



AUSTRALIAN PARAMEDIC

Autumn 2023

In this edition:

*Altruism in
Paramedicine:
A Scoping Review*

PARAMEDIC OBSERVER

Latest Updates

FEATURE

**Recycling attitudes,
behaviours, and
environmental policy
in Australian and New
Zealand paramedicine**

FEATURE

**FOAMed
Highlights**

AUSTRALIAN PARAMEDIC

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About Us

Australian Paramedic is a 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 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 continue to 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.

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Editor's Note

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

Welcome to the Autumn edition of Australian Paramedic!

Looking through the latest news the role of paramedics in Australia continues to change and grow. It may be slow, but it is happening. Community paramedics, with extended skills and scope of practice are being more utilised. This is especially true in regional areas of Australia. This approach makes sense, with medical practitioners harder to find and less willing to commit to the extensive hours that has historically been a major part of their role in remote areas. Utilising the skills of community paramedics means that a better work-life balance can be achieved, while aiming to maintain a high level of care for the community.

The latest community paramedics were posted to the Keith and District Hospital in South Australia. The new model of care has meant that an urgent care service in the region can be resumed and support the community seven days a week. This level of service is such an important component for regional communities and we look forward to following the development of new models for service provision.

In this edition of Australian Paramedic we have featured some key articles with a review article focusing on altruism in paramedics. This topic has been considered extensively in the fields of nursing and medicine, however much less research has been conducted in the field of paramedicine. The article discusses the existing research.

Our peer review article for this edition looks at recycling attitudes and behaviours of paramedics and highlights a gap in ambulance service policies with regards to environmental sustainability and recycling that should be improved in order to make broader improvements.

The Australia Day Ambulance Service Medal recipients are presented in this edition to celebrate their wonderful service to the community.

Our regular Paramedic Observer highlights include a summary of the latest statistics on registered paramedics in Australia, plus coverage of other key topical issues.

Read on to find out more.... happy reading!

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Altruism in Paramedicine: A Scoping Review

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ABSTRACT

While altruism has been studied in healthcare professions such as nursing and medicine, the exploration of the characteristics of altruism, as related to paramedicine and emergency care in Australia, is limited. This scoping review explores altruism in paramedicine from the perspective of the paramedic as practitioner, learner, and educator as seen through the lens of the paramedic and the patient. Also discussed is the positive impact of altruism on the patient experience of care. A scoping review was used to assess the availability of data related to altruism in paramedicine. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews was used to guide the process. Search categories were orientated around the subject (altruism) and discipline (paramedicine). A total of 27 articles are included in this scoping review.

Initial searching identified 742 articles; after duplicate removal, 396 articles were screened with 346 excluded. Fifty articles were full-text reviewed and 23 excluded. The final 27 were extracted following full-text screening. None of the articles are specific to altruism in paramedicine. The data related to the practice of altruism in paramedicine are extremely limited. The preponderance of data arise from Europe and North America which, due to crewing and service differences, may impact the practice of altruism in different regions. Recent changes to the scope of paramedic practice, workload, education, and case acuity

may influence behaviour regarding altruism, compassion, caring, and associated caring behaviours. The practice and education of paramedics including altruism, compassion, caring and caring behaviours in the Australasian setting warrants further research.

Keywords: altruism; paramedicine; caring; compassion; caring science; paramedic education

1. INTRODUCTION

Altruism is the behaviour of caring for others without seeking self-gain and, in health-care, is the act of putting patient interest ahead of self-interest. Altruism is described by Batson [1] as an important force in human affairs, a motivational state based on nurturance. Altruism is a component of professionalism alongside accountability, excellence, duty, honour and integrity and respect toward others [2]. In nursing literature, altruism has been described as ‘the heart of nursing’ and is associated with deep respect, dedication to service and promotion of another’s welfare, and compassion that puts patient interest to the fore [3]. Ideally, an altruistic act in a caring situation stems from an authentic wish to alleviate suffering [4]. The act of benefitting the self through altruistic acts for others is not altruistic; motivations that stem from self-interest may affect the consistent and predictable delivery of care [3]. This is not to say that there is no benefit to the carer derived from the practice of altruism. It is widely recognised that “reasonable altruism”, defined by Post as helping behaviour

that is not overwhelming, can result in improved wellbeing, health, happiness, and longevity [5]. Further, compassion, a positive humanising trait, is associated with altruism [6] and defined by an awareness of another’s suffering and a desire to resolve it. Compassion plays a role in healthcare through the motivation to relieve other’s suffering through taking action [7]. Caring interactions prioritise the patient perspective, viewing the person as able to make, and be responsible for, choices; these connections are humanistic and altruistic. Authenticity, patient focus, emotional presence and the promotion of patient well-being are behaviours associated with caring [8]. Similarly, empathy is one’s ability to emotionally understand what other people are feeling, to be able to see things from their viewpoint, and imagine oneself in their shoes [9]. Empathetic distress is the term used to describe a situation where a healthcare worker unintentionally picks up on the distressing emotions of their patients, or families, and may wish to avoid or withdraw from the person who is suffering [10]. It is important to recognise this concept to distinguish it from compassion, a central component of healthcare delivery.

The nature of ambulance work has evolved over time, and continues to evolve, from the provision of emergency transport to incorporating a broader scope of practices that include treatment and discharge in the field and referral to health services while still including more traditional models of out-of-hospital care [11]. These changes to service provision have coincided with an increase in ambulance call volumes throughout the developed world [11]. Alongside increased workloads, models of paramedic education have evolved. Paramedic education in Australia has seen a shift to university-based degree education models [12,13], a broadening of the paramedic scope of practice, and greater responsibility with regard to clinical decision making, as well as treat-but-not-transport situations [12]. This evolution of the paramedic role, and the urgency or non-urgency of a case, may influence the way altruistic behaviours are incorporated into modern paramedicine. Finding an appropriate balance between caring and medical interventions is vital in paramedicine [14] to achieve desirable patient outcomes.

The aim of this scoping review is to explore the role of altruism in paramedicine from an international perspective to gain an understanding of the existing literature and subsequent knowledge gaps. For the purposes of this article and to achieve an international perspective, the term ‘paramedicine’ is used to encapsulate those healthcare professionals delivering out-of-hospital healthcare while

operating from an ambulance service. The professional background of those who provide ambulance care differs around the world. In Australasia, the predominant provider of ambulance care is the paramedic [12], whereas across Europe, the composition of ambulance crews varies; for example, an ambulance could be crewed with a nurse, emergency medical technician (EMT), paramedic, or physician [15]. In North America (USA and Canada), emergency medical services (EMS) are staffed by EMTs and paramedics. The term paramedic will be used in this article. It is unclear if differences in practice influence altruism in paramedicine.

2. MATERIALS AND METHODS

A scoping review was utilised to assess the breadth, depth, and type of available research related to the practice of altruism in paramedicine. The overarching guideline for this scoping review is the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist [16]. The framework has five stages: identification of the research question; identification of relevant studies; selection of studies; charting of data; organisation and reporting of results. Subsequent enhancements of this framework by Levac et al. and Peters et al. are presented in the JBI manual for evidence synthesis (JBIMES) Section 11.1.3 [16].

2.1. Criteria for Search

2.1.1. Inclusion Criteria

The articles included in this scoping review were those related to altruism in the field of paramedicine. Articles were accepted if published between 2010–2021, in English, and where full text was available. Our search focused on this period to capture contemporary discourse, recognizing the rapid change affecting the field of paramedicine in recent decades.

2.1.2. Exclusion Criteria

Articles that explored caring from the perspective of patient management (i.e., clinical reasoning or intervention) and did not address elements related to altruism were excluded. Articles focused on care within defined physical settings (such as emergency departments) were excluded. Grey literature was excluded. Books were excluded to ensure contemporary commentary on the evidence, recognizing that books may refer to publications outside the inclusion criteria.

2.2. Search Strategy

Searches were conducted between August 2020 and December 2020. Initial search terms were divided into two categories—altruism and the discipline of paramedicine.

Category One: Altruistic* OR caring OR mindfulness OR "above and beyond". Category Two: ems OR emt OR ambulance AND officer OR paramedic* OR emergency

AND medical AND service OR emergency AND medical AND technician.

After searching each category these were then combined to create a third category.

Category Three: Altruistic* OR caring OR mindfulness OR "above and beyond" AND ems OR emt OR ambulance AND officer OR paramedic* OR emergency AND medical AND service OR emergency AND medical AND technician.

The databases included were Scopus, Medline via OVID, CINAHL, PsycINFO and PUBMED.

2.3. Selection

Articles were uploaded to Covidence™ systematic review software (Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org, accessed on 6 April 2022) [17] for screening. The initial screening included a review of the title and abstract. Articles that related to the topic of altruism in paramedicine were retained, including those articles that had content related to the patient experience or the way the paramedic delivered care. Articles that featured a key word (such as care or mindfulness) were assessed for their relevance and eliminated if the topic did not relate to altruism, or caring behaviours, in paramedicine. Nursing-related articles were included if they originated from regions where ambulances are crewed by registered nurses. Within Covidence, two authors independently screened titles and abstracts with a third resolving any conflicts; the same screening method was used for full-text screening.

A total of 27 articles are presented in this scoping review. Of the 23 studies excluded, 13 were not on the study topic; four were either editorial commentaries or reviews; three exceeded the date parameters; two were not in the English language; and the remaining one was deemed the wrong setting. Article selection is presented in Figure 1. Articles for inclusion are presented in Appendix A, Table A1.

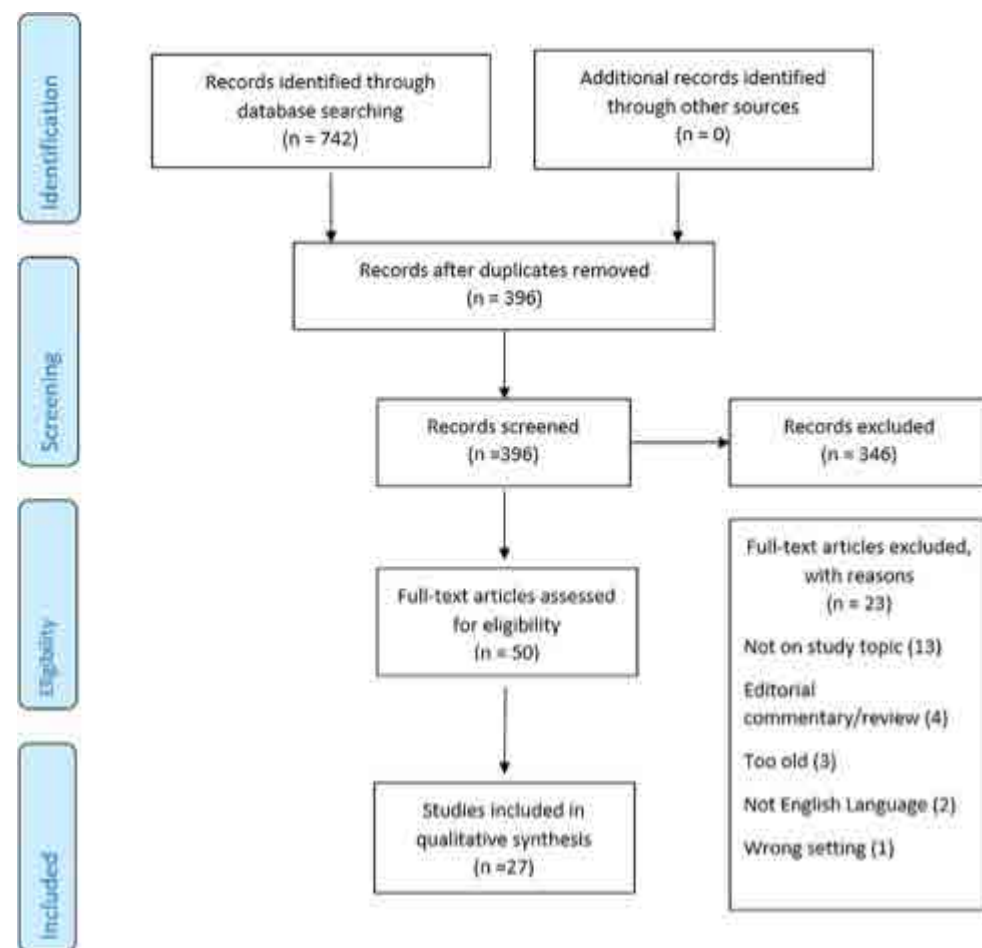


Figure 1. Article Selection Flow Chart.

3. RESULTS

Of the 27 articles included, ten originate from Sweden [14,18–25] and an eleventh from both Sweden and Spain [26]. Five articles originate from the USA [27–31] and another five from the United Kingdom [32–36]. Three articles originate from Canada [6,37,38] while one each hail from Australia [39], Denmark [40], and Norway [41]. Most articles were qualitative studies; however, the findings included a meta synthesis of 12 articles related to self-harm (and the perceptions of those providing care) [35], a systematic review of 16 articles related to self-harm (and the perceptions of those providing care) [36], and a systematic review exploring caring science in the out-of-hospital setting [24].

Five articles were original commentaries, four based on the perspective of caring as seen through an experience viewpoint, and the fifth, respectively, based on both professional and personal experience [6,27,28,30,31]. The paramedic perspective dominated findings; however, five articles presented research regarding the patient perspective of paramedic care [18,21,22,37,40]. Following analysis of the literature, three major themes emerged: caring interactions in the out-of-hospital setting; care impact; and role of paramedic education and/or educators.

3.1. Themes

3.1.1. Theme 1: Caring Interactions in the Out-of-Hospital Setting

Twenty-two articles explore aspects of caring interactions in the out-of-hospital setting [6,14,15,18–20,22–28,30,35,36,38–41] including commentary regarding the complexity and multi-faceted phases of out-of-hospital delivery [14,19,40] and how these phases affect, or are affected by, patient–paramedic interaction [14,18–20]. Ten articles explore the nuances of providing care in specific case settings, for example self-harm [33–35,42,43], palliative care [38], cancer-patient resuscitation [41], and trauma patients using helicopter medical services [22]; studies were not limited to the patient–paramedic relationship with one also profiling the family/bystander–paramedic relationship [15].

Bremer et al. explored values held by paramedics in Sweden and Spain, finding that both groups favoured utilitarianism least, exploring how this might contrast with the values of the organisations providing out-of-hospital care [26].

Several articles include commentary on the importance of paramedic education related to the provision of caring [14,19,20,34,36,38].

3.1.2. Theme 2: Care Impact

Twelve articles explored the impact of care on the patient [6,18,22–24,27,35–39] and/or bystander(s) [15,38].

3.1.3. Theme 3: Paramedic Education

Seven articles explored paramedic education related to aspects of caring in areas such as: mindfulness [29], palliative care [38], emotional labour [32], self-harm [33,35], core

values [31], empathy [39], and caring science [24].

4. ANALYSIS AND DISCUSSION

This scoping review aimed to explore the characteristics of altruism within paramedicine. Given the paucity of discipline-specific data directly related to the term altruism, behaviours associated with altruism, inclusive of characteristics of compassion and caring, were reported on. Three overarching themes underpinned the findings: caring interactions in the out-of-hospital setting; care impact; and role of paramedic education and/or educators.

"Care needs to be given in the context of the patient's world and with the understanding that the experience will have future meaning for that patient."

4.1. Theme 1: Caring Interactions in the Out-of-Hospital Setting

This theme explored the complexities of establishing and maintaining a caring interaction in the out-of-hospital setting. It was not surprising to find that most of the altruistic behaviours were displayed in the out-of-hospital setting, as this is the environment in which paramedics practise. However, to care in the out-of-hospital setting, paramedics need to be prepared and flexible; they need to be certain and in control while being open, understanding that facets of a case may change while on scene [23].

Care needs to be given in the context of the patient's world and with the understanding that the experience will have future meaning for that patient. Homberg et al. suggest that paramedics need to be "pliable to patient wishes" [20]. Thus, caring interactions prioritise the patient perspective and view the person as able to make and be responsible for choices; these connections are humanistic and altruistic. Authenticity, patient focus, emotional presence, and the promotion of patient well-being are behaviours associated with caring [8].

Paramedics need to simultaneously form a caring relationship and provide clinical care [20], noting that (almost) every patient interaction is new, orientated around practices and resources (i.e., equipment), and often



unpredictable [40]. Elmqvist et al. explored the interplay between first responders' expectations of being 'in the role of the hero' and 'being genuine' in interpersonal interactions and their expectations balanced between an outwardly projected calm overlaying a constant shift between 'being and doing' [19] which links back to mindfulness as a key component of caring. The paramedic needs to be personal while in their professional role: The professional role requires the paramedic to be an authority while protecting, respecting, and acknowledging the patient; this is intertwined with the personal characteristics of being emotionally affected, and caring beyond clinical requirements [20].

