AUSTRALIAN PARAMEDIC

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Vol. 2 - Edition 2

IN THIS EDITION

Mental health challenges of the profession

AMBULANCES ARE FOR EMERGENCIES:

Shifting attitudes through a research-informed behaviour change campaign

HEALTH AND NUTRITION

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RESEARCH

PARAMEDIC ETHICS:

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EDITORIAL BOARD

An Editorial Board is being established for the journal. The Board includes a number of experienced paramedics who offer expertise in various areas of paramedicine. The Board's role will be to oversee articles to ensure the content and information is accurate and timely, and to provide advice on direction for the journal. If you have a particular interest in being involved on our Editorial Board we'd be happy to hear from you. We are looking for people with expertise and knowledge of different fields of paramedicine, so when you get in touch please also provide a brief overview of your expertise. Simply email our Editor at editor@ausparamedic.com.au

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DISCLAIMER

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About Us

Australian Paramedic is a new journal being delivered to Paramedics across Australia. Our mission is to support and improve patient care through the sharing of knowledge and information from across Australia, and at the same time aid paramedics through delivering current information from recognised and emerging leaders in emergency care.

We are independent from any employer, associations or groups and our aim is simply to provide current, relevant information to the Australian Paramedic. With an Editorial Board (currently in progress) consisting of paramedics and emergency medical professionals we will ensure that the information provided is accurate and timely in this developing professional environment.

Australian Paramedic will evolve over time with feedback and review from readers. The aim of Australian Paramedic is to share knowledge and commentary from experts in the field, as well as provide background information on topics as research and programs develop both in Australia and internationally.

As Australian Paramedic develops we hope to become the leading voice for paramedics to share news, knowledge and information.

Editor's Note

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Australian Paramedic is proud to be independent of any professional association or academic institution.

WELCOME AGAIN TO ANOTHER EDITION OF AUSTRALIAN PARAMEDIC.

It's almost the middle of Winter and 'flu season' is well underway, which is no doubt keeping many of you busy at work, and hopefully not off of work! The rate of infection from influenza started very high and quite early for the season, this led to significant campaigning to promote the vaccine. The experts continue to follow the public health data and although rates haven't yet peaked, it is hoped that the campaign will have spurred many on to receive the vaccine and prevent further spread of the infection, and minimise deaths (and even hospitalisations) from the illness.

In this edition we have included an article on Winter Immunity through nutrition and healthy living. The article highlights some key nutrients that can help to boost immunity and hopefully ward of illness this Winter.

One of our main features in this edition is an article that has originated from a PhD work. The study has incorporated investigation of the mental health challenges faced by Paramedics in Australia, with a view to developing a concept plan to aid student paramedics and prepare them for these challenges when they enter the workforce. Discussing these ideas, incorporating programs and building resilience in the future workforce is imperative for the health and longevity of service from new paramedics.

Also in this edition, we take a look at Paramedic Registration in Australia – Six Months On. With views from a range of people working or having an interest in different sectors of paramedicine, we thought it an interesting discussion.

We also have items looking at the success of campaigning about the use of ambulances in Victoria, an opportunity to become involved in research on ethical dilemmas in paramedic practice, and our regular FOAMed highlights.

If you have something to say or contribute, we'd be happy to hear from you at

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Enjoy the read this time..., and if you have any contributions or suggestions we are always happy to hear from you!

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Preparing student paramedics for the mental health challenges of the profession by using the wisdom of the experienced

AUTHORS:

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INTRODUCTION

One in five adults in Australia and one in six in New Zealand are diagnosed with a mental health condition in their lifetime.(1,2)

In contrast, over one in two employed first responders and one in three volunteer first responders experience a mental health condition.(3) Furthermore, one in three first responders experience high or very high psychological distress in their work compared to one in eight of the general adult population.(1) In the context of paramedicine, two thirds of paramedics were found to have been deeply affected by a traumatic event experienced whilst at work, increasing the risk of probable Post Traumatic Stress Disorder by four times than that of non-exposure.(3) This has led to much media coverage around the physical, emotional and mental demands of the paramedic role.

Investigations into the high rates of mental illness and suicide within paramedicine have been conducted across Australia and New Zealand. One such investigation, conducted by the Western Australia Chief Psychiatrist, Dr Nathan Gibson, was implemented after five suspected suicide deaths of paramedics/volunteers from Western Australia between December 2013 and March 2015.

The focus of the investigation was to determine if the individuals' roles as first responders had contributed to their deaths and offer recommendations to the ambulance service on future mental health and wellbeing support for staff. While acknowledging the substantial tragedy for families, friends and colleagues, in addition to the cause for concern within the ambulance service, government and wider community, the findings determined that there was little evidence to suggest that their roles and the exposure to critical incidents were key factors in the losses.

Reference was made to the low levels of organisational satisfaction, it was also noted that this is echoed in other reviews across Australian ambulance services, in particular the 'cultural divide' between management and paramedics.(4) A recent national survey of paramedics indicated

that poor mental health literacy is a significant barrier to paramedics recognising they or their colleagues may have, or are developing a mental health condition.(3) Others indicate emergency workers are not accessing or able to access the levels of emotional support required for the work they are asked to undertake on a daily basis.(5)

Whatever the cause, there exists an urgent need to address the disproportionate experience of mental health issues by Australia and New Zealand's first responders.

STUDY

The study was conducted in two parts. Part A comprised of two surveys which were developed and administered to 16 course coordinators and 302 students of the 16 accredited undergraduate paramedicine courses across Australia and New Zealand. The survey aimed to identify the perceived need for preparation within the curriculum. In addition, the anticipations, confidence and fears of student paramedics, Course Coordinators and paramedics were also collected as a means to explore the preparedness through self-evaluation, reflection and discussion.

Part B included twenty semi-structured interviews with experienced paramedics, from Australia and New Zealand. The interviews were conducted to gain an understanding of their experiences and the mental health coping strategies they employed, as well as capture the advice they would give to student paramedics. Results from the interviews were validated by three focus groups comprised of six paramedics each, representative of the geographic spread.

This topic formed the basis of a research study conducted as part of a PhD.

TABLE 1 RESULTS

State/Territory/ Country	Student Paramedics	Course Coordinators	Experienced paramedics
New Zealand	55	1	7
Australian Capital Territory	3	0	2
New South Wales	26	3	2
Northern Territory	0 included in other states	0	2
Queensland	68	2	2
South Australia	37	3	2
Victoria	40	3	3
Western Australia	63	3	5
Tasmania	10	1	2

The demographics of students, course coordinators and experiencd paramedics.

Course Coordinator and Student Paramedics

All course coordinators (100%) and most (97%) students reported that mental health challenges of the paramedic profession should be part of the undergraduate paramedic education and training curriculum. Three quarters of course coordinators (75%) and students (74%) agreed that mental health challenges of the paramedic profession are currently included within undergraduate paramedic courses. However, there remain a significant percentage of respondents, 36% of course coordinators and 43% of students who consider this topic is not covered in appropriate depth. Importantly, two-thirds (64%) of course coordinators and more than half (54%) of students reported students were not suitably prepared for the mental health challenges of the paramedic profession. Tables 2 and 3 provide the survey results for course coordinators and undergraduate students.

TABLE 2

The proportion (%) and number of respondents who answered yes or no for questions relating to mental health preparation

Question	Course Coordinators % (N)		Student Paramedics % (N)	
	Yes	No	Yes	No
Should the mental health challenges of the paramedic profession be part of the undergraduate curriculum?	100% (15)	0% (0)	97% (274)	3% (8)
Does your undergraduate course currently include the preparation of novices for the mental health challenges of the paramedic profession?	75% (12)	25% (4)	74% (225)	26% (78)
Are the mental health challenges of the paramedic profession covered in appropriate depth?	64% (7)	36% (4)	57% (113)	43% (84)
Has your course suitably prepared your students/you for the mental health challenges of the profession?	36% (5)	64% (9)	46% (113)	54% (131)

Continued >>

TABLE 3:

Preparation for mental health challenges is taught and how it should be taught.

Mode of Instruction	Course Coordinators % (N)		Student Paramedics % (N)	
	How is the material taught	How should the material be taught	How is the material taught	How should the material be taught
Lecture	100% (11)	86% (12)	81% (162)	69% (171)
Discussion	100% (11)	93% (13)	63% (126)	81% (202)
Activity	82% (9)	86% (12)	36% (73)	65% (162)
Independent research	9% (1)	21% (3)	34% (68)	26% (65)
Group research	36% (4)	64% (9)	9% (19)	24% (61)
A standalone unit	45% (5)	43% (6)	24% (48)	32% (79)
Placement / practicum	19% (1)	7% (1)	9% (19)	11% (27)

In relation to the issues paramedics fear most when commencing their career, as shown in Table 4, making a clinical mistake received the most responses from both course coordinators (40%) and students (38%). Although 23% of students feared for their personal mental wellbeing, no course coordinators noted this as a fear. Conversely, 20% of course coordinators reported students feared working with unsupportive colleagues yet only 2% of students agreed. Fears identified by students but not course coordinators included treating children (13%), aggressive and abusive patients (11%) and death of a patient (8%). Small numbers of course coordinators and students cited multiple casualties (10% and 5%) and being accepted as an equal (10% and 1%).

TABLE 4

Issues student paramedics fear most when commencing their career as a paramedic

Themes	Course Coordinators % (N)	Student Paramedics % (N)
Making a clinical mistake	40% (4)	38% (62)
Personal mental wellbeing	-	23% (37)
Not getting a job	10% (1)	-
Treating children	-	13% (21)
Aggressive and abusive patients	-	11% (18)
The death of a patient	-	8% (13)
Multiple casualties	10% (1)	5% (8)
Working with unsupportive colleagues	20% (2)	2% (4)
Being accepted as an equal	10% (1)	1% (1)
Motor vehicle accidents	10% (1)	-

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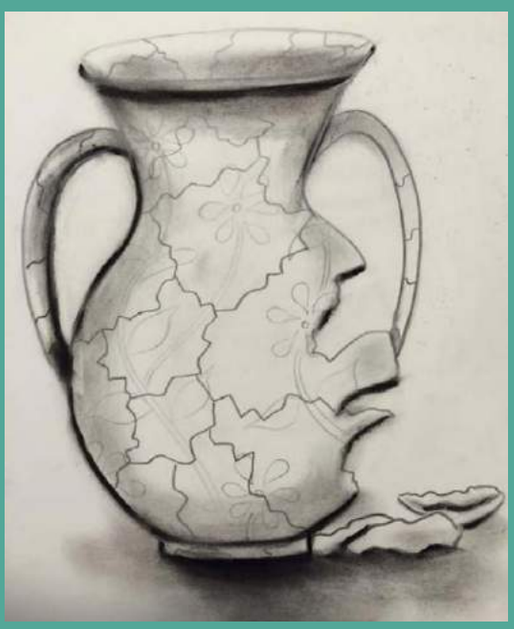

Image: Chris Mawson - Author of Broken - A paramedic's battle with PTSD

Experienced paramedics

To complement the quantitative survey data from Course Coordinators and Student Paramedics, experienced paramedics were interviewed to explore their lived experience of the profession and the mental health challenges faced and coping strategies used. In this section, comparisons will be made between experienced paramedics discussion of the mental health challenges with Course Coordinator and Student Paramedic responses and where appropriate, available literature.

