction of intramuscular Narcan,"[95] Jones said.

"Up until then Narcan had only ever been a MICA drug and so the ability to give people, who had suffered in the main (a) heroin overdose, Narcan rather than having to call MICA or if they weren't available, try and bag mask the patient to hospital, was marvellous."

Asthma

The emergency treatment of asthma by paramedics is another area which demonstrates the significant shift in pre-hospital medicine. When asthma drugs terbutaline and later Ventolin were first introduced to ambulance, they were restricted to MICA.

"Any patient that was a severe asthmatic, they had to be managed by MICA," said Quilliam.

"So lots of times, we would be managing a patient just purely because they needed Ventolin, whereas now, it wouldn't be even thought about that the ALS crew would be more than competently managing that patient with their scope of practice."

Quilliam said the introduction of ALS paramedics, with their greater skill level, has been the single biggest factor in enabling MICA to progress.

"Because we're not tied up as much with a lot of more sort of straightforward management, that means MICA has been able to grow and develop, because that skill set has improved amongst ALS," Quilliam said.

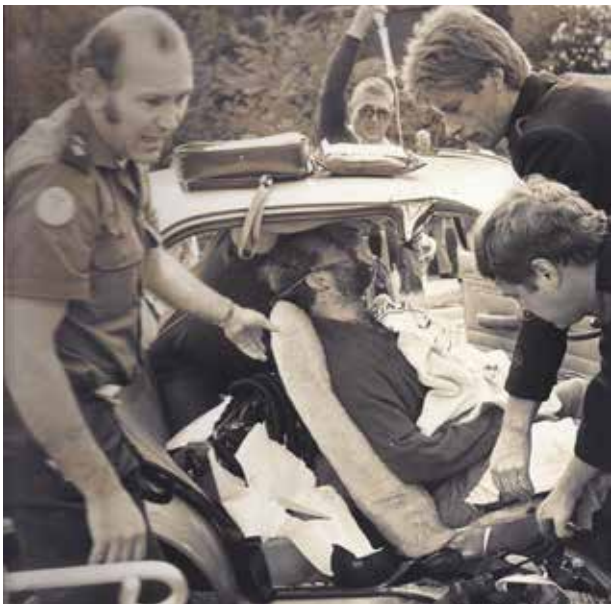
Above: Early MICA 3 at the scene of a motor vehicle crash.

Road trauma

It is significant, given road deaths were one of the original motivations behind the establishment of MICA, that road trauma is not as big a part of the MICA caseload today as it was in the 1970s. More than 1,000 people a year were being killed on the roads in the

years prior to the establishment of MICA, compared to the current era, when the population has almost doubled, but the road toll in 2020 was 213 deaths.

Improved pre-hospital trauma care by ALS and MICA, coupled with a network of five helicopters across the state for rapid patient transfer to specialist trauma hospitals have played their part. However there are other significant factors ranging from the design and construction of roads, intersections and roundabouts to the design of vehicles, police enforcement and attitudes to drink driving paramedics believe have helped reduce the toll.



Above: Early MICA 4 attending a motor vehicle crash.

The introduction of compulsory seatbelts for front seats in 1969 and to all seats in 1971 – which was recommended by the Australian Medical Association at the same 1969 seminar where a greater role for ambulance officers was proposed – led to a reduction in external damage to road trauma victims.

"For early pre-seatbelt trauma what you saw was what you got. Head injuries and obvious chest injuries and limb fractures were the norm," said MICA Flight Paramedic (retired) Philip Hogan. "After the introduction of seatbelts while there was a dramatic reduction in deaths and injuries, the was a change in the pattern of injuries where patients were more likely to have occult (hidden) injuries which were slower onset, generally not obvious initially, but highly likely to cause morbidity or mortality."

"Initially these patients presented reasonably well but could deteriorate quite quickly and ambulance staff became aware of the 'talk and die' patient. This is when a patient presents as reasonably well, communicates and develops a rapport, but later deteriorates and dies despite the best efforts of care."

Further innovations in vehicle design have continued to improve survivability of motor vehicle crashes including airbags, the inertia wheel, retractable seatbelts, laminated windscreens and crumple zones on cars.

"They've all contributed to a massive reduction in damage to patients," said Quilliam. "So you can still have a significant impact but effectively, the passenger cell in the car remains intact and patients get out almost uninjured or in a lot of cases, totally uninjured."

"Whereas before, things like the steering column, for instance, they weren't a collapsible steering column, it was a solid shaft of steel and chest impact from the steering wheels and steering columns produced significant chest injuries."

Just as the road trauma workload has shifted over time, other changes in MICA caseload over the past few decades reflect wider societal trends such as increased drug use, wider prevalence of psychiatric issues, increased aggression, growing demands on the health system, more violent crime and the changing needs of an ageing and diverse population.

Sudden Infant Death Syndrome

MICA paramedics have experienced other significant shifts in their caseload over the decades due to changes in public health, safety and education. For example, where Sudden Infant Death Syndrome (SIDS) was a critical issue in the 1980s, it is much less prevalent today.

MICA protocols for SIDS, also known as cot deaths, in the 1980s meant MICA paramedics were required to inject the baby in the heart with sodium bicarbonate.

"We would…jab these kids in the chest, into the heart, with these giant syringes," said MICA Paramedic (retired) Mick Lewis.

"And I think to this day, we must have traumatised so many parents, seeing that. I know that was the protocol and we did it because we thought there'd be a difference, but there wasn't. I do remember doing that several times and to this day, it doesn't sit well."

By the 1990s, intra-cardiac sodium bicarbonate was no longer the protocol for SIDS. MICA Paramedics Erik Schanssema and Paul Livingston researched and lobbied for a better treatment for SIDS given the challenges of

finding veins to administer injections in very young children.

"I always felt uncomfortable and queasy when giving intracardiac injections," Schanssema said in his book, '*Signal 8*'. "I was not alone in this and was the topic of many discussions I had with my fellow MICA colleague Paul Livingston. We had both heard of the intraosseous infusions (IO), a technique whereby a patient's bone marrow is directly accessed via a specialised needle."

The intraosseous infusion procedure was adopted as part of the MICA Drugs and Protocols (Clinical Practice Guidelines) and was first used operationally by a MICA crew in July 1992. Intraosseous infusion has been used for not only SIDS cases, but other paediatric cases including cardiorespiratory arrest, electromechanical dissociation, ventricular fibrillation, and the procedure remains in use today.[96]

Participation in a medical trial that ultimately was not implemented

Many protocol changes in the modern era of MICA have taken place through trials either conducted exclusively by Ambulance Victoria or conducted as part of wider national or international research.

Above: The device provided for MICA paramedics to make an incision into the chest of cardiac arrest patients.

In 2002, MICA paramedics participated in an international trial that aimed to improve the survival rate of cardiac arrest victims by using a direct cardiac massage device inserted through a small incision in the patient's chest. MICA were the first paramedics in the world to use the minimally invasive direct cardiac massage (MID-CM) device manufactured by TheraCardia.

"We cut a hole in the chest…and we would stick our finger into their chest wall in a cardiac arrest find the heart, put in a plunger like a bike pump and then put an umbrella-like device on their heart and manually pump internally their heart," said Glen Bail, who qualified for MICA in 1998.

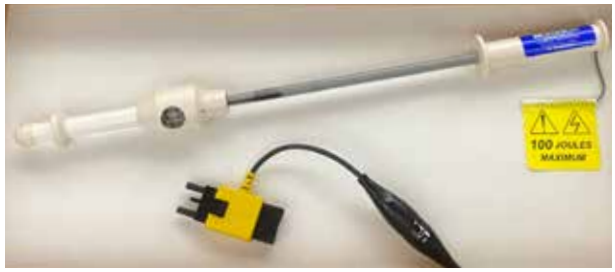
"I think the first one that was done...the police came because…they couldn't understand why (the paramedics had) cut this massive hole in this guy's chest and whether he'd been stabbed.

"So they apparently took one of the guys back to the police station while they had to find out who ethically approved this."

"I certainly did a few of them and the name was 'minimally invasive direct cardiac massaging', but there was nothing minimally invasive about it," Bail said.

MICA Paramedic (retired) John Schurink performed the procedure up to six times during the trial including one case that initially left him with serious misgivings.

"I inserted a handful of them…and I must confess, the first one I ever put in, man alive, I was quite nervous," Schurink said. "As a carpenter friend once said, Measure twice, cut once, and I thought, Ain't that the truth."



Above: The device inserted into the chest of cardiac arrest patients under the MID-CM trial.

One patient was a man in his 50s who was in cardiac arrest in the Ferntree Gully area. The Ferntree Gully crew were doing CPR when Schurink arrived, and he ran through his protocol for an arrested patient.

"There was a lady standing there, who I knew and she was a nurse at the local hospital and she worked with my wife," Schurink said. "I said g'day…are you running with the Ferntree Gully crew today? But she said, No… (the patient's) my husband. And my inside voice said, Oh shit. So I talked to her about enrolling him in the MID-CM trial and she said, Give it a go."

Schurink inserted the device, which opened out like a little umbrella in the chest, and defibrillated the man half a dozen times.

"I got a return of spontaneous circulation with him, removed the device, he didn't regain consciousness and we went to Ferntree Gully Hospital because, albeit not a tertiary hospital, it was only five minutes away. The reaction from the triage nurse was, Who the hell did that?" Schurink said.

Left: Early MICA Paramedic (retired) Dave Talbot, right, and a colleague treat a patient.

Despite the promising signs at the scene, the man died a few days later. It transpired the reason he had gone into cardiac arrest was a cerebral bleed, so no amount of resuscitation would have made a difference. Schurink and his wife attended the man's funeral given the two wives were colleagues.

"I must confess I was feeling pretty uncomfortable because I thought to myself, have I actually made this better for them or worse? Have I created, where all hope was lost, created hope again, only to be lost again?" Schurink said. "I was struggling with that."

At the end of the funeral service, Schurink decided it was best if he and his wife left, but as they walked across the carpark, the deceased man's wife came after them.

"She said, Why are you going?" Schurink said. "So I was honest with her. I said look, I'm feeling really bad because I don't think I've done the right thing by you."

The woman's response left him near tears.

"What she said to me was, No, you gave us time to say goodbye, to hold a warm hand," Schurink said.

"She said, And the other thing you've achieved is that we've donated his cornea, his kidneys, his heart, lungs and liver. She said, You made a huge difference, and that moment in time for me, in my whole MICA career, was incredible."

Despite being a controversial trial that did not lead to changes in clinical practice, the MID-CM trial exemplifies MICA's capability to lead global research to improve patient outcomes.

"You know people say how terrible it was to do it…(but) to actually think that MICA was involved in this type of research, was pretty amazing," Ian Patrick said.

Chest decompression

In some cases, advancements in clinical practice have come about from MICA paramedics going beyond the protocols in order to save a patient's life. This kind of innovation in the field was made possible by Victoria's approach to the MICA protocols as guidelines, but it wasn't without repercussions for MICA paramedics.

A tension pneumothorax is a life-threatening condition that develops when air is trapped in the pleural cavity, compressing the lungs, heart, blood vessels and ultimately, causing cardiac arrest. The first time Victorian paramedics decompressed the chests of patients with a tension pneumothorax (collapsed lung), they did so without formal procedures or specialised equipment.

MICA Flight Paramedic (retired) Philip Hogan said MICA officers were taught how to decompress chests by the doctors who trained them, but it was not in the MICA protocols. The MICA protocols were managed by the Department of Health and its predecessors until 1999, when responsibility was transferred to the ambulance service.[97]

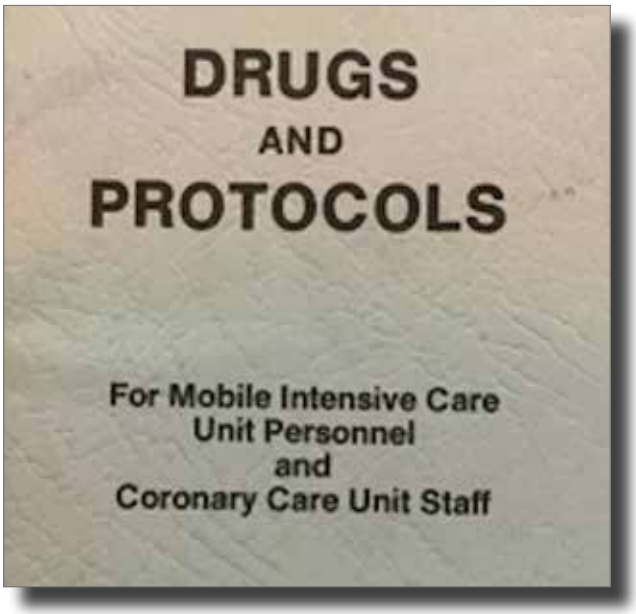
Hogan, who qualified on MICA in 1978, first performed a chest decompression to save the life of a patient on the Geelong Road. He was later spoken to about his actions, but the issue was dropped.

"I did it with another patient in around the city and that was a little different, a stabbing victim in North Melbourne, and I actually got called into the Health Department,"[98] Hogan said. "That one attracted a little more attention because I went up to a meeting with, I think it was the Chief Medical Officer at the Health Department. That was a pretty daunting few weeks leading up to the visit and they quizzed me pretty thoroughly on that case."

"Then one of the other guys, Ken Laycock, had

another patient in the same boat, did that and he ended up before a review with the Department."

"Then the third time I did it and went back up to the Department again and eventually after that, they decided to change the protocol and put it in."



Above: The cover of an early MICA Drugs and Protocols booklet

MICA Paramedic (retired) Ken Laycock said if he hadn't taken this unsanctioned step, his patient would have died from a tension pneumothorax while pinned in his vehicle after a T-bone collision with a fuel tanker in Sydney Road, Melbourne.

"We'd read about it in a book and seen how they do it in hospitals,"[99] Laycock said.

"So we needled him, got him into the hospital and the doctor, I remember walking through the door with him and the admitting officer said, Bloody hell Ken, what have you been doing now?"

"(The patient) went into ICU…and we went into ICU to see how he was, and his family were there and the director, the top bloke of ICU, he got the family over and he introduced us and said, Your son's alive because of these two."

Laycock felt confident to do what was necessary because the MICA protocols operated more like guidelines, than rules. Providing they could justify it, Laycock felt they could go beyond the guidelines.

"As far as we were concerned, the bloke was trapped… under the fuel tanker," Laycock said. "He was trapped underneath and we went in (via) the backseat, in(to) the front and you knew that he was tensioning and what happens when you tension, you get air on one side, every time you breathe in, you get more air."

"So I mean, (we had) two choices, you could leave him and no worries, he would die and that's the end of it, or you could do what you'd read about…and that's what we did."

Despite believing his actions were justified, his decision had major repercussions. The incident triggered a full review because it was a medical procedure completed outside the hospital by non-doctors, and a report went up to the Health Department.

"It was one of the first, if not the first, that was done," Laycock said. "We had to write reports for the Health Department. (They) got our training officer and the old case sheet came out and (we were asked): How did you know where to do it? And, How did you do this? And, How did you do that?"

"Whereas now they carry a proper thing for doing it, in those days, we improvised," Laycock said.

Ultimately, these early trailblazers forged the way for changes to the MICA protocols and today, paramedics carry specialised equipment designed to decompress a patient's chest in the event of a tension pneumothorax.

Intubation under sedation

The intubation of patients under sedation – now known as Rapid Sequence Intubation (RSI) – also emerged initially from paramedics making decisions they thought were in the best interests of the patient, despite being outside traditional protocols.

Before it was an accepted practice, two paramedics put their jobs on the line to sedate an asthmatic patient in cardiac arrest whom they were unable to ventilate.

"I remember two of the guys…they did sedate the patient with some Valium and passed an endotracheal tube, and they were called to the boss's office and told if they ever did that again, they'd get the sack," Doug Quilliam said. "The patient obviously did survive, they weren't dismissed for that, but it was just outside of our scope of practice."

"They did it again and the patient again survived with that level of care and it…sort of forced the medical decision-makers to sanction that ok, we need to some parameters around that line of treatment so that we can deliver that to patients."

"Where there weren't rules, increasingly that led to more

of a guideline direction, so we were able to manage patients based on clinical knowledge, based on prior experience, and make decisions that…you hadn't really been fully trained in. So a lot of the times it was a fairly cutting-edge process, that led to a whole lot of changes," Quilliam said.

Following comprehensive clinical trials from 2004 to 2008, and paramedic training, RSI has since become an official part of the MICA protocols and is most often to reduce the risk of brain damage in patients with traumatic brain injury. As one of the earlier trials undertaken by MICA paramedics, the RSI trial taught them a lot about trial processes and ethics, and demonstrated MICA's capability to manage complex trials. In randomised medical trials, when MICA paramedics attend a patient whose condition makes them eligible for the trial, the paramedics open an envelope at random and follow the treatment approach described inside.

"When we did the RSI trial, some people you'd normally go in and you'd intubate, now, suddenly you're opening an envelope and you don't intubate them," said MICA Team Manager Mark Hamer, who retired in January 2020.

"You know that goes against all the stuff that we've learned, and we've thought we've built up this picture that we have to do and suddenly an envelope saying, No, you're not intubating them. And that caused quite a bit of conflict, amongst a small group, but I think that was more an education thing."

"We didn't know much about the ethics side of trials and if it said, don't do it, you don't do it. If anything happens to the patient down the track, it's not your fault, you're participating in the trial and it's (been) through ethics, et cetera."

"But I think we were very new to the trial side of things…and especially if it was a procedure that you were used to doing all the time, and you felt was helping the patient, sometimes it was a hard decision."

"So we learned a lot from those trials, I think and just before I finished, I heard there are lots of approaches to (Ambulance Victoria) to run trials for various things now. So over time, we've developed that respect that we can actually do a trial and do it successfully." ■

Above: MICA Team Manager (retired) Mark Hamer with a pair of Military Anti-Shock Trousers (MAST) he was presented when he retired in 2020. Once used to treat patients with severe blood loss, the anti-shock pants are no longer part of MICA protocols.

CHAPTER 7

INNOVATION AND IMPROVISATION

There is one aspect of patient care that a new paramedic starting work today might most take for granted compared to the MICA pioneers of the 1970s and 1980s. In the early era of MICA, right through into the 1990s for rural MICA, one of the biggest challenges they faced was getting the right vehicles and equipment to deliver an effective pre-hospital intensive care service.

In the earliest years of MICA, the challenge was as basic as sourcing equipment compact enough to be taken out to the patient – compact enough to be carried in an ambulance and ultimately, to be carried by the paramedic.

According to MICA Paramedic (retired) John Blosfelds, who became the third officer to work on the MICA trial and went on to be the first manager of MICA from 1975 to 1985, a great deal of innovation, along with a strong dose of improvisation, was essential to getting MICA properly equipped.

"The idea was to take the patient into the vehicle, which was built like a hospital emergency cubicle. But in practice we found if we wanted to save someone, we had to take the equipment to them. And at that time, there was no portable equipment,"[100] Blosfelds said.

"We learned to put equipment in our pockets, over our shoulders, and we also made up our own equipment."

"In practice, the idea was to put the patient in the ambulance and work on them in the car, but we found that it just wasn't feasible. You had to work on the patient wherever they were."[101]

"We had a chest compressor and inflator which was called the Cardio 2. You put the base to that under the patient and adjusted the piston to do the correct compressions, so it did five compressions and one inflation, so if the patient was intubated, you could do other things and the machine was automatically resuscitating the patient," Blosfelds said.

The equipment in the earlier MICAs was a lot heavier, according to MICA Paramedic (retired) David Calder.

"I could remember the Travenol monitoring machine we had weighed 29 kilos by itself and that was only one piece of equipment with a screen probably two inches by two inches,"[102] Calder said.

Early MICA officer Ian Donaldson (retired) agreed: "With a screen as small as a postage stamp…it was difficult to diagnose somebody with a heart attack on it, so you were really struggling."

"The drug boxes were ginormous, so you needed someone strong to lift them or help lift the equipment to take it to the patient," Donaldson said.

It was a doctor from Royal Melbourne Hospital who led a significant innovation to the benefit of early MICA


1971

1980s

1995

2007

2021

> “I would have to say that I and my colleagues on MICA contributed to people’s survival, whereas prior to the MICA days, they would not survive and yeah, that makes me feel proud.”

JOHN CLANCY (RETIRED),
MICA PARAMEDIC ON THE FIRST PENINSULA MICA IN 1973

officers. Doctor David Komesaroff was an anaesthetist with a strong passion for engineering who designed a piece of resuscitation equipment specifically for portable use. The Komesaroff Oxy Resuscitator was designed to recycle oxygen being breathed out by the patient, enabling each bottle of oxygen being carried on the ambulance to last far longer.

Prior to the Komesaroff Oxy Resuscitator, Blosfelds recalls: "Our oxygen equipment lasted 20 minutes on full resus, trying to resus someone."

The Komesaroff machine, introduced in the mid-1970s, was a game changer.

"The oxygen lasted, for full resus, you could travel anywhere with just the one cylinder of oxygen because as the patient breathed out…it went through soda lime crystals and back into the system," Blosfelds said.

Dr Komesaroff passed away aged 76 years in 2007, but his contribution to emergency medicine is an ongoing source of pride for his family, including nephew Prof. Paul Komesaroff, who felt encouraged by his uncle to follow him into the medical profession.

"I remember when I made the decision to do medicine, around 1980…he was the first person I telephoned to say that I'd decided that I would do that and he was very supportive and happy about that,"[103] said Prof. Komesaroff, now a Professor of Medicine at Monash University and a physician specialist in endocrinology.

Prof. Komesaroff remembers hearing his uncle talk about his work to overcome the problem of oxygen cylinders that would only last for a short period of time.

"I remember him saying how he had invented a technique for greatly extending the life or the utility of a single cylinder of oxygen, and I remember him explaining the principle and showing it to me," Prof. Komesaroff said.

"It was called the Komesaroff Oxy Resuscitator and he then became a bit of a household name, and so when I started medicine at the Royal Melbourne, obviously they knew him because he was (working) there, but every ambulance driver knew of the Komesaroff Oxy Resuscitator. So that was kind of a striking thing for me that the name was known and they all knew of David."

"He was quite famous…for the work he'd done in actually transforming the way in which emergency care could be delivered."

Dr David Komesaroff not only invented the Oxy Resuscitator, which was marketed to ambulance services around the world, he went on to establish a company in Melbourne, Medical Developments (International) which developed and licensed a range of equipment for emergency medicine.

"I was a child at the time…but I can remember David talking a lot about the new equipment and how he was negotiating with hospitals and I remember he travelled quite a lot overseas," Prof. Komesaroff said. "He was not just proud of it, but he did a lot to promote it, not necessarily for his personal benefit, but to promote it as a major innovation in medicine."

As an anaesthetist, David Komesaroff also conducted significant research into the use of the anaesthetic gas methoxyflourane, also known as Penthrane, as an analgesic.

"David promoted its use in the ambulance system and that had quite a big impact on ambulance

Left: 12-lead electrocardiograph machine used by early MICA officers to transfer cardiac rhythm to the cardiology department of the receiving hospital.

practices too, because obviously a big thing about what they're involved in is delivering pain medication," said Prof. Komesaroff.

Above: Prof. Paul Komesaroff with a Komesaroff Oxy Resuscitator

"Through Medical Developments, (he) got involved in manufacturing methoxyflourane, so he actually had a factory which I think was somewhere down in Prahran…that was producing the anaesthetic gas."