Togher et al. identified that professionalism and communication contribute to confidence, leading to a sense of reassurance [44]. They describe interpersonal skills such as calmness, kindness, and the ability to inform as positive components of professionalism. Professional calmness was presented in a non-verbal manner that indicated control of the situation [8]. Establishing mutual confidence, and trust, facilitates the delivery of patient-centred care.

Effecting a safe situation for open and safe interactions, considering and valuing patient emotions, inviting patients to participate in care planning, active listening, calmness, and collaboration were valued by patients [21]. It was found that care interactions involve focusing on the patient rather than the first responders' own needs, an unselfish focus on

the injured person—a focus enabled by the first responder role, hero costume, and a systematic approach. The role of empathic distress in this situation can be overwhelming as the patient focus often means that the first responders are unaware of their own personal distress. Elmqvist posed the question "are first responders doing in order to be able to be, or are they being in order to be able to do?" [19]. Regarding 'being,' it is worth considering how the paramedic positions themselves when 'being' the paramedic and 'doing' paramedicine.

Dick suggests that kneeling is a posture used during most cases, a position of convenience and necessity that can facilitate eye contact, instil confidence, and express humility, thereby eliminating barriers between paramedic and patient [28]. Rubin suggests that paramedics should augment their clinical care with conversation, comfort (e.g., pillows and blankets), choice (e.g., music enroute, destination), non-clinical physical contact (e.g., holding a hand), and more assertive pain relief [45].

Three authors noted that ambulance cases have several components [14,19,40], and the way these components progress influences the paramedic–patient interaction [14,18,19] and therefore subsequent experience of care. It is also important to acknowledge the vital first contact.

The care experience starts with the arrival of the ambulance, at which point it is possible to begin to establish trust and confidence—paramedic knowledge and calmness is

important, and patients can lose trust and confidence if they feel they have called an ambulance inappropriately [42]. Rees et al. suggest that first contact with patients who self-harm is key to their acceptance or rejection of care and may influence later self-harm behaviours [36], suggesting that the patient impact lasts beyond the paramedic/patient interaction.

Effective teamwork can also provide the patient with a positive, soothing experience as identified by Sandstrom et al., who explored patient experiences of helicopter transportation. A sense of being cared for and safe enabled patients to 'hand themselves over' to staff and a sense of trust arose from being taken seriously [22], suggesting that all members of a team are integral to a positive patient experience.

Other factors to consider include the need to manage both the patient's presenting condition and understand the patient's lifeworld while managing time. Perceived urgency may result in the paramedic focusing on the 'doing' at the expense of finding time for calmness. Calmness allows an incorporation of 'being' into the relationship—combining the complementary clinical and care sciences to add depth to objective information and facilitate safer patient care decisions through flexibility and correct interventions, as well as limiting patient suffering and worry [25].

Ultimately, out-of-hospital care is the first link in the chain to total care [18] with findings indicating that paramedics need to be aware of patient expectations and world; be able to create calm, trusting environments; and work effectively in a team setting. Paramedics need to be an authority, protective, respectful, and pliable while maintaining the communication required in a patient–paramedic interaction.

4.2. Theme 2: Care Impact

This theme explored the impact of the paramedic interaction with the patient on the patient's experience of care. Excepting work by Elmqvist et al. [19], in-depth patient interviews in the out-of-hospital context are limited [18], which may limit knowledge regarding the patient perspective and impact of care. Ahl and Nystrom explored the potential positive and negative aspects of the paramedic–patient relationship, describing moments from first arrival to patient handover where the relationship can establish or lose trust and confidence, understanding

that patient expectations and paramedic calmness and knowledge play roles in acceptance or rejection of care [18].

In a meta-analysis of the literature, Rees et al. found that self-harm patients had negative experiences of healthcare services inclusive of hostile staff responses and limited knowledge; patients felt ignored and perceived as difficult or as time wasters [35]. Rees et al. suggest on-scene factors can impact care; for example, shame and embarrassment felt by the patient may limit information gathering. They added that prior knowledge of the patient could be seen as a positive or negative dependent on whether the paramedic experienced reduced sympathy or case insights through deep knowledge of the patient [36].

Batson et al. [43] implies that valuing the patient would allow the paramedic to adopt the patient's perspective, being able to imagine how the patient feels and thinks in that moment; as a key component of empathy, Sundstrom and Dahlberg [23] suggest openness and a willingness to listen to, see, and understand the patient is more important in paramedicine than in other areas.

This listening is a component of a lifeworld-led care approach which can aid medical assessment and reduce patient suffering. The long-term impact caring interactions may have on the patient has been previously discussed; however, this impact, if negative, may be significant enough to be life-threatening. With self-harm there is a one-year association of self-harm behaviours with the risk of completed suicide [34]—a concern, and particularly so where previous negative experiences reduce the patients willingness to seek further help.

Altruism, compassion, caring, and associated behaviours (such as trust) have been shown to: prioritise the patient's own perspective [8,18]; facilitate patient-centred care [21] and patient safety [25]; reassure and indicate situational control [44]; instil confidence [28]; improve acceptance of

"Given that altruistic, compassionate, and caring practice positively impacts patient experience, it is important to consider caring education in paramedicine."

care [18,34]; facilitate a willingness to hand oneself over to care and store positive memories post-incident [22]. The concept of caring science in relation to nursing care has been explored since the 1950s [18]; however, there is a paucity of data relating to caring science in paramedicine, particularly in regions where ambulances are not crewed by nurses.

4.3. Theme 3: Paramedic Education

Given that altruistic, compassionate, and caring practice positively impacts patient experience, it is important to consider caring education in paramedicine. This review has identified that paramedic education in mindfulness [29], ethics [34,41], and empathy [39] are important, as is an understanding of student awareness of emotional labour [32]. Ducar et al. found that the introduction of a 'mindfulness for healthcare providers' program for EMS personnel significantly reduced burnout and increased compassion, satisfaction, and mindfulness scores [29].

Compassion fatigue, termed empathic distress fatigue, occurs when an individual is emotionally drained due to accidentally sharing the distressing feelings of the patient through emotional contagion, and can affect patients through irritability and reduced standards of care. Mindfulness training has been linked to increasing compassion, patient satisfaction, and care outcomes [29] and could be a useful tool for reducing empathic distress.

Rees et al. identified that the self-harm care interaction was 'uniquely complex;' paramedic education is limited as is confidence and competence, yet self-harm is strongly correlated to suicide, giving rise to a situation of 'wicked complexity'—they describe the need for education in the field of self-harm as urgent [33]. Education in mental health inclusive of values such as caring, empathy, professionalism, non-judgement, non-discrimination, and patient centeredness is considered a priority [35].

When paramedics face conflicting top-down and bottom-up pressures (double pressure situations), the situation can be compounded by the paramedics' need to make rapid decisions. Top-down pressures include organisational values, whereas bottom-up pressures could arise from the professional standards and observations of the paramedic. Ethical problem-solving guidelines, uniform practices, and education can help with weighing options [46].

Paramedics caring for those who self-harm can experience decision-making difficulties, such as the conflict between the patient's right to refuse transport and the paramedic's desire to act in the patients' best interest. Although the paramedic may be acting in an altruistic manner, the patient may not be ready to receive this altruistic act, particularly in this circumstance.

Practical, real-world ethics training can prepare paramedics to make sound ethical decisions [34]; other decision-making challenge areas would likely also benefit. Williams et al. discuss the value of empathy in paramedicine and its benefit to the patient in terms of communication, trust, and positive care outcomes, and suggest that empathy needs to be incorporated into evidence-based teaching curricula [39].

Jennings explored student paramedic awareness of the emotional demands of paramedicine. The author described emotional labour as the work exerted when in the role, and the effort required to maintain the professional affect associated with the role. Compassion was described as the intelligently kind way to deliver care, inclusive of empathy, respect, and dignity. Jennings concluded that a proper understanding of student awareness of emotional labour would facilitate the appropriate incorporation of compassionate care into course curricula [32].

Eaton explored the interplay of evidenced-based practice and values-based practice in paramedic education. Values-based practice was found to develop the understanding of the patient perspective through understanding their values and using this understanding when working toward evidence-based and patient-focused outcomes. During placement time, students become part of the practice community, which may influence their professional values, identity, and behaviours, including student modelling of displayed preceptor behaviour [47].

Given the impact of role-modelling on student development, it is important to ensure that altruism, compassion, and caring is understood and appropriately modelled by educators, including preceptors. Modelling of such behaviours may need to extend beyond teaching requirements, with behaviours modelled in general engagement, for example interacting with the student in an altruistic, compassionate, and caring manner. Young suggests that with experience a paramedic learns when



to enact skills such as compassion, listening, and physical contact, and when it is necessary to direct, speak, maintain distance, and move promptly [6]. It would be interesting to explore simulation as a way of helping students learn skills, and when to enact them, while safely growing a student's level of experience.

Care interactions can extend beyond the patient to include family members. Bremer et al. identified that paramedics understood the need to care for family (post fatal cardiac arrests) but felt inadequate doing so. Care interactions in this situation require shifting from known to unknown frameworks, the ability to respond situationally, and advanced knowledge and ethical caring competence [15]. As such, education needs to extend the exploration of caring for the patient and include caring for family and bystanders.

Brainard suggests that it is compassion, rather than medical procedures, that matter most to surviving relatives and friends [28]. Education can positively influence the caring interaction as identified by Carter et al., who reported on family and paramedic perspectives following the implementation of a palliative care program. Paramedics voiced support of the program, reporting increased comfort and confidence when delivering palliative care. Families commented on the professionalism, compassion, and "going above and beyond" with care including family/friends as well as the patient [38].

Brydges et al. [37] explored the perceptions of older adults experiencing community-based healthcare provided by paramedics. They found that paramedics were seen to be caring, respectful, and trustworthy, and that they fulfilled roles as both health advocates and emergency care providers. An incidental finding was that the paramedics working in the community setting were also valued for their emergency skillsets (which were utilised on occasion); the authors

suggested this as an added bonus to having paramedics in this type of role in the community role [37].

While over time the provision of ambulance care has diversified, paramedics need a foundational base of competence in life-preserving skills and the ability to work in a wide variety of settings. Given that clinical confidence may affect a paramedic's ability to 'be' and 'do' paramedicine, education in a wide variety of case types and patient interactions is an important factor

underpinning caring interactions in the out-of-hospital setting, as is clinical and caring competency.

4.4. Limitations

This scoping review aimed to explore the literature related to altruism in paramedicine; however, due to the dearth of literature in the Australasian context, the review incorporated an international perspective. This resulted in the inclusion of research involving a range of health professions other than paramedics, due to the diversity in professional groups delivering ambulance-based out-of-hospital care internationally. This professional diversity may limit the transferability of some data and findings to the Australasian setting.

The intent of this scoping review was to focus on contemporary literature, and as such publications prior to 2010, or those that might draw conclusions from prior to 2010 such as books and reviews, were not included. This may serve as a limitation to the breadth of historical knowledge; however, when considered in the context of rapid professional change, it was deemed appropriate.

This scoping review focuses on the interaction between paramedic and patient. There are, however, other dimensions in which altruism plays a part, including the interaction of the paramedic as an employee with their employer, the paramedic interacting with their wider community, and paramedic-to-paramedic peer interactions. None of the articles identified in this study reflected these interactions. At first glance this may indicate a gap in the literature; however, the search terms utilized in this scoping review may not have been sufficient to capture these interactions.

Research into the practice of altruism in paramedicine (and associated behaviours) in the Australasian setting is warranted. This includes research into both the paramedic and patient perspective of altruism.

5. CONCLUSIONS

Key to altruistic practice is the willingness to prioritise the patient over oneself without seeking self-gain. Compassion and caring involves the ability to ease negative patient experiences such as suffering and anxiety, and to reduce vulnerability through behaviours such as calmness, along with a focus on the patient as a person with a unique story, values, and needs, creating a sense of mutual trust. Data related to the practice of altruism, compassion, and caring in paramedicine are extremely limited; where data are found they tend to originate from the northern hemisphere, particularly Sweden.

Ambulance crewing arrangements differ internationally, which may limit transferability of data to the Australasian setting. In recent years there have been significant changes to the way paramedics practice, including more advanced skillsets, greater case range (low to high acuity), and increased clinical decision-making responsibility. Ambulance services have seen increased demand over a wide range of case types. Both factors may influence paramedics' practice regarding altruism, compassion, and caring behaviours.

The variable nature of ambulance work requires a significant practitioner skillset, one that must be both flexible and ordered, quick and slow, and adaptable to case types and along a continuum. Paramedics must be able to make sense of multiple pieces of information and consider the human needs of the patient while tailoring that person's care. This is encapsulated in the creation of a holistic practitioner. A well-rounded curriculum needs to cater to these facets to provide graduates who will best serve future patients.

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Recycling attitudes, behaviours, and environmental policy in Australian and New Zealand paramedicine.

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ABSTRACT

Objectives

- Identify Australian and New Zealand (ANZ) paramedic attitudes towards a 'green' behaviour (recycling) compared with demographics.
- Use organisational theory to analyse ANZ paramedic attitudes towards 'recycling' compared with ambulance service environmental sustainability policy or guidelines.

Aims

This article aims to use organisational theory to socially research workplace perceptions and practices of paramedics and paramedic organisations as evidenced from environmental sustainability paramedic surveys and organisational strategies and policies. By comparing systemic conditions with individual beliefs and actions, it aims to commence evidencing what workplace change initiatives may be necessary to 'green' paramedicine practice.

Methods

Mixed methods were used to conduct an online survey of paramedic members of the Australasian College of Paramedicine (ACP) in conjunction with secondary data analysis of ambulance services' strategic plans and policy. The survey enabled measuring environmental sustainability awareness, perceptions, actions, attitudes, and beliefs.

The secondary data analysis permitted collecting national and global paramedic organisations' environmental sustainability policy and practice data in countries with established regulatory structures, educational standards, and current environmental strategic plans comparable with ANZ.

This secondary data provided an organisational context to compare survey results about paramedics' recycling practices and individual beliefs/perceptions about their station's environmental sustainability.

Results

The majority of respondents identify paramedicine contributes to environmental damage/pollution and 37% would not recycle if unobserved. Paramedics employed the longest recycle where facilities exist, with younger paramedics most keen. Just two Australian ambulance services identified environmental sustainability in their strategic plans, compared with global services incorporating environmental sustainability in strategic plans and environmental policy.

Conclusion

Applying organisational theory indicates ambulance services are not creating workplace climates where environmental sustainability is standard practice. Implementing environmental sustainability policy would create opportunities for individuals to improve environmental behaviour, the profession's environmental impact, and achieve alignment with global policy.

INTRODUCTION & LITERATURE REVIEW

As global environmental change, including the depletion and pollution of natural resources and significant shifts in climate, threaten to undermine human health, research continues extending to include complex interactions between climate systems, humans, and personal health impacts ¹. Healthcare systems not only are major contributors to climate change and negative environmental practices ², but they are sites of complex interactions affecting human and environmental health.

The healthcare industry's impact on the environment is manifested by its reliance on copious non-biodegradable plastics. The healthcare sector is very resource intensive, consuming large amounts of energy, materials, and water that significantly contribute to greenhouse gas emissions ³. Further, reliance on single-use plastics and non-biodegradable equipment is ever present in medical equipment due to concerns of infection prevention and insufficient recycling infrastructure ⁴.

Environmental sustainability should be considered by health systems and professionals as an integral part of good care and health ⁵. Currently, however, there is no published literature exploring the environmental actions of paramedics and their attitudes towards recycling. Nevertheless, given paramedicine significantly contributes to waste and environmental pollution, researchers argue it would be beneficial to have integrated basic training equipping paramedics to work within a changing climate and understand the items used in everyday practice can harm

the environment ². Climate change and sustainability are important issues within healthcare and paramedic practice ⁶. Dunphy ⁷ describes it as an ethical imperative that health professionals address environmental sustainability.

Brand et al. ⁸ state health professionals must understand climate and environmental change. Healthcare organisations and educators have a duty to educate healthcare workers to equip staff with the attitudes, knowledge, and skills necessary to manage planetary health for a more sustainable and safer future ⁹.

Literature highlights the importance of developing knowledge and skills to effectively respond to sustainability issues within the workplace ¹⁰. Waste management research in healthcare highlights a need for behavioural change regarding waste disposal and recycling ². Limited evidence of paramedics' attitudes towards waste management and recycling may be a result of limited environmental literacy in the profession.

Given the voluminous disposable medical waste generated by paramedics, understanding their attitudes is urgent. Situational, organisational, and personal factors all influence an individual's environmental behaviour. Shimoda et al.¹¹ discuss individual behaviour changes and high-level policy actions mitigate climate change through interventions creating opportunities for individuals to act in environmentally-conscious manners.