Commencing career aspirations/concerns

Paramedics cited helping people as the greatest positive anticipation they felt prior to commencing a career as a paramedic. This was similar to caring for people, which had the most responses from students (30%) in the student survey. This was also reported by a quarter of course coordinators (25%) in their survey. Half of the veteran paramedics stated that offering relief in an emergency situation was a positive anticipation, which is a similar result to a third of course coordinators and 11% of students who identified making a difference to patients and their families as a positive anticipation.

Paramedics recounted the ability to develop rapport quickly with people as being their greatest source of confidence prior to commencing a career. A quarter of students cited communication with patients as an area of confidence, this can be seen as similar to building rapport. Confidence in knowing they wanted to be a paramedic was reported by over half of the paramedics. This may be linked to the structure of training and employment present within some ambulance services 15 or more years ago, whereby volunteer paramedic work was a prerequisite for applying for a paid paramedic position. It could be argued that undertaking a role as a volunteer would provide an individual sufficient exposure to the role of a paramedic and allow a person to be certain of the career path they were following.

Nearly two thirds of paramedics reported not knowing what to do at a call generated feelings of least confidence upon commencing their career as a paramedic. Additionally, almost a third reported not being able to help or being unable to make decisions quickly as generating most feelings of least confidence. This was supported by course coordinators (45%) and a quarter of students who reported clinical decision making as the area of least confidence.

Similar to previous questions, 'not knowing what I was doing' was identified as the source of most fear by paramedics (65%) when they commenced their career in paramedicine. Making a mistake was also cited by more than half of paramedics (55%). These are similar fears to making a clinical mistake, which was the most reported by both course coordinators (36%) and students (27%). Upon further discussion with paramedics, it was clear that the potential outcome of not knowing or being able to help could affect the life and wellbeing of a patient and the career of the paramedic. Over a third of paramedics recalled feeling responsible for patients, which is related to these areas.

Mental health experiences

Seventy percent of experienced paramedics expressed their love and passion for the role, consistently speaking of their affection for the profession and their 'paramedic family'. This was often associated with a sense of belonging and immense pride in the role. While this is positive, several paramedics identified feelings of loss and reduced self-worth upon leaving the service. It could be argued that these might be common emotions when leaving a role that was enjoyed, however, this is perhaps intensified within paramedicine due to the overlaps in work and social activities, as well as the feelings of being needed and helping others as identified in the responses to earlier questions.

Half of the paramedics admitted to experiencing long term negative effects of shift work. When discussing issues related to shift work, veterans linked the effects specifically to:

Eating and digestion issues.
Disruption to sleep patterns.
Ongoing tiredness with changing shift patterns.
Increased feelings of stress and irritability.
High risk of injury.

Twenty percent of those who cited shift work as an issue added that not knowing when a shift was going to end

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increased stress levels. Shift work could be a contributing factor to the sense of community and belonging to colleagues and the profession. Many participants referred to their colleagues as their 'other' family. The reasons for this could be linked to the relationships formed with crew partners due to the long hours worked together in close proximity, often with a full shift being spent using the ambulance as their base. The stressful, unpredictable and challenging nature of prehospital work is likely to build high levels of trust between colleagues, particularly when confidence in each other's decisions both clinically and for safety is needed.

Sadly, 45% of experienced paramedics had lost colleagues due to mental illness leading to suicide. This loss was identified by those paramedics interviewed across all states and territories of Australia and New Zealand. The shock and disbelief felt by family, friends and colleagues after losing someone to suicide often leads to feelings of anger and guilt, which can lead to increased stress and increased risk of mental illness. (6)

It was generally acknowledged by all paramedics interviewed that the role of the paramedic profession had changed substantially over the last 15+ years. About 45% of participants discussed the following changes specifically when responding to this question:

- A significant increase in calls;
- A rise in primary and community based care, where the patients are not always transported to hospital;
- Reduced or no downtime after critical incidents;
- Greater awareness of the ramifications of care giving;
- Increased growth and geographical spread of the population; and
- Closure or the merging of ambulance stations.

Due to the changes in the paramedics' role over time the chance for paramedics to spend time together at a station, between calls has greatly declined. This seems to have a detrimental effect on the wellness of paramedics as it has limited the opportunities for social and habitual contact as well as reduced occasions to rest, eat and share experiences and emotions.

Almost half (40%) of paramedics stated they had experienced violence, both verbal and physical, on calls. This has been reported widely in the media, with perpetrators being prosecuted and at times imprisoned. Maguire, O'Meara, Brightwell, O'Neill, and Fitzgerald (7) reported the risk of serious occupational injury amongst paramedics was more than seven times higher than the national average. Boyle, Koritsas, Coles, and Stanley (8) found 87.5% of paramedics surveyed had experienced some form of violence while undertaking their roles in the community.

During discussions, 30% of veterans linked the rise in violence against paramedics to the increase in alcohol use, illicit drug taking and mental illness related calls. This supports the suggestions made by Boyle and Wallis (9) who raised the possibility of a reduction in respect for paramedics and community helpers due to a change in society's values and norms, which is leading to the increase in violence during calls.

Struggling to let outcomes and connections with patients go, was cited by over a third of the paramedics as being the most difficult aspect of the role. When discussing this further, all recalled this being a particular challenge in the

Continued >>

early stages of their careers. While this reduced over time, paramedics expressed that it remained difficult to move forward after some specific types of calls, regardless of years in service. Upon further investigation, it was clear that it was most difficult for paramedics to move forward from calls, patients and/or situations that related to them on a personal level; in particular, situations that involved children. Previous research has found that the calls involving children and colleagues caused the most emotional distress (10). Paramedics (35%) recalled communicating the death of a patient to family or friends was the most difficult aspect of the role. All participants who discussed this said they could remember the first and last time in great detail.

Coping Strategies

The following responses are specifically related to the strategies the paramedics implemented to survive the mental health challenges of their role. When asked about the coping strategies paramedics use to maintain positive mental health, the most prevalent strategy involved the use of black humour (70%). This finding is supported by a study of stress and the coping strategies used by 608 paramedics in Canada, where black humour was named as a coping strategy by 90% of the participants (11).

Specifically, black humour was used as stress relief, social support, acceptance from peers and a way to suppress emotions. The data collected found that the opportunity to talk things through with a crew partner or colleagues was discussed by 45% of paramedics while the strategy of dehumanising patients by treating an injury or illness as opposed to a person was also used by 45% of the paramedics interviewed in this study.

Keeping fit and healthy was a coping strategy used by 40% of participants. This strategy was also linked to fostering good sleep routines (20%). The combination of shift work and stresses of the job places paramedics at a higher risk of unhealthy diets and poor levels of fitness. These issues can lead to increased chances of sleep problems, gastrointestinal issues and a lowered ability to fight common illness (12).

Similarly, adopting a routine to unwind and switch off before going home after a shift was cited by 35% of the interviewees, which links to the theme of normalising strategies in order to cope with the challenges of the role. Almost half of all paramedics also stated they sought to constantly develop their skills as a paramedic to help build their confidence in themselves and their professional judgment. Others focused on a hobby outside of paramedicine to help manage stress (30%) and a quarter felt the support they received from loved ones was central to their mental health.

Within the interviews 40% of paramedics admitted to using alcohol and/or prescription and/or illicit drugs to cope with the challenges of the profession. Reference was also made to issues with gambling (10%). Others said they needed to leave the profession to improve their mental health and 20% were receiving or had previously received professional help for their diagnosed mental illness.

"Within the interviews 40% of paramedics admitted to using alcohol and/or prescription and/or illicit drugs to cope with the challenges of the profession."

Advice for Student Paramedics

The advice for students given by the experienced paramedics were collated into three core themes. The first related to support, focusing largely on offering support to others in the profession and seeking it from colleagues. Staying fit and healthy was the second core theme. Paramedics believed that staying physically fit helped maintain psychological wellbeing at the same time.

Finally, experienced paramedics recommended changes to the profession to support students including increased support from the employer for managing stress, reviewing rosters to help reduce fatigue and continuing professional development, particularly related to mental health. These echo the representations and subsequent findings in the recent senate inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers, (13).

DISCUSSION

This study contributes to the understanding of factors that impact on the mental health and wellbeing of paramedics. The evidence provided supports the preparation of student paramedics for mental health challenges as part of the accredited undergraduate curriculum through the sharing of experienced paramedics coping strategies in the form of advice. This is based upon the experienced paramedics' professional and lived experiences and contributes to positive mental health and wellbeing. This advice was validated through focus groups formed from veteran paramedics with a similar length of experience.

Despite anecdotal evidence that this topic is valued by those involved in the education and training of student paramedics, as well as the paramedics themselves and their employers, this study is the first to research this area amongst undergraduate course coordinators and novices and to conduct in depth interviews with veteran paramedics to elicit their advice to novice (student) paramedics. The 100% response rate to the course coordinator survey and the completion of novice (student) paramedic surveys from all undergraduate degree programs across Australia and New Zealand during the study period, in addition to the willingness of veteran paramedics to participate in interviews and focus groups, provides an indication of the importance of this topic within the profession.

This research has found that all Course Coordinators and almost all students believe the mental health challenges of the profession should be addressed at an undergraduate level, however only three quarters believe this occurs and even fewer (approximately half) believe it is addressed sufficiently. Furthermore, less than half of all students believe the course has effectively prepared them for the mental health challenges ahead. Additionally current paramedics report managing their mental health is one of the most important factors for them in their daily role.

Given these findings and the alarming disproportionately high rates of mental illness and suicides among this profession, there is an urgent need to develop evidence-based guidelines for the integration of mental health awareness and coping strategies into undergraduate paramedicine degrees. Undergraduate programs are ideal environments in which to begin to prepare student paramedics to meet the mental health challenges of their future profession. It is important to acknowledge that this undergraduate teaching cannot, and must not, replace ongoing programs and initiatives by pre-hospital organisations that are intended to support the ongoing mental health and wellbeing of paramedics.

There is value in promoting accredited undergraduate degree programs to include comprehensive preparation for the mental health challenges of the paramedic profession, to raise awareness of mental health and to educate novice (student) paramedics prior to commencing their professional careers. They are a captive audience and there is great potential in enhancing self-care, in addition to patient care through better understanding within their preparatory learning environments. Furthermore, there exists the opportunity in the same learning environments to teach coping strategies to meet the mental health challenges through the use of the lived experience and advice from veteran paramedics. The advice offers common sense, profession specific, highly credible lived experiences and connects veterans to novices in a unique and positive educational way.

Concerns have been raised regarding the potential risk of students being exposed to violence while on practicum with ambulance services or other health care providers. The need for some form of preparation prior to commencement of practitioner postings has been highlighted as a valuable action (9). This preparation could be undertaken through sharing the lived experiences and advice from veteran paramedics as a segue into developing the following skills:

- Knowledge of mental illness, including addictions;
- Practical communication skills on how to approach distressed patients, including de-escalation techniques; and
- Physical safety awareness.

This could provide a foundation for students to gain valuable exposure and experience in a safe and constructive environment through the use of case studies and simulations prior to practicum.