The Komesaroff Oxy Resuscitators supplied to MICA came with a laryngoscope to assist with clearing the patient's airway and a stethoscope for listening to their chests. The stethoscope got early MICA officers in trouble with their hospital colleagues.

"I remember the furore because some of the guys were seen with a stethoscope around their neck as they walked into Frankston Hospital," said MICA Flight Paramedic (retired) Philip Hogan.

"We all had to have a big in-service on the ethics of wearing a stethoscope because that was seen as a doctor's implement and you were not allowed to have that around your neck. That was absolutely taboo."

The news about MICA saving people's lives was so positive, it resulted in a wave of donations to the ambulance service, according to Blosfelds, which worked to MICA's advantage.

"I used to get complaints from the Director of Finance," Blosfelds said. "He'd say I'm getting all this money coming in, donations for MICA. I just can't justify putting another MICA on the road when I need money for Northcote Branch!"[104]

"I'd come into work and they'd ring from the switch and say, Oh there's been lots of small donations for $5, $10, $15, $20, for MICA. And you look up the paper and someone died and said instead of flowers, donate money to MICA."

There were also regular donations from service and sporting clubs, particular after a member was saved by MICA, and calls from lawyers with clients who wanted to leave money to MICA in their will. Blosfelds used the information to help bolster resources for MICA.

"If I needed something for MICA I would go to the Finance Director and say look, I know you got that much in for MICA and I want that," Blosfelds said. "I wanted leather covers for all our equipment and one of the MICA men was Italian background and he was excellent with leatherwork, and he made covers for all our equipment, so I got money to buy the leather and sewing implements."

It wasn't just the ambulance service scratching for equipment in those early days. Some hospitals weren't equipped with defibrillators. Donaldson recalled a hospital calling MICA to see whether they could attend urgently with a defibrillator.

"We were coming from Ringwood and they asked us on an emergency, whether we would come down to the western suburbs with a defibrillator on our unit, to get there as quick as we could," Donaldson said. "We never got there (in time) of course, but that's how it was in those days, they were just so few and far between."

As well as scrounging and fundraising for equipment, early MICA officers had vehicles that were heavy and hard to drive. MICA vehicles have come a long way over five decades, evolving from the cumbersome trucks first used for MICA such as the historic ambulance Car 208.

"We didn't know what vehicles were best to use for MICA," Donaldson said. "We had the big biscuit barrel ambulances…and they weren't ideal, and we got smaller and smaller, but it took a long time to get the ideal vehicle."[105]

"We needed speed, but we needed comfort and we needed safety and reliability, and that took a long time and they were big challenges. Car 208 was an awful truck to drive. It was a truck. It didn't have any speed and you couldn't get around corners too quickly, because it was so big and it carried so much equipment."

"In the early days of MICA that truck did carry more equipment than it really needed because it was there for the doctors to use as well, so they wanted the extra equipment on it and of course, things weren't as portable as they are nowadays," Donaldson said.

The first rural MICA paramedics, who were officially appointed more than 20 years after the service commenced in metropolitan Melbourne, benefited from the two decades of improvement in portable equipment such as defibrillators and ECGs.

But the old truck used by the first Geelong MICA unit still left a lot to be desired, according to Chris James, one of the first two rural MICA paramedics to graduate and now Regional Director for the Grampians Region.

"I wish I had a photo of it – 468 was the Geelong MICA vehicle,"[106] James said. "Ultimately there were some concerns about its safety, so they actually put a roll cage on it, around the outside. So it was a funny looking vehicle and we used to joke, Golly that vehicle has done a few jobs and seen some stories in its time," James said.

During the early era of MICA, when MICA Paramedic Ken Laycock and his shift partner took it upon themselves to work beyond the protocols to relieve a tension pneumothorax (collapsed lung), they had to improvise the equipment to administer the technique.

At the scene, they took a glass intravenous bottle and modified it so the breather tube fitted to enable the IV fluid to flow would take the release of air from the patient. Later, with the cooperation of doctors and others, they started to use an intracath, a device intended for facilitating the introduction of an intravenous catheter.

"It was pretty good because you put it in and you had this sealed section about 14 inches long and about an inch wide and when you went in and hit the air, you got what we used to call, the erection. The plastic just shot up, with air in it," Laycock said.

"So what you did then, we used to snip the end off (a rubber glove and attach it). It used to act like a valve, so the air would go out but it wouldn't be able to go back in and so we rigged that and that's what we used for years."

A decade later, the lack of suitable equipment meant MICA Paramedic Doug Quilliam was unable to save a patient with a tension pneumothorax.

"We were able to reduce tension pneumothoraxes, a collapsed lung, but the equipment we had was very, very basic," Quilliam said.

Above: MICA Paramedic (retired) John Blosfelds with the Cardio 2 chest compressor, known as the 'thumper'.

"It was a case where a young woman was trapped in a car accident out Nar Nar Goon way and we couldn't get her out of the car because of where she was trapped, rescue equipment wasn't readily available."

"She had developed a tension pneumothorax, we couldn't relieve it and subsequently, she passed away, from purely a lack of a needle that was long enough to penetrate her chest cavity."

As a result of incidents such as these, new equipment was developed to cater for a wider range of patient situations. Treatment options are now progressing even further, with the introduction of finger thoracostomy, where the paramedic makes a small incision and inserts their finger to help release air from the lung cavity.

"It's been interesting seeing the advent of MICA practice and to where it's now leading," Quilliam said.

"That's very fulfilling and rewarding seeing, and being part of, the progression."

The onward march of clinical and technological improvement is further reflected in a clinical trial being conducted by MICA paramedics in partnership with The Alfred Hospital in 2021. The CHEER trial involves taking a mobile artificial lung machine out to treat cardiac arrest patients at the scene. The Extracorporeal Membrane Oxygenation (ECMO) machine pumps blood from the patient's body to an artificial lung, where the carbon dioxide is removed and the blood is oxygenated before being pumped back into the patient.

Clinical Support Officer Peter Norbury, on MICA since 1998, recalls the first transfers of patients while they were attached to ECMO machines were undertaken by Air Ambulance around the turn of the 21st century.

"We used to have a special truck and these things were the size of a washing machine, literally, and that was a tiny new modern one," Norbury said. "Well now, they are carrying it in a briefcase."

Norbury was involved in the establishment of the Mobile Stroke Unit, known as the Stroke Ambulance, which involved putting a CT scanner into the back of an ambulance.

"I thought that was going to be the technological high point of my career, and now we're looking at putting an ECMO machine in the back of a car and taking it to cardiac arrests," Norbury said.

"We're going, We'll keep you alive after a cardiac arrest, by connecting you to an ECMO machine on your front lawn, in your lounge room."

When Norbury first started in ambulance in the early 1990s, not all ALS paramedics had been qualified to defibrillate.

"Now we are out in the community going...grab one off the wall and stick those pads on someone's chest and just press that button mate," Norbury said.

"In 15 years' time, don't be surprised if you've got an ECMO machine that you're attaching to someone." ■

Above: The Computerised Tomography (CT) scanner inside the stroke ambulance.

Right: Ambulance Victoria CEO Tony Walker, centre, launching Melbourne's first specialised Mobile Stroke Unit in November 2017.

CHAPTER 8

ADVANCING THROUGH SELF CRITIQUE

The first MICA officers found themselves thrust into a hospital environment and exposed to the 'public' examination of their performance in a way they had never experienced previously as ambulance officers. The medical profession's practice of reviewing cases and patient outcomes to determine whether anything could have been done better, or differently, to get a better result would go on to shape ongoing clinical governance within the Victorian ambulance service.

MICA Paramedic (retired) John Blosfelds recalled experiencing unprecedented access at Royal Melbourne Hospital in the first year of MICA, including being trusted enough to attend sessions where doctors critiqued each other's work.

"The hospital was open. You could go anywhere at any time. Meetings where there were doctors criticising doctors,"[107] Blosfelds said. "I know one meeting where some doctor was criticised about something and another doctor said, You could have killed him!"

"But they knew what went on in that room, stayed in that room, you didn't talk about it and they trusted you."

When morphine – considered a dangerous drug of addiction – was first introduced on MICA, it was done on the proviso that every MICA case where morphine was used would be reviewed by a cardiologist.

"I got the research copies from each of the (MICA) units and once a week I would go to the Royal Melbourne Hospital and we would have a full session," Blosfelds said. "We would discuss…these cases."

Debriefing became something the MICA crews adopted on an informal but regular basis, according to MICA Paramedic (retired) Ian Donaldson, on MICA since 1972.

"Amongst ourselves we would debrief…with the crew that you were working with and other ambulance crews if they were working the same job," Donaldson said. "(We would say), Is there anything else that you think we could have done? Could we have done it this way, could we have done it that way? So, we would critique ourselves and just make sure we covered every sort of avenue."

For MICA Paramedic (retired) Ken Laycock, on MICA from 1977, having his cases publicly critiqued within the hospital system took some getting used to for him and his MICA colleagues.

"There was no messing around,"[108] Laycock said. "At the Royal Melbourne, we were required to…do the ward rounds with the doctor and the nurses in coronary care."

"That got blood pressure up because if any of the boys had taken or you (had taken) a patient in, they would

review the treatment that had been given on the road and if it was someone else, we were asked, Was it appropriate? Could we have done better? If it was your own, then ok, the girls, in fact anybody, could criticise you and that's one of the things I found quite hard."

"The doctors and the medical people are extremely critical of each other when they are discussing cases. In fact, they can be just about seen to, excuse the language, bastardise each other, and being so critical, but they don't take offence. It took us a while to not take offence at the doctors being extremely critical."

Above: Dr Graeme Sloman doing rounds of the Coronary Care Unit.

In addition to doing morning rounds with doctors during their training period, MICA officers were required to attend Royal Melbourne Hospital on Monday afternoons for critical review of MICA cases. This activity was undertaken in their own time, along with other unpaid activities like teaching CPR.

"If there were any issues, then again, no mercy was shown," Laycock said. "And I guess that's why we sort of tried to do the best we could, no problem. We were also required at that time as part of the requirement, to do the CPR, to go out to the public, and be assessed on CPR because that a bit of a new thing."

Laycock maintained the practice of case reviews when he was promoted to Station Officer at MICA 1, but he amended the practice for his team.

"I used to review all the case sheets the boys did and likewise, they'd review mine," Laycock said. "So it was an ongoing assessment, any issues, we would chat, whether it was my case sheet or theirs."

"The only difference between the doctors critiquing and the one that we did is that we didn't do a public critique because if you do a public critique in front of the men… (they) could take it a bit personal and the like. But no, it worked quite well and we did some quite good jobs, and I guess a few people are alive because of what we did," Laycock said.

MICA Paramedic (retired) Ian Patrick, on MICA since 1979, draws a clear line from these early MICA experiences of learning to review each case and the sophisticated clinical governance practices of today.

"When I was a Station Officer, I used to review every case," Patrick said. "I used to talk to every paramedic at the start or the end of their rotation to talk about the cases they had done before."

Above: Early MICA paramedics would debrief after cases.

In addition to these processes at the branch level, Ambulance Victoria now runs case reviews in a more centralised and robust manner as part of its clinical governance processes. This includes internal case review processes and contributing to the work of the State Trauma Committee which formerly advised the Minister for Health and Department of Health on matters relating to Victoria's trauma system, provides guidance on research and policy and provides analysis on cases that fall outside major trauma guidelines. Ambulance Victoria has a seat at the committee alongside the major hospitals, Royal College of Surgeons, Department of Health officials and the TAC.[109]

"(Ambulance Victoria) gets involved in grand rounds of the state trauma system and represented on the state trauma system," Patrick said. "I represented on the State Trauma Committee for 10 years and you've got just as much input as the surgeon from the Royal Melbourne." ■

CHAPTER 9

THE CHALLENGES OF MICA MERGERS

The mergers of Victoria's regional ambulance services which took place in stages during the 1980s, 1990s and 2000s, called for a merger in the separate MICA services which had been established as standalone units in their regions. The potential for disruption to service had to be carefully managed.

In 1987, Victoria's 16 ambulance services merged, creating six rural and one metropolitan service. At the time, the only two services with established MICA, the Peninsula Ambulance Service and Ambulance Service Melbourne, merged to become the Metropolitan Ambulance Service. The Peninsula Ambulance Service had one MICA unit based at Frankston Hospital and the Metropolitan Ambulance Service had five MICA units attached to Royal Melbourne Hospital, The Alfred Hospital, the Austin Hospital, Western General (Footscray) Hospital and Box Hill Hospital.

There was some concern about the potential for disruption if the merger of the two MICA services was not carefully managed. Prior to the merger, Assistant Superintendent John Blosfelds had run MICA for the Metropolitan Ambulance Service, while the Peninsula MICA had been managed by MICA Paramedic John Clancy. The year of the merger, MICA Paramedic Laurie Spelling was appointed Technical Coordinator for MICA at the Peninsula Ambulance Service, and the role quickly expanded to support the merger.

"All six MICA units were attached to separate station officers and duty officers so it was fragmented and the concern operationally was that they could all be doing different things,"[110] said Spelling, now retired.

Above: MICA Paramedic (retired) Laurie Spelling in the early days of MICA.

"It was certainly a period where there was a danger that things could go wrong, so that's why the

Right: The Dandenong MICA paramedics, approximately 1989.

operational side of it came to me fairly quickly, probably within weeks of taking on the Technical Coordinator role."

For Spelling, who went on to become one of three inaugural recipients of the Ambulance Services Medal in 2001, his time coordinating MICA represents a career high.

"In my 33 years, those years were a real highlight," Spelling said. "It was a very challenging position, but a good one."

During that period, they successfully persuaded government to add further MICA units by taking a model to then Health Minister David White.

"We presented him with a map which showed each of the MICA units and it had response time circles marked on it showing the areas where MICA could respond within four minutes," Spelling said. "What that map showed was that there were big gaps of coverage in the east and north of Melbourne. As a result of that presentation, we secured funding for a new MICA unit in Dandenong. From Frankston, MICA would respond right up to Dandenong, Noble Park, Clayton, which showed just how badly we needed a dedicated MICA unit for Dandenong. We also secured the promise of funding for Maroondah and Broadmeadows."[111]

The challenges of merging multiple separate MICA services are illustrated by the night of the Hoddle Street Shooting on 9 August 1987. In the space of 45 minutes on that fateful night, a 19-year-old recently-discharged Army Officer Cadet fired a total of 114 rounds from three weapons. Seven people were killed and a further 19 were injured. MICA Flight Paramedic Philip Hogan (retired), who went on to be Operations Manager of Air Ambulance, was on duty that night.

"We were at The Alfred, MICA 2 and we were on the south channel," Hogan said. "We'd spent a bit of time at the hospital and we'd gone to our rooms later on and we were just sitting watching TV or reading or whatever."

"It wasn't until later on that night and there's a guy I went to school with who was a copper and he was escorting a patient and he was really hyped up and I said, What's the story Pete? And he said, Oh, Hoddle Street shooting. And I said, What shooting?"

"They'd called MICA units from over the other side of town to come and assist with this, but even though we were on Hoddle Street, Punt Road, we never got the call to the job because that was the Peninsula channel."[112]

Above: MICA Team Manager Doug Quilliam, front left, with MICA 6 colleagues.

The rivalry between the Metropolitan and Peninsula services, and MICA,

was perhaps the biggest challenge to merging the two services.

"Often the MICA…in Frankston was referred to as the country, the other one," said MICA Team Manager Doug Quilliam, who worked for the Peninsula service at the time of the merger.

"And particularly, we have the view that the Peninsula Ambulance MICA unit was very well set up, well equipped, well trained. We always felt that it was probably always being done better by the Peninsula, so it was a challenge to amalgamate and come under the direction of the processes that were in place from Melbourne."

Prior to the merger, strong boundaries existed between the two ambulance services to determine which service attended which patients.

"The MICA ambulance at Frankston wouldn't travel past the Mordialloc Creek and likewise, our (Peninsula) boundary used to be Clayton Road," Quilliam said.

"There were often arguments about which side of Clayton Road the job was on, as to which ambulance got sent, so it wasn't a great deal of compatibility (between the services), albeit (the paramedics) always worked well together."

"(The merger) was certainly a very, very challenging time. There was a significant pride level of being part of Peninsula Ambulance. There was always a rivalry between Peninsula and Melbourne. So, it was not so much of amalgamation, it was very much a takeover."[113]

As well as the challenges, the merger of the Metropolitan and Peninsula ambulance services also created new opportunities for young MICA hopefuls such as John Schurink, who joined the then Peninsula Ambulance Service in 1981.

"What attracted me to MICA was that it was seen as the pinnacle of your career I suppose from a clinical perspective," Schurink said. "But…there was one MICA unit, so the chances of getting onto MICA on the Peninsula were extremely difficult and there was a long list of people ahead of you from time-in-job."

Above: A cartoon by Clinical Support Officer (retired) John Wheeler, depicting the merger of the Ambulance Service Melbourne (ASM) and Peninsula Ambulance Service (PAS). The cartoon ran in the PAS Post newsletter in 1987.

"Within 30 seconds of amalgamation, I applied for MICA and got in," Schurink said. "And my first round as a trainee MICA paramedic was at MICA 2 at The Alfred, which coming from Peninsula Ambulance Service to St Kilda, and around The Alfred, was quite an eye opener for me, I must say."[114]

In 1999, there was further integration of MICA when five of the six rural services merged to form Rural Ambulance Victoria. In 2008, Rural Ambulance Victoria merged with the Metropolitan Ambulance Service to create a single Victorian ambulance service – Ambulance Victoria – and as part of that, MICA was fully united for the first time, right across the state. ■

CHAPTER 10

MICA TAKES FLIGHT

Like the opposition faced by the wider MICA service, the concept of establishing a dedicated flight MICA capability, via helicopters and fixed wing, faced significant turbulence. At one point, those who pioneered the service risked their jobs to forge ahead with the concept and prove its value. Both the fixed wing and helicopter services overcame significant opposition on the path to improving emergency care for patients right across Victoria.

Fixed Wing Aircraft

There were two significant eras of fixed wing Air Ambulance prior to MICA paramedics coming aboard.

The first era began when the fixed wing Air Ambulance was established in Victoria in May 1962, run in conjunction with doctors. In its early years, it transported patients from remote parts of Victoria and southern New South Wales to Melbourne's major hospitals, including injured workers from the Snowy Mountain Scheme. Like the wider ambulance service at that time, the Air Ambulance operated as a transport service whose aim was to get patients – often trauma cases during construction of the hydroelectric and irrigation scheme – to hospital as quickly as possible. Without it, patients could wait up to 12 hours to receive definitive care. The Air Ambulance service only did a dozen or so jobs in its first year and 30 in its second, but was considered successful and was gradually built out to cover greater areas of Victoria.[115]

From almost its outset, Air Ambulance and training for ambulance officers were inextricably linked as Jock Berry was appointed the first Superintendent of Training for ambulance services in July 1963 and two years later he retained that position as well as taking on management of Air Ambulance. From 1967, the Assistant Training Officer, Tom Pammenter, also ran the Air Ambulance Service. Air Ambulance grew rapidly in the mid-1960s, carrying 547 patients in 1965-66 and almost double that number the following year.[116]

The next major era of Air Ambulance would put the emerging paramedic profession on a collision course with nurses over who should provide patient care during air transit. When Victoria introduced a policy of domiciliary care, where the aim was to meet the needs of patients close to home, it was mainly the cases requiring specialist obstetric and neonatal care which needed transport to hospitals in Melbourne. In this period pre-MICA, qualified nurses, known as 'Flight Sisters', worked in cramped spaces in small aircraft cabins to provide in-flight care to patients travelling from rural areas to hospitals in Melbourne. During this era, the ambulance personnel with basic first aid skills who had been serving on Air Ambulance were replaced by the flight sisters who were better trained for obstetrical and neonatal work. However, once MICA was introduced into helicopters, there came a push within the ambulance service for MICA to replace the nurses on board the fixed wing aircraft.

"It was front page of the Herald Sun…this dispute basically between the ambulance, Health Employees Federation Union and the Royal Australian Nursing Federation, so it was a pretty sizeable blue to make the front pages of the newspaper,"[117] said MICA Flight Paramedic (retired) Philip Hogan, former Operations

Manager for Air Ambulance. "The nurses were saying, We have to be there, and the paramedics or the MICA were saying, We need to be there, and that went back and forth for a long time."

Hogan recalls the pilots, who had operated alongside flight sisters for many years, were protective of their turf. He attended a case in rural Victoria one day because the doctor wanted a MICA officer to escort the patient.

"I remember going on the plane to do that job and the pilot gave me such a hard time about the weight and balance, and moving me away from the patient so all I had access to was the cardiac monitor," Hogan said.

"The flight nurse was doing the in-flight care, but she wasn't being particularly cooperative, so you were trying to do the things that had to be done but it was near impossible."

Ultimately, the issue was decided because it became clear the types of patients the nurses were introduced to manage – the neonatal intensive care cases – could be and were being managed by the then Newborn Emergency Transport Service (NETS) and the Perinatal Emergency Referral Service (PERS) operated by the Royal Women's Hospital, both established in the 1970s. In 2011, these two services merged with the Paediatric Emergency Transport Service (PETS) to become the Paediatric Infant Perinatal Emergency Retrieval (PIPER) service, all run by the Royal Children's Hospital. However, the flight sisters were not removed from the fixed wing Air Ambulance and continued to serve alongside MICA paramedics.

Above: Flight nurses attending to a patient.

"When I got given the job of fixed wing and rotary we looked at the jobs and said, Look, realistically the jobs now are not the neonatal intensive care type jobs because they're being done by NETS," Hogan said.

"These are cardiac and respiratory cases, and they need monitoring and advanced care, so that's how ambulance people ended up back on the fixed wing."

"The nurses were given appropriate training, as there was no training at all prior to this, and we matched the skillset to the patient needs. They stayed there until the last one retired."

Tragically, 11 people lost their lives in two separate air ambulance incidents in 1970 and 1986. This included two flight nurses along with their pilots and patients.

Above: MICA Flight Paramedic Paul Coghlan and the fixed wing Air Ambulance.

In 1990, nurses were succeeded on fixed wing ambulances by MICA. Today, Ambulance Victoria's fixed wing fleet is typically staffed by ALS paramedics, though MICA can be dispatched depending on the needs of the patient. In 2001, the Victorian Government approved the introduction of pressurised fixed wing aircraft to replace the previously non-pressurised aircraft. This provided a safer patient care environment, given atmospheric pressure changes can create clinical issues, and also improved speed, range and safety. Since then, Air Ambulance has operated four King Air B-200 fixed wing aircraft based at Essendon that can reach most parts of Victoria within an hour and also service parts of southern New South Wales, northern Tasmania and parts of South Australia. Fixed wing aircraft are

routinely used to perform inter-hospital transfers for regional Victorians who need to visit larger metropolitan hospitals to receive specific medical care, such as chemotherapy or radiotherapy in non-emergency cases.

Helicopters

Ambulance Victoria operates the longest-serving aeromedical helicopter services in Australia and one of the longest-serving in the world. The only helicopter ambulances to pre-date Victoria were in Switzerland, Germany and Maryland in the United States. The Victorian service traces its history back to the 'Angel of Mercy', a Bell 206A JetRanger which commenced operations in December 1970 for the then Peninsula Ambulance Service. In those pre-MICA days, the Angel of Mercy mirrored the ambulance service with its aim to pick up patients and get them to hospital as quickly as possible.