Additionally, a study undertaken in Germany by Vogt and Nunes ¹² suggested recycling processes and outcomes can increase recycling behaviour in healthcare workers.

Organisational theory studies the underlying values, assumptions, and beliefs of employees within organisations, as well as what influences workplace change ¹³. This theory provides insight into the culture and practices within organisational structures and human behaviour ¹⁴.

Whilst research on the relationship between environmental sustainability and organisational change is recent, links exist between having clear environmental mission, policy, and strategy statements that are effectively communicated to employees and the 'greening' of an organisation ¹⁵. This article employs organisational theory to discuss research results.

This Discussion follows presentation of the Methods and Results about what a) survey respondents employed across ANZ paramedic organisations 'think' and 'do/would do' about their profession's environmental sustainability behaviours (generally and specifically related to recycling) and b) related environmental policies and strategies found in nine leading professional organisations.

METHODS

The research employs mixed methods to answer four research questions (RQ) about paramedics' behaviours and intentions related to recycling at work, perceptions about their station's 'environmental sustainability', and whether paramedicine contributes to environmental pollution:

1. Do paramedics think the paramedic profession contributes to environmental pollution?

2. Do paramedics think their station is environmentally sustainable and does this vary with employee demographics?

3. Do/would paramedics recycle paper/plastic at work and are there any demographic differences amongst employees related to recycling activity or intent?

4. What organisational policies or strategies exist in leading paramedicine organisations to support environmentally sustainable paramedicine practices (generally and specifically for recycling)?

The mixed methods involved qualitative and quantitative data to add richness to data and provide more comprehensive insights enhancing

findings ¹⁵. The two methods used were an online survey and secondary data analysis.

Online survey

The advantages of web surveys include the ability to obtain larger sample sizes, reduced cost of survey distribution, and allowing respondents to directly enter information ¹⁶. Ethics approval from Charles Sturt University's Faculty of Health Sciences, in accordance with the National Health and Medical Research Council and the national Australasian College of Paramedicine (ACP), was obtained for the survey's content and distribution.

The survey remained open for eight weeks. ACP disseminated the survey to

its 2021 members, sending a follow-up reminder after four weeks to maximise participation rates. Although limitations of this non-probability sampling method include the survey being neither random, nor nationally representative, it allowed individuals from every Australian state and territory, to New Zealand, participate.

Survey questions elicited respondent perceptions about environmental sustainability within the context of paramedicine and participants' personal environmental actions, attitudes, beliefs, and awareness of environmental sustainability. Basic demographics (e.g. age, gender, ethnicity) and paramedic-specific demographics (e.g. clinical practice level, years of employment) were collected.



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Close-ended questions used a Likert scale with answer options ranging in 5-steps ('strongly-agree', 'agree', 'neutral', 'disagree', 'strongly-disagree'). This rating scale allows for easier comparison of respondents and provides more definitive data¹⁵. Five substantive survey variables are analysed in this article: Paramedicine contributes to environmental damage/pollution; My paramedic station is environmentally sustainable; I put plastics/paper in the recycling bin; I would use recycle bins if there were any; I would throw away my garbage if nobody was there'.

The last variable employed 'reverse-coding' to ensure respondents actively read survey questions. Reverse-coding identifies if individuals are giving consistent answers, supporting research validity by the analysis being able to detect response inconsistencies¹⁷. All data was entered into SPSS and cross-checked for accuracy by the research team prior to analysis. Descriptive statistics (frequencies, correlations, crosstabs) were run to describe the sample and report significant results.

Secondary-data analysis

The use of secondary data acts as a valuable adjunct to primary data collection, allowing for a well-rounded examination of the chosen

research area¹⁸. Secondary data analysis was employed first to identify paramedicine policy and practice data to evidence ANZ paramedicine's degree of 'environmental pollution' and formal engagement with 'environmental sustainability' at organisational/professional levels. Second, global paramedicine organisations were sampled for policy and practice data.

This secondary data permits comparison with survey respondents' perceptions about their station's 'environmental sustainability' and the profession's contribution to environmental pollution.

Two selection criteria were employed to sample ANZ and global paramedic organisations for secondary-data analysis. First was the organisation's location. With most survey respondents located in three Australian states, and given the limited national guidelines, the leading governing organisation for each of these three states was selected.

These were: New South Wales Ambulance (NSWA), Queensland Ambulance Service (QAS), and Ambulance Victoria (AV). Since the New Zealand respondents worked in locations under St John Ambulance service (SJA), this organisation was selected. Second, the sampled

service organisations had to have clear strategic plans to allow for comparison.

Strategic plans address the long-term directions of an organisation by setting goals and developing plans to achieve each goal¹⁹. SJA organisations in Western Australia, the Northern Territory, and New Zealand are affiliated organisations which all operate under the international order of St John.

Hence, these were included. The most recent strategic plans for South Australia (SA) Ambulance and Canberra Ambulance were not included because SJA only provides first-aid training in SA and Canberra, not ambulance services. The New Zealand organisation sampling followed the same framework using the locations where the four survey participants worked (Christchurch, Hamilton, Invercargill, New Plymouth).

All strategic plans were accessed and downloaded from the publicly available ambulance service websites in 2021 to support data comparison with survey findings. Hence, only the most recently published strategic plans were considered to maintain relevancy. The key terms searched were 'environmental' and 'recycling'. 'Recycling' was chosen as one example to evidence if the organisation

strategically considered a 'green value'. Finally, global ambulance services were chosen by applying three selection criteria of a) countries having well-established regulatory structures b) similar standards of education for their health professionals as Australia²⁰ and c) excluding strategic plans published prior to 2016 to maintain research currency. This allowed three services, London Ambulance (LA), Eastern Midlands Ambulance Service (EMAS), and British Columbia Ambulance Service (BCAS) strategic plans to be sampled and searched using the same terms to allow for global comparison.

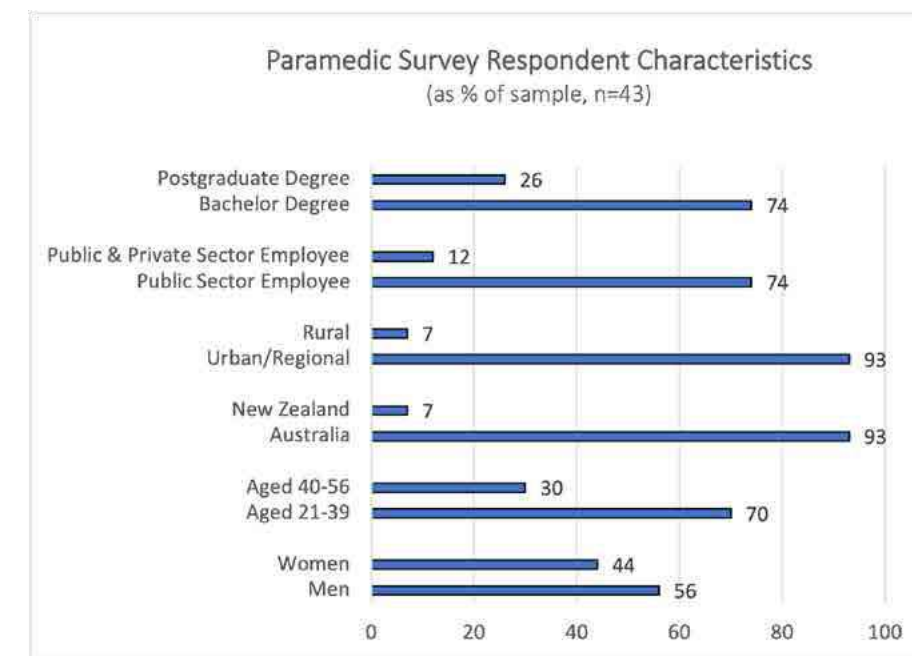
RESULTS

Survey analysis

Forty-three (n=43) paramedics responded to the survey. Chart 1 illustrates respondents' key demographic characteristics to support understanding 'what type of paramedics research questions 1-3 relate.

More men (56%/n=24) completed the survey than women (44%/n=19). Respondents ranged from 21 to 56 years of age and most (70%/n=30) were between age 21 and 39.

Most respondents (93%) were in Australia, with three based in New Zealand. New South Wales (NSW), Victoria, and Queensland had the highest respondent rates (35%/n=15, 23%/n=10, 19%/n=8). The remaining locations had eight respondents or less. The majority (93%/n=40) resided in metropolitan (60%/n=26) or regional (33%/n=14) areas. The remaining respondents (7%/n=3) resided in



rural (>5km from a city) locations. Most respondents (74%/n=32) were employed in the public sector, with a few (n=5) employed in both the private and public sectors. Respondents held various job titles, with different clinical levels. Seventy-four percent (n=34) held a bachelor's degree as the highest level of education. The remaining 26% of respondents completed a post-graduate degree (PhD/Masters, n=6; postgraduate diploma, n=5).

In response to RQ2, do paramedics think their station is environmentally sustainable and does this vary with employee demographics? only one respondent 'agreed' their station was environmentally sustainable. Most (67%/n=29) respondents strongly disagreed or disagreed that their current station is environmentally sustainable. Similarly, in response to RQ1, do paramedics think the paramedic profession contributes to

environmental pollution? the majority (95%/n=41) 'strongly agree' or 'agree' that paramedicine contributes to environmental damage/pollution. No significant demographic differences among employees emerged with either respondents' stations or their perception of the profession broadly.

Lastly, RQ3, do/would paramedics recycle paper/plastic at work and are there any demographic differences amongst employees related to recycling activity or intent? found varied results. Although all respondents 'strongly agree' or 'agree' they would use recycling bins, if there were any, 86% strongly agreed or agreed they actively recycle paper/plastic at work. Five percent (n=2) strongly disagreed. A significant association emerging between 'years employed in paramedicine' and employees' inclination to recycle where bins exist (.441, .003, n=43)

reveals those employed the longest in paramedicine are more likely to 'agree', rather than 'strongly agree' they recycle at work. 'Age' also significantly correlates with recycling where bins are available (.363, .05, n=43). With 21 respondents (49% of sample) between age 21-33 'strongly agreeing' they recycle, compared with 15 respondents between ages 34-56 (35% of sample), findings suggest younger paramedics may be more actively inclined to recycle where facilities do exist.

Likewise, a correlation between 'Age' and recycling paper/plastic at work (.328, .05, n=43) reveals younger paramedics are more likely to recycle than older paramedics. Nevertheless, 37% (n=16) 'strongly agree' or 'agree' they wouldn't recycle if unobserved (i.e., 'no one was around'). No other significant associations existed for demographics ('gender', 'educational level', 'ethnicity', 'geographical location', or 'household composition') beyond 'Age' for any 'recycling' variables.

Secondary-data analysis

In response to RQ4, what organisational policies or strategies exist in leading paramedicine organisations to support environmentally sustainable paramedicine practices (generally and specifically for recycling)? results show the national governing body, Paramedicine Board of Australia's Code of Conduct, which governs paramedic practice, does not mention 'environmental sustainability' or 'recycling'. This is a noteworthy absence because this code governs what 'good practice' should consist of in Australian paramedicine.

Table 1: Organisational environmental strategies and recycling as a 'green value'

Organisation	Keyword in strategic plan	'Green value' (recycling)
New South Wales Ambulance	Environmental sustainability	X
Queensland Ambulance	X	X
Ambulance Victoria	Environmentally sustainable	X
London Ambulance	Environmentally friendly	X
East Midlands Ambulance Service	X	X
British Columbia Ambulance Service	X	X

Note: x=none present

NSWA (2021) aims in the 2021-2026 strategic plan to deliver their service in an "environmentally sensitive" way. AV aligns its green values with the Victorian Government by aiming to reach the target of net zero greenhouse gas emissions by 2050, identifying environmental sustainability as an area for improvement. Specifically, AV (2017) highlights its service is committed to developing a clear action plan for environmental improvement, including good practice waste management and recycling.

Although NSW and VA both address environmental sustainability in the organisations' strategic plans, there is no evidence of clear sustainability guidelines or policies for employees. The most recent QAS service strategy, 2016-2021, does not address environmental sustainability or recycling. In contrast, globally, LAS states a strategic aim of zero emissions by 2050, with all new vehicles purchased, if possible, meeting ultra-low emission requirements.

EMAS has no mention of the keywords in the strategic plan but does state the services aims to reduce its carbon footprint and become more sustainable in the organisation's running. Finally, although BCAS' most recent strategic plan was not accessible, the service has an environmental sustainability policy.

SJA service have an environmental and sustainability policy that encourages the use of renewable or recyclable materials and ensures properties have recycling facilities. This policy was published by SJA UK. No evidence of a similar policy implemented for SJA NZ, nor SJA's NZ strategic plan, was accessible.

DISCUSSION & CONCLUSIONS

Organisational theory studies the shared underlying values, assumptions, and beliefs of its members/employees and what influences workplace change¹³. Evaluating workplace change is a major component of organisational theory, addressing what initiates workplace change, how change may be achieved, and what role employees/employers have in said change. Employees performing eco-friendly behaviours, such as recycling, play a large role in organisational 'greening' and changing workplace culture²¹. Through the introduction of policies and guidelines, organisations may create an organisational climate where employees are more likely to engage in sustainable behaviours²².

Addressing environmental sustainability, as a workplace issue, is an important step. This article found ambulance service organisations are beginning to take this strategic

step, with three national and three international organisations including general statements about 'environmental' goals in policies or strategies.

None, however, specifically mentioned 'recycling'. Although introducing policies and guidelines can influence employee behaviour, by creating an environment that fosters environmental consciousness, introducing specific protocols or initiatives for behaviours, such as recycling, may proactively create a more environmentally sustainable workforce that facilitates workplace change²².

Given the survey found age significantly affects employees' receptivity to, and action-taking with, workplace recycling, together, data suggest benefit in creating generation-specific environmental sustainability workplace policy. Further research employing random sampling to collect a large, nationally-representative sample is necessary to distil whether 'age' remains a key factor affecting pro-environmental behaviours related to paramedicine.

Fatoki²³ identifies the relationships between institutional support and employees' environmentally conscious behaviour as a positive relationship that can facilitate workplace change, especially when an organisation demonstrates their support by increasing the availability of recycling bins, education, and communication. With only two ambulance services in this study highlighting waste management and recycling options as pathways for sustainability, and no evidence of implemented policies or guidelines to influence employee

sustainability behaviour in ambulance services selected for this research.

Australian and New Zealand paramedicine would benefit from prioritising formalised strategies and systems to progress its level of environmental sustainability. Given 37% of respondents stated they 'agree' or 'strongly agree' they 'wouldn't recycle if no one was watching', this may indicate the absence of a strong workplace sustainability culture. While the present study is limited by its non-generalisability, due to non-random sampling and low response-rate²⁴, findings illustrate discrepancy in professional practice by age and social conditions, namely social observation with recycling.

Finally, with 98% of respondents disagreeing their ambulance station is 'environmentally sustainable', this shows substantial scope to improve ANZ paramedicine's 'green credentials'. Multiple services identified a target of low/zero-emissions to reduce environmental impact. Sheldon and Hill²⁵ identify an average of 31.3 kg of carbon dioxide (CO2) is produced per NHS ambulance response.

UK services EMAS and LAS have both incorporated electric ambulances into their fleet, yet currently there is no evidence of these vehicles being introduced into ANZ practice. The GrEAN (Green Environmental Ambulance Network) is a network of all UK ambulance services which works towards reducing the profession's carbon footprint. This network encourages both organisational and individual change through a 'green passport', addressing recycling as an individual behaviour to reduce

environmental impact. Currently, there is no evidence of a similar framework being introduced into ANZ ambulance services. Applying organisational theory¹³, this indicates many paramedic organisations are not creating workplace climates where environmental sustainability is a part of standard practice.

Through the incorporation of environmental sustainability policy, ambulance services can implement workplace change to encourage employees' environmentally proactive behaviour, thus improving the organisation, and profession's, environmental impact of the organisation.

Overall, the limited scope of the secondary data analysis conducted for this article shows benefit may be gained by future research that expands the global reach of paramedic organisations investigated to see if the qualitative results found are illustrative of broader environmental strategy and policy trends.

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Although the concept remains unchanged EMS conferences

continues to see large yearly participant growth (except for the little COVID speedbump..) with it's success mostly contributed to the participant experience. When asked to elaborate further on this conference founder Dylan Tindale stated "From day one all we wanted to do was create a conference that we would like to attend. This doesn't just mean the ability to get out and enjoy the amazing location but most importantly the opportunity to meet, collaborate and understand better what challenges and success others are facing. So often as a Paramedic we spend time talking to colleagues but it's very rare that we are afforded the opportunity to really speak with the ED staff and build on those relationships."