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Collectively the themes from this study represent a way forward in the preparation of students by using the experiences of those that have lived and successfully coped with mental health issues while working as a paramedic. Previous literature often ignored the potential for preparing students for the mental health challenges of the profession and focused on paramedics already working on road. The data from the current study has increased our understanding of the mental health and wellbeing of paramedics and the strategies used to cope with the challenges faced throughout their careers, in addition to how student paramedics could be prepared in their learning phase.

PROPOSED GUIDELINES

Using the current Australian National Mental Health Policy (14) and its associated plans coupled with our findings from discussions with students, course coordinators and experienced paramedics we have developed Australia and New Zealand's first guidelines for developing mental health literacy among future paramedics.

The resultant guidelines are grounded in the four priority areas of the National Strategy and integrate the lessons learned from experienced paramedics, student paramedics and course coordinators of undergraduate paramedicine degrees. They serve to improve paramedics understanding of mental health in the Australian context and in their role as a paramedic, as well as explore how to promote their own and their colleagues' mental health.

The guidelines are two-fold. First, they focus on the content that should be provided to student paramedics a) for me – to assist in the development of their own positive mental health and wellbeing; and b) for my role – the understanding of mental health problems and illnesses, its broad impact, treatment and rights of those with a mental health problem and/or illness.

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COMPETING INTERESTS

None

About the author

Dr Lisa Holmes is part of the paramedicine teaching team at Edith Cowan University. Her research interests are in education, training, first responders and mental health & wellbeing. She has presented her research, recommendations and workshops at both national and international conferences. She is a member of the leadership team for the highly valued and successful annual Survive & Thrive Symposiums. Lisa is also an Accredited Mental Health First Aid Instructor.

For a list of references please contact the Editor @ editor@ausparamedic.com.au

Aims of the National Mental Health Policy	Content	
	For me	For my role
Promote the Mental Health and wellbeing of the Australian community and, where possible, prevent the development of mental health problems and mental illness	Mental health and wellbeing (knowledge)	
	Mental Illness (knowledge)	
	Importance of Prevention (knowledge and attitudes)	
Reduce the impact of mental health problems and mental illness, including the effects of stigma on individuals, families and the community	Self-care strategies	Impact of mental health problems (ecological model of individual through to broader community)
		Stigma
	Supporting colleagues who may be experiencing mental health problems	
Promote recovery from mental health problems and mental illness	Mental Health and Illness treatment (short and long term)	
	Support services (online, phone, one on one)	
	Inclusion	
Assure the rights of people with mental health problems and mental illness, and enable them to participate meaningfully in society		Theoretical understanding of legal responsibility and rights
		Working with mentally ill patients (duty of care, restraint, safety, communication, empathy)

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AMBULANCES ARE FOR EMERGENCIES:

Shifting attitudes through a research-informed behaviour change campaign

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In Victoria, Australia, emergency calls requesting an ambulance have been increasing at a rate higher than population growth. While most of these calls are for genuine emergencies, many do not require an immediate ambulance response. A collaborative research approach was undertaken to address this issue. The aim of this paper was to evaluate the effectiveness of applying a behaviour change approach to this challenge by first addressing antecedents of behaviour (attitudes, awareness and knowledge).

METHODS

The project included a formative research phase to inform the design of a mass media campaign and subsequent evaluation of the campaign.

RESULTS

Results indicated that the campaign was successful in increasing community attitudes towards ambulances as being for emergencies only, particularly among those familiar with the campaign material and with other health service options (such as telephone advice lines).

CONCLUSIONS

These findings provide support for adopting the Forum approach to increase the chances that a mass media campaign will achieve its stated objectives. Recommendations for future campaign activities are discussed.

BACKGROUND

Ambulance Victoria (AV) provides emergency ambulance coverage across the state of Victoria – Australia's second-most populous state [1]. AV responds to over 840,000 emergency and non-emergency cases, transporting over 660,000 patients via road or air each year [2]. Triple Zero (000) is the emergency services number throughout Australia for ambulance, fire and police, with 40% of calls to Triple Zero being from individuals requesting an ambulance [3].

In recent years, demand for ambulances in Victoria has been increasing faster than the rate of population growth, and many of those calls are not associated with a genuine emergency [4, 5]. A large number of Triple Zero calls are managed without dispatching an emergency ambulance, for example, by utilising non-emergency transport options, referring the caller to alternative health services, recommending self-presentation to a hospital Emergency

"In recent years, demand for ambulances in Victoria has been increasing faster than the rate of population growth, and many of those calls are not associated with a genuine emergency."

Department, or providing self-care advice [3]. However, the use of limited Triple Zero and AV resources to deal with non-emergency calls reduces availability of ambulances to quickly respond to patients experiencing life-threatening emergencies [6]. Reducing the number of calls or attendance cases that do not require emergency attention would therefore relieve pressure on emergency medical services. Therefore, a major review of Victoria's ambulance services (released in December 2015) identified the need to improve public awareness of the role of ambulance services and when it is appropriate to dial Triple Zero [5].

CHANGES TO AMBULANCE SERVICES IN VICTORIA

In 2015, changes were made to the Victorian ambulance system including how AV is funded, how paramedics are supported through their careers, and how Triple Zero calls are triaged and ambulances dispatched. A revised Clinical Response Model was implemented, which focused on the individual needs of patients and the most appropriate response for those patients to ensure ambulances are available for emergencies. Under the revised Clinical Response Model, some events are now being assessed more thoroughly through a secondary triage process by expert paramedics and registered nurses in the AV Referral Service. This service ensures that genuine emergencies are identified and get an emergency response, and that non-emergencies can be safely and appropriately referred to alternative transport options and health services to better meet their needs. As a result of this strategy, an estimated 7000 additional emergency patients now receive paramedic care within the 15-min response target each year [7].

In 2016, the Victorian Government's Department of Health and Human Services allocated funding for additional paramedics and associated infrastructure to further improve ambulance response times [7]. To further address demand, they also announced a new initiative to establish 20 community pharmacies open over 24 h by mid-2018. These 'Supercare pharmacies' are staffed by registered nurses in the evening and provide additional healthcare options.1 The Department of Health and Human Services also commissioned a communications campaign to ultimately reduce inappropriate calls to Triple Zero for ambulances and increase the use of other appropriate health services.

The aim of this research was to evaluate the effectiveness of applying a behaviour change approach to this challenge by first shifting attitudes and increasing awareness and knowledge regarding ambulance use in the state of Victoria. Specifically, this research sought to evaluate the extent to which the Victorian community viewed ambulances as an emergency service before and after the campaign.

THE CURRENT STUDY

This study comprised two research phases, namely a formative phase and a campaign development and evaluation phase. Ethics approval was obtained from Monash University's Human Research Ethics Committee for both research phases. The methods and results of these two phases are presented separately as the second phase drew upon findings from the first.

PHASE 1 – FORMATIVE RESEARCH

METHODS

For the formative research, the Forum approach of combining a rapid evidence and practice review with a structured stakeholder dialogue was used [8]. Established in Canada in 2009 and pioneered in Australia in 2012, the Forum approach has demonstrated high participant satisfaction and intentions to act [8]. It centres around two key activities, involving a rapid evidence and practice review and a structured stakeholder dialogue.

RAPID EVIDENCE AND PRACTICE REVIEW

Unlike traditional systematic literature reviews, rapid reviews focus on synthesised research evidence and/or

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high-quality or recent primary studies [9]. The addition of semi-structured interviews adds a critical dimension to the academic literature review. Where literature answers the question 'what does the evidence say?', interviews can address the question 'what's happening in practice and how will this affect implementation?'; both perspectives are useful in a policy-making context, especially if the intersection between evidence and practice is able to be identified, as demonstrated by previous published Forum projects [10, 11, 12].

This rapid evidence and practice review was undertaken over a period of 4 weeks. For the rapid evidence review, a comprehensive search of four databases (PubMed, CENTRAL (Cochrane), Web of Science and Google Scholar) was undertaken to identify published academic research regarding the effectiveness of approaches to optimise the use of emergency medical services. The search spanned the period 1 January 2012 to 5 September 2016. Two reviewers screened citations against pre-determined inclusion and exclusion criteria (Table 1) and data extraction of key information from included studies. The methodological quality of included systematic reviews was evaluated using the AMSTAR (Assessing the Methodological Quality of Systematic Reviews) tool, an 11-item tool with well-established validity and reliability that is extensively used to evaluate quantitative systematic reviews [13, 14, 15]. For narrative reviews, the key themes and conclusions drawn by the author were summarised.

SEE TABLE 1 ▶

Rapid review inclusion and exclusion criteria

For the interviews, a semi-structured framework (Additional file 1) was used to enable interviewers to explore emerging themes as well as salient issues [16]. Participants were purposively selected based upon their experience or expertise in the use of Triple Zero emergency ambulance services or large-scale public health campaigns [17]. Interviews were audio-recorded and transcribed verbatim. Transcripts were then coded according to emergent themes and any relevant emerging topics [18] using NVivo10 (QSR International Pty Ltd. 2014).

STRUCTURED STAKEHOLDER DIALOGUE

A structured stakeholder dialogue is a day-long, Chatham House Rules meeting of 15 to 20 individuals identified as being vested in the discussion topic. This includes operational-level and high-level (e.g. CEO, Manager, Professor) individuals representing consumers, government, professionals, researchers and other relevant stakeholders. Surfacing tacit knowledge from multiple perspectives enables the principle of collective problem solving to be harnessed, in which the knowledge of each individual contributes to a shared 'team knowledge' that can spark insights and generate action. This is by definition not possible to achieve by consulting each group independently.

	Included	Excluded
Study type	Systematic reviews (quantitative and narrative) High quality primary studies	
Population	General public/public health campaigns Targeted over-users/mis-users Ambulance services or dispatch	Calls to Police or Fire or general emergency services
Study design	Observational or interventional	
Intervention	Public health campaigns Targeted interventions to problem subgroups Behavioural interventions Possibly dispatch or triage systems	
Outcomes	Reduced number of inappropriate or non-urgent calls to ambulance services or medical emergency phone numbers	
Publication status	English language Peer-reviewed journal publication or public reports Published in the last 5 years	

RESULTS

RAPID EVIDENCE AND PRACTICE REVIEW

The literature search yielded 2568 citations. Following screening, six reviews were eligible for inclusion, comprising five systematic reviews [19, 20, 21, 22, 23] and one narrative review [24]. Overall, review quality was high, indicating that a moderately high level of confidence can be placed in review findings. Five practice interviews were undertaken.

The evidence and practice review highlighted that definitions of 'emergency' and 'appropriate use' (critical to underpinning any campaign) were not definitive in research literature or practice. Different stakeholders, namely the medical fraternity, those experiencing medical difficulties and bystanders who observe them, bring unique, context-specific, behavioural and sometimes contrasting perspectives on what constitutes a medical emergency [24]. Reasons for inappropriate use of Triple Zero are therefore broad, reflecting this complexity. Although there are relatively few studies evaluating the effectiveness of strategies to reduce inappropriate emergency calls, there is some evidence to support provision of alternative services and secondary triage systems [21]. Financial incentives were found to be effective in the United States [21]; however, their transferability to Australia requires exploration. Mass media campaigns were identified as potentially effective but require careful planning [22].