Separately in the Latrobe Valley, a helicopter came into service for the National Safety Council from 1980. Established to help save lives from electrocution and industrial accidents in the valley, the service started with a Hughes 500D and was upgraded to a Bell 412 in 1985. These helicopters were staffed with crews who were extremely well trained in search and rescue, but with no intensive care training.

"As the Safety Council built up, they got bigger and better helicopters and they got quite a sizeable machine, but…very few if any were intensive care trained at that stage so basically it was a form of transport, but not of advanced treatment," Hogan said.

The Victorian Government set up a review committee to look at helicopters. The committee and various sub-groups explored a number of options including upgrading the Angel of Mercy and putting in place another long-range helicopter based at Morwell, or moving the Angel of Mercy to Moorabbin and keeping a helicopter in the Latrobe Valley.

When it came time to develop a contract and tender documents, Victoria Police were part of the working group because they were already operating an Aerospatiale SA365C1 Dauphin 2 (VH-PVF). Around that time, the Traffic Accident Commission (TAC) was promoting the prospect of helicopters being used to bring patients into a specialist trauma centre. The first dedicated trauma centre was established at The Alfred Hospital and helicopters would become the main way to get trauma patients to them. Led by TAC and Victoria Police, an arrangement was struck in 1986 for a helicopter service operated jointly by ambulance and Victoria Police. The police ambulance helicopter would cover police operations 24 hours a day, but urgent ambulance cases would take priority. With TAC support, two new helicopters were purchased, with one to serve as a spare.

"They actually got two second-hand machines that were (Nicolae) Ceausescu's…the Romanian dictator," said Hogan, who served ambulance services in Victoria for 40 years, 36 of them in MICA. "The first two machines had been his personal VIP aircraft."

"The hospitals were keen to make it a hospital system, whereas in practice, ambulance said, Well we've been doing this for 16 years, we know what we're doing, trust us."

While Metropolitan Ambulance Service Chief Superintendent Jock Berry was a significant contributor to paramedic education, Hogan recalls Berry was not a big advocate for MICA and once the agreement with Victoria Police was established, he called for the helicopter to be staffed by five nurses.

"The TAC and the surgical people from The Alfred were astute enough to say, they're midwives, they're not going to do this trauma stuff well, so we need to make sure it's ambulance people," Hogan said.

According to Hogan, Berry resisted the formation of a helicopter service, along with Dennis Wilson, then Superintendent in charge of the Barwon South West Ambulance Service, who was also a strong advocate for paramedic education[118] but had misgivings about MICA services. At one stage, Berry argued there weren't enough MICA people to staff a helicopter service because sick leave was out of control, but the union tabled five years' worth of MICA sick leave data which was running at 10 per cent of the sick leave for the wider ambulance workforce. This meant there was no shortage of MICA officers for a helicopter service.

This left the man in charge of MICA, John Andrews, who took over from John Blosfelds, in a difficult position, but he was determined to proceed and called in support from Ian Patrick and Philip Hogan, both of whom had helicopter experience through working on Surf Life Saving helicopters in Victoria.

"(John Andrews) said, You're going out there (to Essendon) to help set this up and we said, Ok," Hogan said.

"So whenever we saw Dennis Wilson or anyone else from the ambulance service poking around, we had to hide."

Left: The Angel of Mercy commenced operations for the Pensinsula Ambulance Service in 1970.

"At one stage John pulled me into his office and said, Look, we're at a stage Jock Berry knows we've been out there. I said it's a bit hard to hide the whole time. (John Andrews) said, We're at an interesting point. We either lose momentum and we don't go out there or have anything to do with it, or we go ahead and make it happen, and there's a strong possibility you may not have a job."

"I said, Well I've got a feeling this thing will work and I'm going to ask to move into something else anyway. He said, Me too, let's go for it. And we basically put our jobs on the line to try and get the system up and running," Hogan said.

Patrick also recalls navigating the secrecy and politics surrounding the new helicopter service, which was established when he was Acting MICA Senior Station Officer.

"The police were really good at sort of facilitating the use of the helicopter, although that became political too in the end, like all those things, who controls it and what jobs is it put on," Patrick said.

"But Phil (Hogan) was sensational in that. He broke a lot of ice and pushed the boundaries. So, I just didn't tell people everything he was doing."

In 1986, the first MICA helicopter began operations under a partnership with Victoria Police that would last more than two decades. The helicopter initially used under the partnership, known by Victoria Police as Air 495 (VH-PVA) and by the ambulance service as Helicopter Emergency Medical Service (HEMS), was one of the two purchased from the Romanian Government. Depending on the availability of aircraft, Air Ambulance also used the Aerospatiale SA365C1 Dauphin 2 (VH-PVF) operated by Victoria Police since 1979 and the second former Romanian aircraft, VH-PVK.

In its second year of operations, Air 495 was hit by gunfire during the Hoddle Street Shooting. During a volley of gunfire at 10.05pm, the gunman fired three shots at Air 495, forcing it to land on Knott Reserve.

MICA paramedic Ken Laycock was promoted from District Officer, in charge of several stations, to Officer in Charge of Air Ambulance. For the first time, fixed wing and helicopters formed a single Air Ambulance service and Laycock sat across both from the headquarters at Essendon.

"We drew up protocols with the coppers in that they could use it for police jobs but if we

wanted it for an ambulance job, we could override them,"[119] Laycock said. "So they could be on a police task and if something came in then, ok, transfer to ambulance, tough luck."

"Working with the police, it was good but the high up politics at my level were a little hard because I guess (their senior officer and I) were both…officer(s) in charge."

"I felt a bit sorry for (the police) in one way, it was probably the first time ever that they were answerable, and not completely in charge, of an operation. You see at that time, there was only one 24-hour helicopter and that was a police ambulance helicopter."

Above: Air 495 with Victoria Police livery and the ambulance badge above the door.

"If you had a police job, then they'd pay for the helicopter up to when we got the job and then we'd take over, so that worked pretty well."

"I think the only time I overrode it and left it, there was some siege at a kindergarten in Camberwell…and the SOG (the Special Operations Group) were going to go in there and we got an ambulance job. And they said, Oh can we keep it, so I left it there (and) fair enough. So we worked pretty well with them."

The police ambulance helicopter was staffed by a pilot, an observer police officer who managed the radio and maps and a MICA paramedic. On a police job such as a car chase, the MICA paramedic would operate the night sun which shone down on the vehicle under pursuit.

"The boys thought that was pretty good," Laycock said.

"All the people associated with aircraft want to do is fly, so the coppers got more flight time. The flight time that they got wasn't normal because they would be sent anywhere and they could land anywhere, on a house block, on a highway, which was just about unheard-of… but to them, it was absolutely top-notch."

MICA Paramedic (retired) Ian Donaldson joined one of the early MICA flight crews on the shared police ambulance helicopter for a brief period before being promoted to an on-road role.

"We used it as an Air Ambulance and used it as a pursuit sort of aircraft for catching the baddies up in the air,"[120] Donaldson said.

"That was always good because you were going to some police jobs as well as some ambulance jobs in the early days, and it was…quite exciting actually."

Donaldson wasn't fond of working in the Dauphin helicopter.

"The Dauphin helicopter, the Aerospatiale, that was supposed to be the Rolls Royce of helicopters, but I didn't quite like it because it wasn't a good working platform," Donaldson said.

"If anything happened mid-air, you were stuck because there just wasn't enough room, but it was a good helicopter."

"The other helicopters…were far better to work with. They had a far better working platform and they weren't as sort of noisy and they didn't smell of avgas all the time where the Dauphin did and it was quite a sickly smell and it used to leak."

"Many a times in a rainstorm I'd have to haul the hard hat under the patient's head so they didn't get wet."

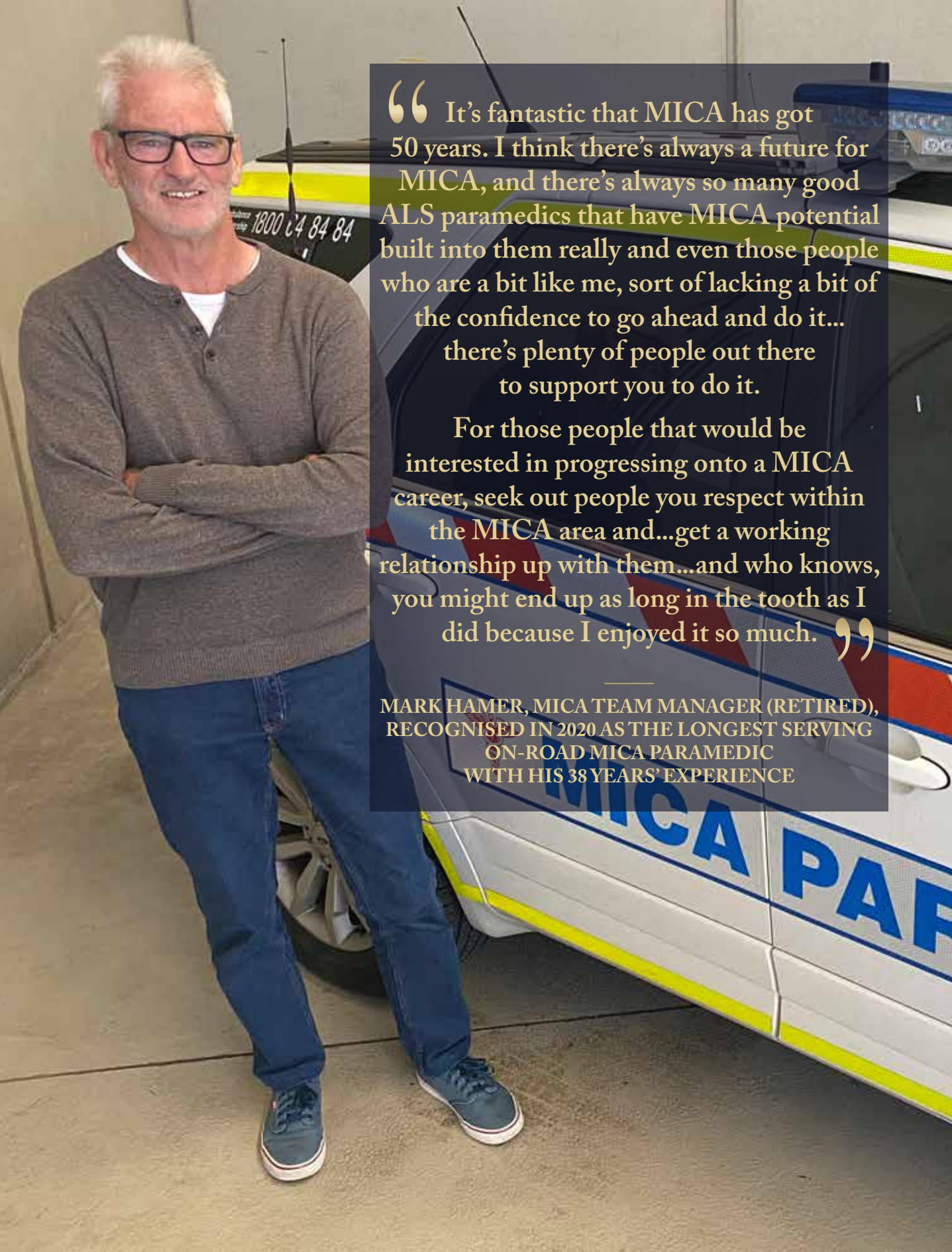
Despite being a shared police ambulance helicopter, Victoria Police fought hard to keep their livery on Air 495.

"If you see the early pictures of the ambulance helicopter, it is in police livery and on the cowling just above the door, they've got an ambulance badge," Laycock said.

"Even though we were paying big money, even though the TAC had provided it, the coppers were, I feel like saying pig-headed, but it's not right to say that about the coppers."

"I used to refer to it as the ambulance helicopter to their inspector, I mean, just to upset him."

Initially, Air Ambulance personnel weren't trained in winching and it was negotiated with police to provide



“It’s fantastic that MICA has got 50 years. I think there’s always a future for MICA, and there’s always so many good ALS paramedics that have MICA potential built into them really and even those people who are a bit like me, sort of lacking a bit of the confidence to go ahead and do it... there’s plenty of people out there to support you to do it.

For those people that would be interested in progressing onto a MICA career, seek out people you respect within the MICA area and...get a working relationship up with them...and who knows, you might end up as long in the tooth as I did because I enjoyed it so much.”

MARK HAMER, MICA TEAM MANAGER (RETIRED), RECOGNISED IN 2020 AS THE LONGEST SERVING ON-ROAD MICA PARAMEDIC WITH HIS 38 YEARS’ EXPERIENCE

the tuition. At first, they offered to train MICA paramedics in single strop winching, where the paramedic is winched by themselves, and not how to also carry a patient.

"We said, no, you can take a patient up and then go down and get the paramedic (but) what happens if the weather closes in and your coppers are left with the patient in the ambulance?" Laycock said.

Above: A MICA paramedic winching with a Paraguard (stretcher).

"I did the training as well, but the boys got trained in doing full winching, so when the patient came up…the Paraguard (stretcher) was in front of them…and if the patient was non-breathing or anything, they could breathe for him, they could do whatever they want," Laycock said.

Donaldson recalls doing winch training with Victoria Police behind Tullamarine and at Lerderderg Gorge, north of Bacchus Marsh.

"We were dropped into water there. The police did it on purpose," Donaldson said. "They called it tea-bagging, so we were dropped into the water to initiate us. They would put our boots into the water and bring us back up again."

Air Ambulance had an arrangement for a short time to practise winching onto a cargo ship on the route from Melbourne to Tasmania every Friday.

"We used to whip out and winch onto it to get them a bit of practice, but that only happened a few times because the Seaman's Union reckoned it was too dangerous and this, that and the other," Laycock said.

"There was nothing the fellows liked more than winching. If there was a winch came in at 10 minutes to the finishing time, (the next shift) used to arrive early and have a chat (and) they would just about fight, about who would do the job, because everybody wanted to go on a winch."

Air Ambulance's helicopter fleet was expanded by a Victorian Government decision to amalgamate the National Safety Council helicopter at Morwell, HeliMed 1, into the ambulance service alongside HEMS 1/Air 495, under the Helicopter Emergency Medical Service (HEMS). The HeliMed crew were highly trained in search and rescue, including expert winching skills, but required intensive care training. After training in the region, they redid the full MICA course in Melbourne.

"They all came to Melbourne and did the full course again," Laycock said. "You've got to admire them for that."

MICA Flight Paramedics Peter Davidson, who became well-known for his role in the rescue operation during the Sydney to Hobart Yacht Race, and Terry Hogue were among the first four HeliMed personnel who went to Melbourne for MICA training in the early 1990s. The other two personnel, from what was then known as the South Eastern Ambulance Service, were then Flight Paramedic Craig Chilton and then Clinical Manager Mal Boyle.[121]

"Originally we did our training here in the region with our ASMO, Ambulance Service Medical Officer, because the rural sector didn't have the money to send us to Melbourne to do the MICA course proper,"[122] said Davidson, who now works as an Intensive Care Paramedic for Queensland Ambulance Service.

"It was later on after that, once we'd qualified down here, we actually had the opportunity to go down to Melbourne and do the training, well, properly I suppose."

Hogue, who recently retired as one of the first Paramedic Community Support Coordinators, recalls they didn't know what was happening when MICA was first introduced to them.

"We actually had a meeting called by our superintendent at the time and all the flight paramedics there, and he says, We need to organise a group of you to go down to do MICA in Melbourne and we were given 10 days' notice," Hogue said. "All I knew was MICA as a name,

sort of what they did, but didn't know much and within 10 days I was down in Melbourne doing what was called Phase 1 of MICA."

They were the first group of rural personnel to be trained in MICA, ahead of the establishment of on-road MICA in Geelong in 1993.

"It was quite daunting," Hogue said. "It was just scary because we didn't know what we were getting into. Well we had an idea, but we knew how hard it was, the study, the exams and everything."

"And we wanted it to work too, so you got that pressure on you that it has to work."

"Our superintendent put the pressure on us saying, You guys are it, don't stuff this up. Come back with your qualifications because if it happens, (MICA) will probably roll out."

"MICA 1 and 3, where I worked at, were very supportive, helping me and preparing me to come back and work on my own, which wasn't really heard of much back in Latrobe Valley," Hogue said.

A few years later, the practice of MICA flight paramedics working alone on helicopters set a precedent which was used by then ambulance CEO Jack Firman to establish on-road single responder MICA units during the mid-1990s.

"MICA had always been two responders, but Air Ambulance broke that mould because they were operating solo," Hogan said. "That was because there wasn't room on the helicopter to put two paramedics and two winch operators and two pilots, so everyone had to settle on a compromise."

"Anyway, Jack (Firman) and his team saw the Air Ambulance paramedics working by themselves and said, That's easy, we'll double the number of MICA units by splitting up all the units we've currently got."

The merger of HeliMed into Air Ambulance resulted in changes which took time for staff and community

1977 The Ambulance Officers Training Centre shifts from the Mayfield Centre to Vale Street in East Melbourne.
1977 The Certificate of Applied Science (Ambulance Officer) via RMIT is accredited as the first course of its kind in Australia.

1977

1986 First MICA crewed helicopter (Air 495), begins from Essendon Airport.
September 1986 Fixed Wing Air Ambulance crashes shortly after take-off from Essendon Airport, killing six people.
1986 The Ambulance Historical Society of Victoria is formed.

1986

1987 First female paramedics start work.
1987 – The state's 16 ambulance services merge, creating six rural and one metro service, bringing about the merger of metropolitan and Peninsula MICA services.
9 August 1987 MICA respond to the Hoddle Street Shooting, where seven people were killed and 19 seriously injured.
December 1987 MICA respond to the Queen Street Massacre, which left nine dead – including the gunman – and five injured.

1987

1989 MICA respond after prisoners set fire to the Jika Jika high security wing at Pentridge Prison, killing five prisoners.
1989 New ambulance headquarters open in Doncaster.

1989

Right: The Helicopter Emergency Medical Service (HEMS) unit in the late 1990s.

Front row (left to right): Jim Sams, Matt Davidson, Shaun Ryan, Nigel Newby, Allan Cross, Keith Young.

Back row (left to right): Ken Laycock, Ian Clark, Michael Adams, Peter McCalman, Colin Carty, Brad Sanders, Anthony de Wit, Philip Hogan, Simon Ronalds.

members to accept. One of the first changes was the introduction of a Melbourne Ambulance Service radio into the aircraft.

"They had a country radio…which they operated when they're working in the country, but if it came into Melbourne, they couldn't talk to Melbourne," Laycock said. "Some of them they kept saying, But it's our helicopter."

"This wasn't the fellow on the machine because like any of the fellows on the machine, all they want to do is work. It was some of the auxiliary people and, It's our helicopter, and I said, No, it's not your helicopter. It's a state helicopter. I said, And if that helicopter departs Melbourne after dropping a patient off and it's airborne, and a job comes at Geelong, then that helicopter will be sent."

"So some of the locals had problems coming to terms with the fact that it wasn't just for their area. It was statewide and I used to tell them, Well what if your helicopters are out and you have a big accident. You would want the one from Melbourne to go down, wouldn't you? Oh oh, yeah."

"Anyway, I think it got through but there were a lot of issues attached with it. It was parochial," Laycock said.

During a period when Laycock had the Morwell helicopter under review, someone put graffiti on the HeliMed sign.

"Somebody spray-painted HeliMed out on the sign on a day that I went down there…and they'd written HEMS," Laycock said.

"I got accused of doing that and how come it happens just coincidental when you're down here, and they got a little bit emotional about it all."

Little did the team at Morwell know, the review was exploring the potential to expand the service to 24 hours, to match the Essendon operations, not to shut HeliMed down.

"They thought people were trying to get rid of the helicopter and we were having a review, trying to get all the figures we could to keep it, to support it," Laycock said. "In the meantime, I got invited to the big end of the year ball down there, as a guest. Anyway, the local mayor…he gets up on stage and there must be 300 or 400 people there, loyal as can be to HeliMed down there."

"He gets up, Yeah, I understand that we've got the manager of Air Ambulance Victoria here, where are you? Yeah, I am here. (He said), Don't you dare think you're going to take our helicopter away from us."

"And I can't tell them that we're preparing documentation and data to support the keeping of it."

"So I had to take this and the poor boys who were on the helicopter, they felt all embarrassed but anyway, it all worked out ok…we finally got the money to get them 24 hours."

Throughout the 1990s to 2010s, the Bell 412 at Morwell, previously known as HeliMed 1, operated as HEMS 2. The HEMS fleet expanded with a series of Bell 412EP helicopters, with HEMS 3 based at Bendigo airport from 2001, HEMS 4 at Warrnambool airport from 2009 along with a second helicopter, HEMS 5, and the original HEMS 1 at Essendon to provide good coverage across Victoria.

Like early MICA on road, the first 'MICA Flight Paramedics', as they became known, had to make do without purpose-built equipment and cobbling together whatever gear they could find.

"When we started winching, we would just scrounge the money, we just got a number of wetsuits, so the boys'd choose a size in the morning at the beginning of a shift," Laycock said. "Some other bloke might have been in it a few days earlier, wee in it…but that's life."

Over time, they secured funding for better equipment and Hogan played a key role in researching the helicopter fit-out right down to the flight paramedic uniforms. In time, each MICA flight paramedic was issued with a wetsuit, a couple of flight suits, their own helmet and a winch harness adjusted to their needs.

"So they had their own carry bag, which they had their wetsuits in, and the whole works compared to the early days when they were swapping suits, swapping helmets," Laycock said.

The selection process and training for Ambulance also progressed from something devised at Air Ambulance. Part of the early selection process in the 1980s involved swimming 15 metres underwater, swimming 200 metres fully clothed and floating for 10 minutes. They were also required to rappel down the seven-storey training tower at the Metropolitan Fire Brigade.

"They hadn't done any rappelling before, most of them, and what we wanted them to do was rappel and get to the bottom and speak in a coherent manner," Laycock said.

Finally, MICA paramedics undergoing the selection process had to complete a scenario.

"The scenario was, I must admit, it was a bit of a bastard scenario," Laycock said.

"One of them was…we took them out the scrub and we took a bloke with his backpack. Ok, you've just been winched in…go over the hill, somebody's had an accident. Last light will be 30 minutes, you've got to be back in in 30 minutes."

"So he gets over there and somebody's come off a trailbike and they've got IVs and everything. We had a (fake) arm that you put the IV in."

"Then they had to get the people there to help him carry him to the helicopter and one of them there threw an asthmatic attack on the way and you know, to sort of upset things. And we had one bloke (saying), If you don't get your act into gear, my mate's going to die, so get your act into gear."

Above: MICA Flight Paramedics Nigel Newby, left, Matt Davidson, Philip Hogan, Ken Laycock and Alan Cross

"And the reason they were put under so much pressure is that they can be lowered into somewhere, a number of casualties, no backup, none at all. So whereas in the city, you get back up, there, they got nothing. And they've got to be able to stand up and be counted."

Donaldson completed sophisticated training using helicopter crash simulators in Gippsland.

"We were…put into simulators and dropped into the water of a 30-foot tank upside down and you had three attempts to get out, once at the doors, once at the side and…the last one was blindfolded," Donaldson said.

"You were fully trained in underwater escaping, so that was good," Donaldson said.

The first MICA flight paramedic course was a two or three-day course Air Ambulance put together to teach new recruits the basics of aviation medicine. For example, if you take a patient in the aircraft too soon after surgery, the air in their body expands and could

blow the sutures. Later, the Ambulance Officers Training Centre (AOTC) took over the training and it became a three or four-week course.