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SA Ambulance Service Executive Director for Clinical Services, Keith Driscoll, advocates the

benefits of the MedicAlert Foundation's service. After 30 years working with Ambulance services around the country, Keith acknowledges the MedicAlert Foundation as a source of timely and trusted information.

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At the forefront of the MedicAlert Foundation's service is a dedication to clinically accurate but easily understood terminology and complete health information. Overseeing

these standards is MedicAlert Medical Director, Allergy Specialist and Clinical Immunologist, Dr Caroline Foreman.

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MedicAlert recently surveyed Australian paramedics to ask what health information would be most useful on a MedicAlert ID, which has given the Foundation more insight on what engraving to prioritise. While other medical identification organisations allow their members to engrave anything they want, Dr Foreman says she is proud to work with an organisation that is committed to ensuring

anyone, even a member of the public, can understand and act on engravings. Keith Driscoll offers valuable insight from a paramedic's perspective, "The right

terminology does help give the clinician the confidence that this is not just something someone scratched onto the back of a bracelet on their wrist. This is a 'medical' bracelet. There is value in that. I know that what's on someone's bracelet is something they've chosen, and they've chosen it for a reason".

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Dr Gary TALL

Dr Gary Tall began his retrieval medicine career in 1993 with the Westpac Lifesaver Rescue Helicopter before joining what later became the New South Wales Ambulance (NSWA) retrieval service at St George Hospital. He became the Medical Director of the Sydney Aeromedical Retrieval Service in 1997 and transitioned the service to the current model of New South Wales Aeromedical and the Aeromedical Control Centre, becoming the Director of Aeromedical Clinical Operations in 2005.

He continues to work as a Senior Staff Specialist with NSW Aeromedical Retrieval teams, in the Emergency Department and as a Senior State Retrieval Consultant with clinical oversight of critically unwell or injured patients in New South Wales.

He has played a critical role in State Emergency Management as the State Medical Controller since 2011 and Acting State Health Services Functional Areas Coordinator since 2018, overseeing state wide responses during the COVID-19 Pandemic, New South Wales Bushfires and New South Wales Flood Emergencies.

Whilst retaining a significant managerial role in NSW for 18 years, he has maintained active clinical practice in both Emergency Medicine and medical retrieval operations operating across helicopter, road and fixed wing platforms since 1993.

Whilst maintaining a contemporary practical knowledge and technical capability in both Emergency Medicine and Pre-Hospital and Retrieval Medicine (PHARM), His experience and knowledge of both PHARM and

Disaster Medicine remains at the leading edge of the PHARM sub-speciality on a state, national and international basis. This has positively reflected on NSW over the past two decades.

As with many NSW senior staff he has been recalled to duty at all times and circumstances due to the critical care nature of his work and his expertise. Dr Tall is always available for consultation and advice and is untiring in his support of the New South Wales community and health system in times of need.

VICTORIA

Mr Brett DRUMMOND

Mr Brett Drummond commenced service with Ambulance Victoria in 2003. During his career he has served in a range of frontline roles as an Advanced Life Support Paramedic,

including as clinical instructor, team manager, and group manager, as well as in a suite of emergency management coordination roles. He currently works in operational service and holds the position of Manager, Consequence and Planning in Ambulance Victoria's Emergency Management Unit.

He has made a significant contribution in advancing the capability and capacity of Ambulance Victoria as a leading organisation in pre-hospital emergency management. As a leader in emergency management, he has made an outstanding contribution to a number of disaster response events in Victoria, including Thunderstorm Asthma 2016; Bourke Street Attack 2017; Flinders Street Attack 2017; Barwon South-West Peats Fires 2018; Bourke Street Terrorist Attack 2018; Eastern Victoria Fires 2019-2020; and the Coronavirus (COVID-19) Pandemic 2020-2022.

Of particular note is his contribution in implementing landmark changes in response to Ambulance Victoria's review of the Thunderstorm Asthma event of 2016. As well as co authoring the review report, he wrote Ambulance Victoria's Thunderstorm Asthma Emergency Response Sub Plan and coordinated its implementation. The plan includes Ambulance Victoria's new capability to issue information and warnings directly to the community using Emergency Management Victoria's platform; making Ambulance Victoria the first non-control agency in the state to have this ability.

He was also instrumental in developing doctrine for both Ambulance Victoria and the State to ensure agencies are able to respond in the best way possible to the

community, including: Ambulance Victoria Emergency Response Plan (2017); the Victorian Emergency Management Preparedness Framework (2017); and State Extreme Heat Plan (2017).

During his 19 year career as a paramedic, Mr Drummond has served Ambulance Victoria with distinction, and made a significant contribution to the safety and wellbeing of the Victorian community.

Mr Lewis Gerald McDONALD

Mr Lewis McDonald commenced service with Ambulance Victoria in 2000. During his career he has served as an Ambulance Community Officer. He currently holds the position of Ambulance Community Officer in the small rural community of the Mitta Valley, located in far North-East Victoria, with significant rural land surrounding small townships. He is the longest serving current member of the Mitta Mitta Ambulance Community Officer Team.

Passionate about men's health, and in particular the mental health challenges of returned servicemen living with Post Traumatic Stress Disorder, as well as local farmers, he has been instrumental in ensuring services are accessible to those in need. He is a critical link between the community and health services, ensuring those most at risk are connected, even if someone just needs a meal and a chat, an extra place is set at his family's table.

A strong advocate within the community, he is driven to seek opportunities to encourage new members to join the team, ensuring the Mitta Valley has a sustainable

ambulance service into the future. He has also played a pivotal role in training team members who have just commenced their careers at Ambulance Victoria and supports and encourages colleagues to reach their full potential.

Ambulance Victoria, its paramedics and first responders, can impact health outcomes over and above the traditional mandate of ambulance attendance and transport. They can enhance the ability of regional communities to take charge of their own health needs through strong community engagement and patient follow-up; reaffirming the concept of resilient communities. Mr McDonald has been an integral part of driving this ethos and model of care in the Mitta Valley. During his 22-year career as an Ambulance Community Officer, Mr McDonald has exemplified what it means to go above and beyond in the faithful discharge of duties.

Dr Benjamin MEADLEY

Dr Benjamin Meadley commenced his career as an Ambulance Community Officer in Anglesea in 1998, before taking up a paramedic position with Ambulance Service New South Wales in Sydney in 1999. He returned to work as a paramedic with Ambulance Victoria in 2003.

Training as a Mobile Intensive Care Ambulance (MICA) paramedic in 2004 and 2005, he worked extensively across Melbourne, undertaking clinical instructor and acting MICA team manager roles, before joining Air Ambulance Victoria as a MICA Flight Paramedic in 2009. He currently holds the position of MICA Improvement Lead.

Throughout his career he has maintained a keen focus on the education and wellbeing of paramedics, which led him to undertake his PhD; investigating the cardiometabolic and physiological health of Australian paramedics. This first of its kind research was a catalyst for Monash University launching its Paramedic Health and Wellbeing Research Unit, which continues to invest in research and projects to improve the health and wellbeing of the paramedic workforce.

He has been a driving force of innovation in the education of paramedics, with a long history of academic association through Monash University, where he helped re-design the Postgraduate Intensive Care Program. This has been operationally reflected in the GippSIM Program, which brings simulation access to a wide range of staff across regional Victoria.

As a MICA Flight Paramedic with a specialty in clinical ultrasound to support practice, he has been instrumental in the advanced practice of the MICA Flight Paramedic cohort, and driven forward programs related to mechanical ventilation, ultrasound guided vascular access and lung/heart/abdomen assessment, surgical airway, and use of blood products. He is a leader who is actively sought out for his opinion and advice. During his 24-year career in the sector, and 19 years at Ambulance Victoria, Dr Meadley has made a significant and distinguished contribution to Ambulance Victoria and the community which he serves.

Ms Julie Faye MILLER

Ms Julie Miller commenced service with Ambulance Victoria in 2006. During her career she has served as a volunteer Community Emergency Response Team (CERT) member in Bethanga, a small rural town in North-East Victoria. She currently holds the position of Community Emergency Response Team Leader Bethanga/Berringa.

As a founding member of the local volunteer CERT in Bethanga/Berringa, she has been instrumental in ensuring the local, widely dispersed rural community has 24-hour access to vital emergency care. She not only undertakes the critical hands-on operational role of a CERT, but also provides a vital link that maintains the team's cohesion, wellbeing, and support to ensure that they can provide timely responses to medical emergencies in the local community through early life saving intervention and care of patients. This includes supporting new recruits through their initial training program, together with encouraging their continuing development throughout their volunteering careers.

As a first responder state forum representative, she has actively participated and significantly contributed to first responder initiatives at Ambulance Victoria, including their first responder team leader development program, initial first responder training course review and the development of an updated Patient Care Record for first responders state-wide.

During her 15-year career as an Ambulance Victoria CERT volunteer, Ms Miller has not only been an active,

well known community leader, her determination and commitment to the community of Bethanga/Berringa and its local CERT, in this remote location in Victoria, has been distinguished.

Ms Carmel Louise ROGERS

Ms Carmel Rogers commenced service with Ambulance Victoria in 2001 as an Advanced Life Support Paramedic. Her career advanced quickly, and within five years was working as a senior team manager. She has also undertaken numerous interim roles in emergency management as well as group manager roles. She currently works in operational service and holds the position of Senior Team Manager on the Mornington Peninsula.

She has made a significant contribution in the area of community engagement. Her tireless efforts and passion for improving community training and response to cardiac arrests on the Mornington Peninsula has been outstanding. Her work has resulted in an increase in the availability of Automated External Defibrillators (AEDs) within the community by ensuring existing AEDs are registered, and by liaising with the community to convert private AEDs to publicly registered AEDs with 24-hour access to all.

Leading community engagement CPR training (Call-Push-Shock) sessions for over 600 members of the public, together with attending community events to encourage community members to join the GoodSAM initiative, Ms Rogers and her team were able to forge strong relationships with community leaders, stakeholders, and the broader community. This led to securing the donation of over

24 additional AEDs for the district. Furthermore, this close community effort resulted in the Mornington Peninsula Council seeking to work with Ambulance Victoria to ensure more AEDs are located in local businesses.

Ms Rogers and her team were successful with internal campaigning at Ambulance Victoria, securing a seasonal Advance Life Support Paramedic Single Responder Unit within the geographically remote areas of Flinders, a small sea-side town, and Red Hill, a small rural town, both located on the Mornington Peninsula.

During her 21-year career at Ambulance Victoria, there is no doubt that Ms Roger's efforts, with the support of her team, will result in saving countless lives and improve the resilience and capability of the community.

QUEENSLAND

Ms Nadine Cherise BOND

Ms Nadine Bond has a long and distinguished ambulance career, commencing with the former Queensland Ambulance Transport Brigade as an Honorary Ambulance Officer in 1986 and was permanently appointed as an Ambulance Officer in 1987. Her career has seen her progress and excel as a Local area Assessment Referral Unit (LARU) Officer within the Queensland Ambulance Service (QAS).

As one of the inaugural officers leading the implementation of the LARU model, she showed strong leadership skills as she worked collaboratively with broader health care providers to ensure high quality patient care is provided to the Queensland community. She is

a strong advocate for her patients and their care who continues to look for change to improve operational outcomes.

While acting as Officer-in-Charge at various stations, she was pivotal in providing assistance to facilitate the education and skills programs that supported upskilling of frontline ambulance officers to the level of Associate Diploma qualifications. She has worked in rural and remote areas of Queensland in the course of her duty and has contributed by building and embracing strong relationships with the Indigenous and Torres Strait Islander communities.

She is well known and respected by her peers as a highly trained and competent clinician. She remains fully trained and able to respond in an operational capacity to an emergency. Her unwavering commitment and dedication to excellence in patient care, has seen her provide leadership in complex and extremely challenging and hazardous incidents.

She is well known and trusted as the Peer Support Officer that staff reach out to after critical incidents, usually done outside her working hours making her highly regarded as a mentor. Ms Bond has served the people of Queensland for over 36 years and her continued passion for patient care is highly valued by the Queensland community and the QAS.

Mr Kerry Matthew DILLON

Mr Kerry Dillon has a long and distinguished ambulance career, commencing with the former Queensland Ambulance Transport Brigade as an Ambulance Officer in 1983, and permanently appointed as an Officer-in-Charge

(OIC) in 1998. His outstanding career has also seen him act as Area Manager and Regional Manager Operations Support for the Townsville district. He has been part of and seen significant change within the organisation in which he has attended many multi-casualty incidents and actively participated in natural disasters including Cyclone Yasi and 2019 North Queensland floods.

As the OIC, Magnetic Island Ambulance Station, he is an integral and vital link in the service delivery chain which results in ambulance services being delivered in a timely and professional manner under duress. He expertly leads and manages staff and resources within the station's operational location. He has been a pro-active leader and assisted with foundational organisational change, provided coaching and mentoring to his peers and has been instrumental in building strong relationships with Queensland Ambulance Service (QAS) support teams and key community organisations that support the delivery of QAS services.

He has gone above and beyond to positively influence the lives of patients with his unflinching commitment and dedication to excellence in patient care, education and training. This has enabled him to provide and manage highly complex and extremely challenging and hazardous incidents.

He continually performs the duties required of a frontline ambulance officer with distinction and utilises his knowledge and expertise gained through attending various complex incidents to benefit his colleagues by providing advice and assistance when attending to members of the public. Mr Dillon has been and remains an

exceptional role model for junior staff and peers and has diligently served the people of Queensland for over 39 years.

Mr Mark Thomas NUGENT

Mr Mark Nugent's long and distinguished ambulance career commenced with the former Queensland Ambulance Transport Brigade in 1989 as an Honorary Ambulance Officer and was permanently appointed as an Ambulance Officer the same year.

His demonstrated commitment to developing his knowledge and skills afforded him the opportunity to undertake various roles including Critical Care Paramedic, Clinical Support Officer, Senior Clinical Educator, Regional Operations Supervisor and his current role as Senior Operations Supervisor (SOS) and has acted as an Area Director and Senior Clinical Educator at various locations.

His expertise as a subject matter expert in emergency management includes major incident management, emergency management operations and major events (including planning) which routinely sees him as a preferred leader for major events planning and management at a state-wide level.

In 2020, he was the Forward Commander of a tragic incident at Wyaralong where he provided an exemplary level of leadership to the major multi-agency and multi-casualty incident which continues to have a profound effect on all who attended. His operational management of this event and his peers, both during and afterwards has been commended by his peers and supervisors.

He has current training and responds operationally to an emergency when necessary. His efforts in ensuring the ongoing welfare and safety of QAS staff following major cases and events sets him apart from many others. His extensive efforts and commitment to make sure the welfare of our people and patients is always at the fore is highly regarded.

His passion to positively influence the lives of patients and colleagues through his role as an SOS is recognised by those he has supported and mentored throughout his 32 years of service. Mr Nugent continues to demonstrate conduct, integrity and distinguished frontline service well beyond the standard.

**WESTERN AUSTRALIA
Dr Joseph CUTHBERTSON**

Dr Joseph Cuthbertson joined St John WA in February 2000 as a front-line Paramedic and has demonstrated outstanding service since, undertaking various front-line roles including Station Manager, Community Paramedic and Clinical Team Leader. In all these roles, he demonstrated his outstanding commitment to delivering quality clinical care to the community. He is currently serving as the Head of Specialist Operations.

With the imminent arrival of COVID-19 in 2020, the organisation's Incident Management Team was established, led by Dr Cuthbertson as Head of Specialist Services. He was instrumental in leading St John WA's pandemic response and the organisations operational readiness can be attributed to his efforts and expertise as well as dedication to learning and his relationships/connections in emergency

management.

Preparations began early and under his leadership, St John activated the Incident Management Team to monitor the progress of the virus and plan for the anticipated flood of patients. His actions strategically connected St John WA to become part of the State, National and Global response with senior operational and logistics staff embedded in key strategic teams. Again, his genuine commitment to the St John model and its staff and volunteers has made him an outstanding leader through the challenges of the pandemic.

On top of the demands of the pandemic, he continued to complete his normal management role with St John's Critical Care Paramedics and Special Operations Paramedics. He has been instrumental with the intensive training, mentoring and specific upskilling of this group of paramedics including working with anaesthetists, surgeons, and trauma specialists.

His contribution has delivered outstanding leadership and service to the community through his embracing of the St John model and its values. Dr Cuthbertson's commitment to the model, staff, volunteers and the community has seen him go above and beyond the role for which he is employed for and seen him stand out among his peers.

Mr Danny Louis ROSE

Mr Danny Rose joined St John WA in July 2012 and has held front-line positions as an Ambulance Paramedic and Clinical Support Paramedic. Over the past seven years he has turned his sights to improving patient outcomes within the role of Resuscitation Improvement Coordinator and currently holds the role of Clinical Hub Manager.