Practice interviews reinforced and expanded upon the review findings. Ingredients of successful campaigns identified were a clear, evidence-informed strategy; raising the profile of an issue in the market; a strong, consistent and emotionally powerful campaign that is sustained over years; and co-ordination of the campaign with a strategically planned suite of behaviour change techniques such as legislation, enforcement and incentives. These factors enable multiple stakeholders to engage with the campaign from their particular context, including commissioning organisations, the media, government and leaders from the community and medical fraternity – another key requirement for success. Social norming is a powerful behaviour change device but can have unintended consequences if undesirable behaviours are inadvertently reinforced (e.g. see [25]). Campaigns need to be authentic and relevant, as lack of credibility is another key barrier to success.

Given these findings, careful consideration of the execution of a Triple Zero campaign was critical. A mass media campaign to the entire Victorian community offered the potential of considerable impact across the whole population and community support for legislative and other operational and policy measures designed to reduce inappropriate use of the service. However, such campaigns are not without risk. For example, messaging which emphasises the behaviour to be avoided can result in an increase in non-urgent calls because an undesirable behaviour is being socially normalised. Conversely, there is also a risk of a decrease in legitimate emergency calls. While a mass media campaign would need to be sustained over years to change behavioural norms, once changed, investment could be reduced. A campaign

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targeted at specific population cohorts could better focus on undesirable behaviours or typologies to immediately reduce inappropriate calls, but this option would have less impact on wider expectations and, therefore, give less support to other behaviour change measures. Targeted campaigns would also require continuous effort to maintain results. These considerations were fed into the subsequent stakeholder dialogue for deliberation.

STAKEHOLDER DIALOGUE

The dialogue was attended by 18 people who represented the Victorian Government, AV, hospitals, alternative 'non-emergency' health service providers, telecommunications authorities, media strategy, communications and behavioural research stakeholder groups.

Numerous and complex factors were identified during the dialogue regarding the issue of Triple Zero use for ambulances, including shifting of demand to other areas of the health service and addressing complex and interacting factors that drive calling behaviour. There was universal support for a media campaign as re-positioning the ambulance service and managing expectations of what it should and should not do.

The pros and cons of mass media and targeted campaign options were considered at length. It was acknowledged that a combination of mass media and targeted campaigns could be beneficial, but that a mass media campaign was a more desirable starting point. A mass media campaign could focus public attention on multiple health resources that, in combination, can address a broad spectrum of healthcare needs. It was agreed that awareness and attitude measures would be better initial reflections of campaign success (that is, within the first 12 to 18 months) than behaviour change (i.e. actual reduction in Triple Zero calls for non-emergencies), which would be a longer term measure. A range of success measures were identified in this context.

Consistent with the potential for unintended consequences described earlier, it was recognised that a critical consideration of any campaign is to not over-emphasise a focus on 'what not to do' (e.g. 'don't call Triple Zero if it's not an emergency') but frame positive messages around resources available for a broad range of healthcare needs, ranging from emergencies to information resources.

Full reports from the rapid evidence and practice review and stakeholder dialogue are available from the corresponding author on request.

PHASE 2 – CAMPAIGN AND EVALUATION

METHODS

CAMPAIGN DESIGN

Based upon the formative research, a mass media campaign strategy was developed. It was agreed that a long-term campaign approach, involving two key stages as stated below, was required.

> **1. Sensitise** – Help the community understand and accept why the issue presented is serious and legitimate; and
>
> **2. Educate** – Once the community understands and agrees with the premise, provide the behavioural information the community needs to help solve the problem.

The aim of the first stage of the campaign was to foster an understanding that the primary role of ambulances is to attend to time-critical, life-threatening health emergencies. This approach is based on several models of behaviour change, such as the Theory of Planned Behaviour [26], which suggest that attitudes are a key predictor of behavioural intention, which in turn predicts actual behaviour. In other words, if individuals believe that ambulances should be used for emergencies only, they will be less likely to call Triple Zero for an ambulance in a non-emergency. To this end, the campaign sought to highlight the life-threatening consequences of ambulance resources being unavailable due to non-emergency calls to Triple Zero.

Five concepts were initially developed. Each concept was workshopped with members of the Victorian community in the state capital (Melbourne) and regional areas. All concepts received positive feedback across a range of evaluation criteria. However, one concept (subsequently titled *Will's Story*) was most successful in achieving the required objectives. This concept was based upon the real-life story of a boy (Will) who required emergency ambulance services (including helicopter transport to the

FIG. 1
'SAVE 000 FOR EMERGENCIES' CAMPAIGN POSTER

major Children's Hospital in Victoria), told from the point of view of the paramedic. *Will's Story* emphasised that it was not luck that saved his life but the fact the ambulance and paramedics were available because they were not otherwise occupied with non-emergencies.

Feedback from workshop participants in response to *Will's Story* illustrated that:

• Even though the boy's injury or illness was not mentioned, it was clear that his case was time critical and life threatening;

• The skill level and competence of the paramedics and emergency Mobile Intensive Care Ambulance and Air Ambulance services reinforced the excellence of the emergency services;

• People understood why such a high level of training and resources were required;

• The story generated a strong emotional connection and the twist on the reference to *"lucky to be alive"* was powerful and memorable; and

• It was evident that time was critical, and individuals should judge their situation before calling for an ambulance.

The tag line for the campaign was *"Save Lives. Save 000 for Emergencies." Will's Story* ran from March until November 2017 (Fig. 1).

MONITORING AND EVALUATION FRAMEWORK

It was recognised that any public campaign in this space must be subjected to robust monitoring and evaluation. The framework developed to monitor and evaluate the overall campaign programme encompassed four key metrics:

1. Campaign awareness,
2. Attitudes towards use of ambulance services,
3. Knowledge of alternative health services, and
4. Behaviour/use of emergency and non-emergency health services.

SURVEY DATA COLLECTION

To evaluate the effectiveness of the campaign in changing community-wide attitudes, a cross-sectional pre–post survey with ongoing tracking was conducted with three independent samples (one at each survey collection period). Survey data collection occurred in February 2017 (before the campaign commenced), June 2017 (4 months after the campaign commenced), and December 2017 (10 months after the campaign commenced).

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SAMPLING

In order to achieve a representative sample of approximately 1000 respondents per survey round, an online panel research company was engaged to recruit participants and collect survey data. Eligible participants were members of the survey panel and included any member who lived in Victoria and was aged 18 years or older. Around 14,000 email invitations were distributed resulting in 1000+ completed surveys each round (approximately 8% response rate). The response rate was limited due to the use of quotas to facilitate stratified random sampling in order to obtain a sample that represented the Victorian adult population. Quotas were interlocking according to gender (male, female) and age (age bands 18–24, 25–34, 35–54, 55–69 and 70+), as well as geography (Melbourne, rest of Victoria). Panel members were randomly drawn from each strata (with a bias for younger male respondents who are known to have lower response rates) and quota groups were closed once the target number of completed surveys was achieved.

MEASURES

The data used in this study were collected as part of the overall campaign evaluation. From the larger evaluation, only relevant variables are included in this paper and are described below. These variables relate to metrics associated with (1) campaign awareness, (2) attitudes towards the use of ambulance services, and (3) knowledge of alternative health services.

Unprompted and prompted campaign awareness was measured by asking respondents if they could recall any advertisements about ambulance use, and if they recognised the TV advertisement for Will's Story. Attitudes towards ambulance use were measured based upon the 'Perceptions of Ambulance use' scale [27]. The scale captures level of agreement with eight statements about ambulance use. While the original scale incorporated a five-point Likert scale, we adopted an 11-point scale (from 0 'Strongly disagree' to 10 'Strongly agree') to ensure consistency with similar agreement-type questions in the survey. Seven additional items, which had been used by the Victorian Government previously, were also added to the scale for comparative purposes. Knowledge of alternative health services was measured by asking respondents "Which of the following health services have you heard of before today?" The list included 20 Victorian health services, including Triple Zero, and an option for 'Other' and 'None of the above'.

ANALYSIS

The benchmark survey was administered in February 2017, before the campaign was launched, with 1037 participants (hereafter referred to as T1). The first evaluation survey was administered in June 2017, after the campaign had been active for 4 months, with 1052 participants (hereafter referred to as T2). The second evaluation survey was administered in December 2017, after the campaign had been active for 10 months, with 1018 participants (hereafter referred to as T3).

Data analysis was conducted using SPSS 23.0 (IBM). The modified 'Perceptions of Ambulance use' scale was assessed for factor structure and two latent factors were identified (see Additional file 1: Table S1 for factor loadings). Factor 1 included items related to the belief that ambulances should be for everyone to use regardless of their condition, it was labelled 'Ambulances are for all'. Factor 2 included items related to the belief that ambulances are not an entitlement and should be reserved for emergency situations, it was labelled 'Ambulances are for emergencies'. Analysis of Variance (ANOVA) and $\chi 2$ tests were also conducted to assess differences between the three survey rounds (T1, T2 and T3) and between respondents who were and were not aware of the campaign at T2 and T3.

RESULTS

Below is a summary of the evaluation findings. For a detailed explanation and outcomes of the evaluation data analysis see Additional file 1.

Unprompted awareness of the campaign remained relatively consistent between T2 (21.9%) and T3 (22.8%). Prompted awareness of the campaign increased significantly from 38.2% in T2 to 44.3% in T3 ($p = 0.005$). The mean score for the 'Ambulances are for all' subscale significantly decreased between T1 ($M = 4.05$) and T2 ($M = 3.67$, $p < 0.001$) and between T2 and T3 ($M = 3.33$, $p = 0.003$). The mean score for 'Ambulances are for

emergencies' also increased significantly between T1 (M = 7.71) and T2 (M = 7.87, p = 0.042), however, it remained relatively unchanged in T3 (M = 7.88). On average, respondents recognised 7.25 Victorian health services in T1. The mean number of recognised services increased significantly in T2 (M = 7.64, p = 0.041) but remained relatively unchanged in T3 (M = 7.71). See Additional file 1: Table S2 for detailed statistical outcomes.

After aggregating respondents from T2 and T3 (who were exposed to the campaign material), there was a significant difference between those who were aware of the campaign and those who were not in terms of their attitudes towards ambulance use. 'Ambulances are for all' scores were significantly lower among those who recalled the campaign, either prompted (p = 0.001) or unprompted (p < 0.001), and 'Ambulances are for emergencies' scores were significantly higher among those who recalled the campaign, either prompted (p < 0.001) or unprompted (p < 0.001). See Additional file 1: Table S3 for detailed statistical outcomes. There was also a moderate negative correlation between 'Ambulances are for all' and service knowledge (r = –0.30, n = 3107, p < 0.001) and a small positive correlation between 'Ambulances are for emergencies' and service knowledge (r = 0.29, n = 3107, p < 0.001).

DISCUSSION

Public messaging around ambulance use needs to balance the need to reduce unnecessary calls against the risk of normalising the undesired behaviour or reducing genuine emergency calls. We attempted to achieve this balance in the current programme by drawing upon research evidence and by designing a thorough evaluation plan to track attitudes, awareness, knowledge and, ultimately, behaviour. This study offers an opportunity to examine how the application of the Forum approach can inform a state-wide campaign and population-level outcomes. The lessons drawn from the findings of this project will therefore be of value to policy-makers, emergency services and, more broadly, to the burgeoning field of behaviour change research.