"I was proud of the fellas," Laycock said. "The fellows were high achievers. They were in a new situation. For the situation to work, we all had to work together, group together, build together. I never used to tell them that, but they were the best. Now, they'd fought to get there for want of a better word. They'd risked everything, and they just wanted to use their expertise, to use what they'd learned."

Since 2016, Air Ambulance has operated a fleet of five Augusta Westland AW-139 twin engine helicopters. When the last of the five new Augusta Westland AW-139s entered service in January 2017, it replaced the Victoria Police Eurocopter AS365 Dauphin and ending the long-term partnership with police. Staffed by MICA flight paramedics, the helicopters are equipped for ultrasounds and complex procedures, and paramedics are trained to administer blood and perform winch rescues.

Ambulance Victoria's longest on-road MICA Paramedic (retired) Mark Hamer, who served on MICA for 38 years, also did a stint on Air Ambulance. He witnessed first-hand how far Air Ambulance progressed over the past four decades.

"Now we've got five helicopters scattered around the place and they're very nice big helicopters," Hamer said. "The ones I started on, were small and pretty cramped, and they had to take the air conditioning out because it was too much weight so you had little vents in the windows and not much space to work in."

"So the guys that started like Phil and Scotty (Alan Scott), that were out at the air wing before I started, they were real pioneers, especially when it came to the helicopter and aviation medicine. It was through those people and their experiences, being able to set up a system that we've got today which is fantastic."

Laycock said: "Air Ambulance matured, from being just a small group of four ambos to an elite – and you've got to be careful how you use that word – but to an elite group of people who were beyond question, the best in Australia and among, if not the best, in the world." ■

THE FIRST 10 YEARS OF MICA FLIGHT PARAMEDICS TRAINED

1986 Philip Hogan, Wayne Brooks, Stephen Ford, Bob Pratt, Jeff Allan, John Haines, Mark Hamer, Paul Holman.

1987 Terry Chessels, Richard Galleano, Roger Richards, David Sell, Alan Scott, Darryl Weate.

1989 Alan Close, Peter Collins, Rob Ferguson.

1992 Rob Birch, Shane Foster, David Llewellyn, Greg Sassella, Peter Simpson.

1993 Neil Burden, Alan Cross, John Dickson, Nigel Newby.

1994 Ian Clark, Matt Davidson, Mark Lamb, Dennis Morrissey, Jim Sams.

CHAPTER 11

RURAL 'REBELLION' BEFORE ROLLOUT

The expansion of MICA to rural Victoria did not officially take place until two decades after MICA was first established in metropolitan Melbourne and expanded across Greater Melbourne to the Mornington Peninsula. The first official on-road rural location was Geelong in 1993, but in the years prior to its establishment there were a couple of 'rebel' MICA operations underway in rural areas and a group of flight paramedics from Morwell underwent MICA training in Melbourne around 1991.

One early MICA pioneer, MICA Paramedic (deceased) Dave Appleton may well have been the first of a number of metropolitan MICA officers to transfer their skills to a regional area prior to MICA being officially established in rural Victoria. Appleton was the first station officer in charge of MICA 1 at the Royal Melbourne Hospital and in the late 1970s he transferred to Wangaratta, where he continued to operate with some limited MICA equipment.

In one of his early jobs, Appleton went to a collapse and upon arrival, started treating the patient. In a short time, he had some success. When he radioed for help, he explained he had an arrest and had got him back.

"This level of success wasn't common in most areas at the time, as the control room sent two police vans to help with the 'arrest'," said MICA Flight Paramedic (retired) Philip Hogan.

In the Grampians, the Ballarat Hospital worked with the local ambulance service to establish an advanced service which was similar to today's ALS, which did not then exist. Meanwhile in other parts of the state, MICA officers who did their training as part of the Metropolitan and Peninsula Ambulance Services, were promoted to rural posts and once there, they fought for approval to continue practising their MICA skills for the benefit of their local communities.

There were different approaches in different regions across the state because up to the late 1980s, ambulance services in Victoria were still made up of 16 separate services for the metropolitan area, Mornington Peninsula and rural areas. While these services were all under the auspices of the Health Department, they operated as separate services with their own priorities and approaches.

With local ambulance services in rural areas commonly operated by single ambulance officers, sometimes supported by local community volunteers, it was not considered to make economic sense to adopt MICA.[123] The higher level of clinical care being delivered gave rise to concerns ambulances would be tied

Right: A group of flight paramedics based in Morwell were the first rural paramedics to train for MICA in 1991. They operated on HeliMed 1, which became known as HEMS 2.

up for longer with each patient compared to the traditional pick-up and deliver model of ambulance services. MICA paramedics also required time off operational duties every six months to return to Melbourne for additional training to keep their MICA skills current. As a result, MICA services were seen as too demanding for small rural ambulance stations to sustain.

A 1982 review into ambulance training, which became known as the Moore Report, found despite 20 years passing since the first training began for ambulance officers, there was still a lack of whole-hearted support from some senior officers for what the Ambulance Officer's Training Centre (AOTC) did. As noted in a 1999 history of ambulance training, 'From Driver to Paramedic: A History of the Training of Ambulance Officers in Victoria:

> *"Their detailed criticisms took a variety of forms, but it is hard to escape the view that some Superintendents, particularly in the smaller Services, were antagonistic to the specialist training of ambulance officers."*[124]

While these comments relate to ambulance officer training more broadly, rather than MICA specifically, they reflect a prevailing view that ambulance employees and particularly rural employees, required little training before being put into operation. Numerous regional services expected students to function as fully competent ambulance officers, sent out to deal with emergencies, after just their first semester of training.[125]

However, in Ballarat, a quiet rebellion in ambulance services was underway. With the approval and guidance of Dr Mark Fitzgerald at the Ballarat Base Hospital, ambulance officers worked closely to take local doctors with them to patients and to undertake more complex clinical practices.

"It probably was seen as a rebel force," said MICA Paramedic Dave Garner, who worked in Ballarat and went on to be one of the first rural ambulance officers to qualify for MICA.

"At that stage, the Superintendents of the ambulance service in Ballarat were keen to see it progress and that was probably unusual for the Superintendents at that time. (For them) it was more a pick them up and carry them back to hospital, where the level of care at Ballarat seemed to be the driving force for a lot of decisions made."

"Mark (Fitzgerald) was certainly the spearhead. Without Mark none of this would have taken off."

Prof. Fitzgerald is a trauma specialist and is now Director of Trauma at The Alfred Hospital, which has a focus on major trauma, and Director of the National Trauma Research Institute. In

> I did MICA in 1988 and being part of MICA is one of the proudest things I've done in my working life.
>
> Be proud to be part of MICA, continue to be proud of MICA and I congratulate MICA on achieving 50 years, which is remarkable and I can only hope that they will go ahead in leaps and bounds from this day forward.

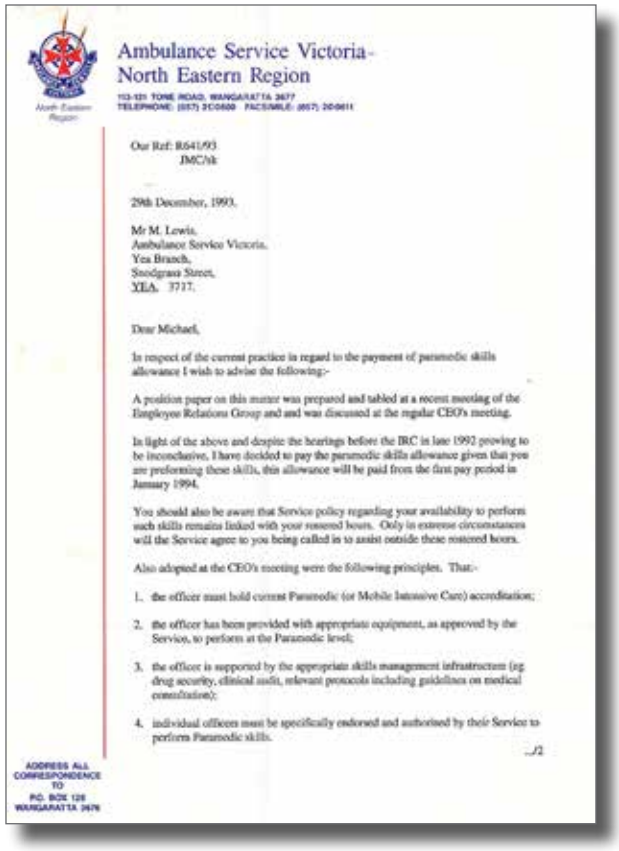
JOHN SCHURINK
MICA PARAMEDIC (RETIRED)

Left: Mick Lewis, left, and John Schurink.

Below: A letter Mick Lewis received confirming his MICA skills finally would be recognised in Yea.

> I did my MICA training in the mid-80s and at that time, there were only the five MICA units in Melbourne and the one in Peninsula and it was a very small world.
>
> Being part of the change over the next 10 or 15 years I never expected to see the MICA we have today. It makes me very proud to have been part of it and for those of you on MICA now and in the future, just be sure that you're part of something very meaningful and something worthwhile and something that's world leading.

MICK LEWIS
MICA PARAMEDIC (RETIRED)



Ambulance Service Victoria
North Eastern Region

113-121 TONE ROAD, WANGARATTA 3677
TELEPHONE: (057) 2C0600 FACSIMILE: (057) 2C0611

Our Ref: R641/93
JMC/vk

29th December, 1993.

Mr M. Lewis,
Ambulance Service Victoria,
Yea Branch,
Snodgrass Street,
YEA. 3717.

Dear Michael,

In respect of the current practice in regard to the payment of paramedic skills allowance I wish to advise the following:-

A position paper on this matter was prepared and tabled at a recent meeting of the Employee Relations Group and and was discussed at the regular CEO's meeting.

In light of the above and despite the hearings before the IRC in late 1992 proving to be inconclusive, I have decided to pay the paramedic skills allowance given that you are performing these skills, this allowance will be paid from the first pay period in January 1994.

You should also be aware that Service policy regarding your availability to perform such skills remains linked with your rostered hours. Only in extreme circumstances will the Service agree to you being called in to assist outside these rostered hours.

Also adopted at the CEO's meeting were the following principles. That:-

1. the officer must hold current Paramedic (or Mobile Intensive Care) accreditation;
2. the officer has been provided with appropriate equipment, as approved by the Service, to perform at the Paramedic level;
3. the officer is supported by the appropriate skills management infrastructure (eg drug security, clinical audit, relevant protocols including guidelines on medical consultation);
4. individual officers must be specifically endorsed and authorised by their Service to perform Paramedic skills.

../2

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“What constantly amazes me is the increasing intricacy in the delivery of clinical care and the extent of the protocols and guidelines that we now run under. That level of care at the roadside, in the house, pre-hospital, is just amazing and will continue to be amazing. I don’t think there’s anywhere in the world that does it better than Victoria. So that’s (what makes me) really proud.”

DAVE GARNER, MANAGER OF FIRST RESPONDER COMMUNITY PROGRAMS AND ONE OF THE FIRST RURAL MICA PARAMEDICS

“It’s an incredibly proud achievement for Ambulance Victoria to celebrate 50 years of MICA. That encompasses a lot of people who have done a significant amount, not only for the people of Victoria but also for their colleagues. I’m really proud that in some small way, I’ve contributed to that along the way and I think each and every person who has been part of that has, in their own way, been responsible for the significant growth of MICA in Victoria and I hope it continues.”

CHRIS JAMES, REGIONAL DIRECTOR GRAMPIANS AND ONE OF THE FIRST RURAL MICA PARAMEDICS

the 1980s as the Director of the Emergency Department at Ballarat, Prof. Fitzgerald helped push the boundaries of ambulance care. According to him, it was a time when rural people expected to have the majority of their medical needs met at their local hospital. Ballarat's access to the single metropolitan helicopter shared by police and ambulance was limited and patients who needed to go to Melbourne for specialist care were taken by ambulance. Together, these factors drove a need for greater clinical care on ambulances at a time when MICA was not officially operating in rural areas.[126]

"It sort of wasn't 'rebel'," Prof. Fitzgerald said. "If there's a vacuum, something's got to fill it."

"There was a very close relationship between the paramedics and the doctors, and everyone worked well together…so that's what happened."

In addition to the strong support of regional Superintendent Alan Dalby, there were three ambulance officers who played a critical role in building out the Ballarat service. One was a MICA-trained paramedic from Melbourne, Geoff Eichler, who relocated when his police officer wife was posted to the Ballarat area.

"So he had these paramedic skills and he was a pretty robust individual, Geoff, pretty driven and enthusiastic, loved being a MICA officer," Prof. Fitzgerald said. "So we…got this, you know it was almost like a Papal dispensation, that he could use his paramedic skills."

"At the same time there were two, very smart young guys, Tony Hucker and Jim Burzacott and they wanted to train as paramedics and they couldn't do it (in Victoria). It was quite difficult, it was sort of city versus country to a certain extent geographically, but also if you had family it was a big ask to go down to Melbourne."

Instead, Hucker and Burzacott went to Tasmania, where an ALS-style program was also emerging, and returned to Ballarat fully trained. Both went on to qualify as MICA Paramedics in 1993.

"Technically, all three of them were excellent, like really excellent and made an immediate impact, not just locally but they would go to regional hospitals, they'd pick people up," Prof. Fitzgerald said.

"So we set up what was known as the Advanced Life Support program down there and I think I got appointed as the Ambulance Services Medical Officer for the Western Region it was then called, in about 1985."

Garner, who is now Manager of First Responders and Community Programs with Ambulance Victoria, recalls Ballarat using modelling that seemed ahead of its time to determine the treatment regime for each individual patient.

"Ballarat was mapped with circles of radius from the hospital and your treatment regime would be different depending on how far away from the hospital you were," Garner said. "If you were in close proximity it was basically just pick them up, drive them straight to the hospital and get them in the doors."

Above: Paramedic Tony Hucker helped pioneer an ALS-style program in Ballarat and later qualified as a MICA Paramedic.

They were also conducting clinical trials, including exploring the best use of defibrillation and how early defibrillation should occur.

"We would basically turn up to someone in cardiac arrest, put the defibrillator on and defibrillate straight away, without looking at anything else," Garner said. "Then we started to look at intubation, so airway management, and combined, those two areas seemed to be (what) made a difference."

"So I don't think that principle's really changed too much, but it was really pleasing to see the differences between the old clinical management of the patient in cardiac arrest, to what was emerging now as a far more contemporary style of approach clinically."

Some of the procedures being undertaken by ALS in Ballarat weren't being practised by MICA in Melbourne, but were deemed relevant because of the regional location.

"They were things like…femoral nerve block for a fractured femur," Garner said. "We had other items we used for fluid loading as well, for trauma care."

"So there were some elements that were brought in for Ballarat that were challenging about what the difference might be between a regional system and a metropolitan system of care."

The Ballarat team backed their clinical practice by collecting data on the effects it was having for patients.

"We actually collected some good data on… the intubation success rates, the survivors of pre-hospital cardiac, but particularly the trauma patients, so it was immediately apparent to the hospital staff that it was a good thing," Prof. Fitzgerald said. "The second thing was, the paramedics liked it because it gave them all a boost…and they got new skills, and they could see the impact on the patients, so it was a bit of a no-brainer really."

Prof. Fitzgerald was presented with an Ambulance Service Medal in 2003 in recognition of his contribution to the development of the ALS program and rural MICA.

Meanwhile in the north east of Victoria, two Melbourne MICA officers were appointed to rural roles. Mick Lewis did the MICA course in 1985 and after working on mainly MICA 2 and MICA 5, he was promoted to Station Officer in Yea in 1990 as part of the Goulburn Valley and District Ambulance Service. In 1992, John Schurink became Station Officer at Wodonga, within the North East District Ambulance Service.

"So Friday the week before I was on MICA (in the city) doing 14 jobs a shift, and on Monday I was at Yea doing 14 jobs a month so that was certainly a change," Lewis said.[127]

While their rural postings came two decades after MICA was pioneered in metropolitan Melbourne, the pair came up against some of the same opposition the service had faced when it was pioneered.

"Remembering that at that time the only place that MICA was operating was in the city, with the five units, then the sixth one with the Peninsula at Frankston,"[128] Schurink said. "Once you passed the tram tracks, MICA did not exist."

Schurink had an interesting exchange about MICA when he was introduced to his regional superintendent.

"I got promoted to the Station Officer at Wodonga branch and of course, our uniform was such then that we had our MICA qualification on our uniform," Schurink said. "He basically looked at my shirt, and stuck his finger at it and said, You won't be doing any of that shit up here. So, challenge accepted."

"From that time, and Mick Lewis was at Yea… we thought that that's wrong…. both morally and ethically,

1990 MICA commences on fixed wing after nurses finish at Air Ambulance.
1990 UHF radio introduced.

1990

1992 Computer Information System in metro region streamlines dispatch of ambulances.

1992

1993 Separation of emergency and non-emergency services in metro area.
1993 First two rural paramedics qualify as MICA and commence operations in Geelong.
1993 Clinical Support Officer role introduced.

1993

1994 MICA workforce sharply increases from 75 to 126 paramedics.

1994

because we had the training and skills, if you attended a patient and didn't apply those skills, that's just absolutely wrong."

Though lacking backing from his organisation, Schurink approached the local Rotary Club and hospital for support.

"(The Rotary Club) funded a brand new Lifepack 10 monitor, a drug box," Schurink said. "I went to the hospital, they supplied all the drugs as per the existing MICA protocols. I spoke to the local medical director, who was incredibly supportive and MICA started at Wodonga."

However, the MICA service being delivered by Lewis and Schurink was unofficial and unsanctioned. When the pair presented themselves in Melbourne for the six-month refresher course required to maintain their MICA qualification, they were met with surprise.

"We walked in the door and I remember it…they said, What the hell are you two doing here?" Lewis said.

Official recognition for the pair, as practising rural MICA, came only after the Goulburn and North East services merged and the new CEO, Joe Caruso, and one of the Assistant Superintendents, Les Lambert, gave their support.

"So what happened ultimately, was they took it to the board, and said, Look we've got these two cowboys out there, sort of with this knowledge and skills, and it seems to be going quite well. Doctors like it, people like it," Lewis said.

On 29 December 1993, Lewis and Schurink received letters from North Eastern Region CEO Joe Caruso, confirming they would receive an allowance payable only to MICA officers. In the letter, Caruso states:

> *"I have decided to pay the paramedic skills allowance given that you are preforming (sic) these skills, this allowance will be paid from the first pay period in January 1994…"*
>
> *"In addition to the above it should not be assumed that there would be an automatic entitlements (sic) to the allowance if your present employment location or position was changed for any reason."*[129]

"So the first pay of 1994 was when John and I were officially recognised by the system, if you like, as being once again, MICA paramedics," Lewis said.

Above (top): Chris James, left, and Dave Garner become the first rural on-road paramedics to train as MICA paramedics.

Above: 28 years later, Chris James is the Regional Director Grampians

Right: MICA graduates in 1993 including two ALS pioneers from Ballarat.

Back row (left to right): Mal Boyle, Justin Nunan, Dennis Morrissey, Michael Donnard, Rob Blaikie, Peter Collins, Jim Burzacott, Beata Csupor, Terry Hogue, Dr Frank Archer, Gary Robertson, Tony Walker, Tony Hucker, Ken Hamilton.

Front row (left to right): Terry Marshall, Ian Clark, Matthew Davidson, Craig Chilton, Michael Fuery.

Around the same era, Ian Patrick – and possibly other MICA paramedics moving into rural areas – was facing similar challenges in taking his MICA skills with him when he transferred to Gippsland in 1987.

"When I went to Gippsland, I was probably one of the longer-serving MICA people in Melbourne," said Patrick, who qualified on MICA in 1979[130]. "Originally, I went up there and Frank (Archer) said I couldn't practise MICA up there, as it wasn't to be practised in the country."

Ultimately, Patrick got permission to operate from the Medical Director at the Latrobe Hospital in Traralgon, Robin Widowson, who was an obstetrician.

"To be really honest, he was a bit frightened by it because that's not what he was doing up there," Patrick said.

"I think the crunch was that he approved me to carry the drug box, and then we went to a cardiac arrest in Traralgon and he came along, and after that, he was fantastic, so he realised that actually, we weren't too bad at all. He went in to bat for me, and he basically licensed my practice the same as Mark Fitzgerald did in Ballarat, for a couple of paramedics up there," Patrick said.

These local battles for recognition preceded moves to expand MICA to the regions which resulted in Barwon South West ambulance service becoming the first rural service to officially adopt the MICA system.

While Geelong had long been a leader in ambulance training, hosting the first training course in 1961, Barwon South West had for some years resisted moves to introduce MICA in Geelong. However, funding was secured to expand the paramedic program across the regions in the early 1990s with an objective to establish a core of MICA paramedics in every non-metropolitan region to serve as clinical instructors and support for the development of ALS in the regions. This also resulted in significant increases in the number of MICA paramedics being trained in the 1990s.[131] In 1993, the Barwon South West ambulance service enrolled two of their ambulance officers into the MICA program. Those two, Chris James and Dave Garner, became the first two rural ambulance officers to qualify as MICA officers to deliver an official rural MICA service.

For a period prior to MICA being established in Geelong, the regional service operated the 'Ambulance Green System' with Geelong Hospital where the ambulance would take a doctor out to cardiac arrest cases and other acutely unwell or injured patients.

"So for example if we attended a patient who was acutely unwell, we had a duty manager who… would respond to the emergency department at Geelong Hospital…and respond with an emergency department physician too,"[132] James said. "That could have been something as simple as a heroin overdose for example. We needed backup, a physician to come out and administer Narcan to reverse that heroin overdose."

The delay in reaching the scene, due to the need to pick up a doctor, meant the cardiac survival rate was poor, but James said the system strengthened collaboration between ambulance services and the emergency department in Geelong which provided a strong foundation for MICA's subsequent introduction.

"Given the embryonic nature of MICA rolling out into

rural areas it was imperative that we had a close, positive, collaborative relationship with the Geelong emergency department because fundamentally, we were inexperienced in ourselves…so we didn't always get it right," James said. "It was imperative it was a really positive, strong, open and honest learning relationship and I for one am really indebted to some of the doctors there. David Eddey, Michael Ragg, John Pascoe, Paul Bailey, fantastic fellows who helped us inordinately."

As the first two rural MICA paramedics to qualify, James and Garner were put in an unusual position. They were sent to Melbourne to do the MICA course and because there were no other rural MICA paramedics ahead of them, they had to do their on-road training in Melbourne – which then operated as a totally separate ambulance service. James did his on-road training at MICA 5.

"And then when we returned to Geelong, after we sat our panel, we became a CI from day one, which was not the way things usually went," James said. "Usually you consolidated for two years before you could become a CI, so our reliance on the emergency department was enormous for that help and guidance, and support."

Quickly after the Geelong MICA was established, more officers were put through the training and as a result, numerous metropolitan MICA officers had to be employed as Clinical Instructors to help new MICA students get the supervised on-the-job training they needed. These CIs included Tony Walker, who went on to become CEO of Ambulance Victoria, Michael Cameron, Terry Marshall, Darren Hodge and Dennis Morrissey.

"(These were) incredible MICA paramedics in their own right who came down," James said.

"So not only the help and tuition and support they gave the students they worked with, but the help they gave Dave and I, was also enormous because essentially, they were experienced, qualified MICA paramedics. For Dave and I, who were still in effect kicking off our careers, and CI'ing at the same time, to have that support and know it was there, was enormous."