He is a person of high integrity, compassion, and authenticity. He treats people with respect and dignity. He is an advocate for understanding human behaviours and human factors that influence those behaviours. He works collaboratively with various stakeholders and communicates effectively for excellence in pre-hospital care and patient safety. He gives countless hours to St John WA and its goals to promote excellence in care and ensure more people survive Out of Hospital Cardiac Arrests (OHCA) incidents. He wants to see our organisation succeeding in becoming a centre of excellence for out-of-hospital cardiac care.

He shows great empathy when dealing with events that relates to OHCA outcomes and at times has met with family members to describe our activities and the care provided. Without fail he has been thanked for engaging with family members, for whom this was a difficult and challenging experience.

Further to the previous OHCA program, he has developed an Automated External Defibrillator (AED) data collection process. This initiative allows the various cardiology care teams to provide bespoke care to survivors of OHCA as they will understand the initial cardiac

rhythm when the AED is applied. This initiative has benefited many patients in recent years and is now a subject matter expert on Corpuls3 in WA.

He shares his passion of OCHA resuscitation through regular engagement sessions within St John. Mr Rose has also represented St John WA at various conferences and has presented on the topic of OHCA at such forums.

**SOUTH AUSTRALIA
Mr Paul Graham STRATMAN**

Mr Paul Stratman commenced service with St John Ambulance/South Australia Ambulance Service (SAAS) in 1983. He has demonstrated sustained provision and commitment to frontline ambulance services for over 38 years. He commenced service as a Volunteer Ambulance Officer in 1977; and has progressed with education to be an Extended Care Paramedic (ECP) in 2009, the highest clinical role within ambulance services. He has now held the frontline position of ECP for 13 years, providing health service to patients in their home or residential care facilities to reduce unnecessary hospital admissions and utilise a range of therapeutical drugs to increase treatment options.

As an ECP, he recognises the importance of alternate care pathways for patients and health care providers. His leadership and commitment to improve service delivery and patient care had led to improvements for workflows within the Emergency Operations Centre (EOC) that have improved efficiencies. His collation and assessment of ECP data has shown the effectiveness of current pathways and identification of ongoing needs.

He is a highly respected and trusted professional and clinician that has partaken in various new initiatives due to his clinical acumen, patient advocacy, compassion and supportive focus for staff and volunteers. The success of initiatives and their implementation have undoubtedly been a result of his approach, leadership (ECP, improving workflows in the EOC, and previously with Bicycle Response Unit) and effectiveness of current alternate pathways.

He is also a committed mentor for those entering high end, high acuity qualifications and supporting the needs of all other clinicians and volunteers when attending a patient with complex needs requiring high level intervention. He does this with professionalism and empathy.

Mr Stratman has demonstrated exceptional commitment to ambulance services ensuring professional delivery of clinical care to the South Australian community for the past 38 years.

Mr Robert George TOLSON

Mr Robert Tolson commenced service with St John Ambulance/South Australia Ambulance Service (SAAS) in May 1985. He has held a range of frontline and management roles in northern regional South Australia. He commenced service as a Clinic Officer rising to Intensive Care Paramedic and is currently the Interim Executive Director, Country Operations. He has demonstrated sustained provision and commitment to frontline ambulance service for over 37 years in regional South Australia.

He has maintained a clinical response

level of Paramedic/Intensive Care Paramedic that enables him as a clinician to respond in support of an individual or community. His skills as part of the local response or the Incident Management Team have been valued by all who have worked with him through his attitude, management skills and knowledge. He has taken a lead role in the following major incidents along with many others throughout his career. Port Lincoln Fires, Sampson Flat Fires, Bangor Fire, COVID-19 Incident Response Far North and West Coast, COVID-19 response to vulnerable communities including the APY Lands, Yalata and Davenport.

The COVID-19 pandemic has highlighted his strength and dedication. He worked closely with local communities, Aboriginal Health Care providers and Elders to develop COVID-19 response and resilience plans to enable SAAS to support the communities in a collaborative manner. He developed strong and respectful relationships with Indigenous communities which enabled the collaborative partnerships.

He has significantly contributed to SAAS through involvement on many major committees/boards, producing significant outcomes for the application of service delivery, community engagement and emergency response outcomes for the regional communities of South Australia. From major recruitments, establishment of partnerships in regional community and emergency services, integral part of the Community Paramedic program to support regional communities and as a lead on the Reconciliation Action Plan Committee ensuring our First Nations Peoples are recognised for their history and contributions, he

exemplifies meritorious commitment to the provision of regional ambulance services. For 37 years, and particularly during the challenges of the COVID-19 pandemic, Mr Tolson has served with exceptional dedication and leadership.

Mr David Christopher WALKER, SA

Mr David Walker commenced service with South Australia Ambulance Service (SAAS) in 2018 as a Volunteer Ambulance Officer and was soon promoted to the role of Volunteer Team Leader, Limestone Coast Volunteer Regional Response Team (LCVRRRT) in 2019 whilst still completing his studies. He also works as a casual ambulance officer in the Limestone Coast Region.

He has been exemplary in his leadership, embodying SAAS values of 'patient first' both in his dedication, approach and also in his development and support for others. He owns and operates two businesses in Mount Gambier, yet he is always available to assist the team at any hour and in any manner. This demonstrates his passion for volunteering, mentoring, for leadership and a tireless work ethic that greatly benefits the community he supports.

He has undertaken further study to become a registered trainer that allows him to support, develop and mentor Volunteer Ambulance Officer students. He consistently spends many hours with recruits whilst also fulfilling rostered shifts, all to benefit and continuously improve ambulance service provision in a regional setting. He is also a SAAS Digital Mentor, supporting volunteers navigating technology to complete their e-Learning training.

He is a great advocate for volunteers,

he is a member of several committees, representing the Limestone Coast at the SAAS Volunteer Health Advisory Council (SAASVHAC), Zone Ambulance Coordinating Committee (ZACC) and the Electronic Patient Care Records (ePCR) evaluation committee. These meetings are significant commitments in addition to operational duties, often requiring significant travel but are undertaken with the same enthusiasm and passion he holds for volunteering itself. Such is his genuine dedication he also took part in a recent recruitment campaign, sharing his volunteering story to promote and motivate community members across the state to join SAAS. The success of the campaign is due largely to his enthusiasm for volunteering with the impact far reaching, helping to ensure volunteer sustainability now and into the future.

Mr Walker is an exemplary volunteer, role model, educator and a highly valued and respected Volunteer Ambulance Officer most worthy of being recognised with an Ambulance Service Medal.

NORTHERN TERRITORY

Mr Stuart James ALLISON

Mr Stuart Allison has been employed with St John NT for 12 years. Since commencing with the organisation in 2010, he has consistently demonstrated the highest level of values and has developed his ambulance career from a paramedic to an intensive and extended care paramedic. As a frontline clinician he actively advocates for the ambulance profession, his fellow paramedic staff and most importantly his patients. He is an excellent leader and continues to give 110 per cent on all occasions. His leadership serves as an example

to other staff within the organisation. The support and skills he provides is an asset to St John NT, his colleagues and community members that he works with.

He regularly provides both intensive care paramedic and managerial response out of hours and goes above and beyond the parameters of his requirements. He does this to provide support to the staff and ensure that patients are afforded the best care when needed. He also regularly takes clinical assistance calls at all hours of the day or night from crews to provide support and guidance to paramedics who are seeking reassurance and directions when faced with complex clinical situations.

He is respected by all staff as a compassionate and caring leader and clinician. He demonstrates exemplary work ethic, high degree of diplomacy and professionalism and is committed to the success of the organisation and its employees. The dedicated work and commitment he demonstrates on a regular basis is greatly appreciated by all who come in contact with him. Mr Allison is an asset to not only the St John NT organisation but to the Northern Territory community as a whole.

Ms Judith BARKER

Ms Judith Barker's career has spanned more than 25 years in ambulance services, she has been a Paramedic, Intensive Care Paramedic, Clinical Team Leader, Operations Manager, Director for Service Delivery (including emergency communication centre), and Chief Executive Officer (CEO). During her role as CEO of St John NT she has led St John NT through the COVID-19 pandemic and oversaw the

organisation's response to operating under global pandemic conditions.

She is a registered paramedic and maintains her operational response to incidents through involvement with command and incident control functions to support and direct ambulance operations. Her commitment and dedication have ensured that ambulance service operations were established within the Territory-wide incident management structure and that services could be maintained while options for wider support to the community were delivered.

Her operational experience was invaluable during the most intense periods of the pandemic as she provided leadership and direction being the Incident Controller for the St John NT Incident Management Team for over two years. She remained operational seven days a week with daily health incident management briefings and planning meetings throughout the pandemic response.

Her commitment to the safety and well-being of all St John NT staff and volunteers over the pandemic was exceptional. Her leadership of the incident management team saw numerous COVID-19 policies and procedures established to support staff, provide clear direction to the organisation and align the organisational response to the pandemic with that of the Northern Territory Department of Health and other services across Australia.

She has modelled and exemplified the St John NT values of dedication, compassion, integrity, quality and respect in the COVID-19 response. Her leadership, strategic thinking, and actions resulted in St John NT

ambulance delivering services to the community throughout this health emergency. Throughout this time Ms Barker has maintained her training regarding operational incident management and her understanding and experience of the management and requirements for Triple Zero (000) systems and ambulance emergency control.

The Paramedic Observer

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Registered paramedics in Australia - December 2022

14 FEBRUARY 2023

The Paramedicine Board of Australia has published the latest statistical summary of registrant data for the period ending 31 December 2022. You can access the statistics here. <https://bit.ly/3RWed0H>

The total number of Australian registered paramedics was 23969 at the end of December 2022 - that's a healthy increase of 781 for the quarter.

The role of paramedics within the health sector has continued to generate discussion and has featured in recent Parliamentary Inquiries such as the Tasmanian Legislative Council Inquiry into Rural Health Services in Tasmania <https://bit.ly/3N0bVeq> and the NSW Ambulance Ramping report <https://bit.ly/3E2wX8G>

Independent think tanks have raised the matter of expanded allied health engagement in primary care such as the Grattan Institute report, <https://bit.ly/40NQG5Y> while allied health has been a part of the Strengthening Medicare Taskforce report <https://bit.ly/3YGTMaF>. One hopes that governments and employers will respond to the wider mobilisation of paramedics across the health sector as a result.

On a positive note, action is being taken to introduce Community Paramedics in Victoria and the Victorian Healthcare Association

(VHA) has advocated for the mobilisation of Community Paramedics in their 2023-24 state budget submission. <https://bit.ly/40w5d6a>

Looking at paramedicine alongside other allied health professions, the profession stands as the sixth largest of Ahpra-registered professions, with psychologists the largest cohort at 45233. Paramedicine grew at 3.4% during the past quarter which is similar to others but the greatest growth in numbers was for occupational therapists at 5.5%.

The overall proportion of female practitioners has grown slightly from 47.7% to 48.4% of total registrants, with minor variations across jurisdictions. The highest percentages are 52.4% in Victoria and 50.9% in South Australia and the lowest remains Western Australia at 41.8% closely followed by the Northern Territory at 42.4%.

There is little change in the relatively young age profile of the profession with 62.6% of the paramedic workforce less than 40 years of age and 79.8% less than 50 years of age. Australian practitioners tend to retire by 65 so one sees 98.6% of registrants are under 65 years of age. For the first time, Australia has one registrant over 80 years of age.

The distribution of paramedics is shown in the pie chart and one can see that about 80% of Australia's paramedics are registered in the three Eastern states of Queensland, New

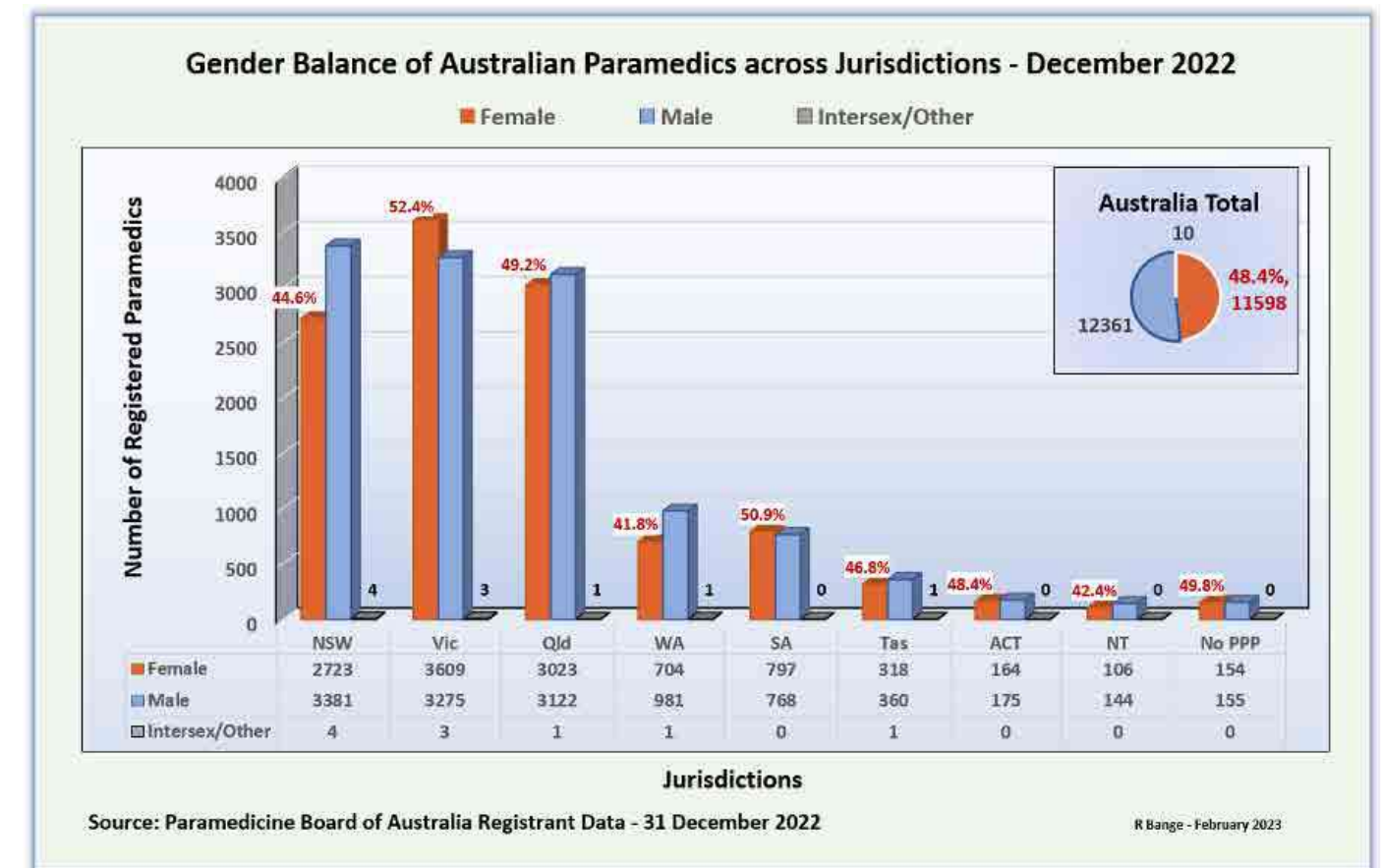
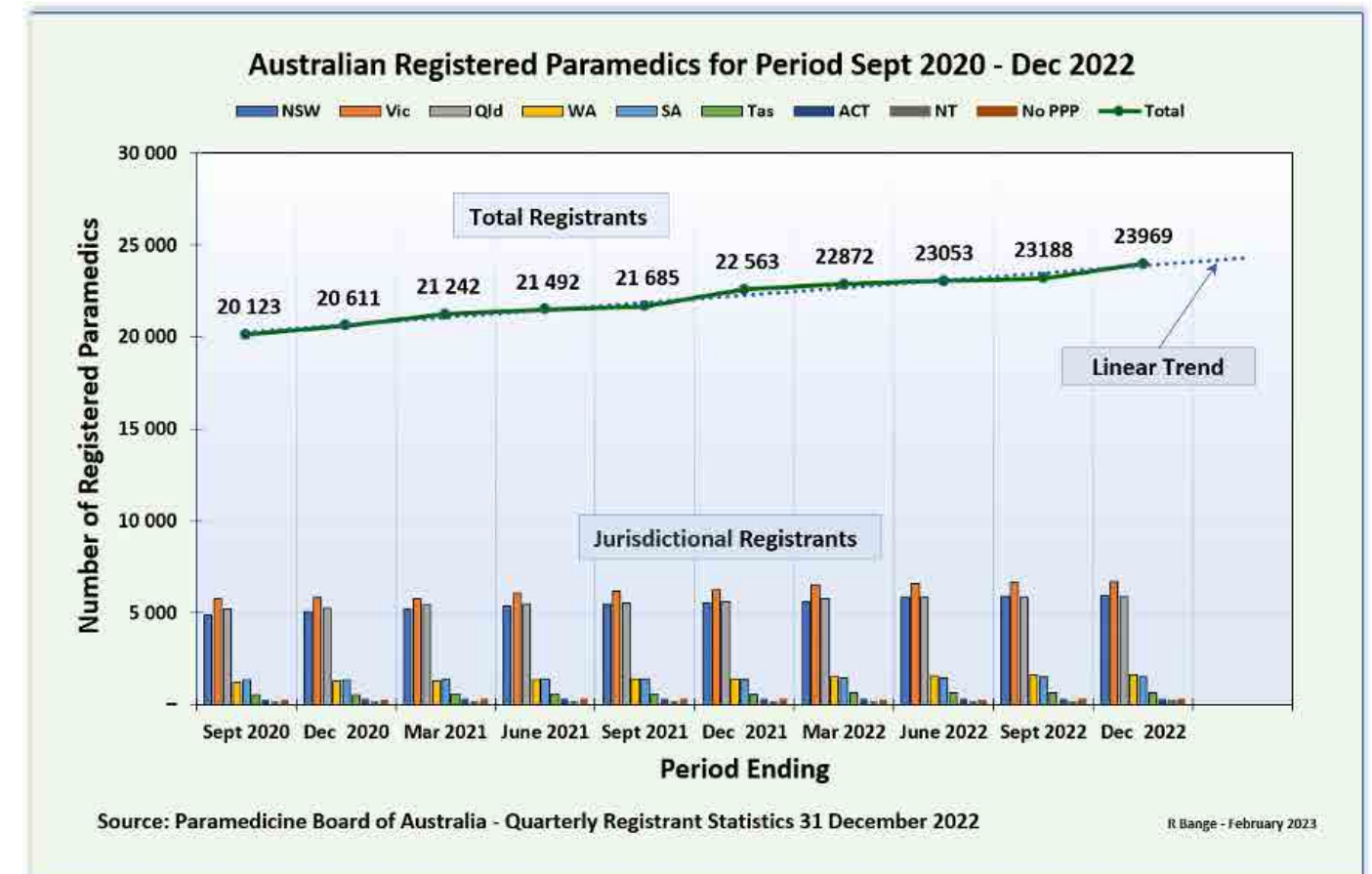
South Wales and Victoria.