The 'Save Ambulances for Emergencies' campaign is achieving its short-term attitudinal, awareness and knowledge goals. Attitudes towards ambulances being 'for all' decreased significantly between T1 (pre-campaign), T2 (4 months post introduction) and T3 (10 months post introduction), and attitudes towards ambulances being 'for emergencies' increased between T1 and T2. There was also a relationship between campaign awareness, attitude, and knowledge of other health services – indicating that those who were aware of the campaign and who were familiar with more health services were more likely to agree that ambulances should be used for emergencies only.

As proposed by the Theory of Planned Behaviour, in addition to attitudes, perceived behavioural control (the perceived ease or difficulty of performing a behaviour) is another antecedent of behavioural intent [26]. In the current study, those who lacked familiarity with appropriate non-emergency health services may harbour unfavourable attitudes towards ambulance use because of a lower level of perceived control over the appropriate behaviour – that is, it is easier for them to call Triple Zero because it is familiar. Given the relationship between attitude and knowledge of other services and the finding that knowledge did not change between T2 and T3, future campaigns could build on existing messaging while promoting alternate services for non-emergency conditions such as general practitioners, pharmacists, or health advice telephone services. Such an approach could address the issue of perceived behavioural control in addition to attitudes towards ambulance use – increasing the likelihood that behaviour change will occur.

While further research is required to determine if campaign activities will achieve the long-term goals of changing behaviour, these initial findings suggest that adopting a research-informed approach to campaign development has been successful in shifting attitudes towards ambulance use. Ongoing evaluations are highly recommended to ensure that the campaign messaging can be tested and improved over time.

LIMITATIONS

As with any mass media behaviour change campaign, this project was subject to several limitations. First, a rapid review rather than a systematic review approach was taken

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in this project, as a systematic review was beyond the available scope and resources. A systematic review with more comprehensive review methods may have reached different conclusions. Second, the low response rate and use of an online panel (which typically adopt non-probability recruitment methods) can lead to sample bias [28]. To compensate for this, and to ensure that the samples broadly reflected the target population on key demographic characteristics, sampling quotas were applied each survey round.

Third, while a pre–post study design was appropriate for evaluating the effectiveness of a mass media campaign, we cannot be certain that the changes observed in the survey were the direct result of the campaign (attribution). This is where ongoing monitoring and evaluation and a collaborative approach to intervention design and evaluation is crucial to help identify other activities that may have influenced the outcomes. While we are unaware of other external factors that may have influenced our results, we also cannot rule out some unknown influence. It is also worth recognising that attitude change does not always lead to behaviour change, although it is an important determinant of such change.

CONCLUSIONS AND FUTURE DIRECTIONS

Based on the findings from the formative and evaluation research phases, the campaign appears to have positively influenced community attitudes toward appropriate use of ambulances. Future iterations of the campaign should consider building upon this attitudinal message by supplementing it with behavioural control messaging around what services they should use in a non-emergency. Given the ultimate goal of the programme is to change behaviour, the next iteration of the evaluation should also shift from focusing on short-term outcomes of awareness and attitude towards long-term outcomes of actual behaviour, regarding the use of Triple Zero for an ambulance as well as the use of alternate health services.

For a list of references please contact the Editor @ **editor@ausparamedic.com.au**

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[1] ATO data. Correct at 20 June 2018

[2] Industry SuperFunds report: 'Super Scandal: Unpaid Super Guarantee 2016-17

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REGISTRATION OF PARAMEDICS

The registration of paramedics came into effect in December of 2018, which is now about 6 months ago. At Australian Paramedic we thought it an opportune time to gather feedback from various areas of thought and practice on the introduction of registration.

OVERALL STATISTICS FOR PARAMEDIC REGISTRATION

The Paramedicine Board of Australia has managed, in conjunction with the Australian Health Practitioner Registration Agency (AHPRA) the initial registration process for paramedics. The Board has analysed the registration data and provided this information. The statistics currently available are up to March 2019, but provide an interesting overview of registrations across Australia.

TABLE 1.1 REGISTRATION TYPE BY PRINCIPAL PLACE OF PRACTICE

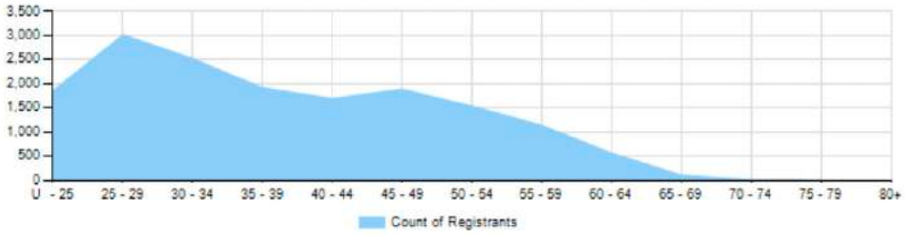
Registration types	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	No PPP	Total
General	238	4,058	164	4,348	1,160	416	4,865	895	83	16,227
Non-practising	1	1		5						7
Total	**239**	**4,059**	**164**	**4,353**	**1,160**	**416**	**4,865**	**895**	**83**	**16,234**

As can be seen in this table of registration by place of practice, as at March 2019, Victoria had the highest number of registered paramedics, all of whom are practising.

They are followed closely by Queensland and New South Wales, which is not surprising based on population numbers.

Further break-down of this information is available, giving age and gender of applicants as well.

TABLE 2.2 REGISTRANTS BY AGE GROUP



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Registration types		ACT	NSW	NT	QLD	SA	TAS	VIC	WA	No PPP	Total
Female	General	90	1,556	80	1,883	565	189	2,252	332	28	**6,975**
	Non-practising	1	1		4						**6**
Total female		**91**	**1,557**	**80**	**1,887**	**565**	**189**	**2,252**	**332**	**28**	**6,981**
Male	General	148	2,499	83	2,460	594	226	2,609	562	55	**9,236**
	Non-practising				1						**1**
Total male		**148**	**2,499**	**83**	**2,461**	**594**	**226**	**2,609**	**562**	**55**	**9,237**
Intersex or Indeterminate	General				2			2			**4**
Total intersex or indeterminate					**2**			**2**			**4**
Total		**239**	**4,056**	**163**	**4,350**	**1,159**	**415**	**4,863**	**894**	**83**	**16,222**

Whilst this gives us the broad information about registered paramedics in Australia, the following discussion pieces provides us with more about the perceived value of registration, or the experience of those who have applied, or chosen not to apply to be registered.

THOUGHTS FROM A CURRENTLY PRACTICING PARAMEDIC, WHO IS ALSO A REGISTERED NURSE

Registration probably had a few phases for me personally:

1. I want registration for paramedics

2. I have some involvement in the policy and road to registration

3. I register as an existing registered health professional already

4. I work as a registered paramedic, and with colleagues who are registered

5. I need to know what to and how to record my CPD activities.

1. I wanted registration because I come from a background of already being a registered nurse and midwife, am familiar with the concept, and the reasoning behind this. That it is to protect the public. A way to list, standardise, and manage clinicians' conduct, protect the title of the profession, to provide recognition, and can remove potential for bias when regulating clinicians in-house. That it can work for or against the clinician when there is a concern, but it should always be fair, and in the public's interest. I felt that it was appropriate that professional clinicians should be on a register and that it was overdue.

2. As a member of a paramedic organisation (ACAP / PA), I was involved in the work that was needed to get registration. It was interesting to watch the discussion pick up momentum, as paramedics became aware of a state of recognition and regulation which existed among other professions, but which was not yet available to us. Understanding the pros and cons, and the fact that this would lead to responsibility for self as a professional. That with the recognition and protection of title came self-responsibility. We began to have a mixture of apprehension, questions, and agreement. We needed to define the profession, our knowledge base, skill sets, and standards. Who was going to regulate this? How much would it cost? What level of clinician needs to register? What about differing education? This was a lengthy project which needed to be nationally consistent, amongst a variety of existing services. We met resistance from policy makers, and some who I would have expected to want this.

3. Registration opened, and I struggled with the online system. For my situation I hadn't realised that the instructions applied to most paramedics but not all, and that for myself, I needed to enter via my own AHPRA account. Instead I messed it up, created another account and confused matters. A few phone calls sorted it out, but I watched various versions of frustration and chaos amongst my peers. It was enough to have half of them decide that they were not interested in registration anymore. In addition, the steeper cost (compared to nursing) was a bit of a shock to many of us, apparently due to us being fewer in number for the provision of the service from our board, compared to nursing numbers.

4. So now we are registered. There is a sense of being more autonomous and responsible for our own education requirements, and conduct. No longer is it only our employer who oversees our progress... if we don't tick the boxes we can't register, and if we can't register, we can't work as paramedics. Quite the responsibility, but also quite the opportunity. The public is protected and our title is protected. We are portable, versatile and becoming known by the public and other businesses as potential assets. It is early days, but registration is here to stay so it will be interesting to see how our profession develops going forward.

5. For first time as registered professionals we have the daunting task of recording clinical activities to ensure that registration criteria is met. There are a number of websites to choose from that allow CPD activities to recorded and then used at the end of the registration period as proof of compliance. However, there are the ongoing discussions about what counts towards CPD points whether it's online e-learning, compulsory employer training, clinical audits or training as part of a speciality e.g. rope rescue skills for special operations staff. The first year as a registered professional will be a steep learning curve.

Author: *Anonymous*

VIEWS FROM AN ACADEMIC WHO MADE A CONSCIOUS DECISION TO NOT BECOME REGISTERED

As of April this year, the Paramedicine Board of Australia has finalised over 16, 500 registration applications and received over 18, 040 applications. This demonstrates the acceptance of this initiative by the paramedic industry and our willingness to be registered and accepted as professionals.

The addition of the paramedic profession to the National Registration and Accreditation Scheme signifies and highlights the importance of paramedics in the national health landscape and protects the venerated title of paramedic. The formation of a dedicated independent board that represents the interests of paramedics will drive the professional development of our industry and provide us a national voice.

For most paramedics working in state jurisdictional ambulance services, the need for registration was evident. The Paramedicine Board of Australia has solidified registration as a mandatory requirement to practice and be solely identified as a paramedic.

Where does registration fit into my personal circumstances? My last shift for an Australian state ambulance service was in April 2014. I spent the next 18 months working for a Non-Government Organisation ambulance service in Vanuatu, in a clinical capacity. Upon my return to Australia, I began working for an Australian university as a lecturer in paramedic science. The requirement for registration, in my circumstance is ambiguous. Undeniably, I am in the minority position, the question of registration for university lecturers in the paramedicine field who no longer practice, is limited.

In my current role, registration not a requirement for employment. There are many similar requirements for employment and registration including an appropriate qualification, industry experience and being of good standing in the industry and community. Certainly, I would support the future need for registration as a condition of employment, but this then raises the issue of practice and currency, employment opportunities with a state ambulance service and organisational requirements of my primary employer.

I do not call myself a paramedic or hold myself out to be a paramedic, however I do use my prior skills and knowledge as a paramedic to provide a supportive learning environment for my students. In this instance though, the 'Becoming a Registered Paramedic' position statement issued by the Paramedicine Board of Australia indicates that 'it is not a breach of the National Law for a person to use the skills and knowledge of a paramedic' without being registered, providing you do not identify as a paramedic.