Workload was another challenge. "The workload in Geelong was phenomenal when we first started to tap into it,"[133] Garner said.

"It was a large area, it was very complex, there was trauma, there was a whole load of medical issues, multicultural."

"We weren't doing a lot of flying in those days, it was difficult to get support from helicopters."

"Everything came into the one hospital, Geelong Public Hospital at that time, so it was a busy, busy time."

"We had good support though. We had a number of doctors and anaesthetists who were helping us to bed down a system," Garner said.

MICA later expanded to Hamilton and Warrnambool as part of the Barwon service, with students coming to Geelong as part of their training. Over time, other rural ambulance services started putting people through the MICA program. By the time all Victorian ambulance services merged in 2008 to create Ambulance Victoria, most regions had a MICA service.

MICA Paramedic (retired) David Calder, on MICA since 1976, gained new respect for his rural colleagues while working at Orbost for two years in the late 1990s after more than 20 years on MICA in metropolitan Melbourne, and later at Warragul.

"You were a lot more isolated in the country with the distances involved, the terrain involved, the radio difficulties because of the terrain,"[134] Calder said. "It's a whole different set of skills I think."

"I can remember taking 10 hours to do a job because of having to go out into the country, which was very challenging and very rewarding."

"I find the rural paramedic has to be more self-reliant. They haven't got the back up. We're very lucky to get an extra car coming out."

"We've now got the single responder units now, but even they're only based in Morwell, places like that…so it can be 20 or 40 minutes before we've got another car to back us up in some instances, so you've got to be a lot more conscious of that."

"You've got to be a lot more conscious of what the hospitals are available to do too, because if our patients need to go to a city hospital we've got to be aware of what they've got to do with the helicopter to back us up, that sort of thing."

"In the city they have a lot more intensive treatment within the hospital system and backup within the hospital system than what we have in the country, so we have to look for the appropriate hospitals and we can be a lot bigger distance away from those hospitals," Calder said. ■

CHAPTER 12

TWO DECADES IN, WOMEN JOIN MICA

Like the wider ambulance service to which it belonged, MICA was dominated by men for the first period of its existence. The MICA workforce was widely known as the 'men of MICA' by ambulance and hospital personnel, and in media reports during the unit's first two decades as a male-only service. Once women were permitted into the wider service, they soon joined MICA.

A feature article splashed across a full page in The Herald on 21 April 1983 included a large banner headline: 'The Men from MICA.'[135]

"It is already getting dark on a cold Friday at 5 p.m. The two men on MICA One arrive at the Victorian Ambulance Service headquarters in Latrobe St. to start their shift. Phil Hogan and Peter Neylon are on call for the next 14 hours, a prospect less daunting for them than for one very nervous journalist who will tag along. Peter Neylon has already settled in front of the television watching a video of 'Mad Max'. Their new ambulance is still out with the day shift crew, giving the two men some time for themselves."

Historic television news footage from the earliest era of MICA also reflects the exclusive male make-up of the service in those days.

"With a common-sense approach and a recognition of the skills and expertise of these men, the Mobile Intensive Care Ambulance could develop into one of the greatest single life-saving devices ever introduced to Australia."[136]

"But the MICA unit is only a machine. What makes it work is the paramedic, the man who operates the unit. No mere first aiders, these men have gone through a rigorous training course in the cardiology departments of the Royal Melbourne and Alfred Hospitals. They're fully qualified to carry out pre-hospital coronary care and this is where the MICA unit has proved most valuable."[137]

For the better part of the first two decades of MICA, women were not permitted to join the ambulance service, let alone serve within the ranks of MICA. That all changed in 1987, when laws related to the weight women were permitted to lift in the workplace were changed. As a result, two pioneering women – Andrea Wyatt and Pat Richards – became the first women to be employed as paramedics (then still known as ambulance officers) in Victoria.

Left: Andrea Wyatt was one of the first two women to join ambulance in Victoria in 1987 and within a few years, she became the first female MICA paramedic.

In the lead-up to the employment of women, MICA Flight Paramedic (retired) Philip Hogan recalled being shadowed for a week by an ergonomist.

"(He) was studying all we were doing on MICA in terms of lifting and moving and everything ambulance, and his job was to assess the job as to its suitability for women," Hogan said. "It was fascinating, he gave us a lot of information about how the different genders lift and what sort of things would be allowed."

"At the end of the week, I said to him, So what's the story, do women get a run or not? And he said, Ahhh no. And we were a bit taken aback at that and he said, Looking at the job objectively, men shouldn't be doing it either. Oh, fair enough."

"The women who started in the job were not just good, they were better than many of their male counterparts, without question," Hogan said.[138]


HERALD Features

The men from MICA

Above: A feature article on MICA from The Herald on 21 April 1983.

Within a few years, Wyatt became the first female to be qualified for MICA around 1992.

Looking back at that transition three decades later, Wyatt said: "The thing that attracted me to MICA was the increased level of clinical intervention you could undertake, so you underwent further training and with that further training was increased responsibility in terms of patient management."[139]

"I'd come from a medical background, so the ability to be able to do more for the patient was something that really appealed to me," Wyatt said.

As a female pioneer at both the Advanced Life Support (ALS) and MICA levels, Wyatt is used to questions about what she has experienced as a woman in ambulance.

"My responses are usually pretty disappointing because it wasn't, I don't think, any different from anyone else," Wyatt said. "And I didn't want it to be different from anyone else. I was just another MICA paramedic and you know, people made something of the fact that I was the first female but to me… I didn't see that as either a hindrance or a help, it was just who I was and what I was."

Above: Andrea Wyatt speaking at the 30th anniversary of women joining the ambulance service in Victoria.

However, others acknowledge the first women to enter the ambulance service – and later MICA – faced tough challenges.

"The ambulance service was almost a paramilitary organisation,"[140] said Doug Quilliam, who started on the Peninsula Ambulance Service in 1976 and qualified for MICA in 1984. "It was very structured to rank, and the officers, the controllers would have their own area and you wouldn't be invited in there."

"It was just a male-dominated environment and it had worked that way for decades, so it was extremely challenging for the first female paramedics that came on board."

"They certainly had to put up with a lot that was probably more than unreasonable, but they did have to work that way, but they clearly demonstrated a strong resilience, they were very, very good at their work. They had to be. They had to be, in some cases, better than the blokes they were working with to endure what they were challenged with."

Many early women in ambulance had a nursing background, so they brought a skill set that was still not prevalent outside MICA in the ambulance service of the 1980s.

"They brought a lot of both skill and strong professional attributes with them into the job and had a lasting impact with that," Quilliam said.

Other female paramedics quickly followed Wyatt into MICA, just as they had followed in her footsteps into the wider ambulance service.

"There are still not as many (women) as we see in the ALS ranks," Wyatt said. "I think we're over 50 per cent female in our ALS paramedics now and we still fall well short of that in MICA unfortunately, but we're getting there slowly."

At 30 June 2021, women made up 20 per cent of MICA paramedics, compared to more than 52 per cent for qualified Advanced Life Support paramedics and graduate ambulance paramedics.

Clinical Support Officer Glenice Winter, who became a paramedic in 1992, was the 15th woman to join the ambulance service, following female pioneers such as Andrea Wyatt and Georgie Hall.

"I very rarely encountered behaviour from my male colleagues that made me feel intimidated or isolated," Winter said.

"I never felt that my band of women (my group made up 20 women in the service by this date) were breaking any glass ceilings. I felt I was offered every opportunity I wanted and have never felt any gender divides in my early years in a very male-dominated profession."[141]

Winter and fellow MICA Paramedic Michelle Murphy, ASM, both did their MICA panel on September 11, 2001, and both describe having the backdrop of those devastating terrorist attacks as something that put their panel examination – usually the most daunting milestone for MICA trainees – into real perspective.

"When I started in the job, when I started on MICA it was rare to work with another girl. Two females on a MICA truck was unusual,"[142] Murphy said. "But nowadays it's not so unusual at all, we've got a lot more females coming into the job, which is more than appropriate. I think it provides a nice balance."

MICA Paramedic Christine Kolac qualified for MICA in 2011, a few years after she joined Ambulance Victoria, following a nursing career at Latrobe Regional Hospital and the Royal Australian Air Force, then four years in ambulance in South Australia.

"The saying 'ignorance is bliss', that summed up early MICA, it really did. You know if we'd known all the stuff that we know now, you'd probably be pretty scared to set up something like that. There was a lot to lose for our early supporters. And you don't have to go back that much further than that, in relative terms, go back 20 years prior to that, and ambulance people had been sacked for providing oxygen without a doctor's order. Now you wouldn't even think about it, but then it was a big deal."

PHILIP HOGAN, MICA FLIGHT PARAMEDIC (RETIRED), FORMER OPERATIONS MANAGER, AIR AMBULANCE, ON MICA FROM 1978

"MICA is an amazing job and opportunity, and once you get through it, the course, and the training aspects, you'll never look back.

If you can...get that mental tenacity moving forward to get yourself through the course, you'll never regret it. Certainly I'm glad I did it and I couldn't imagine myself doing anything else."

CHRISTINE KOLAC, MICA PARAMEDIC FROM 2010

"When I started on MICA, there were only about 15 per cent girls,"[143] Kolac said. "There was only a few hundred people on MICA at that point, so it was only small numbers, and very few girls."

Above: Michelle Murphy, now Operations Manager Adult Retrieval Victoria qualified as a MICA Paramedic in 2001.

"So I guess I felt a bit more pressure on my shoulders to be up to the standard and to perform, but certainly I think my previous…working career had put me in a good stead for that," Kolac said.

Kolac has no regrets about qualifying for MICA first, then having children later.

"I stepped into MICA at that stage where people often go for having kids when they're late 20s or 30s," Kolac said. "For me, I kind of held off having children and did my MICA and did my single responding and then had kids. Essentially, I was an older mum of 36 when I had my first, so I guess it's a bit of a sacrifice there for a lot of people."

"I don't know if I would have done MICA had I waited. Trying to juggle…young children and studying, I think would have been a nightmare but you do what you do and you choose what's best for you and your home life. But for me, I don't know whether I would have been that motivated after I had kids."

That accords with advice to future female paramedics from MICA Paramedic Jo Burbidge, who became a Paramedic in 1998 and went on to serve as a MICA Paramedic in Richmond: "If you want to have children and do MICA, you can do it. I would suggest doing MICA first though. Also, look after your 'sisters', we are all in this together."[144]

Returning to work after parental leave on a Flexible Work Agreement can be challenging on MICA because of the limited options for part-time shifts in some areas. That was Kolac's experience after she moved from Melbourne to Gippsland, where she went on to be a Clinical Support Officer.

"Pretty much all my shifts were ALS and I was like, I can't do this, I'm not going to keep my skills," Kolac said. "So that's when I went back full time and I can only do that because I had family living locally that could support that."

Above: The Paramedics TV series on Channel 9 highlighted patient care by MICA and ALS paramedics.

"It is a juggle being full time and my husband's full time, but with the 10-14 roster it actually works pretty good for my family. So you kind of make it work really, but thankfully you've got the support network to assist with that."

Part-time work can also be isolating, for women or men, and it's exacerbated on MICA because to get shifts they are more likely to be rotated around different branches. After being part of a strong team at MICA 11, Glenice Winter found it particularly challenging to be part time after the birth of her two children, particularly after a traumatic job left her with PTSD.

"When I look back on it, part time was my worst enemy because I didn't have the tribe or a home,"[145] Winter said. "I should have been back at a branch and having connections and feeling safe and talking."

Winter appeared on *Paramedics*, a Channel 9 television series about the work of Ambulance Victoria that premiered in 2018, because her kids were so excited to have their mum on the show.

"I'm very proud of being MICA. I'm proud of being a CSO. I'm proud that my children think that mum's in a cool job," Winter said.

"My daughter wants to be a paramedic and I say to her, I actually don't want you to be, because I mean, the lows come at a cost."

"And she says, Yeah mum, but I will know when to recognise them because, you know. I said, Oh, yeah."

A group of female MICA paramedics and student paramedics spanning three decades shared their experiences as part of the 30th anniversary of women in ambulance in 2017.

MICA Paramedic Educator Bronwyn Lambert, who became a Paramedic in 2007 and became a MICA Paramedic Educator in Mildura, said she had been given opportunities before and after having children and she felt pleased that her peers recognised her ability to perform these roles according to her ongoing performance at work.

"When I applied for MICA, I had two young children at home," Lambert said. "I was questioned about my suitability for the role and if I truly thought I could leave my children for a period of time in order to complete the MICA program."

"The day I walked out of Brady Street after passing my MICA panel would have to be the most memorable experience. Becoming MICA was my goal from day one and I had made it. I couldn't wait to share my news and I remember one of my MICA Clinical Instructors telling me that he was 'so proud' of me. I was beaming and so proud of myself too."[146]

MICA Paramedic Rhiannon Platt, who became a Paramedic in 2011 and was a MICA Student Paramedic in Morwell in 2017, was unlucky enough to experience gender discrimination from a colleague, but said thankfully it had proven to be a rare occasion and not behaviour that was widely accepted.

1996 Advanced Medical Priority Dispatch System starts at the metro communications centre.

1996

1998-2002 MICA participate in international trial of Hypertonic Saline for patients with traumatic brain injury.
1998 MICA respond by helicopter to the Sydney to Hobart Yacht Race disaster, the most disastrous in the race's history with the loss of six lives and five yachts.
1998 MICA respond to the killing of two police officers during a covert operation in Moorabbin investigating a gang of armed robbers.

1998

1999 Five of six rural services merge to form Rural Ambulance Victoria (RAV).
1999 Ambulance paramedic training becomes a university qualification for the first time through Monash University.

1999

2000 – Emergency Medical Response program has Metropolitan Fire Brigade firefighters respond to life-threatening emergencies.

2000

"Today, although I'm currently the only female in my MICA unit, I feel like an equal member of the team," Platt said. "I've never felt that my gender defines my ability to do my job and it certainly hasn't been a barrier to me achieving my goals."

"Women well before me have worked hard to prove we are equal to our male counterparts. Success is based around an individual's effort and nothing is unattainable if you're willing to work for it," Platt said.[147]

During the 30 years of women in ambulance celebrations, Ambulance Victoria identified the role of MICA flight paramedic as one area which remained exclusively male. There was discussion within the organisation about how to ensure there were no barriers to women progressing into leadership positions and to pursuing roles in Air Ambulance.

During his time at Air Ambulance, Philip Hogan, who was Operations Manager prior to his retirement in 2014, recalled the struggle to attract women as MICA flight paramedics.

"In Air Ambulance, we had women nurses on the fixed wing for about 20 years but on the helicopter, we'd been trying and there were a number of people who were really keen to push them to get out there," Hogan said.

"We'd sort of said (to potential female recruits)…no different to what we'd do with other potential men, If you want help, you want direction, we're happy to give it to you. But for the most part they weren't interested."

"We were always scratching our head wondering, even when we targeted women, to say why don't you come out there, it wasn't just because they were women, they were good operators, and that's what we were after, but they didn't do it."

"Yes, we probably were a group of grumpy old men, but I don't think we were chauvinistic to that point of view. Anyway, they just didn't apply," Hogan said.[148]

In May 2019, the first two female paramedics qualified as MICA Flight Paramedics, Michaela Malcolm and Sarah Wells, helping to open the door to the previously male-only role.

"The (women) that came into MICA, other than the Air Ambulance which has recently had some females being successful with that, MICA was probably the last bastion of male dominance in the workplace," Quilliam said.

"So the girls that came into MICA, they had to re-establish that credibility, as probably everyone has to do, but it was probably a bit more of a challenge for the girls coming on board with that."

"But some of the female paramedics that we've had come through have been exceptional and have been absolute role models to other paramedics that are following them, which has been nothing but a positive improvement for our workforce and to our service that we deliver." ■

Right: Sarah Wells, left, and Michaela Malcolm became the first women to qualify as MICA Flight Paramedics in 2019.

CHAPTER 13

AT THE FRONTLINE OF MAJOR INCIDENTS

MICA paramedics, alongside their ALS colleagues, have been at the frontline of numerous major disasters and incidents in Victoria throughout the 50-year history of MICA, including natural disasters and major crimes.

Those crimes included the murders of four police officers in two incidents – in Walsh Street, South Yarra in 1988 and in Cochranes Road, Moorabbin a decade later in 1998.

The question of when it was safe to deploy paramedics into an active crime scene was debated as a result of the Queen Street shooting in 1987, which left eight people killed and five injured.

MICA Paramedic (retired) Ian Patrick was the first paramedic to attend and as an acting District Officer, he was the scene commander.

"The area was crowded with people running in all directions," Patrick said. "The police had cordoned off the building and were requesting paramedics to attend a shot patient in the foyer, at the same time the police commander arrived and said there were multiple victims and the gunman was at large."

"I instructed two MICA paramedics to hold ambulances around the corner and not to enter until we deemed it safe despite the requests."

In the minutes that followed a man fell from the eighth floor onto the roadway. The police confirmed to Patrick this was one gunman and they were sweeping the building for others.

"We were under a lot of pressure to send paramedics into the scene at this point, which we refused to do until the scene was declared safe," Patrick said. "This caused a lot of discussion then and again later. When the building was cleared as safe two MICA paramedics triaged the scene where they were confronted with eight deceased victims."


GOLD TV GUIDE

The Herald

FINAL EXTRA

Slaughter on Hoddle St

Barrage of shots hits unwary travellers

Above: Front page of The Herald newspaper on 10 August 1987.

The same year, during the Hoddle Street Shooting on 9 August 1987, MICA was again at the frontline. MICA Paramedic (deceased) Noel Shiels and

colleague MICA Paramedic Peter Collins, who is now Regional Improvement Lead in Gippsland, entered the active crime scene to help the injured.

"It never happened before in Australia and to suddenly be confronted by it, and wind up being in the middle of the worst part of the ongoing scene," Shiels said. "And the other thing we were convinced at the time was there must have been more than one person shooting."[149]

Collins said: "You know you sort of got out from the ambulance and there were people standing and crouching with guns drawn behind trees and lamp posts and half of them were in uniform and half of them aren't. That was really the thing that was going through my mind: who are the crooks here and how many of them are there, and where are they?" Collins said.[150]

Despite the uncertainty, Shiels started walking out into the park, looking for wounded people to treat.

"I suppose I got about halfway when I saw the silhouettes of some wounded people lying on the ground and as I was approaching them there was a volley of gunfire that sort of rang out that was automatic gunfire," Shiels said. "It sounded very close and I just hit the dirt and from that moment on, everything became totally surreal."[151]

Collins rejected the notion of heroism. "From my perspective, I don't think anyone knows how they are going to react when they are put in that position but it wasn't through any act of heroism that we were actually there," Collins said. "I think the circumstances put us there and any ambo could be put in that position and I don't think anyone knows how they would react until they're there."[152].

When treacherous weather turned the 1988 Sydney to Hobart Yacht Race into the most disastrous in the event's history, it was the Helicopter Emergency Medical Service (HEMS) crew who risked their own safety to rescue sailors from a stricken yacht. Tragically, the disaster resulted in the loss of six lives and five yachts.

MICA Flight Paramedic, and now Queensland Intensive Care Paramedic, Peter Davidson arrived at the scene by helicopter when the yacht Stand Aside was the only one in distress.

"Stand Aside just happened to be the very first yacht out of that race that was turned upside down," Davidson said. "It was after that that all the other yachts, while we were out there doing that rescue, more distress calls came in while others were caught in the storm."

"The first winch it was just, we were launched out of the life raft like a rocket, thrown into the air and landed in the water and the feeling of actually being able to rescue one of the six people was just absolute elation. I thought I would be lucky if I survived."

Above: MICA Flight Paramedic Peter Davidson

"It was frightening. We had waves anywhere from 40 to 50 feet high, we had wind gusts up to 160 kilometres an hour and the flying that the pilot achieved on that day was nothing short of remarkable."

"I just remember being in the water and seeing these mountains of ocean, you know, just coming toward you and over the top of you."

"There was one time there where the pilot was hovering 80 feet above the surface of the ocean and all of a sudden the yacht appeared in the window screen of the helicopter on top of this 80-foot wave and the pilot had to, you know, move the controls and swing away to avoid being hit. So it was all pretty full on, a lot of pressure, very challenging for all of us there," Davidson said.[153]

MICA paramedics arrived at another unsecured scene in Melbourne on 18 June 2007, where three people had been shot, one of them fatally, by a member of the Hells Angels Motorcycle Club. The gunman had opened fire during an argument at the corner of William Street and Flinders Lane.

"When I first arrived essentially it was a scene of mass panic," MICA Paramedic Lindsay Bent said.

Above: MICA Paramedic Lindsay Bent

"We had three people on the ground with very significant injuries from a firearm. We had a large number of bystanders. We had police everywhere in all sorts of protective clothing, bullet proof vests et cetera and we had a large number of fire officers already in attendance."

"Normally paramedics are taught not to go into an area that's unsecured. Don't go into an area where there is potential or actual threat to your safety."

"In this instance, we were on a large busy Melbourne CBD corner with police and fire already in attendance and multiple bystanders and the person who created this chaos, the person who pulled the trigger, we didn't know where they were."

"They could have been hiding around the corner, they could have been anywhere. So the challenge was to make some decisions with regard to: do we go in, do we stay back, do we actively treat, what do we do?" Bent said.[154]

The Black Saturday bushfires were a series of bushfires in Victoria around Saturday, 7 February 2009, which became one of Australia's worst bushfire disasters, claiming the lives of 173 people and leaving many homeless. Ambulance Victoria paramedics were involved in the immediate aftermath of the bushfire and supported the Urban Search and Rescue effort searching for victims' bodies, then played an ongoing role for months in running a temporary clinic for residents and supporting the Field Emergency Medical Officer program which delivered temporary resources to local hospitals whose staff were impacted by the fires.

Clinical Support Officer Peter Norbury was called about 6am on the Sunday morning after the devastation.

2001 MICA turns 30 years old and there are 223 MICA paramedics.
2001 Community Emergency Response Teams (CERT) begin.

2001

2002 MICA paramedics provide support with patient repatriation after the Bali Bombings kill 202 people, including 88 Australians and 209 people are injured.

2002

2004 Paramedic Community Support Coordinator roles begin at Omeo and Mallacoota.
2004 Findings of Hypertonic Saline trial published.
2004 MICA paramedics provide emergency assistance with the Boxing Day Tsunami which claims the lives of more than 230,000 people across 14 south Asian countries.
2004-2008 Trial of Rapid Sequence Intubation for patients with traumatic brain injury.

2004

2005 Remote Area Nurses begin responding to medical emergencies.
2005 Victorian Ambulance Clinical Information System (VACIS) rolled out in metro area.
2005-2007 RICH trial for patients in cardiac arrest.

2005

> I've watched things evolve and MICA's been an agent of change. It's been a vehicle for change and then there's been people who've pushed it. Basically, MICA has allowed people to expand themselves and challenge themselves, and do stuff that would have raised more than one eyebrow when I first started training. The whole dual-tier system has allowed us to do stuff that wouldn't have been possible if we were just one homogenous ambulance service.

PETER NORBURY, CLINICAL SUPPORT OFFICER, MICA PARAMEDIC SINCE 1998

"So I went up the mountain with two fire engines in front of me, and two fire engines behind, but the fire was all out," Norbury said. "They had to cut through a couple of trees to clear the road to get up."

Paramedics were not faced with a lot of burns injuries because anyone who could not escape had not survived, but there were people presenting with a range of medical ailments and many just wanted to talk to someone about the ordeal they'd been through. Some locals who needed follow-up care refused to leave the mountain because they knew that if they left the area they would not be permitted back home.