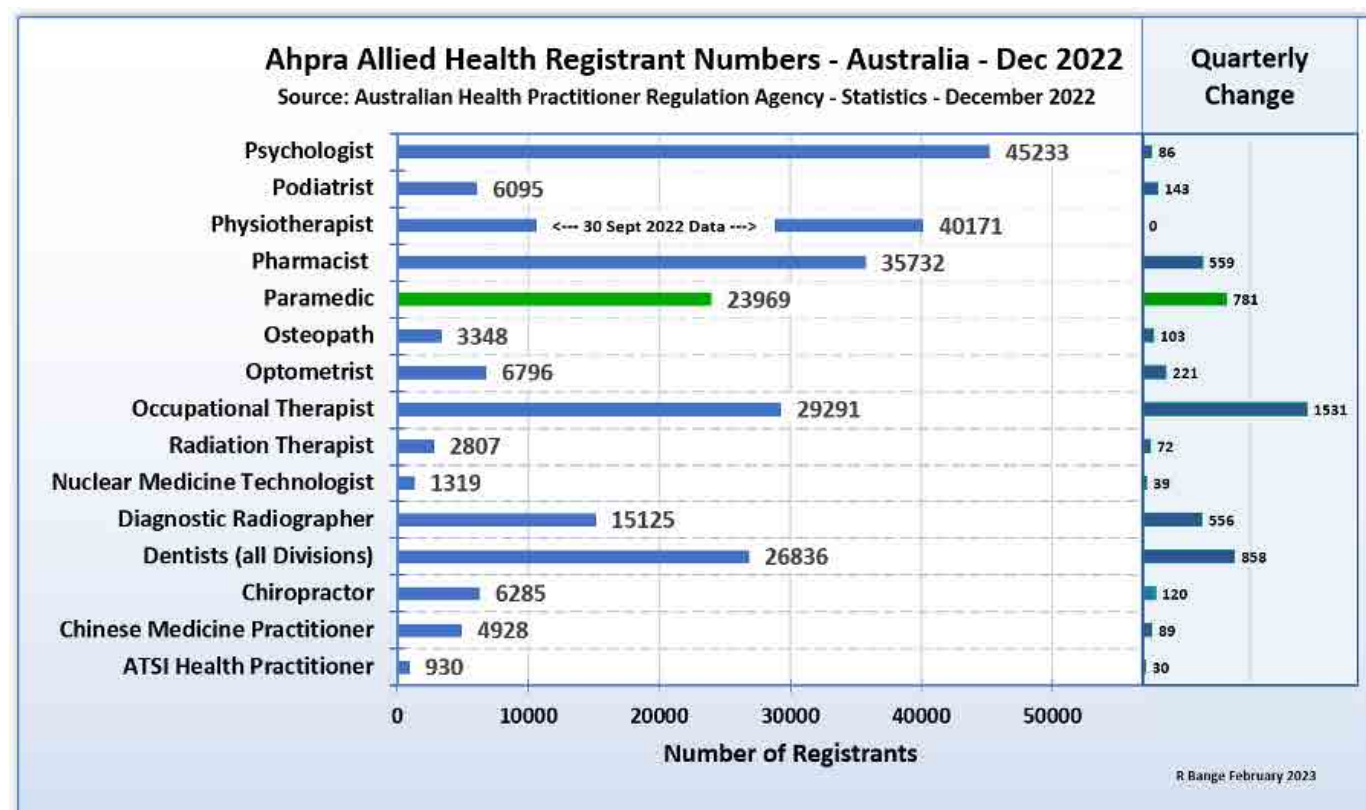
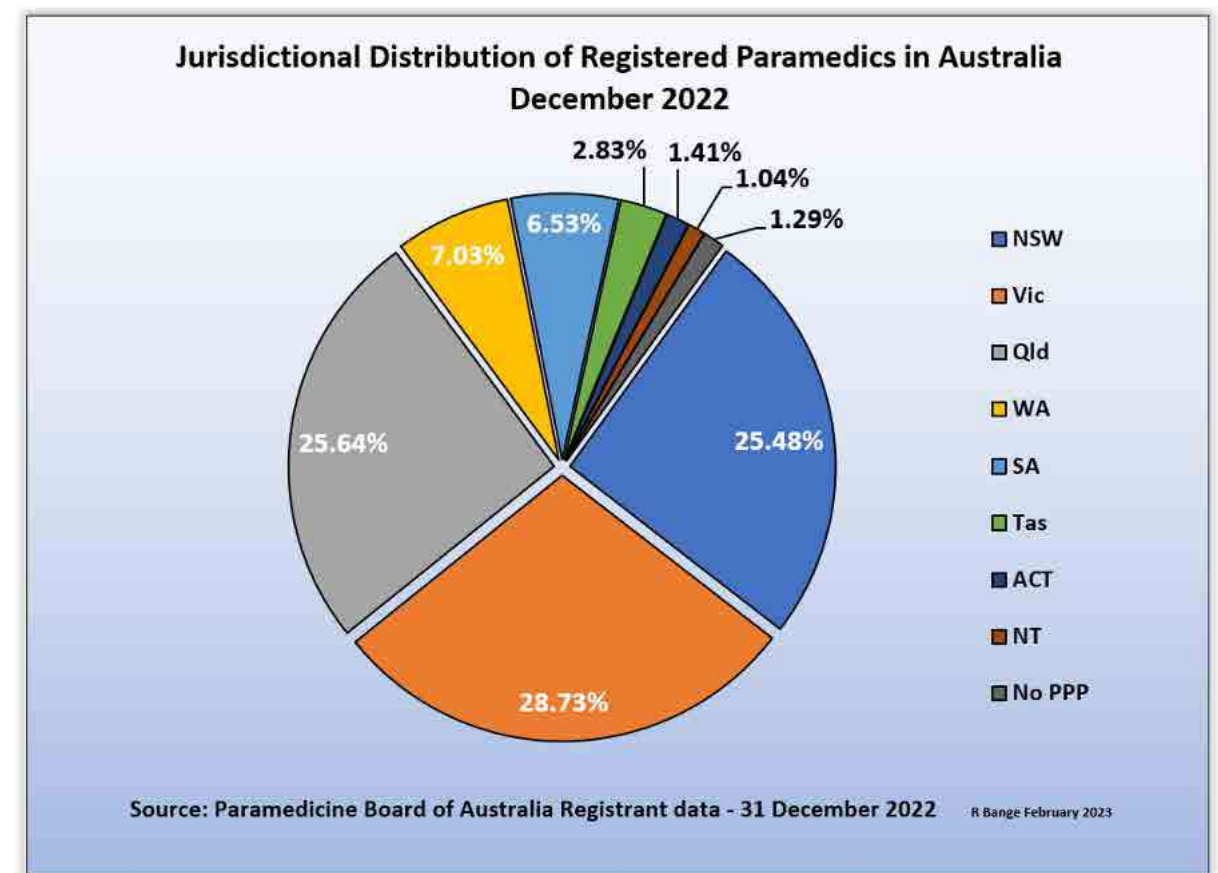
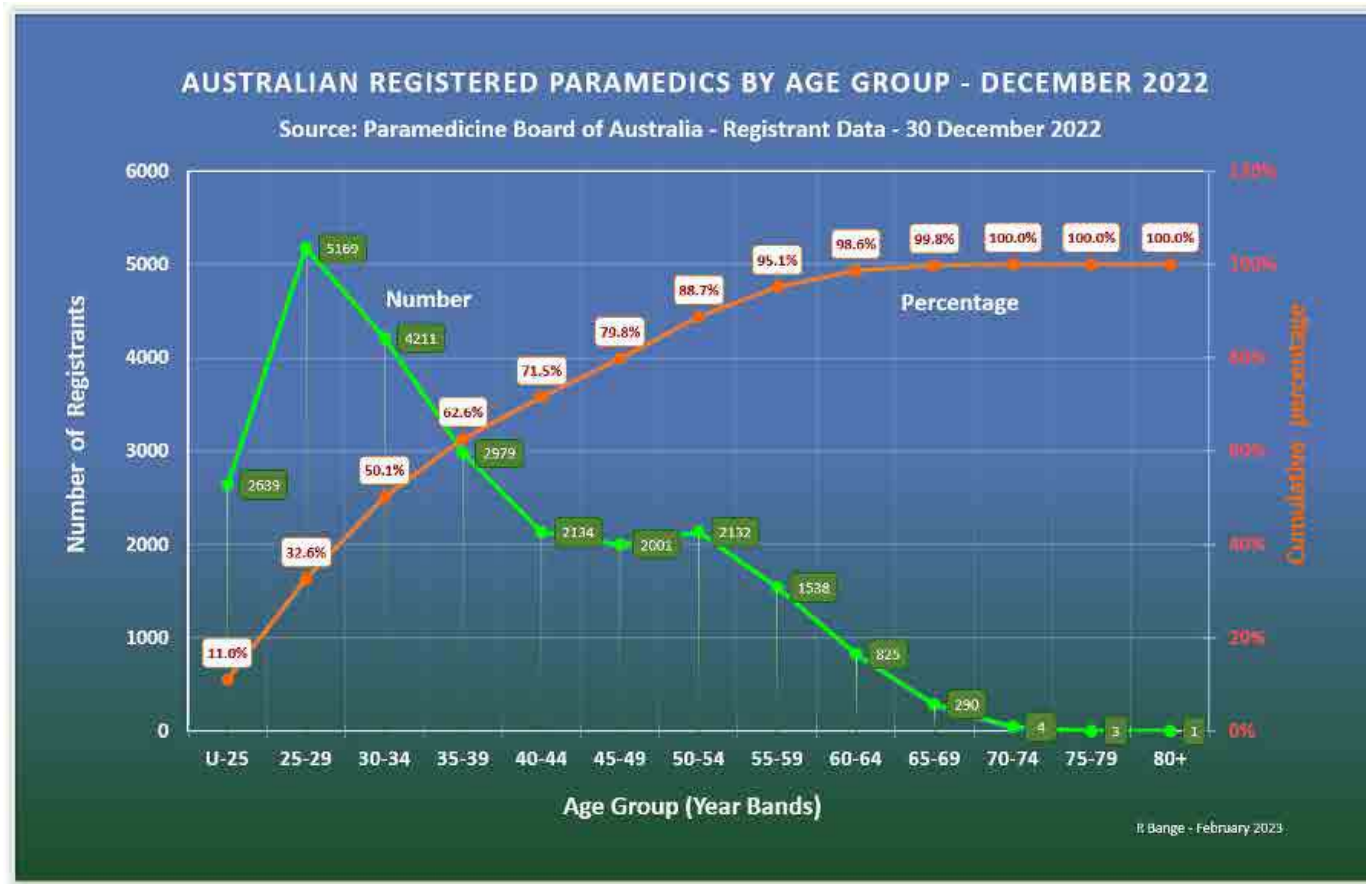
The number of paramedics engaged by jurisdictional ambulance services is not readily available but see my previous estimates using the annual Report on Government Services (ROGS). This indicates that a surprising 33% of paramedics work outside the ambulance service sector or are underemployed.

Significant recruitment by public ambulance services continues and the impact of that should become more evident this year. You can read more about those developments in my post on the Report on Government Services (RoGS). <https://bit.ly/3HVKmkn>

When it comes to future growth of the profession, my RoGS article last week includes some observations on the reliability of student numbers reported by Ahpra and the Productivity Commission. Overall I see sustained enrolments with some plateauing of numbers but a continued healthy growth in the total of registered paramedics. One factor to watch is the extent to which attrition will affect the numbers employed by ambulance services in future.

It's disappointing that some highly experienced registered paramedics (e.g. returning UK practitioners) are still apparently finding employment difficult in the face of burgeoning demand. The recruitment processes of some services are said to be open to improvement.





FIXING NSW HEALTH 12 FEBRUARY 2023

The NSW Health budget is massive – over \$33 billion. So why isn't there enough to go around? The Health Services Union (HSU) has commissioned an important and wide-ranging report into the state of NSW Health and has launched the Reform Critical report. <https://bit.ly/40M113E>

It's an excellent report that brings together a wealth of data and analysis of the many issues that afflict the delivery of healthcare in NSW. There is a deep concern for patients in the recommendations and a carefully considered exploration of issues affecting the staff at all levels who are essential for service delivery.

It's a significant contribution to

policy discussions and follows recent parliamentary Inquiries into NSW health service delivery including ambulance ramping <https://bit.ly/3jPzhcm> and enhanced commitments to health funding. <https://bit.ly/3lwqo7X>

The NSW Legislative Council Inquiry report was tabled in December 2022 and found that worsening patient flow problems are contributing to significant emergency department overcrowding and ambulance ramping in metropolitan and regional NSW, and placing people in NSW at risk. <https://bit.ly/3HkyLN4>

Delays in transferring patients to hospital prevent the ambulance service from responding to further emergency calls. Emergency Departments are being forced to change their processes and procedures, and can no longer

prioritise the needs of patients – resulting in compromised care, poorer outcomes, and loss of dignity and privacy for patients.

The Inquiry also found that access blocks, ambulance ramping, and emergency department overcrowding are being driven by increasing demands on the system. These arise from natural disasters, including bushfires, floods and the pandemic, an ageing population and increasing chronic diseases, as well as long-term structural problems in the health system which pre-date the pandemic.

The HSU has delivered a report that government should heed and act upon in conjunction with the Legislative Council Inquiry recommendations and the Strengthening Medicare Report.

Read the Executive Summary as a flipbook: <https://bit.ly/3xgcZUI>

COMMUNITY PARAMEDICS IN VICTORIA - 7 FEBRUARY 2023

The top priority innovation of the Victorian Healthcare Association (VHA) @ vichealthassoc is the mobilisation of Community Paramedics in line with existing Community Paramedicine models of care. <http://ow.ly/hpp550MK3kL>

The VHA's 2023-24 state budget submission urges the Victorian government to invest in proven service innovations and new models of care to help the health system respond to the 'new normal' of healthcare demand. Read it here: <https://bit.ly/40w5d6a>

It's pleasing to see this development locally and the Paramedic Observer congratulates the VHA on taking this leadership step. <https://bit.ly/3HHlk8x>

Community paramedicine is new to many Australian primary care agencies but it is a well-established concept - multiple pilot programs over many years in Australia and overseas have shown significant benefits from the mobilisation of paramedics in primary and other areas of healthcare as well as their vital role in ambulance services. <https://bit.ly/40xQffW>

Paramedics are increasingly being deployed in primary care throughout the UK. <https://bit.ly/3DOS2U7>

The VHA development is a positive move to engage an available expert registered health workforce that has been surprisingly overlooked. <https://bit.ly/3YocUt6>

There are substantial funding and

other embedded obstacles to practice. <https://bit.ly/3DNgrZl>

One hopes these impediments will be removed under the commitments already made by the Victorian government and future enhanced support for allied health practitioners outlined in the Strengthening Medicare Taskforce report. <https://bit.ly/3jBpHKe>

REPORT ON GOVERNMENT SERVICES (ROGS) 2023 4 FEBRUARY 2023

The Report on Government Services -- commonly known as ROGS - provides data to enable comparison of performance in the delivery of services. It's very useful in providing comparative data but there is no governance or accountability response attached to the report.