I will continue to explore my options regarding registration and hope to clarify any ambiguity for my personal circumstance. I firmly believe in the necessity for national registration as a mechanism to protect the community and implement national standards, it can only be of benefit to our profession. I would welcome further discussion into registration requirements for academic staff who no longer practice. Furthermore, I hope to see continued discussions on the role educational institutions have in the paramedic profession and national registration standards, and moving forward I would advocate for a dedicated academic representative position on the Paramedicine Board of Australia.

Author: *Andrew Hodgetts*

Continued >>

A PARAMEDIC WORKING IN THE MINING SECTOR

After 30 years of working for the same employer in different roles, but primarily as an intensive care paramedic and an educator I have taken a career break and am trying my hand in the private sector to see what paramedic life might be like outside of an ambulance service. I re-accredited in my qualification for 2018 with an Authority to Practice as an intensive care paramedic and along with many others became registered on 01 Dec 2018 with AHPRA.

My primary concern around my practice in private industry is maintaining my ICP skills; I worked hard to get the qualification and I don't want to lose it, and whilst I work at a busy site, it's not the same level of intensity as working for an ambulance service so this is always going to be an uphill battle. I am however still working shifts for my ambulance service and attending professional development workshops with them in order to maintain an authority to practice as an ICP, which does two things: 1). It means I will be current if I go back to them in the future, and 2). My new employer will authorise me to practice as an ICP on their worksite as long as I maintain my authority to practice with my ambulance service, so it's a win all around really.

I also want to make sure I am safe and providing care that is effective and best practice. I believe this is one of the key benefits to me by becoming registered with AHPRA, as I get to track my continuing professional development and identify areas of practice that could be of benefit to me in my new area of work such as lower acuity and longer term care including wound care and more detailed patient assessments than I would normally have time to perform with an ambulance service. At this stage I am recording my attendance at identified activities but I know there are websites out there that I can use; I just haven't got around to engaging one of them yet!

If I were to move to another employer I know that being registered gives confidence that my qualifications and professional development is current, and that I have identified areas of practice I would like to concentrate on to ensure that I am fit to practice.

I'm about half way through the first year since I was granted registration as a paramedic and I think I am correctly recording my CPD, and identifying the areas that will be important for me to remain abreast of contemporary practice. I've paid my fees and I guess at the end of this year I may or may not be audited to provide evidence of my ongoing education. I'll be ready either way.

I believe it's definitely a step in the right direction for our profession, and one interesting thing to come out of it for my practice is that where registered nurses and doctors have previously only been authorised to undertake certain activities or access specific medications on site I now have the confidence to remind my employer (having registered paramedics is new for them too!) that I am now one of those "registered" health professionals.

Author: *Chris Cotton*

COMMENTS FROM AN EXPERT IN REGULATION

Six months after the implementation of paramedic registration, much remains unchanged for those who had a painless journey through the standard registration process. They continue to work within their services and see little change in their day to day activities. More generally, registration has sparked debate about independent and extended scope of practice outside the ambulance sector.

The transition to registration has been a massive exercise, and the number of applications well above expectations with over 18000 applications.

A number have had trouble navigating the new governance arrangements with the assessment of non-standard pathways to practice requiring additional evidence to show they meet the standards for registration. However, most applications have been processed and the remainder are being worked through - albeit those affected feel frustration at the delays.

Some practitioners have seen registration as a burden, with no

perceivable personal benefit, but self-interest was never the reason for registration. Internationally, the recognition of Australian paramedics has been significantly enhanced and job opportunities have expanded.

From a workplace perspective, registration should become the benchmark for practice and employment like it is for nurses and physicians, but at this early stage that concept of independent regulation has not been fully embraced.

One hears of a call from some employers for a jurisdictional ambulance service certificate to practice. Given that such a certificate is an internal document, the verification of a person's work history, working with children checks, immunisation records and the like are really a responsibility of the employer. Employment should not rely on a third-party certificate which might be from a non-accredited private contractor and not a formal government agency or regulator.

Many practitioners are now addressing the need for continuing professional development and the individual accountability and obligations that go with registration Those working for jurisdictional ambulance services continue largely as in the past but are now responsible for ensuring appropriate documentation.

Paramedics as a group are slowly becoming aware of the implications of mandatory reporting requirements and the importance of such individual obligations to their own registration. This is because they are likely to see the performance of colleagues during their work together where any practice issues may come to their attention.

Paramedics say some ambulance services are still adjusting to a new paradigm of operation with a registered practitioner cohort. Some services retain elements of their former regulatory role and perceive registration as more a register of practitioners rather than the Paramedicine Board being the fundamental regulatory body.

That view is likely to change as the regulatory system beds down with program accreditation and new notification, complaint and reporting processes.

Registration doesn't appear to have had a significant impact on practitioner mobility given that other factors like the regulation of poisons (and controlled medications) are based on jurisdictional legislation. Practice in Queensland for example, requires a practitioner to be credentialed in that state in order to get a medications authority. However, I am confident that it will become easier for paramedics to be more mobile and that cross-border and service issues will diminish as the benefits of a national approach are realised.

Author: *Ray Bange*

Boosting your immune system this Winter

Why do colds and flus go hand in hand with Winter? The answer to that question is twofold. Firstly, viruses are more stable in cold, dry conditions so they survive longer. Secondly, we spend more time indoors and being in close proximity to others increases our chances that infections will spread.

In Winter, hospital emergency rooms positively bulge with patients of all ages who present with respiratory issues, fevers and hacking coughs. The office tea room, local supermarket and public transport don't fare much better. Avoiding coming in contact with germs at this time of the year is a challenge. And when your job involves being out in the community, inside hospitals and caring for others, the odds are stacked against you.

That's where a strong immune system and some common sense practices can make all the difference to avoiding the lurgy. Read on for our immune boosting tips. Let's start with nutrition.

NUTRIENTS THAT SUPPORT IMMUNE FUNCTION

Nutrition is the most important determinant of immune responses. Malnutrition represses immune function and can leave us exposed to potential attack. This can take the form of either underfeeding (lack of macro or micronutrients) or overfeeding (overweight and obesity).

An adequate intake of nutrients is important as even a small deficiency can have a profound effect on immunity.

Here the 5 key nutrients you'll need for better immune function this Winter:

- **Protein** – build and repair with protein. Go for meat, poultry, seafood, eggs, beans, nuts and seeds.

• **ACE Antioxidants** – the antioxidant trio of Vitamin A, Vitamin C and Vitamin E will neutralise your free radicals. Reach for citrus fruits, spinach, capsicum, Brussels sprouts and kiwi for Vitamin C. Vitamin A occurs in colourful foods, so think red, orange and dark green veges. For Vitamin E, choose almonds, peanuts, sunflower seeds, spinach and broccoli.

• **Zinc** - unfortunately the majority of us are deficient in this healing mineral. Good sources are seafood, meat, poultry, lentils, quinoa and spinach.

• **Iron** – for immune cell proliferation, red meat, poultry and seafood are iron rich, while vegetarians should go for beans, lentils, kale and broccoli.

• **Vitamin D** – supports T cell function so recognised as essential against many forms of disease. Optimise your Vitamin D stores by getting some sunlight on your skin every day.

WHAT FOODS SHOULD YOU EAT AND WHAT SHOULD YOU AVOID?

The simple advice is this – eat a rainbow of healthy foods every day. Enjoy foods from all food groups and meet your recommended intake of **5 serves of veges and 2 serves of fruit per day** to give yourself the best chance of obtaining the vitamins and minerals you need. This allows your immune system to fire on all cylinders to expel those bugs before they take hold.

Many people fall back on a supplement at this time of year, which can be effective if your diet is severely lacking. However, researchers now concur that the best nutrition comes directly from eating healthy natural foods that have undergone minimal or no processing. That's because food is not just made up of discrete vitamins and minerals packaged together like a pill, but numerous elements that work in synergy in the body to support health.

Try to steer clear of high doses of processed foods, foods with MSG, alcohol, caffeine, refined sugars, artificial sweeteners, pesticides (these are higher in fruits and veg that have been grown out of season and chemically ripened), refined oils and gluten. These foods suppress the immune system or damage the gut.

WHAT ABOUT GUT HEALTH?

I'm glad you asked! The gut's significance as part of our immune system is just starting to be fully realised. Nearly 80% of our immune cells reside in our gastrointestinal tract, along with trillions of gut bacteria. Those immune cells must distinguish between and react appropriately to what should be let in (the harmless stuff like food) and what should be rejected (hazardous pathogens, toxins and allergens).

Continued >>

Keeping those gut microbes happy means feeding them well, and their favourite food? Fibre of course. That's why a diet high in fruits and vegetables as well as wholegrains is important – it reduces inflammation and improves intestinal health.

Did you know that eating a diet low in vegetables reduces immune function? And scientists at Monash University have now discovered that fibre can actually protect against the flu virus – how cool is that?

TOP 5 TIPS FOR GOOD IMMUNITY (AFTER NUTRITION)

Aside from eating a healthy balance of nutritious, natural, fibre-filled foods, what else can you do to limit your susceptibility to colds and flu this Winter?

- **Wash your hands frequently.** Not to be under estimated! Our skin is our largest organ and protective barrier, so keeping hands clean means we wash away any bacteria or viruses before they enter our body and cause havoc.
- **Exercise regularly.** To boost white blood cells and assist with ridding the body of dead cells, it's a form of self-cleaning. Also the rise in body temperature can help kill bacteria in the body. But don't overdo it! Intense exercise lowers the body's immune function for a period of time post-workout, which leaves you more vulnerable to infection.
- **Drink plenty of water.** Staying hydrated is important for the production of lymph, which carries immune cells around the body.
- **Get adequate sleep.** Studies show that sleep deprivation causes a reduction in our infection-fighting antibodies which leaves us more prone to illness. When you're a shift worker, getting enough sleep is always a challenge but in Winter it's vital to make this a priority.
- **Go outdoors more.** Scientifically proven, fresh air is good for you! Getting outdoors exposes you to different types of bacteria which diversifies your microbiome and in turn supports your immune system.

Yes there is a little bit of luck involved, but as you can see there are plenty of things you can actively do to avoid the nasties this Winter. May the force (and a strong immune system) be with you!

LOTUSPOINT
Training programs

In 2017 I decided to write a skill drill workshop specifically designed to give paramedics the skills and confidence they needed to walk into either a normal birth or a complicated birth and say, "I've got this"!

I have been a midwife since 1998, in this time I have spent over ten years in birthing units. Some Obstetric complications are rare like cord prolapses; yes, I've only had a few. However postpartum haemorrhage is responsible for one quarter of postpartum deaths world-wide.

This program was written in response to seeing my own fellow midwives struggle to manage obstetrically complicated births because they can be a rare event, but mostly because they were not regularly attending workshops to practice these life-saving skills. My next thought was, well if midwives are struggling with these skills, then how are frontline health workers such as paramedics equipped to train and refresh their knowledge which in some cases was given to them many years ago?

The Royal Australian and New Zealand college of Obstetricians and Gynaecologists recommend obstetric emergency skill drill training be carried out annually (green top guideline no.52) so that frontline medical professionals can stop these preventable deaths from occurring. I'd love to have the opportunity to train paramedics of all skill levels to feel empowered and proficient in obstetrically complicated births.