Norbury was dispatched to find a patient who had called for assistance during the night when the fire was raging, when no one was able to get into the area to help. The person had since evacuated and their street had been flattened by fire.

"We ended up getting one of the coppers from up there and he and I went out," Norbury said. "We drove down this street and like, the houses are flat, there's chimneys and flat, nothing there."

"We get to this address and there's one house in the street that hasn't burned down. This policeman and I, we've looked at each other and gone, Oh Jesus. I have no knowledge as to why that house didn't go up in flames but it was the one house in the street that was left."

"There were some big mountain ash trees going up there…and they were like six-foot stumps now. There were parts of it where it had just gone, there's nothing left, so it had clearly been pretty hot."

On the Sunday, Air Ambulance helicopters were also sent to isolated areas to check on communities and for some areas in Gippsland and around the Flowerdale and Marysville area. The first situation report from the North-East was five patients, then 20 and possibly up to 100. After initial triage and treatment, patients were taken by road to Yea and surrounding hospitals.

In November 2016, a natural event prompted an unprecedented surge in demand for ambulance services, including MICA, in metropolitan Melbourne.

Sadly, as a result of the thunderstorm asthma event, 10 people died and thousands of others were impacted by the aftermath of a storm that led to the greatest number of requests for emergency assistance during the shortest period in Victoria's history.

Within a five-hour period there were about 1,900 Triple Zero (000) calls for ambulance. Ambulance Victoria would usually expect about 345 calls during that amount of time. Paramedics and support staff worked tirelessly under pressure to triage, treat and transport an unexpected influx of patients with symptoms including severe breathing difficulties, respiratory distress, asthma and allergies. ■

Left: Early MICA Paramedics at the scene of a major fire in Melbourne.

CHAPTER 14

TOUGH JOBS AND BLACK HUMOUR

MICA emerged in an era when occupational health and safety, including both physical and mental health and wellbeing, were not well understood or addressed in workplaces. While all ambulance officers in the 1970s had exposure to trauma as a result of their work with the sick and injured, newly trained MICA officers quickly faced intense workload pressure due to high demand for a limited resource.

With just five MICA units operating across Melbourne and the Peninsula, newly-qualified MICA paramedics could find their workload multiplied overnight.

At that time, a general duties ambulance might have been called to six to eight emergency cases per shift and every few weeks this could involve a cardiac arrest, while the majority of calls related to collapses, fitting and falls, along with some trauma from motor vehicles or industrial accidents. By comparison, MICA units were being called to many of the more serious cases which could include several cardiac arrests in a single shift, cardiac chest pain, serious trauma cases including stabbings and shootings, patients in severe respiratory distress and drownings.

"While a general duties ambulance would normally cover in their own area, the MICA units were sent across a wide area and 100 kilometres of emergency vehicle driving in the city areas would not have been uncommon on a shift," said MICA Flight Paramedic (retired) Philip Hogan.

The combinations of the high workload of severe cases, high demands through night shift and emergency vehicle driving in high-risk environments had an impact on many early MICA staff and contributed to burnout. There was a high turnover of staff through MICA in its first decade.

"There was a lot of early guys that didn't last very long, a year maybe two years some of them, then they disappeared," said MICA Paramedic (retired) Dave Talbot. "The people who were selecting them didn't know what they were selecting them for, because they were senior ambulance people who hadn't experienced MICA."

"You (got) people on initially who maybe it wasn't for them, and they realised it themselves eventually and got off. It's not that they weren't up to it, obviously they were, they passed the exams, but it just wasn't for them."

With no psychological support provided at work, it was the spouses and family members at home who were relied upon as informal counsellors and sounding boards, according to MICA Paramedic (retired) John Clancy.

"Particularly in the early days, certainly counselling in ambulance was not available," Clancy said.

Left: In the early days of MICA 3.

"The prevailing attitude was: Just get on with it," Clancy said.

The success of MICA meant the demand continued to increase through the 1970s, but the organisation began to recognise burnout as an issue and started to take steps to mitigate it.

"By the late 1970s, MICA applicants were told their expected operational time would be about five years," Hogan said. "Towards the 1980's refresher training included stress (reduction) training and self-care as well as recognising and care for co-workers."

Another source of stress for early MICA officers was pressing up against the limits of their ability to render assistance and control outcomes, given the emerging nature of their protocols, equipment and the drugs they were permitted to use.

As clinical practices evolved, it helped reduce the stressors for MICA officers. Over time they gained access to improved trauma procedures and greater training, equipment and drugs to deal with drug overdoses, severe respiratory distress, paediatric cases, anaphylaxis and other severe cases.

"Emergency and frontline workers are trained for and equipped to deal with a wide variety of situations and when they are dealing with the controlled situation they generally manage that well both physically and emotionally," said Hogan. "If they are not able to control the situation there is often a raised level of stress and distress."

"The inability to do the best thing for the patient and to reduce or eliminate pain and suffering for people who have called for help can lead to high levels of stress and frustration."

"As the changes to capabilities of MICA now cover most if not all needs for pre-hospital and interhospital patients, this is one area that does not tend to cause as many issues."

This has been further helped by the upskilling of Advanced Life Support ambulance crews to better deal with a wide range of cases traditionally managed by MICA.

Sadly, over the 50-year history of MICA, just as with the wider paramedic workforce, some fine paramedics have died by suicide and others have experienced lasting mental health impacts of the job.

In the past decade, advancements in mental health and wellbeing mean paramedics are better equipped to identify mental health issues in themselves and their colleagues, and better able to access the available supports from peer support through to psychological services. However, spouses and family members continue to play an informal, but important, support role.

For Clinical Support Officer Glenice Winter, who is approaching 20 years on MICA, it was one particularly tough job in 2009, which resulted in her suffering from Post Traumatic Stress Disorder (PTSD). It was a case involving a pre-school child who suffered traumatic injuries in a case investigated by police.

"15 years in, I had a job that nearly killed me,"[155] Winter said. "That job absolutely ruined me. I ended up with PTSD."

That day, Winter attended as a single responder, but was joined by Air Ambulance colleagues at the scene.

"I would recommend MICA to anyone. I had wonderful CIs that showed me a great path. I've had...very good team managers that led me towards the MICA paramedic that I am personally today. And I've had some very strong colleagues who have helped me.

I think we all stand on shoulders of giants of those MICA people that went before us. And I hope one day that someone might say the same thing about me, that perhaps I helped them get onto MICA or helped them endeavour towards MICA."

GLENICE WINTER, CLINICAL SUPPORT OFFICER, MICA PARAMEDIC SINCE 2002

Clinical Support Officer Glenice Winter with Peer Support Dog program pioneer Bruce.

It was the middle of a heatwave, with successive days of 40-plus degree heat and they worked on the pre-schooler for 40 minutes in scorching conditions.

"Normally in a paediatric arrest, you can divorce yourself from the patient," Winter said. "I just look at the leg, and I just look at my drugs, and I give the drugs and I divorce myself, but (the police) kept drawing us back into the scene and what played out. They were so angry, it was palpable."

A passing comment by one police officer made the case all too personal for Winter.

"You don't want to know the backstory…particularly if it's painful, but one officer said, She's got the same Dora (the Explorer) undies as my daughter, and then for the first time, I looked at her, and I thought, same as my (daughter) Zoe," Winter said. "And they were the same age."

Two and a half years later, a comment from Winter's husband about her being cranky all the time prompted her to seek help.

"He never says anything, so I went off and I had peer counselling, and PTSD and everything flooded out about this job, because I hadn't yet been to court, and that was always fretting me. I started on medication and I got better," Winter said. "Before I'd have been in the heap, but now I can at least chat about it."

While MICA paramedics proportionally attend more of the sickest and most seriously injured patients, it's not always the worst jobs which linger in a paramedic's mind.

The former head of Air Ambulance, Ken Laycock, still has vivid memories, four decades on, about a single motor vehicle crash he attended in the late 1970s. It was the early hours of the morning and a driver was trapped in a van that had smashed into a lamppost.

"We did everything we could," Laycock said. "The job went exceptionally well, and I say that because the poor bloke died, but you have the satisfaction, if that's the word, of knowing that regardless of who else had been there, they couldn't have done anymore."

At the time, the ambulance service was required to remove and transport the body to the Coroner's Court, which meant extricating the body from the badly damaged vehicle.

"We couldn't get him out of the driver's side, but we got him out the passenger side, and I moved the rubbish from the floor and I guess, I still get a bit choked up, but on the floor, there were some children's Golden Books," Laycock said.

"I used to read them to my kids about the same time and I thought, Oh shit, the family's gone to bed last night, they're fast asleep and then in a couple of hours, their whole life would have changed. It wasn't the fact that the poor bloke died, it was what had been left."

The cases involving children, particularly where the outcome is adverse, are understood to be more challenging for paramedics, particularly when they have children of their own at a similar age.

"Many emergency service workers have their own children and rightly or wrongly, when they have a paediatric case, they tend to relate it to their own children and when it is an adverse outcome it can take a large emotional toll," Hogan said. "Prior to pool fencing, backyard drownings were quite commonplace and while they still occur too frequently the impact…for MICA people who see a disproportionate number of these and other paediatric cases, it can be a big ask for people to accept as part of the job."

Clinical Support Officer Peter Norbury has been at the frontline of Victoria and Australia's response to a number of significant tragedies over the past decade, including the Black Saturday Bushfires in Victoria in February 2009, the Samoan Islands Tsunami in September 2009 and the Pakistan Floods in late 2010.

In addition to playing a representative and coordinating role in crisis response, Norbury has personally taken part in searching burnt homes and cars for human remains and doing line searches for bodies carried away by floodwaters. However, contrary to what some might perceive, he doesn't find that work any more confronting than regular ambulance work.

"What I have learned over the years is… the things that upset people are different," Norbury said. "You know, there are certainly jobs that I wouldn't enjoy thinking about…but that's not really this (disaster) stuff."

"I'm not conceited enough to think that I have power over acts of God and…(our) role in is to see what we can do to alleviate the issues and ameliorate the problems that are caused after it."

"In the emergency response phase, everyone's like, All right, noses to the grindstone, shoulders to the wheel."

Two things have helped support the mental health of personnel exposed to workplace trauma more broadly and those specifically dispatched in response to natural

disasters. Ambulance Victoria has invested heavily in mental health and wellbeing over the past five years, introducing more training, research and access to psychological support services that have been recognised with Australian and international awards. Disaster response has been improved through the creation of Emergency Management Victoria (EMV), Victorian Medical Assistance Teams (VMAT), Urban Search and Rescue (USAR) task forces and Australian Medical Assistance Teams (AUSMAT).

"Unequivocally there's more structure in it and we've had more expertise at it," Norbury said. "And I don't say that in a bad way, but when we first started doing that on those initial ones, then we hadn't had the experience about sending people."

"Often, when you're talking about stress and the like…I remember there was this big, flurried interview on the way out: We've got one of the VACU counsellors to have a word with you, to make sure we're not going to send you off to something, and I am like, Mate we're at the airport."

"Now it's all a lot more structured, and those things have been done pre-emptively before you start, so it's not being done as you're walking towards the plane to go."

Humour becomes an important outlet for MICA, just as it is for ALS paramedics and others across the medical professions, according to MICA Team Manager Andrea Wyatt.

"We get a horrible dark humour, associated with that, which is probably a protective mechanism or a bit of escapism," Wyatt said. "You tend to have a very dark humour, which people outside ambulance just can't understand, but if that's how people cope, then that's a good thing."

Another healthy coping mechanism is the camaraderie with MICA and ALS colleagues.

"Whilst we now have these single responders so often you're working on your own, but you're still working within a branch structure," Wyatt said. "But I think in a way that almost develops the camaraderie because whilst you can't talk at the job, you find once you get back to the branch and your colleague's there, you might want to talk then."

"So you sit down and you chat about stuff and you talk about the job you did and you think could I have done that better, or could I have changed in anything in the way I approached that. I certainly find that within MICA, we have a very strong camaraderie," Wyatt said. ■

2007

2007 Adult Retrieval statewide launch.
18 June 2007 MICA respond to the William Street Shooting, where three people were shot, one of them fatally, by a member of the Hells Angels Motorcycle Club.

2008

2008 Ambulance Victoria (AV) is formed by rural and metropolitan service merger.

2009

2009 MICA provides emergency assistance following the Samoa Islands Tsunami which killed at least 192 people in Samoa, American Samoa and Tonga.
2009 MICA single responder units start in metropolitan regions.
7 February 2009 MICA responds to the Black Saturday bushfires, where 173 people lost their lives in Australia's most fatal bushfire.
2009-2017 POLAR trial for patients with traumatic brain injury.

2010s

2010 MICA single responder units start in rural regions.
2010-2014 RINSE trial for patients in cardiac arrest.
2010 Finding of RICH trial are published.
2010 Findings of RSI trial are published.

CHAPTER 15

A GOOD DOSE OF LAUGHS AND HEART

The Frog Squad

In the early days of MICA, the unit attracted an unfortunate and unfair nickname.

"A lot of the general ambulance people used to call the MICA men the 'frog squad'," early MICA paramedic John Blosfelds said.

"Because all your patients croaked."[156]

They drive very fast

Dr David Hunt (retired), who was part of the cardiology team at Royal Melbourne Hospital who helped establish MICA, had a hair-raising experience during a shift on early MICA.

"In the early days a doctor had to go out with MICA and I remember going out,"[157] Dr Hunt said. "I can't remember if I was a cardiologist then or a registrar, and we hurtled over to Williamstown at a million miles an hour."

"I've never been more frightened in my life! And we did what had to be done and I took a taxi home again!" Hunt said, laughing.

"And I decided that MICA was not for me. They drive very fast, but very well, those fellows and girls."

First, ensure the patient is unconscious

MICA Paramedic (retired) Ian Donaldson had an embarrassing episode on MICA in the late 1970s when he was called to a Little Collins Street hotel to attend a patient in a toilet who was said to be unconscious and not breathing.

"(It was) in my early days when I had just been trained and I was over-enthusiastic and I just wanted to get to these patients as quick as I could to try to help," Donaldson said.

"When we got there, I opened the toilet door…and there was a guy inside and I dragged him by the scruff of his neck to get him out of there so I could work on him. (The patient) looked up to me and said: What are you doing? And I said, Well we were told you were supposed to be unconscious and he said, I just fell asleep."

"I kind of sat back and thought to myself, Don't be too hasty Ian, just try and make sure you get things in the correct order and make sure the patient is unconscious and you don't jump on them before you should do….I was quite embarrassed by that," Donaldson said, laughing, "I never did that again."[158]

Donaldson also found an alternative use for the clothing donated by a grateful Fletcher Jones, after he was saved from cardiac arrest by one of the first MICA officers, Wally Ross.

"In particular there were woolen shirts…they were fabulous for skiing," Donaldson said. "I went skiing, sort of cross-country skiing in them, and they were the best to use, you never felt cold at all."

Quick, but effective?

Part of the early MICA course was to go out to the

public and do a least one public lecture on how to do CPR. As part of his assessment, MICA Paramedic (retired) John Winterton presented to a group of fire fighters. Having delivered all the theory component, Winterton asked if there were any questions. The usual questions followed, but there was one at the end that would have stumped most people, but not Winterton. The question was what happens if you have someone trapped behind the steering wheel and they go into cardiac arrest.

"While his classmates groaned, John responded without hesitation – just get a sledgehammer and beat the steering box at 80 beats per minute," said MICA Flight Paramedic (retired) Philip Hogan.

"I'm not sure if it ever became formal training but it did satisfy the need at the time!"[159]

Approach of the Valkyrie

MICA 1, then based in Latrobe Street, had a unique way of announcing its arrival back in the mid-1980s, according to the first female MICA Team Manager Andrea Wyatt.

"Everyone on ambulance in those days had had a previous occupation, and this particular MICA Paramedic on MICA 1 had been an electrician,"[160] Wyatt said. "So the old cars had huge, big loud horns and this MICA Paramedic decided that he could re-route the siren to a tape deck."

"So rather than blasting down the road to wee-aww, wee-aww, he had the Approach of the Valkyrie. Dah-da-da-da-dah, Dah-da-da-da-dah."

"Whenever MICA 1 arrived, you knew it was them because you could hear Approach to the Valkyrie coming out of the sirens! I won't say who it was."

"The other thing they used to play when it was Christmas, was (Jingle Bells), so you had Dashing through the Snow coming through the speakers. Oh, it was funny, but no, you wouldn't get away with it nowadays," Wyatt said.

You don't have to know everything

Chris James, as one of the first two rural ambulance officers to qualify as MICA paramedics, remembers there was a lot of "flying by the seat of your pants" because he sat his MICA panel exam on a Thursday, qualified as a MICA paramedic and the following Monday he became a MICA Clinical Instructor (CI).

"I'll never forget, because I became a MICA CI from day one, we'd go out to a job and so we'd back up a crew and they'd ask me questions and I felt like I had to know the answer," James said. "It was… incumbent on me to know the answer to everything."[161]

After 18 months operating as a CI, he finally got the chance to do the Clinical Instructor course under the tutelage of Dr Frank Archer.

"He said it's ok to say, I don't know, you don't have to know everything," James said. "And I said, Gee Frank, you could have saved me a whole lot of heartache and angst by me thinking I had to know the answer to absolutely everything. So that was something I had a bit of a chuckle about at the time."

That's about the most dangerous thing you'll see anyone do at work

Around the turn of the current century, Ken Laycock was in charge of Air Ambulance – a manager regarded by his team as unfailingly polite and supportive, and resolutely focused on safety. So when an Occupational Health and Safety (OH&S) officer attended Air Ambulance and raised concerns about the locker room, Laycock wanted to understand the issue.

"Basically there's lockers and the (OH&S) bloke's going, See and Ken's going, Yeah, I kind of see lockers,"[162] said MICA Area Manager Colin Jones, who was then a MICA Flight Paramedic with Air Ambulance.

"The guy says, The boots, they could pull the boots off the top of the lockers and get themselves on the nose. They can't put their boots on the top of the lockers. And Ken went, Ok, no worries. And so Ken goes, Would you excuse me for a minute."

"Now, I was working on the chopper that day and…I had no idea what was going on, and get this phone call from Ken going, In 20 minutes, I want you at the front doing up and downs, which means going up and down on the winch cable out of the helicopter."

"We had to do re-training…by prescribed times so that we stayed current and approved to do the procedure, but we were all current: the pilot, the crew, and I were all current," Jones said.

"Ken goes, I'm paying, don't worry about it, just do the up and downs. So we towed the helicopter out and 20

> “I’m proud, extremely proud…to see MICA as it is today. We need to thank Graeme Sloman and all those people that really made it possible for us to do what we do nowadays. I think there’s a great future for MICA.”

IAN DONALDSON (RETIRED), PRESIDENT OF THE RETIRED AMBULANCE ASSOCIATION OF VICTORIA, MICA PARAMEDIC FROM 1973

Ian Donaldson at the Ambulance Victoria Museum with the woollen shirt donated by a grateful Fletcher Jones after MICA saved his life.

minutes later we were doing up and downs on the grass on the other side of the hard stand…and I looked over and I saw Ken appear with one of my mates and this other guy who I didn't know. And Ken's looking and pointing and then off they all disappeared."

Above: A MICA Flight Paramedic on the winch.

"We landed and towed the helicopter, and I rang my mate and I go, What was that all about? And he goes, Ken had this OH&S bloke and…he goes, See that? He goes, That's about the most dangerous thing you'll see anyone do at work. He said, If anything goes wrong, the bloke on the end of the wire dies. If the winch cable gets caught and brings the chopper down, they all die. He said the pilot and the crew…have a little switch and if they hit that switch there's a little explosive charge that sends a chisel through the winch cable and you cut away the…winch person, so the person on the end of the winch dies."

"So, (Ken) said, And they trained for it and they work really hard to make it safe, but it is inherently a dangerous thing. So he goes, If he wants to put his boots on top of the locker, he'll be putting his boots on top of the locker. And if you've got anything real to bring back to me, bring it back, otherwise please leave."

"(Ken) said it in slightly saltier terms than that," Jones said. "The bloke disappeared and never came back. It was fantastic."

Better than sex

Before the widespread availability of helicopters across Victoria, patients who needed to be transported to Melbourne from Ballarat would be taken by road. For the last stretch of the journey into Melbourne, the ambulance was given a police escort to usher them through city traffic.

Dr Mark Fitzgerald, a pioneer of ALS level ambulance services in Ballarat in the 1980s, recalls accompanying ambulance officers to The Alfred Hospital with a woman who was critically ill with a cardiac tamponade, a condition which results in a dangerous build-up of blood or fluid around the heart.

"She went on to survive, but as we were coming down with the police escort, they used to meet us coming into the city, near Flemington Road,"[163] Dr Fitzgerald said. "They'd have four police motorcycles that would leapfrog each other to block off the next intersection, then we'd shoot through and the…motorcycles behind the ambulance would then leapfrog each other."

Ambulance officer Phil Gribble, who later went on to become a MICA paramedic, was assisting and they phoned ahead to let The Alfred know they were on approach.

"This was the first time I'd seen (the police escort)," Dr Fitzgerald said. "Gribble turns to me and says, Watch this, he says, looking out the louvered windows of the ambulance, he says, This is better than sex."

"I said, You're an idiot Gribble, but actually as we rolled up into the new Alfred Trauma Centre…with the police escort, it was different but it was still pretty impressive and that's how you used to get people down."

"It was quick actually because you weren't waiting for people to come up (from Melbourne) and all the regional hospitals were expected to deliver."