Ambulance services are included under Part E: Health and can be viewed as a separate Section 11 - Ambulance Services which you can access here: <https://bit.ly/3XVHIHz>

This comparative data always should be used with caution because there are several caveats regarding data interpretation and integrity.

ROGS is produced by the Productivity Commission based on data provided by the Council of Ambulance Authorities. <https://bit.ly/3wQxYgq>

The St John Ambulance services in WA and NT are included, as they are substantially government-funded and are contracted to provide a public service.

Chapter 11 only provides a snapshot of public ambulance service providers within Australia. It does

not include military resources or the contributions from non-government-funded services by various private aeromedical and land-based service providers.

Ambulance service organisations are described as the primary agencies involved in providing emergency medical care, pre-hospital and out-of-hospital care, and transport services. The changing nature of ambulance responses can be seen in the graph that shows the overall time trend for different categories of response.

Emergency response levels in recent years have hovered around 40% of the total. Individual jurisdictional responses vary substantially, ranging from a low of 31.4% in WA to a high of 56.2% in SA. Many factors may be at play, but it is notable that in 2021-22 the overall percentage of emergency responses increased to 45%.

The data tables have been reordered for 2023 with human resources now listed as Table 11A.2. A new worksheet also has been introduced (Table 11A.3) with data from the Australian Health Practitioner Regulation Agency (Ahpra). This provides a tabulation of most Australian registered paramedics but omits paramedics with no defined PPP (298 in June 2022).

The Observer sees little value in Table 11A.3 given there is no correlation provided between the ambulance services operational staff, employed paramedics and registrants. The inclusion of Ahpra practitioner data here without further comment could give the less discerning reader a misleading picture of service employment of paramedics.

Examining ROGS and Ahpra data, the Observer is unable to agree with

the preamble statement that - 'In 2021-22, there were 22 755 registered paramedics in Australia (including 445 non practising registered paramedics) (table 11A.3).'

'Qualified ambulance officers' must be registered paramedics (table 11A.2). It is possible some registered paramedics are employed by an ambulance service to work in a different role, such as other clinical or communication roles. Some registered paramedics work in other (non-ambulance) organisations.'

Table 11A.3 simply lists the number of registered paramedics in each jurisdiction and is not the number of paramedics employed by services. In certain cases e.g. ACT the jurisdictional numbers may

differ significantly from ambulance employment numbers but it is not possible to tell without better reporting.

That missing information affects overall workforce employment statistics. Comparing the collective ROGS operational staff data (for qualified ambulance officers, clinical other and communications operatives) and the June 2022 figures for the registered workforce, the Observer notes that about 33%, or more than 7500 Australian-registered paramedics may work outside the public ambulance service sector.

Even assuming all service PTOs are paramedics (unlikely) the number of paramedics not working for

ambulance services exceeds 6900. The Observer considers the number of non-service registrants as being rather more than 'some'.

The Observer has called for services (and ROGS) to report the number of employed paramedics as part of the services professional and diversity profile and to assist in workforce planning and development.

It's disappointing that there is no breakdown of personnel diversity such as ethnic composition or disaggregated gender balance. Recent years have seen an increasing number of women enter the paramedic workforce and significant efforts by the services to enhance diversity and inclusion.

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Given the Inquiries held into diversity and other commitments it's a little surprising that no benchmarks are being reported.

The number of employed paramedics is needed to enable alignment with registration data. One hopes that will be the case in future along with a breakdown of diversity statistics and reporting of professional categories. <http://bit.ly/3o5qzTB>

Total expenditure on ambulance services was \$4.9 billion in 2021-22 (table 11A.11), which was funded from a mix of revenue sources. Total revenue of ambulance service organisations was \$4.823 billion. (table 11A.1). The per capita revenue for WA (135.10) is well below the Australian average (187.18) and the proportion of revenue attributed to transport fees (40%) is a significant outlier.

Nationally in 2021-22, ROGS reports there were 21740 FTE salaried personnel, 7983 volunteer personnel and 7577 community first responders. (Community First Responders are trained volunteers who provide an emergency response and first aid before ambulance arrival.)

The importance of volunteers and Community First Responders in Western Australia is evident as well as their significant contributions in Victoria, South Australia, and Tasmania. Data are not reported for the Northern Territory and the ACT.

Australia-wide, more than 50% of the operational workforce is less than 40 years of age and 79.1% is less than 50 years of age (Table 11A.9).

There were 4.15 million incidents reported and 5.35 million responses, of which 45% were classified as

emergency responses, to attend to (overall) 3.94 million patients (Table 11A.4).

ROGS provides a snapshot of other measures or KPIs including response times, triple zero answering time, pain management, and cardiac arrest survived event rate for 2021-22 (Table 11A.12). For clinical performance reports, readers are encouraged to study the more detailed OHCA Registry reports such as those published by different services <https://bit.ly/3jt1tSc>

Australia has had low attrition rates for ambulance service operational staff with the exception of the Northern Territory. The average Australian rate of 4.1% remains much lower than in many overseas countries such as the U.S.. (Table 11A.9)

This benign situation has been changing over the past two years and 2022 saw increased attrition in all jurisdictions except South Australia. The ACT had a very significant jump of 133% year on year (yoy) to 11.4% while NSW had an increase of 65.5% yoy to 4.8%. The NT remains the highest at 18.7%.

Significant ambulance recruitment activity has been underway since 2021 and several recent Parliamentary Inquiries have recommended increased engagement of paramedics along with other substantial investments in the health system.

The workforce by age group and staff attrition measures should be considered together. Each provides a different aspect of the changing profile and sustainability of ambulance service organisations' workforce and should also be considered in conjunction with data on the:

- number of students enrolled in accredited paramedic courses (table 11A.10)
- availability of paramedics & response locations, which show that for some jurisdictions, there can be a large proportion of volunteers or volunteer ambulance locations (tables 11A.4 & 11A.2).

Despite the impact of the pandemic, enrolments in accredited university paramedicine courses remain firm with 2043 enrolments in the final year for 2021 according to ROGS. (Table 11A.10). There are discrepancies between the ROGS data tables and AHPRA student registration figures.

Given the importance of student registration for later paramedic registration, the Ahpra figures might be given preference and the Observer has allocated the number of dual degree students to the Ahpra base paramedic numbers to show potential future paramedics.

If current trends continue, the Observer anticipates there will be more than 2000 graduates annually entering the workforce. This number is likely to be more than the annual intake from public ambulance services once the current unprecedented hiring trends abate and will add to the existing surplus of paramedics available for deployment elsewhere within health.

Workforce data for paramedicine remains problematical and the Observer continues to call for better recognition of paramedicine as a health workforce by the Commonwealth and other jurisdictions. This is needed to ensure reliable and accurate data and better engagement of the profession not only within the ambulance sector but also

across the health domain.

You can access the full suite of ROGS Part E reports on Health including primary and community care, public

hospitals and services for mental health here: <https://bit.ly/40nmvSN>

These reports were released on 1 February 2023.

In passing, the data source for Table 11A.10 appears to be in error and instead of the Australian College of Paramedicine (sic) should refer to the Australian Bureau of Statistics (ABS).

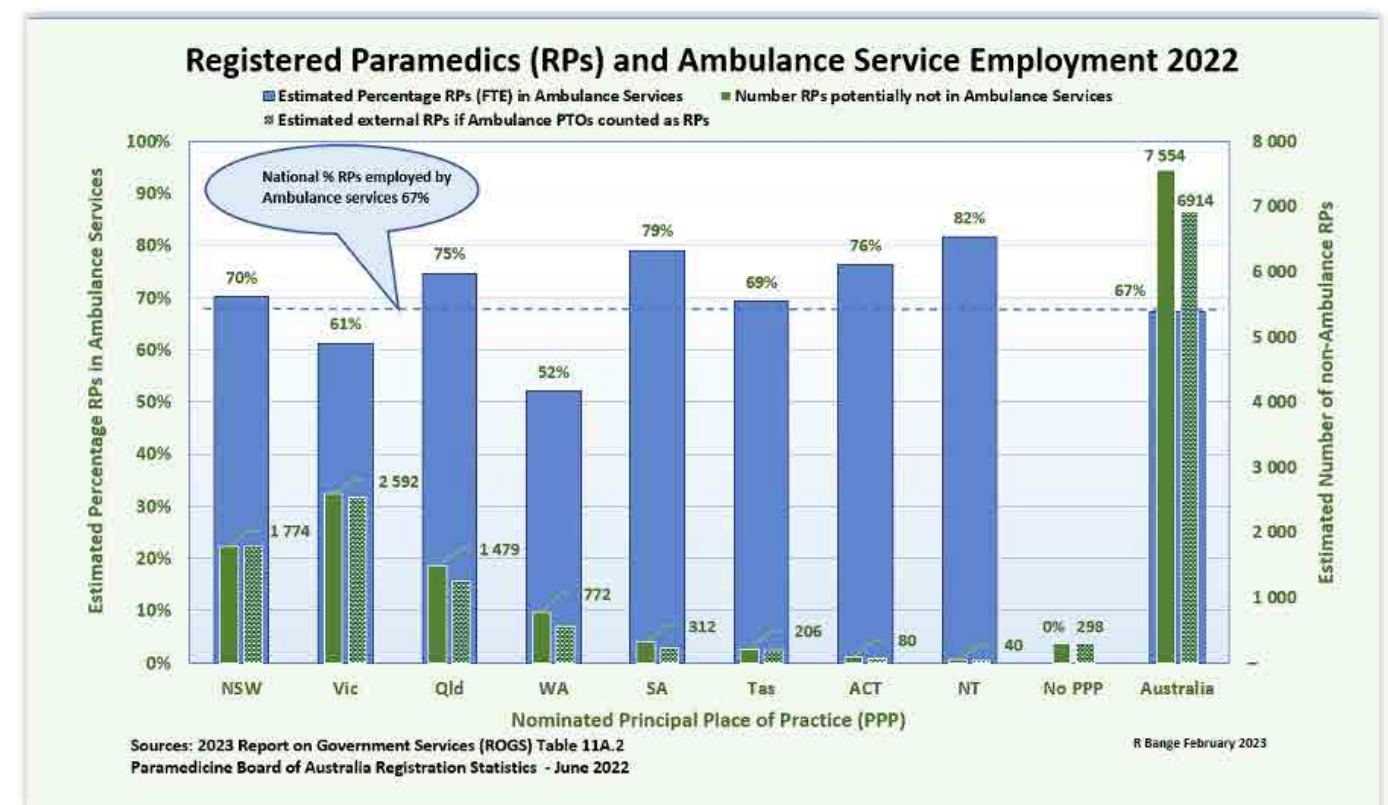
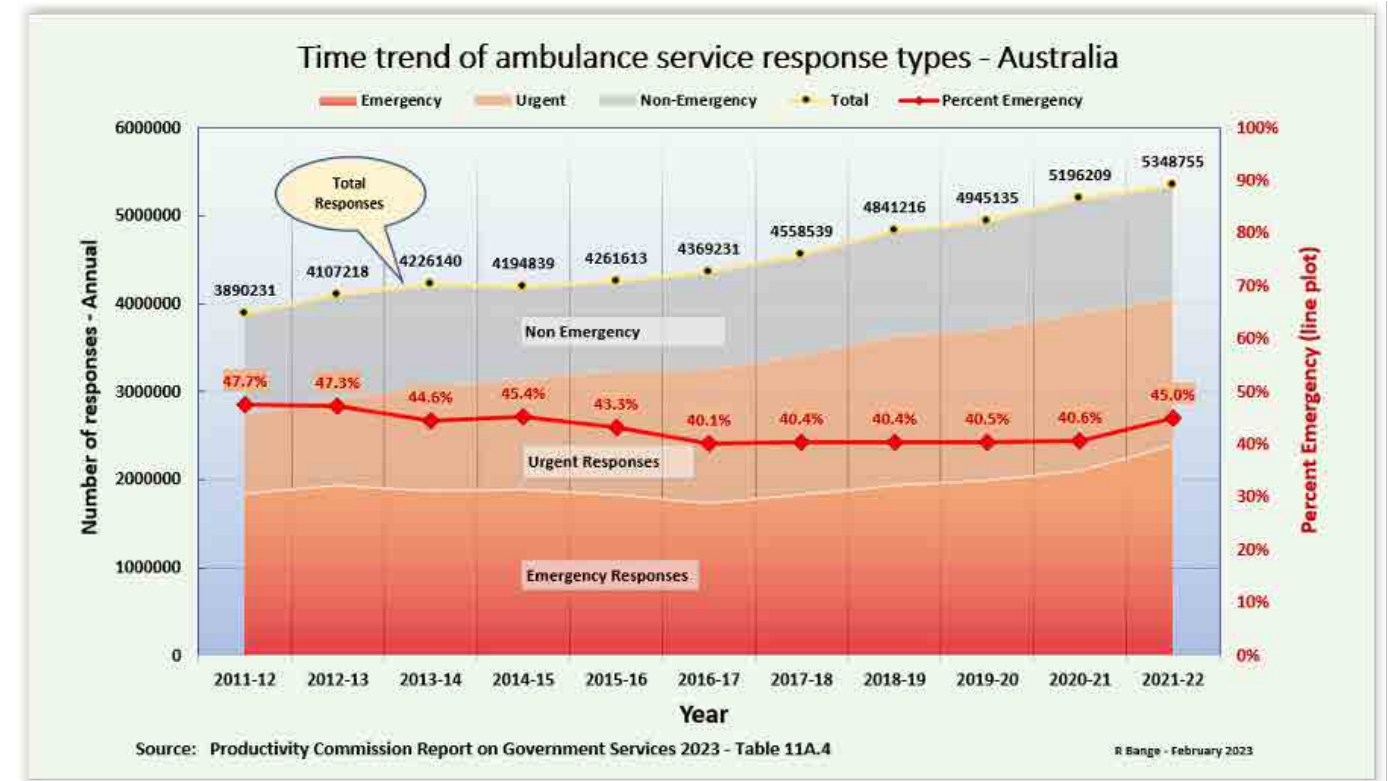


Table 11A.3 Australian Health Practitioner Regulation Agency registered paramedics

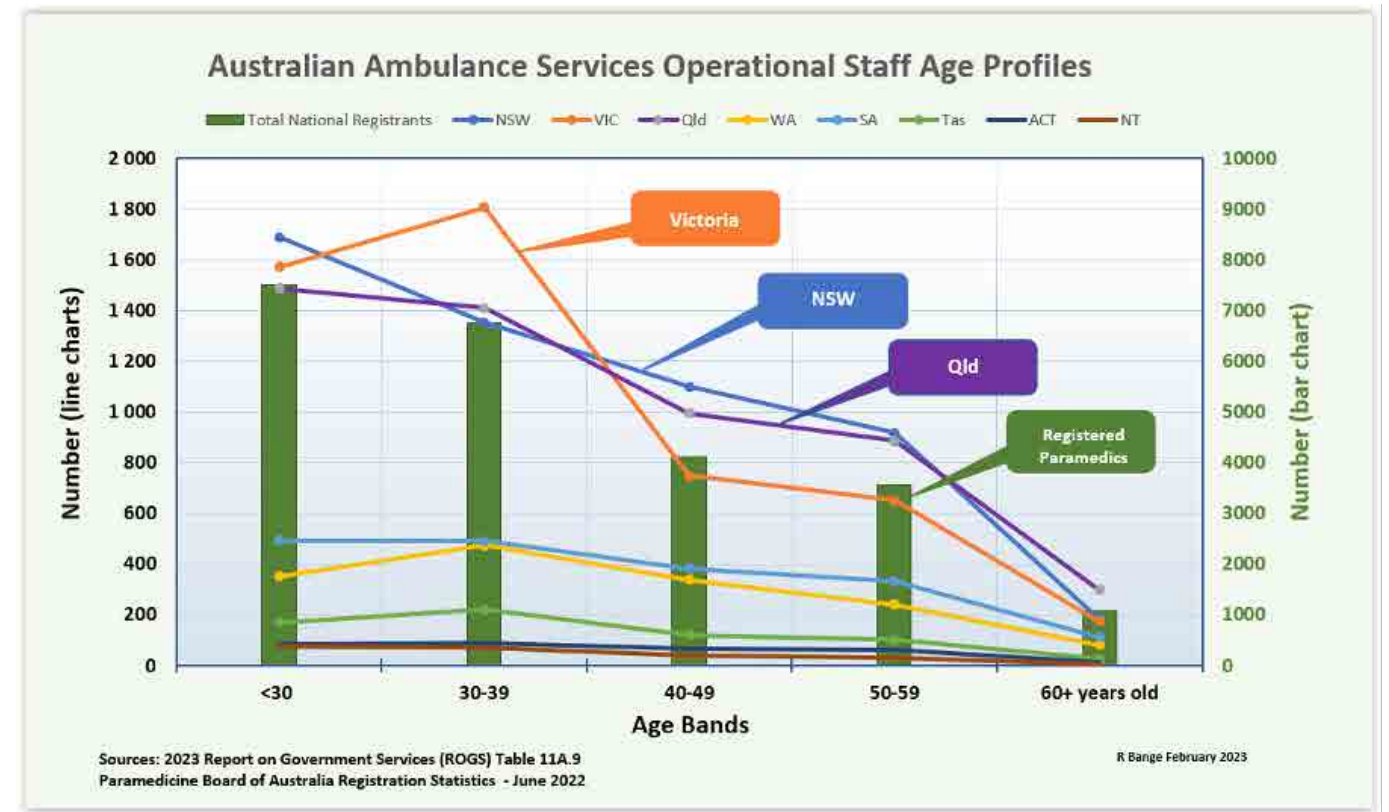
	Unit	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Registered paramedics										
2021-22										
General	no.	5 826	6 553	5 711	1 571	1 458	658	322	211	22 310
Non-practising	no.	104	117	127	35	31	10	15	6	445
Total	no.	5 930	6 670	5 838	1 606	1 489	668	337	217	22 755
2020-21										
General	no.	5 455	6 083	5 443	1 374	1 387	598	328	197	20 865
Non-practising	no.	70	98	83	25	16	9	8	3	312
Total	no.	5 525	6 181	5 526	1 399	1 403	607	336	200	21 177

Source: CAA (unpublished) on behalf of the Australian Health Practitioner Regulation Agency.