Go to the web site to book: www.lotuspoint.com

Email: lotuspoint9@gmail.com.au

LOTUSPOINT
Training programs

Mett4one

Not all births go to plan. Are you prepared?

Medical emergency team training for obstetric and neonatal emergencies

This training is designed to help Paramedics, from P1 to ICP level, feel more confident with delivery of infants in all environments.

An information session will take you through normal birth and then we discuss obstetric emergencies:

- breech delivery
- primary and secondary post partum haemorrhage
- cord prolapse
- shoulder dystocia
- maternal sepsis
- neonatal resuscitation.

After an overview, we will break into small groups to practise these deliveries on Susie, our obstetric manikin.

You will obtain **4 CPD points** and a certificate when you have demonstrated proficiency in these obstetric emergency deliveries.

$350 per person. Maximum of 20 per workshop.

BOOK NOW

www.lotuspoint.com.au

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RN, RM, Cert. IV in Training and Assessment
Director, Lotuspoint Training Programs
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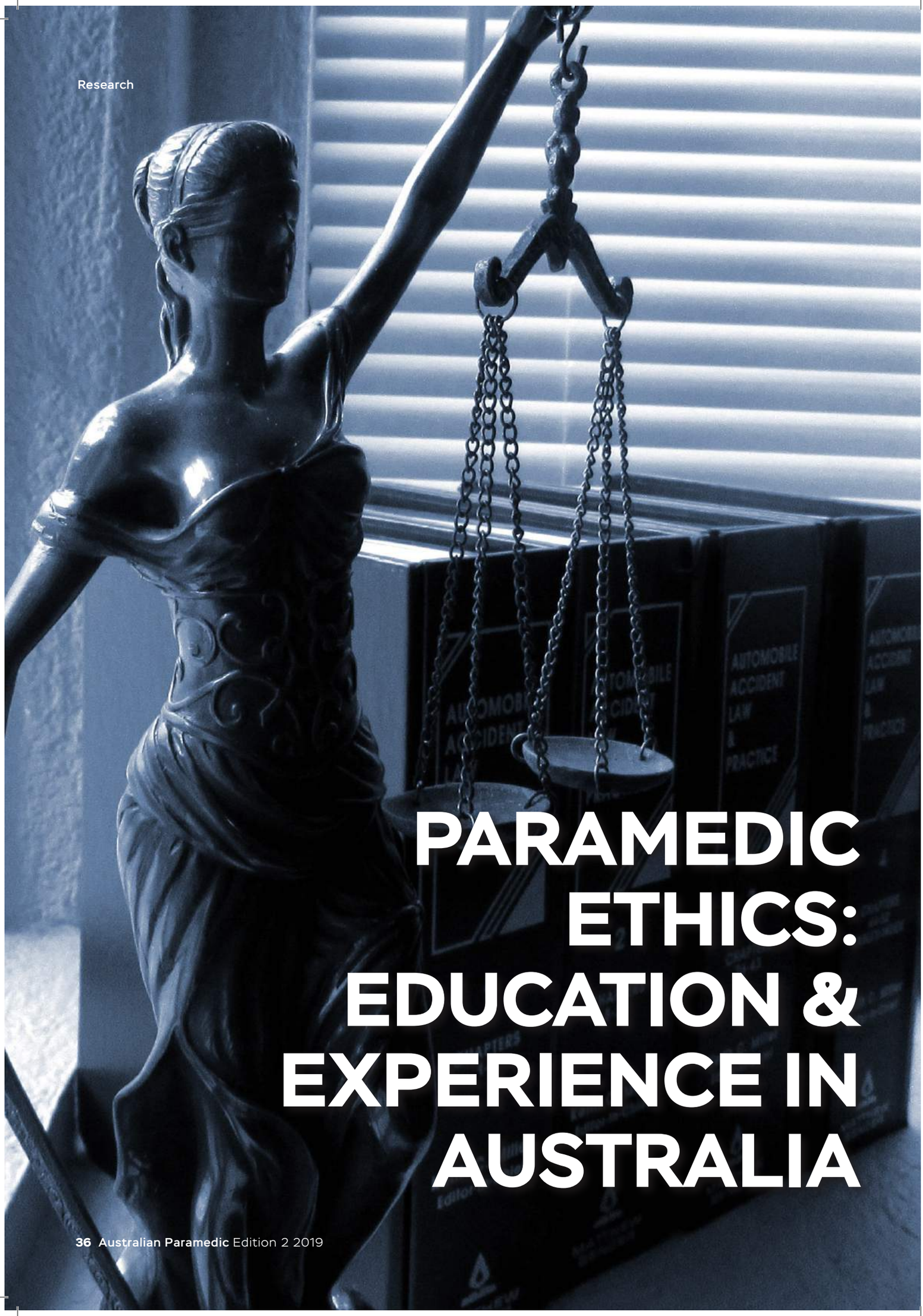


PARAMEDIC ETHICS: EDUCATION & EXPERIENCE IN AUSTRALIA

WHAT WOULD YOU DO?

It's late on a Friday evening, you are half-way through your night shift, and for the umpteenth time you are called into the city to a collapse. Details are sketchy. On arrival, you find an adult male in his mid-30's laying on the footpath outside an apartment building. There are no bystanders. On checking, the call came from someone driving by the scene. You assess the scene as safe and approach the patient, who smells of intoxicating liquor and appears to be bleeding moderately from a scalp wound. As you greet the patient, he gets up and staggers with an unsteady gait into the apartment building, telling you in no uncertain terms that he didn't call you and that you should leave. What would you do?

RESEARCH GOALS

While ethical dilemmas in paramedic practice have been explored internationally (3,4) we don't yet know the type or frequency of ethical dilemmas faced by Australian paramedics. This research will explore ethics in paramedic practice through a survey to identify the most frequent ethical dilemmas faced by contemporary Australian paramedics. The survey asks questions about the environment in which you work, your experience of ethical dilemmas, and how you have been educated about ethics. The survey takes less than 15 minutes to complete – links can be found at the end of this article (and all completed surveys go into a prize draw!).

IT DOESN'T END THERE!

While this survey will look to document the ethical dilemmas faced by paramedics, subsequent research will have a look at the landscape of ethics education in current Australian higher education paramedic science courses. This will provide a foundation for comparison to how other clinical disciplines teach ethics, as well as current national and international recommendations, to identify any potential gaps. This will answer the question as to whether phronesis (or practical wisdom) can contribute to paramedic education and clinical practice in the Australian context. All of this combined will create an impression of what a new ethics curriculum for paramedics should potentially look like.

WHY DOES THIS MATTER?

The paramedic profession has undergone significant change in recent decades. Paramedicine in Australia has evolved from what was basic care and transport service provision to the delivery of advanced pre- and out-of-hospital care to the community by highly trained professionals (1). Paramedic education in Australia has also progressed from a post-employment vocational model to pre-employment higher education (2), yet the emphasis continues to be on clinical and operational knowledge and skills. Paramedicine needs paramedics who are not only skilled and knowledgeable in clinical and operational matters, but who can also apply reasoned ethical judgement in novel situations. Paramedics need to be prepared for the diverse clinical, operational and situational complexities they will encounter.

THE BENEFIT

The benefits of the inclusion of comprehensive practical ethics education to paramedic science undergraduate courses cannot be underestimated with the current evolution of the paramedic profession. A holistic education producing paramedic graduates who possess enhanced underpinning knowledge and practical skills to resolve not only clinical or operational but also situational challenges will result in practitioners who are comprehensively work ready for every aspect of their chosen profession.

HOW MAY I CONTRIBUTE?

To contribute to this valuable research, access the link here:
https://www.surveymonkey.com/r/9JY2VP3

QR code:

Author: *Kirsty Shearer*

For a list of references please contact the Editor @ **editor@ausparamedic.com.au**

The McGrath Foundation makes life that little bit easier for families experiencing breast cancer, by placing specialist McGrath Breast Care Nurses wherever they're needed in Australia.

McGrath Foundation

Donate today at www.mcgrathfoundation.com.au

Contributing Writers Wanted

Do you feel you have something to share with Paramedics across Australia?

Or have a great article idea, or topic of interest?

We are currently seeking contributions and submissions for Australian Paramedic journal.

Email
editor@ausparamedic.com.au
for more information.

FOAMed
HIGHLIGHTS

Case Study: Honey for button battery ingestion?

From resus.com.au

A 25-year-old patient presents with recurrent lithium button battery ingestion. She had been admitted with the same presentation 3 week before and had undergone urgent endoscopic removal of the button battery. It was noted on the operation note, that the oesophagus had "significant erosions" at approx. 23 cm and evidence of early stricture formation.

On this presentation the patient had ingested the battery approx. 20 mins prior to presentation. She was complaining of severe burning retrosternal pain and the inability to swallow saliva.

Given the presentation was very suggestive of lithium button battery lodged at the level of the existing stricture it was decided to emergently remove the battery. The on call surgeon attended promptly and after review of the chest x-ray the patient went to theatre.

Read more about the case, and the use of honey as a protective treatment for battery ingestions...

https://www.resus.com.au/2019/06/12/honey-button-battery-ingestion/

Everything you need to know about fluid physiology – Robert Hahn

A video link for a discussion with Robert Hahn, with the following objectives and messages...

Learning objectives: Understand the nature of the complications that arise when more crystalloid fluid is being administered. Be aware of the revised Starling equation and the implications of the endothelial glycocalyx layer. Know the "normal" intravascular persistence times of crystalloids and colloids fluids.

Take home messages:

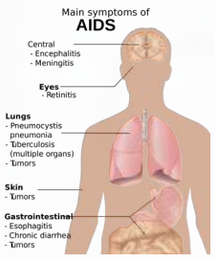
Many small studies show that complications increase when more than 3 L of crystalloid fluid is administered.

The damage to the endothelial glycocalyx layer in response to surgery seems to be small.

Check it out:

https://vimeo.com/306586466

#IFAD2018



PEP, PrEP and all things HIV. St Emlyn's

This summary discussion by Gareth Roberts on all things HIV provides a good overview of HIV, history, course, treatment, management, screening and the illness. Worth a read on the St Emlyn's blog:

https://www.stemlynsblog.org/pep-prep-and-all-things-hiv-st-emlyns/

Status Epilepticus: Emergency Management

Justin Morgenstern discusses the following case – observations, treatment and management.

Case: EMS arrives with a 39 year old woman in the midst of a generalized tonic clonic seizure. The seizure has lasted at least 12 minutes now, so this is status epilepticus. No information is available about her past history. The paramedics were unable to start an IV, but did administer one dose of IM midazolam en route...

My approach: Unlike simple seizures, which will resolve without any intervention and require clinical constraint to avoid overtreatment, status epilepticus is a medical emergency that requires immediate management.

Read more...

Justin Morgenstern, "Status Epilepticus: Emergency Management", First10EM blog, June 3, 2019. Available at: https://first10em.com/status-epilepticus-update/.