A bunch of fives on the snout

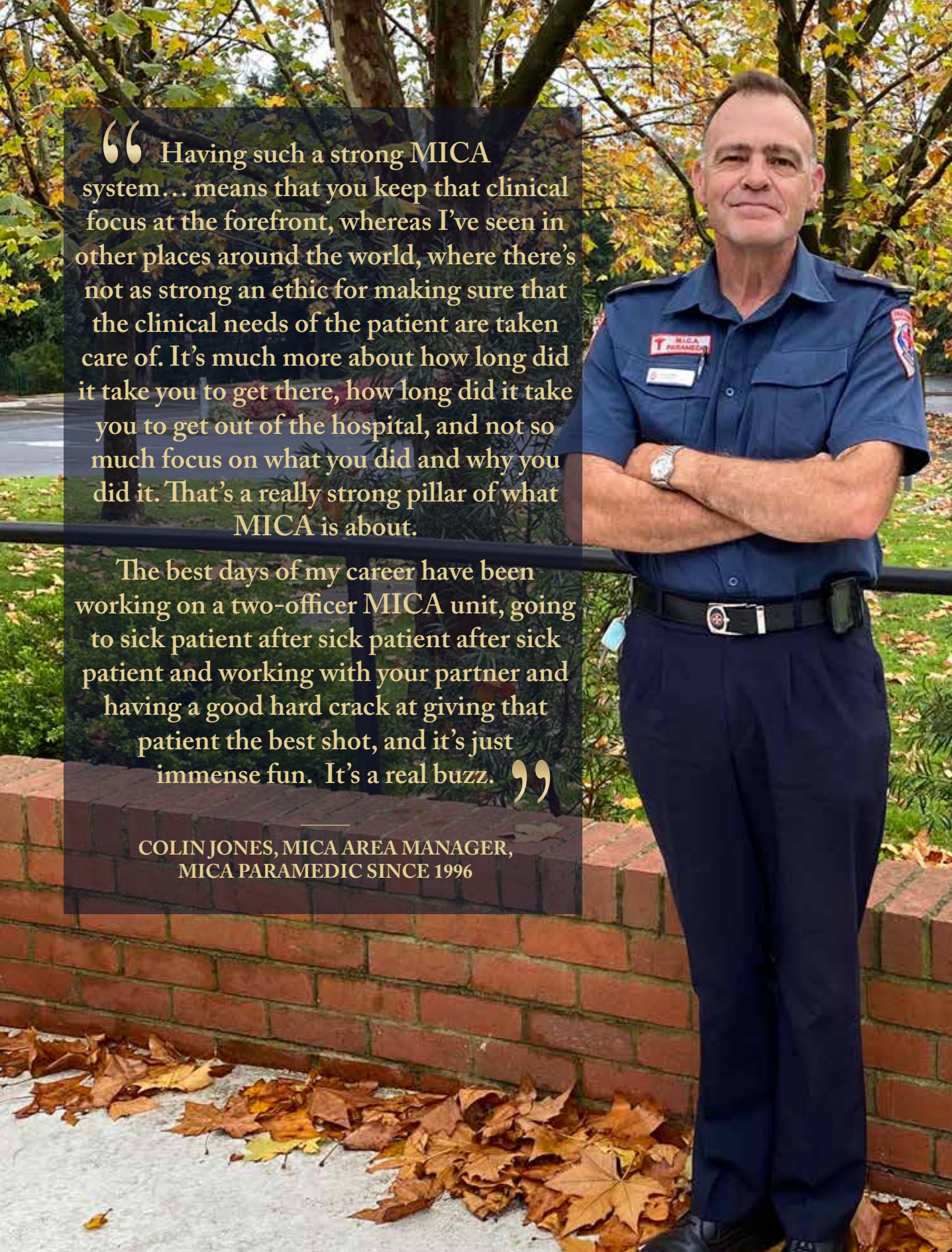
Ken Laycock learned not to judge a book by its cover during an encounter in Broadmeadows in the late 1970s.

"There was a job in Broady, I was up there treating somebody up there and a bloke, he said, Ken Laycock, because we had name tags," Laycock said. "He said, I've been looking for you for two years."

"And I thought, Oh no, another bunch of fives on the snout."

"So I said, Oh yeah, what's up? And he said, Well, you attended my mother in Port Melbourne when she died."

The man had arrived just after his mother died and



“Having such a strong MICA system… means that you keep that clinical focus at the forefront, whereas I’ve seen in other places around the world, where there’s not as strong an ethic for making sure that the clinical needs of the patient are taken care of. It’s much more about how long did it take you to get there, how long did it take you to get out of the hospital, and not so much focus on what you did and why you did it. That’s a really strong pillar of what MICA is about.

The best days of my career have been working on a two-officer MICA unit, going to sick patient after sick patient after sick patient and working with your partner and having a good hard crack at giving that patient the best shot, and it’s just immense fun. It’s a real buzz.”

COLIN JONES, MICA AREA MANAGER, MICA PARAMEDIC SINCE 1996

Laycock was with her in the back of the ambulance, because in those days, ambulances would be called upon to deliver a body to the State Coroner if they were in attendance and the patient died.

"He said, Then you said to me, would you like to go in the ambulance and spend a couple of minutes with Mum?"

"He said, I've never forgotten that."

"To us, it was a simple thing, but to him, it was goodbye to his mum. So you know, you tried to do the right thing. You're not sure if you're doing the right thing, but the feedback means quite a bit to you."

Ill-gained gifts

In the days when ambulance officers transferred deceased patients to the Coroner's Court, they were required to check and sign for all valuables. Items not deemed important, such as copies of the newspaper, were discarded to the rubbish bin.

One patient transported by MICA had a beautiful bouquet of flowers and just before the blooms were to be thrown in the bin, MICA Paramedic Ken Laycock asked if he could have them. Laycock was granted the flowers, no problems, but his partner was a little perplexed until Laycock explained his plan.

He took them to the Royal Melbourne Hospital Emergency Department to give to the nursing staff to thank them for their support and professional help over a long period.

"Yes, MICA 1 were the bees' knees for a week until some clown opened his mouth and told them the origins of the flowers," MICA Flight Paramedic (retired) Philip Hogan said. "MICA 1 kept a very low profile for about two weeks until they were forgiven."

Wheeling in two 'patients'

When an elderly gentleman with an arrhythmia had to be taken to the then Prince Henry Hospital in South Melbourne, paramedics ended up wheeling two 'patients' into the emergency department.

"He was a nice old fella and I say, We've got to take you back to Prince Henry, you might need your pacemaker a little bit earlier than you're expecting," said MICA Team Manager (retired) Mark Hamer.

"He was just adamant he wouldn't go anywhere unless he bought his shopping jeep with him. He wouldn't be parted from it."

"I don't know what he had inside, I wouldn't bother looking."

Hamer managed to shove the shopping jeep (trolley) deep into the back of the ambulance, beside the single stretcher, and they took the man to the Prince Henry and handed him over to the emergency department.

"Then we went back out to the car and got his shopping jeep, connected the monitor with a jeep, put the dots on the monitor, put an IV up, hung out off the jeep, took it back in there and said, This is the next patient connected to this guy," Hamer said.

"They actually registered the shopping jeep as a patient, they took some x-rays of it and put it through."

"You could do that back in those days. You'd never get away with it now because no one has the time to do it."

"It is just little things, but they sort of break things up a little bit and you have a little bit of a laugh and the hospital staff, you know, the ED staff who I've got the greatest of admiration for, quite enjoyed those little things," Hamer said.

The guard rat

Paramedics are taught to assess and manage the dangers in every scene they enter and those dangers come in all shapes and forms.

MICA Flight Paramedic (retired) Terry Hogue found himself under attack from one patient's unusual pet.

"I remember going to this woman's house and she was lying in bed, quite sick,"[164] Hogue said. "And we couldn't deal with her danger. Her danger was her pet rat."

"Every time we approached the bed, the rat would move underneath the blankets and even try to nip at us."

"So it was quite hilarious, two persons trying to deal with this rat so we could move it out and actually deal with this lady who was critically ill at the time."

"It was a guard rat and it liked living underneath her armpits and places like that."

"It was one of those bizarre, hilarious things when you look back on it, but it would have been pretty funny watching us try to deal with this danger."

If it was a horse, I could understand

MICA Team Manager Adrian Scrofani, on MICA since 2000, was on his way to a routine job with his shift partner one day in Sunshine when he looked out the ambulance window and saw a camel.

"All of a sudden I've noticed this camel, starts running past the ambulance,"[165] Scrofani said. "And I've looked at it, it looked at me and it's just kept on going. And behind it is a couple of people, well a group of people, running after this camel."

"And I've gone, Oooh, that's interesting."

The handlers herded the camel down a side street, but the street led to a major road: Ballarat Road.

"So anyway, there are these guys chasing after this camel, yelling at it to stop and it's turned back, minding its own business, trotting on where it's going," Scrofani said.

"All of a sudden it actually goes out onto Ballarat Road and what happens? A car hits it."

"So all of a sudden, here we are, car versus camel, one patient trapped in the car. We call it in, I go into the car, and the bloke's inside, he's not trapped severely, but I mean, he's shaken."

"And he's going, If it was a horse, I could understand. A cow, I could understand. But a bloody camel?"

"He just could not believe it and that to me was the funniest thing I'd ever seen."

The car was wrecked, but the camel got up and walked away.

Score: camel one, car nil.

One angry wombat

When a man fell down a mineshaft on the side of a mountain, HEMS was called in to rescue and treat him.

MICA Flight Paramedic Peter Davidson was lowered onto the mountainside by winch and a bystander guided him to a cave where the patient had fallen six metres down an old mine shaft.

"This guy walked in with no light, just kept walking, has fallen six metres down, obviously injured,"[166] Davidson said. "They lowered me down with ropes to this guy and when I got down the bottom of the mineshaft, there was a wombat down there with him. The mineshaft was only six feet round, so he was squashed in the bottom with this wombat at his feet."

"The wombat had obviously fallen down in there a day or two before, was hungry and very angry."

"When I got down there, it went berserk and started running around, over the top of the patient."

"He had bilateral fractured femurs, it was running over the top of the patient…I had to scramble out of the way. So it just looked like it was going to eat us both."

Davidson resorted to sedating the beast with medication from his drug box.

"(I gave it) five milligrams of midazolam so I could work on the patient. It was quite a battle just to get it cornered and give it the midazolam."

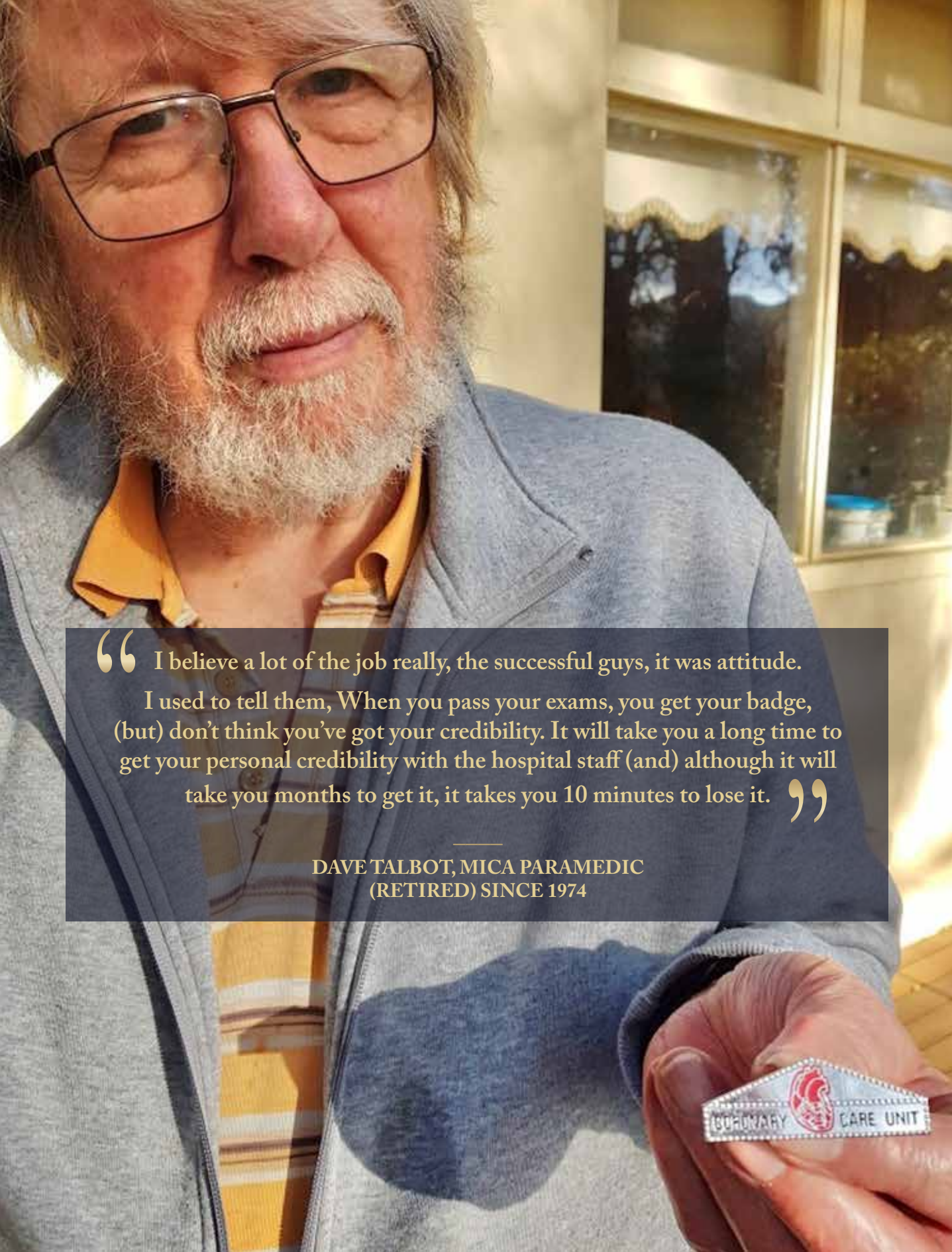
"That was funny afterwards, but it wasn't funny at the time. It was quite serious, but we ended up getting him out."

"(The wombat) would have felt pretty good for a while. I'm not sure how much you give a wombat, but anyway, it worked," Davidson said.

Above: MICA Paramedics Glenice Winter, top left, and Paul Howells at the '10th Birthday' party.

Happy first birthday…post cardiac arrest

Paramedics who helped save the life of a woman in cardiac arrest at a Melbourne pub sent her a 'birthday card' the following year to mark the date and it fostered



> I believe a lot of the job really, the successful guys, it was attitude. I used to tell them, When you pass your exams, you get your badge, (but) don't think you've got your credibility. It will take you a long time to get your personal credibility with the hospital staff (and) although it will take you months to get it, it takes you 10 minutes to lose it.

DAVE TALBOT, MICA PARAMEDIC (RETIRED) SINCE 1974

an incredible ongoing connection with the woman and her family.

Glenice Winter was recently qualified on MICA in the early 2000s when she walked into the Brandon Park pub with colleague Paul Howells to find fire brigade officers already on the scene giving CPR, taking over the life-saving role from the hotel manager.

"It turns out that it was this woman's 60th birthday, and she had a cardiac arrest on her 60th birthday,"[167] Winter said.

"We worked on her for such a long time and we got her back, with good pressures and everything, and we got her to Monash and she walked out of the hospital four days later."

Howells and Winter later visited the patient in the hospital and she couldn't remember anything about the incident, but the woman was happy to be alive.

"Well, (Howells) said, How about we make a note of this and we send her a birthday card next year?" Winter said. "So we did. He sent her a first birthday card, a cheeky one. He said, Just thinking of you, because he got the address off the form so, Happy first birthday since last year, hope you're well."

The letter in reply from the woman had Winter and Howells amazed.

"She wrote about all the things that she was able to achieve in the year of the life that we gave her. She'd seen the birth of a grandchild. She'd seen another daughter married, it was just wonderful."

"She wrote us every year about what she had gained in the year that we gave her. And we kept sending her, up until her 10th birthday, birthday cards, third birthday, fourth birthday, it was quite funny."

"And she'd always send us a Christmas card back with, very personalized, with how thankful she was, how grateful."

On the woman's 10th 'birthday', Howells and Winter organised with the family to take the woman back to the same hotel and for the former manager to be there, along with the ALS crew who attended and the fire brigade.

"We all went back, and we surprised her on her birthday, we provided a cake and everything, it was so fantastic," Winter said.

"All her children were there, her grandchildren had taken the day off, it was just wonderful."

"For (Howells) and I, that was one of our most satisfying jobs because even though you save a lot of people, you don't actually ever follow things up, you never find out what happens."

"But this woman kept telling us, and you thought, I have made a difference."

■ ■ ■

2011-2014 AVOID trial for heart attack patients.
2011 Paramedic motorcycle unit begins work in Melbourne.
2011 New call and dispatch centre in Ballarat takes all emergency calls in regional Victoria.
2011 Blood products introduced for trauma patients treated by helicopter flight paramedics.

2011

2012 Country Fire Authority career firefighters join Emergency Medical Response program.

2012

2014-2021 PATCH trial for massively bleeding trauma patients.

2014

2015 Findings of AVOID trial are published.

2015

MODERN

2016 New Augusta Westland AW-139 twin engine helicopters come into service.
2016 Findings of RINSE trial are published.

2016

2017 MICA responds to the 20 January tragedy after a stolen car ploughed through pedestrians in Bourke Street, killing six people and injuring a further 27.

2017

2018 Australia's first stroke ambulance commences operations, staffed by MICA and ALS paramedics alongside specialist hospital staff.
2018 Findings of POLAR trial are published.

2018

2020-2021 AVOID 2 trial in progress for heart attack patients including Advanced Life Saving Paramedic enrolments for the first time.
2021 Finalising paper on PATCH trial.
2021 MICA participate in The Alfred Hospital trial of mobile Extra Corporal Membranous Oxygen (ECMO) for cardiac arrest patients.
30 June 2021 Ambulance Victoria has 519 MICA and Clinical Support Officer paramedics.
9 September 2021 MICA reaches 50 years.
18 September 2021 Ambulance training reaches 60 years.

2021

MICA

CHAPTER 16

INTERNATIONAL DISASTER RESPONSE

In the 21st century, MICA paramedics have taken on responsibilities that could never have been anticipated by the founding members of their service back in the early 1970s. MICA paramedics have been deployed internationally to play a key role in Australia's response to international disasters.

Among these incidents, MICA paramedics provided emergency assistance with the Boxing Day Tsunami in December 2004 which claimed the lives of more than 230,000 people across 14 south Asian countries.

Bali bombings

MICA paramedics were officially involved in supporting the repatriation of Victorians injured after the Bali Bombings in October 2002. The terrorist attack killed 202 people, including 88 Australians and 209 people were injured.

Three days after the blast, MICA Area Manager Colin Jones was one of a squad of paramedics assembled with a fleet of ambulances at Essendon Airport when Royal Australian Air Force aircraft touched down with injured Victorians. Jones cared for a severely burnt patient who was transferred to the burns unit at The Alfred Hospital.

"That was really the first time Ambulance Victoria had seen anything like, and Australia indeed, had seen anything like that in those numbers,"[168] Jones said.

"There'd been Hoddle Street, which was a big shock in terms of a domestic terror incident, and there'd been Queen Street which was another similar thing to Hoddle Street in terms of its traumatic impact on the community and emergency services and there had been the bombing at Russell Street and the attempted bombing at World Trade Centre."

In 2005, another series of Bali Bombings took place, claiming the lives of 15 Indonesians and four Australians. MICA Flight Paramedic Darren Hodge was in Bali to celebrate his wedding with partner Julie, a registered nurse with more than 20 years' experience in accident and emergency departments, when the second bombing occurred. The morning after the explosion, which destroyed their planned wedding venue, they volunteered at the local hospital.

"We felt that, as 12 hours had passed since the explosion, there would be international emergency teams in Bali, and supposed that the experience of the 2002 bombing would have resulted in the formation of rapid responses, particularly from countries as close as Australia,"[169] Hodge said in his 2019 book, '*A Life on the Line*'. "Nevertheless, I felt that I would rather go down to the hospital and assure myself that there was no need of our assistance."

"As we approached the Sanglah Hospital in Denpasar, I felt uneasy. Although our respective careers had provided us with the skills to deal with the very sick and injured, we were without the equipment we had been trained to use, in a foreign country, in holiday clothes."

Hodge was eventually directed to a South African doctor who had flown in from Singapore at the request of the Australian Government and found him tending

an elderly Australian man with severe head injuries.

"The medic was obviously feeling the strain. When we introduced ourselves and offered to help, he happily accepted," Hodge said. "Preoccupied as he was with his patient, he gave us a list of 20 other known Australian patients, asked us to track them down, check on their welfare, and let him know."

Above: MICA Flight Paramedic Darren Hodge wrote about his experiences in Bali.

Hodge and Julie tended to an Australian father and his teenage daughter who were suffering burns and shrapnel injuries and after a day-long vigil, handed over the patients to a retrieval team in preparation for evacuation to Australia.

Samoan Islands Tsunami

MICA provided emergency assistance following the Samoa Islands Tsunami on 29 September 2009, which killed at least 192 people in Samoa, American Samoa and Tonga. Australia was yet to establish a national response organisation, so the team that was dispatched was based on state-based teams coordinated by the Department of Foreign Affairs and Trade.

Four MICA Paramedics were dispatched as part of the Victorian Medical Assistance Team, MICA Paramedics Paul Golz, David Mati, Shaun Whitmore ASM (now a MICA Flight Paramedic) and Peter Norbury. Norbury, a MICA Paramedic since 1998 and now a Clinical Support Officer, was asked to attend as a result of the skills he had gained while doing an initial six-month secondment to Sudan with the United Nations followed by several other roles there during a subsequent period of long service leave.

A team of 120 Australians flew to Samoa, including representatives from South Australia, Queensland, New South Wales, and Victoria.

"It was all done at very short notice," Norbury said. "I got a phone call at seven o'clock at night from Mick Stephenson asking me do I have a passport? And I went, Yeah. He goes, Good, be at Essendon at seven o'clock tomorrow morning. I said, To do what? And he said, I'll tell you when you get there."

The Victorian team included the head of the Royal Children's Hospital emergency department, the deputy head of the trauma surgery unit at the Royal Melbourne Hospital and a Department of Health representative, to be jointly led by Shaun Whitmore and Peter Norbury.

Above: MICA Paramedics join the search for bodies in Samoa.

"Victoria's somewhat unique across Australia because the ambulance service actually holds stewardship of the disaster responses," Norbury said.

"The other states have different management systems and that elicits a variety of responses when you walk into a national room, because it's not what other people are used to dealing with."

"They're used to medicos and then bureaucrats and Department of Health officials…and we were the only ones in the room wearing an ambulance uniform, so we're different."

The Victorian team helped coordinate available support to the local health system and hospitals to maintain their service.

"Staff in the hospitals had been affected by the tsunami, they'd lost family members, and if your home was in that strip, it wasn't there anymore," Norbury said. "And we're not talking about grass huts, we're talking about large

concrete form structures that just weren't there anymore, they were gone."

"(People) either lived or died…when the tsunami wave hit because it came in along about a four or five-kilometre strip. And it was only about 200 metres wide before there's about an 80-metre escarpment so it virtually just bounced off the wall. But if you're in that 80 by 400-metre strip, you're in a bit of trouble."

Some survivors suffered severe injuries after being tumbled through the water over sharp volcanic rocks and required significant surgery and plastic surgery. Perhaps the most confronting work undertaken by the Victorian team was participating in the search for bodies before heavy machinery could be sent in to clear the area as part of the reconstruction.

"In the end, it was a line search, and everyone's gone and found themselves a good stick to turn the vegetation over," Norbury said. "And it's like, we've got a container load of all this high-tech equipment, and we're all being defined by, Oh, you've got a good stick, that's a cracking stick mate."

Above: MICA Paramedic David Mati in Samoa.

Pakistan floods

The Pakistan floods in July 2010 had a death toll of around 2,000 people and Australia responded with one of its first deployments of a large Australian Medical Assistance Team (AUSMAT). Peter Norbury was the sole Victorian among the initial deployment alongside doctors, nurses, fire-fighters and allied health staff. It was supposed to be a three-week deployment and he stayed for close to a year.

The AUSMAT operated from a clinic set up in an electrical power station, treating patients mostly for waterborne disease, malaria and general health concerns.

"Originally the plan was we would go out and set up some clinics in other areas, but then because of the security concerns that occurred during that time, and that was just post September 11 then that all got shut down," Norbury said.

"We got there, and they promptly blew a couple of each other up in the first couple of weeks, so there was a big Pakistan military contingent surrounding us...heavily armed, Pakistan military. They had one literally in every 20 metres, on the fence."

The conditions were tough, reaching 45 degrees Celsius and close to 100 per cent humidity.

"The ADF has a work rest cycle, so if it gets X-hot, you work for 40 minutes in the hour and have 20 minutes rest or whatever," Norbury said. "One of the army medicos came down, and goes, Right, (it's so hot) we now need (to achieve an impossible) 65 minutes to rest an hour."

"I remember standing in a tent at one stage looking down and the bloke with me is laughing because… in the floor of the tent…I had created my own puddle, because it was just sweating out of me."