Table 1.1 Registration type by principal place of practice

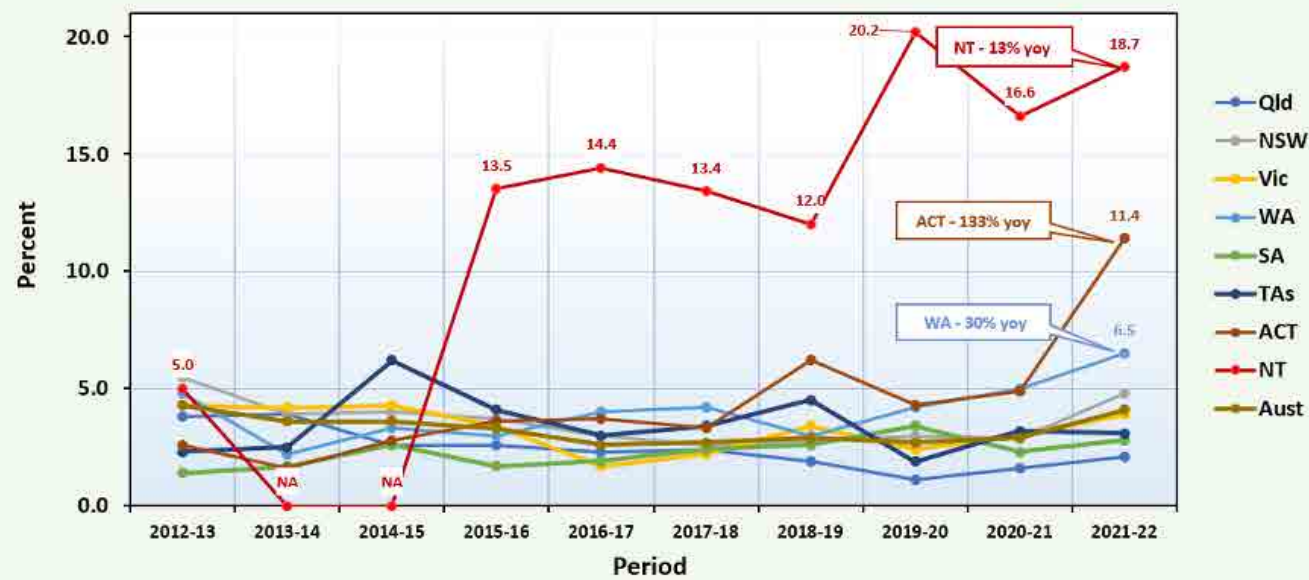
Registration types	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	No ppp	Total
General	322	5,826	211	5,711	1,458	658	6,553	1,571	274	22,584
Non-practising	15	104	6	127	31	10	117	35	24	469
Total	337	5,930	217	5,838	1,489	668	6,670	1,606	298	23,053

Paramedicine Board of Australia - Registered Paramedics - 30 June 2022



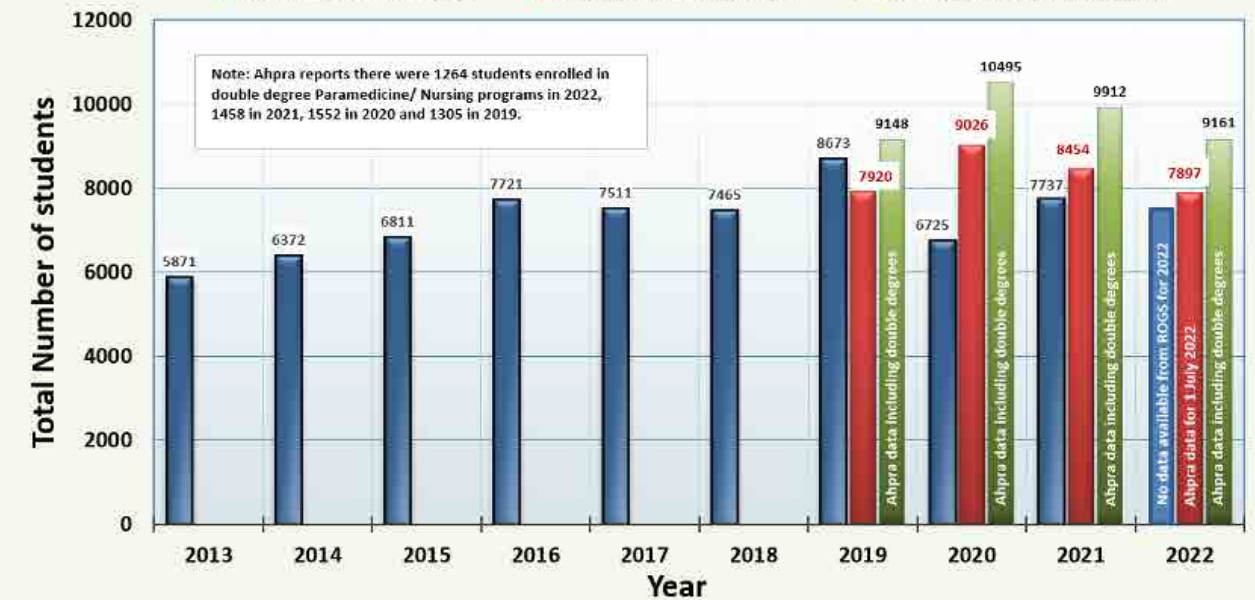
Australian Ambulance Sector Staff Attrition Rates 2013 - 2022

Source: Productivity Commission Report on Government Services (ROGS) 2023 - Table 11A.9



Australian Paramedic Student Enrolments

Legend: Student data from ROGS (Blue), Student data from Ahpra (Red), Total including double degree (Green)



FOAMed HIGHLIGHTS

CAA Webinar Series

The CAA Webinar Series is designed to inspire and educate with a range of speakers discussing topical issues from around the ambulance world.

The latest webinar available titled: Using Real-time Data to improve pre-hospital care efficiency and patient outcomes with Professor Richard Lyon, looks at how the routine use of live patient data transmission can improve health system efficiency and economy, which in turn can contribute directly to saving lives.

View this via the link on their website:

<https://www.caa.net.au/webinars>



28 February

Using Real-time Data to Improve Pre-hospital Care Efficiency and Patient Outcomes

11am AEDT
With Professor Richard Lyon

Whilst emergency medical services around the globe continue to come under extreme pressure, never has the demand for improving the efficiency and health economics of pre-hospital care been greater. It is also imperative that we continue to deliver the highest possible pre-hospital medical care, particularly to our critically injured or unwell patients.

Prof Lyon will demonstrate how the routine use of live patient data transmission can improve not only health system efficiency and economy, but also directly contribute to saving lives.

[Click here to view the recording](#)

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How to manage a micro-manager



This video will look at strategies from experience and research for how to manage a micro-manager. The aim is to find a workable solution and includes 5 key steps.

View this on Life in the Fast Lane: <https://litfl.com/comms-lab-micro-management-2/>

Citation: Hayden Richards, "Comms Lab: Micro-Management," In: LITFL - Life in the Fast Lane, Accessed on March 10, 2023, <https://litfl.com/comms-lab-micro-management-2/>.

The Paramedic Podcast

Available on Spotify, episode 1 talks about PTSD/PTG. This episode talks with registered psychotherapist and registered paramedic, Todd Wehr looking at post traumatic stress disorder and post traumatic growth and how this relates to paramedics.

Listen here: <https://open.spotify.com/episode/5oUrlMeY3JvxUrvnXnTNMk> or search for the paramedic podcast on spotify.

Heart Sounds and Murmurs education

Via Practical Clinical Skills there are a range of courses available. This one on heart sounds and murmurs involves learning about the sounds with audio, video and text lessons. There are practice drills, quizzes and an abnormal heart/lung sound reference guide.

Check it out online:

<https://www.practicalclinicalskills.com/heart-sounds-murmurs>

Good Samaritan: Your risks and obligations

This article in Medical Republic online:

"Picture yourself sitting on a plane, at cruising altitude, reclining your seat, finally taking a well-earned holiday.

"Ping! If there is a doctor on board this flight, please make yourself known to cabin crew by pressing the call button above your seat"

What do you do...

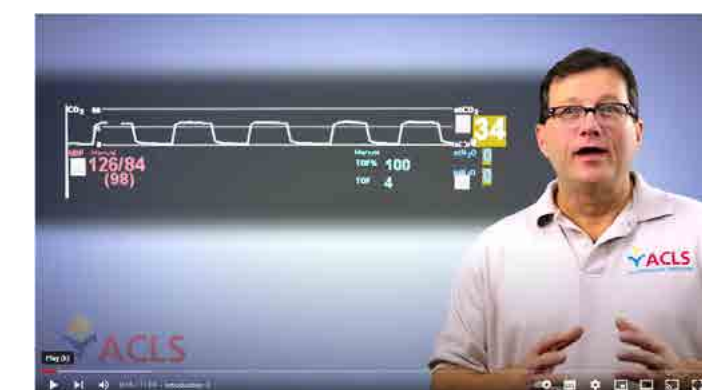
The discussion following talks about the obligations, risks and the Good Samaritan law, with a few tips on approaching the situation.

Read more: <https://www.medicalrepublic.com.au/good-samaritan-your-risks-and-obligations/86698>

Fever and Syncope – a case study

The Shift Extension has released their latest podcast where they discuss the case of a 70-year old with syncope in the presence of an ongoing infection. They talk about assessment, red flags, patient needs and recommendation of care.

View this here: <https://audioboom.com/posts/8251409-episode-11-fever-and-syncope-case-studies>



End Tidal Capnography Review

This video provides a good overview of End Tidal Capnography and how it's used in ACLS, especially during cardiac arrest.

View this here: <https://www.youtube.com/watch?v=XvKmdNJpI4k>

FOAMed HIGHLIGHTS

Are Cardiac Arrest Outcomes improving?

This podcast comes to you from the 2022 LIVES Conference in Paris. Sudden cardiac arrest in the community has historically had a poor prognosis. Improvements in prehospital care and post resuscitation interventions have raised hopes that overall survival has improved.

But has it?

Tommaso Scquizzato is a researcher in the fields of cardiac arrest and resuscitation science at San Raffaele Hospital in Milan, Italy and member of the European resuscitation council BLS Science and Education Committee.

Find out in this podcast: <https://oslercommunity.com/s/preview?key=p-ca-outcomes&id=bbdd561a-56f1-4350-99be-1afac5d680ea&origin=Slider&relatedList=false&color=%231591D9> (registration required, but it is free)



ABCDE Approach

CanadiEM has covered the basic information to summarise the ABCDE approach at each stage, including assessment and management. You can view this on their website:

<https://canadiem.org/abcde-approach/>

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AUSTRALIAN PARAMEDIC

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

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 - 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 amy@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.

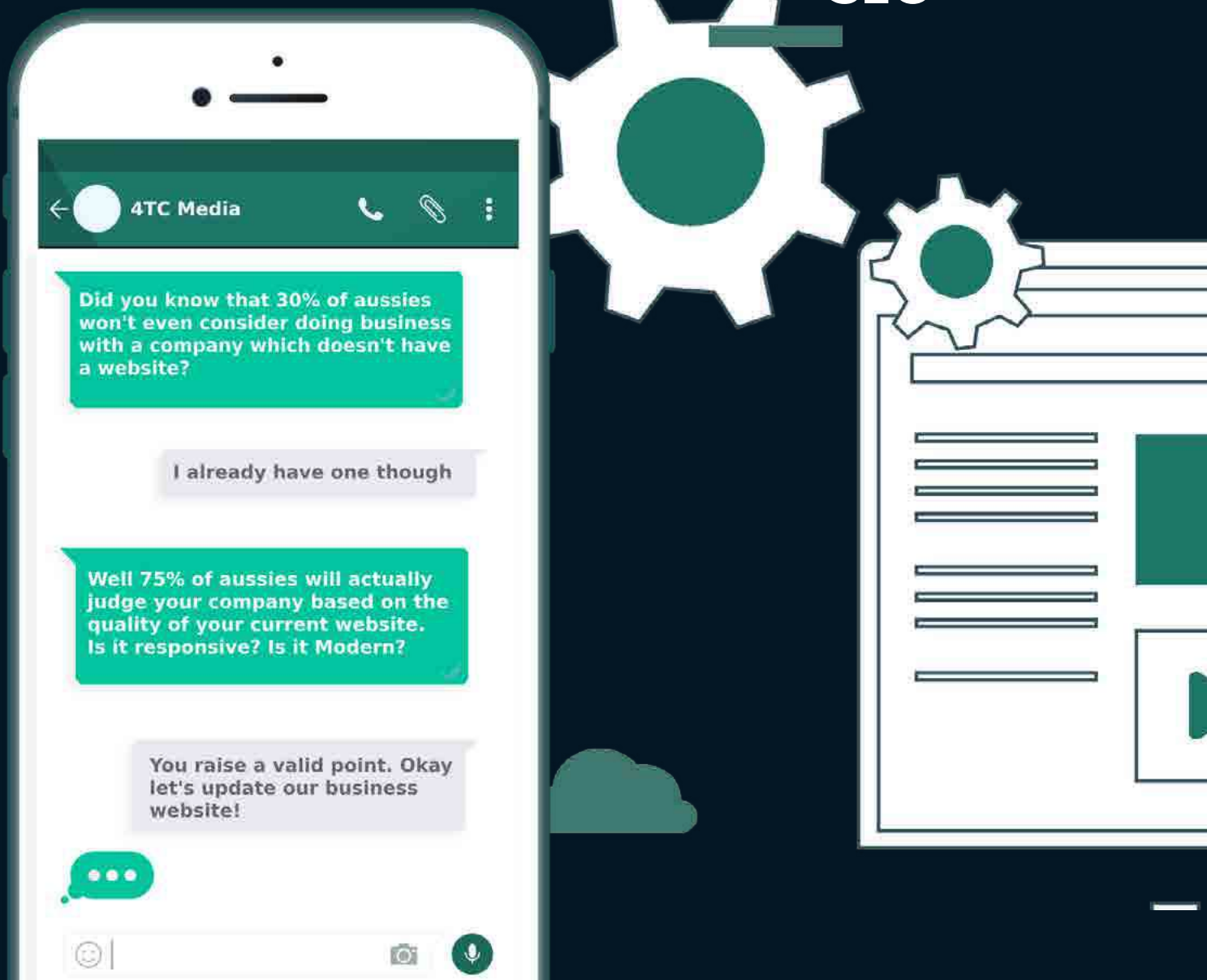


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