Interventions to improve cardiopulmonary resuscitation: a review of meta-analyses and future agenda

By Athanasios Chalkias and John P. A. Ioannidis

Critical Care 2019 23:210
https://doi.org/10.1186/s13054-019-2495-5

Hardly any other medical intervention is as directly relevant for life-and-death outcomes as ► cardiopulmonary resuscitation (CPR). One would have expected, therefore, extensive evidence from rigorous randomized controlled trials (RCTs) for fine-tuning best approaches that maximize CPR effectiveness. However, this is not the case. Professional guidelines reflect little tangible progress, and recommendations are not driven by strong effects seen in RCTs.

Read more:

https://ccforum.biomedcentral.com/articles/10.1186/s13054-019-2495-5

Differences in the epidemiology of out-of-hospital and in-hospital trauma deaths

Authors: Ben Beck, Karen Smith, Eric Mercier, Belinda Gabbe, Richard Bassed, Biswadev Mitra,Warwick Teague, Josine Siedenburg, Susan McLellan, Peter Cameron

Published: June 4, 2019
https://doi.org/10.1371/journal.pone.0217158

Trauma is a leading cause of mortality. Holistic views of trauma systems consider injury as a public health problem that requires efforts in primary, secondary and tertiary prevention. However, the performance of trauma systems is commonly judged on the in-hospital mortality rate. Such a focus misses opportunities to consider all deaths within a population, to understand differences in in-hospital and out-of-hospital trauma deaths and to inform population-level injury prevention efforts. The aim of this study was to provide an epidemiological overview of out-of-hospital and in-hospital trauma deaths in a geographically-defined area over a 10-year period.

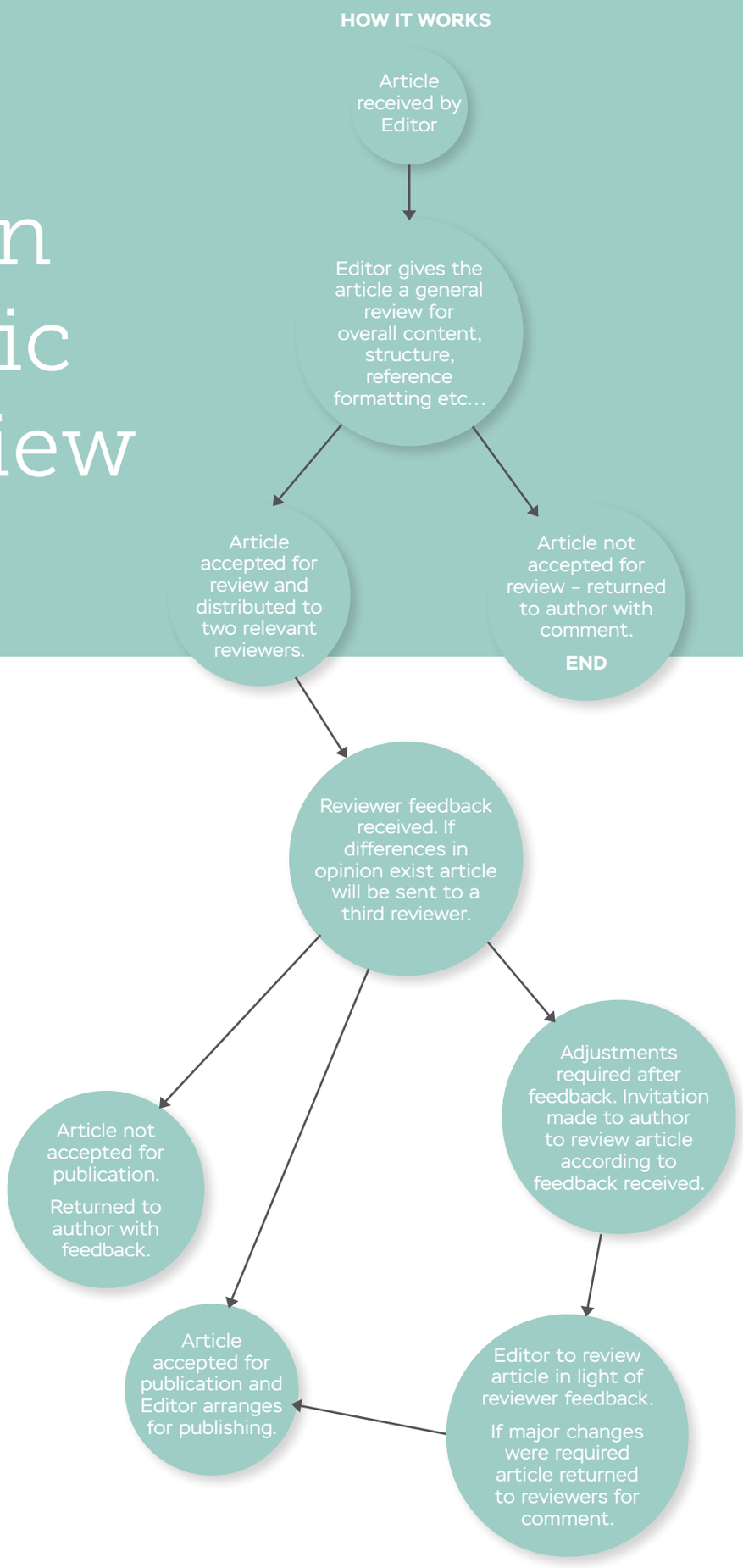
Read more...

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0217158

Introducing Peer Review

Look out for articles with this banner and stamp in the top left and right of pages. This indicates it is a peer reviewed article.

Australian Paramedic Peer Review Process



Commencing for the next edition of Australian Paramedic we will be introducing a peer reviewed process for clinical articles. These articles will undergo a single-blind review process (reviewer detail will not be made available to authors), where two reviewers with relevant experience and knowledge will provide a review of articles. The process we will be following is as per the diagram on the right.

You may ask why we would want to introduce this process; the primary reason for peer review is to ensure the accuracy of information that is published and provide validity to our articles. In this way, articles that are marked in our journal as peer review you can be sure are providing relevant and accurate information on the topic discussion.

Keep an eye out for papers marked with the 'PR' stamp and red ribbon in the next edition!

AUSTRALIAN PARAMEDIC

Writing an article for Australian Paramedic

Australian Paramedic welcomes articles from paramedics across Australia and internationally – you too can become a part of this exciting new journal!

We welcome articles on any of the following:

- Clinical review, report or discussion;
- Case study;
- Management in emergency medical services;
- Occupational health and safety;
- Opinion pieces;
- General health, psychology or law relevant to emergency medical services;
- Any other article or knowledge that you would like to share that is relevant to the Australian Paramedic.

Lead authors of published articles will be paid for their submission. Payment amount will vary depending on type of article, length, and inclusion of images. Payment will also be considered for submission of images, independent of any article, but it is up to the photographer to ensure that all relevant permissions are sought.

Getting published in Australian Paramedic

DO YOUR HOMEWORK

The key to having your article published is to do your homework first, and ensure your writing is targeted to our journal. Knowing the target audience is imperative, and an essential first step. For us, we are looking for articles with good content and information relevant to paramedics in Australia.

This does not mean we will limit our information only to Australian content... far from it. There is also a lot to learn from methods and processes used internationally, and we will endeavour to include such information in our journal too. What we do want is current information that provides updates relevant to emergency medical care.

DISCUSS WITH THE EDITOR

Discussing ideas and proposals with the Editor can be a great way to ensure that you do not waste your time. Our Editor is very happy to receive enquiries and provide advice on an approach for an article or identifying areas of key interest for our journal. All you have to do is drop a line or two to ***editor@ausparamedic.com.au!***

GRAB THE READER'S ATTENTION

It is essential to grab the attention of the reader in the first paragraph of the article – by providing a catchy phrase, or simply giving an interesting snippet of what your article will be talking about. After that, good flow, grammar and punctuation is essential as well, to keep our readers engaged.

PROVIDE SOME GREAT PHOTOS

Photos also are a great way to grab attention, and they make up a crucial part of articles in our journal. Photos can be submitted as separate files, with ideally a resolution of at least 300dpi. However, it is up to you to ensure you have the permission of people appearing in the photo for publication.

Male volunteers URGENTLY NEEDED to help Kids living with cancer.

Boys living with cancer need male role models to help with their development and confidence at camps which involve everything from rolling in mud to laser tag.

"You'll change lives by making a kid living with cancer smile and laugh. You'll make life-long friends with other volunteers who are selfless, funny and inspiring."
a Camp Quality volunteer

camp quality.
laughter is the best medicine.

CAN YOU HELP?

or Know someone who can?

campquality.org.au/volunteer or 1300 662 267

Masimo Field Product Training

What is Masimo Field Product Training?

- Masimo offers field product training courses on Masimo technologies used in Emergency Medical Services (EMS), Military, Fire, and Transport departments, including the Rad-57® Pulse CO-Oximeter® and multi-parameter monitor defibrillators with integrated Masimo technology
- As part of the training, Masimo Clinical Educators reinforce the importance of monitoring for carbon monoxide exposure, understanding rainbow SET™ parameters, and how rainbow® technology noninvasively monitors several parameters important to transport departments, such as oxygen saturation (SpO_2) and carboxyhemoglobin (SpCO®)
- Field product training is recommended at initial purchase, then every three years or as needed

Why Conduct Training?

EMS and Fire departments around the country often equip crews with a variety of medical devices and other tools that may be used on every call or only infrequently. Staff turnover can be challenging for departments seeking to promote the appropriate use of devices and equipment.

- Departments seek ways to improve the quality of patient care
- Field product training reinforces the appropriate utilization of Masimo technologies in an effort to increase awareness of the full capabilities of a department's product resources

How To Make It Happen

Contact your Masimo representative or email info-australia@masimo.com

Schedule on-site training

A Masimo Clinical Educator will provide on-site classes at your training facility

Training includes content on the use and importance of Masimo SET® and rainbow® technologies

Case Study

Training Impact

The Olathe Fire Department experiences the benefits of training

Three years after initial purchase, a Masimo sales representative suggested Masimo field product training to the Olathe Fire Department in Kansas, United States. In December 2016, Masimo Clinical Educators conducted a retraining for Olathe Fire Department personnel. Within a day of training, the department responded to a 911 call regarding a female occupant of a local apartment building who reported feeling dizzy. Upon arrival, they also encountered a second occupant who was acting strangely. The firefighters deployed both an RAE Systems 4-gas meter and Rad-57 devices, recalling the need to monitor when symptoms of CO exposure presented. The 4-gas meter noted a carbon monoxide reading of 180 ppm inside the apartment, well above the safe level of ≤9 ppm.[1] Rad-57 indicated carboxyhemoglobin levels of 20% and 32% in the two occupants under observation; both SpCO readings were well above typical levels of <2-3% for non-smokers and 2–4% for smokers.[2] The first responders immediately evacuated the apartments of the 32 occupants inside at the time. All occupants recovered and no one sustained lasting injury. During investigation, four furnaces were found to be faulty, resulting in the circulation of CO throughout the building. Prolonged exposure could easily have proven fatal.

For more details contact your Masimo representative or email info-australia@masimo.com

[1] https://www.detectcarbonmonoxide.com/co-health-risks/ [2] https://www.urmc.rochester.edu/encyclopedia/content.aspx?contenttypeid=167&contentid=carbon_monoxide_blood

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[1] *Not all Masimo products are intended for use in all care areas.*

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