Team members who lost more than two per cent of their bodyweight were not allowed to start work until they replenished it with fluid. Despite these efforts, after four or five days, people started coming down with heat stroke because the body loses six to eight litres a day through sweat in such conditions.

"We're talking people going down with core temperatures of 41 degrees and stuff which is when you start to melt, like when you start to get organ failure and things like that," Norbury said. "So we had some really sick people on that end. They shipped a couple out who got really sick, they air-vac'ed them because they were in all sorts of trouble." ■

Above: MICA Paramedics Peter Norbury, left, Shaun Whitmore, Paul Golz and David Mati ready to deploy to Samoa.

Dr Graeme Sloman, left, and Mick Stephenson in 2019.

"The 50th anniversary of MICA is a significant moment in the history of ambulance in Victoria, as it is for Victoria as a state. Those who practised as MICA paramedics can be very proud of what they have achieved and have provided for all the ill and injured they have cared for. Victoria is a healthier and safer place because of their dedication, skill and care. Those early pioneers and innovators provided the platform for all those who have served since and who continue to develop and improve the service MICA offers.

As Ambulance Victoria continues to pursue the best of care for all we serve MICA will undoubtedly continue to be at the forefront of ambulance clinical care and carry forward the remarkable legacy created in 1971. We can all be truly grateful for that legacy."

MICK STEPHENSON, EXECUTIVE DIRECTOR CLINICAL OPERATIONS, MICA SINCE 2000

Above left: A Coronary Care Unit badge.

Above right: Various MICA badges and epaulettes.

PARAMEDIC IDENTITY

At the start, MICA officers were identified by a lapel badge with a red heart on it, which was the insignia of the Royal Melbourne Hospital Coronary Care Unit where they trained. MICA officers wore the heart badge for numerous years before a suitable logo was settled for MICA.

Following the lead of many United States medical services at the time, the MICA logo became the double-headed Caduceus. It depicts a staff with two snakes wound around it, surmounted by wings.

The use of the Caduceus in a medical context has been widely debated, with some contending the traditional medical symbol is the Rod of Asclepius, which has only a single snake and no wings.[170] However, the Caduceus has been used to represent United States military medics as far back as the late 19th Century and is said to represent the medic's neutral and non-combatant status.

The Caduceus features to this day in the US Army Medical Corp logo, while the World Health Organisation favours the Rod of Asclepius in its logo. With the Caduceus and Rod of Asclepius both used extensively across medical and paramedical organisations across the world, it is the red Caduceus which is a prominent feature of both the modern MICA and ALS paramedic uniforms.

CHAPTER 17

ADVANCING CLINICAL PRACTICE

MICA has been at the forefront of advancing clinical practice for ambulance services in Victoria, and contributing to global advancement, since its inception in 1971. These advancements have not only saved countless lives, they have also contributed to improved patient health outcomes.

The first major leap forward in clinical practice was driven simply by the establishment of MICA, which accelerated the shift from ambulance drivers to trained paramedics. With the advent of MICA, ambulance officers were permitted to undertake a range of procedures previously practised exclusively by doctors and usually within a hospital environment.

Building on those foundations, Ambulance Victoria has gone on to become an international leader in pre-hospital research through both the epidemiological analyses of key patient cohorts to review and refine systems of care, and world-first clinical trials. Ambulance Victoria partners with a range of research institutes, as well as running its own research and participating in leading international trials with results published in high-ranking journals and forming the basis for improvements in patient care.[171]

Where once MICA protocols were based on medical knowledge arising from the hospital environment, in the modern era of paramedicine Ambulance Victoria conducts research to strengthen its own evidence base to underpin protocols and systems to achieve the best care for patients and staff. MICA paramedics have participated in significant trials into pain management, airway management, cardiac arrest patient treatments, trauma care and drug administration.

"So much of our MICA practice these days (is) based on research that's been done either here or elsewhere and we think it provides really, one of the best levels of patient care in the world," Ambulance Victoria Medical Director (to July 2021), Professor Stephen Bernard said.

"So really, we're very proud that our MICA paramedics are able to do that."

Clinical trials add additional workload and additional training for paramedics. During a randomised control trial, if the paramedics find a patient fits the criteria, there are two choices of treatment and the usual approach is to open an envelope to find out whether they do one treatment or the other.

"We've done a long list of complicated trials that we've had great support from MICA paramedics," Prof. Bernard said. "Some of the procedures we've asked them to do have been very complex, but they've always said, Yes, happy to help."

Among early clinical trials run by MICA paramedics was the international trial for patients with traumatic brain injury, exploring whether administering hypertonic saline could help maintain bloody supply to the brain. The randomised trial was led by Prof. Jamie Cooper, who is now Senior Specialist in Intensive Care at The Alfred Hospital as well as being Director of the Australian and New Zealand Intensive Care Research Centre and Head of Critical Care Research at Monash University.[172] The trial, conducted from 1998 to 2002, concluded

hypertonic saline did not achieve the desired benefit to the patient.

"The main thing that one did though that trial was actually put Ambulance Victoria on the world map as being a leader in clinical trials," said MICA Area Manager Colin Jones.

"It's hard to overestimate how much of a big statement that is, like the idea that you're going to have people looking after truly critical patients who need multiple interventions, who are time-dependent, that you would have the head space, the time and the wit to be able to go, Right this patient meets the whatever trial it is today, trial inclusion as well as doing everything else, I need to get an envelope, make sure the patient meets the criteria, open the envelope, follow the trial protocol."

"If you look at the enrolment rate and participation rate for MICA in clinical trials, it stacks up better than most hospitals in terms of enrolments that we don't miss, in terms of following the trial protocols, so (we have) really good compliance."

Above: Ambulance Victoria Medical Director (to July 2021) Professor Stephen Bernard.

"You've got to capture all the patients that are available. If you write a trial out properly you've got to say not only about the patients you enrolled but how many patients weren't enrolled, so who was missed, and if there's too many of them well, you can't say anything about your results."

"So the idea that paramedics and MICA paramedics could cope with that, could do that and do it well, really was fundamental to kind of my generation of MICA."

Some complex trials take years to complete and may not lead to any change in paramedic practice.

However, Prof. Bernard said trials were valuable to medical understanding and advancing clinical practice, whether they achieved the results they set out to achieve, or not.

"Like many things in medicine, we've found some things we've thought should work…actually they don't," Prof. Bernard said. "So we publish that and the rest of the world says, Oh, that's good to know, because we were thinking of doing that, but now we're not going to do that."

"And then a couple of things we've found, yes that does work, that does help patient outcomes, and RSI was one of those big trials that we really felt did help patient outcomes."

Rapid Sequence Intubation

Rapid Sequence Intubation (RSI) involves paralysing and intubating unconscious patients while maintaining their blood flow in order to minimise long-term health complications.

As a medical advisor to Victorian ambulance since 1993 and Medical Director at Ambulance Victoria since 2015, Prof. Bernard has helped guide clinical advancements in ambulance services over three decades.

Above: MICA Paramedic Colin Jones, Phil Smith and Mark Eddy undertaking RSI on a patient after a motor vehicle crash.

He worked closely with the MICA helicopter paramedics from the late 1990s, helping guide the introduction of the life-saving RSI procedure.

"In lay terms, that's a patient who is critically ill being provided with an anaesthetic to stabilise the airway and

Left: Today, MICA Paramedics operate in both single responder units and in pairs, working closely with ALS colleagues.

the breathing, by providing a tube that goes through the mouth, down into the lungs," Prof. Bernard said.

Prior to the introduction of RSI, MICA Paramedics had to have a patient unconscious to a level that would enable the patient to receive the laryngoscope and endotracheal tube. This meant a deeply unconscious and often non-survivable level of head injury. It also meant the patients who would really benefit from airway management and ventilation were not receiving optimal care.

"Dr Andrew Bacon, who was the Medical Director for the helicopter at the time, was in an awkward situation,"[173] said MICA Flight Paramedic (retired) Philip Hogan. "We had no hope of getting drugs to paralyse the patient, but we did have drugs that could keep them paralysed after they were intubated."

"Dr Bacon reviewed all the helicopter cases and suggested to senior staff that some people had reported successful intubation after a carefully titrated doses of diazepam and morphine were given concurrently."

"Armed with this knowledge, the practice on the helicopter was to use these two drugs and to show an extremely high level of success at intubation."

"The results were published, and the furore was amazing as it showed that patients had a fall in blood pressure which is contraindicated in head injuries. That was enough for the wider medical community to accept MICA Flight Paramedics using RSI drugs," Hogan said.

MICA Area Manager Colin Jones, who teaches paramedicine students about RSI and how to do it, said the precision procedure had to be undertaken with gentle hands.

"If you don't do it really well the patient has a poor outcome. If you stuff it up, the patient dies. But if you do it well, the patient has a better outcome," Jones said.

"That that was a world-class trial and on this occasion, had a positive result, and has changed practice around the world."

RSI was introduced to helicopter MICA paramedics in 1998 and following measurement to confirm its success, plans were enacted to introduce the procedure to all MICA paramedics across Victoria. A clinical trial was conducted from 2004 to 2008 and the results supported expanding the procedure across MICA. Following the clinical and paramedic training, RSI has become an official part of the MICA protocols and is most often used for patients with traumatic brain injury.

"We've been monitoring that ever since," Prof. Bernard said. "It's a key performance indicator, the success rate of that procedure, it's very high, and I think it's fair to say that we've led Australia, certainly, in that procedure."

"There's a few American ambulance services that use (a version of RSI) but for example, other ambulance services in the UK say, No, we think that's all too hard, whereas we've said…We think there's a patient benefit there," Prof. Bernard said.

Supplemental oxygen

MICA paramedics participated in a trial called Air Versus Oxygen In myocarDial infarction (AVOID) from 2011 to 2014. A randomised controlled trial, AVOID aimed to determine whether withholding routine supplemental oxygen therapy prior to reperfusion in patients with heart attack, but without hypoxia, decreases myocardial infarct size. The study was presented at the American Heart Association Scientific Sessions and published in the Association's journal, changing clinical practice internationally.[174] The study found administering supplemental oxygen to patients who were having a heart attack was not beneficial.

"Now oxygen has been being given since the '50s and was just accepted as part of that's what you do. Well it's actually harmful. In that circumstance, for that patient, it's actually harmful," MICA Area Manager Colin Jones said. "It leads to a bigger area of dead heart muscle. That's changed practice around the world."

Following from this study, in 2020-21, Ambulance Victoria paramedics are participating in the AVOID 2 trial, which relates to intravenous lignocaine (a local anaesthetic) versus opioids as analgesics to relieve the pain of patients having a heart attack.[175] For the first time, the trial is taking enrolments from ALS paramedics.

"That's the comparison of people with chest pain that are having a heart attack, having a STEMI, that's comparing whether giving them lignocaine as basically an anaesthetic agent, to anaesthetise the heart so they don't have as much pain versus giving them pain relief, whether that's better for overall survival or minimisation of heart muscle damage,"[176] said MICA Team Manager Glen Bail.

"That's the first trial really that we've had that's involved ALS paramedics, where they can enrol people in this trial."

MICA Area Manager Colin Jones said usually MICA would conduct the trials and then once the evidence was confirmed, new protocols could be rolled out to benefit more patients through ALS paramedics. The introduction of ALS paramedics to clinical trials represents another significant step forward for the profession.

"I'm just rapt that for the first time…in a rigorous way across the board, we've got all the ALS paramedics participating in a major randomised control trial that will give us level one evidence, that'll change practice, it's just massive," Jones said.

Clot-busting thrombolysis

The ability for paramedics to administer clot-busting thrombolysis drugs has been game changing for patients with ST-Elevation Myocardial Infarction (STEMI), a serious type of heart attack where one of the heart's major arteries is blocked, and for patients suffering from stroke.

Of all the changes to cardiac arrest guidelines since MICA Paramedic Christine Kolac joined Ambulance Victoria in 2008 and qualified for MICA in 2011, no clinical advancement has been more satisfying than the introduction of thrombolysis.

"It's always research…and then…everything gets re-evaluated every year or every couple of years and our cardiac arrest guidelines have changed probably three times I reckon, like big changes since I've been in ambulance,"[177] Kolac said.

She's given patients in cardiac arrest thrombolysis around a dozen times in the two years since she moved from Melbourne to Gippsland.

"Definitely rural brings its challenges, but being able to give thrombolysis, I've probably given it maybe a dozen times, and I think it's worked maybe 9 or 10 out of those times, like it's phenomenal to see the difference," Kolac said.

"(In) Melbourne, you'd always transport to a cath lab facility and you'd have to wait for the surgery to have… a similar response, so yeah, incredible."

"It's nice to see a bit of reward for a patient improving in your presence."

Administering blood

The administering of blood products to patients has been another significant step forward in clinical practice being undertaken by MICA flight paramedics in more recent years.

"We've introduced a number of additional clinical practice guidelines for them that are very advanced, that many physicians wouldn't be able to do, and a wider range of drugs," Prof. Bernard said.

"For example, the provision of blood products for… a trauma patient who needs a blood transfusion on their way to hospital or they're not likely to survive. That's proved to be very successful and highly supported by our trauma services."

Unlike RSI, the delivery of blood products is currently expected to remain a skillset within a smaller group of MICA flight paramedics rather than being expanded to the full MICA workforce.

"In medicine, complex procedures have to be done frequently, because if they're not, the skill often isn't done correctly and in fact, then can result in patient harm, so that two levels of skillset we still think is very valid," Prof. Bernard said.

Clinical Support Officers

Clinical Support Officers (CSOs) are paramedics who have spent considerable time on MICA and still operate as a single responder while mentoring and educating MICA and ALS paramedics. Clinical Support Officers have played a critical role in maintaining clinical standards since the role was introduced in 1993. The initial Clinical Support Officers were a group of

about 30 MICA paramedics who were removed from existing MICA units and equipped with sedans to operate as single responders.

Above: The first group of Clinical Support Officers.

Prof. Bernard sees potential for future expansion of the service provided by Clinical Support Officers, as new technology enables them to have an eye on the scene of complex cases from the communication centre.

"Clinical Support Officers…have single responding cars and drop in on jobs and maintain… that watch of the procedures, the assessment management, transport, is that working well," Prof. Bernard said.

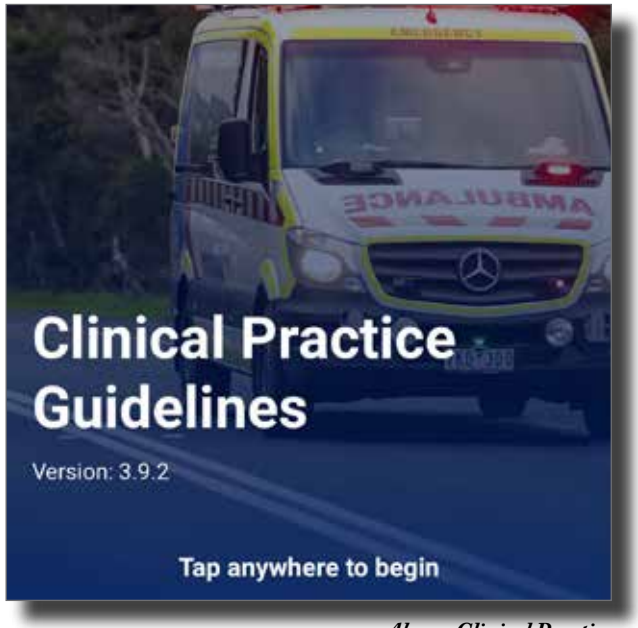
"I think Clinical Support Officers as part of the MICA skillset is something that's proved very useful. They tend to do to the more difficult jobs, plus they provide telephone advice from the call centre."

Clinical Practice Guidelines

Ambulance Victoria's first Clinical Practice Guidelines (CPGs), which outline the steps to take in treating different conditions, were written for MICA paramedics in the 1970s and consisted of fewer than 20 pages.

The first Drugs and Protocols booklet issued to the early MICA paramedics was developed in 1974 with extensive input from Royal Melbourne Hospital and its Cardiology Department. The second edition was published in April 1976 and the third edition in April 1978. Since then, it had grown into a book with more than 200 pages by the 2010s with guidelines for MICA, ALS and Flight Paramedics. The Clinical Practice Guidelines underwent a significant overhaul in 2008-09 to accommodate the merger of rural and metropolitan ambulance services to form Ambulance Victoria.[178]

Informally known as the 'Paramedic's Bible', the Clinical Practice Guidelines have since been transformed into an easy reference app which lists hundreds of protocols for paramedics to access via their smart phone or tablet. The development and review of Clinical Practice Guidelines is informed by the AGREE II Instrument, which is an internationally recognised tool to guide and evaluate the development of Clinical Practice Guidelines. The process includes the analysis of performance data and published evidence presented internationally, targeted consultation both internally and externally, including with paramedics, and the consideration of context specific needs and risks. It is supported by the Ambulance Victoria Clinical Practice Guideline Committee and the Medical Advisory Committee.[179]



Above: Clinical Practice Guidelines are now available via an app.

"I think it's fair to say our trauma services are strongly supportive of the Clinical Practice Guidelines firstly, and then the way they're done with that sort of skillset, with the training, with the practice, the audit and review process that we have in Ambulance Victoria," Prof. Bernard said.

The volume and pace of change in the Clinical Practice Guidelines has been a noticeable shift for long-term MICA officers. Clinical Support Officer Glenice Winter, on MICA since 2002, described the latest list of guidelines as 'huge.' "I used to pride myself that I could

Right: MICA paramedics today, working alongside their ALS paramedic colleagues, have access to continually improving equipment and a wider range of pain managing and life-saving drugs.

recite (the Clinical Practice Guidelines) backwards. Everything in there, I would know,"[180] Winter said.

"But nowadays, I'm one of those stalwarts that if I have to rely on the app, I feel like, Oh, I've let myself down… but there's too much in there now to know."

MICA Team Manager Glen Bail said requirements had changed substantially for MICA paramedics during more than two decades he has served.

"Back in the day when I started on MICA, there was one education day every six months or one a year, and everything that changed for MICA was included on that day, whereas now every second day we come in and something's changed. Someone's put some new policy in, or someone's put some new clinical procedure in,"[181] Bail said. "So it's extremely difficult for people to keep their head around that."

As paramedicine has professionalised, the list of clinical guidelines has also become more deeply grounded in evidence and backed by clinical governance, and paramedics are expected to use them differently.

"Our knowledge used to be exactly the CPGs," Bail said. "In my MICA panel, for example, they asked, what's the seventh word on the fourth page of the adrenaline CPG or whatever it was, and you would have to know verbatim, the wording and everything of the drugs and medication, and guidelines, whereas the sort of rote learning like that, is nowhere near that anymore."

"They're far more likely to want you to use the app and secondary people to verify what you're going to do which has its safeguards," Bail said.

MICA Paramedic (retired) Ian Patrick, Board Member of the Paramedicine Board of Australia, said the Clinical Practice Guidelines had become more sophisticated and robust.

"We've got a proper evidence-based approach to CPGs,"[182] Patrick said. "We've got really good clinical governance in Victoria, probably the best in Australia… and our CPGs are world-renowned."

"And the thing is that now the CPGs are evidence based, from the day-one paramedic to the Air Ambulance guys, they all fit together, and they're all based on evidence and the same clinical governance processes."

For Patrick, the biggest shift in MICA over the past 50 years has been about the people and their skills.

"I think the big thing is the calibre of the people and the professionalisation of the MICA cohort," Patrick said. "Like you look at the standard of care that's provided in our helicopters – the only people who are doing something similar are doctors."

The volume of change over recent decades may have presented challenges for paramedics, but that's expected to continue into the future.

"That's just as the pace of change in things, like professional registration, and people now keep going, It's just hard to keep up,"[183] Clinical Support Officer Peter Norbury said.

"And the answer is, it is. The days of sitting back in a branch and just letting things wash over you, are gone."

"If you don't actively do some work to maintain and be

Left: Survival rates for out-of-hospital cardiac arrest have increased significantly, with 33.5 per cent of adults who presented in a shockable rhythm surviving to hospital discharge in 2019-2020 compared to 9 per cent in 1995.

up to date with our clinical knowledge, and why we've changed stuff, and what we've done, you will get left behind."

Patient Safety and Clinical Governance

Building on the early MICA practice of reviewing and critiquing cases, Ambulance Victoria has worked to develop systems and a culture around patient safety. An electronic incident management system has been established to help understand any harm events and explore patient feedback within the previous 24 hours. Clinical incidents and serious complaints can be immediately triaged and reviewed to allow immediate mitigation and prevent further reoccurrence. In the past this process could take weeks, while new Ambulance Victoria systems have reduced this to 24 hours.

In the case of a serious complaint or harm event that requires immediate action or is of high risk, the case is automatically escalated to the CEO and Operations executives within four hours. Learnings from clinical incidents are then shared in an open and transparent environment via patient safety updates recorded and presented by the clinical review team. These learnings from patient safety reviews feature in regular videos, viewed by more than 500 MICA and ALS paramedics each month, and help promote a culture of zero harm, continuous improvement and best care for patients.

MICA paramedics are also active in seeking to advance clinical practice, according to Prof. Bernard, who said the Ambulance Victoria Medical Advisory Committee and Clinical Guideline Development Committee receives a lot of representations from MICA.

"Frequently we get MICA paramedics putting their hand up and saying…We've seen that this is coming into some hospitals… should we be doing this on the scene?" Prof. Bernard said.[184]

"I think we've had a great relationship to say, Yes, let's discuss this. Actually, you know they've tried this in a certain country, didn't seem to work, resulted in quite a lot of complications, for example, yeah, let's not do that. And then, (the MICA Paramedic says,) Yeah fine, no problem."

As it reaches 50 ground-breaking years of service to the Victorian community, the Ambulance Victoria MICA service has more than 610 MICA paramedics, including 47 trainees, attending to the patients across the state, backed by world leading clinical research and practice.[185] Victorians suffering the most life-threatening illnesses and injuries are attended by 30 designated MICA resources in the Melbourne metropolitan area and 19 in regional areas, ranging from single responder cars to 24-hour two officer stretcher resources and some peak period MICA resources. From a modest start with 90 patients during its three-month trial in 1971, MICA paramedics now attend more than 80,000 cases each year, including more than 2,500 cases by helicopter. In addition to helping save an estimated 13,000 Victorian lives each year, clinical intervention by MICA paramedics, working in partnership with their ALS colleagues, helps reduce the length of time patients need to stay in hospital and improves patient outcomes.

■ ■ ■

"The 50th anniversary is a great opportunity to celebrate the development and current role of MICA paramedics. They go to our most critically ill patients, they save a huge number of lives every year. I've always found, when I've had the privilege of travelling along with them, that they're so professional, so careful with the management of patients, and with all those lives saved, I think it's been a great system that Victoria has had, so it should be a great cause for celebration, the 50 years."

PROFESSOR STEPHEN BERNARD
MEDICAL DIRECTOR,
AMBULANCE VICTORIA (TO JULY 2021)

"When I started in '72, we were basically good first aiders. We did a basic course in first aid and we were sent out in the ambulance. We would load four stretcher patients into the back of the ambulance and rush them off to hospital. When you went out as a MICA officer you could do so much more for them and get them to hospital in a much better condition. I think that's why I enjoyed MICA so much."

LAURIE SPELLING,
MICA PARAMEDIC (RETIRED),
MICA PARAMEDIC FROM 1975

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117	Tony Walker
118	Dave Talbot, Tony Walker, Mick Lewis
120	Ambulance Victoria Museum
126	Mairi Barton. Laurie Spelling
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YEA

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